
SUPPORTING MATERIAL TO THE MEMORANDUM OF NEW ZEALAND

14 June 2023

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PCA 2013
SPRFMO Information Paper

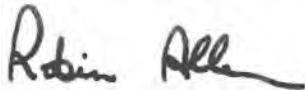
South Pacific Regional Fisheries Management Organisation

To: Permanent Court of Arbitration

Date: 13 June 2013

Information Paper for the Review Panel established under Article 17 and Annex II of the Convention on the Conservation and Management of High Seas Fishery Resources in the South Pacific Ocean to consider the Objection by the Russian Federation to the Conservation and Management Measure for *Trachurus murphyi* (CMM1.01)

Signed by:



Robin Allen
Acting Executive Secretary



Bill Mansfield
Chairperson of the Commission

South Pacific Regional Fisheries Management Organisation

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Background to the establishment of the SPRFMO

1 In 2006 Australia, Chile and New Zealand identified that there was a gap in the conservation and management of non-highly migratory fisheries and protection of biodiversity in the marine environment in the high seas areas of the South Pacific Ocean. While several states had already targeted these species on the high seas and continued to do so, the area in question was not covered by an organisation with the competence to establish appropriate conservation and management measures.

2 As a result, in 2006 negotiations began to establish an organisation that would work to ensure the long-term conservation and sustainable use of fish stocks and to protect biodiversity in the marine environment. In the following three years, eight rounds of International Consultations were held to negotiate the agreement that would establish the proposed South Pacific Regional Fisheries Management Organisation (the SPRFMO).¹ All states and fishing entities with a history of fishing in the area to be covered by the new agreement were invited to participate in the negotiations and a number of others joined as the negotiations continued.

3 On 14 November 2009, the *Convention on the Conservation and Management of High Seas Resources of the South Pacific Ocean* (the [Convention](#)) was adopted. In the Final Act of the International Consultations, recording the adoption of the Convention, the Eighth Meeting of the International Consultations decided that a Preparatory Conference should be convened to make arrangements for the smooth entry into force of the Convention and adopted a resolution to that end². The Preparatory Conference was convened by the Depositary of the Convention and three sessions were held.³ The Final Report of the Preparatory Conference was adopted on 3 February 2012 and was presented to the first meeting of the Commission ([Final Report of the Preparatory Conference](#)) following the entry into force of the Convention on 24 August 2012. The Commission currently has 11 members (Australia, Belize, Republic of Chile, Cook Islands, Republic of Cuba, European Union, Kingdom of Denmark in respect of the Faroe Islands,

¹ The rounds were held in: Wellington, New Zealand, 14-17 February 2006 ([First Meeting Report](#)); Hobart, Australia, 6-10 November 2006 ([Second Meeting Report](#)); Renaca, Chile, 30 April-4 May 2007 ([Third Meeting Report](#)); Noumea, New Caledonia, 10-14 September 2007 ([Fourth Meeting Report](#)); Guayaquil, Ecuador, 10-14 March 2008 ([Fifth Meeting Report](#)); Canberra, Australia, 6-10 October 2008 ([Sixth Meeting Report](#)); Lima, Peru, 8-22 May 2009 ([Seventh Meeting Report](#)); New Zealand, 8-14 November 2009 ([Final Act](#)).

² The functions of the Preparatory Conference are specified in the [Resolution Establishing a Preparatory Conference](#).

³ The sessions were held in: Auckland, New Zealand, 19-23 July 2010 ([Auckland Meeting Report](#)); Cali, Colombia, 24-28 January 2011 ([Cali Meeting Report](#)); Santiago, Chile, 30 January-3 February 2012 ([Santiago Meeting Report](#) and [Final Report of the Preparatory Conference](#)).

Republic of Korea, New Zealand, Russian Federation, and Chinese Taipei)⁴ and the first Commission meeting took place from 28 January to 1 February 2013 in Auckland, New Zealand.

4 An overview of the development of the Convention text, the interim measures and the establishment of the Science Working Group (SWG) and the Data and Information Working Group (DIWG) can be found in the [Final Act](#), the [Resolution Establishing a Preparatory Conference](#) and the [Final Report of the Preparatory Conference](#). The Report of the First Meeting of the Commission was adopted on 1 February 2013 ([Meeting Report](#)).

SPRFMO and Chilean Jack Mackerel

5 There were a number of fisheries for non-highly migratory fish in the high seas of the South Pacific, in respect of which no international management agreements existed before the establishment of the SPRFMO. Among these, the most important were for Chilean jack mackerel (*Trachurus murphyi*) and some associated pelagic species; squid, mostly Jumbo flying squid (*Dosidicus gigas*) in the east and flying squid (*Nototodarus spp*) in the west; and the deep water fisheries by bottom trawl and line for species such as orange roughy (*Hoplostethus atlanticus*) and bluenose (*Hyperoglyphe antarctica*). The full history of catches of non highly migratory species reported to the SPRFMO can be found in the SPRFMO data report ([Data Submitted to the Interim Secretariat](#)).

6 In 2007 more than 2,000,000 tonnes (t) of Chilean jack mackerel were taken from the exclusive economic zones (EEZs) of Chile, Peru and Ecuador and in the adjacent high seas, by the coastal countries and distant water fleets from Belize, China, European Union, Faroe Islands, Korea, and Vanuatu. In the same year more than 600,000 t of Jumbo flying squid were taken from the South Pacific by vessels from Chile, China, Peru and Chinese Taipei. About 3,000 t of fish were taken from the high seas by bottom fishing methods by vessels from Australia, Belize, Chile, China, European Union and New Zealand. The conservation and management issues in the high seas of the South Pacific of most immediate interest to the participants in the International Consultations related to the sustainable management of the Chilean jack mackerel and the prevention of damage to vulnerable marine ecosystems by bottom fishing. Both of these issues were

⁴ The People's Republic of China ratified the Convention on 6 June 2013 and accordingly will become the 12th member of the Commission on 6 July 2013.

the subject of interim management measures by the International Consultations and the Preparatory Conference.

7 There are other species of jack mackerel that occur in the South Pacific leading to some confusion in nomenclature in the early years. The first [Interim Management Measures](#) adopted by the International Consultations at the 3rd meeting in 2007 referred generally to Pelagic Fisheries, even though there was only one significant pelagic fishery in the area, for Chilean jack mackerel. The 2009 Revised Interim measures for Pelagic Fisheries, the 2011 Interim Measures for Pelagic Fisheries, and the 2012 Interim Measures for Pelagic Species applied only to *Trachurus* species. The Conservation and Management Measure for *Trachurus murphyi* (CMM 1.01) is more accurately restricted in its application to *Trachurus murphyi*. However, in practice the Interim Measures that applied to pelagic fisheries and the CMM 1.01 were all intended to be directed at the same fishery. It should be noted that the nomenclature was further complicated by the use of other common names for jack mackerel by some participants, in particular “horse mackerel”.

Data collection

8 From an early stage in the [International Consultations](#) the importance of having adequate data to support stock assessment and as a basis for conservation and management was recognized. The DIWG was established at the 1st meeting of the International Consultations and standards for the collection, reporting and exchange of data were adopted at the [3rd meeting](#) of the International Consultations in 2007 ([2007 Data Standards](#)). These standards were very detailed in respect of information that was to be collected by participants, even compared to those for existing regional fisheries management organisations (RFMOs), however there was some initial uncertainty about the detail and format in which the data were to be reported to the Interim Secretariat. The 2007 standards provided specifications for the principal fishing methods, trawl, purse-seine, and bottom longline. Other fishing methods were added in subsequent revisions. The 2012 revision of the Data standards ([2012 Data Standards](#)) provided that participants were not only to collect the detailed data from each fishery but also to report the detailed data to the Interim Secretariat. The importance the Members place on timely submission of high quality, detailed data is reflected in the adoption of the Standards for the Collection, Reporting, Verification and Exchange of Data ([CMM 1.03](#)) at the first Commission Meeting in February 2013.

The fishery for Chilean jack mackerel

9 Figure 1 shows catches of Chilean jack mackerel in the South-eastern Pacific from 1993 to 2012. Catches had been increasing throughout the 1980s and reached a peak in 1995 of about five million t, most of which was taken by Chile. Peru and Ecuador also had a long standing fishery within their EEZs. Subsequently the coastal countries' catches declined precipitately to 1999 and then stabilised until 2007 when they started to decline again. After 2000, distant water fishing countries (Belize, China, European Union, Faroe Islands, Korea, Russian Federation and Vanuatu) entered (or re-entered) the fishery with rapidly increasing fishing effort and catch until 2007. This was then followed by a sharp decline of catches.

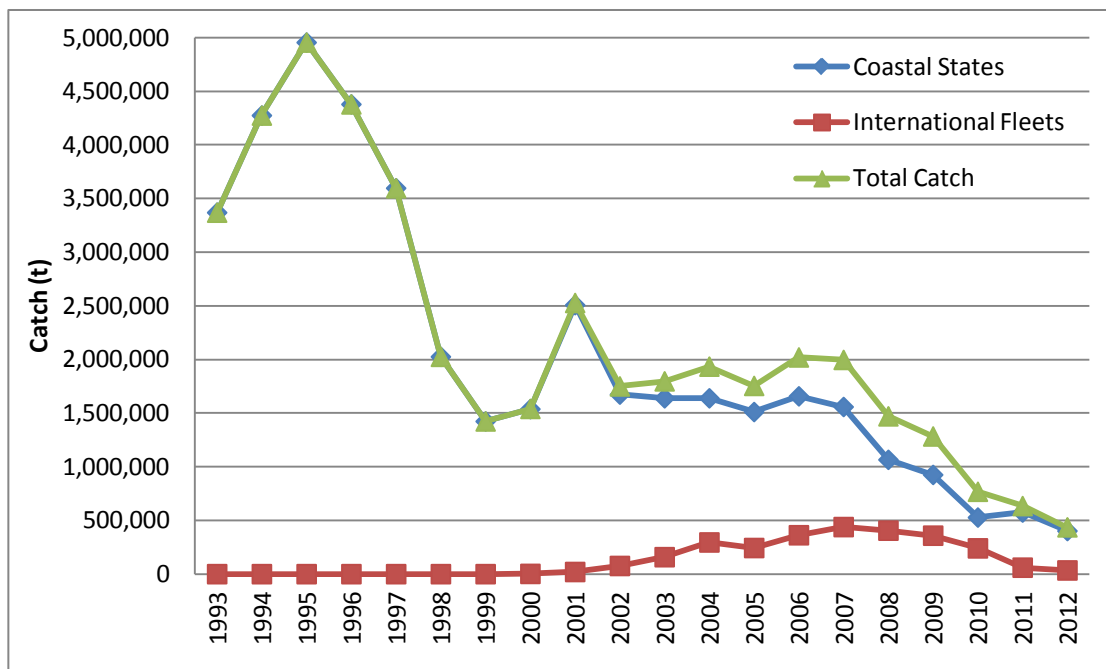


Figure 1: Catch of jack mackerel in the South-eastern Pacific 1993-2012

Stock assessment and management during the interim period

10 The International Consultations established the [SWG](#) at its first meeting, whose initial activity was to describe the fisheries of the area and to prepare species profiles. At the [3rd meeting of the SWG](#) in 2007, the Chilean delegation presented an assessment ([SPRFMO-III-SWG-18](#)) for an assumed stock in an area including the Chilean EEZ and ranging out to 105°W which suggested that the stock was fully exploited. The 3rd meeting of the International Consultations supported the establishment of a separate [jack mackerel subgroup](#) which would be responsible for jack mackerel research and stock assessment.

11 The 2007 [Interim Management Measures](#) were also adopted at this meeting. These Interim Measures were in two parts, the first referring to Pelagic Fisheries and the second to Bottom Fisheries. The Measures for Pelagic Fisheries excluded squid, and so the only significant fisheries they addressed were the purse-seine and mid water trawl fisheries targeting Chilean jack mackerel. The motivation for these measures was the rapid growth in fishing effort for jack mackerel in the high seas off the coast of Chile. The measures attempted to control the growth of fishing effort by limiting the total of gross tonnage of vessels flying their flag fishing for pelagic stocks in 2008 and 2009 to the levels of total gross tonnage recorded in 2007 in the Area. However, the measure also allowed coastal and fishing states with a catch history in the pelagic fisheries in the South Pacific that did not fish in 2007, to enter the fishery in the Area in 2008 and 2009 exercising voluntary restraint of fishing effort. Participants agreed to communicate the total level of gross tonnage recorded in the Area in 2007 for those vessels flying their flag that were actively fishing in 2007 to the interim Secretariat by 1 January 2008. In notifying this information, Participants agreed to verify the effective presence of their vessels in the Area in 2007 through vessel monitoring system (VMS) records, catch reports, port calls or other means. The interim Secretariat was to have access to such information upon request.

12 As there was at that time no agreed understanding of the status of the stocks of Chilean jack mackerel, the Interim Measures provided that in 2009, the SWG would give advice on the status of the pelagic stocks.

13 The [fifth meeting](#) of the SWG in March 2008 reviewed a further Chilean stock assessment and in its [report](#) noted concerns about the declining state of the jack mackerel stock. A [jack mackerel stock structure and assessment workshop](#) was held in July 2008 to develop working hypotheses for the stock structure of jack mackerel stock and to consider assessment requirements, the former being seen as a necessary step before assessment could be carried out. The meeting noted that it was required to give advice on stock status in 2009, but expressed concern that it did not have all the data required to undertake assessments, referring to detailed data which had been provided by participants to the Interim Secretariat but which were kept confidential and standardized catch per unit effort information, which had not previously been requested. Both issues were subsequently addressed. In the absence of agreed stock assessments, the [8th meeting](#) of the SWG (November 2009) used a comprehensive review of the fishery and other indicators as a basis for [advice](#) to the International Consultations. This

advice concluded that the indicators showed that fishing mortality was likely to have exceeded sustainable levels since at least 2002, and continued to do so. The then current biomass levels were substantially below levels at the peak of the fishery in the 1990s and, as a result of recent poor recruitment, were highly likely to be still declining. Low recruitment, low and declining spawning and total biomass, low and declining spawning biomass per recruit and landings in excess of surplus production all indicated that further declines in stock status were likely unless fishing mortality was reduced, particularly if recruitment remained poor. To stop further declines and re-build the jack mackerel stock, urgent and adequate measures were required to limit fishing mortality to sustainable levels. Indicators suggested that this would require a decrease in fishing mortality and, given the decline in estimated biomass, a decrease in fishing mortality would require a reduction in total removals.

14 In response the 8th meeting of the International Consultations adopted the [2009 Revised Interim Measures](#) for Pelagic Fisheries in which participants agreed to voluntarily restrain⁵ their catches for 2010 and subsequently until the Convention entered into force to the levels they recorded in 2007, 2008, or 2009.

15 The first stock assessment for Chilean jack mackerel by the SWG was carried out at its [9th meeting](#) in October 2010 with the [conclusions](#) that:

- Jack mackerel catches had declined steadily since 2006, and continued to decline in 2010, with provisional (to September) 2010 catches being at the lowest level since 1976. There was close agreement on the then current biomass levels between all of the assessment models used. Assessment results indicated that total biomass had declined by 79% since 2001 to 2.1 million t, the lowest level in the history of the fishery. Current total biomass levels were estimated to be 9% - 14% of the biomass which would have existed if there had been no fishing.
- Estimated average recruitment over 2005 – 2009 had only been 30% of long-term average recruitment. There had been an appearance of small (20 cm) fish in 2010 catches in a number of regions and fisheries which might have signalled the start of a period of increased recruitment towards higher average levels.
- However, past recruitment histories and auto-correlation between annual recruitment indicated that recruitment increase would be gradual. It was

⁵ Participants with a catch history in the *Trachurus* species fisheries in the South Pacific, but not exercising such fisheries activities in 2007 or 2008, and who communicated to the Interim Secretariat by 31 December 2009 the GT¹ of vessels flying their flag that entered the fishery in 2009, agree to voluntarily restrain in 2010 catches by such vessels flying their flag in the Convention Area.

therefore likely that recruitment in 2011 would be closer to the recent 5-year average recruitment, than to higher 10-year average recruitment.

- Under 5-year average recruitment, for the base case assessment, there was a 100% probability that biomass would continue to decline at 2010 catch levels (711,783 t), with projected biomass in 2020 of 10% of the then current biomass. At 75% of 2010 catches, there was a 54% chance that biomass would continue to decline, with projected biomass in 2020 of 97% of the then current biomass. At 50% of 2010 catches, all models indicate that biomass would increase to about double the then current biomass.
- Given the current low biomass, and the high likelihood of rapid further declines at 2010 catch levels, immediate catch reductions would be required to prevent further biomass decline and provide some possibility of rebuilding.

16 In response the [2nd meeting](#) of the Preparatory Conference adopted the [2011 Interim measures](#) for Pelagic Fisheries which provided that participants would limit 2011 catches to 60% of those in 2010, and in principle, 2012 catches would be reduced to 40% of those in 2010. Later stock assessments at the 10th and 11th meetings of the SWG provided essentially the same results as those from the 9th meeting and the reduction to 40% of 2010 catches was agreed at [the 3rd meeting](#) of the Preparatory Conference in the [2012 Interim Measures](#) for Pelagic Fisheries.

A chronological record of the controversy concerning the vessel *Lafayette*

17 On 22 July 2009 the Russian Federation advised the Interim Secretariat by email⁶ that it had authorised four vessels to fish in the SPRFMO Area in 2009; this email was followed up with a fax⁷ dated 6 August 2009 containing the same information. On 16 September 2009 the Russian Federation confirmed via email⁸ that those four vessels had all been active in the SPRFMO Area during 2009; tow-by-tow information for 2008 was sent in the same email⁹.

18 On 5 November 2009 (during the [8th SWG](#)) the Interim Secretariat received an email¹⁰ from the Russian Federation noting that "*more vessels authorized to fish in 2009*

⁶ See Supporting Material 1

⁷ See Supporting Material 2

⁸ See Supporting Material 3

⁹ Actual operational tow-by-tow data and VMS records are not included in the supporting material due to the need to maintain the confidentiality of data that Members have provided. Refer [CMM 1.03](#) 8(c).

¹⁰ See Supporting Material 4

but not entered fisheries yet". On 17 November 2009 the Interim Secretariat received a fax¹¹ from the Russian Federation advising that the vessel *Lafayette* would fish for "Horse Mackerel"¹² in the SPRFMO Area in the 2009 season. The Interim Secretariat saw a news item¹³ on 19 November 2009 stating that the *Lafayette* was a mother ship or processing vessel. The Interim Secretariat also saw material confirming this on publically accessible web sites such as vessel tracker (www.vesseltracker.com).

19 On 25 November 2009 the Interim Secretariat wrote an email¹⁴ to the Russian Federation thanking them for the fax received 17 November 2009. The email referred to a news item similar to that referred to in paragraph 18 above and asked the Russian Federation to confirm if the *Lafayette* would fish as a midwater trawler during 2009 or whether the vessel would perhaps be better described as a fish processing vessel. The Russian Federation replied via email¹⁵ on 10 December 2009 and confirmed that the *Lafayette* would fish as a midwater trawler during 2009.

20 On 10 December 2009 the Russian Federation advised the Interim Secretariat by fax¹⁶ that the fishing vessel *Atlantida* had been fishing for "Horse Mackerel" in the SPRFMO Area during the 2009 season. On 30 December 2009 a similar fax¹⁷ from the Russian Federation was received by the Interim Secretariat which stated that the *Lafayette* was actively fishing for "Horse Mackerel" in the SPRFMO Area during the 2009 season.

21 On 2 January 2010 the Executive Secretary circulated¹⁸ a table (2010_0001¹⁹) showing the number and total Gross Tonnage of vessels that had actively fished for the *Trachurus* species during 2009 in the SPRFMO Area. At that stage only two participants had supplied Gross Tonnage information (Faroe Islands and the Russian Federation). The Faroe Islands had verified the effective presence of their vessel using catch reports,

¹¹ See Supporting Material 5

¹² The species being managed by CMM 1.01 is *Trachurus murphyi*. *T. murphyi* has various common names including Chilean jack mackerel, Peruvian jack mackerel, Horse mackerel and Jurel). Previous communications with the Russian Federation indicated that the term Horse Mackerel did in fact refer to the species *T. murphyi*, this assumption was later confirmed by comparing Russian Federation submissions with Russian Federation National reports. Refer to [SP-07-SWG-JM-02](#) for an in depth description of *T. murphyi*

¹³ See Supporting Material 6

¹⁴ See Supporting Material 7

¹⁵ See Supporting Material 8

¹⁶ See Supporting Material 9

¹⁷ See Supporting Material 10

¹⁸ Note the term circulated indicates that the letter/email was made available to all participants by the Executive Secretary.

¹⁹ See Supporting Material 11

in accordance with the 2007 Interim Measures. The effective presence of the Russian Federation vessels had not yet been verified.

22 In a letter (2010_0002²⁰) which the Executive Secretary circulated on 8 January 2010, the Chilean authorities *"stress[ed] that according to the revised Interim Measures both VMS records and catches reports, are required to be submitted to the Interim Secretariat for verification of the effective presence of vessels in the area in 2009"*. Chile asked the Interim Secretariat to collect this information from relevant participants. The Executive Secretary circulated a request for these data within the same email.

23 On the 23 January 2010 French authorities in Papeete sent an email²¹ to the Executive Secretary advising that they would be conducting an inspection of the *Lafayette* and asking if there were *"particular regulations applying to this vessel according to SPRFMO?"* The Executive Secretary replied the same day via email²² informing the French that the vessel had been listed as one of the vessels that actively fished *Trachurus* species in the SPRFMO Area during 2009 and stating *"It would be very useful if your investigation could confirm that information, for example, by catch records or the presence of appropriate fishing gear"*.

24 On 28 January 2010 via email²³ the Papeete authorities sent the Executive Secretary an image of the *Lafayette*, Ship's particulars, a sketch that appeared to outline pair trawling operations using the *Lafayette* and a copy of the authorities' report (in French) detailing the inspection of the *Lafayette* conducted on 24 January 2010. The accompanying email said that *"The captain of the vessel considers that he is a master of a "fishing vessel" but we did not find any fishing gear or fishing equipment on board" and "an experimental fishing campaign will be organized soon but the captain is not sure, contrary to the Scottish engineer on board, of the result"*. This information was not consistent with reports from the Russian Federation which had reported that the vessel had already been fishing in the SPRFMO Area during late 2009. The Executive Secretary replied via email²⁴ and asked the Papeete authorities if they had any other information *"such as log information showing evidence of fishing, the most recent port call"*.

25 On 30 January 2010 (via email²⁴) the Papeete authorities sent the Executive Secretary some additional documents including a Port of call list, an Equasis

²⁰ See Supporting Material 12

²¹ See Supporting Material 13

²² See Supporting Material 14

²³ See Supporting Material 15

²⁴ See Supporting Material 16

(www.equasis.org) ship search report, and three images of new unused equipment aboard the *Lafayette*. The Papeete authorities stated that the port of call list showed that the *Lafayette* "was on scale in China, South Korea and Solomon Islands, far from areas in South Pacific where jack mackerels are fished". The Equasis ship search identified the *Lafayette* as a "Crude oil Tanker" and according to the Papeete authorities "Photos attached show clearly that the vessel has never fished (no cable astern on the 60 Tons fishing winch, no fishing equipment, all factory equipment new on board)". The Executive Secretary concluded that this material from the French authorities showed that the vessel could not have fished in December 2009.

26 From 31 January 2010, the Interim Secretariat began to receive hourly VMS²⁵ reports by email²⁶ for the *Lafayette*. These reports continued until 14 October 2010 and showed that the *Lafayette* was in the South-eastern part of the SPRFMO Area during 2010 (note that the Interim Secretariat did not receive 2009 VMS records for the *Lafayette* until April of 2010, as explained in the following paragraphs).

27 On 16 February 2010 the Executive Secretary wrote to the Russian Federation (2010_0008²⁷) requesting specifically *that the effective presence of 'Lafayette' in the Area in 2009 is confirmed by the submission of either VMS records, catch reports, port calls or other means*" at the earliest convenience.

28 On 17 February 2010 the Executive Secretary decided²⁸ that the *Lafayette* would not be included *"in the list of vessels actively fishing on the basis that our information to date indicates that it was not actively fishing at the time we were advised it was (2009)"*.

29 On 26 March 2010 the Executive Secretary wrote to the Russian Federation (2010_0012²⁹) following up on the request dated 16 February 2010. The Executive Secretary's letter drew attention to the table available via the SPRFMO website which listed the gross tonnage of vessels that actively fished for *Trachurus* species during 2009. The letter also included the paragraph:

I now wish to advise you that we have been provided with a copy of a report from an inspection of the Lafayette when it called at Papeete in January of this year. The inspection found no fishing gear onboard the vessel. Also since being flagged as a vessel of the

²⁵ Actual operational tow-by-tow data and VMS records are not included in the supporting material due to the need to maintain the confidentiality of data that Members have provided. Refer [CMM 1.03](#) 8(c).

²⁶ See Supporting Material 17

²⁷ See Supporting Material 18

²⁸ See Supporting Material 19

²⁹ See Supporting Material 20

Russian Federation in August 2009, the vessel had been in in China, South Korea and the Solomon Islands, some distance from the fishery for Trachurus species. That supports my initial view that the vessel should not be included in the web site table of vessels that actively fished for Trachurus species in 2009.

30 On 3 April 2010 the Russian Federation sent an email³⁰ to the Interim Secretariat which contained 2009 VMS records for the *Lafayette*. The VMS positions were mapped and showed that the *Lafayette* was in a high-seas enclave area near the Federated States of Micronesia on the Western side of the SPRFMO Area during the final four days of December 2009. On the basis of this information, the Executive Secretary wrote an email³¹ to the Russian Federation on 7 April 2011 and advised them that they would “include the *Layette* in the list of vessels that were actively fishing *Trachurus species* in 2009”³².

31 The Interim Secretariat assumed that the vessels authorised to fish by the Russian Federation in 2009 would also be authorised in 2010 and constructed its initial list of 2010 authorised vessels accordingly. But the only authorisation actually received for 2010 was for the *Lafayette*. Accordingly, on 6 June 2010 the Executive Secretary sent an email³³ to the Russian Federation advising them that the authorised vessel list for 2010 will be corrected to show only the *Lafayette*, requesting monthly reports for 2010 and reminding the Russian Federation of the letter of 16 February 2010 (referred to above) requesting confirmation of effective presence in 2009. On 13 July 2010 the Russian Federation sent a fax³⁴ with monthly catch reports for “horse mackerel” (*Trachurus murphyi*) in the SPRFMO Area for December 2009 through to June 2010. The recorded catches were 3,723 t, 2,846 t and 10,924 t for April, May and June 2010, respectively (596 t was recorded as being caught in December 2009).

32 The [PrepCon I report](#) (adopted 23 July 2010) contained the following statements – “Concern was expressed at indications of a lack of compliance with the Interim Measures by some Participants and indications that the size of the fleet might increase further” (para 6) and “Concern was expressed by Participants at the fact that complete and finest

³⁰ See Supporting Material 21

³¹ See Supporting Material 22

³² This decision was based upon the paragraph in the 2009 Interim Measures which required the Interim Secretariat to maintain a register of authorised vessels. Participants were to notify the Interim Secretariat which of these authorised vessels were activity fishing in the Convention Area and this information was to be posted on the SPRFMO website.

³³ See Supporting Material 23

³⁴ See Supporting Material 24

scale data had not been supplied by all those Participants engaged in the fishery” (para 8).

33 At the [9th meeting](#) of the SWG in October 2010 the Russian Federation presented its Annual National report ([SWG-09-10](#)). Table 1 in this report showed that six vessels had fished in the Southeast Pacific during 2009. Final Annual Catch figures for the Southeast Pacific for 2009 (9,113t) were also presented. The report stated that in 2009 “*the vessels which were involved in this fishery use single midwater trawls*” and that they operated in the area 34.7°S to 44.0°S and 79.0°W to 126.1°W (in the Southeast Pacific) during May to September 2009. This information was spatially and temporally inconsistent with the *Lafayette* VMS records provided earlier on 3 April 2010 showing its presence only in the Western Pacific and only in December 2009. Tow-by-tow data which confirmed the effective presence for the remaining five Russian Federation vessels (*Atlantida*, *KapitanKuznetsov*, *Germes*, *IvanLyudnikov*, and *Semiozerno*) were submitted to the Interim Secretariat via a USB flash drive at the 9th SWG meeting. For four of the vessels the tow-by-tow data were spatially and temporally fully consistent with the Russian Federation Annual National Report. The tow-by-tow data for the vessel *Atlantida* showed it had also caught some fish during October 2009. None of the tow-by-tow records showed fishing during December 2009 and nor were any of the tows conducted on the Western side of the SPRFMO Area.

34 On 23 December 2010 the Russian Federation emailed³⁵ the Interim Secretariat monthly catches of “horse mackerel” (*Trachurus murphyi*) in the SPRFMO Area. The amounts recorded were 9,463 t, 9,722 t and 4,637 t for July, August and September 2010, respectively. The remaining months were nil. This meant that the total 2010 catch estimate for the Russian Federation (including the earlier information from 13 July 2010) was 41,315 t. This preliminary total catch figure was reported in the Interim Secretariat Data Report to the 2nd meeting of the Preparatory Conference, [PrepCon-2-INF-03](#) (Table 2.3). This same table contained Peru’s 2010 reported annual catch for the SPRFMO Area (40,516 t).

35 The [2011 Interim Measures](#) were adopted on 28 January 2011 at [PrepCon II](#). The 2011 Interim Measures contained a footnote in which the Russian Federation noted that it would not apply paragraph 11 (requiring participants to submit tow by tow data for trawlers to verify annual catch reports) for its 2010 catch data. But instead, the Russian Federation would observe the [2009 Revised Interim Measures](#) requirement which was “*All*

³⁵ See Supporting Material 25

participants engaged in the fishery are to collect, verify, and provide all data to the Interim Secretariat, in accordance with the SPRFMO Data Standards, by 30 June of each year for their previous (January to December) year's fishing activities, including information relevant to stock status and recovery".

36 On 23 March 2011 the French authorities advised the Executive Secretary via email³⁶ that they had officially sent the Russian authorities a "note verbale au sujet du 'Lafayette'" along with an English summary of the French Inspection made in Papeete on 24 January 2010 and a copy of the original French report (the same report the Executive Secretary received on 28 January 2010). The email contained the following statement *"the French authorities consider the Lafayette as a former oil tanker converted into a processing vessel, not operating as an active trawler in 2009"*.

37 On 30 March 2011 the Executive Secretary circulated a summary (2011_0012³⁷) of the French Inspection of the vessel *Lafayette* conducted on 24 January 2010 to participants as the inspection had been referred to in Interim Secretariat papers presented at both PrepCon I and PrepCon II. The cover letter stated that the vessel was *"currently listed on the data page of the Web Site as actively fishing in 2009"*.

38 On 11 April 2011 China wrote a letter³⁸ to the Chairman expressing concern *"about the legitimacy of catch figures submitted by some Participants"*, and its eagerness to see the publication of final verified data. On 28 April 2011 the Executive Secretary circulated a letter³⁹ from Chile in which it asked that the Interim Secretariat request the Russian Federation to submit *"a report on the situation of the Lafayette, as promised in the Second Preparatory Conference"*.

39 On 2 May 2011 the Executive Secretary circulated a letter (2011_0022⁴⁰) addressed to the Russian Federation referring to concerns about the vessel *Lafayette* raised at PrepCon II, and referring to an oral assurance given by the Russian Federation delegation at that meeting to *"undertake an investigation in relation to this vessel on receipt of the full report of the French authorities of their port inspection of it"*. The Executive Secretary's letter stated that it was important that the report was made available to all delegations and that it include *"tow by tow reports of catches"*, *"reports of*

³⁶ See Supporting Material 26

³⁷ See Supporting Material 27

³⁸ See Supporting Material 28

³⁹ See Supporting Material 29

⁴⁰ See Supporting Material 30

transhipments" and *"Landing/unloading reports"*. The Executive Secretary also asked when the report might be expected.

40 The Executive Secretary also wrote to Peru on 2 May 2011 (2011_0024⁴¹) asking for unloading or transshipping data involving the *Lafayette* during 2010, in response to which Peru submitted information on 27 June 2011⁴² showing that four of its vessels transhipped 31,275 t to the *Lafayette* in 2010.

41 On 3 May 2011 the Executive Secretary circulated a letter from the European Union (2011_0025⁴³) which expressed *"serious misgivings as to whether the vessel would be able to operate as a pair trawler"* and joined Chile in requesting a report on the situation of the *Lafayette* and the catches declared in 2009 and 2010. On 4 May 2011 the Executive Secretary circulated a letter from Korea (2011_0026⁴⁴) in which it expressed interest in the Russian Federation's investigation into the activities of the *Lafayette*.

42 The Russian Federation wrote a letter⁴⁵ to the Interim Secretariat on 20 May 2011 advising that the absence of a formal inspection report signed by both parties involved created difficulties for the Russian authorities in conducting an effective investigation in relation to the vessel *Lafayette*. Nevertheless, investigative work had commenced and upon completion of this work, the results would be communicated to the Interim Secretariat. An email advising participants that *"the Russian fisheries authorities are seeking explanations regarding the inspection of the vessel Lafayette conducted by the French authorities, and that upon completion of the work the results will be communicated to the Interim Secretariat"* was circulated by the Executive Secretary on 25 May 2011 (2011_0030⁴⁶).

43 On 25 May 2011 the Executive Secretary circulated a letter (2011_0031⁴⁷) from the European Union transmitting a letter from the relevant Mauritanian authorities which stated that the *Lafayette* is not a fishing vessel. The European Union also reiterated *"its kind request addressed to the Russian authorities to clarify the situation of this vessel"*.

⁴¹ See Supporting Material 31

⁴² See Supporting Material 32

⁴³ See Supporting Material 33

⁴⁴ See Supporting Material 34

⁴⁵ See Supporting Material 35

⁴⁶ See Supporting Material 36

⁴⁷ See Supporting Material 37

44 On 2 June 2011 the Executive Secretary circulated a letter (2011_0035⁴⁸) from China in which it encouraged the Interim Secretariat *“to fulfil its function in relation to catch data verification to improve the data accuracy of some relevant fishing participants, including the Lafayette issue discussed currently”*.

45 On 3 June 2011 the Executive Secretary circulated an email (2011_0037⁴⁹) containing the final recorded catches for *Trachurus* species in the SPRFMO Area in 2010 which included the 41,315 t reported by the Russian Federation in its monthly reports.

46 On 14 June 2011 Chile wrote a letter⁵⁰ to the Chairman expressing concern regarding a lack of commitment by some countries as to the conservation of the jack mackerel fishery. Attached to this letter was a press release from the NGO CeDePesca describing several instances of catch misreporting including reports for the *Lafayette* during both 2009 and 2010. The Executive Secretary circulated a second similar letter (2011_0044⁵¹) from Chile on 19 July 2011 which also expressed concern about evidence of misreporting and included the CeDePesca press release.

47 On 2 August 2011 the Executive Secretary wrote an email (2011_0048⁵²) to the Russian Federation asking for an update on the investigation into the vessel *Lafayette*.

48 On 9 August 2011 the Executive Secretary circulated a letter (2011_0048a⁵³) from the European Union in which it was *“alarmed to note that neither Peru, nor Russian Federation, nor Vanuatu provided any information in accordance with the Standards for the collection, reporting, verification and exchange of data for year 2010”* and stated that *“The lack of detailed tow-by-tow data for the Peruvian and Russian vessels for year 2010 is of even greater concern”*. The European Union urged *“all participants to submit outstanding data as a matter of high priority”*.

49 On 23 September 2011, at the [9th DIWG](#) meeting the Interim Secretariat presented the paper [DIWG-09-INF-01](#) which detailed data submissions to date and included both the Russian Federation reported monthly catch in 2010 of 41,315 t and Peru’s reported monthly catch of 40,516 t. At the [10th SWG](#) meeting held concurrently, the Russian Federation presented their National report [SWG-10-12](#) which indicated that one vessel took 41,315 t in 2010, but did not contain detailed information for 2010 activities (this

⁴⁸ See Supporting Material 38

⁴⁹ See Supporting Material 39

⁵⁰ See Supporting Material 40

⁵¹ See Supporting Material 41

⁵² See Supporting Material 42

⁵³ See Supporting Material 43

report made it clear that in 2010, there were no other Russian fishing vessels in the SPRFMO Area with which the *Lafayette* could have pair trawled). During the jack mackerel subgroup meeting some participants expressed concern at the possible double-counting of Russian and Peruvian reported catches in 2010 (Paragraph 8.1 of the jack mackerel subgroup [report](#)). The Russian Federation 2009 and 2010 reported catch figures were included in the assessment produced by the SWG.

50 On 3 October 2011 the Executive Secretary circulated a letter (2011_0059⁵⁴) to the Russian Federation in which he again requested an update on the Russian authorities' investigation concerning the *Lafayette*, and detailed operational data for 2010.

51 The [2011 Interim Measures](#) (adopted 28 January 2011) included a provision requiring the Interim Secretariat to verify annual catch reports submitted by participants against submitted detailed data, and to inform all participants of the outcome of the exercise. On 28 October 2011 the Executive Secretary wrote (2011_0069⁵⁵) to the Russian Federation advising that the verification exercise for 2010 was commencing and requesting that data to assist with that exercise be provided. A similar letter (2011_0070⁵⁶) was sent to Peru.

52 On 29 November 2011 the Executive Secretary circulated a letter (2011_0075⁵⁷) from Chile in which Chile asked the Interim Secretariat to clarify the situation regarding catches taken by Peru and/or Russian vessels during 2010, particularly in regard to the *Lafayette*.

53 On 8 January 2012 the Executive Secretary circulated a report (2012_0001⁵⁸) with the results of the 2010 verification exercise. The summary stated that "*Trawl tow by tow, or purse-seine set by set or trip by trip operational catch data were provided by all participants in the fishery except Belize, Peru and the Russian Federation. Belize provided daily operational catch data, and Peru and the Russian Federation have not yet provided operational catch data for 2010*". The report went on to say "*The Interim Secretariat has provided reminders to Peru and the Russian Federation, but is not able to verify those two participants reported catches based on detailed operational information. However, Peru provided transshipment information for 4 of its 6 vessels that transferred 31,275 t to the Russian Federation vessel Lafayette. This is consistent with Peru's*

⁵⁴ See Supporting Material 44

⁵⁵ See Supporting Material 45

⁵⁶ See Supporting Material 46

⁵⁷ See Supporting Material 47

⁵⁸ See Supporting Material 48

reported monthly catches that totalled 40,516 t". Subsequently on 27 January 2012, the Interim Secretariat did receive 2010 operational catch data from Peru.

54 On 26 January 2012, four days before the [3rd meeting](#) of the Preparatory Conference, at the request of the European Union the Executive Secretary circulated (2012_0011⁵⁹) a letter, an inspection report and a technical report on the capability of the *Lafayette* produced by Spain during the vessel's port call into Las Palmas on 2-3 December 2011. In the covering letter the European Union said the results of this inspection confirmed the findings of the earlier inspection by the French authorities and the attached technical report concluded that it was highly unlikely that the *Lafayette* could have ever acted effectively as a pair trawler. A [copy of the letter](#) was also distributed four days later at [PrepCon III](#).

55 On the same day the New York Times, the International Herald Tribune and other international media published articles^{60, 61} reporting the results of a project on the state of the Chilean jack mackerel fishery undertaken by the International Consortium of Investigative Journalists through the Center for Public Integrity. Some of these articles referred to the *Lafayette*.

56 The paper prepared by the Interim Secretariat for [PrepCon III](#) which details annual catch data provided to the Interim Secretariat ([PrepCon-03-INF-03](#)) included the Russian Federation annual catch figures for 2009 (9,113 t) and 2010 (41,315 t).

57 On 30 January 2012 during PrepCon III the Executive Secretary circulated a [letter](#) in which Chile expressed concern about various reported cases of non-compliance with the 2011 Interim Measures, including that of the reported catches of the *Lafayette*.

58 During the meeting a number of delegations criticised the level of compliance with the Interim Measures. In particular, Peru, European Union, France, Vanuatu, Chile, and Australia expressed concern about the credibility of the *Lafayette* data. The European Union, supported by Australia, Vanuatu and Peru, recommended the gross tonnage and catch data for the vessel be placed in abeyance pending receipt of operational fishing information. This concern was encapsulated in paragraph 9 of the PrepCon III [report](#) which states *"The Conference expressed concern with the low level of compliance with the Interim Measures by some Participants"*.

⁵⁹ See Supporting Material 49

⁶⁰ See Supporting Material 50

⁶¹ See Supporting Material 51

59 The delegation from the Russian Federation said it had studied the material provided about the Lafayette, but had been unable to launch a full scale investigation against a private company without an inspection report signed by both parties. The vessel had obtained certificates to be qualified as a fishing vessel, had annual surveys and provided the required data. The delegation went on to say that, taking into account the concerns of other delegations, the vessel had not been authorised to fish in the SPRFMO Area in 2011⁶².

60 The Executive Secretary held several discussions with a delegate from the Russian Federation about removing the data from the relevant tables. No agreement was reached during these discussions. The Chairman concluded a final debate on Table 1 of the [2012 Interim Measures](#) saying he would draft a footnote referring to the *Lafayette*. The 2012 Interim Measures for Pelagic Fisheries adopted by PrepCon III includes the footnote to Table 1:

4 This total includes the vessel Lafayette. Operational fishing data, in accordance with the consolidated data standards, has not been supplied to the Interim Secretariat in respect of this vessel and information supplied by some delegations indicates that the vessel probably was not capable of fishing in either 2009 or 2010. Some delegations requested the GT for this vessel (49,173 GT) should be held in abeyance pending receipt of operational fishing information. The Russian delegation stated that vessel Lafayette has duly obtained all certificates from the Russian Maritime Register of Shipping to be qualified for the fishing class; the vessel has undergone initial physical inspections and subsequent annual surveys to confirm its ability to be engaged in direct fishing operations.

61 The first document prepared by the Interim Secretariat following PrepCon III that set out Annual Catch Data was included in the [data section](#) of the SPRFMO website "Data submitted to the Interim Secretariat as at 1 March 2012" which was updated on 6 March 2012⁶³. In Table 2.1, in the row for 2010, the Russian Federation column included the footnote "*Aggregated annual catch was provided for a single vessel (the Lafayette) however the data has not been included in table 2.1, pending receipt of operational fishing information*". On the same day the Interim Secretariat also updated the SPRFMO website by removing the Lafayette from the [list of vessels](#) actively fishing *Trachurus* species in 2009. Subsequently the data report ([DIWG-10-INF-01](#)) prepared for the [10th](#)

⁶² See Supporting Material 52

⁶³ See Supporting Material 53

[DIWG](#) and [11th SWG](#) during 15-19 October 2012 did not include the Russian Federation reported catch for 2010 and referred to the omission with the preceding footnote.

62 The jack mackerel subgroup of the 11th SWG reviewed all the catch data for the fishery and [reported](#):

7.1. Updating of data sets for additional stock assessment runs

The SPRFMO Data Manager coordinated with updated data sets that were provided for the stock assessment runs conducted at the meeting. Additionally, participants were asked to present data to improve inputs to the models.

A substantial amount of time was spent updating and revising data inputs for the Joint Jack Mackerel (JJM) stock assessment model. These updates include revisions to many of the catch data series, including: revision of historical catches for some countries⁶⁴ and updating of preliminary 2012 catches for all fleets; preparation of an updated table of aggregated catches for the four fleets used in the JJM model; generation of catch-at-age matrices for the four fleets; introducing newly standardized CPUE and other indices; and a new matrix of mean weights at age over time for the far north fleet.

The revised data table (Table A1.3) used in the stock assessment had zero catch for the Russian Federation and 40,516 t for Peru for the catch of the fleet outside the Chilean EEZ in 2010.

63 The data paper prepared for the [1st meeting of the Commission \(COMM-01-INF-07\)](#) also did not contain the 2010 reported catch for the Russian Federation (this was explained by use of the footnote shown in Paragraph 62 above).

The development of the Conservation and Management Measure for *Trachurus murphyi* (CMM 1.01)

64 [CMM 1.01](#) was based on a proposal by the European Union that was given the documentary reference of Working Paper 10⁶⁵. The proposal drew on the previous [2012 Interim Measures](#) for Pelagic Fisheries. In respect of fishing effort, the proposal limited the fishing effort of each member and Cooperating Non-Contracting Party (CNCP) to the gross tonnage of vessels flying the flag of that the member or CNCP that were actively

⁶⁴ The delegation of the Russian Federation stated that the Russian Federation will implement the 2012 Interim Measures and further management measures for the pelagic fisheries according to the data which were provided to the Interim Secretariat.

⁶⁵See Supporting Material 54

fishing in 2007, 2008, or 2009 in the SPRFMO Area, as indicated in Table 1 of the 2012 Interim Measures for Pelagic Fisheries. In respect of catches, the proposal included a provision that the 2013 total catch of *Trachurus murphyi* (here after all catches refer to catches of *T. murphyi*) would be limited to 300,000 t and shared among members and CNCPs in the same proportion as 2010 catches.

65 This pressing Conservation and Management issue relating to the *Trachurus murphyi* fishery was discussed first in the Plenary and then referred to a Working Group, where several sessions were required to reach agreement.

66 After initial deliberation in the Working Group the Chair of the Working Group⁶⁶ prepared Revision 1⁶⁷ on 30 January 2013. The first Revision was an attempt to take account of the willingness of Chile to give its express consent for its catches in its national jurisdiction area to be subject to the measure, by increasing the catch limit for the area to which the measure applied to 360,000 t. At the same time, the Revision proposed that the total catch throughout the range of the stock should not exceed 438,000 t⁶⁸, consistent with the advice of the SWG. Revision 1 was not accepted.

67 Revision 2⁶⁹ was a refinement of Revision 1 and included a table (Table 2) showing the catch limits for each member and CNCP for 2013. Table 2 showed a catch limit of zero for the Russian Federation.

68 On 1 February 2013 the Chair of the working group prepared Revision 3⁷⁰ to reflect an agreement reached the previous evening. The essence of this proposal was that on a one off basis 10 per cent of the shares set out in Table 2 for Belize, China, European Union, Faroe Islands, Korea, Peru and Vanuatu were to be transferred to Chile, resulting in catch limits as set out in Table 3. Table 2 was the same as that in Revision 2 except a footnote (5) had been added to the effect: *'The Russian Federation notified the Commission that it considers it had a legitimate right to a share in the fishery notwithstanding the situation referred to in footnote 4 and asserts its right to participate in the fishery in 2013 in a proportion calculated by reference to its fishing activities it reported to the Executive Secretary in 2010'*. Neither Table 2 nor Table 3 included the Russian Federation.

⁶⁶ Gerard van Bohemen of New Zealand

⁶⁷ See Supporting Material 55

⁶⁸ in addition to the SPRFMO area and the zone of national jurisdiction of Chile, catches are made in the zones of national jurisdiction of Ecuador and Peru

⁶⁹ See Supporting Material 56

⁷⁰ See Supporting Material 57

69 Revision 4⁷¹ (a clean version of revision 3) was prepared at 12:30pm and was considered by the Plenary and approved with minor amendments as [CMM 1.01](#).

70 After the adoption of CMM 1.01, the Russian Federation delegation made a statement that is attached to the Report of the 1st Commission Meeting as [Annex K](#).

⁷¹ See Supporting Material 58

From: [?????? ????????](#)
To: [Susie Iball](#)
Subject: [SPAM] Russian fishery activities in the South Pacific ocean area
Date: Wednesday, 22 July 2009 6:38:03 a.m.
Attachments: [Semiozerno form eng.doc](#)
[K.Kuznetsov form eng.doc](#)
[I.Lyudnikov form eng.doc](#)
[Germes form eng.doc](#)

Dear Susie,

In attachment send you information about Russian vessels, that have got permissions for fishing in South Pacific Ocean in 2009.

When I come back to the office, I'll send official letter from Federal Agency for Fisheries of the Russian Federation.

With best regards,

Dmitry Kremenyuk
Head of the Division,
International Cooperation Department,
Federal Agency for Fisheries
of the Russian Federation

_____ Information from ESET Smart Security, version of virus signature database 4265
(20090721) _____

The message was checked by ESET Smart Security.

<http://www.eset.com>

Annex 4
Standard for vessel data

1. Data are to be collected on an un-aggregated (vessel by vessel) basis.

2. The following fields of data are to be collected:

(a)	Current vessel flag	Russia
(b)	Name of vessel	Semiozerno
(c)	Registration number	841671
(d)	International radio call sign (if any)	UGPP
(e)	Lloyd's / IMO number (if allocated)	8721088
(f)	Previous Names (if known)	N/A
(g)	Port of registry	Sovetskaya Gavan
(h)	Previous flag (if any)	N/A
(i)	Type of vessel	Trawler (TTP)
(j)	Type of fishing method(s)	Trawling (TM)
(k)	When built	1985
(l)	Where built	USSR, Nikolaev
(m)	Length	117.06 m
(n)	Moulded depth	6.3 m
(o)	Beam	16 m
(p)	Gross tonnage	5772 t
(q)	Power of main engine(s)	5146 kWt, 2 engines
(r)	Hold capacity	4492 m ³
(s)	Name of owner(s)	Vostokrybprom Co.
(t)	Address of owner(s)	48A Pervomayskaya St., Sovgavan, Khabarovsk Reg., Russia
(u)	Name of operator(s)	Vostokrybprom Co.
(v)	Address of operator(s)	48A Pervomayskaya St., Sovgavan, Khabarovsk Reg., Russia

Annex 4
Standard for vessel data

1. Data are to be collected on an un-aggregated (vessel by vessel) basis.

2. The following fields of data are to be collected:

(a)	Current vessel flag	Russia
(b)	Name of vessel	Kapitan Kuznetsov
(c)	Registration number	802130
(d)	International radio call sign (if any)	UDRZ
(e)	Lloyd's / IMO number (if allocated)	7443158
(f)	Previous Names (if known)	N/A
(g)	Port of registry	Sovetskaya Gavan
(h)	Previous flag (if any)	N/A
(i)	Type of vessel	Trawler (TTP)
(j)	Type of fishing method(s)	Trawling (TM)
(k)	When built	1981
(l)	Where built	USSR, Nikolaev
(m)	Length	117.06 m
(n)	Moulded depth	6.3 m
(o)	Beam	16 m
(p)	Gross tonnage	5772 t
(q)	Power of main engine(s)	5146 kWt, 2 engines
(r)	Hold capacity	4492 m ³
(s)	Name of owner(s)	Vostokrybprom Co.
(t)	Address of owner(s)	48A Pervomayskaya St., Sovgavan, Khabarovsk Reg., Russia
(u)	Name of operator(s)	Vostokrybprom Co.
(v)	Address of operator(s)	48A Pervomayskaya St., Sovgavan, Khabarovsk Reg., Russia

Annex 4
Standard for vessel data

1. Data are to be collected on an un-aggregated (vessel by vessel) basis.

2. The following fields of data are to be collected:

(a)	Current vessel flag	Russia
(b)	Name of vessel	Ivan Lyudnikov
(c)	Registration number	812274
(d)	International radio call sign (if any)	UDSB
(e)	Lloyd's / IMO number (if allocated)	8038182
(f)	Previous Names (if known)	N/A
(g)	Port of registry	Kaliningrad
(h)	Previous flag (if any)	N/A
(i)	Type of vessel	Fishing (TTF)
(j)	Type of fishing method(s)	Trawling (TM)
(k)	When built	1982
(l)	Where built	USSR, Nikolaev
(m)	Length	117.06 m
(n)	Moulded depth	5.9 m
(o)	Beam	16 m
(p)	Gross tonnage	5682 t
(q)	Power of main engine(s)	5152 kWt, 2 engines
(r)	Hold capacity	4078 m ³
(s)	Name of owner(s)	Sea Breeze CJSC
(t)	Address of owner(s)	17, Barklaya St., Moscow Russia
(u)	Name of operator(s)	Baltmakrus LLC
(v)	Address of operator(s)	1, 5th Prichalnaya St., Baltiysky District, Kaliningrad, Russia

Annex 4
Standard for vessel data

1. Data are to be collected on an un-aggregated (vessel by vessel) basis.

2. The following fields of data are to be collected:

(a)	Current vessel flag	Russia
(b)	Name of vessel	Germes
(c)	Registration number	203
(d)	International radio call sign (if any)	UFWD
(e)	Lloyd's / IMO number (if allocated)	8008618
(f)	Previous Names (if known)	Arkadia
(g)	Port of registry	Nakhodka
(h)	Previous flag (if any)	Russia
(i)	Type of vessel	Fishing (TTF)
(j)	Type of fishing method(s)	Trawling (TM)
(k)	When built	1983
(l)	Where built	Gdansk, Poland
(m)	Length	94.62 m
(n)	Moulded depth	6 m
(o)	Beam	17 m
(p)	Gross tonnage	4629 t
(q)	Power of main engine(s)	3825 kWt
(r)	Hold capacity	1389 t
(s)	Name of owner(s)	Sofko LLC
(t)	Address of owner(s)	10/3 Uborevicha St., Vladivostok, Russia
(u)	Name of operator(s)	Sofko LLC
(v)	Address of operator(s)	10/3 Uborevicha St., Vladivostok, Russia

**РОССИЙСКАЯ ФЕДЕРАЦИЯ
ФЕДЕРАЛЬНОЕ АГЕНСТВО
ПО РЫБОЛОВСТВУ**

Росинская Федерация, 107996, г. Москва,
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To: Robin Allen,
Executive Secretary, Interim Secretariat of the
International Consultations on the Establishment of the
South Pacific RFMO

Dear Sir,

August 6, 2009
209 - 544

Further to the arrangements agreed upon at the Fifth Round of Consultations we are sending to you herewith information regarding the Russian vessels that are fishing for Horse mackerel in the 2009 season in the area covered by the being drafted Convention on the Conservation and Management of High Seas Fishery Resources in the South Pacific Ocean.

The vessels names are: "Semiozernoe", "Kapitan Kuznetsov", "Ivan Lyudnikov", "Germees".

In case of any query kindly ask you to contact Dmitry Kremenyuk, Head of Division, by tel./fax +7 495 621 95 94 or e-mail: d.kremenyuk@fishcom.ru.

Enclosure: Standard information on the above-mentioned vessels – 4 pages

With best regards,



Sergey V. Simakov
Head of the International Cooperation Directorate,
Federal Agency for Fisheries

**Annex 4
Standard for vessel data**

1. Data are to be collected on an un-aggregated (vessel by vessel) basis.
2. The following fields of data are to be collected:
 - (a) Current vessel flag Russia
 - (b) Name of vessel Germes
 - (c) Registration number 203
 - (d) International radio call sign (if any) UFWVD
 - (e) Lloyd's / IMO number (if allocated) 8008618
 - (f) Previous Names (if known) Arkadia
 - (g) Port of registry Nakhodka
 - (h) Previous flag (if any) Russia
 - (i) Type of vessel Fishing (TTF)
 - (j) Type of fishing method(s) Trawling (TM)
 - (k) When built 1983
 - (l) Where built Gdansk, Poland
 - (m) Length 94.62 m
 - (n) Moulded depth 6 m
 - (o) Beam 17 m
 - (p) **Gross tonnage** **4829 t**
 - (q) Power of main engine(s) 3825 kWt
 - (r) Hold capacity 1389 t
 - (s) Name of owner(s) coiffe LLC
 - (t) Address of owner(s) 10/3 Uborevicha St.,
Vladivostok, Russia
 - (u) Name of operator(s) Softko LLC
 - (v) Address of operator(s) 10/3 Uborevicha St.,
Vladivostok, Russia

**Annex 4
Standard for vessel data**

1. Data are to be collected on an un-aggregated (vessel by vessel) basis.

2. The following fields of data are to be collected:

(a)	Current vessel flag	Russia
(b)	Name of vessel	Ivan Lyudnikov
(c)	Registration number	8122274
(d)	International radio call sign (if any)	UDSB
(e)	Lloyd's / IMO number (if allocated)	8038182
(f)	Previous Names (if known)	N/A
(g)	Port of registry	Kaliningrad
(h)	Previous flag (if any)	N/A
(i)	Type of vessel	Fishing (TTF)
(j)	Type of fishing method(s)	Trawling (TM)
(k)	When built	1982
(l)	Where built	USSR, Nikolaev
(m)	Length	117.06 m
(n)	Moulded depth	5.9 m
(u)	Deam	16 m
(p)	Gross tonnage	5682 t
(q)	Power of main engine(s)	5152 kWt, 2 engines
(r)	Hold capacity	4078 m3
(s)	Name of owner(s)	Sea Breeze CJSC
(t)	Address of owner(s)	17. Barklaya St., Moscow Russia
(u)	Name of operator(s)	Baltmakrus LLC
(v)	Address of operator(s)	1. 5th Prichalnaya St., Baltiysky District, Kaliningrad, Russia

**Annex 4
Standard for vessel data**

1. Data are to be collected on an un-aggregated (vessel by vessel) basis.
2. The following fields of data are to be collected:

(a)	Current vessel flag	Russia
(b)	Name of vessel	Kapitan Kuznetsov
(c)	Registration number	802130
(d)	International radio call sign (if any)	UDRZ
(e)	Lloyd's / IMO number (if allocated)	7443158
(f)	Previous Names (if known)	N/A
(g)	Port of registry	Sovetskaya Gavan
(h)	Previous flag (if any)	N/A
(i)	Type of vessel	Trawler (TTP)
(j)	Type of fishing method(s)	Trawling (TM)
(k)	When built	1981
(l)	Where built	USSR, Nikolaev
(m)	Length	117.06 m
(n)	Moulded depth	6.3 m
(o)	Beam	16 m
(p)	Gross tonnage	5772 t
(q)	Power of main engine(s)	5146 kWt, 2 engines
(r)	Hold capacity	4492 m ³
(s)	Name of owner(s)	Vostokrybprom Co.
(t)	Address of owner(s)	48A Pervomayskaya St., Sovgavan, Khabarovsk Reg., Russia
(u)	Name of operator(s)	Vostokrybprom Co.
(v)	Address of operator(s)	48A Pervomayskaya St., Sovgavan, Khabarovsk Reg., Russia

**Annex 4
Standard for vessel data**

1. Data are to be collected on an un-aggregated (vessel by vessel) basis.

2. The following fields of data are to be collected:

(a)	Current vessel flag	Russia
(b)	Name of vessel	Semiozerno
(c)	Registration number	R41671
(d)	International radio call sign (if any)	UGPP
(e)	Lloyd's / IMO number (if allocated)	8721088
(f)	Previous Names (if known)	N/A
(g)	Port of registry	Sovetskaya Gavan
(h)	Previous flag (if any)	N/A
(i)	Type of vessel	Trawler (TTP)
(j)	Type of fishing method(s)	Trawling (TM)
(k)	When built	1985
(l)	Where built	USSR, Nikolaev
(m)	Length	117.06 m
(n)	Moulded depth	6.3 m
(o)	Beam	16 m
(p)	Gross tonnage	6772 t
(q)	Power of main engine(s)	5146 kWt. 2 engines
(r)	Hold capacity	4492 m3
(s)	Name of owner(s)	Vostokrybprom Co.
(t)	Address of owner(s)	48A, Pervomayskaya St., Sovgavan, Khabarovsk Reg., Russia
(u)	Name of operator(s)	Vostokrybprom Co.
(v)	Address of operator(s)	48A, Pervomayskaya St., Sovgavan, Khabarovsk Reg., Russia

From: [???????? ?.](#)
To: [Susie Iball](#)
Subject: RE: Russian fishery activities in the South Pacific ocean area
Date: Wednesday, 16 September 2009 5:22:38 p.m.
Attachments: [RF catch in SP tow by tow 2008.xls](#)

Dear Susie,

First of all I'd like to thank you for your e-mail.

The vessels that was listed in our letter was authorized to fish for mackerel in 2009. All of them actively fished in the future Convention area in 2009.

Also I send you Russian catch in South Pacific tow by tow in 2008.

Best regards,

Dmitry Kremenyuk,
Head of the International Law Division,
International Cooperation Department
of the Federal Agency for Fisheries
Tel: + 7 (495) 621 95 94
Fax: +7 (495) 621 95 94

-----Original Message-----

From: Susie Iball [<mailto:susie.iball@southpacificrfmo.org>]
Sent: Wednesday, September 16, 2009 4:20 AM
To: Кременюк Д.И.
Cc: Robin Allen
Subject: RE: Russian fishery activities in the South Pacific ocean area

Dear Dmitry

I hope all is well with you.

I am just following up regarding an email I sent to you on 3 September 2009 which I hope you received.

Are you able to help me clarify the answers to the questions I have listed under 1) and 2) in the attached email below?

I look forward to your response,

Kind Regards

Susie Iball
Data Manager
Interim Secretariat, SPRFMO.

-----Original Message-----

From: Susie Iball
Sent: Thursday, 3 September 2009 11:19 a.m.
To: 'Dmitry Kremenyuk (d.kremenyuk@fishcom.ru)'
Cc: Robin Allen
Subject: Russian fishery activities in the South Pacific ocean area

Dear Dmitry

First of all I'd like to thank you for the FAX you sent dated 6 August 2009 confirming the list of 4 Russian Federation vessels that have been authorised to fish for horse mackerel during 2009 - the 4 vessels are:

Semiozerno
Kapitan Kuznetsov
Ivan Lyudnikov

Germes.

However, I do have a point of clarification I need to check with you about the wording of the email versus the wording of the FAX.

The email below says:

" ...information about Russian vessels, that have got permissions for fishing in South Pacific Ocean in 2009."

- and lists the 4 vessels above.

So it seems clear that the 4 vessels listed are authorised to fish in the SPRFMO area for 2009.

However, the fax wording is a bit different. It says:

"... we are sending to you information herewith information regarding the Russian vessels that ARE fishing for horse mackerel in the 2009 season in the area covered by the being drafted Convention"

Dmitry, please can you clarify for me if:

1)The wording in the FAX means that the 4 vessels are authorised to fish for mackerel in 2009, and have also actively fished for mackerel in the Area during 2009?

2) Also, for 2008, did any Russian Federation vessels actively carry out pelagic fishing within the Area?

I have recorded that 5 vessels were authorised to fish in the area during 2008, but haven't yet received confirmation if any of them did actively fish in the Area.

Many thanks for your assistance with this.

Kind Regards

Susie Iball
Data Manager
Interim Secretariat, SPRFMO.

-----Original Message-----

From: Susie Iball

Sent: Friday, 24 July 2009 9:59 a.m.

To: 'Дмитрий Кременюк'

Cc: Robin Allen

Subject: RE: [SPAM] Russian fishery activities in the South Pacific ocean area

Dear Dmitry

Thank you for sending me this information about Russian Federation vessels authorised to fish in the Area during 2009.

I look forward to receiving the official letter of confirmation soon.

I note also that I was waiting to receive some further information from you regarding Russian federation vessels which did actively undertake pelagic fishing within the area during 2008. I will re-send you a copy of this query shortly,

Kind Regards

Susie Iball
Data Manager
Interim Secretariat, SPRFMO.

-----Original Message-----

From: Дмитрий Кременюк [<mailto:dkremeniouk@mail.ru>]

Sent: Wednesday, 22 July 2009 6:38 a.m.

To: Susie Iball
Subject: [SPAM] Russian fishery activities in the South Pacific ocean area

Dear Susie,

In attachment send you information about Russian vessels, that have got permissions for fishing in South Pacific Ocean in 2009.

When I come back to the office, I'll send official letter from Federal Agency for Fisheries of the Russian Federation.

With best regards,

Dmitry Kremenyuk
Head of the Division,
International Cooperation Department,
Federal Agency for Fisheries
of the Russian Federation

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From: [????????? ????????](#)
To: [Susie Iball](#)
Cc: [Robin Allen](#)
Date: Thursday, 5 November 2009 11:16:48 a.m.
Attachments: [Russian actively fishing vessels 2008-2009.doc](#)

Найди все ролики Интернета в поиске по видео
<http://r.mail.ru/cln5070/go.mail.ru/>

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Russian actively fishing vessels

Year	name	GT
2008	Persei	4638
2009	Germes	4629
2009	Ivan Lyudnikov	6144
2009	Semiozerno	6231
2009	Kapitan Kuznetsov	6231
Total for 2009		23235

Note: more vessels authorized to fish in 2009 but not entered fisheries yet. Their GT to be confirmed.

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FEDERAL AGENCY
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12 Rozhdestvensky Blvd, Moscow,
107996, Russian Federation

Tel.: 17 495 628 23 20, Fax: 17 495 628 18 01

E-mail: harbour@fishcom.ru

<http://www.fishcom.ru>

To: Robin Allen,
Executive Secretary, Interim Secretariat of the
International Consultations on the Establishment of the
South Pacific RFMO

№ 403-953

November 17, 2009

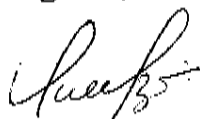
Dear Sir,

Further to the arrangements agreed upon at the Fifth Round of Consultations we are sending to you herewith information regarding the Russian vessels that will fish for Horse mackerel in the 2009 season in the area covered by the recently adopted Convention on the Conservation and Management of High Seas Fishery Resources in the South Pacific Ocean.

The vessel name is: "Lafayette".

Enclosure: Standard information on the above-mentioned vessels -- 1 page.

With best regards,



Sergey Simakov

Head of the International Cooperation Department

Annex 4
Standard for vessel data

1. Data are to be collected on an un-aggregated (vessel by vessel) basis.

2. The following fields of data are to be collected:

(a)	Current vessel flag	Russia
(b)	Name of vessel	Lafayette
(c)	Registration number	KI-2172
(d)	International radio call sign (if any)	UDFI
(e)	Lloyd's / IMO number (if allocated)	7913622
(f)	Previous Names (if known)	Vemacape
(g)	Port of registry	Kaliningrad
(h)	Previous flag (if any)	Dominica
(i)	Type of vessel	Fishing vessel
(j)	Type of fishing method(s)	Trawling (TM)
(k)	When built	1980
(l)	Where built	Japan, Yokohama
(m)	Length	219.97 m
(n)	Moulded depth	10.5 m
(o)	Beam	32.2 m
(p)	Gross tonnage	49243 t
(q)	Power of main engine(s)	10920 kWt
(r)	Hold capacity	44554 m3
(s)	Name of owner(s)	Investment Company Credo LLC
(t)	Address of owner(s)	17, Barklaya St., Moscow, Russia
(u)	Name of operator(s)	Investment Company Credo LLC
(v)	Address of operator(s)	17, Barklaya St., Moscow, Russia



Tuesday, October 11, 2011



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Home > **BUSINESS NEWS**

Pacific Andes set to sail world's biggest factory vessel

Posted: 19 November 2009 00:11 hrs

5

QINGDAO, China: Integrated seafood company Pacific Andes International is positioning itself to ride the next big wave, which it believes will come from the South Pacific Ocean.

Its new flagship factory vessel will go into operation next month, and this is expected to help raise the profit margins at its fishery business to as high as 50 per cent, up from 35 per cent.

Workmen are busy putting the finishing touches to the US\$100 million vessel, named the Lafayette.

It is Pacific Andes' latest version of a mothership - a floating fish factory, touted as the world's biggest in its class.

The vessel is set to sail to the South Pacific Ocean at the end of the month, and its target is to catch 300,00 tonnes of fish - the equivalent of twice what Hong Kong consumes in a year.

Designed to stay out at sea all year around, it will be supported by five super-trawlers and seven catcher vessels that will pump the live catch into the Lafayette for processing.

The vessel is able to freeze 1,500 tonnes a day, and the fishes will then forwarded directly to their destination.

Ng Joo Siang, managing director of Pacific Andes International, said: "With our traditional fishing business, we have EBITDA of 35 to 40 per cent, that the margin and our net profit margin is way exceeding 20 per cent.

"So with Lafayette, which is more efficient than other fleet that we have, we believe that with this higher revenue and higher profitability, we should be able to provide good return to our shareholders."

Also helping to boost the Hong Kong-listed company's bottomline is its new processing plant in Qingdao.

The new facility is able to handle 60,000 tonnes of fish fillet annually, and its efficiencies has reduced cost of sales by up to 15 per cent.

Pacific Andes made a name for itself by supplying a then-little known white fish - the Alaskan Pollock. Today, the fish is widely used by fast-food chains such as McDonald's.

The South Pacific venture offers two new lines of growth - Peruvian anchovies and Chilean jack mackerel. The latter will be targeted specifically at the African market.

"We have decided as a company to expand heavily into Africa, we want to have a pan-African distribution concept," said Ng.

"We believe this continent will have great growth potential, greater than even China, so that's an area we're targeting. Eventually, we hope that in five years' time, China and Africa can be equally important to us."

Pacific Andes today holds a 15 per cent share of the total imported Chinese fish market.

- CNA/yb

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Death toll from Taiwan shipwreck rises to six (Asia Pacific)



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Outsourcing will save airline, says PAL president (Business)



China announces cut in fuel prices (Business)



Norwegian salmon off the menu in China (Business)

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Photos 1 of 1

Workmen putting the finishing touches to the Lafayette, Pacific Andes' version of a mothership - a floating fish factory, touted as the world's biggest in its class.

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From: [Susie Iball](#)
To: ["harbour@fishcom.ru"](mailto:harbour@fishcom.ru)
Cc: ["Кременюк Д.И.";](#) [Robin Allen](#)
Subject: Query Regarding Vessel "Lafayette"
Date: Wednesday, 25 November 2009 10:19:22 a.m.
Attachments: [Lafayette FIS - Worldnews - Pacific Andes to run new flagship factory vessel.mht](#)

Dear Mr. Simakov

Thank you for the FAX we recently received about the Russian vessel 'Lafayette' which will fish for horse mackerel in the 2009 season in the area covered by the newly adopted convention for SPRFMO.

I have a point of clarification I'd like to check with you regarding this.

The FAXed information lists this vessel as a "fishing vessel", and also notes the gear type as Trawling, and more specifically mid-water trawling - TM.

As the vessel tonnage is so large (49,243 GT), I would just like to confirm if this vessel will in fact fish as a midwater trawler during 2009?

We were wondering if the vessel would perhaps be better described as a fish processing vessel, e.g. factory mothership (code = 'HSF') – please confirm.

Please can you also confirm if this vessel 'Lafayette' is the one referred to in the attached article?

Kind Regards

Susie Iball

Data Manager, Interim Secretariat

Consultations on the Establishment of the proposed South Pacific Regional Fisheries Management Organisation

PO Box 3797 Wellington 6140, New Zealand

Tel: +64 4 499 9894 Fax +64 4 473 9579

susie.iball@southpacificrfmo.org

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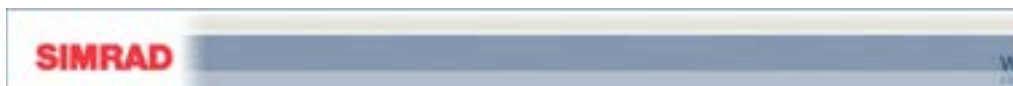
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Pacific Andes' gearing ratio can be cut from 80 to 60 per cent next year, said its managing director. (Photo: Pacific Andes)

Pacific Andes to run new flagship factory vessel

HONG KONG
Friday, November 20, 2009, 00:40 (GMT + 9)

Hong Kong-based seafood processor and distributor Pacific Andes International will widely expand its reach as it begins fishing in the South Pacific Ocean next month. It will also grow its distribution network of supermarket chains through acquisitions in the US and Eastern Europe.

"Now is a better time for acquisitions because of the financial tsunami and we are in talks with potential sellers from time to time," said Ng Joo-siang, managing director and vice chairman. "As long as our gearing ratio can stay below 100 per cent, we will still go ahead when there is a good acquisition opportunity."

Ng has responded to criticism of the firm's debts by saying that the gearing ratio can be slashed from 80 to 60 per cent in 2010 barring any expenses. The firm anticipates that its new flagship factory vessel will help boost the profit margins of its fishery business from 35 to as much as 50 per cent in five years time, *The Standard* reports.

The USD 100 million-vessel, called *Lafayette*, is an enormous floating fish plant that will stay at sea year-round and is said to be the largest in the world. It will set off for the South Pacific Ocean in late November to catch 300,000 tonnes of fish – twice the amount of fish consumed in Hong Kong in a single year, *Channel News Asia* reports.

Five super-trawlers and seven catcher vessels will accompany the vessel and propel the live catch into it for processing and freezing. *Lafayette* can freeze up to 1,500 tonnes a day.

"With our traditional fishing business, we have EBITDA of 35-40 per cent, that the margin and our net profit margin is way exceeding 20 per cent," said Ng. "So with *Lafayette*, which is more efficient than the other fleets that we have, we believe that with this higher revenue and higher profitability, we should be able to provide good return to our shareholders."

Pacific Andes has also established a new processing plant in Qingdao with a capacity to produce 60,000 tonnes of fish fillets per year. Its high efficiency has allowed sales costs to be lowered by as much as 15 per cent.

The firm first gained power as a supplier of Alaskan pollock, which today is a staple of McDonald's and other fast-food chains. Now, *Lafayette* will expand the company's reach through the fishing of Peruvian anchovies and Chilean jack mackerel, the latter of which will be exported to Africa.

"We have decided as a company to expand heavily into Africa, we want to have a pan-African distribution concept," said Ng.

"We believe this continent will have great growth potential, greater than even China, so that's an area we're targeting. Eventually, we hope that in five years' time, China and Africa can be equally important to us," he added.

Pacific Andes holds a 15 per cent share of the total Chinese fish market imports.

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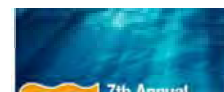
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By Natalia Real
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Processor accused of fudging fish proportions on labels
- Argentina**
Nov 24, 03:20 (GMT + 9):
Shrimp industry hits bottom
- Canada**
Nov 24, 02:40 (GMT + 9):
Exporters focus on Asian market
- European Union**
Nov 24, 02:00 (GMT + 9):
Technical standards talks postponed
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United States The Alaska Department of Fish and Game published its preliminary estimates on Monday for the 2009 commercial salmon season, which show that this year's harvest is the 11th largest on record.
- **Shrimp industry hits bottom**
Argentina Several Santa Cruz-based fishing companies resigned from the Municipal Fisheries Council and warned the governor that the shrimping fleet will not be able to fish for shrimp in 2010 if present conditions persist.
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Carlos Philippe Concha
Chilean Horse Mackerel In Danger

The rise of foreign fleets in the Pacific Ocean, the voracity of fishing with no control and the...

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From: [???????? ?.](#)
To: [Susie Iball](#)
Subject: RE: Query Regarding Vessel "Lafayette"
Date: Thursday, 10 December 2009 1:40:38 a.m.

Dear Susie,

Thank you for e-mail . I would like to confirm that Russian fishing vessel 'Lafayette' which will fish for horse mackerel in the 2009 season in fact fish as a midwater trawler during 2009.

I'm not sure that information in attached article was correct.

With best regards,

Dmitry Kremenyuk

From: Susie Iball [mailto:susie.iball@southpacificrfmo.org]
Sent: Wednesday, November 25, 2009 12:19 AM
To: Federal agency Russia for fisheries
Cc: Кременюк Д.И.; Robin Allen
Subject: Query Regarding Vessel "Lafayette"

Dear Mr. Simakov

Thank you for the FAX we recently received about the Russian vessel 'Lafayette' which will fish for horse mackerel in the 2009 season in the area covered by the newly adopted convention for SPRFMO.

I have a point of clarification I'd like to check with you regarding this.

The FAXed information lists this vessel as a "fishing vessel", and also notes the gear type as Trawling, and more specifically mid-water trawling - TM.

As the vessel tonnage is so large (49,243 GT), I would just like to confirm if this vessel will in fact fish as a midwater trawler during 2009?

We were wondering if the vessel would perhaps be better described as a fish processing vessel, e.g. factory mothership (code = 'HSF') – please confirm.

Please can you also confirm if this vessel 'Lafayette' is the one referred to in the attached article?

Kind Regards

Susie Iball

Data Manager, Interim Secretariat

*Consultations on the Establishment of the proposed South Pacific Regional Fisheries Management Organisation
PO Box 3797 Wellington 6140, New Zealand*

Tel: +64 4 499 9894 Fax +64 4 473 9579

susie.iball@southpacificfmo.org

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**РОССИЙСКАЯ ФЕДЕРАЦИЯ
ФЕДЕРАЛЬНОЕ АГЕНТСТВО
ПО РЫБОЛОВСТВУ**

Российская Федерация, 107996, г. Москва,
Рождественский бульвар, 12

Тел.: 7 (495) 628-23-20, факс: 7 (495) 628-19-04
E-mail: harbour@fishcom.ru
<http://www.fishcom.ru>

**RUSSIAN FEDERATION
FEDERAL AGENCY
FOR FISHERIES**

12 Rozhdestvensky Blvd, Moscow,
107996, Russian Federation

Tel.: +7 495 628 23 20, fax: +7 495 628 1904
E-mail: harbour@fishcom.ru
<http://www.fishcom.ru>

To: Robin Allen,
Executive Secretary, Interim Secretariat of the
International Consultations on the Establishment of the
South Pacific RFMO

*У03-1031
10.12.09*

December 10, 2009

Dear Sir,

Further to the arrangements agreed upon at the Fifth Round of Consultations we are sending to you herewith information regarding the Russian vessels that fished for Horse mackerel in the 2009 season in the area covered by the recently adopted Convention on the Conservation and Management of High Seas Fishery Resources in the South Pacific Ocean.

The vessel name is: "Atlantida".

Enclosure: Standard information on the above-mentioned vessels - 1 page.

With best regards,



Sergey Simakov
Head of the International Cooperation Department

Annex 4
Standard for vessel data

1. Data are to be collected on an un-aggregated (vessel by vessel) basis.
2. The following fields of data are to be collected:

(a) Current vessel flag	Russian Federation
(b) Name of vessel	"Atlantida" (Atlantis)
(c) Registration number	1704
(d) International radio call sign (if any)	UALU
(e) Lloyd's / IMO number (if allocated)	8607000
(f) Previous Names (if known)	none
(g) Port of registry	Kaliningrad
(h) Previous flag (if any)	none
(i) Type of vessel	Trawler (fishing vessel)
(j) Type of fishing method(s)	Trawling
(k) When built	1987
(l) Where built	Germany
(m) Length	56.11 meters / 62.22 meters at large
(n) Moulded depth	6.8 meters (maximum)
(o) Beam	13.8 meters
(p) Gross register tonnage	2062
(q) Power of main engine(s)	(2 engines) 2040 kW
(r) Hold capacity	618 tons
(s) Name of owner(s)	Federal State Unitary Enterprise "AtlantNIRO"
(t) Address of owner(s)	236022, Kaliningrad, Dm.Donskogo str.5, Russian Federation
(u) Name of operator(s)	Federal State Unitary Enterprise "Morsvyazputnik"
(v) Address of operator(s)	103030, Moscow, Novoslobodskaya str. 14/19 block 7, Russian Federation

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<http://www.fishcom.ru>

To: Robin Allen,
Executive Secretary, Interim Secretariat of the
International Consultations on the Establishment of the
South Pacific RFMO

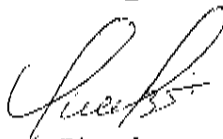
*403-1098
30.12.2009*

December 30, 2009

Dear Sir,

Further to the arrangements agreed upon at the Fifth Round of Consultations we would like to confirm that Russian vessel "Lafayette" actively fishing for Horse mackerel in the 2009 season in the area covered by the Convention on the Conservation and Management of High Seas Fishery Resources in the South Pacific Ocean.

With best regards,



Sergey Simakov

Head of the International Cooperation Department

International Consultations on the Establishment of the South Pacific Regional Fisheries Management Organisation

2 January 2010

Ref: 2010-0001

To: Heads of Delegations

From: Robin Allen, Executive Secretary


Re: Gross tonnage of vessels that have been actively fishing for *Trachurus* species in 2009

The revised Interim Measures require that Participants should have communicated the gross tonnage of vessels that actively fished for *Trachurus* species in 2009 to the Interim Secretariat by 31 December 2009. Participants are to verify the effective presence of these vessels in the fishery by VMS or catch reports; these have not all yet been reported to the Interim Secretariat..

By 31 December, the Interim Secretariat received reports from the participants shown in the table below indicating the gross tonnage of vessels that actively fished in 2009.

PARTICIPANT	Vessels Confirmed to be Actively Fishing <i>Trachurus</i> species in 2009		Effective Presence in 2009 Verified by Catch Reports	Effective Presence in 2009 Verified by VMS Reports
	Number	Tonnage		
Faroe Islands	Number	1	Yes	No
	Tonnage	7,805 GT		
Russian Federation	Number	6	No	No
	Tonnage	72,478 GT + 2062 ¹		

¹ Awaiting confirmation of tonnage units

International Consultations on the Establishment of the
South Pacific Regional Fisheries Management Organisation

8 January 2010

Ref: 2010-0002

To: Heads of Delegations

From: Robin Allen, Executive Secretary



Re: Correspondence vessels that have been actively fishing for *Trachurus* species in 2009

At Mr Chocair's request I have attached a copy of his letter concerning my memo 2010-0001, and draw your attention to his request that I make arrangements to collect VMS records and catch reports verifying the effective presence of vessels from those participants who reported vessels fishing *Trachurus* species in 2009.

Accordingly, I would appreciate receiving those data from participants.



VALPARAISO, 6 January 2010.

Mr. Robin Allen
Executive Secretary
SPRFMO Interim Secretariat

Dear Mr. Allen,

On behalf of the Undersecretariat for Fisheries and the Ministry of Foreign Affairs of Chile, I would like to express our appreciation for your letter of 2 January 2010 (ref: 2010-0001), providing information with regards to the implementation of revised pelagic Interim Measures, specifically about gross tonnage of vessels that have been actively fishing for *Trachurus* species in 2009.

In accordance with paragraph 6 and 7 of revised pelagic Interim Measures, "*participants are to limit the gross tonnage and will verify the effective presence of their vessels referred to in paragraph 6 through VMS records and catch reports*". As shown in the table of your letter, this information has not yet been reported to the Interim Secretariat.

Chile would like to stress that according to the revised Interim Measures both VMS records and catches reports, are required to be submitted to the Interim Secretariat for verification of the effective presence of vessels in the area in 2009.

I would appreciate if you could make the necessary arrangements in order to collect this information from the relevant participants and distribute it among all participants.

May I request that you please circulate this letter to the Heads of Delegations, and have it published in the SPRFMO website as well.

Yours sincerely,

Jorge Chocair S.
Undersecretary for Fisheries of Chile.
Government of Chile

C.C: F. Danus, Dima.

From: [Robin Allen](#)
To: [Susie Iball](#)
Subject: FW: URGENT regulations about fisheries
Date: Saturday, 23 January 2010 11:08:57 a.m.
Attachments: [Ship's Particulars.pdf](#)

fyi

From: Dominique Person [mailto:dominique.person@affaires-maritimes.pf]
Sent: Saturday, 23 January 2010 10:22 a.m.
To: Robin Allen
Subject: URGENT regulations about fisheries

Good morning Allan,
A Russian vessel (see attached), not a fishing vessel as indicated but a "factory ship" will be on scale on Saturday and Sunday in front of Papeete harbour.
We shall organize an investigation of the vessel about its fisheries activities.
Are there particular regulations applying to this vessel according to SPRFMO or other regulations?

Regards

Dominique PERSON
Chef du service des affaires maritimes de Polynésie française
Motu-Uta
B.P. 9096
98713 Papeete
Tel: (00 689) 54 95 25

De : Robin Allen [mailto:robin.allen@southpacificfmo.org]
Envoyé : mercredi 20 janvier 2010 12:45
À : Andrew.Penney@fish.govt.nz
Objet : 0004 Request for nominations for Jack Mackerel Stock Structure Research programme Steering Committee

<<0004 Request for nominations for Jack Mackerel Stock Structure Research Programme Steering Committee.pdf>>

Robin Allen

Executive Secretary, Interim Secretariat

Consultations on the Establishment of the proposed South Pacific Regional Fisheries Management Organisation

PO Box 3797 Wellington 6140, New Zealand

Tel: +64 4 499 9889 Fax +64 4 473 9579

robin.allen@southpacificfmo.org

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_____ Information from ESET Smart Security, version of virus signature
database 4805 (20100125) _____

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Ship's Particulars

Name of Marine Vessel		LAFAYETTE		(Лафайет)
Call Sign		UDFI		
Nationality		RUSSIA		
Port of Registry		KALININGRAD		
Official Number		795238		
IMO Number		7913622		
MMSI No		273421900		
INMARSAT- C		TLX: 427302972		
INMARSAT- F77		TEL: 764946479		
INMARSAT- MINI-M		TEL: 764946482		
Ownership		Premium Choice Group Limited		
Classification		Russian Maritime Register of Shipping (RMRS) KM		★ [1]
Type of the ship		(REF) Fishing vessel		
Name of Builders		Fishing Vessel		
Date & place of construction		Nippon Kokan K.K.		
launched Date		1979 Yokohama. Japan		
Construction material		1980		
Main engine: DIESEL		Steel		
		Sumitomo-Sulzer: 6RND 76M -14400 BHP ;		
		NSO- 12960 BHP		
Summer	FREEBOARD,(m)	DRAFT,(m)	DEADWEIGHT,(MT)	DISPLACEMENT,(MT)
	7.516 mtrs	10.522 mtrs	36484	62667.2
Deadweight Tons (D.W.T.)		36484		
Gross Registered Tons (G.R.T.)		49173		
Net Registered Tons (N.R.T.)		14752		
Length Over ALL (L.O.A.)		228.60 m		
Length		219.0 m		
Breadth		32.2 m		
Depth		19.0 m		
Speed		12.5 knots		
Type and Number of Diesel Auxiliary Engine		3 sets Yanmar 6ZL-DT		
		1 set Daihatsu 6 DL-24		
Auxiliary Diesel Generator		6 sets Daihatsu 6DK28 (2170psx720) 1500KW		
		3 sets Yanmar 6N330L-SV (2910psx720rpm) 2000KW		
Deck's Cranes		7 sets electro-hidraulic deck cranes abt. 4.9 Tons x 15 m		
		1 set hydraulic driven Jib crane abt. 10 Tons x 27 m		
Fuel Oil Consumption		Under way: IFO-380--47 MT per day		
		Fishing ground: IFO-380-55 mt, MDO-3,5 MT per day		
Fish Cargo Hold Capacity		36733 cubic meter, about 645840 cartons		
RSW Tanks		9391 cubic meter, 32 tanks, cooling fm +32° to -1° C		
Fuel Oil Tanks		5322,5 cubic meter		
Diesel Oil Tanks		1636,6 cubic meter		
Fresh Water Tanks		1422,9 cubic meter		
Sewage Tank		85,0 cubic meter		
L.O. Tanks		315,0 cubic meter		
Water Ballast Tank		18095,8 cubic meter		
Crew		max. 320		
Hold plants temperature		- 25° C		

From: [Robin Allen](#)
To: [Dominique Person](#)
Subject: RE: URGENT regulations about fisheries
Date: Saturday, 23 January 2010 11:10:22 a.m.

Good morning Dominique,

Thank you very much for your email.

Last December we were advised by the Russian Federation that this vessel would actively fish for Trachurus species for *Trachurus* species as a mid water trawler. Accordingly, the vessel has been listed on the [SPRFMO website](#) as one of the vessels that actively fished Trachurus species in the SPRFMO Area during 2009. It would be very useful if your investigation could confirm that information, for example, by catch records or the presence of appropriate fishing gear.

Best regards,

Robin Allen

Executive Secretary, Interim Secretariat

Consultations on the Establishment of the proposed South Pacific Regional Fisheries Management Organisation

PO Box 3797 Wellington 6140, New Zealand

Tel: +64 4 499 9889 Fax +64 4 473 9579

robin.allen@southpacificrfmo.org

From: Dominique Person [mailto:dominique.person@affaires-maritimes.pf]
Sent: Saturday, 23 January 2010 10:22 a.m.
To: Robin Allen
Subject: URGENT regulations about fisheries

Good morning Allan,

A Russian vessel (see attached), not a fishing vessel as indicated but a "factory ship" will be on scale on Saturday and Sunday in front of Papeete harbour.

We shall organize an investigation of the vessel about its fisheries activities.

Are there particular regulations applying to this vessel according to SPRFMO or other regulations?

Regards

Dominique PERSON

Chef du service des affaires maritimes de Polynésie française

Motu-Uta

B.P. 9096

98713 Papeete

Tel: (00 689) 54 95 25

De : Robin Allen [mailto:robin.allen@southpacificrfmo.org]
Envoyé : mercredi 20 janvier 2010 12:45
À : Andrew.Penney@fish.govt.nz
Objet : 0004 Request for nominations for Jack Mackerel Stock Structure Research programme Steering Committee

<<0004 Request for nominations for Jack Mackerel Stock Structure Research Programme Steering

Committee.pdf>>

Robin Allen

Executive Secretary, Interim Secretariat

Consultations on the Establishment of the proposed South Pacific Regional Fisheries Management Organisation

PO Box 3797 Wellington 6140, New Zealand

Tel: +64 4 499 9889 Fax +64 4 473 9579

robin.allen@southpacificfmo.org

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<http://www.eset.com>

From: [Dominique Person](#)
To: [Robin Allen](#)
Cc: ludovic.schultz@agriculture.gouv.fr; pierre.tribon@agriculture.gouv.fr; "Delphine LEGUERRIER"
Subject: TR: contrôle d'un supposé navire de pêche russe
Date: Thursday, 28 January 2010 6:01:51 p.m.
Attachments: [contrôle Lafayette.doc](#)
[train de pêche pélagique.pdf](#)
[Ship"s Particulars.pdf](#)
[Lafayette 004.jpg](#)

Good evening Allen,

I send you attached a report (in French sorry) about the control organized On Sunday ashore Papeete on the vessel "Lafayette".

The captain of the vessel considers that he is a master of a "fishing vessel" but we did not find any fishing gear or fishing equipment on board.

Of course, it is a "factory vessel" for fish but we are not sure this vessel, due to its characteristics (length, depth...), will be able to tow with another trawler a midwater pair, as said.

An experimental fishing campaign will be organized soon but the captain is not sure, contrary to the Scottish engineer on board, of the result.

I don't know if it is important for the SPRFMO (fishing quotas or other matter) to know if the vessel will be able to fish but we are not sure of that at all.

This factory vessel will remain at sea all the time with an important capacity of fishing treatment process (1.000 Metric tons of Jack mackerel per day).

I can send other informations if required (see the drawing of "midwater pair" attached).

Best regards.

Dominique PERSON

Chef de service des affaires maritimes de Polynésie française

Motu-Uta

B.P. 9096

98713 Papeete

Tel: (00 689) 54 95 25

De : Dominique Person [mailto:dominique.person@affaires-maritimes.pf]

Envoyé : mercredi 27 janvier 2010 18:31

À : 'ludovic.schultz@agriculture.gouv.fr'; 'pierre.tribon@agriculture.gouv.fr'; 'Delphine LEGUERRIER'

Cc : 'AEM PF'; 'BURONFOSSE-BJAI Pascale'; 'CHARBONNEAU Magali HC987'

Objet : contrôle d'un supposé navire de pêche russe

Bonjour,

Je vous communique ci-joint une fiche relative au contrôle du navire russe « Lafayette » effectué ce dimanche sur rade de Papeete grâce à l'intervention de la vedette des douanes « Arafenua ».

Le commandant du navire le considère comme un navire de pêche alors qu'aucun engin de pêche, ni fune, n'a été aperçu à bord.

Nous exprimons des doutes sur la technique décrite consistant à utiliser ce navire pour travailler en bœufs avec un chalutier pour tracter un chalut pélagique.

Même si cette technique est prévue être expérimentée début 2010, selon le capitaine (réservée sur l'issue de l'expérimentation avec un si gros navire) et l'ingénieur ayant développé cette technique sur des navires plus petits (80 mètres), le Lafayette » sera utilisé de toute façon comme navire usine pour le traitement des « Jack Mackerel » /chinchards.

A voir si, dans le cadre des discussions en cours, le fait que ce navire ne pêche pas (ce qui semble le plus probable) aura une incidence sur le quota/ou potentiel de capture accordé à la Russie dans le cadre de la SPRFMO (voir mes commentaires dans la fiche jointe).

Sa forte capacité de traitement pourrait impacter les stocks de cette espèce dans le Sud Pacifique 30°S - 45°S pour lesquels aucune donnée scientifique fiable ne semble exister à ce jour (documentation SPRFMO).

Cordialement

Dominique PERSON

Chef du service des affaires maritimes de Polynésie française

Motu-Uta

B.P. 9096

98713 Papeete

Tel: (00 689) 54 95 25

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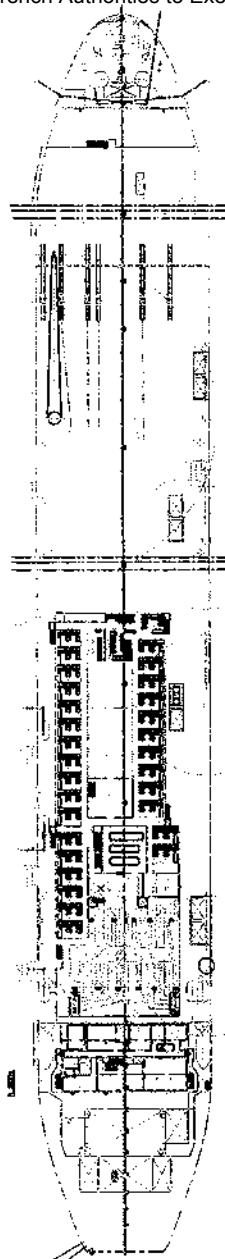
Ship's Particulars

Name of Marine Vessel		LAFAYETTE (Лафайет)		
Call Sign		UDFI		
Nationality		RUSSIA		
Port of Registry		KALININGRAD		
Official Number		795238		
IMO Number		7913622		
MMSI No		273421900		
INMARSAT- C		TLX: 427302972		
INMARSAT- F77		TEL: 764946479		
INMARSAT- MINI-M		TEL: 764946482		
Ownership		Premium Choice Group Limited		
Classification		Russian Maritime Register of Shipping (RMRS) KM ★ [1]		
Type of the ship		(REF) Fishing vessel		
Name of Builders		Fishing Vessel		
Date & place of construction		Nippon Kokan K.K.		
launched Date		1979 Yokohama. Japan		
Construction material		1980		
Main engine: DIESEL		Steel		
		Sumitomo-Sulzer: 6RND 76M -14400 BHP ;		
		NSO- 12960 BHP		
Summer	FREEBOARD,(m)	DRAFT,(m)	DEADWEIGHT,(MT)	DISPLACEMENT,(MT)
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Gross Registered Tons (G.R.T.)		49173		
Net Registered Tons (N.R.T.)		14752		
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Length		219.0 m		
Breadth		32.2 m		
Depth		19.0 m		
Speed		12.5 knots		
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Auxiliary Diesel Generator		6 sets Daihatsu 6DK28 (2170psx720) 1500KW 3 sets Yanmar 6N330L-SV (2910psx720rpm) 2000KW		
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Fish Cargo Hold Capacity		36733 cubic meter, about 645840 cartons		
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Sewage Tank		85,0 cubic meter		
L.O. Tanks		315,0 cubic meter		
Water Ballast Tank		18095,8 cubic meter		
Crew		max. 320		
Hold plants temperature		- 25° C		

КАПИТАН КУЗМИЧЕВ
 СЕРГЕЙ СЕРГЕЕВИЧ
 ИВАН СЕРГЕЕВИЧ

10000 HP

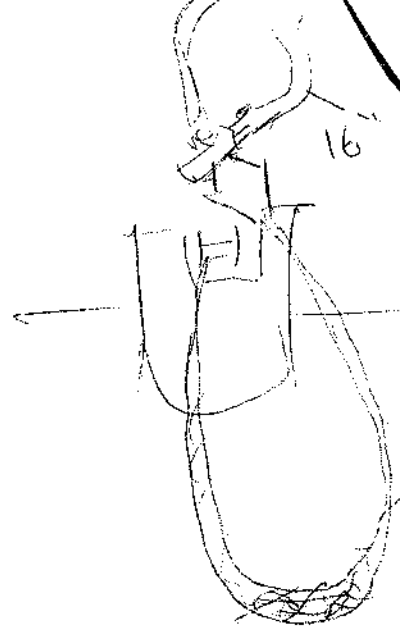
125M



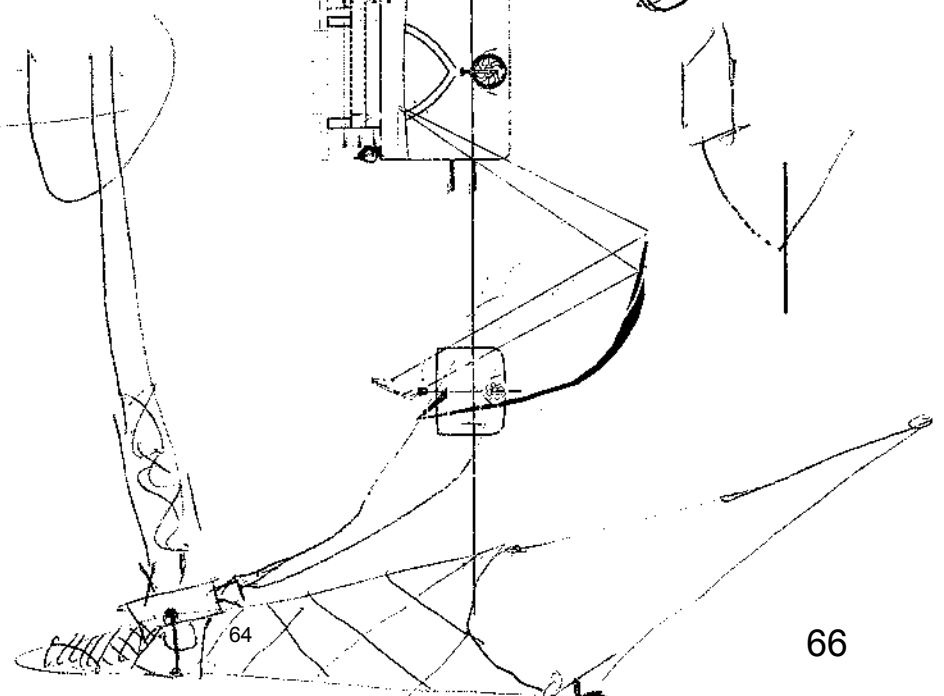
4000 HP

modern 200

400-600 TONS



16



Direction générale
Des infrastructures, des
transports
et de la mer
Service des Affaires maritimes
de Polynésie française
Affaire suivie par :

N° /SAM

Fiche descriptive du navire « Lafayette »
Un pétrolier de 228 mètres transformé en « navire de pêche »

Les caractéristiques du navire :

Longueur : 228 mètres
Largeur : 32 mètres
Tirant d'eau : 19 mètres
Puissance machine : 14.400 Cv
Générateurs (9) : 3.500 Kw
Membres d'équipage : 320 Capacité de traitement/jour : 1.000 tonnes
Capacité de stockage : 645.000 cartons pour 8.000 tonnes
6 chaînes de traitement du poisson d'environ 100 mètres de longueur
Manche d'aspiration (eau+ poisson) diamètre 34 centimètres
Manutention sur le pont supérieur : 8 Clark
Zones de pêche : Pacifique Sud entre 84° et 110° W -30° et 45° Sud
Chalutiers associés : Kapitan Kuznetsov (6.321 GT), Ivan Lyudnikov (6144 GT), Semiozernoe (631 GT).

Traitement du poisson

La technique du traitement du poisson est la suivante : Le chalutier remonte son chalut pélagique mais le laisse immergé. Une manche de 34 cm de diamètre est envoyée à partir du « Lafayette » afin de pomper dans le chalut les poissons vers des cuves réfrigérées (0°C) aménagées dans les fonds du « Layette ». Ces poissons sont ensuite repompés pour circuler sur les chaînes de traitement du navire. Les poissons ne sont pas éviscérés mais réfrigérés, emballés en cartons puis mis en cale à -30°C puis -60°C.

Ces poissons de faible valeur marchande, constituant une source de protéines bon marché, sont destinés à l'Afrique, Nigéria principalement.

Manutention

Un accostage des navires collecteurs est prévu à tribord afin de transborder le poisson conditionné. Des ascenseurs entre les cales et le pont supérieurs ont été aménagés et la manutention sur ce pont est prévue avec les clarks.

L'accostage à bâbord de navires de pêche est également prévu soit lors du pompage des poissons ou pour avitailler ces navires (carburant en particulier).

Le « Lafayette » est conçu pour rester en permanence en haute mer.

Lors de l'escale du navire « Lafayette » sous pavillon russe devant le port de Papeete le dimanche 24 janvier 2010, une équipe d'inspection composée de deux représentants du service des affaires maritimes (Chef de service Dominique Person et OCTAAM Didier Stamer) ont pu embarquer à bord de la vedette des

Douanes « Araïenua » afin de se rendre à bord. Le Commandant de la vedette Pascal Maugis et trois contrôleurs des douanes ont également participé au contrôle du navire.

Le « Lafayette » est un ancien pétrolier exploité dans l'Atlantique puis dans le golfe persique. Il a fait l'objet de modifications en 2009 pour être transformé en navire usine afin de conditionner dans le Pacifique Sud une espèce de chinchard abondante dénommée « Jack Mackerel ».

Une activité comme « navire de pêche » douteuse » mais une activité certaine comme navire usine avec une très importante capacité de traitement du poisson

Les autorités russes considèrent ce navire de 228 mètres, d'une puissance motrice de 14.400 Cv et comportant 320 marins embarqués comme un navire de pêche. L'ingénieur écossais présent à bord, Gerald Smart, qui procède à l'expérimentation des procédés de pêche et de traitement du poisson, a affirmé que le navire servirait à chaluter en bœuf avec un autre chalutier de 125 mètres en cours de transformation (puissance machine 10.000 Cv). A cet effet, le « Lafayette » dispose d'une hélice protégée et d'un treuil arrière d'une capacité de traction de 60 tonnes. Ces deux navires utiliseraient un chalut pélagique de 200 mètres de circonférence pour pêcher le « Jack mackerel ». Les captures actuelles du Chili sur cette espèce s'élèvent à 1.3 million de tonnes et l'ingénieur écossais parlait de 1.5 millions de tonnes de captures par les Russes.

L'équipe de contrôle n'a cependant constaté la présence d'aucune fune sur le treuil arrière, ni de chalut à bord ou autre engin de pêche. La campagne expérimentale devait débiter prochainement. Le commandant russe apparaissait également réservé sur la capacité du navire à chahuter en bœuf mais il a défendu fermement le statut de navire de pêche de son navire. Il est à noter que cette classification évite à l'armateur de répondre aux exigences réglementaires de la convention internationale SOLAS en matière de conception et d'équipements du navire.

D'autre part, ce navire est enregistré auprès de l'organisation régionale des pêches du Pacifique Sud (SPRFMO), dont la convention d'adhésion est en cours de diffusion, qui gère les stocks de poissons pélagiques autres les thonidés et les espèces profondes.

Dans le cadre de cette organisation, les navires usines sont considérés comme navires de pêche et un quota en tonnage brut est attribué à différents pays : La Russie bénéficie d'un quota de 23.235 GT. L'inclusion de ce navire comme navire de pêche sur la liste des navires russes (6 navires enregistrés) est de nature à augmenter la capacité de capture attribuée dans le futur à la Russie dans le Pacifique Sud.

Ces informations seront communiquées au secrétariat de la SPRFMO et à la Direction des pêches maritimes et de l'aquaculture.

Le chef du Service des Affaires maritimes
de Polynésie française

Dominique PERSON

Copie(s) :-

From: [Dominique Person](#)
To: [Robin Allen](#)
Cc: "AEM PF"; jonathan.lemeunier@agriculture.gouv.fr; isabelle.perret@agriculture.gouv.fr; ludovic.schultz@agriculture.gouv.fr
Subject: RE: contrôle d'un supposé navire de pêche russe
Date: Saturday, 30 January 2010 4:07:09 p.m.
Attachments: [Port of call.pdf](#)
[fiche Sirenac.pdf](#)
[AXE Tahiti nui 013.jpg](#)
[Lafayette 007.jpg](#)
[Lafayette 022.jpg](#)

Dear Robin,

I send you attached different informations about the vessel.
The "Sirenac" data base indicates that the vessel was Russian only since the 01/08/2009.
Since that date, she was on scale in China, South Korea and Solomon Islands, far from areas in South Pacific where jack mackerels are fished.
Photos attached show clearly that the vessel has never fished (no cable astern on the 60 Tons fishing winch, no fishing equipment, all factory equipment new on board).
I can send you other images if required.

Best regards

Dominique PERSON

Chef du service des affaires maritimes de Polynésie française

Motu-Uta

B.P. 9096

98713 Papeete

Tel: (00 689) 54 95 25

De : Robin Allen [mailto:robin.allen@southpacificrfmo.org]

Envoyé : jeudi 28 janvier 2010 18:10

À : Dominique Person

Objet : RE: contrôle d'un supposé navire de pêche russe

Dear Dominique,

Many thanks for the very interesting report. My French reading is not very good but I think I understood the report sufficiently well. In particular you said the vessel had no fishing gear onboard and that the experimental fishing campaign is yet to start.

That is not consistent with what we had heard from the Russian Federation authorities who said that the vessel had actually fished in the SPRFMO area between November 17 and 31 December 2009. It would be very useful if you have any other information that might pertain to that, such as log information showing evidence of fishing, the most recent port call.

The relevance for SPRFMO is that Participants are limited in 2010 to fishing with a fleet with an aggregate gross tonnage of no more than that which fished in 2007, 2008, or 2009. Including this large vessel in the total for the Russian Federation in 2009 makes a significant difference to the gross tonnage Russia may apply in 2010.

Best regards,

Robin Allen

*Executive Secretary, Interim Secretariat
Consultations on the Establishment of the proposed South Pacific Regional Fisheries Management Organisation
PO Box 3797 Wellington 6140, New Zealand
Tel: +64 4 499 9889 Fax +64 4 473 9579
robin.allen@southpacificfmo.org*

From: Dominique Person [mailto:dominique.person@affaires-maritimes.pf]
Sent: Thursday, 28 January 2010 5:53 p.m.
To: Robin Allen
Cc: ludovic.schultz@agriculture.gouv.fr; pierre.tribon@agriculture.gouv.fr; 'Delphine LEGUERRIER'
Subject: TR: contrôle d'un supposé navire de pêche russe

Good evening Allen,
I send you attached a report (in French sorry) about the control organized On Sunday ashore Papeete on the vessel "Lafayette".
The captain of the vessel considers that he is a master of a "fishing vessel" but we did not find any fishing gear or fishing equipment on board.
Of course, it is a "factory vessel" for fish but we are not sure this vessel, due to its characteristics (length, depth...), will be able to tow with another trawler a midwater pair, as said.
An experimental fishing campaign will be organized soon but the captain is not sure, contrary to the Scottish engineer on board, of the result.
I don't know if it is important for the SPRFMO (fishing quotas or other matter) to know if the vessel will be able to fish but we are not sure of that at all.
This factory vessel will remain at sea all the time with an important capacity of fishing treatment process (1.000 Metric tons of Jack mackerel per day).

I can send other informations if required (see the drawing of "midwater pair" attached).

Best regards.

Dominique PERSON

Chef du service des affaires maritimes de Polynésie française

Motu-Uta

B.P. 9096

98713 Papeete

Tel: (00 689) 54 95 25

De : Dominique Person [mailto:dominique.person@affaires-maritimes.pf]
Envoyé : mercredi 27 janvier 2010 18:31
A : ludovic.schultz@agriculture.gouv.fr; pierre.tribon@agriculture.gouv.fr; 'Delphine LEGUERRIER'
Cc : 'AEM PF'; 'BURONFOSSE-BJAI Pascale'; 'CHARBONNEAU Magali HC987'
Objet : contrôle d'un supposé navire de pêche russe

Bonjour,

Je vous communique ci-joint une fiche relative au contrôle du navire russe « Lafayette » effectué ce dimanche sur rade de Papeete grâce à l'intervention de la vedette des douanes « Arafenua ».

Le commandant du navire le considère comme un navire de pêche alors qu'aucun engin de pêche, ni fune, n'a été aperçu à bord.

Nous exprimons des doutes sur la technique décrite consistant à utiliser ce navire pour travailler en bœufs avec un chalutier pour tracter un chalut pélagique.

Même si cette technique est prévue être expérimentée début 2010, selon le capitaine (réservée sur l'issue de l'expérimentation avec un si gros navire) et l'ingénieur ayant développé cette technique sur des navires plus petits (80 mètres), le Lafayette » sera utilisé de toute façon comme navire usine pour le traitement des « Jack Mackerel » /chinchards.

A voir si, dans le cadre des discussions en cours, le fait que ce navire ne pêche pas (ce qui semble le plus probable) aura une incidence sur le quota/ou potentiel de capture accordé à la Russie dans le cadre de la SPRFMO (voir mes commentaires dans la fiche jointe).
Sa forte capacité de traitement pourrait impacter les stocks de cette espèce dans le Sud Pacifique 30°S - 45°S pour lesquels aucune donnée scientifique fiable ne semble exister à ce jour (documentation SPRFMO).

Cordialement

Dominique PERSON

Chef du service des affaires maritimes de Polynésie française

Motu-Uta

B.P. 9096

98713 Papeete

Tel: (00 689) 54 95 25

_____ Information from ESET Smart Security, version of virus signature database
4811 (20100127) _____

The message was checked by ESET Smart Security.

<http://www.eset.com>

PORTS OF CALL LIST

		<input checked="" type="checkbox"/> Arrival	<input type="checkbox"/> Departure
1. Name and description of ship M.V. "LAFAYETTE"		2. Port of arrival / departure Papeete	3. Date of arrival / departure
2. Nationality of ship Russia		5. Last port Honiara	
6. Port	7. Country	8. Arrival	9. Departure
1 Fujairah	U.A.E.	04.03.2008	08.03.2008
2 Karah	Pakistan	17.03.2008	19.03.2008
3 KhorTakkar	U.A.E.	24.03.2008	26.03.2008
4 Karah	Pakistan	30.03.2008	01.04.2008
5 Said	Egipt	22.07.2008	23.07.2008
6 Singapore	Singapore	18.09.2008	20.09.2008
7 Kao Hsiung	Taiwan	25.09.2008	20.10.2009
8 Qingdao	China	03.11.2009	19.12.2009
9 Yosu	S. Korea	21.12.2009	24.12.2009
10 Honiara	Solomon Islands	07.01.2010	12.01.2010

12. Date and signature by master , authorised agent or officer:

M/V LAFAYETTE

Master :  **M. Durasevich**

.....
Master

Ship info

START Gemel
Nikol

IMO number : 7913622
Name of ship : LAFAYETTE (since 01-08-2009)
Call Sign : UDFI
MMSI : 273421900
Gross tonnage : 38536 (since 01-01-2005)
DWT : 67111
Type of ship : Crude Oil Tanker (during 1980)
Year of build : 1980
Flag : Russia (since 01-08-2009)
Status of ship : In Service/Commission (during 06-1980)
Last update : 29-12-2009

MANAGEMENT DETAIL

IMO number	Role	Name of company	Address	Date of effect
5510357	Ship manager	KREDO INVESTMENT CO	ul Barklaya 17, Moscow, 212309, Russia.	since 18-08-2009
5510357	Registered owner	KREDO INVESTMENT CO	ul Barklaya 17, Moscow, 212309, Russia.	since 18-08-2009
9991001	ISM Manager	UNKNOWN		since 25-09-2008

CLASSIFICATION STATUS

Classification society	Date of status	Status	Reason
Det Norske Veritas	28-08-2009	Withdrawn	Transfer of class to another IACS member
Russian Maritime Register of Shipping	30-11-2009	Delivered	

CLASSIFICATION SURVEYS

Classification society	Date survey	Date next survey
Russian Maritime Register of Shipping	30-11-2009	30-11-2014
Det Norske Veritas	16-09-2005	30-06-2010

Ship Inspection

IMO number : 7913622
Name of ship : LAFAYETTE (since 01-08-2009)
Call Sign : UDFI
MMSI : 273421900
Gross tonnage : 38536 (since 01-01-2005)
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Status of ship : In Service/Commission (during 06-1980)
Last update : 29-12-2009

LIST OF PORT STATE CONTROLS

PSC Organisation	Authority	Port of inspection	Date of report	Detention	Duration (days)	Number of deficiencies
Paris MoU	Greece	Isthmia	18-10-2007	N	0	3
US Coast Guard	U.S.A.	New Orleans, Louisiana	08-04-2007	N	0	0
US Coast Guard	U.S.A.	Philadelphia, Pennsylvania	20-04-2006	N	0	1
US Coast Guard	U.S.A.	Savannah, Georgia	02-02-2006	N	0	0
US Coast Guard	U.S.A.	Jacksonville, Florida	19-12-2005	N	0	0
US Coast Guard	U.S.A.	Jacksonville, Florida	16-12-2005	N	0	0
Paris MoU	Canada	Montreal	24-11-2005	Y	1	6
US Coast Guard	U.S.A.	New York (Capt. of the port)	22-12-2003	N	0	0
Paris MoU	Canada	Come by Chance	13-12-2003	N	0	2
US Coast Guard	U.S.A.	MSO San Juan	20-12-2002	N	0	0
Paris MoU	Canada	St johns	11-09-2002	N	0	0
Paris MoU	Belgium	Antwerp	12-07-2002	N	0	6
US Coast Guard	U.S.A.	AVND	22-01-2002	N	0	0
US Coast Guard	U.S.A.	MSO San Francisco	15-11-2000	N	0	2
US Coast Guard	U.S.A.	MSD Port Canaveral	07-10-2000	N	0	0
Paris MoU	Belgium	Antwerp	18-09-2000	N	0	0
US Coast Guard	U.S.A.	MSO Los Angeles/Long Beach	11-04-2000	N	0	0
US Coast Guard	U.S.A.	MSO Philadelphia	16-11-1999	N	0	0
Paris MoU	Netherlands	Rotterdam	25-10-1999	N	0	0
Paris MoU	Germany	Brunsbüttel	25-06-1998	N	0	2

HUMAN ELEMENT DEFICIENCIES

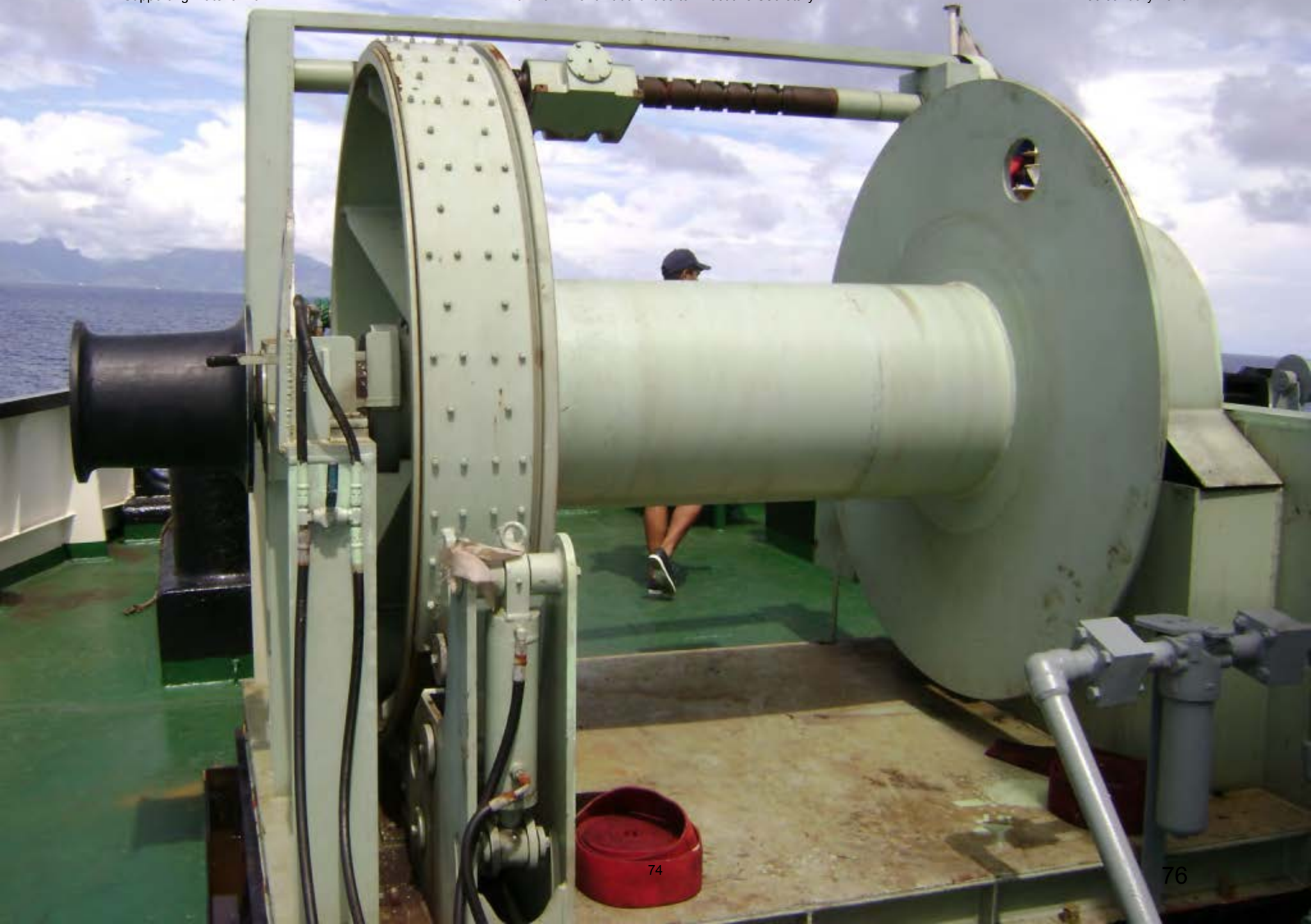
PSC Organisation	Authority	Port of inspection	Date of report	Human element deficiencies
Paris MoU	Canada	Montreal	24-11-2005	1
Paris MoU	Belgium	Antwerp	12-07-2002	2

ILO CONVENTION BY FLAG STATE



International Labour Organization







From: opi@mrcm.ru
To: kovaleva@mrcm.ru; sole@mrcm.ru; [Interim Secretariat](#)
Subject: RUS VMS
Date: Tuesday, 2 February 2010 12:07:59 a.m.
Attachments: [0201_14.xls](#)

_____ Information from ESET Smart Security, version of virus signature database 4811
(20100127) _____

The message was checked by ESET Smart Security.

<http://www.eset.com>

Vessel Flag (3-alpha country code)	Vessel name	Vessel registration number	International radio call sign (if any)	Lloyd's/ IMO Number (if allocated)	Latitude (Decimal degrees to 0.01 degrees)	Longitude (Decimal degrees to 0.01 degrees)	Date and Time (UTC format: YYYY-MON-DDThh:mm:ss)
RUS	LAFAYETTE	K2172	UDFI	7913622	000000	000000	20100201T10:36:00

International Consultations on the Establishment of the
South Pacific Regional Fisheries Management Organisation

16 February 2010
Ref: 2010-0008

Mr Sergey Simakov
Head of the International Cooperation Department
Russian Federation Federal Agency for Fisheries
Moscow
Russian Federation

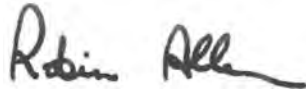
By email: harbour@fishcom.ru

Dear Mr Simakov,

I refer to your facsimile message of 30 December 2009, confirming that the vessel "Lafayette" actively fished for horse mackerel during 2009 in the area covered by the SPRFMO Convention.

I wish to request that the effective presence of 'Lafayette' in the Area in 2009 is confirmed by the submission of either VMS records, catch reports, port calls or other means. I would appreciate you providing these records at your earliest convenience.

Yours sincerely,



Robin Allen
Executive Secretary

From: [Robin Allen](#)
To: [Susie Iball](#)
Subject: FW: contrôle d'un supposé navire de pêche russe
Date: Wednesday, 17 February 2010 3:55:43 p.m.

We will not include the Lafayette in the list of vessels actively fishing on the basis that our information to date indicates that it was not actively fishing at the time we were advised it was (2009). It may be now, but we would have to have that established by Russia.

From: Dominique Person [mailto:dominique.person@affaires-maritimes.pf]
Sent: Wednesday, 17 February 2010 1:45 p.m.
To: Robin Allen
Cc: jonathan.lemeunier@agriculture.gouv.fr; ludovic.schultz@agriculture.gouv.fr; isabelle.perret@agriculture.gouv.fr; aem.ppt@mail.pf
Subject: RE: contrôle d'un supposé navire de pêche russe

Dear Robin,

Of course I can or you can use the informations I transmitted to you as evidences of no activity in 2009.

Best Regards

Dominique PERSON

Chef du service des affaires maritimes de Polynésie française

Motu-Uta

B.P. 9096

98713 Papeete

Tel: (00 689) 54 95 25

De : Robin Allen [mailto:robin.allen@southpacificrfo.org]
Envoyé : mardi 16 février 2010 11:20
À : Dominique Person
Cc : AEM PF; jonathan.lemeunier@agriculture.gouv.fr; isabelle.perret@agriculture.gouv.fr; ludovic.schultz@agriculture.gouv.fr
Objet : RE: contrôle d'un supposé navire de pêche russe

Dear Dominique,

Many thanks for your assistance. I have contacted the Russian authorities asking them to substantiate their claim that the vessel was fishing in 2009. If necessary, would I be able to show them the information you provided as a result of your inspection?

Best regards,

Robin

Robin Allen

Executive Secretary, Interim Secretariat

Consultations on the Establishment of the proposed South Pacific Regional Fisheries Management Organisation

PO Box 3797 Wellington 6140, New Zealand

Tel: +64 4 499 9889 Fax +64 4 473 9579

robin.allen@southpacificrfo.org

From: Dominique Person [mailto:dominique.person@affaires-maritimes.pf]

Sent: Saturday, 30 January 2010 4:01 p.m.
To: Robin Allen
Cc: 'AEM PF'; jonathan.lemeunier@agriculture.gouv.fr; isabelle.perret@agriculture.gouv.fr; ludovic.schultz@agriculture.gouv.fr
Subject: RE: contrôle d'un supposé navire de pêche russe

Dear Robin,

I send you attached different informations about the vessel.
The "Sirenac" data base indicates that the vessel was Russian only since the 01/08/2009.
Since that date, she was on scale in China, South Korea and Solomon Islands, far from areas in South Pacific where jack mackerels are fished.
Photos attached show clearly that the vessel has never fished (no cable astern on the 60 Tons fishing winch, no fishing equipment, all factory equipment new on board).
I can send you other images if required.

Best regards

Dominique PERSON
Chef du service des affaires maritimes de Polynésie française
Motu-Uta
B.P. 9096
98713 Papeete
Tel: (00 689) 54 95 25

De : Robin Allen [mailto:robin.allen@southpacificrfmo.org]
Envoyé : jeudi 28 janvier 2010 18:10
À : Dominique Person
Objet : RE: contrôle d'un supposé navire de pêche russe

Dear Dominique,

Many thanks for the very interesting report. My French reading is not very good but I think I understood the report sufficiently well. In particular you said the vessel had no fishing gear onboard and that the experimental fishing campaign is yet to start.

That is not consistent with what we had heard from the Russian Federation authorities who said that the vessel had actually fished in the SPRFMO area between November 17 and 31 December 2009. It would be very useful if you have any other information that might pertain to that, such as log information showing evidence of fishing, the most recent port call.

The relevance for SPRFMO is that Participants are limited in 2010 to fishing with a fleet with an aggregate gross tonnage of no more than that which fished in 2007, 2008, or 2009. Including this large vessel in the total for the Russian Federation in 2009 makes a significant difference to the gross tonnage Russia may apply in 2010.

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Robin Allen

Executive Secretary, Interim Secretariat

Consultations on the Establishment of the proposed South Pacific Regional Fisheries Management Organisation

PO Box 3797 Wellington 6140, New Zealand

Tel: +64 4 499 9889 Fax +64 4 473 9579

robin.allen@southpacificrfmo.org

From: Dominique Person [mailto:dominique.person@affaires-maritimes.pf]
Sent: Thursday, 28 January 2010 5:53 p.m.
To: Robin Allen
Cc: ludovic.schultz@agriculture.gouv.fr; pierre.tribon@agriculture.gouv.fr; 'Delphine LEGUERRIER'
Subject: TR: contrôle d'un supposé navire de pêche russe

Good evening Allen,

I send you attached a report (in French sorry) about the control organized On Sunday ashore Papeete on the vessel "Lafayette".

The captain of the vessel considers that he is a master of a "fishing vessel" but we did not find any fishing gear or fishing equipment on board.

Of course, it is a "factory vessel" for fish but we are not sure this vessel, due to its characteristics (length, depth...), will be able to tow with another trawler a midwater pair, as said.

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I don't know if it is important for the SPRFMO (fishing quotas or other matter) to know if the vessel will be able to fish but we are not sure of that at all.

This factory vessel will remain at sea all the time with an important capacity of fishing treatment process (1.000 Metric tons of Jack mackerel per day).

I can send other informations if required (see the drawing of "midwater pair" attached).

Best regards.

Dominique PERSON

Chef du service des affaires maritimes de Polynésie française

Motu-Uta

B.P. 9096

98713 Papeete

Tel: (00 689) 54 95 25

De : Dominique Person [mailto:dominique.person@affaires-maritimes.pf]
Envoyé : mercredi 27 janvier 2010 18:31
À : 'ludovic.schultz@agriculture.gouv.fr'; 'pierre.tribon@agriculture.gouv.fr'; 'Delphine LEGUERRIER'
Cc : 'AEM PF'; 'BURONFOSSE-BJAI Pascale'; 'CHARBONNEAU Magali HC987'
Objet : contrôle d'un supposé navire de pêche russe

Bonjour,

Je vous communique ci-joint une fiche relative au contrôle du navire russe « Lafayette » effectué ce dimanche sur rade de Papeete grâce à l'intervention de la vedette des douanes « Arafenua ».

Le commandant du navire le considère comme un navire de pêche alors qu'aucun engin de pêche, ni fune, n'a été aperçu à bord.

Nous exprimons des doutes sur la technique décrite consistant à utiliser ce navire pour travailler en bœufs avec un chalutier pour tracter un chalut pélagique.

Même si cette technique est prévue être expérimentée début 2010, selon le capitaine (réservée sur l'issue de l'expérimentation avec un si gros navire) et l'ingénieur ayant développé cette technique sur des navires plus petits (80 mètres), le Lafayette » sera utilisé de toute façon comme navire usine pour le traitement des « Jack Mackerel » /chinchards.

A voir si, dans le cadre des discussions en cours, le fait que ce navire ne pêche pas (ce qui semble le plus probable) aura une incidence sur le quota/ou potentiel de capture accordé à la Russie dans le cadre de la SPRFMO (voir mes commentaires dans la fiche jointe).

Sa forte capacité de traitement pourrait impacter les stocks de cette espèce dans le Sud Pacifique 30°S - 45°S pour lesquels aucune donnée scientifique fiable ne semble exister à ce jour

(documentation SPRFMO).

Cordialement

Dominique PERSON

Chef du service des affaires maritimes de Polynésie française

Motu-Uta

B.P. 9096

98713 Papeete

Tel: (00 689) 54 95 25

_____ Information from ESET Smart Security, version of virus signature database
4811 (20100127) _____

The message was checked by ESET Smart Security.

<http://www.eset.com>



International Consultations on the Establishment of the
South Pacific Regional Fisheries Management Organisation

26 March 2010
Ref: 2010-0012

Mr Sergey Simakov
Head of the International Cooperation Department
Russian Federation Federal Agency for Fisheries
Moscow
Russian Federation

By email: harbour@fishcom.ru

Dear Mr Simakov,

You sent a letter by facsimile on 30 December 2009, confirming that the vessel “*Lafayette*” actively fished for horse mackerel during 2009 in the area covered by the SPRFMO Convention. In response on 16 February 2010, I sent my memorandum 2010-008 requesting that the effective presence of ‘*Lafayette*’ in the SPRFMO Area in 2009 be confirmed by the submission of either VMS records, catch reports, port calls or other means.

I am following up this question because of the requirements in the 2009 Revised Interim Measures for Pelagic Fisheries, which apply to fisheries for *Trachurus* species. In particular, paragraph 6 states that:

6 ... Participants that have not already done so are to communicate to the Interim Secretariat, by 31 December 2009, the GT_i of those vessels flying their flag that have been actively fishing in 2009.

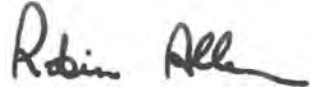
A table listing participants that have reported to the Interim Secretariat the [gross tonnage of vessels that actively fished for *Trachurus* species](#) during 2009 has been placed on the web site. At the time it was not clear that to me your reference “fished for horse mackerel” was intended to mean *Trachurus* species, and accordingly the *Lafayette* was not included in this table.

I now wish to advise you that we have been provided with a copy of a report from an inspection of the *Lafayette* when it called at Papeete in January of this year. The inspection found no fishing gear onboard the vessel. Also since being flagged as a vessel of the Russian Federation in August 2009, the vessel had been in in China, South Korea and the Solomon Islands, some distance from the fishery for *Trachurus* species. That supports my initial view that the vessel should not be included in the web site table of vessels that actively fished for *Trachurus* species in 2009.

Interim Secretariat, PO Box 3797, Wellington 6140, New Zealand.
TEL: +64 4 499 9889 - FAX: +64 4 473 9579 - interim.secretariat@southpacificrfmo.org

The web site table will be of significance when the implementation of the Interim Measures is reviewed by the Preparatory Conference and I wanted to bring the matter to your attention in case I have misunderstood the situation.

Yours sincerely,

A handwritten signature in black ink that reads "Robin Allen". The signature is written in a cursive, slightly slanted style.

Robin Allen
Executive Secretary

From: [???????? ?????? ???????](#)
To: [Robin Allen](#)
Cc: [Susie Iball](#)
Subject: lafayette
Date: Saturday, 3 April 2010 1:30:19 a.m.
Attachments: [Doc8.docx](#)
[lafayette.doc](#)

Please see attached.

Sincerely,

Dmitry Kremenjuk,
Head of the International Law Division,
International Cooperation Department
of the Federal Agency for Fisheries
Tel: +7 (495) 987 05 93
Fax: +7 (495) 621 95 94

_____ Information from ESET Smart Security, version of virus signature
database 4997 (20100403) _____

The message was checked by ESET Smart Security.

<http://www.eset.com>

<p>РОССИЙСКАЯ ФЕДЕРАЦИЯ ФЕДЕРАЛЬНОЕ АГЕНТСТВО ПО РЫБОЛОВСТВУ</p> <p>Российская Федерация, 107996, г. Москва, Рождественский бульвар, 12</p> <p>Тел.: 7 (495) 628-23-20, факс: 7 (495) 628-19-04 E-mail: harbour@fishcom.ru http://www.fishcom.ru</p>	<p>RUSSIAN FEDERATION FEDERAL AGENCY FOR FISHERIES</p> <p>12 Rozhdestvensky Blvd, Moscow, 107996, Russian Federation</p> <p>Tel.: +7 495 628 23 20, fax: +7 495 628 1904 E-mail: harbour@fishcom.ru http://www.fishcom.ru</p>
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Robin Allen
SPRFMO Interim Secretary
L4, ASB Bank House
PO Box 3797, Wellington, 6140
New Zealand

March 25th, 2010 Y03 - 306

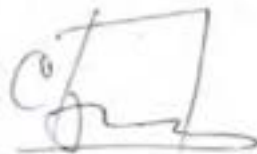
Subject: vessel "Lafayette"

Dear Mr. Allen,

With reference to your letter of 16 February Ref: 2010-0008 2010 we would like to provide you with the information concerning the Russian vessel "Lafayette" which fished the horse mackerel during 2009 in the SPRFMO Convention Area.

In the attachment you will find the VMS records of "Lafayette".

Sincerely yours,



Sergey Simakov
Head of the Department for international cooperation

_____ Information from ESET Smart Security, version of virus signature database 5005 (20100406) _____

The message was checked by ESET Smart Security.

<http://www.eset.com>

_____ Information from ESET Smart Security, version of virus signature database 5005 (20100406) _____

The message was checked by ESET Smart Security.

<http://www.eset.com>

_____ Information from ESET Smart Security, version of virus signature database 5008 (20100407) _____

The message was checked by ESET Smart Security.

<http://www.eset.com>

From: [Robin Allen](#)
To: [Sergey Simakov \(harbour@fishcom.ru\)](mailto:Sergey.Simakov@fishcom.ru)
Cc: [Dmitry Kremenyuk \(d.kremenyuk@fishcom.ru\)](mailto:Dmitry.Kremenyuk@fishcom.ru); [Susie Iball](#); [Alexander Glubokov](#)
Subject: Russians vessels authorized to fish for Trachurus species in the SPRFMO area in 2010
Date: Sunday, 6 June 2010 7:13:33 p.m.
Attachments: [image001.png](#)
[0008 Simakov confirmation of fishing by LaFayette.pdf](#)

Dear Mr. Simakov,

We have been reviewing the page on the SPRFMO web site that lists [vessels authorized to fish](#) for Trachurus species in the SPRFMO Area in 2010.

For the Russian Federation, the table lists:

*****refer table on following page - this is an artifact of converting to PDF format*****



However, we have only found correspondence indicating that the *Lafayette* was authorised to fish in 2010, and must have simply assumed that the other vessels were too. We have been advised by Peru that *the Ivan Lyudnikov, Kapitan Kuznetsov, and Semiozerne* were reflagged to Peru in 2009. We can find no information concerning the authorisation of the *Germes* in 2010.

Accordingly, we need to correct the table of vessels authorized to fish in 2010 by deleting all of the vessels except *Lafayette*. I apologise if our earlier oversight has caused you any inconvenience.

We understand that the *Lafayette* has been fishing in the SPRFMO area for all of 2010, however we have not yet received any of the monthly reports as required by paragraph 14 of the [2009 Revised Interim Measures](#) for Pelagic Fishing. The reports of monthly catches will be a topic of great interest at the forthcoming meeting of the Preparatory Conference next month and I hope we will receive the Russian monthly reports before then.

Finally, I would like to take this opportunity to remind you of the request in my letter 2010-0008 (copy attached) for confirmation of the effective presence of the *Lafayette* in the SPRFMO area in 2009 through VMS records, catch records, port calls, or other means.

Robin Allen

Executive Secretary, Interim Secretariat

Consultations on the Establishment of the proposed South Pacific Regional Fisheries Management Organisation

PO Box 3797 Wellington 6140, New Zealand

Tel: +64 4 499 9889 Fax +64 4 473 9579
robin.allen@southpacificfmo.org

_____ Information from ESET NOD32 Antivirus, version of virus signature database 5059 (20100425) _____

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

_____ Information from ESET NOD32 Antivirus, version of virus signature database 5177 (20100606) _____

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

_____ Information from ESET NOD32 Antivirus, version of virus signature database 5180 (20100607) _____

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

				Tonnage	
Russian Federation	Atlantida			8607000	2,062
	Germes	Arkadia	Russian Federation	8008618	4,629
	Ivan Lyudnikov			8038182	6,144
	Kapitan Kuznetsov			7443158	6,231
	Lafayette	Vemacape	7913622	49243	
	Semiozerno			8721088	6,231
	Total No. Vessels	6			Total Tonnage
Manuatu			Russian		

**РОССИЙСКАЯ ФЕДЕРАЦИЯ
ФЕДЕРАЛЬНОЕ АГЕНТСТВО
ПО РЫБОЛОВСТВУ**

Российская Федерация, 107996, г. Москва,
Рождественский бульвар, 12

Тел.: 7 (495) 628-23-20, факс: 7 (495) 628-19-04

E-mail: harbour@fishcom.ru

<http://www.fishcom.ru>

**RUSSIAN FEDERATION
FEDERAL AGENCY
FOR FISHERIES**

12 Rozhdestvensky Blvd, Moscow,
107996, Russian Federation

Tel.: +7 495 628 23 20, fax: +7 495 628 1904

E-mail: harbour@fishcom.ru

<http://www.fishcom.ru>

To: Robin Allen,
Executive Secretary, Interim Secretariat of the
International Consultations on the Establishment of the
South Pacific RFMO

Учс - 673
July 13, 2010

Dear Sir,

In accordance with the revised Temporary measures, that regulate fisheries of the pelagic fish in the South Pacific Ocean, we send you information about catches in the Area of the Convention on the Conservation and Management of High Seas Fishery Resources in the South Pacific Ocean. The object of catch is horse mackerel (*Trachurus murphyi*).

Month:	Catch (tons):
December, 2009	596
January, 2010	0
February, 2010	0
March, 2010	0
April, 2010	3723
May, 2010	2846
June, 2010	10924

Yours sincerely,



Sergey Simakov
Head of the International Cooperation Department

<p>РОССИЙСКАЯ ФЕДЕРАЦИЯ ФЕДЕРАЛЬНОЕ АГЕНТСТВО ПО РЫБОЛОВСТВУ</p> <p>Российская Федерация, 107996, г. Москва, Рождественский бульвар, 12</p> <p>Тел.: 7 (495) 628-23-20, факс: 7 (495) 628-19-04 E-mail: harbour@fishcom.ru http://www.fishcom.ru</p>	<p>RUSSIAN FEDERATION FEDERAL AGENCY FOR FISHERIES</p> <p>12 Rozhdestvensky Blvd, Moscow, 107996, Russian Federation</p> <p>Tel.: +7 495 628 23 20, fax: +7 495 628 1904 E-mail: harbour@fishcom.ru http://www.fishcom.ru</p>
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To: Robin Allen,
Executive Secretary, Interim Secretariat of the
South Pacific RFMO

503-1277
28.12.2010

December 23, 2010

Dear Sir,

In accordance with voluntary "Revised Interim measures for Pelagic Fisheries", we send you information about catches in the Area of the Convention on the Conservation and Management of High Seas Fishery Resources in the South Pacific Ocean for the second half of the 2010. The object of catch is horse mackerel (*Trachurus murphyi*).

July, 2010	9 463 (t)
August, 2010	9 722 (t)
September, 2010	4 637 (t)
October, 2010	0
November, 2010	0
December, 2010	0

With best regards,



Sergey V. Simakov
Head of the International Cooperation Department

From: philippe.maraval@agriculture.gouv.fr on behalf of philippe.maraval
To: [Robin Allen](mailto:Robin.Allen)
Cc: [Nicolas FAIRISE](mailto:Nicolas.FAIRISE); [SPRFMO Chair](mailto:SPRFMO.Chair); [ludovic schultz](mailto:ludovic.schultz)
Subject: [Fwd: Note verbale au sujet du "Lafayette"]
Date: Wednesday, 23 March 2011 6:52:55 a.m.
Attachments: [SKMBT_C35311032215400.pdf](#)
[Lafayette-inspection--summary.pdf](#)
[contrôle Lafayette.doc](#)

Dear Robin,

Please find enclosed the official documents on the Lafayette inspection made in Papeete (French Polynesia) the 24th of January 2010.

Since these documents have been officially sent to the Russian authorities, the French authorities consider that it's up to the Secretariat to decide what should be the appropriate diffusion of these elements, and what should be done regarding the relevant interim measures. Nevertheless, the French authorities consider the Lafayette as a former oil tanker converted into a processing vessel, not operating as an active trawler in 2009.

Best regards,

----- Message original -----

Sujet : Note verbale au sujet du "Lafayette"
Date : Tue, 22 Mar 2011 17:20:22 +0100
De : MONTAGUT Géraud <geraud.montagut@diplomatie.gouv.fr>
Pour : philippe.maraval@agriculture.gouv.fr

Philippe,

En PJ, copie de la note verbale que nous avons envoyée à l'ambassade de Russie à Paris (avec les deux documents que vous nous avez demandé d'y annexer).

Bien à toi.

Géraud

--

Philippe MARAVAL

Chargé de mission Affaires Internationales
Bureau des Affaires Européennes et Internationales
Direction des Pêches Maritimes et de l'Aquaculture
Ministère de l'alimentation, de l'agriculture et de la pêche
3 place de Fontenoy, 75007 Paris

Tel : +33 (0) 1 49 55 82 36 / +33 (0) 6 08 67 52 86

Fax + 33 (0) 1 49 55 82 00

Information from ESET NOD32 Antivirus, version of virus signature database 5059 (20100425)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

_____ Information from ESET NOD32 Antivirus, version of virus signature database 5998
(20110329) _____

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>



**MINISTÈRE
DES
AFFAIRES ÉTRANGÈRES ET
EUROPÉENNES**

N° 610 /DJ

Le Ministère des Affaires étrangères et européennes présente ses compliments à l'Ambassade de la Fédération de Russie en France et a l'honneur de lui communiquer, à titre d'information, deux documents relatifs au contrôle que les autorités françaises ont effectué sur le navire russe dénommé « Lafayette », le 24 janvier 2010, à Papeete (Polynésie française). Ces deux documents sont, d'une part, le rapport détaillé établi par les inspecteurs français à la suite du contrôle et, d'autre part, la note en anglais adressée, à ce sujet, par les autorités françaises au Secrétariat intérimaire de l'Organisation Régionale de Gestion des Pêches du Pacifique Sud (ci-après le « Secrétariat intérimaire »).

Les deux dernières conférences préparatoires à l'entrée en vigueur de la Convention relative à la conservation et à la gestion des ressources halieutiques de haute mer dans le Pacifique Sud se sont respectivement tenues à Auckland (Nouvelle-Zélande) du 19 au 23 juillet 2010 et à Cali (Colombie) du 24 au 28 janvier 2011. A ces occasions, plusieurs délégations ont demandé que le rapport de ce contrôle, dont le Secrétariat intérimaire avait été informé, soit communiqué aux Parties au motif que son contenu pourrait aider à déterminer s'il est possible de prendre en compte le « Lafayette » dans le calcul des antériorités de pêche de la Russie pour les ressources pélagiques du Pacifique Sud, au regard des mesures intérimaires de gestion en vigueur dans la zone de la Convention. Depuis la Conférence de Cali, un certain nombre de Parties contractantes et d'organisations professionnelles ont insisté pour avoir accès à ce rapport et à ses conclusions.

Le rapport indique que, au vu des éléments recueillis lors du contrôle, les autorités françaises sont amenées à considérer que le « Lafayette » est un navire-usine qui ne peut pas avoir été un chalutier actif en 2009. Le Secrétariat intérimaire décidera de quelle manière il convient de procéder à la diffusion de ce document et s'il convient de revoir ou non le calcul des antériorités russes pour les ressources pélagiques du Pacifique Sud.

**Ambassade de la Fédération de Russie
40-50 boulevard Lannes
75116 PARIS**

J...

Le Ministère des Affaires étrangères saisit cette occasion pour renouveler à l'Ambassade de la Fédération de Russie en France l'assurance de sa haute considération./.



Paris, le 22 mars 2011

Pièces jointes : 2

**Note from the French Authorities
regarding the inspection of the Russian Vessel « Lafayette »
at the port of Papeete, the 24th of January 2010**

The French authorities wish to inform the interim Secretariat and contracting parties of the South Pacific Regional Fisheries Management Organisation, about the results of an inspection carried out in Papeete, the 24th of January 2010.

The report, enclosed to this paper, underlines that :

- the « Lafayette » is a former oil tanker, of 228m length, equipped with a 34cm pipe intended to pump the fish into a refrigerated tank before its process on-board,
- this vessel is designed to remain in the high seas, with possibilities offered to other vessels to dock on both sides and to transship the fish or to refuel the vessel,
- the crew (master and engineer) declared the « Lafayette » was intended to be a pair-trawler, in order to pull a 200m circumference trawl,
- the associated pair-trawler of 125m length was declared by the engineer as currently in conversion before its combination with the « Lafayette »,
- this vessel is equipped with a protected propeller, and a winch, but had neither warp (cable to be associated to trawls) nor trawl,
- the master of the vessel had doubts about the capacity of the vessel to operate as a pair-trawler, but insisted on the classification of this vessel as a fishing vessel,
- the following photos show the vessel and some new equipment.







The inspection made in Papeete (French Polynesia), on the 24th of January 2010, leads the French authorities to consider this vessel as a former oil tanker converted into a processing vessel, not operating as an active trawler in 2009.

Direction générale
Des infrastructures, des
transports
et de la mer
Service des Affaires maritimes
de Polynésie française
Affaire suivie par :

N° /SAM

Fiche descriptive du navire « Lafayette »

Un pétrolier de 228 mètres transformé en « navire de pêche »

Les caractéristiques du navire :

Longueur : 228 mètres
Largeur : 32 mètres
Tirant d'eau : 19 mètres
Puissance machine : 14.400 Cv
Générateurs (9) : 3.500 Kw
Membres d'équipage : 320 Capacité de traitement/jour : 1.000 tonnes
Capacité de stockage : 645.000 cartons pour 8.000 tonnes
6 chaînes de traitement du poisson d'environ 100 mètres de longueur
Manche d'aspiration (eau+ poisson) diamètre 34 centimètres
Manutention sur le pont supérieur : 8 Clark
Zones de pêche : Pacifique Sud entre 84° et 110° W -30° et 45° Sud
Chalutiers associés : Kapitan Kuznetsov (6.321 GT), Ivan Lyudnikov (6144 GT), Semiozerno (631 GT).

Traitement du poisson

La technique du traitement du poisson est la suivante : Le chalutier remonte son chalut pélagique mais le laisse immergé. Une manche de 34 cm de diamètre est envoyée à partir du « Lafayette » afin de pomper dans le chalut les poissons vers des cuves réfrigérées (0°C) aménagées dans les fonds du « Lafayette ». Ces poissons sont ensuite repompés pour circuler sur les chaînes de traitement du navire. Les poissons ne sont pas éviscérés mais réfrigérés, emballés en cartons puis mis en cale à -30°C puis -60°C.

Ces poissons de faible valeur marchande, constituant une source de protéines bon marché, sont destinés à l'Afrique, Nigéria principalement.

Manutention

Un accostage des navires collecteurs est prévu à tribord afin de transborder le poisson conditionné. Des ascenseurs entre les cales et le pont supérieurs ont été aménagés et la manutention sur ce pont est prévue avec les clarks.

L'accostage à bâbord de navires de pêche est également prévu soit lors du pompage des poissons ou pour avitailler ces navires (carburant en particulier).

Le « Lafayette » est conçu pour rester en permanence en haute mer.

Lors de l'escale du navire « Lafayette » sous pavillon russe devant le port de Papeete le dimanche 24 janvier 2010, une équipe d'inspection composée de deux représentants du service des affaires maritimes (Chef de service Dominique Person et OCTAAM Didier Stamer) ont pu embarquer à bord de la vedette des

Douanes « Aradenua » afin de se rendre à bord. Le Commandant de la vedette Pascal Maugis et trois contrôleurs des douanes ont également participé au contrôle du navire.

Le « Lafayette » est un ancien pétrolier exploité dans l'Atlantique puis dans le golfe persique. Il a fait l'objet de modifications en 2009 pour être transformé en navire usine afin de conditionner dans le Pacifique Sud une espèce de chinchard abondante dénommée « Jack Mackerel ».

Une activité comme « navire de pêche » douteuse » mais une activité certaine comme navire usine avec une très importante capacité de traitement du poisson

Les autorités russes considèrent ce navire de 228 mètres, d'une puissance motrice de 14.400 Cv et comportant 320 marins embarqués comme un navire de pêche. L'ingénieur écossais présent à bord, Gerald Smart, qui procède à l'expérimentation des procédés de pêche et de traitement du poisson, a affirmé que le navire servirait à chaluter en bœuf avec un autre chalutier de 125 mètres en cours de transformation (puissance machine 10.000 Cv). A cet effet, le « Lafayette » dispose d'une hélice protégée et d'un treuil arrière d'une capacité de traction de 60 tonnes. Ces deux navires utiliseraient un chalut pélagique de 200 mètres de circonférence pour pêcher le « Jack mackerel ». Les captures actuelles du Chili sur cette espèce s'élèvent à 1.3 million de tonnes et l'ingénieur écossais parlait de 1.5 millions de tonnes de captures par les Russes.

L'équipe de contrôle n'a cependant constaté la présence d'aucune fune sur le treuil arrière, ni de chalut à bord ou autre engin de pêche. La campagne expérimentale devait débiter prochainement. Le commandant russe apparaissait également réservé sur la capacité du navire à chahuter en bœuf mais il a défendu fermement le statut de navire de pêche de son navire. Il est à noter que cette classification évite à l'armateur de répondre aux exigences réglementaires de la convention internationale SOLAS en matière de conception et d'équipements du navire.

D'autre part, ce navire est enregistré auprès de l'organisation régionale des pêches du Pacifique Sud (SPRFMO), dont la convention d'adhésion est en cours de diffusion, qui gère les stocks de poissons pélagiques autres les thonidés et les espèces profondes.

Dans le cadre de cette organisation, les navires usines sont considérés comme navires de pêche et un quota en tonnage brut est attribué à différents pays : La Russie bénéficie d'un quota de 23.235 GT. L'inclusion de ce navire comme navire de pêche sur la liste des navires russes (6 navires enregistrés) est de nature à augmenter la capacité de capture attribuée dans le futur à la Russie dans le Pacifique Sud.

Ces informations seront communiquées au secrétariat de la SPRFMO et à la Direction des pêches maritimes et de l'aquaculture.

Le chef du Service des Affaires maritimes
de Polynésie française

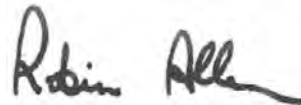
Dominique PERSON

Copie(s) :-

International Consultations on the Establishment of the
South Pacific Regional Fisheries Management Organisation

30 March 2011
Ref: 2011-0012

To: Heads of Delegations
From: Robin Allen, Executive Secretary
Re: Inspection of the vessel *Lafayette*



I have received the attached report from the French Authorities concerning the inspection of the vessel *Lafayette* on 24 January 2010. The inspection was carried out a few days after the vessel arrived in the South Pacific Ocean.

The inspection report was referred to in the Interim Secretariat reports on Interim Management Measures at both meetings of the Preparatory Conference, [PrepCon-01-INF-05 Rev2](#), and [Prepcon-02-INF-02 Rev 2](#).

The vessel is currently listed on the data page of the Web Site as actively fishing in 2009.

**Note from the French Authorities
regarding the inspection of the Russian Vessel « Lafayette »
at the port of Papeete, the 24th of January 2010**

The French authorities wish to inform the interim Secretariat and contracting parties of the South Pacific Regional Fisheries Management Organisation, about the results of an inspection carried out in Papeete, the 24th of January 2010.

The report, enclosed to this paper, underlines that :

- the « Lafayette » is a former oil tanker, of 228m length, equipped with a 34cm pipe intended to pump the fish into a refrigerated tank before its process on-board,
- this vessel is designed to remain in the high seas, with possibilities offered to other vessels to dock on both sides and to transship the fish or to refuel the vessel,
- the crew (master and engineer) declared the « Lafayette » was intended to be a pair-trawler, in order to pull a 200m circumference trawl,
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The inspection made in Papeete (French Polynesia), on the 24th of January 2010, leads the French authorities to consider this vessel as a former oil tanker converted into a processing vessel, not operating as an active trawler in 2009.



**MINISTÈRE
DES
AFFAIRES ÉTRANGÈRES ET
EUROPÉENNES**

N° 610 /DJ

Le Ministère des Affaires étrangères et européennes présente ses compliments à l'Ambassade de la Fédération de Russie en France et a l'honneur de lui communiquer, à titre d'information, deux documents relatifs au contrôle que les autorités françaises ont effectué sur le navire russe dénommé « Lafayette », le 24 janvier 2010, à Papeete (Polynésie française). Ces deux documents sont, d'une part, le rapport détaillé établi par les inspecteurs français à la suite du contrôle et, d'autre part, la note en anglais adressée, à ce sujet, par les autorités françaises au Secrétariat intérimaire de l'Organisation Régionale de Gestion des Pêches du Pacifique Sud (ci-après le « Secrétariat intérimaire »).

Les deux dernières conférences préparatoires à l'entrée en vigueur de la Convention relative à la conservation et à la gestion des ressources halieutiques de haute mer dans le Pacifique Sud se sont respectivement tenues à Auckland (Nouvelle-Zélande) du 19 au 23 juillet 2010 et à Cali (Colombie) du 24 au 28 janvier 2011. A ces occasions, plusieurs délégations ont demandé que le rapport de ce contrôle, dont le Secrétariat intérimaire avait été informé, soit communiqué aux Parties au motif que son contenu pourrait aider à déterminer s'il est possible de prendre en compte le « Lafayette » dans le calcul des antériorités de pêche de la Russie pour les ressources pélagiques du Pacifique Sud, au regard des mesures intérimaires de gestion en vigueur dans la zone de la Convention. Depuis la Conférence de Cali, un certain nombre de Parties contractantes et d'organisations professionnelles ont insisté pour avoir accès à ce rapport et à ses conclusions.

Le rapport indique que, au vu des éléments recueillis lors du contrôle, les autorités françaises sont amenées à considérer que le « Lafayette » est un navire-usine qui ne peut pas avoir été un chalutier actif en 2009. Le Secrétariat intérimaire décidera de quelle manière il convient de procéder à la diffusion de ce document et s'il convient de revoir ou non le calcul des antériorités russes pour les ressources pélagiques du Pacifique Sud.

**Ambassade de la Fédération de Russie
40-50 boulevard Lannes
75116 PARIS**

/...

Le Ministère des Affaires étrangères saisit cette occasion pour renouveler à l'Ambassade de la Fédération de Russie en France l'assurance de sa haute considération./.

A handwritten signature in black ink, appearing to be the initials 'Sg'.

Paris, le 22 mars 2011

Pièces jointes : 2

Direction générale
Des infrastructures, des
transports
et de la mer
Service des Affaires maritimes
de Polynésie française
Affaire suivie par :

N° /SAM

Fiche descriptive du navire « Lafayette »
Un pétrolier de 228 mètres transformé en « navire de pêche »

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Chalutiers associés : Kapitan Kuznetsov (6.321 GT), Ivan Lyudnikov (6144 GT), Semiozernoe (631 GT).

Traitement du poisson

La technique du traitement du poisson est la suivante : Le chalutier remonte son chalut pélagique mais le laisse immergé. Une manche de 34 cm de diamètre est envoyée à partir du « Lafayette » afin de pomper dans le chalut les poissons vers des cuves réfrigérées (0°C) aménagées dans les fonds du « Layette ». Ces poissons sont ensuite repompés pour circuler sur les chaînes de traitement du navire. Les poissons ne sont pas éviscérés mais réfrigérés, emballés en cartons puis mis en cale à -30°C puis -60°C.
Ces poissons de faible valeur marchande, constituant une source de protéines bon marché, sont destinés à l'Afrique, Nigéria principalement.

Manutention

Un accostage des navires collecteurs est prévu à tribord afin de transborder le poisson conditionné. Des ascenseurs entre les cales et le pont supérieurs ont été aménagés et la manutention sur ce pont est prévue avec les clarks.
L'accostage à bâbord de navires de pêche est également prévu soit lors du pompage des poissons ou pour avitailler ces navires (carburant en particulier).
Le « Lafayette » est conçu pour rester en permanence en haute mer.

Lors de l'escale du navire « Lafayette » sous pavillon russe devant le port de Papeete le dimanche 24 janvier 2010, une équipe d'inspection composée de deux représentants du service des affaires maritimes (Chef de service Dominique Person et OCTAAM Didier Stamer) ont pu embarquer à bord de la vedette des

Douanes « Arafenua » afin de se rendre à bord. Le Commandant de la vedette Pascal Maugis et trois contrôleurs des douanes ont également participé au contrôle du navire.

Le « Lafayette » est un ancien pétrolier exploité dans l'Atlantique puis dans le golfe persique. Il a fait l'objet de modifications en 2009 pour être transformé en navire usine afin de conditionner dans le Pacifique Sud une espèce de chinchard abondante dénommée « Jack Mackerel ».

Une activité comme « navire de pêche » douteuse » mais une activité certaine comme navire usine avec une très importante capacité de traitement du poisson

Les autorités russes considèrent ce navire de 228 mètres, d'une puissance motrice de 14.400 Cv et comportant 320 marins embarqués comme un navire de pêche. L'ingénieur écossais présent à bord, Gerald Smart, qui procède à l'expérimentation des procédés de pêche et de traitement du poisson, a affirmé que le navire servirait à chaluter en bœuf avec un autre chalutier de 125 mètres en cours de transformation (puissance machine 10.000 Cv). A cet effet, le « Lafayette » dispose d'une hélice protégée et d'un treuil arrière d'une capacité de traction de 60 tonnes. Ces deux navires utiliseraient un chalut pélagique de 200 mètres de circonférence pour pêcher le « Jack mackerel ». Les captures actuelles du Chili sur cette espèce s'élèvent à 1.3 million de tonnes et l'ingénieur écossais parlait de 1.5 millions de tonnes de captures par les Russes.

L'équipe de contrôle n'a cependant constaté la présence d'aucune fune sur le treuil arrière, ni de chalut à bord ou autre engin de pêche. La campagne expérimentale devait débiter prochainement. Le commandant russe apparaissait également réservé sur la capacité du navire à chahuter en bœuf mais il a défendu fermement le statut de navire de pêche de son navire. Il est à noter que cette classification évite à l'armateur de répondre aux exigences réglementaires de la convention internationale SOLAS en matière de conception et d'équipements du navire.

D'autre part, ce navire est enregistré auprès de l'organisation régionale des pêches du Pacifique Sud (SPRFMO), dont la convention d'adhésion est en cours de diffusion, qui gère les stocks de poissons pélagiques autres les thonidés et les espèces profondes.

Dans le cadre de cette organisation, les navires usines sont considérés comme navires de pêche et un quota en tonnage brut est attribué à différents pays : La Russie bénéficie d'un quota de 23.235 GT. L'inclusion de ce navire comme navire de pêche sur la liste des navires russes (6 navires enregistrés) est de nature à augmenter la capacité de capture attribuée dans le futur à la Russie dans le Pacifique Sud.

Ces informations seront communiquées au secrétariat de la SPRFMO et à la Direction des pêches maritimes et de l'aquaculture.

Le chef du Service des Affaires maritimes
de Polynésie française

Dominique PERSON

Copie(s) : -

中华人民共和国农业部渔业局

BUREAU OF FISHERIES, MINISTRY OF AGRICULTURE, THE PEOPLE'S REPUBLIC OF CHINA

地址: 北京农展馆南里 11 号, 邮政编码: 100026 Address: No.11 Nongzhanguannanli, Beijing, 100026

电话 (TEL.): 86-10-64192928/64192974, 传真 (FAX): 86-10-64193056, E-mail: bofdwf@agri.gov.cn

April 11 2011

Mr. Bill Mansfield

Chairman

Preparatory Conference for the Commission of the South

Pacific Regional fisheries Management Organization

Dear Bill Mansfield:

Thank you for your letter dated on the April 1, and sorry for my late reply. We are very appreciated for your hard work, as chairman of the Preparatory Conference for the Commission of the South Pacific Regional Fisheries, to pursue the goal of the Convention.

As stated in your letter, we fully agree it is urgent to do something rebuilding the Jack Mackerel stock in South Pacific Ocean, and we were pleased to see, under your excellent leadership, all the participants have join in the efforts looking for solutions for stock recovery in the 2nd Preparatory Conference. But due to data accuracy and equity concern, China reserved the position in relation to the catch reduction plan in 2011 Revised Interim Measures. Honestly, we are quite dubious to build such catch reduction plan solely on the basis of catch records reported by respective participant, in fact, certain questions have been raised about the legitimacy of catch figures submitted by some participants.

We also note that, several weeks ago, a report concerning inspection of the Lafayette has been circulated upon the request of the French Polynesia. It is quite confusing that that vessel can be included into the total tonnage limit as historical tonnage, moreover, the catch derived from that part of fishing tonnage be regarded as baseline of catch reduction.

Mr. Chair, considering the above issue, at current stage, we are now in a very difficult situation to convince our industry that the catch reduction plan in 2011 Revised Interim Measures can be carried out in an equitable manner, nor could we give a clear voice China could support the catch reduction plan, because we couldn't tolerate situations in which participants reporting their catch data honestly been constrained, while some others exaggerating their data been not. Nevertheless, we are aware the catch data released in Cali meeting were preliminary ones, we are eager to see the final verified data to be published by the interim secretariat before we could give more certain answer.

One more thing, China would commit to adhering to other voluntary commitments contained within the 2011 Revised Interim Measures, e.g. collection and reporting of data in relation to catches.

Best regards

Wan Chen

Wan Chen
Distant Water Fishing Division
Bureau of Fisheries
Ministry of Agriculture, P. R. China

Cc: Interim Secretariat of the Commission Of the South Pacific Regional fisheries
Management Organization

From: [Robin Allen](#)
To: [SPRFMO Chair](#)
Subject: Letter from Chile concerning the vessel La Fayette
Date: Thursday, 28 April 2011 11:52:13 a.m.
Attachments: [carta a Mr Robin Allen.pdf](#)

To: Heads of Delegations

From: Executive Secretary

Re: Letter from Chile concerning the vessel La Fayette

I am circulating the attached letter at the request of Ambassador Balmaceda.

Robin Allen

Executive Secretary, Interim Secretariat

South Pacific Regional Fisheries Management Organisation

PO Box 3797 Wellington 6140, New Zealand

Tel: +64 4 499 9889 Fax +64 4 473 9579

robin.allen@southpacificfmo.org

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The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

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6076 (20110427) _____

The message was checked by ESET NOD32 Antivirus.

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MINISTERIO DE RELACIONES EXTERIORES
Dirección de Medio Ambiente

Santiago, 25 ABR 2011

Mr Robin Allen
Executive Secretary
South Pacific Regional Fisheries Management Organisation
Wellington

Dear Mr. Allen,

I acknowledge receipt of your letter dated 30th March 2011, concerning the inspection of the vessel *Lafayette*. I would like to express my appreciation to the French authorities for their report on the inspection carried out in Papeete in January 2010.

The report concludes that the *Lafayette* is **not** a fishing vessel. Since the Interim Measures refer specifically to vessels effectively fishing in the Convention Area, the GT of the *Lafayette*, according to the research carried out by the French authorities, should not be considered in Table 1 of the 2011 Interim Measures.

The Russian Federation has informed catches carried out by this vessel in two years. In 2009 it declared catches of Chilean Jack Mackerel for 8,517 tons, by 5 or 6 vessels actively fishing in the Convention Area, as indicated in the document ***Update of Data Submitted to the Interim Secretariat as at 21 January 2011***, page 7 (PrepCon-02-INF-03 Rev1). In 2010, the Russian Federation informed catches for 41,315 tons of Chilean Jack Mackerel. The same year, the only vessel reportedly operating in the Convention Area was the *Lafayette*. According to the inspection practiced in Papeete, it could have possibly conducted fishing activities only in pair-trawling, i.e., associated with another vessel.

In line with their allegations, the Russian Federation should submit, as soon as possible, a report on the situation of the *Lafayette*, as promised in the Second Preparatory Conference in Cali, as well as a separate report for its catches declared in 2009 and 2010.

The lack of a clear and thorough explanation in this case could seriously undermine trust and confidence inside the SPRFMO, and may constitute an unfortunate precedent for the future. Therefore, it seems appropriate that the Interim Secretariat requests the Russian Federation to comply with the above.



MINISTERIO DE RELACIONES EXTERIORES
Dirección de Medio Ambiente

I would appreciate that you kindly circulate this communication among the Heads of Delegations of the Contracting Parties of the South Pacific Regional Fisheries Management Organisation.

Sincerely yours,



Jose Luis Balmaceda
Ambassador

Director of Environment and Maritime Affairs

The logo for the South Pacific Regional Fisheries Management Organisation (SPRFMO) is a blue rectangular banner with a textured, wavy background. The text "South Pacific Regional Fisheries Management Organisation" is written in white, bold, sans-serif font across the center of the banner.

2 May 2011
Ref: 0022-2011

Mr Sergey Simakov
Head of the International Cooperation Directorate
Federal Agency for Fisheries
12 Rozhdestvensky Boulevard
Moscow, 107996
Russian Federation

By email: harbour@fishcom.ru

Dear Mr Simakov,

On 30 March I circulated the report by the French authorities on the inspection carried out in Papeete in January 2010 of the Russian registered vessel *Lafayette* (IMO #7913622) which was authorised to fish in the SPRFMO Convention Area by the Russian Federation during 2009 and 2010. I have subsequently circulated a letter from the head of the Chilean delegation, Ambassador Balmaceda, requesting me to follow up on the Russian Federation delegation's undertaking at the Second Session of the Preparatory Conference to carry out an internal investigation on any information provided about this vessel.

As you know concern about the reported fishing by this vessel and the catches attributed to it was expressed during the Second Session of the Preparatory Conference in light of the French report on the inspection of the vessel carried out by their authorities on 24 January 2010 in Papeete, which had been referred to in the Interim Secretariat reports on the Interim Measures. Delegations were accordingly pleased that your delegation gave an assurance that your authorities would undertake an investigation in relation to this vessel on receipt of the full report of the French authorities of their port inspection of it.

It would be most helpful for the Interim Secretariat as well as all delegations to have the report of the investigation by your authorities as soon as possible. For its part the Interim Secretariat is unable to provide any assurance to other delegations about the vessel's activities because we have not received any fishing information for the vessel for 2009, and only limited information for 2010. While the Russian Federation has reported a catch of 41,315 t with only the *Lafayette* authorised to fish in 2010, without tow by tow data and in the light of the report of the French authorities that the vessel, as inspected, was not capable of fishing there is a concern that these catches may have also been reported by vessels of other participants. Accordingly it is important for the Interim Secretariat and all delegations that the report by your authorities includes full information for 2009 and 2010 based on amongst other things:

- tow by tow reports of catches as provided in Annex 1 of the Data Standards,
- reports of transshipments from another fishing vessel as provided by Annex 13 of the Data Standards, and
- Landing/unloading reports as provided by Annex 12 of the Data Standards.

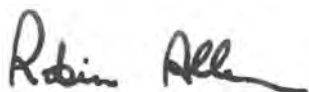
It would also be helpful if you would provide those data to the Interim Secretariat.

Interim Secretariat, PO Box 3797, Wellington 6140, New Zealand.
TEL: +64 4 499 9889 - FAX: +64 4 473 9579 - interim.secretariat@southpacificrfmo.org

I would be grateful if you would advise me when we might expect to receive the report from your authorities.

In view of the interest of all delegations in this matter I am circulating this letter to all Heads of Delegation.

Yours sincerely,

A handwritten signature in black ink that reads "Robin Allen". The signature is written in a cursive style with a long horizontal stroke at the end.

Robin Allen
Executive Secretary

cc Heads of Delegations

The logo for the South Pacific Regional Fisheries Management Organisation (SPRFMO) is a horizontal blue banner with a textured, wavy pattern. The text "South Pacific Regional Fisheries Management Organisation" is written in white, sans-serif font across the center of the banner.

2 May 2011
Ref: 0024-2011

Ambassador Arturo Montoya Stuva
National Director of Sovereignty and Boundaries
Ministry of Foreign Affairs
Lima,
Peru

By email: amontoya@rree.gob.pe

Dear Ambassador Montoya,

I refer to the discussion at the 2nd Preparatory Conference and the letter from Chile which was circulated recently concerning the fishing activities of the Russian Federation vessel *Lafayette*. Uncertainties related to the vessel and in particular about catches associated with it are a matter of considerable interest and concern to all participants.

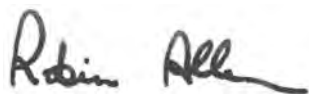
I understand that the *Lafayette* is owned by a company which also owns the Peruvian flag vessels *Pacific Conqueror* (IMO 9179359), *Pacific Hunter* (IMO8519667), *Pacific Voyager* (IMO 916790400) and *Veronica*, (IMO 9184627), which were reported by Peru as fishing in the SPRFMO area during 2010. These vessels may have landed their catches in Peru or may have transhipped them to the *Lafayette*. Some of the uncertainty that I referred to above could be resolved by data showing the unloading or transhipments of these vessels.

I would very much appreciate it if Peru would provide these data to the Interim Secretariat to assist it ensuring that the catches of jack mackerel reported for 2010 are accurate.

On a separate matter concerning vessels, I would like to follow up on an email to Mr. Chang, in which we advised that we have recently received information that two vessels that had been listed on the SPRFMO website as flagged to Peru, and authorised to fish for Peru in 2011, are now fishing in the Convention Area under the Russian Federation flag. These are the vessels previously identified by Peru as "Pacific Sheriff" and "Pacific Leader". Can you advise us of the date of the revocation of the Peruvian flag and their fishing authorisations?

I would also appreciate it if the Interim Secretariat could be provided with an updated list of Peruvian vessels authorised to fish within the SPRFMO Convention Area during 2011.

Yours sincerely,

A handwritten signature in black ink that reads "Robin Allen". The signature is written in a cursive style with a long, sweeping underline.

Robin Allen
Executive Secretary

cc: Mr Ysaac Chang, ***Director General of Extraction and Fish Processing,***
Ministry of Production

Received 27 June 2011



PERÚ

Ministerio
de la ProducciónMinisterio
de PesqueríaDirectorio General de
Extracción y Procesamiento Pesquero

"Decenio de las Personas con Discapacidad en el Perú"
"Año del Centenario de Machu Picchu para el Mundo"

Lima, ²⁷ de mayo de 2011OFICIO N° ¹⁸⁹⁴ 2011-PRODUCE/DGEPP-Dch

Dr Robin Allen
Secretario Ejecutivo
Secretaria Interina de la OROP-PS
PO Box 3797 Wellington 6140, Nueva Zelanda

Asunto: Suministro de información a la OROP-PS

Referencia: 0024-2011 02/05/2011

Anexo: Versión en inglés de la comunicación

Tengo el agrado de dirigirme a usted, en relación a las medidas provisionales revisadas para la pesca pelágica del futuro Organismo Regional de Ordenación Pesquera para Alta Mar en el Pacífico Sur (OROP) y en atención al documento de la referencia.

En tal sentido, con el objeto de absolver las consultas planteadas se alcanza la comunicación en versión inglés para su consideración.

Sin otro particular, hago propicia la oportunidad para expresarle los sentimientos de mi mayor consideración y estima.

Atentamente,



ING. YSAAC GUILLERMO CHANG DIAZ

Director General de Extracción y
Procesamiento Pesquero

Cc: DVP

Lima, ²⁷ May 2011

OFICIO N° ¹⁸⁹⁴ -2011-PRODUCE/DGEPP-Dch

Dr Robin Allen
 Executive Secretary
 International Consultations on the Establishment of the proposed
 South Pacific Regional Fisheries Management Organization

Dear Sir,

As requested in your communication 0024-2011 of 02 may 2011, I reach the following information about the transshipped to the vessel LAFAYETTE:


Vessel	Registration Number	Transshipped (t)
PACIFIC CHAMPION (EX VERONICA)	CO-33457-PM	5,244
PACIFIC CONQUEROR	CO-31412-PM	8,454
PACIFIC HUNTER	CO-30903-PM	7,077
PACIFIC VOYAGER	CO-31194-PM	10,500
TOTAL		31,275

By the other way, concerning to the vessels PACIFIC SHERIFF and PACIFIC LEADER, I inform the following:

Vessel	Registration Number	Date of the revocation of the Peruvian flag	Date of the revocation fishing authorizations
PACIFIC LEADER	CO-30906-PM	06/08/2010	25/04/2011
PACIFIC SHERIFF	CO-30904-PM	06/08/2010	25/04/2011

Finally, please find enclosed herewith the "Register of Vessels Currently Authorised to Fish for Pelagic Species in the SPRFMO Area" in 2011.

Yours sincerely,



YSAAC GUILLERMO CHAN
 Director General of Extraction
 Fish Processing

First day of RUS-Flagged vms data I have for these 2 vessels is 10 April 2011 - which implies they were still authorized to fish for Peru at this time - does this matter?

In what year did the Ex "Pacific" vessels listed above tranship to the "Lafayette"

PERUVIAN FISHING FLEET REGISTERED TO DEVELOP FISHING EFFORT ON THE DROP AREA
ANNEX 7 "STANDARD FOR VESSEL DATA"

ID	CURRENT VESSEL FLAG	NAME OF VESSEL	REGISTRATION NUMBER	INTERNATIONAL RADIO CALL SIGN	LLOYD'S/MIMO NUMBER	PREVIOUS NAME	PORT OF REGISTRY	PREVIOUS FLAG	TYPE OF VESSEL	TYPE OF FISHING METHOD(S)	WHEN BUILT	WHERE BUILT	LOA	MOULDED DEPTH	BEAM	GROSS TONNAGE	POWER OF MAIN ENGINE (HP)	HOLD CAPACITY (m ³)	NAME OF OWNER(S)/ OPERATOR (S)	ADDRESS OF OWNER(S)/ OPERATOR (S)
1	PERUVIAN	ADRIANA	CO-17997-PM	-	-	-	CALLAO	-	FISHING	PURSE SEINE	1998	PERU	38.50	4.40	8.25	248.26	1050	403.54	PESQUERA DIAMANTE	CALLE AMADOR MERINO REYNA N°307, LIMA
2	PERUVIAN	ALESSANDRO	CO-22295-PM	-	-	-	CALLAO	-	FISHING	PURSE SEINE	2005	PERU	43.22	4.45	10.02	433.04	1500	450.00	PESQUERA DIAMANTE	CALLE AMADOR MERINO REYNA N°307, LIMA
3	PERUVIAN	ANA LUCIA	CE-13553-PM	-	-	-	CHIMBOTE	-	FISHING	PURSE SEINE	1994	PERU	48.95	4.36	9.05	381.80	1805	503.77	HAYDUK S A	CANAVAL Y MOREYRA 340- SAN ISIDRO
4	PERUVIAN	ANDES 52	CE-29039-PM	-	-	-	CALLAO	-	FISHING	PURSE SEINE	2008	PERU	53.40	4.95	10.05	539.11	1875	565.78	CFG INVESTMENT S.A.C.	CALLE AMADOR MERINO REYNA N°307 LIMA
5	PERUVIAN	ATLANTICO IV	CO-10499-PM	-	-	SAMANCO IV	CALLAO	PERUVIAN	FISHING	PURSE SEINE	1993	PERU	46.87	4.05	8.65	366.26	999	411.96	CANTABRIA S A	PANAMERICANA NORTE KM 439 COISHCO
6	PERUVIAN	BAMAR I	CE-16660-PM	-	-	-	CHIMBOTE	-	FISHING	PURSE SEINE	1997	PERU	48.70	5.50	9.80	449.55	1740	621.80	HAYDUK S.A.	CANAVAL Y MOREYRA 340- SAN ISIDRO
7	PERUVIAN	BAMAR II	CE-16661-PM	-	-	-	CHIMBOTE	-	FISHING	PURSE SEINE	1997	PERU	42.77	5.00	10.30	491.70	1740	622.93	HAYDUK S A	CANAVAL Y MOREYRA 340- SAN ISIDRO
8	PERUVIAN	BAMAR IV	CE 18002 PM	-	-	-	CHIMBOTE	-	FISHING	PURSE SEINE	1998	PERU	50.32	4.60	10.35	499.55	1740	613.88	HAYDUK S A	CANAVAL Y MOREYRA 340- SAN ISIDRO
9	PERUVIAN	BAMAR VII	CO-19867-PM	-	-	-	CALLAO	-	FISHING	PURSE SEINE	2000	PERU	57.90	5.40	10.78	679.88	2400	679.80	HAYDUK S A	CANAVAL Y MOREYRA 340- SAN ISIDRO
10	PERUVIAN	CABALLA	CO-33774-PM	-	-	HANNOVER	CALLAO	COOK ISLANDS	FISHING	TRAWL	1972	GERMANY	92.00	9.55	15.00	3071.00	2372	3510.43	TEXEL FISHING S A C	CALLE LOS ALMENDROS 221- MONTERRICO
11	PERUVIAN	CAPRICORNIO 3	CO-1458-PM	-	-	-	CALLAO	-	FISHING	PURSE SEINE	1967	PERU	25.04	3.28	6.71	112.18	380	190.79	PESQUERA CAPRICORNIO S A	PROLONGACION CENTENARIO 2620 LIMA
12	PERUVIAN	CAPRICORNIO 5	CE-6387-PM	-	-	-	CHIMBOTE	-	FISHING	PURSE SEINE	1971	PERU	50.00	4.18	6.70	335.62	1600	398.05	PESQUERA CAPRICORNIO S.A.	PROLONGACION CENTENARIO 2620 LIMA
13	PERUVIAN	CAPRICORNIO 6	CO-10613-PM	-	-	-	CALLAO	-	FISHING	PURSE SEINE	1993	PERU	31.77	3.43	7.32	196.58	540	282.94	PESQUERA CAPRICORNIO S A	PROLONGACION CENTENARIO 2620 LIMA
14	PERUVIAN	CARACOL	CO-15313-PM	-	-	-	CALLAO	-	FISHING	PURSE SEINE	1996	PERU	37.72	4.20	7.92	241.53	650	341.95	PESQUERA DIAMANTE	CALLE AMADOR MERINO REYNA N°307, LIMA
15	PERUVIAN	CARMENCITA	CO-15653-PM	-	-	-	CALLAO	-	FISHING	PURSE SEINE	1996	PERU	47.82	4.41	9.89	431.78	1600	422.73	PESQUERA EXALMAR S.A.	AV. PAZ SOLDAN N° 170 DTO 701- SAN ISIDRO
16	PERUVIAN	CHAVELI II	CE-15259-PM	-	-	-	CHIMBOTE	-	FISHING	PURSE SEINE	1996	PERU	49.15	5.30	10.00	491.76	1740	582.59	HAYDUK S.A.	CANAVAL Y MOREYRA 340- SAN ISIDRO
17	PERUVIAN	CONSTANTE	PT 13532-PM	-	-	-	PAITA	-	FISHING	PURSE SEINE	1994	PERU	37.60	4.00	8.00	239.89	1200	410.31	HAYDUK S A	CANAVAL Y MOREYRA 340- SAN ISIDRO
18	PERUVIAN	CONSTANZA	CO-16681-PM	-	-	SUPE I	CALLAO	PERUVIAN	FISHING	PURSE SEINE	2002	PERU	46.27	4.58	9.89	463.79	2000	530.85	PESQUERA DIAMANTE	CALLE AMADOR MERINO REYNA N°307 LIMA
19	PERUVIAN	CRETA	CO-18167-PM	-	-	-	CALLAO	-	FISHING	PURSE SEINE	1996	PERU	47.62	4.41	9.69	395.13	1600	422.03	PESQUERA EXALMAR S.A.	AV. PAZ SOLDAN N° 170 DTO 701- SAN ISIDRO
20	PERUVIAN	DANIELA	CO 18669-PM	-	-	-	CALLAO	-	FISHING	PURSE SEINE	1997	PERU	38.84	4.25	8.21	248.26	1050	402.62	PESQUERA DIAMANTE	CALLE AMADOR MERINO REYNA N°307, LIMA
21	PERUVIAN	DON ALFREDO	CO-29856-PM	-	-	-	CALLAO	-	FISHING	PURSE SEINE	2009	PERU	54.54	4.90	10.10	550.74	1875	563.30	PESQUERA EXALMAR S.A.	AV. PAZ SOLDAN N° 170 DTO 701- SAN ISIDRO
22	PERUVIAN	DON ROBERTH	CE 2770-PM	-	-	-	CHIMBOTE	-	FISHING	PURSE SEINE	1996	PERU	25.06	3.28	6.65	112.18	510	198.59	PESQUERA CAPRICORNIO S A	PROLONGACION CENTENARIO 2620 LIMA
23	PERUVIAN	DONA RITA	CE-12926-PM	-	-	-	CHIMBOTE	-	FISHING	PURSE SEINE	1995	PERU	46.70	4.35	9.05	361.10	1410	499.66	HAYDUK S A	CANAVAL Y MOREYRA 340- SAN ISIDRO
24	PERUVIAN	ESTHER 7	CO 14971-PM	-	-	ESTHER 7	CALLAO	PERUVIAN	FISHING	PURSE SEINE	1995	PERU	42.90	4.33	9.04	294.69	1410	429.80	TECNOLOGICA DE ALIMENTOS S A	LAS BEGONIAS 441/352- SAN ISIDRO

ID	CURRENT VESSEL FLAG	NAME OF VESSEL	REGISTRATION NUMBER	INTERNATIONAL RADIO CALL SIGN	LLOYD'S/MO NUMBER	PREVIOUS NAME	PORT OF REGISTRY	PREVIOUS FLAG	TYPE OF VESSEL	TYPE OF FISHING METHOD(S)	WHEN BUILT	WHERE BUILT	LOA	MOULDED DEPTH	BEAM	GROSS TONNAGE	POWER OF MAIN ENGINE (HP)	HOLD CAPACITY (m3)	NAME OF OWNER(S)/ OPERATOR (S)	ADDRESS OF OWNER(S)/ OPERATOR (S)
25	PERUVIAN	FRANZISKA	CO-30388-PM	-	8402997	-	CALLAO	HOLLAND	FISHING	TRAWL	1989	NETHERLANDS	119.18	11.53	19.00	7153.00	5109	8366.00	PELAGIC FISHING GROUP	CALLE 3 SUR N° 260- SAN ISIDRO
26	PERUVIAN	ILA	CO-32169-PM	HO-4337	6619104	-	CALLAO	PANAMA	FISHING	TRAWL	1968	SPAIN	77.10	7.50	12.00	1449.75	2670	1240.18	NOVAPERU S.A.C	CARRETERA PANAMERICANA SUR KM 12.5- LIMA
27	PERUVIAN	ILEÑA I	CO-28571-PM	-	-	-	CALLAO	-	FISHING	PURSE SEINE	2007	PERU	45.50	5.00	9.75	434.55	1500	479.60	PESQUERA SANTA ENMA S.A	CALLE LOS ZORZALES N° 160- SAN ISIDRO
28	PERUVIAN	ISABELITA	CE-28791-PM	-	-	-	CHIMBOTE	-	FISHING	PURSE SEINE	2008	PERU	52.68	5.00	10.10	555.80	1870	511.97	HAYDUK S.A	CANAVAL Y MOREYRA 340- SAN ISIDRO
29	PERUVIAN	IVANA B	CE-13880-PM	-	-	-	CHIMBOTE	-	FISHING	PURSE SEINE	1995	PERU	44.50	5.00	10.30	474.53	1740	502.43	HAYDUK S.A.	CANAVAL Y MOREYRA 340- SAN ISIDRO
30	PERUVIAN	JACKELIN	CE-6259-PM	-	-	-	CHIMBOTE	-	FISHING	PURSE SEINE	1991	PERU	47.31	4.18	8.01	345.85	1200	398.47	HAYDUK S.A.	CANAVAL Y MOREYRA 340- SAN ISIDRO
31	PERUVIAN	JADRANKA B	CE-13681-PM	-	-	-	CHIMBOTE	-	FISHING	PURSE SEINE	1995	PERU	44.50	5.00	10.30	490.15	1740	517.00	HAYDUK S.A.	CANAVAL Y MOREYRA 340- SAN ISIDRO
32	PERUVIAN	JUANCHO	CO-12232-PM	-	-	-	CALLAO	-	FISHING	PURSE SEINE	1995	PERU	39.77	4.40	8.70	312.39	790 KW	436.97	AUSTRAL GROUP S.A.A.	AV. VICTOR ANDRES BELAUNDE-TORRE 7 N° 147, LIMA
33	PERUVIAN	JUREL	CO-33753-PM	-	-	SUNNUBERG	CALLAO	COOK ISLANDS	FISHING	TRAWL/PURSE SEINE	1972	NORWAY	65.50	6.80	9.85	1288.00	2957	1480.59	TEXEL FISHING S.A.C.	CALLE LOS ALMENDROS 221- MONTECRICO
34	PERUVIAN	KIANA	CO-18812-PM	-	-	-	CALLAO	-	FISHING	PURSE SEINE	1999	PERU	41.89	4.44	8.72	287.06	900 KW	430.53	AUSTRAL GROUP S.A.A.	AV. VICTOR ANDRES BELAUNDE-TORRE 7 N° 147, LIMA
35	PERUVIAN	KIARA B	CE-21453-PM	-	-	-	CHIMBOTE	-	FISHING	PURSE SEINE	2003	PERU	48.70	5.00	10.30	497.67	1740	506.89	HAYDUK S.A	CANAVAL Y MOREYRA 340- SAN ISIDRO
36	PERUVIAN	MAGALLANES	PT-6324-PM	-	-	ANCASH 7	PISTA	PERUVIAN	FISHING	PURSE SEINE	1971	PERU	47.70	4.20	8.75	364.92	850	399.76	CANTABRIA S.A.	PANAMERICANA NORTE KM 439- COISHCO
37	PERUVIAN	MALENA	CO-15724-PM	-	-	-	CALLAO	-	FISHING	PURSE SEINE	1996	PERU	57.07	5.67	11.18	705.46	2143.88 KW	867.28	AUSTRAL GROUP S.A.A.	AV. VICTOR ANDRES BELAUNDE-TORRE 7 N° 147, LIMA
38	PERUVIAN	MAR NEGRO	CE-0232-PM	-	-	SK 2	CHIMBOTE	PERUVIAN	FISHING	PURSE SEINE	1969	PERU	48.37	4.28	8.72	360.99	1200	393.27	CANTABRIA S.A.	PANAMERICANA NORTE KM 439- COISHCO
39	PERUVIAN	MARIANA B	CE-16662-PM	-	-	-	CHIMBOTE	-	FISHING	PURSE SEINE	1997	PERU	39.20	3.80	8.85	373.02	1350	451.08	HAYDUK S.A.	CANAVAL Y MOREYRA 340- SAN ISIDRO
40	PERUVIAN	MARIA JOSE	CO-19579-PM	-	-	-	CALLAO	-	FISHING	PURSE SEINE	1999	PERU	39.00	4.28	8.50	328.92	1286	364.50	PESQUERA DIAMANTE	CALLE AMADOR MERINO REYNA N°307, LIMA
41	PERUVIAN	MARIA PIA	CO-19652-PM	-	-	-	CALLAO	-	FISHING	PURSE SEINE	1996	PERU	57.38	5.59	11.16	705.46	3070	863.42	AUSTRAL GROUP S.A.A	AV. VICTOR ANDRES BELAUNDE-TORRE 7 N° 147, LIMA
42	PERUVIAN	MARINA	CO-18644-PM	-	-	-	CALLAO	-	FISHING	PURSE SEINE	1999	PERU	42.37	4.43	8.78	287.07	900 KW	437.06	AUSTRAL GROUP S.A.A.	AV. VICTOR ANDRES BELAUNDE-TORRE 7 N° 147, LIMA
43	PERUVIAN	MARU	SE-09970-PM	-	-	-	SUPE	-	FISHING	PURSE SEINE	1993	PERU	45.33	4.88	8.95	295.57	1600 KW	540.17	CFG INVESTMENT S.A.C.	CALLE AMADOR MERINO REYNA N°307, LIMA
44	PERUVIAN	MATTY	CO-20288-PM	-	-	-	CALLAO	-	FISHING	PURSE SEINE	2000	PERU	43.00	4.50	8.82	365.03	1408	495.05	CORPORACION PESQUERA INCA S.A.C.	J. FRANCISCO GRAÑA N° 155- LA VICTORIA, LIMA
45	PERUVIAN	MARYLIN II	CE-15260-PM	-	-	-	CHIMBOTE	-	FISHING	PURSE SEINE	1996	PERU	48.00	5.00	10.30	485.83	1740	569.48	HAYDUK S.A	CANAVAL Y MOREYRA 340- SAN ISIDRO
46	PERUVIAN	MICHELA	CO-18853-PM	-	-	-	CALLAO	-	FISHING	PURSE SEINE	1997	PERU	38.50	4.40	8.22	248.26	1050	401.17	PESQUERA DIAMANTE	CALLE AMADOR MERINO REYNA N°307, LIMA
47	PERUVIAN	NORMA	CO-11391-PM	-	-	-	CALLAO	-	FISHING	PURSE SEINE	1994	PERU	51.73	5.50	10.45	366.54	1529.85 KW	649.69	AUSTRAL GROUP S.A.A	AV. VICTOR ANDRES BELAUNDE-TORRE 7 N° 147, LIMA
48	PERUVIAN	NUEVA OFELITA	CO-13721-PM	-	-	-	CALLAO	-	FISHING	PURSE SEINE	1996	PERU	38.83	4.55	8.72	312.39	790.44 KW	440.94	AUSTRAL GROUP S.A.A	AV. VICTOR ANDRES BELAUNDE-TORRE 7 N° 147, LIMA

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49	PERUVIAN	NUEVA RESBALOSA	CO-13012-PM		-	-	CALLAO		FISHING	PURSE SEINE	1995	PERU	40.00	4.40	8.60	312.39	790.44 KW	437.31	AUSTRAL GROUP S.A.A	AV. VICTOR ANDRES BELAUNDE TORRE 7 N° 147. LIMA
50	PERUVIAN	OLGA	CO-20863-PM		-	-	CALLAO		FISHING	PURSE SEINE	2002	PERU	45.14	4.60	10.06	372.00	2000	588.01	PESQUERA DIAMANTE	CALLE AMADOR MERINO REYNA N°307. LIMA
51	PERUVIAN	PACIFIC CONQUEROR	CO-31412-PM	OA 2455	9179359	NEPTUNE 1	CALLAO	BELIZE	FISHING	TRAWL/PURSE SEINE	1998	NETHERLANDS	47.45	7.05	10.00	707.00	5306	908.67	SUSTAINABLE FISHING RESOURCES S.A.C.	CALLE AMADOR MERINO REYNA N°307. LIMA
52	PERUVIAN	PACIFIC HUNTER	CO-30903-PM	OA-3068	8519687	TRONDUR 1 GOTU	CALLAO	BELIZE	FISHING	TRAWL/PURSE SEINE	1985	NORWAY	67.35	8.35	14.50	2015.32	4590	2890.18	SUSTAINABLE FISHING RESOURCES S.A.C	CALLE AMADOR MERINO REYNA N°307. LIMA
53	PERUVIAN	PACIFIC VOYAGER	CO-31194-PM	OA-2107	9167904	NAERABERG	CALLAO	BELIZE	FISHING	TRAWL/PURSE SEINE	1997	NORWAY	70.60	8.60	13.60	2205.00	10000	2472.76	SUSTAINABLE FISHING RESOURCES S.A.C.	CALLE AMADOR MERINO REYNA N°307. LIMA
54	PERUVIAN	PACIFICO	CO 14094-PM		-	-	CALLAO		FISHING	PURSE SEINE	1996	PERU	37.68	4.30	7.88	227.58	1050	370.64	PESQUERA DIAMANTE	CALLE AMADOR MERINO REYNA N°307. LIMA
55	PERUVIAN	PATRICIA	CO-26468-PM		-	-	CALLAO		FISHING	PURSE SEINE	2007	PERU	45.02	4.56	9.95	465.94	1500	444.82	PESQUERA DIAMANTE	CALLE AMADOR MERINO REYNA N°307. LIMA
56	PERUVIAN	PAULA	CO-17082-PM		-	-	CALLAO		FISHING	PURSE SEINE	1997	PERU	38.50	4.40	8.22	248.28	1050	400.43	PESQUERA DIAMANTE	CALLE AMADOR MERINO REYNA N°307. LIMA
57	PERUVIAN	PITI	CO 18813-PM		-	-	CALLAO		FISHING	PURSE SEINE	1998	PERU	42.46	4.45	8.76	287.05	900 KW	434.93	AUSTRAL GROUP S.A.A.	AV. VICTOR ANDRES BELAUNDE TORRE 7 N° 147. LIMA
58	PERUVIAN	POLAR V	CO-15710-PM		-	-	CALLAO		FISHING	PURSE SEINE	1996	PERU	43.80	4.82	9.45	460.22	1410	535.00	PESQUERA DIAMANTE	CALLE AMADOR MERINO REYNA N°307. LIMA
59	PERUVIAN	POLAR IV	CO-22308-PM		-	-	CALLAO		FISHING	PURSE SEINE	2005	PERU	43.64	4.40	10.10	450.28	1410	450.00	PESQUERA DIAMANTE	CALLE AMADOR MERINO REYNA N°307. LIMA
60	PERUVIAN	POLAR VII	CO-13009-PM		-	ROODY	CALLAO	PERUVIAN	FISHING	PURSE SEINE	1995	PERU	45.23	4.88	9.95	405.23	2000	530.00	PESQUERA DIAMANTE	CALLE AMADOR MERINO REYNA N°307. LIMA
61	PERUVIAN	RAFAELLA	CO-19014-PM		-	-	CALLAO		FISHING	PURSE SEINE	1999	PERU	38.74	4.32	6.27	248.26	1050	401.80	PESQUERA DIAMANTE	CALLE AMADOR MERINO REYNA N°307. LIMA
62	PERUVIAN	RIBAR IX	CO-16079-PM		-	STEFANO	CALLAO	PERUVIAN	FISHING	PURSE SEINE	1995	PERU	58.19	4.75	9.54	613.94	2145	586.64	CORPORACION PESQUERA INCA S.A.C.	JR FRANCISCO GRAÑA N° 155- LA VICTORIA. LIMA
63	PERUVIAN	RIBAR VI	CE-6125-PM		-	-		CHIMBOTE	FISHING	PURSE SEINE	1979	PERU	56.00	3.95	11.56	514.38	1225	592.99	CORPORACION PESQUERA INCA S.A.C	JR FRANCISCO GRAÑA N° 155- LA VICTORIA. LIMA
64	PERUVIAN	RIBAR XVI	CE 13244-PM		-	JADRA II	CHIMBOTE	PERUVIAN	FISHING	PURSE SEINE	1996	PERU	56.00	9.40	9.03	465.87	1140	519.16	CORPORACION PESQUERA INCA S.A.C.	JR FRANCISCO GRAÑA N° 155- LA VICTORIA. LIMA
65	PERUVIAN	RIBAR XVII	CO-17362-PM		-	COPETSA 3	CALLAO	PERUVIAN	FISHING	PURSE SEINE	1997	PERU	46.00	4.88	9.95	457.60	1408	576.66	CORPORACION PESQUERA INCA S.A.C.	JR FRANCISCO GRAÑA N° 155- LA VICTORIA. LIMA
66	PERUVIAN	RODAS	CO-15725-PM		-	-	CALLAO		FISHING	PURSE SEINE	1996	PERU	47.68	4.45	10.00	451.51	1600	422.50	PESQUERA EXALMAR S.A	AV. PAZ SOLDAN N° 170 DTO 701- SAN ISIDRO
67	PERUVIAN	ROSA II	CO-16948-PM		-	-	CALLAO		FISHING	PURSE SEINE	1997	PERU	39.75	4.52	8.71	309.11	1050	440.92	AUSTRAL GROUP S.A.A.	AV. VICTOR ANDRES BELAUNDE TORRE 7 N° 147. LIMA
68	PERUVIAN	SEBASTIAN	CO-24654-PM		-	-	CALLAO		FISHING	PURSE SEINE	2007	PERU	45.30	4.56	10.10	450.25	2000	456.70	PESQUERA DIAMANTE	CALLE AMADOR MERINO REYNA N°307. LIMA
69	PERUVIAN	SECHURA	PT-13533-PM		-	-	PAITA		FISHING	PURSE SEINE	1994	PERU	37.60	4.00	8.00	239.89	1200	361.98	HAYDUK S.A	CANAVAL Y MOREYRA 340 SAN ISIDRO
70	PERUVIAN	SIMON	CO-18517-PM		-	-	CALLAO		FISHING	PURSE SEINE	1998	PERU	41.91	4.43	8.74	287.07	1300	434.27	AUSTRAL GROUP S.A.A.	AV. VICTOR ANDRES BELAUNDE TORRE 7 N° 147. LIMA
71	PERUVIAN	STEFANO	CO 22658-PM		-	-	CALLAO		FISHING	PURSE SEINE	2005	PERU	46.42	4.72	10.09	440.60	2000	503.20	PESQUERA DIAMANTE	CALLE AMADOR MERINO REYNA N°307. LIMA
72	PERUVIAN	TASA 41	CO-10614-PM		-	DON ANGEL	CALLAO	PERUVIAN	FISHING	PURSE SEINE	1991	PERU	50.90	4.50	8.60	484.67	1287	480.70	TECNOLOGICA DE ALIMENTOS S.A	LAS BEGONIAS 441/352- SAN ISIDRO
73	PERUVIAN	TASA 419	CO-12974-PM		-	DOÑA BEILA	CALLAO	PERUVIAN	FISHING	PURSE SEINE	1994	PERU	42.69	4.25	9.09	346.58	1410	497.70	TECNOLOGICA DE ALIMENTOS S.A	LAS BEGONIAS 441/352- SAN ISIDRO

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74	PERUVIAN	TASA 42	CO-18294-PM	-	-	CARMEN LUISA	CALLAO	PERUVIAN	FISHING	PURSE SEINE	1998	PERU	43.70	4.85	9.40	447.17	1410	473.10	TECNOLOGICA DE ALIMENTOS S.A.	LAS BEGONIAS 441/352- SAN ISIDRO
75	PERUVIAN	TASA 51	CO-20761-PM	-	-	SIPESA 61	CALLAO	PERUVIAN	FISHING	PURSE SEINE	2001	PERU	51.70	5.05	10.80	550.02	2320	586.50	TECNOLOGICA DE ALIMENTOS S.A.	LAS BEGONIAS 441/352- SAN ISIDRO
76	PERUVIAN	TASA 52	CO-20777-PM	-	-	SIPESA 62	CALLAO	PERUVIAN	FISHING	PURSE SEINE	2001	PERU	51.25	5.03	10.55	556.96	2320	589.20	TECNOLOGICA DE ALIMENTOS S.A.	LAS BEGONIAS 441/352- SAN ISIDRO
77	PERUVIAN	TASA 53	CO-13918-PM	-	-	MARU II	CALLAO	PERUVIAN	FISHING	PURSE SEINE	1996	PERU	47.00	4.88	9.95	369.86	1410	531.90	TECNOLOGICA DE ALIMENTOS S.A.	LAS BEGONIAS 441/352- SAN ISIDRO
78	PERUVIAN	TASA 54	CO-13008-PM	-	-	JAVIER	CALLAO	PERUVIAN	FISHING	PURSE SEINE	1992	PERU	51.72	4.67	9.95	524.48	1716	563.80	TECNOLOGICA DE ALIMENTOS S.A.	LAS BEGONIAS 441/352- SAN ISIDRO
79	PERUVIAN	TASA 55	CO-22326-PM	-	-	-	CALLAO	-	FISHING	PURSE SEINE	2005	PERU	48.75	5.17	10.05	500.05	1716	500.00	TECNOLOGICA DE ALIMENTOS S.A.	LAS BEGONIAS 441/352- SAN ISIDRO
80	PERUVIAN	TASA 56	CO-19871-PM	-	-	SANTA ENMA	CALLAO	PERUVIAN	FISHING	PURSE SEINE	2003	PERU	44.80	5.00	10.27	407.17	1607	487.30	TECNOLOGICA DE ALIMENTOS S.A.	LAS BEGONIAS 441/352- SAN ISIDRO
81	PERUVIAN	TASA 57	CO-17389-PM	-	-	COPETSA 4	CALLAO	PERUVIAN	FISHING	PURSE SEINE	1996	PERU	46.10	4.82	9.90	415.77	1410	577.40	TECNOLOGICA DE ALIMENTOS S.A.	LAS BEGONIAS 441/352- SAN ISIDRO
82	PERUVIAN	TASA 58	CO-17057-PM	-	-	COPETSA 2	CALLAO	PERUVIAN	FISHING	PURSE SEINE	1996	PERU	46.17	4.92	9.86	489.97	1410	575.60	TECNOLOGICA DE ALIMENTOS S.A.	LAS BEGONIAS 441/352- SAN ISIDRO
83	PERUVIAN	TASA 59	CO-17361-PM	-	-	COPETSA 1	CALLAO	PERUVIAN	FISHING	PURSE SEINE	1997	PERU	51.74	4.86	9.90	532.09	1716	555.80	TECNOLOGICA DE ALIMENTOS S.A.	LAS BEGONIAS 441/352- SAN ISIDRO
84	PERUVIAN	TASA 71	CO-15233-PM	-	-	DON ABRAHAM	CALLAO	PERUVIAN	FISHING	PURSE SEINE	1995	CHILE	50.57	5.59	10.02	554.75	2481	711.50	TECNOLOGICA DE ALIMENTOS S.A.	LAS BEGONIAS 441/352- SAN ISIDRO
85	PERUVIAN	TIBURON 7	CO-16854-PM	-	-	-	CALLAO	-	FISHING	PURSE SEINE	2007	PERU	50.00	4.30	8.90	486.29	857 KW	441.50	PESQUERA MARIA ENMA S.A.C	JR FAUSTINO SANCHEZ CARRION N° 370- MAGDALENA DEL MAR
86	PERUVIAN	PACIFIC CHAMPION	CO-33547-PM	OA-4787	9184627	VERONICA	CALLAO	IRISH	FISHING	TRAWL/PURSE SEINE	1999	NORWAY	57.80	6.35	14.00	1629.96	2100	1385.56	SUSTAINABLE FISHING RESOURCES S.A.C	CALLE AMADOR MERINO REYNA N°307, LIMA
87	PERUVIAN	WESTELLA	CO-29381-PM	AMS- 800159	8024454	WESTELLA	CALLAO	UNITED KINGDOM	FISHING	TRAWL	1982	UNITED KINGDOM	86.71	8.00	12.60	2031.00	2466	2423.95	TECNOLOGICA DE ALIMENTOS S.A.	LAS BEGONIAS 441/352- SAN ISIDRO
88	PERUVIAN	YAGODA B	CE-15261-PM	-	-	-	CHIMBOTE	-	FISHING	PURSE SEINE	1996	PERU	48.00	5.00	10.30	491.80	1740	630.02	HAYDUK S.A.	CANAVAL Y MOREYRA 340- SAN ISIDRO

NOTE: VESSEL AUTHORISATION START DATE: 2009

VESSEL AUTHORISATION END DATE: INDETERMINATE

In accordance with Annex 7 "STANDARD FOR VESSEL DATA" - Standards for collecting, reporting, verification and exchange of data

**EUROPEAN COMMISSION**

DIRECTORATE-GENERAL FOR MARITIME AFFAIRS AND FISHERIES

INTERNATIONAL AFFAIRS AND MARKETS

INTERNATIONAL AFFAIRS, LAW OF THE SEA AND REGIONAL FISHERIES ORGANISATIONS

Brussels,
MARE B-1 AK/Dr. Robin ALLEN
SPRFMO Interim Secretary
L4, ASB Bank House
PO Box 3797
Wellington
6140 New Zealand**Subject: The situation concerning Russian-flagged vessel *Lafayette*.**

Dear Secretary,

Thank you disseminating the report of the inspection of the vessel *Lafayette* conducted by the French authorities in the port of Papeete on 24 January 2010. The EU would also like to thank the French authorities for submission of this report.

I would like to express concern on behalf of the European Union as to the status of this vessel. The information contained in the inspection report states that the vessel was not operating as an active trawler in the course of 2009 but it was intended to operate as a pair-trawler. However, the EU has serious misgivings as to whether the vessel would be able to operate as a pair trawler for the following reasons:

- At the time of inspection, the vessel was not equipped to haul a trawl on board, as there was no passage to take a net on. The two winches on board were of different sizes and in any case too small, either for the kind of net allowed by the power of the vessel, or to collect the relevant length of the steel wires.
- In the conduct of the pair trawling, the two vessels must either be similar in size and power or, if different, adjusted to the power of the smaller one. A pair trawling operation carried out by the *Lafayette* and its counterpart would have an immense trawling capacity, far exceeding the needs of the jack mackerel fishery. This naturally questions the economic rationale of pair trawling by *Lafayette*. Finally, given the size of *Lafayette* (and the vessel it would be paired with), pair trawling operations might prove impossible in terms of the ability to carry out manoeuvres at sea necessary for pair trawling.

Given such doubts as to the fishing capacity of *Lafayette*, the European Union would like to join Chile in the request addressed to the Russian authorities to submit a report on the situation of this vessel, tackling issues raised in this letter, as well as a separate report for the catches declared in 2009 and 2010.

Commission européenne, B-1049 Bruxelles / Europese Commissie, B-1049 Brussel - Belgium. Telephone: (32-2) 299 11 11.
Office: J-99 3/74. Telephone: direct line (32-2) 2974070. Fax: (32-2) 2955700.
E-mail: aleksandra.kordecka@ec.europa.eu

In light of the dire situation of the jack mackerel stocks in the area, and the far-reaching measures taken for the conservation of this species at the 2nd Preparatory Conference for the South Pacific RFMO held last January in Colombia, an understanding of the situation on the fishing grounds, including active fishing effort and the level of catches is of utmost importance (in particular the verification and confirmation of the 2009 capacity level as well as the 2010 catches level).

The European Union trusts that the Russian Federation will take the necessary steps to urgently clarify the situation of the vessel in the spirit of cooperation with other Participants to the negotiations.

The EU is ready to discuss this issue further at the 3rd Preparatory Conference, due to be held in January 2012 in Chile, and to take, if required, corrective measures in the context of the debate on the current and future Interim Measures for the jack mackerel fishery.

I would kindly ask you to disseminate this letter to other SPRFMO Participants.



Roberto CESARI
Head of EU Delegation
to SPRFMO

From: [Robin Allen](#)
To: [Chairman](#)
Subject: 0026 Letter from Korea concerning the Russian vessel Lafayette
Date: Wednesday, 4 May 2011 2:13:50 p.m.
Attachments: [Korea's letter Concerning the Russian vessel Lafayette\(May 3, 2011\).pdf](#)

To: Heads of Delegations

At the request of Ms Kwon, I am circulating a letter concerning the vessel Lafayette.

Robin Allen

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The message was checked by ESET NOD32 Antivirus.

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May 3, 2011

Dr. Robin Allen
SPRFMO Interim Secretary
L4, ASB Bank House
PO Box 3797
Wellington
6140 New Zealand

Dear Dr. Allen,

First and foremost, I would like to extend my gratitude to you for your efforts and contribution to the work of the interim Secretariat of the South Pacific Regional Fisheries Management Organization.

This letter is to respond to the circulation made on the 30th March, 2011, regarding the inspection of *the Lafayette* launched by the French authorities. I appreciate the French authorities for their inspection report.

I understand you have already requested the Russian authorities to submit their report of the investigation so that the interim Secretariat and all participating parties to the SPRFMO can be assured about the vessel's activities.

The Korean government also would like to have the investigation result that will be produced by the Russian government on the activities in question of *the Lafayette*.

Again, I am grateful that you circulated the report submitted from the French authorities and requested the Russian authorities for the answer. I also appreciate your able leadership in driving the interim Secretariat of South Pacific Regional Fisheries Management Organization.

With Warm Regards,

Hyunwook Kwon,
Deputy Director of the International Organization Division
Distant Water Fisheries Bureau
of the Ministry for Food, Agriculture, Forestry and Fisheries of the Republic of Korea

РОССИЙСКАЯ ФЕДЕРАЦИЯ
ФЕДЕРАЛЬНОЕ АГЕНТСТВО
ПО РЫБОЛОВСТВУ
(РОСРЫБОЛОВСТВА)
Рождественский бульвар, д. 12, Москва,
107996, Российская Федерация



RUSSIAN FEDERATION
FEDERAL AGENCY
FOR FISHERIES

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107996, Russian Federation

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«20» Мая 20 11 г. № 403-457

To: Robin Allen,
Executive Secretary, Interim Secretariat of the
International Consultations on the Establishment of the
South Pacific RFMO

Dear Sir,

Thank you very much for your letter dated 2 May 2011, Ref. 0022-2011. First of all I would like to reassure you that Russia is highly interested in creating an effective international scheme of conservation and management with respect to South Pacific fishery resources, as well as compliance with these measures and their enforcement.

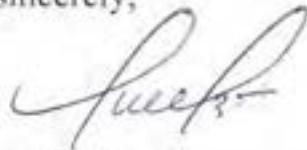
As to the subject of your letter please be advised that, immediately following the statements of the Russian delegation during the Second Session of the Preparatory Conference, the Federal Agency for Fisheries on 3 February 2011 had forwarded the official letter No.494-VB-YO3 to the French Ministry of Agriculture with a request to present a copy of the inspection report concerning the Russian-flagged vessel *Lafayette*.

1.5 month later, on 22 March 2011, the Russian Embassy in France has been notified by a diplomatic note that all the requested information is available through

the SPRFMO Interim Secretariat. In these circumstances we have to admit that in the absence of a formal inspection report signed by both parties involved apparently creates difficulties in conducting an effective investigation in relation to the vessel *Lafayette*. Nevertheless, the Russian fisheries authorities are continuing to work closely with the *Lafayette* ship-owner in order to receive explanations regarding to the inspection conducted by the French authorities as well as required catch-related data.

Upon completion of this work, its results will be communicated to the SPRFMO Interim Secretariat in accordance with the agreed procedure.

Yours sincerely,



Sergey V. Simakov
Head of the International Cooperation Department

From: [Robin Allen](#)
To: [SPRFMO Chair](#)
Bcc: [\(paula.caballero@cancilleria.gov.co\)](#); [Abilio Dominguez \(abilio@immarbe.com\)](#); [acabrera@mmrree.gov.ec](#); [Akiko ONODERA \(Ms\)](#); [Alberto Valencia Carlo](#); [Aleksandra Kordecka](#); [Alexander Glubokov](#); [Alfredo Garcia](#); [alin170960@yahoo.es](#); [alina@coralsa.com.cu](#); [Anare Raiwalui](#); [Aturo Montoya](#); [Bill Mansfield \(bill.mansfield@mfat.govt.nz\)](#); [Bill Mansfield \(bill@mansfield.net.nz\)](#); [Bjørn Kunoy](#); [Blair Hodgson](#); [Brown, James](#); [Camille Goodman](#); [Cathy Scott](#); [ccanales@ifop.cl](#); [Cédric Ponsonnet](#); [Chair SWG \(Andrew.Penney@fish.govt.nz\)](#); [Chairman](#); [Christiane Laurent-Monpetit \(Christiane.Laurent-Monpetit@outre-mer.gouv.fr\)](#); [christophe.fonfreyde@gouv.nc](#); [Chung-Hai Kwoh](#); [Cristina Stredel](#); [Dean Swanson \(dean.swanson@noaa.gov\)](#); [Dmitry Kremenyuk \(d.kremenyuk@fishcom.ru\)](#); [DU PIN CHAMBLY Hadelin](#); [Edith Saa C. \(Mrs.\)](#); [Eugene Pangelinan](#); [Flor Torrijos](#); [Gennady Boltenko](#); [Gerard.vanBohemen@mfat.govt.nz](#); [Gerry Geen](#); [Giovanni Arturo Lauri Carreti](#); [Guillermo Morán](#); [HEIDI LILIANA BOTERO HERNANDEZ](#); [Holly Koehler](#); [Holly Koehler \(hrkoehler@hotmail.com\)](#); [Huang, Hong-Yen](#); ["Huey-Jen Chen"](#); [Hyun Kwon \(hwkwon@korea.kr\)](#); [Ian Bertram \(rar@mmr.gov.ck\)](#); [Il-Jeong Jeong \(ijeong@korea.kr\)](#); [ilona.stobutzki@brs.gov.au](#); [immarbe@btlnet](#); [Incheol Rah](#); [Jacques Buguet](#); [Jane Willing \(jane.willing@fish.govt.nz\)](#); [Jens Helgi Toftum \(jenst@fisk.fo\)](#); [Jeongseok Park \(icdmomaf@chol.com\)](#); [Jongkwan Ahn](#); [Jose Balmaceda](#); [Jose Fernandez](#); [Josh Mitchell](#); [Jung Re Kim](#); [Kate Sanderson](#); [Keith Benes](#); [Kim Doonam \(dnkim@nfrdi.go.kr\)](#); [Ki-Won Jung](#); [Leban Gisawa](#); [LENNOX-MARWICK, Alex \(LGL\)](#); [Liling Zhao](#); [Lin, Chien-Nan](#); [Liu Xiaobing](#); [Ludovic Schultz](#); [LUIS ARRIAGA OCHOA \(luis.arriaga@pesca.gov.ec\)](#); [Maria Alicia Baltierra \(mbaltierra@subpesca.cl\)](#); [Maria Isabel Talledo Arana \(mtalledo@produce.gob.pe\)](#); [Michael Mitchell \(mitchell@cookhicom.org.nz\)](#); [Nelida Hernandez-Carmona](#); [Neville Smith](#); [ORI INSOPESCA \[orinsopesca@gmail.com\]](#); [Peter Graham](#); [Philippe Maraval](#); [PROBECUADOR](#); [Rafael.DUARTE@ec.europa.eu](#); [Régis Etaix-Bonnin](#); [Roberto Cesari](#); [robin.allen@southpacificrfmo.org](#); [Russell Harding](#); [Sainivalati Navoti](#); [SEBASTIAN LARRAÑAGA ARBOLEDA](#); [Seonjae Hwang](#); [shingo_oota@nm.maff.go.jp](#); [Shyue-Min Hwang \(smhwang@mofa.gov.tw\)](#); [Susie Iball](#); [Ulises Munaylla](#); [Vasil Chernik](#); [Volodymyr Herasymchuk](#); [Wenqiang Yin](#); [Willock, Anna](#)

Subject: 0030 Concerning the Russian Federation Investigation of the vessel Lafayette
Date: Wednesday, 25 May 2011 1:45:00 p.m.

To: Heads of Delegations

From: Executive Secretary

This is to advise you that I have received a letter from Mr. Simakov of the Russian Federation that said that the Russian fisheries authorities are seeking explanations regarding the inspection of the vessel *Lafayette* conducted by the French authorities, and that upon completion of the work the results will be communicated to the Interim Secretariat.

Robin Allen

Executive Secretary, Interim Secretariat

South Pacific Regional Fisheries Management Organisation

PO Box 3797 Wellington 6140, New Zealand

Tel: +64 4 499 9889 Fax +64 4 473 9579

robin.allen@southpacificrfmo.org

_____ Information from ESET NOD32 Antivirus, version of virus signature database 6149 (20110524) _____

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

From: [Robin Allen](#)
To: [SPRFMO Chair](#)
Bcc: [\(paula.caballero@cancilleria.gov.co\)](#); [Abilio Dominguez \(abilio@immarbe.com\)](#); [acabrera@mmrree.gov.ec](#); [Akiko ONODERA \(Ms\)](#); [Alberto Valencia Carlo](#); [Aleksandra Kordecka](#); [Alexander Glubokov](#); [Alfredo Garcia](#); [alin170960@yahoo.es](#); [alina@coralsa.com.cu](#); [Anare Raiwalui](#); [Aturo Montoya](#); [Bill Mansfield \(bill.mansfield@mfat.govt.nz\)](#); [Bill Mansfield \(bill@mansfield.net.nz\)](#); [Bjørn Kunoy](#); [Blair Hodgson](#); [Brown, James](#); [Camille Goodman](#); [Cathy Scott](#); [ccanales@ifop.cl](#); [Cédric Ponsonnet](#); [Chair SWG \(Andrew.Penney@fish.govt.nz\)](#); [Chairman](#); [Christiane Laurent-Monpetit \(Christiane.Laurent-Monpetit@outre-mer.gouv.fr\)](#); [christophe.fonfreyde@gouv.nc](#); [Chung-Hai Kwoh](#); [Cristina Stredel](#); [Dean Swanson \(dean.swanson@noaa.gov\)](#); [Dmitry Kremenyuk \(d.kremenyuk@fishcom.ru\)](#); [DU PIN CHAMBLY Hadelin](#); [Edith Saa C. \(Mrs.\)](#); [Eugene Pangelinan](#); [Flor Torrijos](#); [Gennady Boltenko](#); [Gerard.vanBohemen@mfat.govt.nz](#); [Gerry Geen](#); [Giovanni Arturo Lauri Carreti](#); [Guillermo Morán](#); [HEIDI LILIANA BOTERO HERNANDEZ](#); [Holly Koehler](#); [Holly Koehler \(hrkoehler@hotmail.com\)](#); [Huang, Hong-Yen](#); ["Huey-Jen Chen"](#); [Hyun Kwon \(hwkwon@korea.kr\)](#); [Ian Bertram \(rar@mmr.gov.ck\)](#); [Il-Jeong Jeong \(ijeong@korea.kr\)](#); [ilona.stobutzki@brs.gov.au](#); [immarbe@btl.net](#); [Incheol Rah](#); [Jacques Buguet](#); [Jane Willing \(jane.willing@fish.govt.nz\)](#); [Jens Helgi Toftum \(jenst@fisk.fo\)](#); [Jeongseok Park \(jcdmofaf@chol.com\)](#); [Jongkwan Ahn](#); [Jose Balmaceda](#); [Jose Fernandez](#); [Josh Mitchell](#); [Jung Re Kim](#); [Kate Sanderson](#); [Keith Benes](#); [Kim Doonam \(dnkim@nfrdi.go.kr\)](#); [Ki-Won Jung](#); [Leban Gisawa](#); [LENNOX-MARWICK, Alex \(LGL\)](#); [Liling Zhao](#); [Lin, Chien-Nan](#); [Liu Xiaobing](#); [Ludovic Schultz](#); [LUIS ARRIAGA OCHOA \(luis.arriaga@pesca.gov.ec\)](#); [Maria Alicia Baltierra \(mbaltierra@subpesca.cl\)](#); [Maria Isabel Talledo Arana \(mtalledo@produce.gob.pe\)](#); [Michael Mitchell \(mitchell@cookhicom.org.nz\)](#); [Nelida Hernandez-Carmona](#); [Neville Smith](#); [ORI INSOPESCA \[orinsopesca@gmail.com\]](#); [Peter Graham](#); [Philippe Maraval](#); [PROBECUADOR](#); [Rafael.DUARTE@ec.europa.eu](#); [Régis Etaix-Bonnin](#); [Roberto Cesari](#); [robin.allen@southpacificrfmo.org](#); [Russell Harding](#); [Sainivalati Navoti](#); [SEBASTIAN LARRAÑAGA ARBOLEDA](#); [Seonjae Hwang](#); [shingo_oota@nm.maff.go.jp](#); [Shyue-Min Hwang \(smhwang@mofa.gov.tw\)](#); [Susie Iball](#); [Ulises Munaylla](#); [Vasil Chernik](#); [Volodymyr Herasymchuk](#); [Wenqiang Yin](#); [Willock, Anna](#)

Subject: 0031 Concerning the Russian-flagged vessel Lafayette
Date: Wednesday, 25 May 2011 1:45:00 p.m.
Attachments: [20110523091639758_Concerning_the_vessel_Lafayette.pdf](#)

To: Heads of Delegations

From: Executive Secretary

At Mr. Cesari's request, I am circulating his recent letter concerning the Russian-flagged vessel Lafayette.

Robin Allen

Executive Secretary, Interim Secretariat

South Pacific Regional Fisheries Management Organisation

PO Box 3797 Wellington 6140, New Zealand

Tel: +64 4 499 9889 Fax +64 4 473 9579

robin.allen@southpacificrfmo.org

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<http://www.eset.com>

**EUROPEAN COMMISSION**

DIRECTORATE-GENERAL FOR MARITIME AFFAIRS AND FISHERIES

INTERNATIONAL AFFAIRS AND MARKETS

INTERNATIONAL AFFAIRS, LAW OF THE SEA AND REGIONAL FISHERIES ORGANISATIONSBrussels, **16 MAI 2011**

MARE B-1 AK/ig ARES (2011)525 949

Dr. Robin ALLEN
SPRFMO Interim Secretary
L4, ASB Bank House
PO Box 3797
Wellington
6140 New Zealand

Subject: Information obtained by the European Union in relation to the Russian-flagged vessel *Lafayette*.

Dear Secretary, *Robin*


Following my last communication to you concerning the situation of the Russian flagged vessel *Lafayette*, I would like to share with you a letter received from the Mauritanian authorities concerning the situation of this vessel.

This communication is a response to a letter addressed by the EU expressing concern as to the impact of the presence of this vessel on fish resources in Mauritanian waters, in particular due to the fact that the processing capacity of this vessel exceeds the exploitable biomass in Mauritanian waters according to the scientific advice.

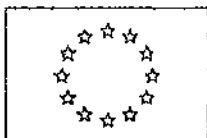
The response from Mauritania clearly stating that *Lafayette* is not a fishing vessel is attached.

The EU would like to reiterate its kind request addressed to the Russian authorities to clarify the situation of this vessel.

I would kindly ask you to disseminate this letter to other SPRFMO Participants.


Roberto CESARI
Head of EU Delegation
to SPRFMO

Encl: 1



UNION EUROPEENNE
DELEGATION DE L'UNION EUROPEENNE EN REPUBLIQUE ISLAMIQUE DE MAURITANIE

Le Chef de Délégation

Nouakchott, **15 MARS 2011**

Réf D(2011) N° 00358AL/sk

Mme Lowri EVANS
Directrice Générale MARE

Bruxelles

Objet : Navire Lafayette- Réponse Ministre MPEM

Faisant suite à votre lettre 964251 du 17 décembre 2010, veuillez trouver ci-jointe, la réponse de M. EYIH, Ministre des Pêches et de l'Economie Maritime.



Hans-Georg GERSTENLAUER
Chef de Délégation

République Islamique de Mauritanie

Honneur - Fraternité - Justice

الجمهورية الإسلامية الموريتانية

شرف - إخاء - عدل

وزارة الصيد و
الاقتصاد البحريMinistère des Pêches et de
l'Economie MaritimeN° FK - 00082 MPEM / Mرقم : 13 MARS 2011 و.ص.اب.او

Nouakchott, le

نواكشوط في :

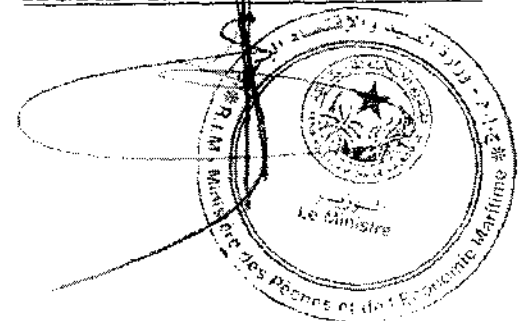
Le Ministre الوزير

A Madame
Lowri EVANS Directrice Générale,
Direction Générale des Affaires
Maritimes et de la PêcheBruxellesObjet : Navire lafayetteRéf : V/L N° Aros (2010) 964251-17/12/2010

J'ai l'honneur de vous informer que le navire lafayette n'est pas un navire de pêche. il s'agit d'un navire collecteur assurant la logistique. en mer. à d'autres navires glaciers pour la pêche pélagique.

Notre souci majeur qui se traduit dans tous les aspects de la politique sectorielle est la préservation de la ressource halieutique. Nous continuerons, dans le cadre de notre Accord de Partenariat, à œuvrer avec vous dans ce sens.

Veuillez agréer, Madame la Directrice Générale, l'expression de mes salutations distinguées.

AGHDHEFNA OULD EYIH

GIERASIMIUK Iwona (MARE)

From: GIERASIMIUK Iwona (MARE)
Sent: mardi 17 mai 2011 15:55
To: 'robin.allen@southpacificrfmo.org'
Cc: CESARI Roberto (MARE); KORDECKA Aleksandra (MARE)
Subject: Information obtained by the EU in relation to the Russian-flagged vessel Lafayette

Attachments: 20110517093545044.pdf



2011051709354504
4.pdf (266 KB)...

Dear Dr Allen,

Please find attached, on behalf of Mr Cesari, a note regarding the above mentioned subject.

Best regards,

*Iwona Gierasimiuk
European Commission
DG Maritime Affairs and Fisheries
Unit B-1 "International Affairs, Law of the Sea and RFOs"
J II - 99 3/90*

☎ +32 2 295 26 43

☎ +32 2 295 57 00

e-mail: iwona.GIERASIMIUK@ec.europa.eu

From: [Robin Allen](#)
To: [SPRFMO Chair](#)
Subject: 0035 China's position on the 2011 Interim Measures for Pelagic Fisheries
Date: Thursday, 2 June 2011 12:58:57 p.m.
Attachments: [China's position on 2011 IM.pdf](#)

To: Heads of Delegations

Re: China's position on 2011 Interim Measures

I am circulating the attached letter from Mr Liu Xiaobing at his request.

Robin Allen

Executive Secretary, Interim Secretariat

South Pacific Regional Fisheries Management Organisation

PO Box 3797 Wellington 6140, New Zealand

Tel: +64 4 499 9889 Fax +64 4 473 9579

robin.allen@southpacificrfmo.org

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6172 (20110601) _____

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<http://www.eset.com>

_____ Information from ESET NOD32 Antivirus, version of virus signature database
6172 (20110601) _____

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

中华人民共和国农业部渔业局

BUREAU OF FISHERIES, MINISTRY OF AGRICULTURE, THE PEOPLE'S REPUBLIC OF CHINA

地址: 北京农展馆南里 11 号, 邮政编码: 100026 Address: No.11 Nongzhanguannanli, Beijing, 100026

电话 (TEL): 86-10-64192928/64192974, 传真 (FAX): 86-10-64193056, E-mail: bofdwfi@agri.gov.cn

26 May 2011

Mr. Robin Allen
Executive Secretary
South Pacific Regional fisheries Management Organization

Subject: China's position on the 2011 Interim Measures

Dear Robin:

I am writing this letter on behalf of Chinese government to convey our final position with regard to the 2011 Interim Measures of pelagic fisheries adopted in the 2nd Preparatory Conference in Colombia this January.

You may recall, in that meeting, China reserved its position on catch reduction plan of the 2011 Interim Measures due to data accuracy and equity concern. Because of the utmost importance of Jack mackerel fishery to Chinese far-sea fisheries, we shares great concern with the current situation of Jack mackerel resources as other participants, and are willing to making our best possible contributions to the conservation and restoration of Jack mackerel recourses.

With comprehensive consideration and policy assessments, we decide to adopt combined measures, i.e. fishing efforts control plus catch reduction, to realize the equivalent effect as the catch reduction plan in the 2011 Interim Measures. More precisely, in the year of 2011, Chinese government will take measures to ensure 30% catch reduction from that of 2010, plus at least 20% fishing efforts reduction from that of 2010, which means the number of actively fishing vessels in 2011 not exceeding 7 (9 actively fishing vessel in 2010).

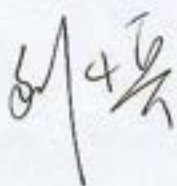
In addition, we commit to adhering to other voluntary commitments contained

within the 2011 Revised Interim Measures, e.g. collection and reporting of data in relation to catches. We also want to point out that above self-constrain measures only apply for the year 2011, and China is ready to discuss this issue further, on the outcome of the updated Jack mackerel resources assessment by the scientific working group, with our colleges at the 3rd Preparatory Conference, to contrive new interim measures for year 2012.

Lastly, we encourage the Interim Secretariat to fulfill its function in relation to catch data verification to improve the data accuracy of some relevant fishing participants, including "Lafayette" issue discussed currently.

I would kindly ask you to disseminate this letter to all other SPRFMO Participants.

Best regards



Liu Xiaobing

Director

Division of International Cooperation

Bureau of Fisheries

Ministry of Agriculture, P. R. China

Cc: Chairman of the Preparatory Conference for the Commission of the SPRFMO


 South Pacific Regional Fisheries Management Organisation

3 June 2011
Ref: 2011-0037

To: Heads of Delegations

From: Robin Allen, Executive Secretary



Re: 2010 recorded catches of *Trachurus* species in the SPRFMO area

The 2011 Interim Measures for Pelagic Fisheries provide that Participants will limit their annual catch of *Trachurus* species by vessels flying their flag to 60% of their final recorded catch of that species in 2010 as reported to the Interim Secretariat. The final recorded catches for Participants from the SPRFMO area in 2010 reported to the Interim Secretariat (in metric tons) are shown in the table below.

Belize	Chile	China	European Union	Faroe Islands	Korea	Peru	Russian Federation	Vanuatu
2,240	109,296	63,606	67,749	13,674	8,183	40,516	41,315	46,487

Please advise us if any adjustments have been made to your recorded catch since those data were provided.



(D.D.P.) N° 876 /

VALPARAÍSO, 14 JUN 2011

Mr.
Bill Mansfield
Chair
Preparatory Conference for the Commission of the
South Pacific Regional Fisheries Management Organisation
Wellington

REF.:

Dear Mr Mansfield,

I would like to express my concern regarding some measures recently adopted by certain countries involved in the negotiation process for the establishment of the SPRFMO, which will seriously affect the Chilean jack mackerel fishery in the East South Pacific Ocean.

We are all aware of the deteriorated status of this species. As you highlighted in your letter dated 11 March, the Second Session of the Preparatory Conference for the Commission of the SPRFMO had already expressed its deep concern at the seriously depleted state of the fishery, as revealed by the Science Working Group, and agreed that immediate and major reductions in catches were required if there was to be any reasonable certainty of the stock rebuilding. Therefore, in order to achieve the purpose of recovering the stock, it is of paramount importance that all countries involved in the negotiation act responsibly, so as to not undermine the objective of the Interim Measures agreed last January in Cali.

In this context, I would like to highlight two issues that illustrate a lack of commitment by some countries as to the conservation of the jack mackerel fishery. The first is a recent press release of **CeDePesca**, a Latin American NGO,



which points out the dangers of misreporting by some countries on the stock assessments. Attached please find a copy of this document.

Further to this, we have come to know that some coastal States have increased their catches of jack mackerel within their EEZ, a situation that adds to our concern regarding the sustainability of the fishery as it deviates from the object and purpose of the 2011 Interim Measures.

In our view, the lack of cooperation showed by some of the countries involved in the negotiations clearly contrast with the constructive spirit perceived during the long negotiations that finally resulted in the creation of the SPRFMO. According to the Convention itself, coastal States shall cooperate in the coordination of conservation and management measures, even before its entry into force.

I would like to draw your attention to this situation, regardless of other initiatives that we may be taking bilaterally and/or multilaterally, in order to promote among the countries involved, an attitude of understanding, full respect for the Interim Measures and cooperation. It is our hope that your valuable influence could help us in this purpose.

Sincerely yours,

PABLO GALILEA CARRILLO
Subsecretario de Pesca

ESC/MAB
ESC/MAB

Distribución

- 1.- Mr. Bill Mansfield
- 2.- Gabinete SSP
- 3.- Unidad Internacional
- 4.- Archivo


Centro Desarrollo y Pesca Sustentable

Not-for-profit organization

Registered at IUCN as Latin American NGO Nr. 24.878

Legally registered in Argentina, Peru and Panama

Legal recognition in Chile: in progress

 E-mail: info@cedepesca.net Web: www.cedepesca.net

 Santiago de Chile and Lima, May 16th, 2011

PRESS RELEASE:

Misreporting should be avoided in the South Pacific jack mackerel fishery

The conformation of the South Pacific Regional Fisheries Management Organization (SPRFMO) unleashed what may be considered as a “race for over-reporting” with the aim of getting better positions in the future, when quotas for Chilean jack mackerel are formally allocated. In the early years, over-reporting revolved around gross tonnage and there were some cases of vessels registered under several flags at the same time; in 2010, over-reporting revolved around harvests.

This situation calls for a careful review before quotas are established, but more gravely, misreporting weakens stock assessments’ robustness and scientific advice from the Scientific Working Group. CeDePesca encourages all countries and companies involved in this fishery to be careful and avoid irresponsible practices, especially in regards to this already depleted resource.

In particular, we highlight the following cases:

Russian misreporting

The report on the inspection of the Russian vessel Lafayette (owned by Singapore’s company Pacific Andes) in Tahiti (French overseas territory) was recently published at the SPRMO’s website, clearly illustrating what CeDePesca stated in January: the Lafayette does not have the proper equipment to carry out fishing operations, and therefore harvest reports for 2009 and 2010 are untrue.

The vessel skipper’s allegation before the French inspectors claiming that the Lafayette is prepared to do pair-trawling and that it is waiting for its “couple” to be ready at some shipyard is not credible at all: the winch shown in pictures contained in the Lafayette report wouldn’t hold enough wire of the dimensions needed for pair trawling with two large vessels. Also, the Lafayette would need other winches to get the bags along its side for pumping. The report does not mention electronics needed for pair trawling, either.

But even if someone would want to believe the pair-trawling statement, the existence of Lafayette’s “couple” has never been reported by Russia or by any other country, rendering around 40,000 tonnes reported as caught by the Lafayette in 2010, a fiction.



The “generous” offer from Russia at the SPRFMO Assembly in Cali to curtail not only 40% but 50% of its 2010 catches in 2011, presented as a contribution to stock rebuilding efforts, resurfaces as an empty promise now, at the sight of reality. It also makes more understandable its absolute rejection to deliver tow by tow data for 2010 operations.

We encourage Russian authorities to avoid misreporting in the future and to deliver accurate and credible information to the SPRFMO.

Peruvian misreporting

Peru also reported 40,000 tonnes of Chilean Jack Mackerel caught in international waters. These figures have been contrasted against the trade figures that a number of players have available and we can affirm with absolute certainty now that real harvest by Peruvian flagged vessels was not higher than 16,000 tonnes.

Curtailling 40% out of 2010 reported catches as agreed at the RFMO would mean a quota of 24,000 tonnes, still well above the 16,000 tonnes actually harvested in 2010.

Curiously, Peru does not maintain internal records of harvest figures for Peruvian flagged trawlers operating in the South Pacific, which are mostly owned by Pacific Andes. We encourage Peruvian authorities to charge a fee to Peruvian flagged companies to place on board observers in every fishing trip in order to avoid misreporting in the future.

China misreporting

According to our sources, China has also over-reported 62,000 tonnes in 2010 when its real harvest was around 45,000 tonnes. This makes China’s delay in signing the RFMO agreement to apply a 40% catch reduction for 2011 in regards to 2010, even less understandable, given the fact that such a curtail would mean a 17% cut from actual catches in 2010.

We encourage the People’s Republic of China, as a leading Nation in the world, to sign the Interim Measures approved in January 2011 by the SPRFMO and to avoid misreporting in the future.

Situation of other important players

There are other countries that refused to sign the new Interim measures in Cali, and these cases deserve a separate discussion:

Faeroe Islands and Korean Republic

These countries have been delivering real figures, and that is something to highlight in this context. The problem for them is that a 40% curtail leaves some of its players, and even the country, totally out of the fishery during 2011 and that’s why they did not accept this measure, although they did promise to comply with all interim measures regarding delivery of information



to the RFMO. These countries should at least publicly commit to harvest in 2011 the same quantity as in 2010, at the most.

Cuba

Because of what appears to be a case of deficient internal management, and despite being one of the countries with higher historical records in this fishery in the 80's, Cuba is out of the current interim measures regarding quota and effort allocation. Nevertheless, Cuba stated in Cali its intention of entering back into the fishery with two vessels in 2011 and catch 13,000 tonnes, implementing those interim measures related to the delivery of data to the SPRFMO. Cuban vessels are in Panama since the beginning of the year because of mechanical troubles. We encourage Cuba to not exceed in any case its public commitment on catch limit.

CeDePesca could find out that, until May, Chilean jack mackerel yields in the South Pacific are worst than in 2010. This is a matter of absolute concern. In this regard, it is necessary to have the most robust understanding of the biological and environmental processes that take place in the South Pacific, a goal that can only be achieved with the delivery of accurate information from the fishing Nations to the Scientific Working Group by the time when its members meet in Vanuatu during next September.

A handwritten signature in black ink, appearing to read "Wilmer Carbajal Villalta".

Wilmer Carbajal Villalta
Director CeDePesca-Peru

A handwritten signature in black ink, appearing to read "Denise Boré-Riquelme".

Denise Boré-Riquelme
Directora CeDePesca-Chile

From: [Robin Allen](#)
To: [SPRFMO Chair](#)
Subject: 0044 Letter from Undersecretariat of Chile concerning 2011 Interim Measures
Date: Tuesday, 19 July 2011 2:56:47 p.m.
Attachments: [Letter from Undersecretary of Fisheries of Chile.pdf](#)

To: Heads of Delegation

Please find attached a letter from the Undersecretary of Fisheries of Chile concerning the jack mackerel fishery.

Robin Allen

Executive Secretary, Interim Secretariat

South Pacific Regional Fisheries Management Organisation

PO Box 3797 Wellington 6140, New Zealand

Tel: +64 4 499 9889 Fax +64 4 473 9579

robin.allen@southpacificfmo.org

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The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>



(D.D.P.) N° **1029** /

VALPARAÍSO, **12 JUL. 2011**

Mr. Robin Allen
Interim Secretary
South Pacific Regional Fisheries Management Organisation

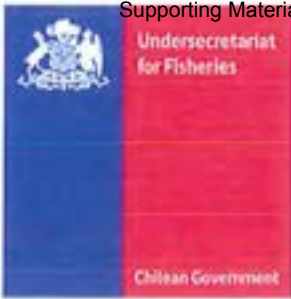
Dear Mr. Allen,

I would like to express our concern regarding certain information it has been recently issued by CeDePesca, a South American NGO.

According to CeDePesca and the report it has published on 16 May 2011, there is consistent evidence of serious misreports in catches of Chilean jack mackerel by some States participating in the negotiation process for the establishment of the South Pacific Regional Fisheries Management Organisation. The report highlights that over 80,000 tonnes of Chilean jack mackerel caught in international waters were misreported during 2010.

Misreporting entails a clear lack of commitment and good faith as to the current negotiation process. These actions undermine the sustainability of the fishery, weaken the stock assessment results of the Science Working Group and damage the trust upon which international cooperation is supported. Given the current condition of the Chilean Jack Mackerel fishery this level of non-compliance is highly regrettable.

We make a strong call to all the participants in this Organisation, in case they have not done so yet, to clarify the real catch levels occurred during 2010, as well as to hand over to the Interim Secretariat the information needed to find out and accurately explain and make clear the cases of misreporting.



I would appreciate if you make available this letter, along with the report attached, to the delegates of the States engaged in the negotiation process for the establishment of the South Pacific Regional Fisheries Management Organisation.

Yours sincerely,

PABLO GALILEA CARRILLO
Undersecretary of Fisheries
Government of Chile

ESC/MAB

Distribución

- 1.- Mr. Robin Allen, robin.allen@southpacificrmo.org
- 2.- Gabinete SSP
- 3.- Archivo

**Centro Desarrollo y Pesca Sustentable**

Not-for-profit organization

Registered at IUCN as Latin American NGO Nr. 24.878

Legally registered in Argentina, Peru and Panama

Legal recognition in Chile: in progress

E-mail: info@cedepesca.net Web: www.cedepesca.net

Santiago de Chile and Lima, May 16th, 2011

PRESS RELEASE:

Misreporting should be avoided in the South Pacific jack mackerel fishery

The conformation of the South Pacific Regional Fisheries Management Organization (SPRFMO) unleashed what may be considered as a “race for over-reporting” with the aim of getting better positions in the future, when quotas for Chilean jack mackerel are formally allocated. In the early years, over-reporting revolved around gross tonnage and there were some cases of vessels registered under several flags at the same time; in 2010, over-reporting revolved around harvests.

This situation calls for a careful review before quotas are established, but more gravely, misreporting weakens stock assessments’ robustness and scientific advice from the Scientific Working Group. CeDePesca encourages all countries and companies involved in this fishery to be careful and avoid irresponsible practices, especially in regards to this already depleted resource.

In particular, we highlight the following cases:

Russian misreporting

The report on the inspection of the Russian vessel Lafayette (owned by Singapore’s company Pacific Andes) in Tahiti (French overseas territory) was recently published at the SPRMO’s website, clearly illustrating what CeDePesca stated in January: the Lafayette does not have the proper equipment to carry out fishing operations, and therefore harvest reports for 2009 and 2010 are untrue.

The vessel skipper’s allegation before the French inspectors claiming that the Lafayette is prepared to do pair-trawling and that it is waiting for its “couple” to be ready at some shipyard is not credible at all: the winch shown in pictures contained in the Lafayette report wouldn’t hold enough wire of the dimensions needed for pair trawling with two large vessels. Also, the Lafayette would need other winches to get the bags along its side for pumping. The report does not mention electronics needed for pair trawling, either.

But even if someone would want to believe the pair-trawling statement, the existence of Lafayette’s “couple” has never been reported by Russia or by any other country, rendering around 40,000 tonnes reported as caught by the Lafayette in 2010, a fiction.



The “generous” offer from Russia at the SPRFMO Assembly in Cali to curtail not only 40% but 50% of its 2010 catches in 2011, presented as a contribution to stock rebuilding efforts, resurfaces as an empty promise now, at the sight of reality. It also makes more understandable its absolute rejection to deliver tow by tow data for 2010 operations.

We encourage Russian authorities to avoid misreporting in the future and to deliver accurate and credible information to the SPRFMO.

Peruvian misreporting

Peru also reported 40,000 tonnes of Chilean Jack Mackerel caught in international waters. These figures have been contrasted against the trade figures that a number of players have available and we can affirm with absolute certainty now that real harvest by Peruvian flagged vessels was not higher than 16,000 tonnes.

Curtailing 40% out of 2010 reported catches as agreed at the RFMO would mean a quota of 24,000 tonnes, still well above the 16,000 tonnes actually harvested in 2010.

Curiously, Peru does not maintain internal records of harvest figures for Peruvian flagged trawlers operating in the South Pacific, which are mostly owned by Pacific Andes. We encourage Peruvian authorities to charge a fee to Peruvian flagged companies to place on board observers in every fishing trip in order to avoid misreporting in the future.

China misreporting

According to our sources, China has also over-reported 62,000 tonnes in 2010 when its real harvest was around 45,000 tonnes. This makes China’s delay in signing the RFMO agreement to apply a 40% catch reduction for 2011 in regards to 2010, even less understandable, given the fact that such a curtail would mean a 17% cut from actual catches in 2010.

We encourage the People’s Republic of China, as a leading Nation in the world, to sign the Interim Measures approved in January 2011 by the SPRFMO and to avoid misreporting in the future.

Situation of other important players

There are other countries that refused to sign the new Interim measures in Cali, and these cases deserve a separate discussion:

Faeroe Islands and Korean Republic

These countries have been delivering real figures, and that is something to highlight in this context. The problem for them is that a 40% curtail leaves some of its players, and even the country, totally out of the fishery during 2011 and that’s why they did not accept this measure, although they did promise to comply with all interim measures regarding delivery of information



to the RFMO. These countries should at least publicly commit to harvest in 2011 the same quantity as in 2010, at the most.

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Because of what appears to be a case of deficient internal management, and despite being one of the countries with higher historical records in this fishery in the 80's, Cuba is out of the current interim measures regarding quota and effort allocation. Nevertheless, Cuba stated in Cali its intention of entering back into the fishery with two vessels in 2011 and catch 13,000 tonnes, implementing those interim measures related to the delivery of data to the SPRFMO. Cuban vessels are in Panama since the beginning of the year because of mechanical troubles. We encourage Cuba to not exceed in any case its public commitment on catch limit.

CeDePesca could find out that, until May, Chilean jack mackerel yields in the South Pacific are worst than in 2010. This is a matter of absolute concern. In this regard, it is necessary to have the most robust understanding of the biological and environmental processes that take place in the South Pacific, a goal that can only be achieved with the delivery of accurate information from the fishing Nations to the Scientific Working Group by the time when its members meet in Vanuatu during next September.



Wilmer Carbajal Villalta
Director CeDePesca-Peru



Denise Boré-Riquelme
Directora CeDePesca-Chile

The logo for the South Pacific Regional Fisheries Management Organisation (SPRFMO) is a blue rectangular banner with a textured, wavy pattern. The text "South Pacific Regional Fisheries Management Organisation" is written in white, sans-serif font across the center of the banner.

2 August 2011
Ref: 0048-2011

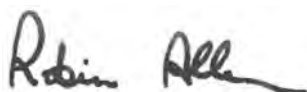
Mr Sergey Simakov
Head of the International Cooperation Directorate
Federal Agency for Fisheries
12 Rozhdestvensky Boulevard
Moscow, 107996
Russian Federation

By email: harbour@fishcom.ru

Dear Mr Simakov,

Thank you for your letter 403-457 of 20 May 2011 concerning the Russian fisheries authorities' investigation of the matters raised at the Second Session of the Preparatory Conference concerning the vessel *Lafayette*. I would appreciate it if you could provide any update on the work that has taken place and in particular any advice about when we might expect its results.

Yours sincerely,

A handwritten signature in black ink that reads "Robin Allen". The signature is written in a cursive, flowing style.

Robin Allen
Executive Secretary

From: [Robin Allen](#)
To: [SPRFMO Chair](#)
Subject: 0048 EU letter concerning data reporting
Date: Tuesday, 9 August 2011 11:07:46 a.m.
Attachments: [lettre concerning reporting.tif\[1\].pdf](#)

To: Heads of delegations

At Mr Cesari's request, I am attaching a copy of a letter for your consideration.

Robin Allen

Executive Secretary, Interim Secretariat

South Pacific Regional Fisheries Management Organisation

PO Box 3797 Wellington 6140, New Zealand

Tel: +64 4 499 9889 Fax +64 4 473 9579

robin.allen@southpacificfmo.org

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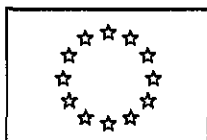
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<http://www.eset.com>



EUROPEAN COMMISSION
 DIRECTORATE-GENERAL FOR MARITIME AFFAIRS AND FISHERIES
 INTERNATIONAL AFFAIRS AND MARKETS
 INTERNATIONAL AFFAIRS, LAW OF THE SEA AND REGIONAL FISHERIES ORGANISATIONS

Brussels,
 MARE B-1 AK

Dr. Robin ALLEN
 SPRFMO Interim Secretary
 L4, ASB Bank House
 PO Box 3797
 Wellington
 6140 New Zealand

Subject: **Compliance with the requirements of the 2011 Interim Measures and the *Standards for the collection, reporting, verification and exchange of data.***

Ref: **Your correspondence 2011-0043, Fifth Reporting Reminder Notice**

Dear Secretary,

Thank you for circulating the Fifth Reporting Reminder notice which summarises the date submissions of the Participants to the SPRFMO negotiations required by the 2011 Interim Measures for Pelagic Fisheries and the SPRFMO *Standards for the collection, reporting, verification and exchange of data.* The EU would like to make the following comments to this document:

– **concerning Table 4: 2011 *Trachurus* Fishery Data Submissions Reported to Date: Monthly Catch:**

The EU notes that Peru failed to submit the catch data for April and May 2011. This is of high concern to us, in particular because lack of catch data renders it impossible for the Secretariat to monitor the catch levels against the catch limitations for each of the Participants in accordance with Paragraph 19 of the 2011 Interim Measures. The EU would like to urge Peru to urgently provide the missing data as well as report catch data on a regular basis.

– **concerning Table 5: 2011 *Trachurus* Fishery Data Submissions Reported to Date: 1st Quarter:**

The EU also notes with concern the failure to provide list of vessels actively fishing during the 1st quarter of 2011 by Peru, as well as no data on the fishing and reefer vessels engaged in transshipment during 1st quarter 2011 and no VMS data for 1st quarter of 2011 for both Peru and the Russian Federation. Given that in 2010 for Russian Federation one vessel was confirmed by VMS to be in the area of *Trachurus* fishery, but no specific information has been received confirming which vessels were actively fishing in 2010, the EU is alarmed by this persistent lack of commitment from the Russian Federation to

the reporting of VMS data for actively fishing vessels. The EU urges Peru and the Russian Federation to provide the outstanding data.

– **concerning Table 6: 2011 *Trachurus* Fishery Data Submissions Reported to Date: 2nd Quarter:**

The table highlights that China, Korea and Peru failed to submit data on the list of vessels actively fishing during the 2nd quarter of 2011, the list of fishing and reefer vessels engaged in transshipment during 2nd quarter 2011 and the VMS data for 2nd quarter of 2011. The Russian Federation failed to provide the list of fishing and reefer vessels engaged in transshipment during 2nd quarter 2011 (if any), while Vanuatu did not submit the list of fishing and reefer vessels engaged in transshipment during 2nd quarter 2011 nor the VMS data for 2nd quarter of 2011. We urge these Participants to submit the outstanding data sets as a matter of urgency.

– **concerning Table 7: 2010 *Trachurus* Fishery Data Submissions Provided to Date:**

The EU is alarmed to note that neither Peru, nor Russian Federation, nor Vanuatu provided any information in accordance with the *Standards for the collection, reporting, verification and exchange of data* for year 2010. The data collected in accordance with these *Standards*, which were originally developed in 2008 and subsequently amended are essential for the work of the SPRFMO Science Working Group and therefore it is of utmost importance for these Participants to submit these sets of data as a matter of urgency, ahead of next month's meeting of the SWG.

At the same time, as agreed in the 2011 Interim Measures, the data collected in accordance with these *Standards* is to assist the Interim Secretariat in the verification of the 2010 catch reports. While paragraph 11 of the 2011 Interim Measures states that the Russian Federation "will not apply this paragraph for its 2010 catch data", the EU would like to remind the Russian Federation that it is obliged to provide the data in accordance with the *Data Standards* under paragraph 13 of the 2009 Interim Measures (as stated in the footnote 2 to paragraph 11 of the 2011 Interim Measures).

Finally, the lack of detailed tow-by-tow data for the Peruvian and Russian vessels for year 2010 is of even greater concern in light of the correspondence received from Chile on 12 July 2011. In this letter, Chile points to a suspected misreporting of catches of Peruvian and Russian vessels in 2010. The absence of detailed data which would enable a verification of the 2010 catches for those two flag States may lead to the conclusion that the allegations of misreporting of 2010 catches hold true. This naturally would have serious implications for the 2011 Interim Measures and would signal serious lack of respect to the letter and spirit of the Interim Measures of South Pacific RFMO for these two flag States.

– **concerning Table 8: 2010 Non-*Trachurus* Fishery Data Submissions Provided to Date:**

The EU notes that no 2010 data for non-*Trachurus* fishery was submitted by Belize, China, Faroe Islands, Korea, Peru, the Russian Federation and Vanuatu. The EU would like to encourage these Participants to urgently provide the data.

The European Union would like to express its strong concern that in the 4th year of implementation of the Interim Measures and almost 3 years after the adoption of the SPRFMO *Data Standards*, some Participants to the negotiations are still not in a position to fulfil their obligations in this fishery. The dire situation of the Jack Mackerel stock should form a further encouragement and incentive for the complete and timely reporting of data, including scientific data. The EU is very disappointed by the lack of commitment of Participants to the Jack Mackerel fishery to compliance with the Interim Measures which were agreed by most of the Participants.

The EU urges all the Participants to submit the outstanding data as a matter of high priority.

I would also kindly ask you to disseminate this letter to other SPRFMO Participants.



Roberto CESARI
Head of EU Delegation
to SPRFMO

C.c.:

- V. Veits, A. Kordecka, P. Nikolova, R. Duarte**
- A. Gasiliauskiene, Permanent Representation of Lithuania**
- E. Stadnik, Permanent Representation of Poland**
- R. Schaap, (NL Ministry of Economic Affairs, Agriculture and Innovation)**
- B. Söntgerath, Permanent Representation of Germany**

The logo for the South Pacific Regional Fisheries Management Organisation (SPRFMO) is a blue rectangular banner with a textured, wavy background. The text "South Pacific Regional Fisheries Management Organisation" is written in white, sans-serif font across the center of the banner.

3 October 2011
Ref: 0059-2011

Mr Sergey Simakov
Head of the International Cooperation Directorate
Federal Agency for Fisheries
12 Rozhdestvensky Boulevard
Moscow, 107996
Russian Federation

By email: harbour@fishcom.ru

Dear Mr Simakov,

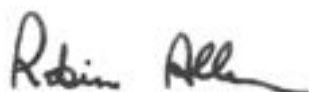
I refer to my letter of 2 August 2011 (0048-2100) concerning the Russian fisheries authorities' investigation of the matters raised at the Second Session of the Preparatory Conference concerning the vessel *Lafayette*. I would appreciate it if you could provide any update on the work that has taken place and in particular any advice about when we might expect its results.

I appreciate that Russia has chosen not to apply paragraph 11 of the 2011 Interim measures in respect of 2010 catches of *Trachurus* species, but will report its 2010 catch in accordance with the 2009 Revised Interim Measures. Those required collection, verification, and provision of all data to the Interim Secretariat, in accordance with the SPRFMO Data Standards, by 30 June. To date we have only received the total catch of *Trachurus* species and the more detailed operational data are still outstanding.

I also take this opportunity to remind you that we have not yet received the lists of fishing and reefer vessels engaged in transshipment of ***Trachurus*** species, nor VMS data for the first Quarter of this year.

These matters are of interest to all delegations and accordingly I am copying this to other heads of delegation.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Robin Allen". The signature is fluid and cursive.

Robin Allen
Executive Secretary

cc Heads of Delegations

Interim Secretariat, PO Box 3797, Wellington 6140, New Zealand.
TEL: +64 4 499 9889 - FAX: +64 4 473 9579 - interim.secretariat@southpacificrfmo.org

The logo of the South Pacific Regional Fisheries Management Organisation (SPRFMO) is a blue rectangular banner with a textured, wavy pattern. The text "South Pacific Regional Fisheries Management Organisation" is written in white, bold, sans-serif font across the center of the banner.

28 October 2011

Ref: 0069-2011

Mr Sergey Simakov
Head of the International Cooperation Directorate
Federal Agency for Fisheries
12 Rozhdestvensky Boulevard
Moscow, 107996
Russian Federation

By email: harbour@fishcom.ru

Dear Mr Simakov,

I refer to my letter 0059-2011 of 3 October and wish to advise you that the Interim Secretariat is required by the 2011 Interim Measures for Pelagic Fisheries to verify *Trachurus* species annual catch reports submitted by the Participants against the submitted data (tow by tow in the case of trawlers, and set by set or trip by trip in the case of purse-seining fishing vessels), and is currently doing that for 2010.

We are hopeful that this work will shed some light on the issues raised by an NGO and referred to in the recent report of the SPRFMO Jack Mackerel subgroup of the Science Working Group where "*Some participants expressed concern at the possible double-counting of Russian and Peruvian catches in 2010.*" As you are no doubt aware there is considerable interest among all Participants about this issue and I urge you to assist in resolving it.

The verification of Russian Federation catches for 2010 by the Interim Secretariat is currently not possible because the only information we have are the monthly reports and total catches matching them. I recognise that your delegation was not able to accept the 2011 Interim Measures for Pelagic Fishing in their entirety and took the position that its 2010 catch data will be provided in accordance with 2009 Interim Measures, which include:

13. All participants engaged in the fishery are to collect, verify, and provide all data to the Interim Secretariat, in accordance with the SPRFMO Data Standards, by 30 June of each year for their previous (January to December) year's fishing activities, including information relevant to stock status and recovery.

For 2010, the data concerning *Trachurus* fisheries in the SPRFMO area that have not yet been provided by the Russian Federation are listed in the table below, together with the templates that should be used for each.

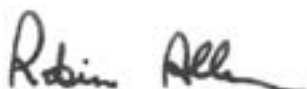
Data item	Data standard Annex	Template
Fishing Activity	Annex 1	Fishing Activity – Trawl
Landings data	Annex 12	Fishing & Reefer Vessel Landings
Transshipment Data	Annex 13	Fishing Vessel Transshipments
Observer data	Annex 8	Observer - Trawl
Total annual catch	Annex 14	Annual Catch (live weight)

I am sure you are aware that Russia provided a scientific report to the Science Working Group meeting, which in respect of 2010 data was most unusual. Detailed information was provided on things such as numbers of tows, number of fishing days, monthly catches, CPUE and length composition of catches for the years 2008, 2009 and 2011 but the only information for 2010 was that one vessel caught 41,315 t. It is as if the fishery in 2010 was obscured from the by scientists.

The verification work I referred to above is nearly completed, but I would like to urge you to provide the missing data as soon as possible.

I would also like to take the opportunity again to refer to the work you referred to in your letter of 20 May (Y03 457) concerning the investigation of matters relating to the French investigation of the vessel *LAFAYETTE*, and to ask when it is likely that this will be completed?

Yours sincerely,



Robin Allen
Executive Secretary

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28 October 2011

Ref: 0070-2011

Ambassador Arturo Montoya Stuva
National Director of Sovereignty and Boundaries
Ministry of Foreign Affairs
Lima,
Peru

By email: amontoya@rree.gob.pe

Dear Ambassador Montoya,

The Interim Secretariat is required by the 2011 Interim Measures for Pelagic Fisheries to verify *Trachurus* species annual catch reports submitted by the Participants against the submitted data (tow by tow in the case of trawlers, and set by set or trip by trip in the case of purse-seining fishing vessels), and is currently doing that for the 2010 data.

We are hopeful that this work will shed some light on the issues raised by an NGO and referred to in the recent report of the SPRFMO Jack Mackerel subgroup of the Science Working Group where "*Some participants expressed concern at the possible double-counting of Russian and Peruvian catches in 2010.*" As you are no doubt aware there is considerable interest among all Participants about this issue and I urge you to assist in resolving it.

The verification of Peruvian catches by the Interim Secretariat is currently limited because we have not received the tow by tow data for the Peruvian vessels *FRANZISKA*, *ILA*, *PACIFIC CONQUEROR*, *PACIFIC HUNTER*, *PACIFIC VOYAGER*, and *VERONICA* that fished in the SPRFMO area during 2010.

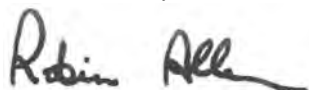
The data we have for Peru for 2010 are the monthly reported catches that total 40,516 t, and the amounts transhipped to the Russian Federation flagged vessel *LAFAYETTE* totalling 31,275 t by the vessels *PACIFIC CONQUEROR*, *PACIFIC HUNTER*, *PACIFIC VOYAGER*, and *PACIFIC CHAMPION* (ex *VERONICA*). We would like know if that was the total catch of those Peruvian vessels in the SPRFMO area, and further details such as dates of transhipment would be useful. We assume, but would like you to verify that the other two vessels landed their catches in port.

Paragraph 15 of the 2011 Interim Measures for Pelagic fisheries requires that Participants provide all the required data in accordance with the Data Standards. For 2010, the data concerning *Trachurus* fisheries in the SPRFMO area that have not yet been provided by Peru are listed in the table below, together with the relevant Annexes and templates that should be used for each.

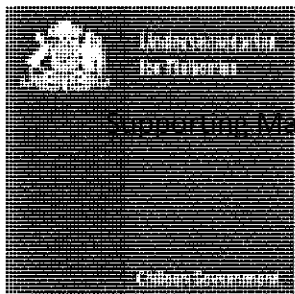
Data item	Data Standard Annex	Template
Fishing Activity	Annex 1	Fishing Activity - Trawl (or Purse-seine)
Landings data	Annex 12	Fishing & Reefer Vessel Landings
Observer data	Annex 8	Observer - Trawl (or Purse-seine)
Total annual catch	Annex 14	Annual Catch (live weight)

I believe the provision of these data by Peru will assist greatly in removing the uncertainty concerning the catches for 2010. As the verification exercise is underway now, and the submission dates are already past, we would appreciate your rapid response.

Yours sincerely,



Robin Allen
Executive Secretary



2117
(D.D.P.) N° _____/

VALPARAÍSO, 25 NOV. 2011

Mr. Robin Allen
Interim Secretary
South Pacific Regional Fisheries Management Organisation
Wellington, New Zealand

Dear Mr. Allen,

I refer to the letter of 15 November 2011 sent to you by the Head of the EU Delegation to SPRFMO, concerning the data sets used in the Joint Jack Mackerel stock assessment model carried out at the Jack Mackerel Subgroup and the 10th Science Working Group held in September this year.

Chile considers that it clearly illustrates the urgent need to encourage the complete and thorough reporting of catches carried out by the several States participating in the Chilean jack mackerel fishery. Given the well known status of this fishery, full compliance of agreed measures by all States is imperative, in order to start taking steps toward a recovery.

In this context and since the first Interim Measure adopted in 2007, coastal States adjacent to the Convention Area were called to cooperate with other Participants in ensuring compatibility in the conservation and management of *Trachurus* species, by informing conservation and management measures in effect for *Trachurus* species fisheries, as well as informing the catches taken in waters under their national jurisdictions. The submission of accurate and timely data of all catches, regardless of the area where they have been taken, is essential for a robust stock assessment.

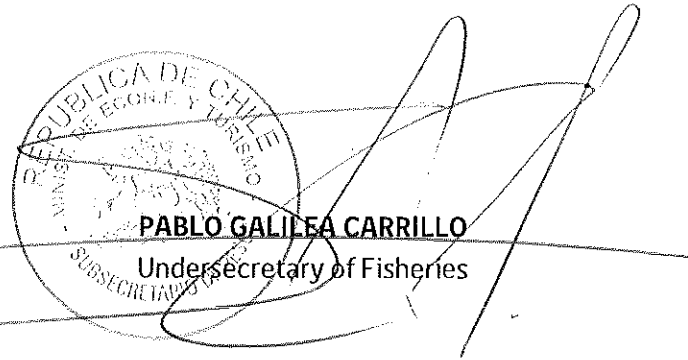
In addition, as indicated in your letter 0074-2011, of 21 November 2011, the Science Working Group has expressed its concern about the possible duplication of catches of Peru and Russian Federation, situation that had already been stated in our letter of 12 July 2011. We then explained our concern for the possible misreporting of catches by Peruvian



and Russian vessels in 2010. Bearing in mind these serious allegations, we would like to ask the Secretariat to kindly clarify the situation with the two concerned Participants, particularly in regard to the vessel LAFAYETTE.

I would kindly ask you to make this letter available to the SPRFMO Heads of Delegation.

Yours sincerely,



PABLO GALILEA CARRILLO
Undersecretary of Fisheries

REPUBLICA DE CHILE
MINISTERIO DE ECONOMÍA Y TURISMO
SUBSECRETARÍA DE PESQUERÍA

ESC/MAB *mg*

The logo for the South Pacific Regional Fisheries Management Organisation (SPRFMO) is displayed in a blue banner with a textured, wavy background. The text "South Pacific Regional Fisheries Management Organisation" is written in white, bold, sans-serif font across the center of the banner.

8 January 2012

Ref: 2012-0001

To: Heads of Delegations

From: Robin Allen, Executive Secretary

A handwritten signature in black ink that reads "Robin Allen".

Re: Verification of 2010 Catch Reports for the *Trachurus* species fishery

Background

The 2011 Interim Measures for Pelagic Fisheries require that the Interim Secretariat verify the annual catch reports submitted by the Participants against the submitted data (tow by tow in the case of trawlers, and set by set or trip by trip in the case of purse-seine fishing vessels); and inform the Participants of the outcome of the verification exercise and any possible discrepancies encountered.

This memo provides the outcome of this exercise for 2010 data. In carrying out this exercise, we took account of the likelihood that the monthly numbers were estimates, and that there may be timing differences between monthly estimates and finer scale operational data. Therefore, we looked for consistency between the data sets rather than exact monthly matching.

Summary

Monthly estimated catches have been provided by all participants in the *Trachurus* fishery.

Annual catch data as specified by Paragraph 1a of the data standards¹ were provided by Chile, the EU, Faroe Islands and Vanuatu. For all the other participants the total catches appeared to be the total of either the monthly estimated catches or the operational data.

Trawl tow by tow, or purse-seine set by set or trip by trip operational catch data were provided by all participants in the fishery except Belize, Peru and the Russian Federation. Belize provided daily operational catch data, and Peru and the Russian Federation have not yet provided operational catch data for 2010.

Details

Of those participants who provided at least daily/tow by tow/trip by trip catch data in addition to monthly catch totals, the following datasets were consistent for Chile, the EU, Faroe Islands, and Vanuatu:

- the reported monthly catch (submitted on standard monthly catch forms) versus the operational catch data summed by month,
- the annual sum of reported monthly catch data (submitted on standard monthly catch forms), and the annual sum of operational catch data, versus the total annual catch raised to live weight.

¹ (a) Ensure that for each calendar year, Participants collate annual catch totals raised to 'live' weight for all species/ species groups caught during that year, and that these are collated as described in Annex 14.

For Belize and Korea:

- the reported monthly catches (submitted on standard monthly catch forms) were identical to the operational catch data summed by month.

For China:

- the reported monthly catches (submitted on standard monthly catch forms) were almost identical to the operational catch data summed by month.

For Belize, China and Korea:

- the annual sum of reported monthly catch data (submitted on standard monthly catch forms) and the annual sum of operational catch data exactly matched the total annual catch reported.

Therefore, it appears that for Belize, China and Korea, the daily/tow by tow estimated data have been used as annual totals instead of raised live weight as specified by Paragraph 1a of the Data Standards. No further verification of annual catches is possible for these three participants.

The Interim Secretariat has provided reminders to Peru and the Russian Federation, but is not able to verify those two participants' reported catches based on detailed operational information. However, Peru provided transshipment information for 4 of its 6 vessels that transferred 31,275 t to the Russian Federation vessel Lafayette. This is consistent with Peru's reported monthly catches that totalled 40,516 t.

From: [Robin Allen](#)
To: [SPRFMO Chair](#)
Subject: 0011 Results of inspection of vessel Lafayette in the port of Las Palmas, 2-3 December 2011
Date: Thursday, 26 January 2012 1:13:10 p.m.
Attachments: [Letter 86322 - 25.1.2012.pdf](#)
[Inspection Report.doc.pdf](#)
[technical report + CV.pdf.pdf](#)

To; Heads of Delegations

Re: Results of inspection of vessel Lafayette in the port of Las Palmas, 2-3 December 2011

I have, at the request of Mr Cesari, attached a letter and an inspection report concerning the results of an inspection of the vessel Lafayette for your consideration.

Robin Allen

Executive Secretary, Interim Secretariat

South Pacific Regional Fisheries Management Organisation

PO Box 3797 Wellington 6140, New Zealand

Tel: +64 4 499 9889 Fax +64 4 473 9579

robin.allen@southpacificfmo.org

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6827 (20120125) _____

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

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6827 (20120125) _____

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<http://www.eset.com>

**EUROPEAN COMMISSION**

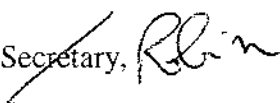
DIRECTORATE-GENERAL FOR MARITIME AFFAIRS AND FISHERIES

INTERNATIONAL AFFAIRS AND MARKETS

INTERNATIONAL AFFAIRS, LAW OF THE SEA AND REGIONAL FISHERIES ORGANISATIONS

Brussels, 25 JAN. 2012
MARE B-1 AK/86322Dr. Robin ALLEN
SPRFMO Interim Secretary
L4, ASB Bank House
PO Box 3797
Wellington
6140 New Zealand

Subject: Results of inspection of vessel *Lafayette* in the port of Las Palmas, 2-3 December 2011.

Dear Secretary, 


I would like to inform you, and the SPRFMO Participants, that Spain has undertaken an inspection of the Russian-flagged vessel *Lafayette* in its port of Las Palmas on 2-3 December 2011.

The inspection report is accompanied by a technical report containing a review of photographic evidence to determine active pair trawling capability of the MV *Lafayette*. Both reports are attached.

The results of the inspection confirm the findings of the inspection carried out on 24 January 2010 in the port of Papeete, French Polynesia, which concluded that this vessel is a former oil tanker converted into a processing vessel and was not operating as an active trawler in 2009, and against the background of this analysis, neither in 2010. Moreover, the technical report reviewing photographic evidence concludes that it is highly unlikely that the *Lafayette* could ever act effectively as a pair trawler.

As you are aware, the EU is of the view that compliance with the Interim Measures is of utmost importance for the conservation and sustainable management of pelagic fisheries in the SPRFMO Area. The EU therefore considers that a thorough discussion on the state of implementation and compliance with the Interim Measures by all Participants, including Russia, at the forthcoming 3rd Preparatory Conference, is essential for the conservation of the stock and the credibility of South Pacific RFMO.

I would be grateful if you would disseminate this letter to other SPRFMO Participants.


Roberto CESARI
Head of EU Delegation
to SPRFMO

Encl: 2

C.c.: Bill Mansfield (SPRFMO Chair)

Technical Report Lafayette

1 Introduction

This vessel was inspected by the Spanish fisheries authorities in the port of Las Palmas when officials from DG MARE of the European Commission officials were present.

This report drawn up by DG MARE together with the independent Technical Report drawn up by Seafish (UK) Marine Services and attached with this report, focus on the technical characteristics of the vessel in relation to the potential use of the vessel notably the active pair trawling capability.

2 Vessel description

The principal data of the vessel are as follows:

Ship Name	LAFAYETTE
Ship Flag	Russian
Registry. No	795238
IMO No	7913622
IRCS	UDFI
Build date	30 June 1980
Classification	(Norway) DNV *1A1 Tanker for Oil
Classification	(Russia) * (1) (REF) Fishing vessel

The principal vessel's dimensions are as follows:

Dimension type		Value	Measures
<i>Code</i>	<i>Meaning</i>		
LOA	Length overall	228.00	metres
Lpp	Length between perpendiculars	219.00	metres
B	Beam moulded	32.20	metres
D	Depth moulded	19.00	metres
GT	Gross Tonnage	49173.00	tonnes
NT	Net Tonnage	14752.00	tonnes
DW	Dry Weight	36484.00	tonnes

Picture No. 1 is of the Lafayette with a Faroese fishing vessel (Arctic Viking, 58.00 metres LOA, 13.00 metres Beam and 1720 tonnes GT), alongside Lafayette's port side (in the vicinity of one of the two port side pumping stations), and aptly demonstrates the bulk and size of Lafayette. Arctic Viking is the size of fishing vessel normally encountered fishing in the NAFO and NEAFC areas, which in 2-3 months fishing, can catch, and carry 500 to 600 tonnes of processed fish (about 700 tonnes live weight equivalent).

Picture No.1: Lafayette at anchor in Faroe Islands 2011



Picture No.2 is of the vessel alongside Reina Sofia pier in Las Palmas following repainting, and illustrates the how it has been transformed from oil tanker to "fishing vessel/fish factory vessel". The factory area is positioned within the white painted area extending forward from the bridge superstructure to the bow position aft of the foremast. Below this area, in the are painted blue, are the refrigerated holds and refrigerated sea water tanks in that area previously used to carry oil and petro-chemicals. The draught of the vessel as shown here is approximately 6 metres, and the GT approximately 40, 000 tonnes.

Picture No.2: Lafayette Las Palmas December 2011



3 Propulsion and Electric Power

The main engine for propulsion is:

Manufacture	SULZER (Sumitomo)
Engine type	6RND 76M
Power	10920 Kw
Cylinder's No	6
Bore	760 mm
Stroke	1550 mm.
Revolution	122 Revolutions per minute (RPM)

This is a typical two stroke diesel engine of a type expected to be found in an oil tanker of this size. These engines are physically very big being about 5 metres high. They are very heavy with a large internal mass moving up and down at a slow rate of rotation (122 RPM maximum). It is an engine designed for work in a stable and continuous regime, such as would be found during very long ocean voyages. The economy peak is found therefore at points approaching the maximum RPM.

Picture No.3 is of a similar size engine and the comparative sizes of men working around it demonstrates the dimensions and mass of these engines.

Picture No.3: Marine diesel engine similar to the type fitted to oil tankers



The engine fitted on Lafayette also powers an electrical generator supplying the electrical needs of the vessel; when the vessel was modified in 2009 a new electricity generating station was installed at main deck level forward of the accommodation and bridge structure, and which contains the following engines:

No	Serial No	Manufacture	Engine Weight	Engine Type	Power x RPM	Total Power
3	134 FQK 199 FQF 135 FQK	YANMAR Ltd	3 x 52.000 Kg 156.tonnes	6N 330-SV	2207 x 720	6621
6	ZO 253 ZO 254 ZO 255 ZO 274 ZO 275 ZO 276	DAIHATSU Diesel	6 x 35.000 Kg 210.tonnes	DK 628	1596 x 720	9576

Considerable generating potential is required to produce energy for the refrigeration plants servicing the freezer tunnels and associated equipment in the factory area, the refrigerated sea water tanks and the refrigerated holds, as well as conveyor belt systems and the various other

pumps (fish, salt and fresh water) and handling systems associated with the production and handling of frozen fishery products.

4 Vessel Naval Characteristics

The design of the vessel envisages a large volume capacity (about 60.000 m³) able to transport a large cargo of oil (about 50.000 tonnes). At these levels the vessel would sail with 75% of the hull immersed with a draught of around 14 metres. This would lend to a good stability condition enabling the vessel to steam at an economical speed of around 11 knots.

The modifications transformed the ship from oil tanker to fishing vessel or "factory vessel", and added structure (the factory and an accommodation block) on the main deck. This also included the electrical power station at main deck level just forward of the main deckhouse/bridge structure as well as associated facilities such as cranes, winches, elevator structures and gear storage areas.

The net effect of these modifications would have been to raise the vessel's centre of gravity, potentially prejudicial to the stability curve, especially when in low displacement condition, producing a "slow rolling" effect (exacerbated when the vessel is empty of cargo and carrying reduced volumes of liquids). This stability issue could explain the presence of ballast tanks in the deeper fish holds.

As floating fish factory, the main engine of the vessel will have to work at a very low speed when in an area where fishing activity (including transshipping) is taking place, or if acting as a pair trawl team partner. Such operating procedures can cause two distinct problems:

1. The main engine must work at low revolutions (less than 50% of the maximum speed). This in turn creates difficulties for the engine whose primary purpose is to provide energy to propel the massive bulk of the vessel through the water as well as powering an electric generator. Such a regime can lead to malfunctioning of the engine in the form of overheating, and there are records of a problem detected by an engineer of the Russian Classification Register. Overheating and incomplete combustion of fuel can in the short to medium term lead to damage to the cylinder linings which in the longer term can extend to crankshaft and piston damage. Operating the vessel in such a role could detrimentally affect its primary purpose as a floating and mobile fish processing factory;
2. The raising of the centre of gravity is likely to cause stability problems manifested by an exaggerated lateral movement of the hull, when in a light condition, during transshipment operations in an oceanic environment, or simply during low speed manoeuvring. They create potential hazards for the fishing and other support vessels during their approach to and when lying alongside. Since the area of exposed hull has been increased, the net adverse effects of wind and sea when manoeuvring at low speed are likely to increase. It would not be unusual for the ship when operating in an oceanic environment, to encounter manoeuvring difficulties at slow speeds (3 knots and below) when in close proximity to other vessels for transshipment operations or to lie in close proximity to receive pumped fish either on the port side or via the stern pumping station;
3. To limit or minimise the potentially damaging effects of such close proximity operations the Lafayette must be always have on board sufficient ballast, and fishery products located in the deeper holds and the seawater storage tanks. The vessel also provides a bunkering service for fishing trawlers, and thus at any one time it likely to

be disposing of liquids which in turn will affect its stability and manoeuvrability at low speed. Given the need to move product to the buyer as soon as possible and to free up valuable storage space, it appears that such stability problems have previously been encountered at sea, especially in the South Pacific during 2010.

5 Fishing possibility

A winch is installed (see Picture No. 4 below) in the port quarter station on the stern deck at main deck level. The plate on this winch shows that it is a Funz San hydraulic towing winch, model WO 135 with a capability rated at 60 tons x 28 metres on the first layer and 25 tons times 67 metres on the second layer. Irrespective of the quantity (length of warp) which it could accommodate, it is alleged that the vessel tested the winch shown in pair trawling trials in the Pacific during 2010. The current Master at the time of the inspection in Las Palmas but who was not on board in the Pacific in 2010, stated that a rope of 26 mm had been used, but that the result was inconclusive and the experience had not been repeated. This was supported by comments made by the then Master during the inspection of the vessel by the French Polynesian authorities in 2010, and who stated that it would not work.

Theoretically at least the Lafayette could operate as a member of a pair trawl team. However, putting aside for one moment seamanship problems associated with a vessel of this size operating in close quarters at low speed and manoeuvring to pass and recover pair trawl gear, the vessel does not appear to have, or has had, any capacity to haul a net aboard or to handle a pair trawl and associated gear of the size used by the larger fishing trawlers in the small pelagic fisheries with Lafayette was associated with. Irrespective of the lack of suitable towing points for a trawl warp, there are only limited control facilities for this winch. There are no warp tension-meters fitted anywhere either in stern area adjacent to the winch or in the wheelhouse itself, and there are no fishing sonar or fish finding devices to be found.

Pair trawling is a delicate fishing operation suited to vessels matched in terms of engine power, engine type (medium or lower RPM), vessel displacement and vessel pulling power (bollard pull). If the Lafayette, which is fitted with an engine and a propeller having performance considerably different in respect to the fishing vessel partner, had fished with a fishing vessel of displacement magnitude between 5 to 10 times less, the likelihood of a successful operation is likely to have been compromised. The main engine of Lafayette, operating at a lower RPM than that of a conventional deep sea trawler, would mean that during the fishing operation it would be working at levels outside the recommended operating envelope. Such operating methodology could cause damage the main engine.

Picture No. 4: Winch fitted to stern main deck area aft port side Lafayette

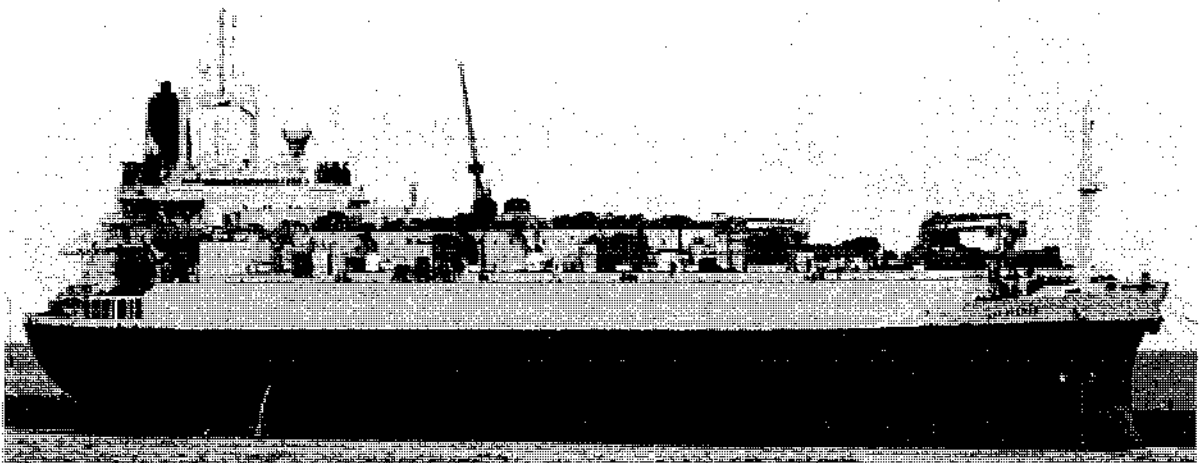


Seafish Marine Services

Technical report

Review of photographic evidence to determine active
pair trawling capability for the

MV Lafayette



Written by Tony Tait

Background

The Lafayette was constructed in 1980 for bulk oil transport and as such was purposely designed and constructed under DNV classification society rules for this role,

The vessels principal dimensions and class notations are shown below;

Length Overall	228 m
LBP	219m
Beam	32.2m
Depth	19m
Gross Tonnage	49,173 tonnes
Net tonnage	14,752 tonnes
Ship Flag	Russian
Registry No	795238
IMO Number	7913662
IRCS	UDFI
Build Date	30 June 1980
Classification	(Norway) DNV *1A1 Tanker for Oil
Classification	(Russia) *(1) (REF) Fishing Vessel

There has been no evidence submitted for review that supports the conversion from bulk oil tanker to fishing vessel, and that the conversion work has been undertaken to classification society rules for fishing vessels.

Given the visible modifications to the vessel with the accommodation decks added above the main deck and the additional power generating machinery that has been added to enable the operation of the fish processing equipment, the stability characteristics of the vessel will have been markedly changed. The writer has not seen the vessels stability book which would shed light on the modifications made and allude to any conditions in which the vessel is purported to operate as a pair trawler.

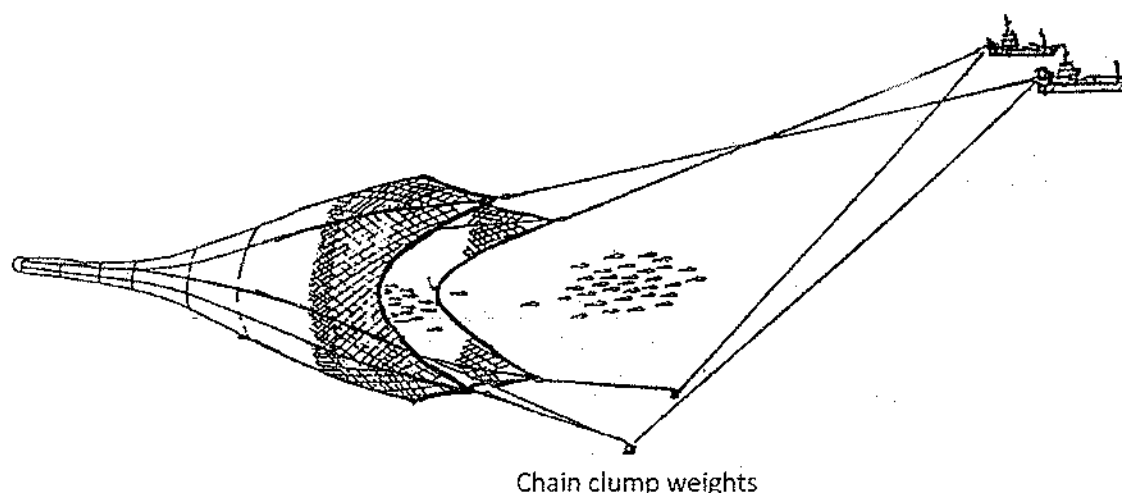
Requirements for Pair Trawling

Pair trawling is an effective and efficient means of pelagic fishing, allowing a significantly larger net to be towed than a single vessel could tow alone.

The vessel requirements for pair trawling requires that the vessels that make up the pair team are equally matched in performance and size to enable the effective tow of the net for extended periods.

One of the problems of both methods is that the two vessels have to come close together to pass the tails of the net across. This can be hazardous in poor weather.

Pelagic or midwater trawls are generally much larger than bottom trawls with the forward sections of the net usually comprising of very large meshes (5-120m) or ropes that herd the shoals of fish towards the main body of the trawl.



The position of the net between the surface and seabed is usually monitored using electronic sensors on the headline to give a depth for both top and bottom of the net allowing the skipper to position his net in line with the shoal. These nets can be as big as 160 metres deep and 240 metres wide.

Assessment of the Lafayette for Pair Trawling

The Lafayette design and physical size and layout prohibit the Lafayette from acting as an active pair trawler. The physical size of the Lafayette at 228m LOA and 32.2m Beam is 4 times the size of any other pair trawler currently fishing; the performance characteristics of the Lafayette are vastly different from a conventional trawler as they were designed for the transportation of oil and not for towing. For the Lafayette to act as part of a pair trawl team would pose significant risks to the partner vessel given her size and poor manoeuvrability.

Propulsion system

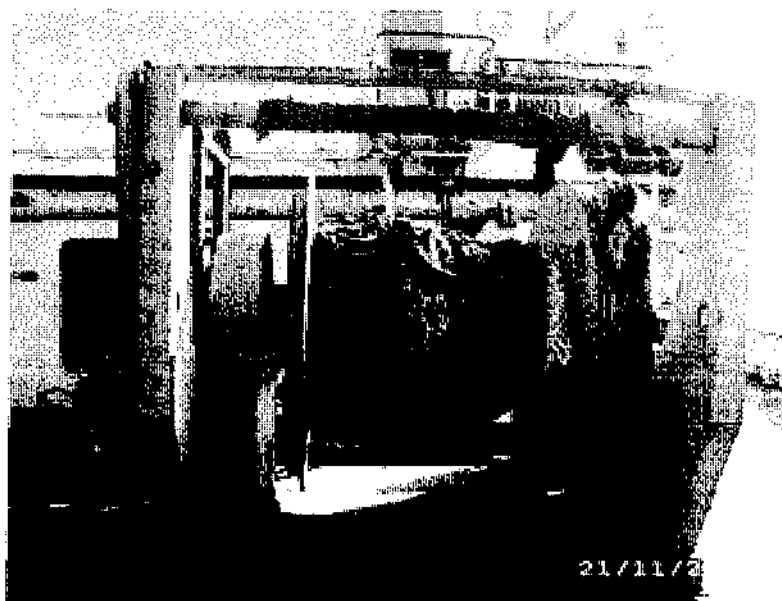
The Lafayette propulsion engine is designed for maximum efficiency at a constant rpm to enable the vessel to undertake long ocean passages at maximum load displacement at approximately 11kn. For the Lafayette to operate as a pair trawler it

would require the vessel to operate at a speed between 2 and 4kn it would also require the Lafayette to constantly adjust its speed depending on the depth required for the net to effectively target the fish marks. The Lafayette could not respond to the required changes in speed given the vessel size and the performance characteristics of the propulsion engine.

Deck Machinery

The deck machinery onboard the Lafayette that is purported to be utilised in pair trawling is unlikely to be of any effective use without causing significant risk to the crew and damage to the vessel.

The main trawl winch shown in the photograph below has been taken from another vessel and placed onboard the Lafayette.



The winch arrangement is completely unsuited in its current form for pair trawling. The guide on gear is positioned high above the main winch barrel; it is likely that this winch came from a vessel with a large stern gantry requiring a high lead off angle from the winch.

In the current position if the guide on gear was used it would result in significant damage to the winch given that the lead from the winch barrel through the guide on gear and out over the stern of the vessel would result in an almost 90 degree angle as shown in the photograph below. This would place significant loading on the guide on gear. And create a substantial bending moment.



The winch controls are located on the first tier of the deckhouse structure behind the winch. Although this gives a good line of sight to the winch itself it does not provide the operator sight of anything to the port side of the vessel. Given that the fish pumping arrangements on the Lafayette are all located on the port side, the partner vessel would likely also be to the port side to enable easy handling/hauling of the net and discharge of the catch. In light of this the winch control arrangement onboard the Lafayette does not allow sight of the partner vessel. The winch control position cannot be seen from the helm position therefore effective fishing as a pair trawl team would be incredibly difficult and dangerous.

There is no fixed tow point on the stern of the vessel and the gantry position on the port side with associated hanging block is not structurally strong enough to trawl through. The fair leads in the transom are not suited for pair trawling or any other type of fishing. The passage of a trawl warp through these fair leads would as a result of the vessels motion and movement of the wire both with a static load and during hauling cut through the fair lead as they are designed for mooring ropes and the associated mooring of the vessel.

Fishing operations

As stated above it is important for pair trawlers to be equally matched in performance. Given the dimensions of the Lafayette and its propulsion machinery, and the deck machinery the Lafayette would pose a significant risk to any vessel it fished with as a pair team. The manoeuvrability of the vessel in close quarter operations is extremely limited. The stopping distance given the vessels inertia would pose a significant risk to any vessel it paired, with particular regards to the net becoming fastened or a breakdown of the partner vessel during a tow this could lead to capsize and foundering of the partner vessel.

Summary

Given the photographic evidence provided and reviewed by the writer it is highly unlikely that the Lafayette could ever act effectively as a pair trawler. If pair trawling was to be attempted it would pose significant risk to the vessel and crew of the Lafayette and the partner vessel.

It is most likely that the Lafayette acts as a floating fish factory vessel transshipping catch from other fishing vessels and processing onboard prior to transshipping to other vessels for landing to shore.

To enable the Lafayette to operate effectively as a pair trawler would require a complete re-design and re-fit of the vessel and its propulsion machinery. The associated costs of such a re-fit would be beyond any economical benefit that could be achieved from such modifications.



Seafish Marine Services
 Humber Seafood Institute
 1 Origin Way, Europarc,
 Grimsby, DN37 9TU
 Tel: 01472 252345 Fax: 01472 268792
 Web site: www.seafishmarineservices.com

CURRICULUM VITAE

NAME: ANTHONY WAYNE TAIT

Mobile: 07876035723
 E-mail: t_tait@seafish.co.uk

NATIONALITY: British

DATE OF BIRTH: 27th May 1974

QUALIFICATIONS: CWB Welding Inspector, CSWip welding inspector, C&G Shipbuilding & Engineering

CURRENT POSITION: Marine Services Manager & Senior Marine Surveyor

SYNOPSIS:

Anthony Tait completed a full traditional shipbuilding apprenticeship as a plater specialising in the construction of steel fishing vessels utilising traditional building & lofting techniques at Hepworth Shipyard Ltd. From 1998 He spent 5 years as engineering manager/superintendent at Nanaimo Shipyard Ltd in British Columbia, Canada. Responsibilities included Repair & Refit project Management, Vessel condition surveys for Canadian DoD and government contracts as well as corporate and private vessel owners. After returning to the UK in 2003 he joined Seafish Industry Authority as a fishing vessel surveyor. In 2005 he became the Senior Marine Surveyor and manager of the Marine Safety Services Department for the authority. In 2006 he led the merger of Kingfisher Information Services and Marine Safety Services which created Seafish Marine Services. During his career he has gained considerable experience in the construction of all types of fishing and small commercial vessels in wood, steel, aluminium and GRP and their operation. He has led the development of the Seafish Construction Standards that are accepted worldwide and is also a member of the Fishing Industry Safety Group and its sub committees; he has played a lead role in the development and project management of many fishing industry safety related projects. Seafish Marine Services surveys and certifies over 100 new construction fishing vessel each year and in excess of 200 existing vessels surveys.

2

CAREER:

25/05/2005 to Present	Senior Marine Surveyor & Marine Services Manager, Seafish Industry Authority.
01/03/2004 – 25/05/2009	Marine Surveyor, Seafish Industry Authority
1998 – 2003	Engineering Manager/Superintendent, Nanaimo Shipyard Ltd, British Columbia, Canada
1990 – 1998	Plater, Hepworth Shipyard Ltd UK

RECENT WORK INCLUDES:

- New & Existing Fishing vessel surveys
- Code of practice vessel surveys
- Consultancy for Government organisations including advice on vessel design and powering
- Construction Standards Development for fishing and code of practice vessels
- Plan Approvals
- Tonnage Measurement
- Government grant approvals for devolved administrations
- Vessel surveys on behalf Irish DOM, French Merchant Marine, MCA
- Overseas consultancy contracts including; New Zealand, Ireland, Canada, Denmark, France, Ghana, Finland and Norway
- Development of Fishing vessel risk assessments folders
- Development of Safety at Sea strategy for Seafish
- IMO member for the development of world fishing vessel construction standards



January 25, 2012

In Mackerel's Plunder, Hints of Epic Fish Collapse

By MORT ROSENBLUM and MAR CABRA

TALCAHUANO, Chile — Eric Pineda, a dock agent in this old port south of Santiago, peered deep into the Achernar's hold at a measly 10 tons of jack mackerel — the catch after four days in waters once so rich they filled the 17-meter fishing boat in a few hours.

Mr. Pineda, like everyone here, grew up with the bony, bronze-hued fish they call jurel, which roams in schools in the southern Pacific.

"It's going fast," he said as he looked at the 57-foot boat. "We've got to fish harder before it's all gone." Asked what he would leave his son, he shrugged: "He'll have to find something else."

Jack mackerel, rich in oily protein, is manna to a hungry planet, a staple in Africa. Elsewhere, people eat it unaware; much of it is reduced to feed for aquaculture and pigs. It can take more than five kilograms, more than 11 pounds, of jack mackerel to raise a single kilogram of farmed [salmon](#).

Stocks have dropped from an estimated 30 million metric tons to less than a tenth of that in two decades. The world's largest trawlers, after depleting other oceans, now head south toward the edge of Antarctica to compete for what is left.

An eight-country investigation of the fishing industry in the southern Pacific by [the International Consortium of Investigative Journalists](#) shows how the fate of the jack mackerel may foretell the progressive collapse of fish stocks in all oceans.

In turn, the fate of this one fish reflects a bigger picture: decades of unchecked global fishing pushed by geopolitical rivalry, greed, corruption, mismanagement and public indifference. Daniel Pauly, an eminent University of British Columbia oceanographer, sees jack mackerel in the southern Pacific as an alarming indicator.

"This is the last of the buffaloes," he said. "When they're gone, everything will be gone."

Delegates from at least 20 countries will gather Monday in Santiago for an annual meeting to seek ways to curb the plunder.

The South Pacific Regional Fisheries Management Organization was formed in 2006, at the initiative of Australia and New Zealand along with Chile. Its purpose was to protect fish, particularly jack mackerel. But it took almost four years for 14 countries to adopt 45 interim articles aimed at doing that. Only six countries have ratified the agreement.

Meanwhile, industrial fleets bound only by voluntary restraints compete in what amounts to a free-for-all in no man's water at the bottom of the world. From 2006 through 2011, scientists estimate, jack mackerel stocks declined 63 percent.

The fisheries convention needs eight signatures to be binding, including one South American coastal state. Chile — prominent in getting the group together — has yet to ratify.

The South Pacific fisheries organization decided at the outset that it would assign future yearly quotas for member countries based on the total annual tonnage of vessels each deployed from 2007 to 2009.

To stake claims, fleets hurried south. Chinese trawlers arrived en masse, among others from Asia, Europe and Latin America.

One newcomer was at the time the biggest fishing vessel afloat, the 14,000-ton Atlantic Dawn, built for Irish owners. Parlevliet & Van der Plas of the Netherlands bought it, renaming it the Annelies Ilena. Such "supertrawlers" chase jack mackerel with nets that measure up to 25 meters by 80 meters at the opening. When they are hauled in, fish are pulled into the hold by suction tubes, like giant vacuum cleaners.

Gerard van Balsfoort, president of the Netherlands-based Pelagic Freezer-Trawler Association, which represents nine companies and 25 vessels flagged by states in the European Union, confirmed the obvious: The Dutch, like others, went to mark out territory.

"It was one of the few areas where still you could get free entry," Mr. van Balsfoort said.

"It looked as though too many vessels would head south, but there was no choice," he added. "If you were too late in your decision to go there, they could have closed the gate."

By 2010, the South Pacific fisheries organization tallied 75 vessels fishing in its region.

The mackerel rush also attracted the leading commercial player, the Pacific Andes International Holdings: PacAndes. The company, based in Hong Kong, spent \$100 million in 2008 to rebuild a nearly 230-meter, 50,000-ton oil tanker into a floating factory called the Lafayette.

The Russian-flagged Lafayette sucks fish from attendant trawlers with a giant hose and freezes them in blocks. Refrigerated vessels — reefers — carry these to distant ports.

The Lafayette alone has the technical capacity to process 547,000 metric tons a year, if it operated every day.

In September 2011, scientists for the fisheries organization concluded that an annual catch beyond 520,000 metric tons could further deplete jack mackerel stocks.

One of those scientists, Cristian Canales of the Chilean fisheries research center, Instituto de Fomento Pesquero, said a safer limit would be 250,000 metric tons. Some dissenting experts say the only way to restore the fishery is to impose a total ban for five years.

Subsidized Overfishing

Trachurus murphyi, Chilean jack mackerel, are fished west of Chile and Peru, along a 6,500-kilometer, or 4,100-mile, coastline, to about 120 degrees longitude, halfway to New Zealand.

They range widely in open waters, eating plankton and small organisms, and are food for bigger fish.

The U.N. Food and Agriculture Organization says that global fishing fleets “are 2.5 times larger than needed.” That estimate was based on a 1998 report; since then, fleets have expanded.

Much of that overcapacity has been driven by government subsidies, particularly in Europe and Asia, experts say.

A landmark report by Rashid Sumaila, along with Dr. Pauly and others at the University of British Columbia, estimated total global subsidies in 2003 — the latest available data — at \$25 billion to \$29 billion.

From 15 percent to 30 percent of the subsidies went toward paying for ships' fuel, while another 60 percent went to increase size and upgrade equipment.

The study calculated China's subsidies at \$4.14 billion and Russia's at \$1.48 billion.

A report by the environmental group Greenpeace issued in December 2011 looked hard at the Pelagic Freezer-Trawler Association, the Netherlands-based group. It found that it had received fuel tax exemptions, mostly from the Dutch government, of between €20.9 million and €78.2 million, or \$27.2 million and \$101.7 million, from 2006 to 2011.

Mr. van Balsfoort, the president of the group, did not dispute the subsidy numbers but said that fuel tax exemptions were routine in the fishing industry.

Meanwhile, Unimed Glory, a subsidiary of the Greek company Laskaridis Shipping, operates three trawlers in the southern Pacific. They are owned in Greece, a member of the European Union. But, flagged in the Pacific island nation of Vanuatu, they operate outside the control of Brussels and can catch more jack mackerel than a share of the E.U. quota would allow.

Per Pevik, Unimed Glory's Norwegian manager, said in an interview that because Vanuatu did not meet E.U. sanitary standards, his fish could not be sold in Europe. Instead he sells jack mackerel to Africa. Asked whether the European authorities objected to his Vanuatu flags, he said, "No, they don't bother me about that."

In the southern Pacific, after years of aggressive fishing, industrial fleets find fewer and fewer jack mackerel. E.U.-flagged vessels collectively caught more than 111,000 metric tons of jack mackerel in 2009; the next year, the ships hauled in only 60 percent as much; by last year, vessels reported just 2,261 tons.

Looking back, Mr. van Balsfoort said vessels fished too hard at a time when jack mackerel stocks were on a natural downward cycle. "There was way too big an effort in too short a time," he said. "The entire fleet," including the Pelagic Freezer-Trawler Association, "has to be blamed for it."

Inside PacAndes

PacAndes's 50,000 gross ton flagship, the Lafayette, is registered to Investment Company Kredo in Moscow and flies a Russian flag. Kredo — via four other subsidiaries — belongs to China Fishery Group in Singapore, which, in turn, is registered in the Cayman Islands.

China Fishery and Pacific Andes Resources Development belong to Pacific Andes International Holdings, based in Hong Kong but under yet another holding company registered in Bermuda.

PacAndes, which is publicly traded on the Hong Kong stock exchange, reports more than 100 subsidiaries under its various branches, but a nearly impenetrable global network includes many more affiliates.

One of its major investors is the U.S.-based Carlyle Group, which purchased \$150 million in shares in 2010.

Ng Joo Siang, 52, a jovial Louisiana State University graduate who is hooked on golf, runs PacAndes like the family business it is despite its public listing.

His Malaysian Chinese father moved the family to Hong Kong and started a seafood business in 1986. When the executive board meets in its no-frills conference room overlooking the harbor, the father's portrait gazes down at his widow, who is chairwoman, his three sons and a daughter.

"My father told me the oceans were limitless," Mr. Ng said in an interview, "but that was a false signal. We don't want to damage the resources, to be blamed for damage. I don't think our shareholders would like it. I don't think our children would like it very much."

But he snorted when asked about the limit of 520,000 metric tons for jack mackerel recommended by the South Pacific Regional Fisheries Management Organization.

"Based on what, on this?" he replied, thrusting a moistened finger into the air as if checking the wind.

"There is no science," he said. "The S.P.R.F.M.O. has no science. How much money has Vanuatu or Chile or whoever put in to understand about fisheries?"

Chile, in fact, spent \$10.5 million in 2011 on Instituto de Fomento Pesquero — one-fourth of its fisheries budget. In the intrigues of fish politics, PacAndes sides with Peru, where it operates 32 vessels and has a share of the anchoveta quota, an anchovy-sized sardine and crucial source of fishmeal for aquaculture.

Power Plays in Chile and Peru

The jack mackerel crisis has hit hardest in Chile, where industry leaders and the authorities admit to serious excesses during the unregulated years in what they call "the Olympic race."

In 1995 alone, Chileans fished more than four million tons. That is eight times the amount S.P.R.F.M.O. scientists said could be landed in a sustainable way in 2012. From 2000 to 2010, Chile landed 72 percent of all jack mackerel in the southern Pacific.

"The slaughter was tremendous, unbelievable," said Juan Vilches, who scouts fish for a large company. "No one had any idea of limits," he added. "Hundreds of tons were thrown overboard if nets came up too full for the hold. Boats came in so loaded that fish were squashed, their blood so hot it actually boiled."

Reporters and staff of the International Consortium of Investigative Journalists, working with the Chilean investigative journalism center Ciper, traced how eight groups with a near monopoly had pressured the Chilean government to set quotas above scientific advice. Six of these groups are controlled by powerful families. And, together, the eight of them own rights to 87 percent of Chile's jack mackerel catch.

Eduardo Tarifeño, a marine biologist at the University of Concepción, said that Chile now had only sardines in relative abundance.

“We have no more jack mackerel or hake or anchoveta,” he said. “Fisheries that produced a million or more tons a year have simply run out from overfishing by big companies.”

He added: “If we don’t save jack mackerel today, we won’t be able to do it later. We need a total ban for at least five years.”

At the fisheries secretariat in Valparaiso, Italo Campodonico said: “As a marine biologist, I have to agree. We should have a five-year ban. But as a civil servant, I must be realistic. For economic and social reasons, it won’t happen. Outsiders can go fish in other waters. We can’t.”

Peru is the world’s second-largest fishing nation after China. Its biggest port, Chimbote, lands more fish than the entire Spanish fleet catches in a year.

Here the issue is not just the overfishing of jack mackerel but also anchoveta.

While fishmeal exports are big business in Chile — about \$535 million annually — in Peru they are three times as big: \$1.6 billion a year.

Working with the investigative reporting group IDL-Reporteros in Lima, the International Consortium of Investigative Journalists obtained records from the official database of catches. Analysis of more than 100,000 weighing records from 2009 to the first half of 2011 found that most of Peru’s fishmeal companies systematically cheated on half of the landings — in some cases, underreporting catches by 50 percent.

In all, at least 630,000 metric tons of anchoveta — worth nearly \$200 million in fishmeal — “vanished” in the weighing process over two and a half years.

Saving Fish or Industry?

Roberto Cesari, the European Union’s chief envoy to the S.P.R.F.M.O., which meets next week, said he expected ratification of its conditions only in 2013 — seven years into precipitous decline for jack mackerel.

The S.P.R.F.M.O. cut voluntary quotas 40 percent for 2011, but China, among others, opted out. Beijing later agreed to reduce by 30 percent.

Mr. Cesari said the European Union tries to exert pressure, but its clout is limited. China and Russia, he noted, “are giants.”

Bill Mansfield, a New Zealand international lawyer who has chaired the S.P.R.F.M.O. since 2006, said that voluntary restraints had not protected fish stocks and that it was

time to put the convention into force. The Santiago meeting must limit the 2012 catch to 390,000 metric tons or less, he said.

Martini Gotje, a Dutch expatriate who was a crew member aboard the Greenpeace Rainbow Warrior when French agents sank it in Auckland harbor in 1985, works from the idyllic island of Waiheke, near Auckland. Like other activists, he mostly faults overcapacity — legal and yet devastating.

The first priority, he said, should be saving fish, not the fishing industry. “The Lafayette raised the game to an incredible level, and Holland is very much involved,” he said. “There are way too many boats, just simply way too many boats.”

In the end, argues Dr. Pauly, the oceanographer, this global trend will not change unless a major power — the European Union or the United States — takes firm action. “Somebody has to take the high ground,” he said, “and others will follow.”

This article was supported by [The International Consortium of Investigative Journalists](#), an independent network of investigative reporters who collaborate on cross-border stories. It is a project of [The Center for Public Integrity](#), a nonprofit investigative news organization. Milagros Salazar (Peru), Juan Pablo Figueroa Lasch (Chile) and Irene Jay Liu (Hong Kong) contributed to this report.



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'Free-for-all' decimates fish stocks in the southern Pacific

Jack mackerel, down 90 percent in 20 years in once-rich southern seas, foretells wider global calamity; world's largest trawlers compete for what is left

By **Mort Rosenblum** **Mar Cabra** 12:01 am, January 25, 2012 Updated: 2:16 pm, February 17, 2012



After years of intensive fishing, jack mackerel stocks in the southern Pacific have declined dramatically. Some experts say the only way to save the fishery is to impose a total ban for five years. *Periódico El Ciudadano*

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TALCAHUANO, Chile — Eric Pineda peered deep into the Achernar's hold at a measly 10 tons of jack mackerel after four days in waters once so rich they filled the 57-foot boat in a few hours.

The dock agent, like everyone in this old port south of Santiago, grew up with the bony, bronze-hued fish they call jurel, which roams in schools in the southern Pacific.

"It's going fast," Pineda said. "We've got to fish harder before it's all gone." Asked what he would leave to his son, he shrugged: "He'll have to find something else."

But what else is there to find?

Jack mackerel, rich in oily protein, is manna to a hungry planet, a staple in Africa. Elsewhere, people eat it unaware; much of it is reduced to feed for aquaculture and pigs. It can take more than 5 kilos of jack mackerel to raise a kilo of farmed salmon.

Yet **stocks have dropped** from an estimated 30

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Key findings

- Asian, European and Latin American fleets have **devastated fish stocks in the southern Pacific**, once among the world's richest waters.
- Since 2006, jack mackerel stocks have **declined by nearly two-thirds**. The oily fish is a staple in Africa, but people

Supporting Material 54: **Media** million published under the Center for Public Integrity in their decades. The world's largest trawlers, after depleting other oceans, now head south toward the edge of Antarctica to compete for what is left.

An eight-country investigation by the **International Consortium of Investigative Journalists** of the fishing industry in the southern Pacific shows why the plight of the humble jack mackerel foretells **progressive collapse** of fish stocks in all oceans.

Their fate reflects a bigger picture: decades of unchecked global fishing pushed by geopolitical rivalry, greed, corruption, mismanagement and public indifference.

Daniel Pauly, the eminent University of British Columbia oceanographer, sees jack mackerel in the southern Pacific as an alarming indicator.

"This is the last of the buffaloes," he told ICIJ. "When they're gone, everything will be gone ... This is the closing of the frontier."

Big Fleets Fish Unchecked

Delegates from at least 20 countries **will gather next week**, January 30, in Santiago for an annual meeting to seek more progress toward the elusive goal of curbing the plunder.

Negotiations to establish the **South Pacific Regional Fisheries Management Organization** (SPRFMO) began in 2006, at the initiative of Australia and New Zealand along with Chile, which often shuns international bodies.

Its purpose was to protect fish, particularly jack mackerel. But it took almost four years for **14 countries** to adopt **45 articles** aimed at doing that. So far, only six countries have ratified the agreement.

Meantime, industrial fleets bound only by voluntary restraints compete in what amounts to a free-for-all in no man's water at the bottom of the world.

From 2006 through 2011, scientists estimate, jack mackerel stocks declined by 63 percent.

The SPRFMO convention needs eight signatures to be binding, including one South American coastal state. Chile — prominent in getting the group together in the first place — has yet to ratify.

SPRFMO decided at the outset it would assign future yearly quotas for member countries based on the **total annual tonnage** of vessels each deployed from 2007 to 2009.

To stake their claims, fleets hurried south. Chinese trawlers arrived en masse, among others from Asia, Europe and Latin America.

One newcomer was at the time the biggest fishing vessel afloat, the 14,000-ton Atlantic Dawn, built for Irish owners. Parlevliet & Van der Plas of the Netherlands bought it, renaming it the Annelies Ilena. Such "super trawlers" chase jack mackerel with nets that measure up

to the Center for Public Integrity in their forkfuls of farmed salmon. Jack mackerel is a vital component of fishmeal for aquaculture.

- National interests and geopolitical rivalry have **blocked efforts since 2006** to ratify a regional fisheries management organization that can impose binding regulations to rescue jack mackerel from further collapse.
- In Chile, a handful of companies controlled by **wealthy families own rights to 87 percent of the jack mackerel catch**; with government backing, they have secured unrealistically high quotas — beyond what scientists say are essential to save the stock.
- In Peru, the world's second largest fishing nation, **widespread cheating at fishmeal plants** allows companies to overfish and evade taxes. At least 630,000 tons of anchoveta — worth nearly \$200 million as fishmeal — "vanished" over two and a half years.

El último pez: la depredación del Pacífico Sur

You can read the **Spanish** version of this story **here**.

Para leer este artículo **en español** haga **clic aquí**.

Looting the Seas III



As other fisheries are pushed to their limits, giant trawlers have moved southward toward the edge of Antarctica to catch what is left. For

this finale of Looting the Seas, reporters from the International Consortium of Investigative Journalists spent seven months on four continents to document how Asian, European and Latin American fleets have devastated fish stocks in the southern Pacific, once among the world's richest waters. The stories were reported in collaboration with the investigative journalism centers **IDL-Reporteros** in Peru and **CIPER** in Chile. A documentary co-produced with London-based tve is planned to air on BBC World News TV in the spring. [Read the overview](#) | [About the project](#)

Stories in this series



New BBC documentary spotlights ICIJ probe into fish devastation

By Marina Walker Guevara April 20, 2012

Gerard van Balsfoort, president of the Dutch-based **Pelagic Freezer-Trawler Association** (PFA), which represents nine companies and 25 European Union-flagged vessels, confirmed the obvious: the Dutch, like others, went to mark out territory.

"It was one of the few areas where still you could get free entry," van Balsfoort said. "It looked as though too many vessels would head south, but there was no choice ... if you were too late in your decision to go there, they could have closed the gate."

By 2010, SPFRMO **tallied 75 vessels** fishing in its region.

The mackerel rush also attracted the leading commercial player, the Hong Kong-based Pacific Andes International Holdings: PacAndes.

The company spent \$100 million in 2008 to rebuild a 750-foot, 50,000-ton oil tanker into a floating factory called the Lafayette.

The Russian-flagged Lafayette, longer than two football fields, sucks fish from attendant trawlers with a giant hose and freezes them in blocks. Refrigerated vessels — reefers — carry these to distant ports.

The Lafayette alone has the technical capacity to process 547,000 metric tons a year, if it operated every day.

In September 2011, SPRFMO scientists concluded that an annual catch beyond 520,000 metric tons could further deplete jack mackerel stocks.

Cristian Canales of Chile's fisheries research center, **Instituto de Fomento Pesquero** (Ifop), said a safer limit would be 250,000 metric tons. Some dissenting experts say the only way to restore the fishery is to impose a total ban for five years.

Subsidized over-fishing

Trachurus murphyi, Chilean jack mackerel, are fished west of Chile and Peru, along a 4,100-mile coastline, to about 120 degrees longitude, halfway to New Zealand.

They are known as small pelagics, vital to larger species. They range widely in open waters, eating plankton and small organisms, and are food for bigger fish.

These forage fish **represent a third** of the total global catch.

The U.N. Food and Agriculture Organization **says that global fishing fleets** "are 2.5 times larger than needed." That estimate was based on a 1998 report; since then, fleets have expanded. If unregulated, they can quickly devastate a fishery.



'Free-for-all' decimates fish stocks in the southern Pacific

By Mort Rosenblum and Mar Cabra January 25, 2012



Video: 'Missing' fish in Peru simply not counted

By Mar Cabra April 23, 2012



IMPACT: Key vote clears way to stop fish plundering in the South Pacific

By Mort Rosenblum and Mar Cabra June 20, 2012

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Infographic: Aboard the Lafayette

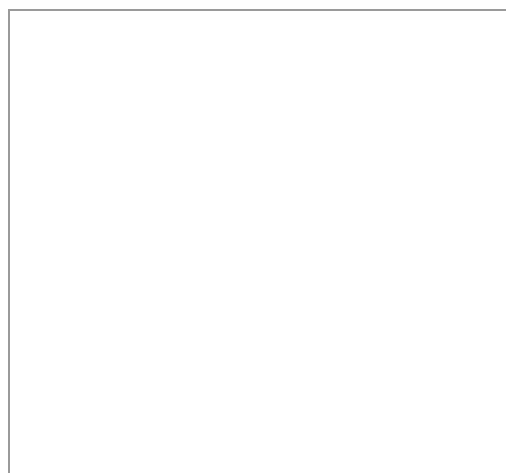


[Click to view the full infographic.](#)

Interactive: Track the Lafayette

Vessels that catch small pelagic fish like jack mackerel roam the oceans in search of fish. Here we follow the Lafayette as it traverses from the South Pacific to West Africa and Northern Europe in 2010 and 2011. Click and drag to rotate the Earth below, and see the ship's path traced in red.

[Embedded KML Viewer](#)



Supporting Material that overcapacity has been driven by government subsidies, particularly in Europe and Asia, experts say.

26 January 2012

A landmark report by Rashid Sumaila, along with the oceanographer Pauly and others at the University of British Columbia, estimated total global subsidies in 2003 — the latest available data — at \$25 billion to \$29 billion dollars.

Between 15 and 30 percent of subsidies paid for fuel to allow ships to range widely, it said. Another 60 percent went to increase size and upgrade

Slideshow: Plunder in the South Pacific

By The Int'l Consortium of Investigative Journalists January 25, 2012



During the 1990s, Chileans caught more than 28 million metric tons of jack mackerel. Today, as stocks plummet, vessels struggle to find fish. Juan Pablo Figueroa Lasch/ICIJ

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equipment.

The study calculated China's subsidies at \$4.14 billion and Russia's at \$1.48 billion.

A report by the environmental group Greenpeace released in December 2011 looked hard at PFA, the Dutch-based association that represents the Annelies Ilena. It found the group received fuel tax exemptions of between €20.9 million and €78.2 million from 2006 to 2011.

The report, produced by an independent consultant for Greenpeace, said that by a conservative calculation PFA's average yearly profit of around €55 million would be €7 million without taxpayer support. At the other extreme, it said, PFA would have lost €50.3 million.

EU funds — and financial support from Germany, Britain and France — helped PFA build or modernize 15 trawlers, nearly half its fleet.

PFA's Helen Mary, which began fishing in the South Pacific in 2007, received €6.4 million in subsidies from 1994 to 2006, more than any other EU fishing vessel, according to European Commission data on the website

Interactive: Where did all the jack mackerel go?

Aggressive fishing has decimated jack mackerel stocks in the southern Pacific in the past two decades – from 30 million metric tons to less than 3 million.

Total stock biomass: The total weight of the fish in a stock, both juveniles and adults.

Spawning biomass: The total weight of the fish in a stock that are old enough to reproduce.

Source: South Pacific Regional Fisheries Management Organization

Graphic by Ajani Winston/iWatch News

Little fish, big role in ecosystem

fishsubsidy.org.

Van Balsfoort, the PFA president, did not dispute the subsidy numbers but said fuel tax exemptions are routine in the fishing industry. He said the Helen Mary and a sister ship were decrepit Eastern German trawlers, rebuilt with Germany's encouragement after reunification.

Under international practice, vessels can fish freely in areas not governed by ratified accords. Still, the European Union **requires ships of member states** to accept SPRFMO interim measures as legally binding. And EU countries must divide up a collective annual quota for jack mackerel. But ship owners find ways around the rules.

For instance, Unimed Glory, a subsidiary of the Greek company Laskaridis Shipping, operates three trawlers in the South Pacific. They are owned in Greece, an EU member. But, flagged in the Pacific island of Vanuatu, they operate outside Brussels' control and can catch more jack mackerel than a share of the EU quota would allow.

Per Pevik, Unimed Glory's Norwegian manager, told ICIJ that since Vanuatu does not meet EU sanitary standards his fish cannot be sold in Europe. Instead he sells jack mackerel to Africa. Asked if European authorities objected to his Vanuatu flags, he said, "No, they don't bother me about that."

Transshipment at sea also thwarts effective control. Once fish is unloaded onto long-range refrigerated vessels, its origin can be obscured.

In the southern Pacific, industrial fleets find fewer and fewer jack mackerel after years of aggressive fishing: European Union-flagged vessels collectively caught more than 111,000 metric tons of jack mackerel in 2009; the next year, the ships hauled in 40 percent fewer fish; by last year, vessels reported just 2,261 tons.

Looking back, PFA's van Balsfoort said jack mackerel numbers go up and down in natural cycles, and vessels fished too hard at a time when they were vulnerable. "There was way too big an effort in too short a time ... the entire fleet has to be blamed for it," he said, including PFA.

Inside PacAndes

PacAndes is the proverbial puzzle within an enigma. Its 50,000 gross ton flagship, the Lafayette, is registered to Investment Company Kredo in Moscow and flies a Russian flag.

Kredo —
via four
other

Video: El último pez [Spanish only]

By [International Consortium of Investigative Journalists](#) January 26, 2012

Reporter Mar Cabra discusses the 'Looting the Seas III' investigation in this



Chilean jack mackerel is fished along a 4,100-mile coastline west of Chile and Peru, to about 120 degrees longitude, halfway to New Zealand. The jack mackerel roams widely in open waters, eating plankton and small organisms, and is food for bigger fish.

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"In Mackerel's Plunder, Hints of Epic Fish Collapse," *The New York Times*, *International Herald Tribune*

"A Fish Tale With Disastrous Global Implications," *International Herald Tribune*

"Left out to dry: fish stocks face decimation," *Canberra Times*

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"Au Pérou, la fraude porte sur la moitié des prises réelles," *Le Monde*

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"De gestage plundering van de Grote Oceaan," *Trouw*

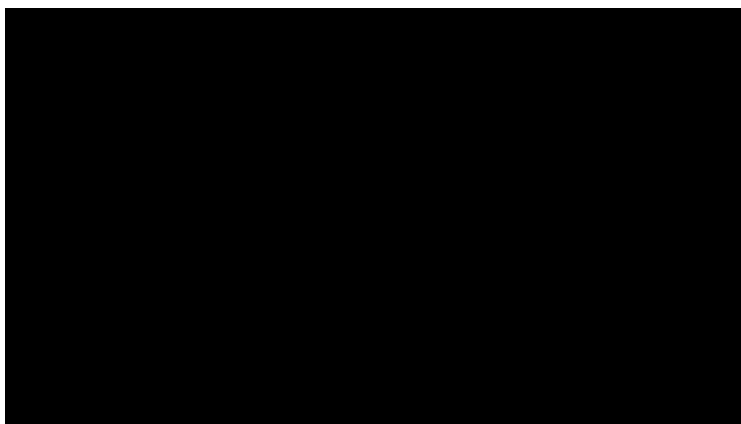
"Er zijn gewoon te veel schepen," *Trouw*

Stories in Spanish

"Sin control, gigantes pesqueros diezman el Pacífico Sur," *version* from IDL-Reporteros in Peru, *version* from CIPER in Chile

"Así se agota la última gran pesquería," *El Mundo*

"Perú: El pescado que desaparece," IDL-Reporteros



subsidiaries — **belongs to China Fishery Group** in Singapore, which, in turn, is registered in the Cayman Islands.

China Fishery and Pacific Andes Resources Development belong to Pacific Andes International Holdings, based in Hong Kong but under yet another holding company registered in Bermuda.

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One of its major investors is the U.S.-based Carlyle Group, which purchased \$150 million in shares in 2010.

China Fishery Group **reported a 2011 revenue gain** of 27.2 percent to \$685.5 million from \$538.9 million, 55 percent of PacAndes' earnings. The company **attributed it** to stronger operations from the South Pacific fleet and the Peruvian fishmeal operations.

Ng Joo Siang, 52, a jovial Louisiana State University graduate who is hooked on golf, runs PacAndes like the family business it is despite its public listing.

His Malaysian Chinese father moved the family to Hong Kong and started a seafood business in 1986. When the executive board meets in its no-frills conference room overlooking the harbor, his portrait gazes down at his widow, who is chairwoman, his three sons and a daughter.

"My father told me the oceans were limitless," Ng said in an interview, "but that was a false signal. We don't want to damage the resources, to be blamed for damage. I don't think our shareholders would like it. I don't think our children would like it very much."

But he ruefully acknowledges that PacAndes faces a serious public relations challenge. In 2002, a company affiliated with PacAndes was accused of illegal fishing in the Antarctic. Ng denies any wrongdoing or connection with the suspect boats, but his critics are harsh.

Back then, New Zealand diplomats told ICIJ, a Russian lawyer working for the company allegedly threatened an Auckland fisheries executive by showing him pictures of his family.

Asked to comment, Ng said that did not happen, and he dismissed it as yet another smear by people who resent PacAndes' success.

Bent on forging a better image, Ng hired a new corporate social responsibility officer and says he wants to put scientists aboard his ships to help protect fish stocks.

But he snorted when asked about the SPRFMO recommended limit of 520,000 metric tons for jack mackerel. "Based on what, on this?" he replied, thrusting a moistened finger into the air as if checking the wind.

"There is no science," he said. "The SPRFMO has no science. How much money has Vanuatu or Chile or whoever put in to understand about fisheries?"

Read this series in an e-book

You can read this 'Looting the Seas III' series on your **iPad, Kindle**, or in **PDF form** by subscribing to the Center's Weekly Watchdog email newsletter below. Then, look for links to download the e-book file for your device in next week's Watchdog email.

Chile, in fact, **spent \$10.5 million** in 2011 on Ifop, its highly regarded scientific institute — one-fourth of its fisheries budget. In the intrigues of fish politics, PacAndes sides with Peru, where it operates 32 vessels and has a share of the anchoveta quota, another species used for fishmeal.

Ng says the Lafayette flies a Russian flag because it perfected an old Soviet idea: a mother ship that stays put, sucking in fish to process from a fleet of catcher vessels.

Industry experts suspect another reason is the opaque manner in which official Russian business is done.

The Lafayette cannot fish, Ng said, but can pair trawl: hold one end of a net attached to another ship, which hauls in the catch. A French inspection in Tahiti in January 2010 **found no fishing equipment** on board.

This point is at the heart of fresh controversy within the fledgling SPRFMO.

The organization now sets new voluntary quotas based on the 2010 catch. But in that year both Russia and Peru claimed what seem clearly to be the same 40,000 metric tons.

The Russians say the Lafayette was fishing, and it flies their flag. The Peruvians say the trawlers that actually caught the fish were under their colors.

Power Plays in Chile

The jack mackerel crisis has hit hardest in Chile, where industry leaders and authorities admit to serious excesses during the unregulated years in what they call "the Olympic race."

In 1995 alone, Chileans fished more than four million tons. That is eight times the amount SPRFMO scientists said could be landed in a sustainable way in 2012. From 2000 to 2010, Chile landed 72 percent of all jack mackerel in the southern Pacific.

Juan Vilches is a patrón de pesca, whose job is to scout fish for a large company. He is also a marine biologist. Vilches shudders when recalling the old days.

"The slaughter was tremendous, unbelievable," he said. He used the Spanish word for massacre, matanza, similar to the Italian, mattanza, used to depict the bluefin tuna plunder.

"No one had any idea of limits," he said. "Hundreds of tons were thrown overboard if nets came up too full for the hold. Boats came in so loaded that fish were squashed, their blood so hot it actually boiled."

It is different now. Yet ICIJ, with the Chilean investigative center CIPER, traced how eight groups with a near monopoly have pressured the government to set quotas above scientific advice. Six of these groups are controlled by powerful families. And, together, the eight of them own rights to 87 percent of Chile's jack mackerel catch.

Roberto Angelini, 63, rules the north. He is known as "The Heir," succeeding his uncle, Anacleto, who Forbes **ranked** as tied for South America's richest man in 2007, the year he died.

Anacleto came from Italy in 1948. In 1976, he added fishing to an empire that today includes Chile's largest fuel company, mines, forests, and other interests. Angelini's two fishing companies have 29.3 percent of the jack mackerel quota set by the Chilean government.

They supply 5.5 percent of the world's fishmeal.

About 70 percent of jack mackerel caught from 1998 to 2011 in Angelini's northern fiefdom were under minimum size, a **government report shows**. According to the law, half of those catches would be illegal. But **government officials say** catches in the north fall under a special "research" category and are exempt from size regulations. Angelini declined to comment for this story.

At the University of Concepción, marine biologist Eduardo Tarifeño's gentle tone hardens on the subject of ocean plunder.

Chile now has only sardines in relative abundance, he said. "We have no more jack mackerel or hake or anchoveta. Fisheries that produced a million or more tons a year have simply run out from overfishing by big companies."

Tarifeño is one of only two scientists on the CNP, Chile's national fisheries council, set up to advise on quotas. It votes by majority, and 60 percent of its members **are from the industry**.

Each year, Ifop, the official research institute, recommends a quota to Subpesca, the Economy Ministry's fisheries unit, which then proposes its own figure. If the CNP rejects that, the new limit is 80 percent of the previous year's quota.

Supporting Media Item 59 urged a sharp cut to 750,000 tons, according to the Center for Public Integrity group, Oceana, which examines quota figures not made public. Subpesca raised that to 1.4 million metric tons, and the CNP approved it.

26 January 2012

As jack mackerel stocks plummet, government officials and industry executives each blame the other for not taking earlier, firm action to reduce quotas.

A new fisheries bill expected to pass this year gives this CNP role to a handpicked panel of experts. But Tarifeño insists it is now too late for anything short of drastic action.

He told ICIJ: "If we don't save jack mackerel today we won't be able to do it later. We need a total ban for at least five years."

At the fisheries secretariat in Valparaiso, Italo Campodónico reflected on that. "As a marine biologist, I have to agree," he said. "We should have a five-year ban. But as a civil servant, I must be realistic. For economic and social reasons, it won't happen. Outsiders can go fish in other waters. We can't."

Peru's 'Vanished' Anchoveta

Peru is the world's second largest fishing nation after China. The ramshackle port of Chimbote – the country's biggest – lands more fish than the entire Spanish fleet catches in a year.

Here the issue is not just the over-fishing of jack mackerel but also anchoveta, which looks like an anchovy-sized sardine, a crucial source of fishmeal for aquaculture.

Peru's anchoveta is the largest global fishery. While fishmeal exports are big business in Chile — about \$535 million annually — in Peru they are three times bigger: \$1.6 billion a year.

You smell Chimbote long before you see it. Reeking oily dark smoke billows from a forest of chimneys. Artisan boats bob in every direction around the battered wharves.

Nationally imposed rules define what is supposed to happen when vessels tie up with fish. But when asked when they last saw inspectors, a pair of aging fishermen looked at each other and laughed.

ICIJ, with the investigative reporting group IDL-Reporteros in Lima, obtained records from the official database of catches, which shows the extent of fraud shielded behind factory gates.

An analysis of more than 100,000 weighing records from 2009 to the first half of 2011 found that most of Peru's fishmeal companies systematically cheated on half of the landings— in some cases, underreporting catches by 50 percent.

This fraud allows companies to catch more fish than quotas allow, to save on taxes and per-ton levies, and to pay less to fishermen who earn a percentage of the catch.

In all, at least 630,000 metric tons of anchoveta — worth nearly \$200 million in fishmeal — "vanished" in the weighing process over two and a half years. They simply weren't counted. Top offenders are Peruvian, but the ranking also includes PacAndes' China Fishery Group and three companies with Norwegian investment.

Peru's deputy fisheries minister Jaime Reyes Miranda acknowledged in an interview with ICIJ that there are "serious problems" with scales at fishmeal plants and said the government is trying to find a solution to make sure anchoveta numbers are not manipulated.

Richard Inurritegui, president of the National Fisheries Society, the leading industry group, downplayed the investigation's findings and blamed the masters' visual estimates for the discrepancies between fish declared by vessels and fish weighed in the plants. China Fishery Group refused to comment despite numerous requests.

Patricia Majluf, vice president of Imarpe, Peru's highly regarded oceans institute, described what she says are countless ways for fishermen and fishmeal plants to cheat on weight, evade taxes, cut corners and break rules.

If caught, she said, companies are able to delay penalties for four years and end up paying a fraction of fines levied.

Despite its solid reputation, the recommendations of Imarpe for a monitored decrease in fishing continue to get ignored.

Saving Fish or Industry?

Roberto Cesari, chief EU envoy to SPFRMO, which meets next week, told ICIJ he expects ratification only in 2013. This would be after seven years of precipitous decline for jack mackerel.

SPFRMO cut voluntary quotas by 40 percent for 2011, but China, among others, opted out. Beijing

Cesari said the EU tries to exert pressure to reach a needed consensus or resolve conflict, but its clout is limited.

"We have been expressing our disappointment officially to China, Russia," he said, "but as you understand these are not minor players in the world ... they are giants."

Bill Mansfield, a New Zealand international lawyer who has chaired SPRFMO since 2006, said that voluntary restraints have not protected fish stocks, and it is time to put the convention into force.

He said the Santiago meeting must limit the 2012 catch to 390,000 metric tons or less.

"The reality is that everybody needs to take a deep step of restraint if this species is to come back," he told ICIJ, declining to name any country that balked at sharp reductions.

While public officials avoid pointing fingers, two eccentric ex-sailors who pore over computers on tiny islands at opposite extremes of the world — neither knows the other — excoriate the big subsidized fleets.

Gunnar Album, near Bodø above the Arctic Circle in Norway, directs his TM Foundation and now consults for The Pew Charitable Trusts*.

Between feeding his chickens and the llama he keeps to scare off foxes, he uses satellite data to track fishing vessels. He travels often to international meetings and distant ports.

Album says government support has created so much capacity that super trawlers must fish to their maximum for return on investment.

"These vessels roam the oceans for any available fish, causing overfishing and unbearable pressure on governments trying to manage resources," he said.

Martini Gotje, a Dutch expatriate who crewed aboard the Greenpeace Rainbow Warrior when French agents sank it in New Zealand's Auckland harbor in 1985, does much the same from the idyllic island of Waiheke, near Auckland.

Gotje compiles a Greenpeace blacklist, which helps activists and authorities. But, like Album, he mostly faults overcapacity — legal and yet devastating.

The first priority, he said, should be saving fish, not the fishing industry. "The Lafayette raised the game to an incredible level, and Holland is very much involved," he said. "There are way too many boats, just simply way too many boats."

In the end, oceanographer Pauly argues, this global trend will not change unless a major power — the European Union or the United States — takes firm action. "Somebody has to take the high ground," he said, "and others will follow."

Duncan Currie, a New Zealand-based environment lawyer with the Deep Seas Conservation Coalition, sees jack mackerel as a clear case in point. They school in a well-defined range and relatively few fleets pursue them.

"You have to ask the obvious question," he concludes. "If we can't save this, what can we save?"

Milagros Salazar (Peru), Juan Pablo Figueroa Lasch (Chile), Joop Bouma (The Netherlands), Irene Jay Liu (Hong Kong), Nicky Hager (New Zealand), Roman Anin (Russia) and Kate Willson (US) contributed to this report.

**ICIJ received a grant from The Pew Charitable Trusts in the past.*

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2 February 2012

RUSSIAN STATEMENT CONCERNING ‘LAFAYETTE’

Dear Colleagues,

As agreed during the second session of the Preparatory Conference, the Federal Agency for Fisheries of the Russian Federation have carefully studied available materials and documents relating to the Russian registered vessel *Lafayette*. Basing on that and numerous contacts with the *Lafayette*'s shipowner, our authorities have completed an internal investigation, which results can be stated as the following.

Despite of our official written request to the French authorities, for a long time no formal report on their inspection of the *Lafayette* at the Papeete port on 24 January 2010 has been received by the Federal Agency for Fisheries. Therefore, the Russian authorities have not been advised in due order about the purpose of that inspection, powers and competence of French inspectors and their comments confirmed by the Russian captain or any other senior officer onboard the Russian vessel. According to the official report of the *Lafayette*'s shipowner, the Russian captain was told that the purpose of the inspection was to check the vessel documents. Besides, the Russian fishermen presumed that inspectors were also looking for fish or fish products onboard but, having found nothing, took a few photos and left the vessel.

Basing on the Russian law and inspection practices, our fishing authorities are not in a position to launch a full-scaled official investigation against a private fishing company without a certified inspection report signed by the both parties involved. However, taking into account the concerns of the some Contracting Parties, the Federal Agency for Fisheries have made necessary efforts to receive explanations and relevant documents from the ship-owner management. The documents and information provided to us prove that the

Lafayette has duly obtained all certificates from the Russian Maritime Register of Shipping (RMRS) to be qualified for the fishing class; the vessel has undergone initial physical inspections and subsequent annual surveys by RMRS inspectors to confirm its ability to be engaged in direct fishing operations, as well as to freeze, store and process fish onboard.

In legal terms, the Russian fishing and registration authorities cannot question the *Lafayette*'s performance in the South Pacific high seas or take legal actions against its shipowner, basing on the national legislation and officially submitted information. Nevertheless, taking into consideration critical remarks and concerns expressed by the some submitted Contracting Parties in the South Pacific Regional Fisheries Management Organisation, and acting in the spirit of goodwill, the Federal Agency for Fisheries have decided not to include the *Lafayette* in the list of vessels authorized to fish in the Convention Area in 2011.

In doing so, however, we have to underline that the *Lafayette* has fully complied with the Russian law by timely reporting on its VMS positions and fish taken onboard. In accordance with national legislation, catch of Jack Mackerel (*Trachurus spp.*) is also subject to taxation. From the authorities' viewpoint, the reported amount of catches is true, otherwise, the shipowner had to pay much more taxes to the Russian budget. On the other hand, non-issuance of a new fishing permit for the South Pacific in 2011 has obviously caused significant losses to the ship-owner who, after such a decision, has failed to provide detailed tow-by-tow data, transshipment and landing/unloading reports for *Lafayette*'s activities in 2010.

And, finally and particularly, I'd like to comment on an intention of one Participant to use results of an inspection of the F/V *Lafayette* at Las Palmas as the grounds to analyze and evaluate this ship's activity in the South Pacific

in 2010. The Russian Federation believes that is unacceptable to use any data or information received in regard to any vessel currently not performing activity in the South Pacific for reviewing its past operations in the Convention Area.

The Russian Party believe that, since we do not really have legal grounds to question the *Lafayette*'s capabilities to operate as the fishing vessel and, given the above-mentioned actions taken by our side, the situation with that vessel and the related issue of the Russian 2010 catch of *Trachurus spp.* in the South Pacific should be closed and not re-addressed at the third session of the Preparatory Conference.

Thank you.



Data Submitted to the Interim Secretariat as at 1 March 2012

Interim Secretariat

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1.0 Introduction

1.1 Catch/ Landing/ Observer/ VMS Data

This paper summarises the catch/landing, and observer data that have been submitted to the Interim Secretariat for the key species as of 1 March 2012. The species included in this report are MACKERELS, SQUIDS, ORANGE ROUGHY, ALFONSINOS and OTHER SPECIES categories as included in Section 8. It also lists Vessel Monitoring System (VMS) data which have been received.

An overall summary of the catch, landing, observer and VMS data received by the Interim Secretariat between 2007 - 2010 is included in Appendix 1. This summary represents a 'stocktake' of the data received, and does not necessarily reflect the requirements of the 2007 Interim Measures, 2009 Revised Interim Measures, 2011 Interim Measures for Pelagic Fisheries, or all of the specific requirements of the Data Standards.

1.2 Bottom Footprint Data

Australia, Chile, Korea and New Zealand have submitted some bottom fishing footprint data to the Interim Secretariat. These data are summarised in Appendix 2.

1.3 Key to Species Scientific Names Used

Chilean jack mackerel	CJM	<i>Trachurus murphyi</i>
Greenback horse mackerel	HMG	<i>Trachurus declivis</i>
Jack/horse mackerels	JAX	<i>Trachurus</i> species mix or specific
<i>Trachurus</i>		species unknown
Blue mackerel	MAA	<i>Scomber australasicus</i>
Chub mackerel	MAS	<i>Scomber japonicas</i>
Gould's flying squid	NDG	<i>Nototodarus gouldi</i>
Jumbo flying squid	GIS	<i>Dosidicus gigas</i>
Wellington flying squid	TSQ	<i>Nototodarus sloani</i>
Alfonsionos nei	ALF	<i>Beryx</i> species
Boarfishes nei	BOR	Caproidae
Splendid alfonsino	BYS	<i>Beryx splendens</i>
Brama species	BRA	<i>Brama</i> species
Bluenose/ blue eye trevalla	BWA	<i>Hyperoglyphe Antarctica</i>
Cobia	CBA	<i>Rachycentron canadum</i>
Cardinal fishes nei	CDL	<i>Epigonus</i> spp
Cusk-eels nei (Ling)	CEX	<i>Genypterus</i> spp
Hapuka	HAU	<i>Polyprion</i> spp
Oreo dories nei	ORD	Oreosmatidae
Dories nei	ZEX	Zeidae

2.0 Summary of Jack Mackerel (*Trachurus*) Data Received by the Interim Secretariat

Table 2.1: Annual Catch Data - *Trachurus* species (Part 1 of 4)

NB: Does not include data submissions specifically identified as chub mackerel, or mackerel where the species/type was not specified

Area	Catch (t)				
	Belize		Chile		China
Area	5x5 squares	5x5 squares	FAO 87 (High Seas only)	FAO 87 (High Seas and EEZ)	FAO87
Species	Chilean jack mackerel	Horse mackerel	Chilean jack mackerel	Chilean jack mackerel	Chilean jack mackerel
2010	2,240		109,298	464,808	63,606
2009	5,681		343,135	834,927	117,963
2008	15,245		519,738	896,108	143,182
2007		12,585	262,617	1,302,784	140,582
2006		481		1,366,770	160,000
2005		867		1,430,434	143,000
2004		0		1,451,599	131,020
2003		0		1,421,296	94,690
2002		0		1,518,994	76,261
2001		0		1,649,933	20,090
2000				1,234,299	x
1999				1,219,689	
1998				1,612,912	
1997				2,917,064	
1996				3,883,326	
1995				4,404,193	
1994				4,041,447	
1993				3,236,244	
1992				3,212,060	
1991				3,020,512	
1990				2,471,875	
1989				2,390,117	
1988				2,138,255	
1987				1,770,037	
1986				1,184,317	
1985				1,456,989	
1984					
1983					
1982					
1981					
1980					
1979					
1978					
1977					
1976					
1975					
1974					
1973					
1972					
1971					
1970					

X Data not displayed as catch totals are for less than 3 vessels and data are not already public

Table 2.1: Annual Catch Data - *Trachurus* species (Part 2 of 4)

NB: Does not include data submissions specifically identified as chub mackerel, or mackerel where the species/type was not specified

Area	Catch (t)				
	Cook Islands	Cuba	EU [#]		Faroe Islands
	FAO87	FAO87	FAO87 (High Seas)	Unspecified	FAO87 (High seas)
Species	Jack mackerel (<i>Trachurus</i> spp)	Chilean Jack Mackerel	Chilean jack mackerel	Jack mackerel - unspecified	Chilean Jack Mackerel
2010	0		67,497		11,643
2009	0		111,921		20,213
2008	0		106,665		22,919
2007	7		123,511		38,700 [^]
2006			62,137		
2005			6,179		
2004					
2003					
2002					
2001					
2000					
1999					
1998					
1997					
1996					
1995					
1994					
1993					
1992		3,196		7,842	
1991		30,828		109,292	
1990		41,197		81,909	
1989		24,486		11,584	
1988		44,209		76,036	
1987		35,980		864	
1986		46,833		828	
1985		32,258		847	
1984		34,008		80,848	
1983		54,875		40,357	
1982		83,881		7,600	
1981		74,227		2,029	
1980		83,971		7,540	
1979		19,000		45,495	
1978				29,455	
1977				1,078	
1976				719	
1975				680	
1974				55	
1973				35	
1972					
1971					
1970					

[^] Total includes small quantities of unspecified mackerel

[#] The EU data includes Lithuanian *Trachurus* catch data for all years where Lithuanian catch existed; this same Lithuanian catch data is included within the Russian Federation data submission for *Trachurus* catch for years prior to the dissolution of the former Soviet Union

Table 2.1: Annual Catch Data - *Trachurus* species (Part 3 of 4)

NB: Does not include data submissions specifically identified as chub mackerel, or mackerel where the species/type was not specified

	Catch (t)				
	Japan	Korea	Peru	Russian Fedn. #	
Area	FAO87	FAO87 (High Seas)	FAO 87 (High Seas)	FAO81	FAO87
Species	Chilean Jack Mackerel	Chilean jack mackerel	Chilean jack mackerel	Greenback horse mackerel	Chilean jack mackerel
2010		8,183	40,516		
2009		13,759	13,326		9113 ⁺
2008		12,600			x
2007		10,940		0	0
2006		10,474		0	0
2005		x		0	7,040
2004		7,438		0	62,300
2003		2,010		0	7,540
2002				0	0
2001				0	0
2000				0	0
1999	7			223	0
1998				52	0
1997				886	0
1996				2,280	0
1995				1,602	0
1994				1,804	0
1993				4,260	0
1992				2,892	32,000
1991				127,000	591,800
1990	157			67,518	1,122,297
1989	x			56,543	1,096,292
1988	x			58,797	938,288
1987	x			107,329	818,628
1986	x			146,200	785,000
1985	5,229			133,300	837,700
1984	x			22,300	1,056,600
1983	x			10,651	866,500
1982				4,953	735,898
1981	x			0	771,630
1980				13	544,970
1979	x			0	532,209
1978	1,667	x		254	49,220
1977	2,273			710	0
1976	x			0	0
1975				0	0
1974				0	0
1973				0	0
1972				0	5,500
1971				0	0
1970				0	0

⁺ This is the sum of catch taken by 5 of the 6 vessels that were present in the Area in 2009

X Data not displayed as catch totals are for less than 3 vessels and data are not already public

For years prior to the dissolution of the former Soviet Union, the Russian Fedn data submission for *Trachurus* catch includes Lithuanian catch data; these Lithuanian catch data are also included within the EU catch data submission for *Trachurus* species for this same period

Table 2.1: Annual Catch Data - *Trachurus* species (Part 4 of 4)

NB: Does not include data submissions specifically identified as chub mackerel, or mackerel where the species/type was not specified

Area	Catch (t)		
	Ukraine		Vanuatu
	FAO81	FAO87	FAO87
Species	<i>T. murphyi</i>	<i>T. murphyi</i>	<i>T. murphyi</i>
2010			45,908
2009			79,942
2008			100,066
2007			112,501
2006			129,535
2005			77,356
2004			94,685
2003			53,959
2002			
2001			
2000			
1999			
1998			
1997			
1996			
1995			
1994			
1993			
1992		2,736	
1991	7,838	65,126	
1990	3,574	115,049	
1989	2,292	109,695	
1988	868	104,006	
1987	5,274	89,116	
1986	5,778	81,275	
1985	7,313	100,464	
1984		162,524	
1983	1,982	140,185	
1982	631	82,633	
1981		85,517	
1980		58,677	
1979		90,371	
1978		4,783	
1977			
1976			
1975			
1974			
1973			
1972			
1971			
1970			

X Data not displayed as catch totals are for less than 3 vessels and data are not already public

Figure 2.1: Annual Catch Data – *Trachurus* species (Part 1 of 2)

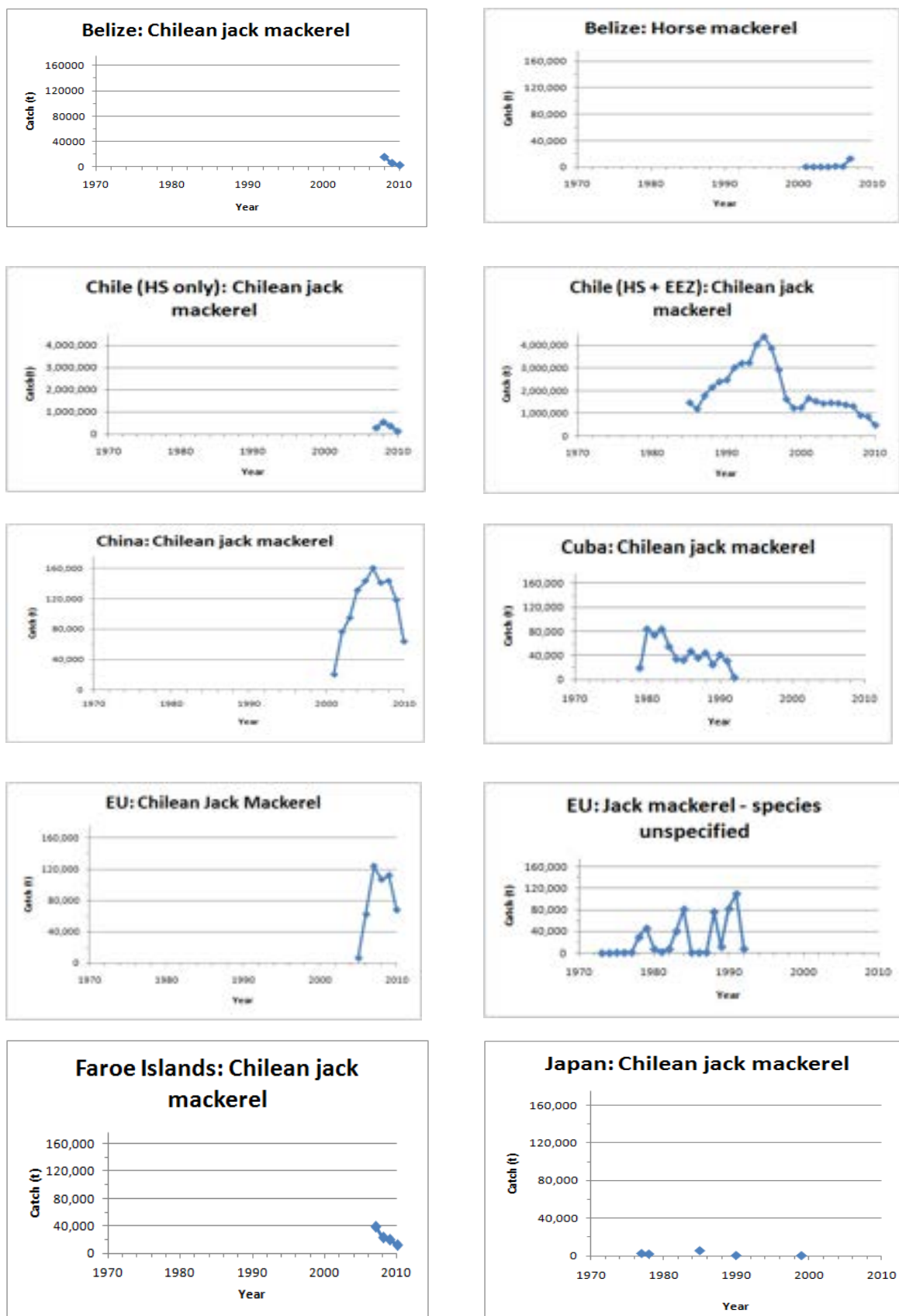
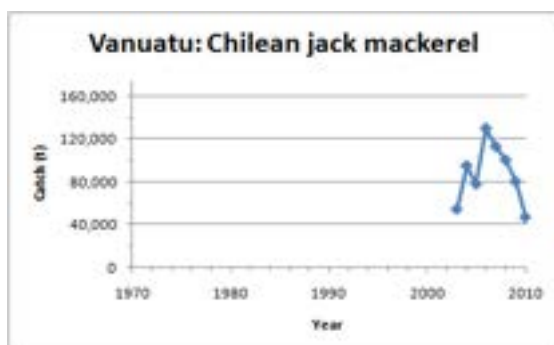
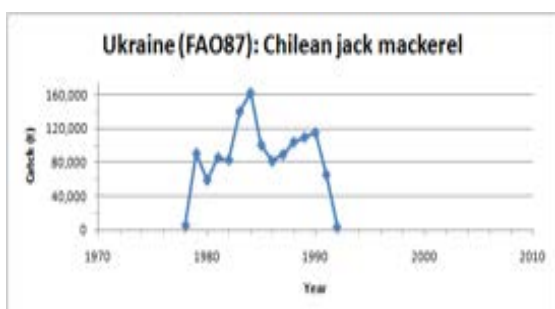
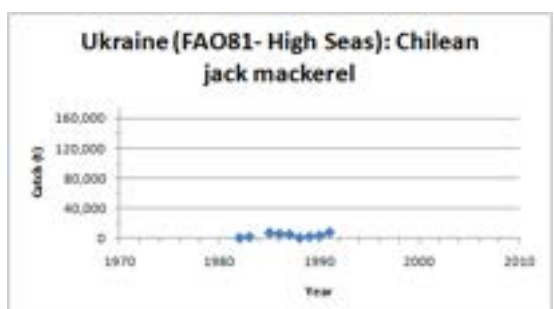
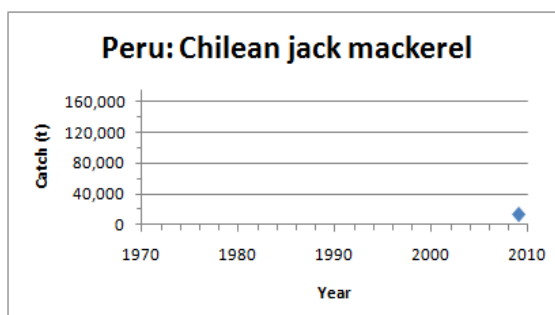
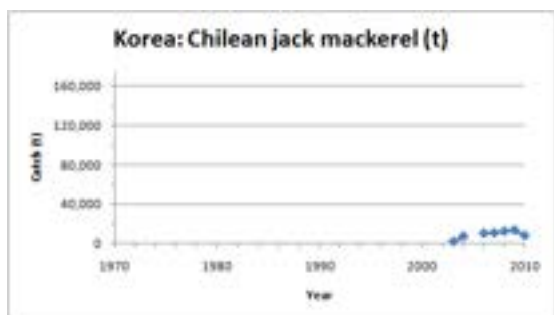


Figure 2.1: Annual Catch Data - *Trachurus* species (Part 2 of 2)



Finer Scale Chilean Jack Mackerel (*T. murphyi*) Data Received to Date

The following table details the finer scale *Trachurus murphyi* data received to date by the Interim Secretariat:

Table 2.2: Summary of More Detailed *Trachurus* Data Received

PARTICIPANT	Finer Scale Catch/ Landing Data Provided for the Years Listed		
	5x5 Degree Square	1x1 Degree Square	Tow by Tow
Belize	2008 (by month and vessel), 2009; 2010 (by day and position)	2007 (JAX by vessel/day/ month)	
Chile		2007-2009	2010 (purse seine by trip)
China	2000-2007	2008	2009-2010
Cook Islands			2007
EU	2007		2008-2010; 2011 (2 vessels)
Faroe Islands			2008, 2009 (preliminary); 2010
Korea	2003-2006		2007-2010
Peru			
Russian Fedn.			2008, 2009 (for 5 of 6 vessels); 2011
Vanuatu*			2008-2010

* Also provided catch by day and vessel for 2007

Monthly catch returns of preliminary *Trachurus* species catch data were also submitted to the Interim Secretariat during 2011, and these preliminary catch data are summarised in Table 2.3 below.

Table 2.3: Preliminary Total Catches of *Trachurus* Species in 2011

Year		Belize	Chile (industrial & artisanal)	China	Cuba	Ecuador	European Union	Faroe Islands	Korea	Peru	Russian Federation	Vanuatu	Grand Total (t) 2011 to Date
2011	High Seas	0	53,572	32,862	8	0	2,261	0	9,253	674	8,229	7,672	114,531
2011	EEZ	0	189,813	0	0	69,153	0	0	0	235,312	0	0	494,278
													608,809

3.0 EEZ Catch Data Summaries of Mackerel - *Trachurus* species

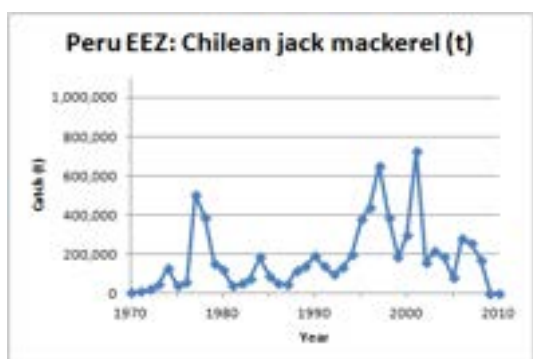
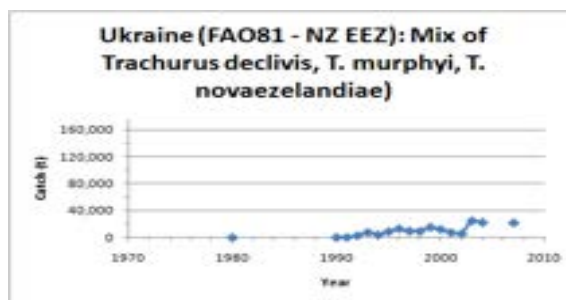
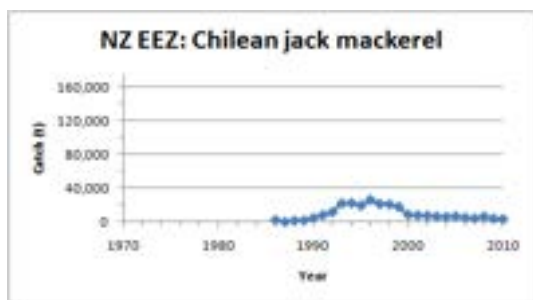
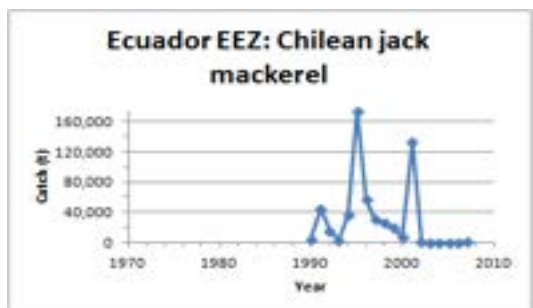
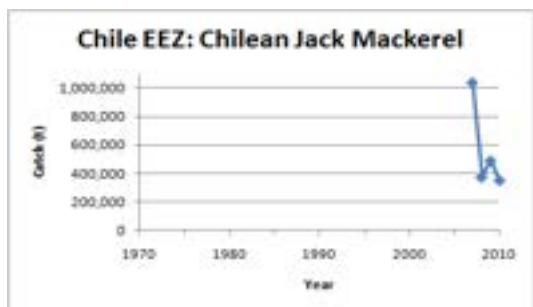
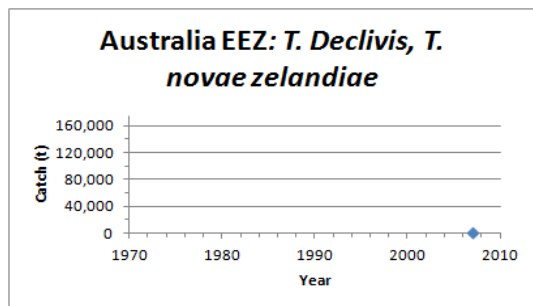
Table 3.1: Annual Catch Data of EEZ *Trachurus* Species (Part 1 of 2)

Area	Catch (t)		
	Australia	Chile	Ecuador
	EEZ	EEZ	EEZ
Species	Jack mackerel (<i>T. Declivis</i> , <i>T. novae zelandiae</i>)	Chilean jack mackerel (<i>T. murphyi</i>)	Chilean jack mackerel (<i>T. murphyi</i>)
2010	0	355,510	4,613
2009	0	491,792	1,935
2008	0	376,370	0
2007	680	1,040,167	927
2006			0
2005			0
2004			0
2003			0
2002			604
2001			134,011
2000			7,121
1999			19,072
1998			25,900
1997			30,302
1996			56,782
1995			174,393
1994			36,575
1993			2,673
1992			15,022
1991			45,313
1990			4,144
1989			35,108
1988			
1987			
1986			
1985			
1984			
1983			
1982			
1981			
1980			
1979			
1978			
1977			
1976			
1975			
1974			
1973			
1972			
1971			
1970			

Table 3.1: Annual Catch Data of EEZ *Trachurus* Species (Part 2 of 2)

Area	Catch (t)				
	New Zealand	New Zealand	New Zealand	Peru	Ukraine
	EEZ	EEZ	EEZ	EEZ	FAO81 (NZ EEZ)
Species	Chilean jack mackerel (<i>T. murphyi</i>)	<i>T. novaezealandiae</i>	<i>T. declivis</i>	Chilean jack mackerel (<i>T. murphyi</i>)	Jack and horse mackerels nei (mix of <i>Trachurus declivis</i> , <i>T. murphyi</i> , <i>T. novaezealandiae</i>)
2010	3,303	14,984	22,591	300	
2009	3,964	14,390	21,820	25,912	
2008	6,500	14,664	26,231	169,537	
2007	4,186	16,265	25,923	254,426	22,067
2006	5,253	14,226	16,873	277,568	
2005	6,730	23,442	15,564	80,663	
2004	6,184	15,650	21,335	187,369	22,600
2003	6,538	13,663	17,548	217,734	25,016
2002	7,486	9,986	14,831	154,219	5,667
2001	7,916	11,768	9,805	723,733	7,577
2000	8,677	3,844	10,033	296,579	12,213
1999	18,058	2,889	13,412	184,679	15,306
1998	20,993	8,796	6,229	386,946	9,309
1997	21,543	8,374	5,119	649,751	9,740
1996	26,386	10,133	6,212	438,736	13,093
1995	19,678	8,898	7,775	376,600	8,990
1994	22,434	4,934	14,917	196,771	4,192
1993	22,108	13,295	13,879	130,681	7,937
1992	11,611	13,444	12,632	96,660	2,878
1991	8,287	13,219	12,222	136,337	319
1990	4,780	10,791	11,637	191,139	214
1989	1,810	6,959	14,601	140,720	
1988	1,598	8,019	14,536	118,076	
1987	0	9,365	10,064	46,304	
1986	2,206	7,894	7,395	49,863	
1985				87,466	
1984				184,333	
1983				76,825	
1982				50,013	
1981				37,875	
1980				123,380	6
1979				151,591	
1978				386,793	
1977				504,992	
1976				54,154	
1975				37,899	
1974				129,211	
1973				42,781	
1972				18,782	
1971				9,189	
1970				4,711	

Figure 3.1: Annual Catch Data of EEZ *Trachurus* Species Catch



4.0 Summary of 'Other Mackerel' Data Received by the Interim Secretariat

Table 4.1: Annual Catch Data– Other Mackerels (including chub & unspecified mackerel) Part 1 of 3

Area	Catch (t)				
	Belize	Chile		EU	
Area	FAO87	FAO 87 (High Seas only)	FAO 87 (High Seas and EEZ)	FAO87	FAO 71, 77, 81, 87 combined
Species	Mackerel- species unspecified/ <i>S. japonicus</i>	Chub mackerel - <i>Scomber japonicus</i>	Chub mackerel - <i>Scomber japonicus</i>	Chub mackerel	Mackerel- species not specified
2010	21.36	936	95,659	678	
2009	295.2^	21,936	158,452	5,168	
2008	1103.96^	45,702	133,018	5,879	
2007	966	63,492	297,189	9,067	
2006			345,673	5,989	
2005			280,756	211	
2004			577,336		
2003			572,052		
2002			343,371		
2001			365,031		
2000			95,789		
1999			120,123		
1998			71,769		
1997			211,649		
1996			146,649		
1995			110,210		
1994			27,171		
1993			96,023		
1992			72,364		36
1991			191,723		14,396
1990			192,948		98,123
1989			39,328		109,556
1988			26,423		90,655
1987			32,799		82,955
1986			1,584		79,454
1985			11,314		81,361
1984					69,055
1983					39,792
1982					44,628
1981					78,261
1980					48,129
1979					93,311
1978					13,273
1977					596
1976					97
1975					7

X Data not displayed as catch totals are for less than 3 vessels and data are not already public

^ Species confirmed as *Scomber japonicus*

Table 4.1: Annual Catch Data– Other Mackerels (including chub & unspecified mackerel) Part 2 of 3

	Catch (t)			
	Faroe Islands	Japan	Korea	New Zealand
Area	FAO87	FAO87	FAO87 (High Seas)	5x5
Species	<i>Scomber japonicus</i>	Chub mackerel	Chub mackerel	<i>Scomber australasicus</i>
2010	x		x	0
2009	x		x	0
2008	x		968	0
2007			1,240	0
2006			1,460	0
2005			x	5
2004			708	3
2003			39	0
2002				5
2001				
2000				
1999		1		
1998				
1997				
1996				
1995				
1994				
1993				
1992				
1991				
1990		<0.5		
1989				
1988				
1987				
1986				
1985				
1984		1		
1983				
1982				
1981				
1980				
1979		1		
1978		<0.5		
1977				
1976				
1975				

X Data not displayed as catch totals are for less than 3 vessels and data are not already public

Table 4.1: Annual Catch Data –Other Mackerels (including chub & unspecified mackerel) Part 3 of 3

	Catch (t)				
	Russian Fedn.		Ukraine		Vanuatu
Area	FAO81	FAO87	FAO81 (includes some catch from NZ EEZ)	FAO87	FAO87
Species	Pacific mackerel	Chub mackerel	<i>Scomber australasicus</i>	<i>Scomber japonicus</i>	Chub mackerel
2010					676
2009		535			4,901
2008		x^			8,945
2007	0	0			7,705
2006	0	0			3,352
2005	0	0			1,819
2004	0	0	0		3,137
2003	0	0	0		1,553
2002	0	0	0		
2001	0	0	0		
2000	0	0	0		
1999	0	0	0		
1998	0	0	0		
1997	0	0	0		
1996	0	0	0		
1995	75	0			
1994	204	0	0		
1993	326	0	0		
1992		0	0	17	
1991	828	18,257	0	1,063	
1990	100	74,168		2,085	
1989	700	28,160	25	999	
1988	x	34,805		519	
1987	50	3,835	1	79	
1986	0	1,920		647	
1985	50	38,275		39	
1984	0	71,952		78	
1983	0	4,416			
1982	0	41,878		565	
1981	0	41,500		4,708	
1980	0	48,300		1,282	
1979	0	5,800		522	
1978	0	1,773		122	
1977	0	0			
1976	0	0			
1975	0	0			

X Data not displayed as catch totals are for less than 3 vessels and data are not already public

^ Species confirmed as *Scomber japonicus*

Figure 4.1: Annual Catch Data - Other Mackerels (including chub & unspecified mackerel)

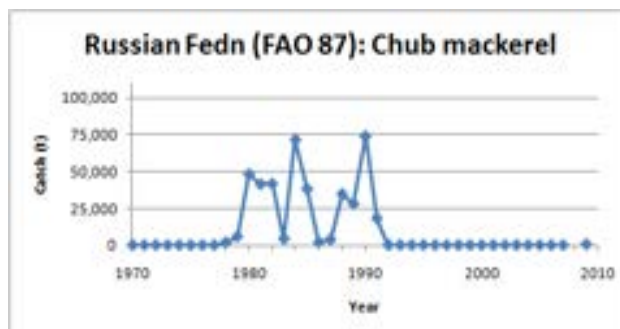
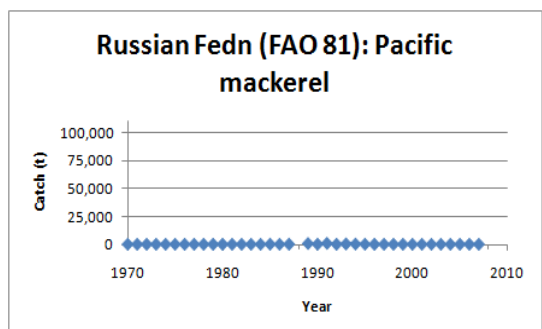
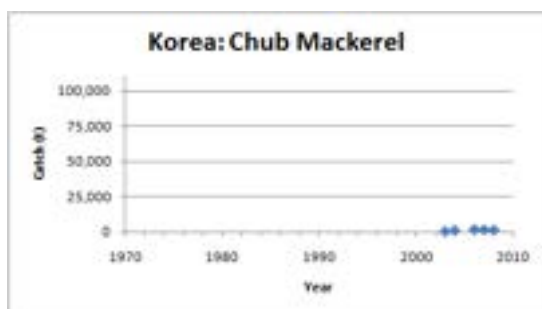
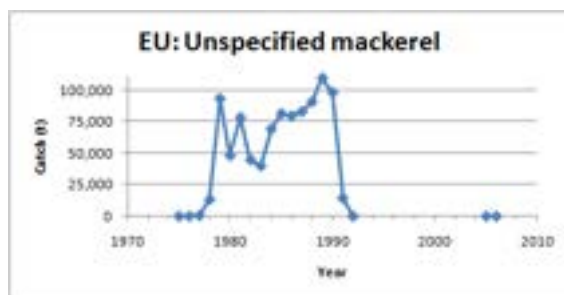
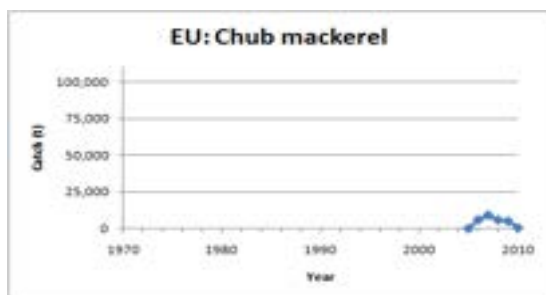
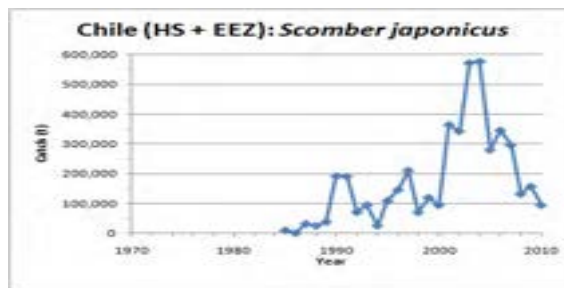
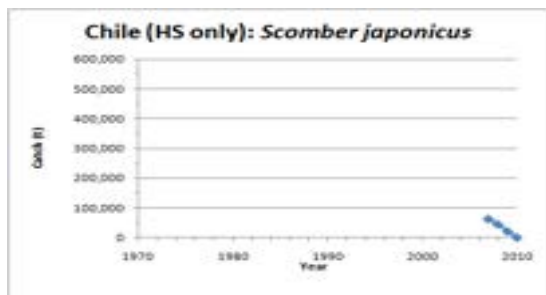
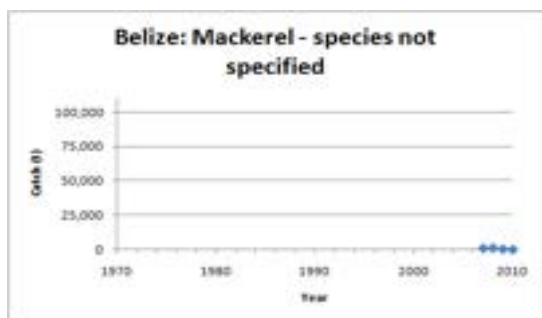
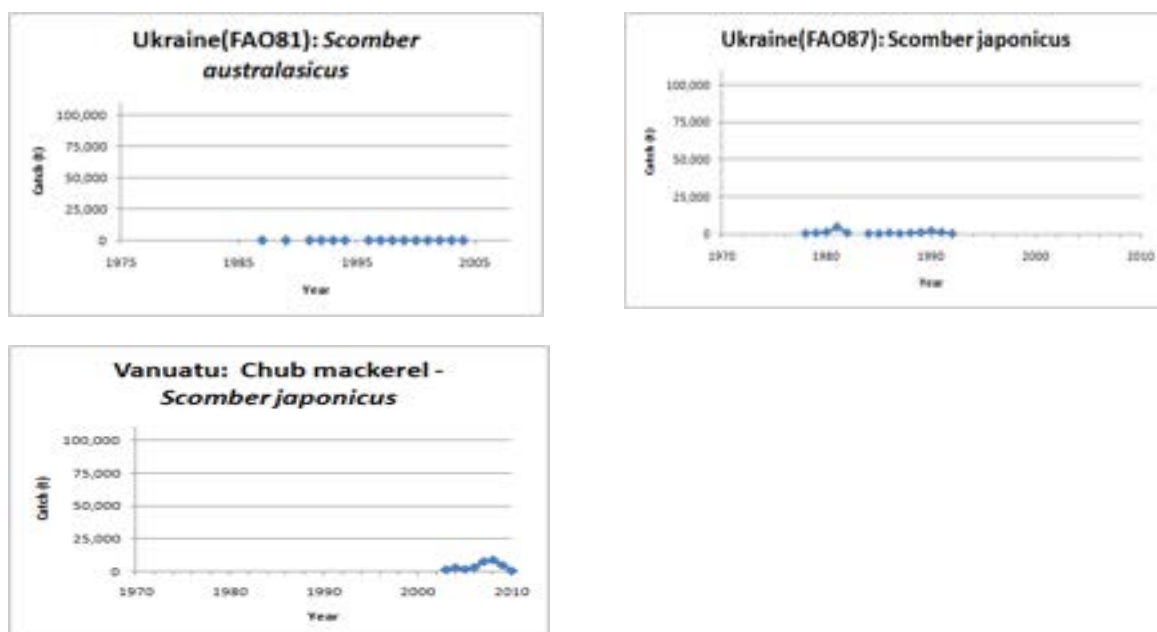


Figure 4.1 Contd: Annual Catch Data - Other Mackerels (including chub & unspecified mackerel)



Finer Scale 'Other' Mackerel Data Received to Date

The following table details the finer scale 'other mackerel' (non-*Trachurus*) data received to date by the Interim Secretariat:

Table 4.2: Summary of Finer Scale 'Other mackerel' Data Received

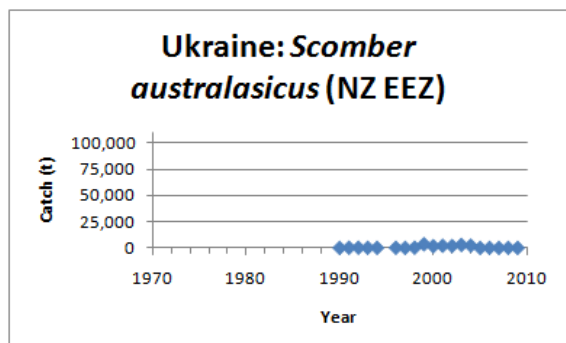
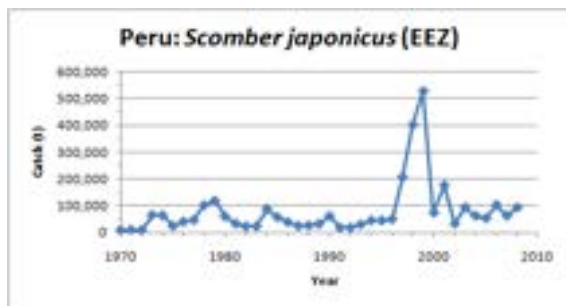
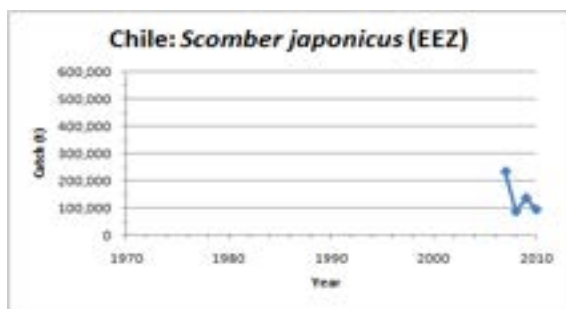
PARTICIPANT	Finer Scale Catch/ Landing Data Provided for the Years Listed		
	5x5 Degree Square	1x1 Degree Square	Tow by Tow
Belize	2008 (by month and vessel), 2009, 2010 (by day, position)	2007 (mackerel - species not specified - by vessel/day/ month)	
Chile		2007-2009	2008-2009; 2010 (purse seine by trip)
EU	2007		2008 -2010
Faroe Islands			2008,2009 (preliminary)
Korea	2003-2006		2007-2010
Russian Fedn.			2008; 2009 (for 5 of 6 vessels); 2011
Vanuatu*			2008-2010

* Also provided catch by day and vessel for 2007

Table 4.3: Annual Catch Data of EEZ Chub Mackerel

Area	Catch (t)		
	Chile	Peru	Ukraine
	EEZ	EEZ	NZ EEZ
Species	<i>Scomber japonicus</i>	<i>Scomber japonicus</i>	<i>Scomber australasicus</i>
2010	94,723		
2009	136,516		
2008	87,316	92,989	
2007	233,697	62,387	
2006		102,322	
2005		52,895	
2004		62,255	2,165
2003		93,384	2,843
2002		32,698	1,849
2001		176,202	2,040
2000		73,263	1,677
1999		527,729	3,457
1998		401,903	214
1997		206,183	9
1996		49,221	156
1995		44,259	
1994		44,115	133
1993		29,504	94
1992		17,939	213
1991		17,304	224
1990		60,776	2
1989		32,042	
1988		25,554	
1987		24,072	
1986		38,709	
1985		57,069	
1984		87,134	
1983		22,579	
1982		22,072	
1981		32,803	
1980		59,062	
1979		118,067	
1978		101,505	
1977		46,071	
1976		40,172	
1975		23,588	
1974		63,270	
1973		64,966	
1972		8,707	
1971		10,113	
1970		8,791	

Figure 4.2: Annual Catch Data of EEZ Chub Mackerel (*Scomber japonicas*) Catch



5.0 Squid Data Summary: Fish Taken Entirely or Partially within SPRFMO Area

Chile (2007 – 09) and Peru (1990 – 2008) have also submitted EEZ only catches of jumbo flying squid.

Table 5.1: Squid Annual Catch Data Received (Part 1 of 3)

Area	Catch (t)			
	Belize 5x5 square	Chile Includes catch from within national waters of jurisdiction	China FAO87	EU Unspecified
Species	Squid - species not specified	Squid - Jumbo Flying squid	Squid - Jumbo Flying squid	Squid - species not specified
2010		200,428~	142,000	
2009		56,337~	70,000	
2008		145,171~	79,064	
2007	0	124,389~	49,963	
2006	0	219,800	62,000	
2005	825	296,953	86,000	
2004	681	175,134	205,600	
2003	479	15,191	81,000	
2002	588	5,589	50,483	
2001	453	3,476	17,770	
2000		9		
1999		6		
1998		5		
1997				
1996		2		
1995				
1994		205		
1993		7,442		
1992		9,400		
1991		445		1,075
1990				6,497
1989				2,003
1988				
1987				
1986				
1985				
1984				
1983				
1982				
1981				
1980				
1979				
1978				
1977				
1976				
1975				
1974				
1973				
1972				
1971				
1970				
1969				

~ This catch was all taken within the Chilean EEZ only

Table 5.1: Squid Annual Catch Data Received (Part 2 of 3)

	Catch (t)						
	Japan	Korea	Korea	Korea	New Zealand	Russian Fedn.	Russian Fedn.
Area	FAO87	FAO87 (High Seas only)	FAO87 (EEZ of Peru only)	FAO87 (EEZ of Peru and High Seas)	FAO81	FAO81	FAO87
Species	Squid - Jumbo Flying squid	Squid - Jumbo Flying squid	Squid - Jumbo Flying squid	Squid - Jumbo flying squid	Squid (OMZ, UHX, UHU)	Squid - species not specified	Squid - species not specified
2010	498	6,742	7,764	14,506	<0.5		
2009		0	7,221	7,221	0		
2008		804	5,971	6,775	0		
2007		0	0	0	<0.5	0	0
2006	323	437	2,048	2,485	<0.5	0	0
2005	1,633	0	x	x	0	0	0
2004	4,615	8,761	2,026	10,787	<0.5	0	0
2003	4,510	3,041	1,681	4,722	<0.5	0	0
2002	33,978	8,629	13,130	21,759	<0.5	0	0
2001	1,132	0	5,797	5,797		0	0
2000	1,704			20,822		0	0
1999	x			19,728		1,352	0
1998						1,907	0
1997	x			3,359		5,809	0
1996	644			12,896		8,365	0
1995	37			35,719		17,004	0
1994	2,698			69,664		22,098	0
1993	3,579			62,887		15,600	0
1992	1,874			43,022		28,767	0
1991	50			24,015		17,331	23,240
1990	x			3,465		21,654	7,860
1989	x					13,413	380
1988	x					x	0
1987						9,135	0
1986						15,818	0
1985						18,267	130
1984						19,076	10
1983						20,319	0
1982						18,118	10
1981						12,902	60
1980						15,506	0
1979						14,308	45
1978						3,112	0
1977						26,837	0
1976						0	0
1975						0	0
1974						0	0
1973						0	0
1972						0	<0.5
1971						0	
1970						0	
1969						100	

X Data not displayed as catch totals are for less than 3 vessels and data are not already public

Table 5.1: Squid Annual Catch Data Received (Part 3 of 3)

	Catch (t)			
	Ukraine		Chinese Taipei	Chinese Taipei
Area	FAO81 (NZ EEZ)	FAO87	FAO87	NZ EEZ
Species	Squids: <i>Nototodarus sloani</i> , <i>N.gouldi</i>	Squid - Jumbo Flying squid	Squid - Jumbo Flying squid	Squid - <i>N. solani</i>
2010			29,206	
2009			12,319	
2008			31,161	
2007			14,750	
2006			18,349	3,304
2005			15,976	3,831
2004	20,122		39,450	0
2003	10,379		23,009	0
2002	11,230		12,064	0
2001	8,623		0	0
2000	2,872		0	0
1999	1,462		0	761
1998	5,321		0	3,974
1997	7,955		0	6,620
1996	4,136		0	14,747
1995	6,630		0	8,284
1994	10,428		0	0
1993	5,546		0	0
1992	2,932	1	1,698	0
1991	699	398		0
1990		142		0
1989				0
1988				0
1987				850
1986				1,253
1985				8,343
1984				17,900
1983				16,377
1982				13,100
1981				8,147
1980	6,986			3,497
1979	6,191			1,601
1978				2,163
1977				1,797
1976				1,379
1975				254
1974				95
1973				109
1972				
1971				
1970				
1969				

Figure 5.1: Squid Annual Catch Data Received

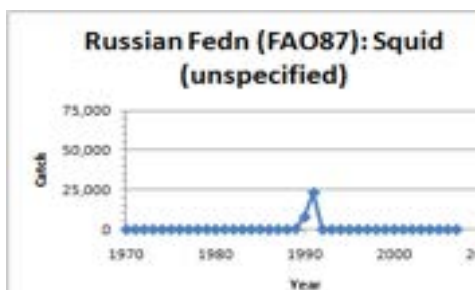
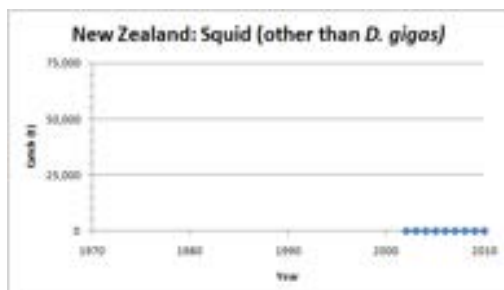
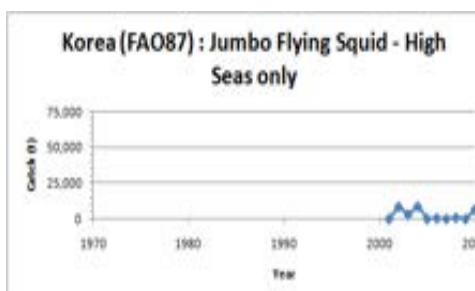
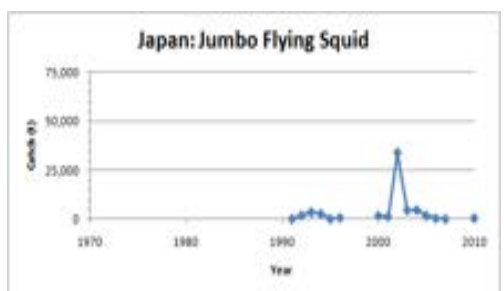
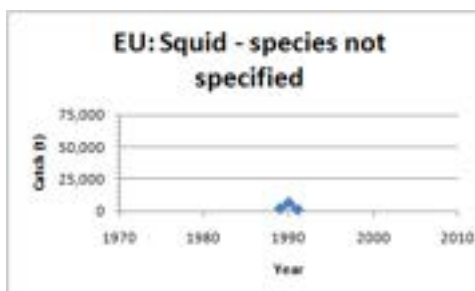
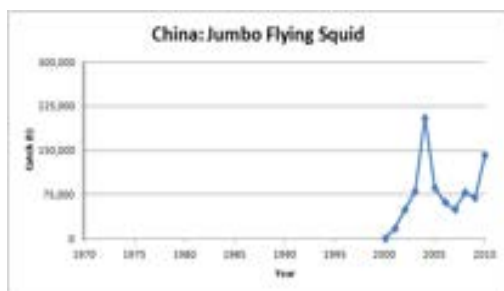
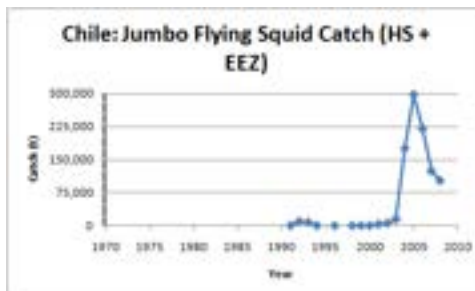
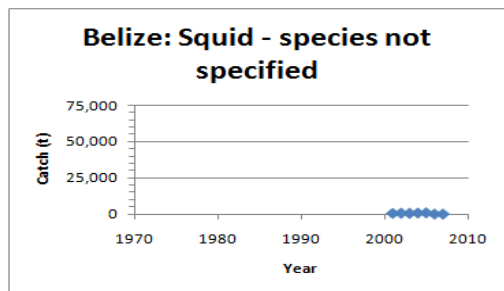
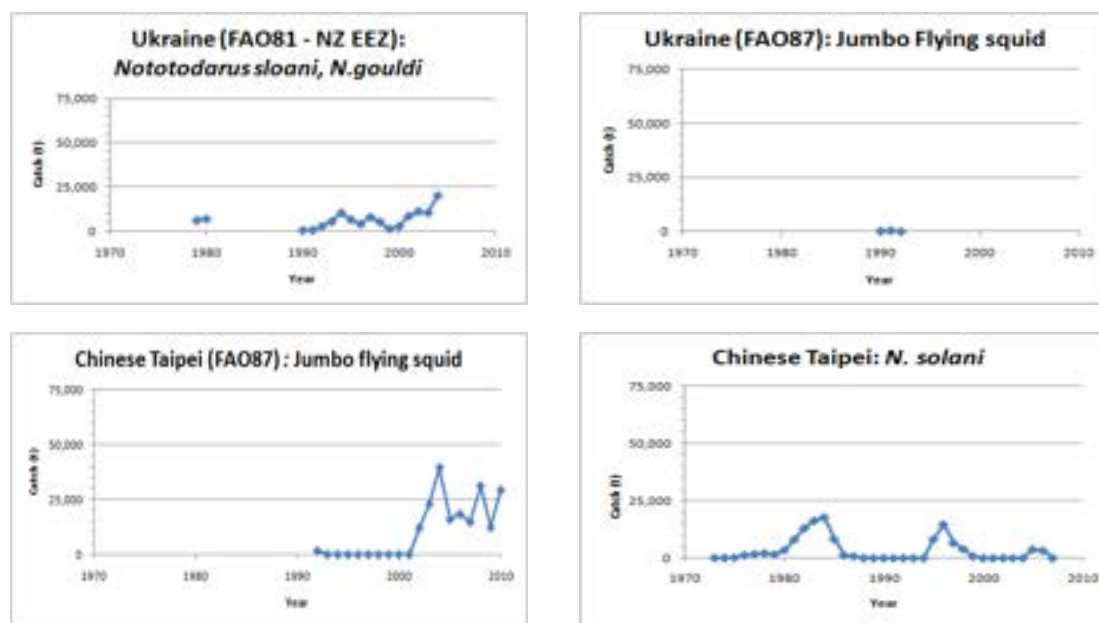


Figure 5.1 continued: Squid Annual Catch Data Received



Finer Scale Squid Data Received

The following table details the finer scale squid data received to date by the Interim Secretariat:

Table 5.2: Summary of Finer Scale Squid Data Received

PARTICIPANT	Finer Scale Catch/ Landing Data Provided for the Years Listed		
	5x5 Degree Square	1x1 Degree Square	Tow by Tow
Belize	2001-2005		
Chile		2007-2009	
China	2003-2008		
Japan	1988-2006; 2010		
New Zealand	2002-2010		
Chinese Taipei	2007-2010		

6.0 Orange Roughy Data Summary: Fish Taken Entirely or Partially within SPRFMO Area

Table 6.1: Annual Catch Data for Orange Roughy Received (Part 1 of 2)

Year	Catch (t)			
	Australia	Belize	China	EU
Area	23.5-60S, 120-180E	5x5 square	FAO87	Unspecified
2010	0			
2009	0			
2008	0			
2007	148	332 ¹	336 ¹	
2006	166	200	570	
2005	207	506	710	
2004	351	914	592	
2003	156	9	562	
2002	383	0	597	
2001	751	0	520	
2000	948			
1999	2,514			
1998	3,098			
1997	1,458			
1996	x			
1995	x			
1994	192			
1993	x			
1992	x			
1991	x			
1990	x			
1989	x			
1988	x			
1987	x			
1986				
1985				
1984				
1983				
1982				
1981				3,748
1980				
1979				
1978				
1977				
1976				
1975				
1974				
1973				
1972				
1971				
1970				
1969				

X Data not displayed as catch totals are for less than 3 vessels and data are not already public

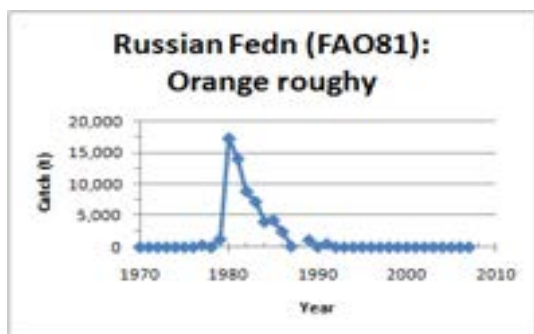
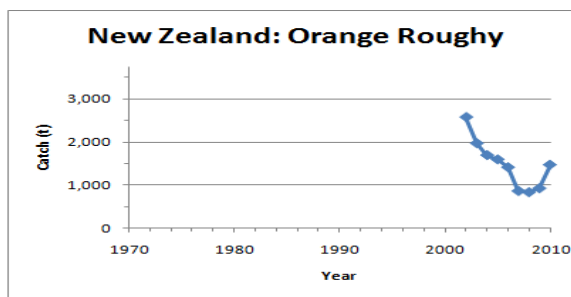
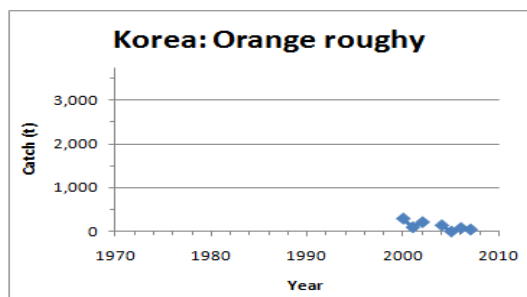
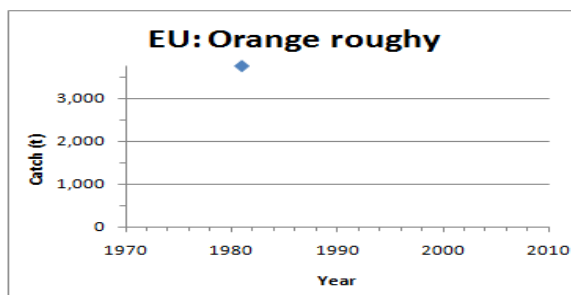
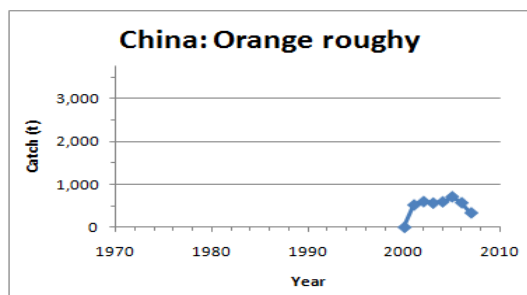
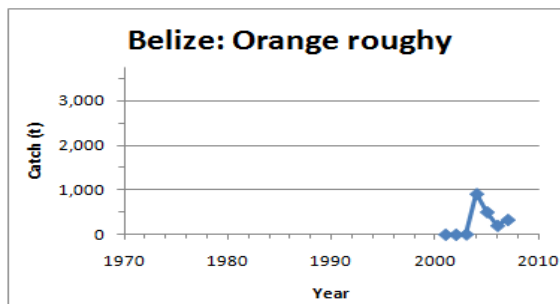
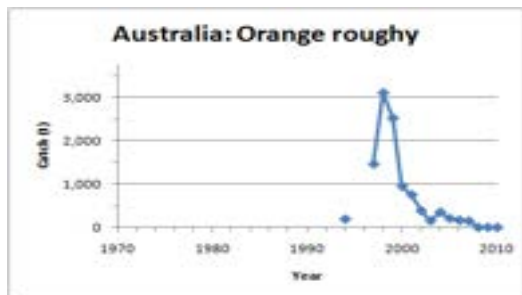
1 – The catch of orange roughy reported here was reported by both Belize and China as the annual total for the same vessel fishing in the same time period. Therefore, this catch is being double-counted in this table

Table 6.1: Annual Catch Data for Orange Roughy Received (Part 2 of 2)

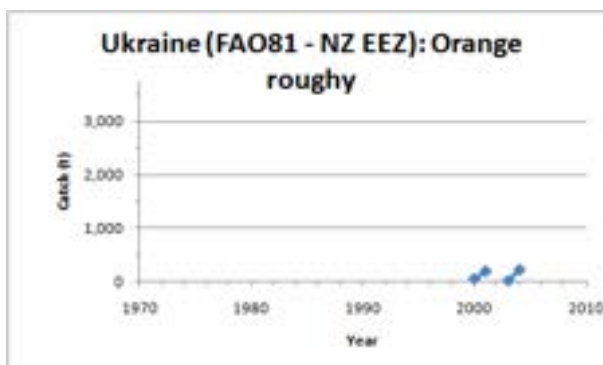
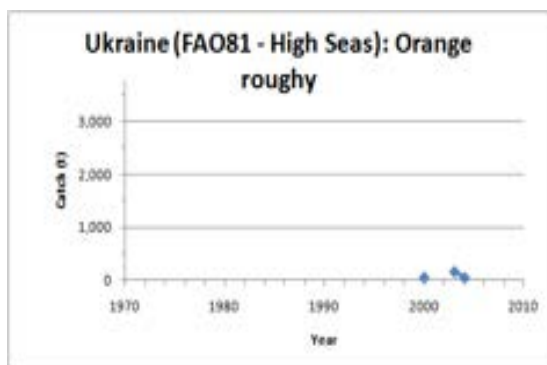
Year	Catch (t)				
	Korea	New Zealand	Russian Fedn.	Ukraine	
Area	FAO81 (EEZ and HS)	FAO81	FAO81	FAO81 (outside NZ EEZ)	FAO81 (NZ EEZ)
2010		1,474			
2009		928			
2008		837			
2007	x	866	0		
2006	x	1,415	0		
2005	x	1,597	0		
2004	x	1,697	0	49	223
2003	x	1,973	0	164	12
2002	208	2,578	0		
2001	94		0		195
2000	288		0	53	49
1999	x		0		
1998			0		
1997			0		
1996			0		
1995			0		
1994			0		
1993			0		
1992			0		
1991			506		
1990			36		
1989			1,132		
1988			x		
1987			130		
1986			2,475		
1985			4,306		
1984			4,028		
1983			7,229		
1982			8,860		
1981			14,076		
1980			17,300		
1979			1,251		
1978			0		
1977			319		
1976			0		
1975			0		
1974			0		
1973			0		
1972			0		
1971			0		
1970			0		
1969			0		

X Data not displayed as catch totals are for less than 3 vessels and data are not already public

Figure 6.1: Annual Catch Data for Orange Roughy



Note the different scale for the figure above



Finer Scale Orange Roughy Data Received

The following table details the finer scale orange roughy data received to date by the Interim Secretariat:

Table 6.2: Summary of Finer Scale Orange Roughy Data Received

PARTICIPANT	Finer Scale Catch/ Landing Data Provided for the Years Listed		
	5x5 Degree Square	1x1 Degree Square	Tow by Tow
Australia			2007
Belize	2003-2007		
New Zealand	2002-2010		

Boarfish Catch

Belize also provided 5x5 degree square data for boarfish for 2007.

7.0 Alfonsino Data Summary: Fish Taken Entirely or Partially within SPRFMO Area

Table 7.1: Annual Catch Data for Alfonsino (Part 1 of 2)

Area	Catch (t)			
	Australia	Belize	Chile	EU
Species	23.5-60S, 120-180E	FAO87 (5x5 squares)	Nazca Ridge	FAO87
2010	0			
2009	0			
2008	0			x
2007	86	61		x
2006	209	101		
2005	81	102	5	
2004	1	229		
2003	2	73	11	
2002	3	0	2	
2001	1	0	>0.5	
2000	4			
1999	8			
1998	1		144	
1997	1			
1996	0			
1995	0			
1994	0			
1993	0			
1992	0			
1991	0			
1990	0			
1989	0			
1988	0			
1987	0			
1986				
1985				
1984				
1983				
1982				
1981				
1980				
1979				
1978				
1977				
1976				
1975				

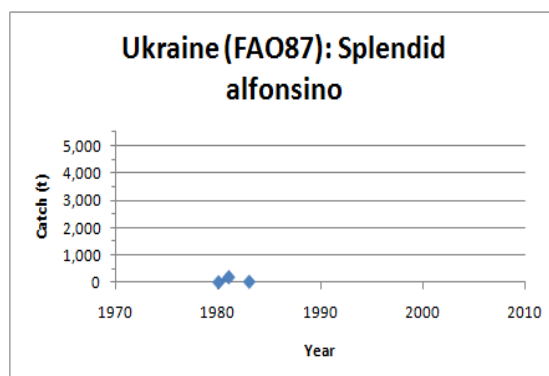
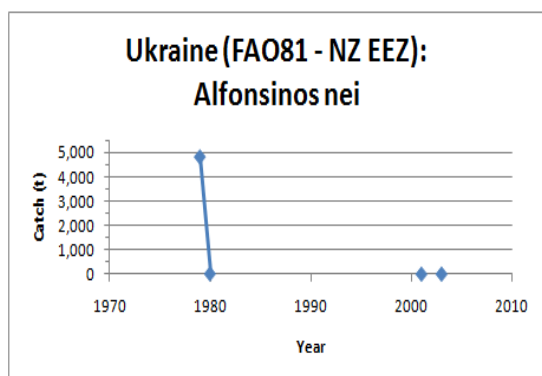
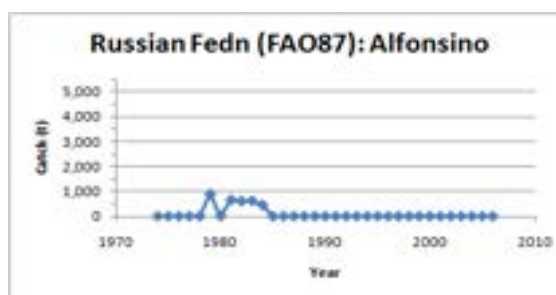
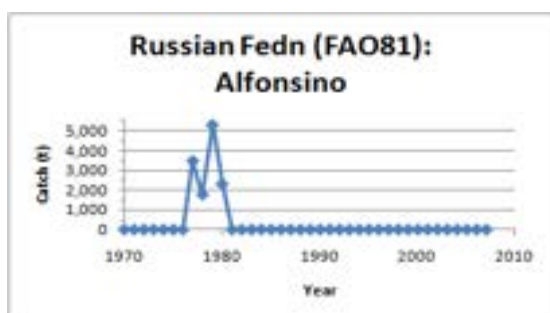
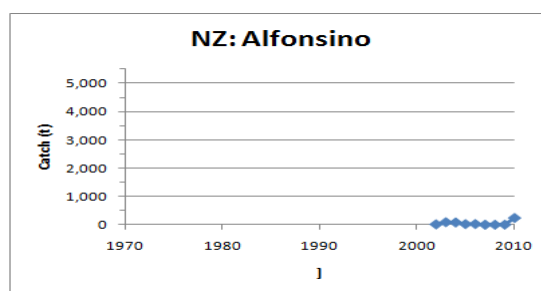
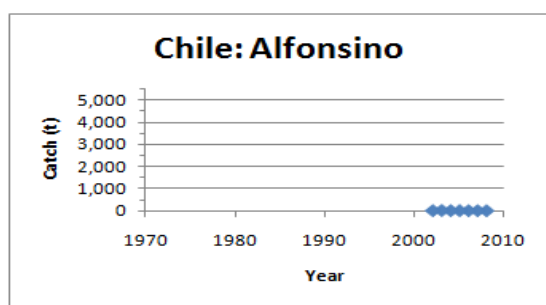
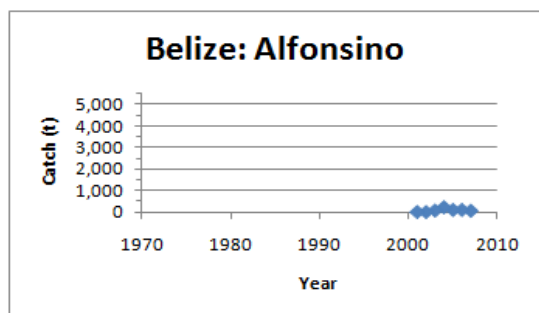
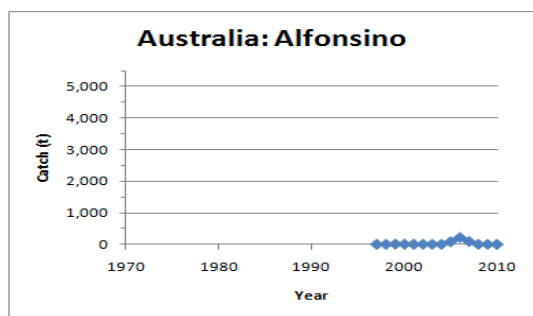
X Data not displayed as catch totals are for less than 3 vessels and data are not already public

Table 7.1: Annual Catch Data for Alfonsino (Part 2 of 2)

	New Zealand	Russian Federation	Russian Federation	Ukraine	Ukraine
Area	FAO81 (High Seas)	FAO81	FAO87	FAO81 (NZ EEZ)	FAO87
Species	Alfonsinos nei			Alfonsinos nei	Splendid alfonsino
2010	244				
2009	5				
2008	3				
2007	4	0	0		
2006	28	0	0		
2005	26	0	0		
2004	85	0	0		
2003	94	0	0	11	
2002	17	0	0		
2001		0	0	9	
2000		0	0		
1999		0	0		
1998		0	0		
1997		0	0		
1996		0	0		
1995		0	0		
1994		0	0		
1993		0	0		
1992		0	0		
1991		0	0		
1990		0	0		
1989		0	0		
1988		0	0		
1987		0	0		
1986		0	0		
1985		0	0		
1984		9	458		
1983		0	633		32
1982		0	620		
1981		0	676		198
1980		2,325	12	21	12
1979		5,323	907	4,804	
1978		1,783	0		
1977		3,491	0		
1976		0	0		
1975		0	0		

X Data not displayed as catch totals are for less than 3 vessels and data are not already public

Figure 7.1: Annual Catch Data for Alfonsino



Finer Scale Alfonsino Data Received to Date

The following table details the finer scale alfonsino data received to date by the Interim Secretariat:

Table 7.2: Summary of More Detailed Alfonsino Data Received

PARTICIPANT	Finer Scale Catch/ Landing Data Provided for the Years Listed		
	5x5 Degree Square	1x1 Degree Square	Tow/ Set Data
Australia			2007-2010
Belize	2004-2007		
EU	2007		2008
New Zealand	2002-2010		

8.0 OTHER SPECIES Data Summary: Fish Taken Entirely or Partially within SPRFMO Area

This table summarises the catches of all other species that have been submitted to the Interim Secretariat to date, i.e. all species EXCEPT mackerels, squids, orange roughy and alfonosinos.

These species/ species group catches are displayed under one of 2 different species/ group headers:

- They are listed under the appropriate FAO 3-alpha code (refer to section 1.3), or
- All remaining species/ groups annual catches are summed and listed in a grouped category labelled 'Other'. Therefore, 'Other' catch totals may potentially include both pelagic and demersal species annual catches.

Table 8.1: Annual Catch Data for Other Species (Part 1 of 4)

	Catch (t)						
	Australia	Australia	Australia	Australia	Australia	Belize	Belize
Fishery	Demersal Line	Demersal Line	Trawl	Trawl	Trawl	Demersal Trawl	Un-specified
Species	BWA	All Species other than BWA	CDL	ORD	Other Species (excluding ALF, CDL, ORD, ORY)	BOR	Grenadier
Area	FAO81	FAO81	FAO81	FAO81	FAO81	FAO87	FAO87
2010	6	100	0	0	0		
2009	4	102	0	0	0		
2008	3	174	0	0	0		
2007	16	32	2	1	16	28	
2006	8	51	0	0	75		
2005	4	5	0	75	14		
2004	2	16	0	34	1		525
2003	30	54	0	69	1		
2002	27	217	0	73	3		
2001	21	136	0	44	3		
2000	6	111	7	209	1		
1999	22	68	1	195	4		
1998	26	80	2	1040	3		
1997	6	3	15	953	41		
1996			26^	11^	1^		
1995			26^	11^	1^		
1994			2	6	3		
1993			0	36^	1.3^		
1992			0	36^	1.3^		
1991			0	36^	1.3^		
1990			0	0	2^		
1989			0	0	2^		
1988			0	0	2^		
1987			0	0	2^		
1986							
1985							
1984							
1983							
1982							
1981							
1980							
1979							
1978							
1977							
1976							
1975							
1974							
1973							
1972							
1971							
1970							

^ The total catches were reported grouped over a 2-4yr span, therefore the catch data are displayed in this table split equally between each of the grouped years

Table 8.1: Annual Catch Data for Other Species (Part 2 of 4)

	Catch (t)						
	China	EU	EU	EU	EU	EU	EU
Fishery	Demersal	Gill Net	Gill Net	Gill Net	Gill Net	Pelagic	Pelagic
Species	Other	BWA	CEX	FIN, SCK	Other	BRA, CBA	Other (includes hake, gurnard, anchovy, redfish, SA pilchards & 'other')
Area	Un-specified	FAO81	FAO81	FAO81	FAO81	FAO87	Un-specified (post 2000); FAO 71, 77, 81, 87 (for 1998 & prior)
2010		0	17	292	5		
2009		3	334	2,277	295	478	357
2008			17	916	12		20,824
2007	73					13	
2006	312						
2005	162						
2004	304						
2003	314						
2002	147						
2001	60						
2000							
1999							
1998							657
1997							
1996							
1995							
1994							
1993							
1992							961
1991							1,639
1990							2,816
1989							5,073
1988							2,741
1987							2,592
1986							2,595
1985							2,543
1984							2,175
1983							1,298
1982							1,687
1981							36,113
1980							151,966
1979							122,182
1978							61,361
1977							62,843
1976							51,432
1975							64,438
1974							64,813
1973							36,504
1972							3,915
1971							
1970							

Table 8.1: Annual Catch Data for Other Species (Part 3 of 4)

	Catch (t)					
	Korea	NZ	NZ	NZ	NZ	NZ
Fishery	Trawl	Trawl and Line	Trawl and Line	Trawl and Line	Bottom Trawl	Trawl and Line
Species	Other (includes smooth + spiky oreo, alfonsino, cardinal fishes & others)	BWA	CDL	CEX	ORD	HAU
Area	FAO81	FAO81	FAO81	FAO81	FAO81	FAO81
2010		39	22	2	31	24
2009		58	16	0	5.5	21
2008		67	1	0	1	43
2007		144	0	1	175	32
2006	13	277	21	2	69	92
2005	222	102	189	1	381	25
2004	6	131	42	1	197	14
2003	23	23	226	1	135	4
2002	17	2	159	3	192	0
2001	8					
2000						
1999						
1998						
1997						
1996						
1995						
1994						
1993						
1992						
1991						
1990						
1989						
1988						
1987						
1986						
1985						
1984						
1983						
1982						
1981						
1980						
1979						
1978						
1977						
1976						
1975						
1974						
1973						
1972						
1971						
1970						

Table 8.1: Annual Catch Data for Other Species (Part 4 of 4)

	Catch (t)				
	Russian Fedn	Russian Fedn	Russian Fedn	Ukraine	Ukraine
Fishery	Un- specified (Pelagic + demersal)	Demersal	Un- specified (Pelagic + demersal)	Demersal	Demersal + Pelagic
Species	Other	BOR	Other	BOR, ZEX	Other
Area	FAO81	FAO87	FAO87	FAO87	FAO87
2010					
2009					
2008					
2007	0		0		
2006	0		0		
2005	0		0		
2004	0		0		
2003	0		0		
2002	0		0		
2001	0		0		
2000	0		0		
1999	1,757		0		
1998	216		0		
1997	5,332		0		
1996	6,463		55		
1995	9,336		115		
1994	29,103		100		
1993	23,488		130		
1992	51,156		27		51
1991	116,266		66,494		395
1990	108,604		192,375		780
1989	59,508		165,041		596
1988	30,587		304,941		35
1987	43,234		382,621		0
1986	46,533		449,372		59
1985	41,912		452,631		321
1984	23,500		375,138		546
1983	40,134		182,914		67
1982	27,386		202,807		19,044
1981	10,595	31	62,060	49	2,964
1980	33,829		61,142		793
1979	45,631		44,000		680
1978	36,310		3,026		1,533
1977	76,635		0		
1976	78,020		0		
1975	81,107		0		
1974	102,509		0		
1973	78,208		39,217		
1972	61,012		28,100		
1971	10,422		0		
1970	0		0		

APPENDIX 1: Summary of Data Received by the Interim Secretariat

Tables 1a – 1d provide a summary of the catch/landing, observer and VMS data provided to the Interim Secretariat by participant for the years 2007 - 2010. This summary represents a 'stocktake' of the data received, and does not necessarily reflect the requirements of the 2007 Interim Measures, 2009 Revised Interim Measures, 2011 Interim Measures for Pelagic Fisheries, or all of the specific requirements of the Data Standards.

Explanatory Note

Please note the following explanation regarding "Aggregated annual catch" as it appears in these two tables.

Aggregated Annual Catch

- | | |
|-----|--|
| No | - indicates that no separate estimate of annual catch/landing by species was provided (e.g. based on landing rather than estimated catch information), however finer scale data such as tow by tow/ set by set / 1°x1° square or 5°x5° data may have been summed to give an annual catch estimate |
| Yes | - indicates that a separate estimate of annual catch/landing by species was provided and this estimate was not derived directly by the summing of finer scale estimated catch data
- for example this annual figure may have been derived from landings (as opposed to estimated catch at sea) data, or may have included catch for which there is only broad positional information available, e.g. it is known that the catch was taken in the High Seas, but no latitudinal and longitudinal information is available. |

Key to Table 1

ALL - All species mix	HKN - Southern hake (<i>Merluccius australis</i>)
ALP - Alfonsinos	JAX - Jack and horse mackerels (<i>Trochurus</i> species)
BOE - Black oreo (<i>Aloocyttus niger</i>)	LHI - Trumpet emperor (<i>Lethinus miniatu</i>)
BOR - Boarfishes nei	MAC - Atlantic mackerel (<i>Scomber scombrus</i>)
BUP - Pacific rudderfish (<i>Paenopsis anomala</i>)	MAS - Chub mackerel (<i>Scomber japonicus</i>)
BWA - Bluenose warehou/ Blue eye trevalla (<i>Hyperoglyphe antarctica</i>)	MDW - Morwongs (<i>Nemodactylus</i> species)
BXD - Alfonsino (<i>Beryx decadactylus</i>)	ONV - Spiky oreo (<i>Aloocyttus rhomboidalis</i>)
BYS - Splendid alfonsino (<i>Beryx splendens</i>)	ORY - Orange roughy (<i>Hoplostethus atlanticus</i>)
CDL - Cardinal fishes nei (<i>Epigonus</i> species)	PFM - Crimson jobfish (<i>Pristipomoides filamentosus</i>)
CIM - Chilean jack mackerel (<i>Trochurus murphyi</i>)	RIB - Common mora (<i>Mora mora</i>)
CUS - Pink cusk-eel (<i>Oreomyza bicoclear</i>)	SCK - Kitefin shark (<i>Dalotias licha</i>)
EMT - Bonnetmouths, rubyfishes nei	SSD - Smooth oreo dory (<i>Pseudocyttus maculatus</i>)
EPI - Black cardinal fish (<i>Epigonus telescopus</i>)	SWH - Giant boarfish (<i>Paristiopterus labiosus</i>)
FIN - Finfishes nei	YTC - Yellowtail kingfish/ amberjack (<i>Seriola lalandi</i>)
GIS - Jumbo flying squid (<i>Dosidicus gigas</i>)	
GGD - Shore rockling (<i>Gaidropsopus mediterraneus</i>)	EEZ - Exclusive Economic Zone
GMQ - Japanese large-eye bream (<i>Oymnocranius evonus</i>)	HS - High Seas
HAI - Hapuka (<i>Polyprion</i> species)	

Table 1a: Summary of Catch/ Landing Data/ Observer/ VMS Received for 2007 (Part 1 of 2)

PARTICIPANT		2007 CATCH/ LANDING/ Observer/ VMS DATA		
		Type of data	Data Provided?	Species/Fishery/ies for which Data Provided
Australia		Tow by tow/ set by set data (Bottom longline, dropline fisheries)	Yes	ALL
		Tow by tow/ set by set data (trawl fisheries)	Yes	ALL (Includes BXD and ORY)
		Aggregated annual catch (EEZ)	Yes	JAX (EEZ)
		Aggregated annual catch (HS)	Yes	ALF, BWA, CDL, MOW, ONV, ORY, SSO, YTC
		Observer	Yes (trawl)	ALL (Includes BXD, ORY; no lfs, no bios)
		VMS	No	
Belize		Tow by tow/ set by set data	No	
		1x1 degree square catch	Yes (by vessel/day/month)	JAX, Mackerel (species not specified)
		5x5 degree square catch data	Yes (by vessel)	ALF, BOR, ORY
		Aggregated annual catch	Yes	JAX, Mackerel (species not specified)
		Observer	No	
		VMS	Yes	
Chile		Tow by tow/ set by set data	No	
		1x1 degree square catch data (HS + EEZ)	Yes	CJM (HS + EEZ), MAS (HS + EEZ), GIS (HS + EEZ)
		Aggregated annual catch (HS + EEZ)	Yes	CJM (HS + EEZ), MAS (HS + EEZ), GIS (HS + EEZ)
		Observer	No	
		VMS	Yes (single position per vessel)	
China		Tow by tow/ set by set data	No	
		5x5 degree square catch	Yes	CJM, GIS
		Aggregated annual catch	Yes	CJM
		Observer	No	
		VMS	No	Received confirmation vessels have VMS capability
Cook Islands		Tow by tow/ set by set data	Yes	JAX
		1x1 degree square catch data	No	
		Aggregated annual catch	Yes	JAX
		Observer	No	
		VMS	Yes	
Ecuador		Aggregated annual catch (EEZ)	Yes	CJM (EEZ)
		Observer	No	
		VMS	No	
European Union	Pelagic	Tow by tow/ set by set data	No	
		5x5 degree square catch data	Yes (by vessel)	ALF, CBA, CJM, MAS
		Aggregated annual catch	No	
		Observer	No	
		VMS	Yes (as vessel tracks)	

Table 1a: Summary of Catch/ Landing Data/ Observer/ VMS Received for 2007 (Part 2 of 2)

PARTICIPANT	2007 CATCH/ LANDING/ Observer/ VMS DATA		
	Type of data	Data Provided?	Species/Fishery/ies for which Data Provided
Faroe Islands	Tow by tow/ set by set data	No	
	5x5 degree square catch data	No	
	Aggregated annual catch	Yes [^]	CJM
	Observer	No	
	VMS	Yes	
Korea	Tow by tow/ set by set data	Yes	CJM, MAS
	Aggregated annual catch	Yes	CJM, GIS, MAS, ORY
	Observer	No	
	VMS	Yes	
New Zealand	Tow by tow/ set by set data	No - Can be provided as soon as the SPRFMO database is available to accept these data	ALL
	5x5 degree square catch data	Yes	
	Aggregated annual catch (EEZ)	Yes	<i>Trachurus</i> species - CJM, HUG, TUZ
	Aggregated annual catch (HS)	No (can be summed from 5x5 data)	
	Observer	No	
	VMS	No	
Peru	Aggregated annual catch (EEZ)	Yes	CJM (EEZ), MAS (EEZ), GIS (EEZ)
	Observer	No (not fishing in High Seas)	
	VMS	No (not fishing in High Seas)	
Russian Federation	NOT FISHING IN 2007		
Ukraine	Aggregated annual catch (NZ EEZ)	Yes	JAX (NZ EEZ)
	Observer	No	
	VMS	No	
Vanuatu	Catch by vessel by day	Yes	CJM/ MAS mix
	Aggregated annual catch	Yes (by vessel)	CJM, MAS
	Observer	No	CJM - Size composition data provided 2003 - 2006
	VMS	Yes	
Chinese Taipei	Tow by tow/ set by set data	No	
	5x5 degree square catch data	Yes	GIS
	Aggregated annual catch	No (summed from 5x5 data)	
	Observer	No	
	VMS	No	

[^] Total includes small quantities of *Scomber japonicus*

Table 1b Summary of Catch/ Landing Data/ Observer/ VMS Received for 2008 (Part 1 of 2)

PARTICIPANT		2008 CATCH/ LANDING/ Observer/ VMS DATA		
		Type of data	Data Provided?	Species/Fishery/ies for which Data Provided
Australia		Tow by tow/ set by set data (Bottom longline and dropline fisheries)	Yes	ALL
		Aggregated annual catch	Yes	BWA, MOW, YTC
		Observer	Yes (demersal longline)	ALL (lfs for GMQ, LHI, PFM, ZRO; no bios)
		VMS	No	
Belize		Tow by tow/ set by set data	No	
		5x5 degree square catch data	Yes (by month and vessel)	CJM, MAS
		Aggregated annual catch	No	
		Observer	No	
		VMS	No	
Chile		Tow by tow/ set by set data	No	
		1x1 degree square catch data (HS + EEZ)	Yes	CJM (HS + EEZ), MAS (HS + EEZ), GIS (HS + EEZ)
		Aggregated annual catch (HS + EEZ)	Yes	CJM (HS + EEZ), MAS (HS + EEZ), GIS (HS + EEZ)
		Observer	No	
		VMS	No	
China		Tow by tow/ set by set data	No	
		1x1 degree square catch	Yes	CJM
		5x5 degree square catch data	Yes	GIS
		Aggregated annual catch	Yes	CJM
		Observer	Yes	
		VMS	No (a list of vessels which have VMS)	
Cook Islands		Tow by tow/ set by set data	Nil	
		Aggregated annual catch	Nil	
		VMS	Nil	
Ecuador		Aggregated annual catch (EEZ)	Nil	CJM (EEZ)
		Observer	Nil	
		VMS	Nil	
European Union	Pelagic	Tow by tow/ set by set data	Yes	ALF, CJM, MAS
		Aggregated annual catch	Yes	ALF, CJM, MAS
		Observer	Yes (non-standard format)	CJM (bios only)
		VMS	No	
	Fixed gill net	Tow by tow/ set by set data	Yes (Dec 2008)	BUP, CUS, FIN, GGD, HKN, SCK
		Aggregated	Yes (Dec 2008)	BUP, CUS, FIN, GGD, HKN, SCK
		Observer	Yes (not in standard template format)	ALL (Dec 2008)
		VMS	Yes (as vessel tracks)	

Table 1b: Summary of Catch/ Landing Data/ Observer/ VMS Received for 2008 (Part 2 of 2)

PARTICIPANT	2008 CATCH/ LANDING/ Observer/ VMS DATA		
	Type of data	Data Provided?	Species/Fishery/ies for which Data Provided
Faroe Islands	Tow by tow/ set by set data	Yes	CJM, MAS
	Aggregated annual catch	Yes	CJM, MAS
	Observer	No	
	VMS	No	
Korea	Tow by tow/ set by set data	Yes (by vessel)	CJM, MAS
	Aggregated annual catch	No for CJM, MAS; Yes for GIS	GIS
	Observer	Yes	CJM, MAS
	VMS	No	
New Zealand	Tow by tow/ set by set data	Can be provided as soon as the SPRFMO database is available to accept these data	
	5x5 degree square catch data	Yes	ALL
	Aggregated annual catch (EEZ)	Yes	<i>Trachurus</i> species - CJM, HUG, TUZ
	Aggregated annual catch (HS)	No (can be summed from 5x5 data)	
	Observer (trawl)	Yes - including Observer Implementation report	ALF, EPI, ORY, RIB, SSO (includes summary lf and bio info)
	VMS	No	
Peru	Aggregated annual catch (EEZ)	Yes	CJM (EEZ), MAS (EEZ), GIS (EEZ)
	Observer	No (not fishing in High Seas)	
	VMS	No (not fishing in High Seas)	
Russian Federation	Tow by tow/ set by set data	Yes	
	Aggregated annual catch	Yes (by vessel)	
	Observer	No	
	VMS	No	
Vanuatu	Tow by tow/ set by set data	Yes	CJM, MAS
	Aggregated annual catch	Yes (by vessel)	CJM, MAS
	Observer	No	CJM - Size composition data provided
	VMS	No	
Chinese Taipei	Tow by tow/ set by set data	No	
	5x5 degree square catch data	Yes	GIS
	Aggregated annual catch	No (summed from 5x5 data)	
	Observer	No	
	VMS	No	

Table 1c: Summary of Catch/ Landing Data/ Observer/ VMS Received for 2009 (Part 1 of 2)

PARTICIPANT		2009 CATCH/ LANDING/ Observer/ VMS DATA		
		Type of data	Data Provided?	Species/Fishery/ies for which Data Provided
Australia		Tow/set (bottom longline & dropline)	Yes	ALL (includes BYS)
		Tow/set (trawl)	Yes - nil return	
		Aggregated annual catch	Yes	BWA, MOW, YTC
		Observer (bottom longline & dropline)	Yes	ALL
		Observer (trawl)	Yes - nil return	
		VMS	No	
Belize		Tow by tow/ set by set data	No	
		5x5 degree square catch data	Yes	CJM, MAS
		Aggregated annual catch	Derived from 5x5 only	
		Observer	No	
		VMS	Yes	
Chile		Tow by tow/ set by set data	No	
		1x1 degree square catch data	Yes	CJM (HS + EEZ), MAS (HS + EEZ), GIS (HS + EEZ)
		Aggregated annual catch	Yes	CJM (HS + EEZ), MAS (HS + EEZ), GIS (EEZ)
		Observer	Yes (ifs & biology incl wgt & sex freqs and maturity stages - but not in template format)	CJM, MAS
		VMS	No	
China		Tow by tow/ set by set data	Yes (all vessels)	CJM
		Aggregated annual catch	Yes	CJM, GIS
		Observer	Yes	CJM
		VMS	Yes (all vessels)	
Cook Islands		Tow by tow/ set by set data	Nil	
		Aggregated annual catch	Nil	
		VMS	Nil	
Ecuador		Aggregated annual catch (EEZ)	Yes	CJM (EEZ)
		Observer	No	
		VMS	No	
European Union	Pelagic	Tow by tow/ set by set data	Yes (all vessels)	BRU, CJM, MAS
		Aggregated annual catch	Yes	BRU, CJM, MAS
		Observer	Yes (in standard template format)	BRU, CJM, MAS
		VMS	Yes (as vessel tracks)	
	Fixed gill net	Tow by tow/ set by set data	Yes	ALL
		Aggregated annual catch	Yes (by vessel, month and species)	ALL
		Observer	Yes (not in standard template format: Jan - Mar 09) plus scientific reports	ALL
		VMS	Yes (as vessel tracks)	

Table 1c: Summary of Catch/ Landing Data/ Observer/ VMS Received for 2009 (Part 2 of 2)

PARTICIPANT	2009 CATCH/ LANDING/ Observer/ VMS DATA		
	Type of data	Data Provided?	Species/Fishery/ies for which Data Provided
Faroe Islands	Tow by tow/ set by set data	Yes (preliminary)	CJM, MAS
	Aggregated annual catch	Yes	CJM, MAS
	Observer	No	
	VMS	No	
Korea	Tow by tow/ set by set data	Yes	CJM, EMT, MAS
	Aggregated annual catch	Yes - GIS; No - for species othe than GIS - annual totals can be summed from tow data	GIS
	Observer	No observers in 2009	
	VMS	No	
New Zealand	Tow by tow/ set by set data	Can be provided as soon as the SPRFMO database is available to accept these data	
	5x5 degree square catch data	Yes	ALL
	Aggregated annual catch (EEZ)	Yes	<i>Trachurus</i> species - CJM, HUG, TUZ
	Aggregated annual catch (HS)	No (can be summed from 5x5 data)	
	Observer	Yes	ALF, EPI, ORY, RIB
	VMS	No	
Peru	Tow by tow/ set by set data	No	
	5x5 degree square catch data	No	
	Aggregated annual catch	Yes (landing data by vessel)	Total catch (kg) provided; (target species = <i>Trachurus</i> species)
	Observer	No	Submitted l:wtg relationship, CPUE, acoustic biomass for ASST
	VMS	No	
Russian Federation	Tow by tow/ set by set data	Yes (for 5 of 6 vessels)	BRA, CJM, MAS
	Aggregated annual catch	No (an aggregate total for Dec 2009 was provided for CJM)	
	Observer	No	
	VMS	Yes (1 vessel for December 2009)	
Vanuatu	Tow by tow/ set by set data	Yes	CJM, MAS
	Aggregated annual catch	Yes	CJM, MAS
	Observer	No - commercial size composition collected from on board factory	
	VMS	Yes (as vessel tracks)	
Chinese Taipei	Tow by tow/ set by set data	No	
	5x5 degree square catch data	Yes	GIS
	Aggregated annual catch	No (summed from 5x5 data)	
	Observer	No	
	VMS	No	

Table 1d: Summary of Catch/ Landing Data/ Observer/ VMS Received for 2010 (Part 1 of 2)

PARTICIPANT		2010 CATCH/ LANDING/ Observer/ VMS DATA		
		Type of data	Data Provided?	Species/Fishery/ies for which Data Provided
Australia		Tow/set (bottom longline & dropline)	Yes	ALL (includes BYS)
		Tow/set (trawl)	Nil	
		Aggregated annual catch	Yes	BWA, MOW, YTC
		Observer (bottom longline & dropline)	No	
		VMS	No	
		Landings (bottom longline & dropline)	Yes	ALL
Belize		Tow by tow/ set by set data	No	
		Aggregated by day & position	Yes	CJM, MAS
		Aggregated annual catch	No ¹	CJM, MAS
		Observer	No	
		VMS	No	
Chile		Trip by trip purse seine data (HS)	Yes	CJM, MAS
		Aggregated annual catch	Yes (EEZ catch reported by 'Chilean EEZ fishing zone' area)	CJM (HS + EEZ), GIS (EEZ), MAS (HS + EEZ)
		Observer	Yes	
		VMS	No	
		Landings (HS)	Yes	CJM, MAS
China		Tow by tow/ set by set data	Yes	CJM
		Aggregated annual catch	CJM - No ¹ ; GIS - Yes	GIS
		Observer	No	
		VMS	No	
Cook Islands		Tow by tow/ set by set data	Nil	
		Aggregated annual catch	Nil	
		VMS	Nil	
Ecuador		Aggregated annual catch (EEZ)	Yes	CJM (EEZ)
		Observer	No	
		VMS	No	
European Union	Pelagic	Tow by tow/ set by set data	Yes	BRU, CJM, MAS
		Aggregated annual catch	Yes	CJM, MAS
		Observer	Yes	BRU, CJM, MAS
		VMS	No	
		Landings (1 landing event for 1 vessel)	Yes	BRU, CJM
	Fixed gill net	Tow by tow/ set by set data	Yes - fishing occurred in January 2010 only	ALL
		Aggregated annual catch	Yes (by vessel, month and species)	ALL
		Observer	Yes	ALL
		VMS	No	

¹ For CJM, the aggregated annual catch (2010) provided was the same or virtually the same as the sum of daily catch/tow by tow catches for 2010

Table 1d: Summary of Catch/ Landing Data/ Observer/ VMS Received for 2010 (Part 2 of 2)

PARTICIPANT	2010 CATCH/ LANDING/ Observer/ VMS DATA		
	Type of data	Data Provided?	Species/Fishery/ies for which Data Provided
Faroe Islands	Tow by tow/ set by set data	Yes	CJM - not in template format
	Aggregated annual catch	Yes	CJM, MAS
	Observer	No	
	VMS	No	
Japan	Trip data	Yes	GIS (squid jigging)
	Aggregated annual catch	Yes	GIS (squid jigging)
	Observer	No	
	VMS	No	
Korea	Tow by tow/ set by set data	Yes	CJM, MAS
	Aggregated annual catch	CJM, MAS - No ¹ GIS - Yes	GIS
	Observer	No	
	VMS	No	
New Zealand	Tow by tow/ set by set data	Can be provided as soon as the SPRFMO database is available to accept these data	
	5x5 degree square catch data	Yes	ALL
	Aggregated annual catch (EEZ)	Yes	<i>Trachurus</i> species - CJM, HUG, TUZ
	Aggregated annual catch (HS)	No, but can be summed from 5x5 catch	
	Observer	Yes	ALF, BOE, BWA, EPI, HAU, ONV, ORY, RIB, SSO, SWH
	VMS	No	
Peru	Tow by tow/ set by set data	No	
	5x5 degree square catch data	No	
	Aggregated annual catch	No	CJM
	Observer	No	
	VMS	No	
Russian Federation	Tow by tow/ set by set data	No	
	Aggregated annual catch	Yes ²	CJM
	Observer	No	
	VMS	Yes	
Vanuatu	Tow by tow/ set by set data	Yes	CJM, MAS
	Aggregated annual catch	Yes	CJM, MAS
	Observer	No	
	VMS	No	
Chinese Taipei	Tow by tow/ set by set data	No	
	5x5 degree square catch data	Yes	GIS (squid jigging)
	Aggregated annual catch	Yes	GIS (squid jigging)
	Observer	No	
	VMS	No	

¹ For CJM, the aggregated annual catch (2010) provided was the same or virtually the same as the sum of daily catch/ tow by tow catches for 2010

² Aggregated annual catch was provided for a single vessel (the Lafayette) however the data has not been included in table 2.1, pending receipt of operational fishing information

APPENDIX 2: Summary of Bottom Footprint Data Received by the Interim Secretariat

The Interim Benthic Assessment Framework adopted at the 4th Meeting in September 2007, noted that a 'joint trawl footprint' map should be expressed as grid blocks of 20 minute resolution, with a 'fished' block being defined as any grid block partially crossed by at least one trawl track. The period 2002 to 2006 should be used as the reference period for developing this joint trawl footprint map.

Therefore, participants that bottom trawled within the proposed SPRFMO area between 2002 and 2006, should have submitted data to generate the joint trawl footprint map.

Table 2 provides a summary of the bottom footprint data provided to the Interim Secretariat to date.

Table 2: Summary of Bottom Footprint Data Received by the Interim Secretariat

Participant	Time Period	Footprint Type	Resolution
Australia	2002-2006	Bottom Trawl and Demersal Lining Combined	20 x 20 minute block
Chile	2002-2006	Bottom Trawl	20 x 20 minute block
Korea	2001, 2002-2006, 2007	Bottom Trawl	20 x 20 minute block
New Zealand	2002-2006	i) Bottom Trawl only*, plus ii) Demersal Lining only	20 x 20 minute block

* Note that the New Zealand trawl footprint map includes information from New Zealand and foreign-flagged vessels that submitted information on NZ High Seas Trawl Catch and Effort returns

Working Paper 10

EU proposal for SPRFMO Conservation and Management Measure for *Trachurus murphyi*

The Commission of the SPRFMO,

Noting that despite the positive trend in the *Trachurus murphyi* stock since 2010, it remains at very low levels;

Concerned in particular with the low levels of the current biomass, high fishing mortalities and high degrees of associated uncertainties;

Considering the outcomes of the stock assessment carried out in October of 2012 and the advice of the Scientific Working Group (SWG) established by the Preparatory Conference,

Bearing in mind the commitment to apply the precautionary approach as enshrined in Article 3 of the Convention;

Aiming at rebuilding the stock of *Trachurus murphyi* and ensuring its long term conservation and sustainable use in accordance with the objective of the Convention,

Recognizing the importance of carrying out effective monitoring and control of implementation in the absence of SPRFMO monitoring, control and surveillance measures and giving effect to Article 27 of the Convention;

Recalling Article 4.2 and 21.2 of the Convention;

Adopts the following conservation and management measure in accordance with Article 8 and 16 of the Convention:

General Provisions

1. This Conservation and Management Measure (CMM) applies to fisheries for *Trachurus murphyi*.
2. Only Members and Cooperating Non-Contracting Parties (CNCs) are allowed to participate in the fishery for *Trachurus murphyi* in the Convention area.
3. The provisions of this CMM and the 2011 and 2012 Interim Measures for pelagic fisheries are not to be considered precedent for future allocation or other decisions taken in accordance with Article 21 of the Convention, relating to participation in fisheries for *Trachurus murphyi*, and are not to affect the full recognition of the special requirements, including the fisheries development aspirations and interests, of developing States, in particular small island developing States and territories and possessions in the region, in accordance with the Convention. In particular, catch from 2011 onwards will not be considered in future allocation decisions. Nevertheless, paragraph 1 of Article 21 of the Convention requires that the Commission take into account the status of the resource for decisions regarding participation in fishing for fishery resources. Since implementation of this CMM, as well as the Interim Measures for pelagic fisheries of 2007 as revised in 2009,

2011 and 2012, are key for the rebuilding of the *Trachurus murphyi* stock, compliance with them is to be considered when adopting decisions under Article 21 for *Trachurus murphyi*.

Effort management measures

4. Members and CNCPs are to limit the gross tonnage (GT)¹ of vessels flying their flag to those that have been actively fishing in 2007 or 2008 or 2009 in the Convention Area, and may substitute their vessels as long as the total level of GT does not exceed the values indicated in Table 1 of the 2012 Interim Measures for pelagic fisheries.
5. Members and CNCPs will verify the effective presence of their vessels referred to in paragraph 4 through VMS records and catch reports.

Catch management

6. In 2013 the total catch of *Trachurus murphyi* shall be limited to 300 000 tonnes. This shall be shared among the Members and CNCPs according to the same proportion as the 2010 catches reported to the Secretariat.
7. In the event that a Member or CNCP reaches 70% of their catch limit established in accordance with paragraph 6, the Executive Secretary shall inform that Member or CNCP of that fact, with a copy to all other Members and CNCPs. That Member or CNCP shall close the fishery for their flagged vessels when their catch is equivalent to 100% of their catch limit. Such Member or CNCP shall notify promptly the Executive Secretary of the date of the closure.
8. The provisions of this CMM are without prejudice to the rights of Members and CNCPs to adopt national measures limiting the level of catches of their flagged vessels fishing for *Trachurus murphyi* in the Convention area further from the levels specified in paragraph 6. In such case, Members and CNCPs shall endeavor to notify their domestic measures within 1 month of adoption to the Executive Secretary, for circulation to Members and CNCPs.

Data collection and reporting

9. Members and CNCPs engaged in the *Trachurus murphyi* fishery should report in an electronic format the fortnightly catches of their flagged vessels to the Secretariat within 10 days of the end of the fortnight, in accordance with the specifications for exchange of data prescribed by the Data Standards and using templates prepared by the Secretariat and available on the SPRFMO website.
10. The Executive Secretary will circulate monthly catches, aggregated by flag State, to all Members and CNCPs on a monthly basis.
11. Except as described in paragraph 9 above, each Member and CNCP engaged in the fishery

¹In the event that GT is not available, participants are to utilise Gross Registered Tonnage (GRT) for the purposes of these Interim Measures.

is to collect, verify, and provide all required data to the Secretariat, in accordance with the Data Standards and the templates available on the SPRFMO website, including an annual catch report.

12. The Secretariat shall verify the annual catch reports submitted by Members and CNCPs against the submitted data (tow by tow in the case of trawlers, and set by set or trip by trip in the case of purse seine fishing vessels). The Executive Secretary shall inform Members and CNCPs of the outcome of the verification exercise and any possible discrepancies encountered.
13. Members and CNCPs are to notify the Secretariat within 10 days of the end of each month of the VMS records in the format prescribed by the SPRFMO Data Standards and using the templates on the SPRFMO website, of the vessels which have actively fished or engaged in transshipment as a donor or receiving vessel in the Convention Area.
14. The Secretariat shall report annually to the Commission on the list of vessels having actively fished or been engaged in transshipment in the Convention area during the previous year using data provided under the Data Standard.
15. In order to facilitate the work of the Scientific Committee, Members and CNCPs will provide their annual national reports, in accordance with the existing guidelines for such reports, in advance of the 2013 Scientific Committee meeting. Members and CNCPs will also provide observer data for the 2013 fishing season to the Scientific Committee to the maximum extent possible. The reports should be submitted to the Secretariat at least one month before the 2013 Scientific Committee meeting. Failure to submit in time a report or other relevant information may result in it not being taken into consideration by the Scientific Committee.
16. All Members and CNCPs to which this CMM applies are to provide at least 10 days before the meeting of the Compliance and Technical Committee a report describing their implementation of this CMM. On the basis of submissions in the first year the CTC shall develop a template to facilitate reporting in the following years. The implementation reports will be made available on the SPRFMO website.
17. The information collected under paragraphs 9, 11, and 15, and any stock assessments and research in respect of *Trachurus murphyi* fishery in the Convention Area shall be submitted for review to the Scientific Committee. The Scientific Committee will conduct the necessary analysis and assessment, in accordance with its Program agreed by the Commission, in order to provide updated advice on stock status and recovery.

Monitoring and control measures

18. Until a SPRFMO Vessel Register has been established, the Secretariat, using the information provided by Members and CNCPs in accordance with the SPRFMO Data Standards, will maintain a register of fishing vessels, as defined in Article 1.1(h) of the Convention, associated with the *Trachurus murphyi* fishery by flag and will make it available on the SPRFMO website.
19. Members and CNCPs, as port States, should, subject to their national laws, facilitate access

to their ports on a case by case basis to reefer vessels, supply vessels and vessels fishing for *Trachurus murphyi* in accordance with the requirements established in this CMM. Members and CNCPs should implement measures to verify catches of *Trachurus murphyi* caught in the Convention Area that are landed or transhipped in its ports. When taking such measures, a Member or CNCP shall not discriminate in form or fact against fishing, reefer or supply vessels of any other Member or CNCP. Nothing in this paragraph shall prejudice the rights, jurisdiction and duties of these Members and CNCPs under international law. In particular, nothing in this paragraph shall be construed to affect:

(a) the sovereignty of Members and CNCPs over their internal, archipelagic and territorial waters or their sovereign rights over their continental shelf and in their exclusive economic zone;

(b) the exercise by Members and CNCPs of their sovereignty over ports in their territory in accordance with international law, including their right to deny entry thereto as well as adopt more stringent port State measures than those provided for in these Interim Measures.

20. Until the Commission adopts an Observer Program as indicated in Article 28 of the Convention, all Members and CNCPs engaged in the *Trachurus murphyi* fishery shall ensure a minimum of ten percent scientific observer coverage of trips for vessels flying their flag and ensure that such observers collect and report data as described in the SPRFMO Data Standards.
21. Members and CNCPs engaged in the *Trachurus murphyi* fishery are to implement a vessel monitoring system (VMS) in accordance with the SPRFMO Data Standards.

Special requirements of developing States

22. In recognition of the special requirements of developing States, in particular small island developing States and territories and possessions in the region, Members and CNCPs are urged to provide financial, scientific and technical assistance, where available, to enhance the ability of those developing States and territories and possessions to implement this CMM.

Review

23. This Measure shall be reviewed by the Commission in 2014. The review shall take into account the latest advice of the SPRFMO Scientific Committee and the extent to which this CMM, as well as the Interim Measures for pelagic fisheries of 2007, as amended in 2009, 2011 and 2012 have been complied with.

Prepared 30/1/2013

Working Paper 10/Rev 1**Conservation and Management Measure for *Trachurus murphyi***

The Commission of the SPRFMO,

Noting that despite the ~~positive trend in~~ ~~efforts that have been made to arrest the depletion of the~~ *Trachurus murphyi* stock since 2010, it remains at very low levels;

Concerned in particular with the low levels of the current biomass, high fishing ~~mortalities~~ ~~mortality and the high degrees of associated uncertainties;~~

~~Considering Taking into account~~ the outcomes of the stock assessment carried out in October of 2012 and the advice of the Scientific Working Group (SWG) established by the Preparatory Conference,

Bearing in mind the commitment to apply the precautionary approach ~~and take decisions based on the best scientific and technical information available as set out~~ ~~enshrined~~ in Article 3 of the Convention;

~~Recognizing that a primary function of the Commission is to adopt conservation and management measures to achieve the objective of the Convention, including, as appropriate, conservation and management measures for particular fish stocks;~~

~~Affirming its commitment Aiming at to~~ rebuilding the stock of *Trachurus murphyi* and ensuring its long term conservation and sustainable ~~use~~ ~~management~~ in accordance with the objective of the Convention,

Recognizing the ~~need for importance of carrying out~~ effective monitoring and control ~~and surveillance of fishing for *Trachurus murphyi* in the implementation of this measure pending the establishment~~ ~~implementation in the absence of~~ SPRFMO monitoring, control and surveillance measures ~~pursuant and giving effect to~~ Article 27 of the Convention;

Recalling Articles 4.2, ~~20.4~~ and 21.2 of the Convention;

Adopts the following conservation and management measure in accordance with Article 8 ~~and 16~~ of the Convention:

General Provisions

1. This Conservation and Management Measure (CMM) applies to fisheries for *Trachurus murphyi* ~~undertaken by Members and Cooperating Non-Contracting Parties (CNCPS) in the Convention Area and, in accordance with Article 20(4)(iii) and with the express consent of Chile, to fisheries for *Trachurus murphyi* undertaken by Chile in areas under its national jurisdiction.~~
2. Only ~~fishing vessels duly authorized pursuant to Article 25 of the Convention that are flagged to Members and Cooperating Non-Contracting Parties (CNCPS) are allowed to~~ ~~shall~~ participate in the fishery for *Trachurus murphyi* in the Convention area.

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3. The provisions of this CMM and ~~those of~~ the 2011 and 2012 Interim Measures for pelagic fisheries are not to be considered precedent, for future allocation or other decisions taken in accordance with Article 21 of the Convention, relating to participation in fisheries for *Trachurus murphyi*, and are not to affect the full recognition of the special requirements, including the fisheries development aspirations and interests, of developing States, in particular small island developing States and territories and possessions in the region, in accordance with the Convention. In particular, catches from 2011 to 2013 onwards will not be considered in future allocation decisions.

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3.4 ~~Nevertheless, In recognition that~~ paragraph 1 of Article 21 of the Convention requires that the Commission take into account the status of the resource for decisions regarding participation in fishing for fishery resources. ~~Since implementation of and compliance with this CMM, as well as the Interim Measures for pelagic fisheries of 2007 as revised in 2009, 2011 and 2012, which are designed to promote, are key for the rebuilding of the *Trachurus murphyi* stock, compliance with them are to be considered when adopting future decisions under Article 21 for *Trachurus murphyi*.~~

Effort management measures

4.5 Members and CNCPs ~~are to shall~~ limit the total gross tonnage (GT)¹ of vessels flying their flag ~~and participating in the *Trachurus murphyi* fisheries in the Convention Area to those that have been actively fishing in 2007 or 2008 or 2009 in the Convention Areas set out in Table 1. Members and CNCPs, and~~ may substitute their vessels as long as the total level of GT for each Member and CNCP does not exceed the level recorded in Table 1 ~~does not exceed the values indicated in Table 1 of the 2012 Interim Measures for pelagic fisheries.~~

✖

5.6 Members and CNCPs ~~will shall~~ verify the effective presence of their vessels ~~participating in the *Trachurus murphyi* fisheries as referred to in paragraph 4.5 through VMS reporting cards and catch reports provided in the format prescribed by the Data Standards.~~

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Catch management

7. Having regard to the advice of the Scientific Working Group that fishing mortality of *Trachurus murphyi* should be maintained at or below 2012 levels, Members and CNCPs agree that catches of *Trachurus murphyi* throughout the range of the stock in 2012 should not exceed 438,000 tonnes.

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6.8 In 2013 the total catch of *Trachurus murphyi* in the area to which this CMM applies in accordance with paragraph 1 shall be limited to 300 000 ~~360 000~~ tonnes. This shall be shared among the Members and CNCPs ~~may share in this total catch according to the same proportion as their 2010 catches reported to the Secretariat/Executive Secretary and up to the limits set out in Table 2.~~

7.9 In the event that a Member or CNCP reaches 70% of ~~their its~~ catch limit established in

¹In the event that GT is not available, Members and CNCPs ~~may participate in~~ utilize Gross Registered Tonnage (GRT) for the purposes of this CMM/Interim Measures.

accordance with paragraph 6, the Executive Secretary shall inform that Member or CNCP of that fact, with a copy to all other Members and CNCPs. That Member or CNCP shall close the fishery for ~~their-its~~ flagged vessels when their ~~total catch of its~~ ~~flagged vessels~~ is equivalent to 100% of ~~their-its~~ catch limit. Such Member or CNCP shall notify promptly the Executive Secretary of the date of the closure.

10. The provisions of this CMM are without prejudice to the rights of Members and CNCPs to adopt national measures limiting ~~vessels flying their flag and fishing for *Trachurus murphyi* in the Convention Area to catches less than the limits specified in paragraph 8 and set out in Table 2, the level of catches of their flagged vessels fishing for *Trachurus murphyi* in the Convention area further from the levels specified in paragraph 6.~~ In any such case, Members and CNCPs shall ~~endeavor to~~ notify the Executive Secretary of their ~~domestic national~~ measures, ~~when practicable,~~ within 1 month of adoption. ~~Upon receipt, to the Executive Secretary shall circulate such measures, for circulation to all Members and CNCPs.~~

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8.11. [A Member or CNCP may transfer to another Member all or part of its entitlement to catch up to the level specified in paragraph 6 provided that the transfer is notified in advance to the Executive Secretary for circulation to Members and CNCPs.]

Data collection and reporting

9.12. Members and CNCPs ~~engaged participating~~ in the *Trachurus murphyi* fishery shall ~~only~~ report in an electronic format the fortnightly catches of their ~~authorized, flagged~~ vessels to the Secretariat within 10 days of the end of the fortnight, in accordance ~~with the specifications for exchange of data prescribed by the~~ Data Standards and using templates prepared by the Secretariat and available on the SPRFMO website.

10.13. The Executive Secretary ~~will~~ shall circulate monthly catches, aggregated by flag State, to all Members and CNCPs on a monthly basis.

11.14. Except as described in paragraph 9 above, each Member and CNCP ~~engaged participating~~ in the *Trachurus murphyi* fishery ~~is to~~ shall collect, verify, and provide all required data to the ~~Executive Secretariat~~ Secretary, in accordance with the Data Standards and the templates available on the SPRFMO website, including an annual catch report.

12.15. The ~~Executive Secretary~~ Secretariat shall verify the annual catch reports submitted by Members and CNCPs against the submitted data (tow by tow in the case of trawlers, and set by set or trip by trip in the case of purse seine fishing vessels). The Executive Secretary shall inform Members and CNCPs of the outcome of the verification exercise and any possible discrepancies encountered.

16. Members and CNCPs ~~are to~~ shall provide to notify the ~~Executive Secretary~~ Secretariat within 10 days of the end of each month ~~of the VMS records for vessels flying their flag in the format prescribed by the SPRFMO Data Standards and using the templates on the SPRFMO website, of the vessels which have actively fished or engaged in transshipment as a donor or receiving vessel in the Convention Area. These VMS data shall be provided in the format prescribed by the SPRFMO Data Standards and using the templates on the SPRFMO website.~~

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17. ~~Members and CNCPs engaged in the *Trachurus murphyi* fishery shall, in accordance with Article 25, maintain a national register of fishing vessels entitled to fly its flag and authorized to fish for fishery resources in the Convention Area and pursuant to the provisions of this CMM. Members and CNCPs shall provide ~~shall provide~~ [by X date in 2013] to the Commission data in accordance with the SPREMO Data Standards in respect of each fishing vessel on its national register.~~

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13.18. ~~In accordance with Article 27, in 2013 the Executive Secretary shall establish an interim Commission Record of Vessels, by flag, authorized to fish in the Convention Area, using the information provided by Members and CNCPs in paragraph 17, associated with the *Trachurus murphyi* fishery, and shall make it available on the SPREMO website. At its next Meeting of the Parties, the Commission will agree on the information to be provided in respect of each authorized fishing vessel to be entered in the SPREMO Record of Fishing Vessels that is required to be established and maintained under Article 27 of the Convention, as well as other procedures that may be necessary.~~

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14.19. ~~The Executive Secretary/Secretariat shall report annually to the Commission on the list of vessels having actively fished or been engaged in transshipment in the Convention area during the previous year using data provided under the Data Standard.~~

15.20. ~~In order to facilitate the work of the Scientific Committee, Members and CNCPs will shall provide their annual national reports, in accordance with the existing guidelines for such reports, in advance of the 2013 Scientific Committee meeting. Members and CNCPs will shall also provide observer data for the 2013 fishing season to the Scientific Committee to the maximum extent possible. The reports should shall be submitted to the Executive Secretary/Secretariat at least one month before the 2013 Scientific Committee meeting in order to ensure that the Scientific Committee has an adequate opportunity to consider the reports in its deliberations. Failure to submit in-time a report or other relevant information may result in it not being taken into consideration by the Scientific Committee.~~

16.71. ~~In accordance with Article 24(2), All-all Members and CNCPs to which this CMM applies-participating in the *Trachurus murphyi* fishery -are to shall provide, at least 10 days before the meeting of the Compliance and Technical Committee (CTC), a report describing their implementation of this CMM. On the basis of submissions in the first year the CTC shall develop a template to facilitate reporting in the following years. The implementation reports will be made available on the SPREMO website.~~

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Comment [GV1]: Might be better to put into the CTC forward program.

17.22. ~~The information collected under paragraphs 12, 14, and 15, and any stock assessments and research in respect of *Trachurus murphyi* fishery in the Convention Area shall be submitted for review to the Scientific Committee. The Scientific Committee will conduct the necessary analysis and assessment, in accordance with its Programme agreed by the Commission, in order to provide updated advice on stock status and recovery.~~

Monitoring and control measures

¹ Fishing vessels as defined in Article 1.1(b) of the Convention.

~~18. Until a SPRFMO Vessel Register has been established, the Secretariat, using the information provided by Members and CNCPs in accordance with the SPRFMO Data Standards, will maintain a register of fishing vessels, as defined in Article 1.1(b) of the Convention, associated with the *Trachurus murphyi* fishery by flag and will make it available on the SPRFMO website.~~

~~19.22. Members and CNCPs, as port States, shall~~~~ould~~, subject to their national laws, facilitate access to their ports on a case by case basis to reefer vessels, supply vessels and vessels fishing for *Trachurus murphyi* in accordance with ~~the requirements established in this CMM~~. Members and CNCPs ~~should~~~~shall~~ implement measures to verify catches of *Trachurus murphyi* caught in the Convention Area that are landed or transhipped in its ports. When taking such measures, a Member or CNCP shall not discriminate in form or fact against fishing, reefer or supply vessels of any other Member or CNCP. Nothing in this paragraph shall prejudice the rights, jurisdiction and duties of these Members and CNCPs under international law. In particular, nothing in this paragraph shall be construed to affect:

(a) the sovereignty of Members and CNCPs over their internal, archipelagic and territorial waters or their sovereign rights over their continental shelf and in their exclusive economic zone;

(b) the exercise by Members and CNCPs of their sovereignty over ports in their territory in accordance with international law, including their right to deny entry thereto as well as adopt more stringent port State measures than those provided for in these Interim Measures.

~~20.24. Until the Commission adopts an Observer Programme in accordance with as indicated in Article 28 of the Convention, all Members and CNCPs participating engaged in the *Trachurus murphyi* fishery shall ensure a minimum of ten percent scientific observer coverage of trips for vessels flying their flag and ensure that such observers collect and report data as described in the SPRFMO Data Standards. The observer coverage shall be calculated by reference to active fishing days for trawlers and sets for purse seine vessels.~~

~~25. Members and CNCPs engaged participating in the *Trachurus murphyi* fishery are to~~~~shall~~ implement a vessel monitoring system (VMS) in accordance with the SPRFMO Data Standards.

~~Cooperation in respect of *Trachurus murphyi* fisheries in adjacent areas under national jurisdiction.~~

~~24. Members and CNCPs participating in *Trachurus murphyi* fisheries in areas under national jurisdiction adjacent to the area to which this CMM applies in accordance with paragraph 1 shall cooperate with other Members and CNCPs in ensuring compatibility in the conservation and management of the fisheries. Such Members and CNCPs are invited to apply the measures set out in paragraphs 12 – 24, insofar as they are applicable, to vessels associated with the *Trachurus murphyi* fisheries in their areas under national jurisdiction. They are also requested to inform the Executive Secretary of the conservation and management measures in effect for *Trachurus murphyi* in areas under their national jurisdiction.~~

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Special requirements of developing States

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24.20 In recognition of the special requirements of developing States, in particular small island developing States and territories and possessions in the region, Members and CNCPs are urged to provide financial, scientific and technical assistance, where available, to enhance the ability of those developing States and territories and possessions to implement this CMM.

Review

24.22 This Measure shall be reviewed by the Commission in 2014. The review shall take into account the latest advice of the ~~SPRFMO~~ Scientific Committee ~~and the C.I.C.~~ and the extent to which this CMM, as well as the Interim Measures for pelagic fisheries of 2007, as amended in 2009, 2011 and 2012 have been complied with.

Working Paper 10/Rev 2

As prepared by Chair of Informal Working Group

Conservation and Management Measure for *Trachurus murphyi*

The Commission of the SPRFMO,

Noting that despite the ~~positive trend in~~ efforts that have been made to arrest the depletion of the *Trachurus murphyi* stock since 2010, it remains at very low levels;

Concerned in particular with the low levels of the current biomass, high fishing ~~mortalities~~ mortality and ~~the~~ high degrees of associated uncertainties;

~~Considering~~ Taking into account the outcomes of the stock assessment carried out in October of 2012 and the advice of the Scientific Working Group (SWG) established by the Preparatory Conference,

Bearing in mind the commitment to apply the precautionary approach and take decisions based on the best scientific and technical information available as ~~set out~~ enshrined in Article 3 of the Convention;

Recognizing that a primary function of the Commission is to adopt conservation and management measures to achieve the objective of the Convention, including, as appropriate, conservation and management measures for particular fish stocks;

Affirming its commitment ~~Aiming at~~ to rebuilding the stock of *Trachurus murphyi* and ensuring its long term conservation and sustainable ~~use~~ management in accordance with the objective of the Convention,

Recognizing the ~~need for importance of carrying out~~ effective monitoring and control and surveillance of fishing for *Trachurus murphyi* in the implementation of this measure pending the establishment ~~implementation in the absence of SPRFMO~~ monitoring, control and surveillance measures ~~pursuant and giving effect~~ to Article 27 of the Convention;

Recalling Articles 4.2, ~~20.4~~ and 21.2 of the Convention;

Adopts the following conservation and management measure in accordance with Article 8 ~~and 16~~ of the Convention:

General Provisions

1. This Conservation and Management Measure (CMM) applies to fisheries for *Trachurus murphyi* undertaken by Members and Cooperating Non-Contracting Parties (CNCPs) in the Convention Area and, in accordance with Article 20(4)(iii) and with the express consent of Chile, to fisheries for *Trachurus murphyi* undertaken by Chile in areas under its national jurisdiction.

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2. Only fishing vessels duly authorized pursuant to Article 25 of the Convention that are flagged to Members and Cooperating Non-Contracting Parties (CNCs) are allowed to shall participate in the fishery for *Trachurus murphyi* in the Convention area.

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3. The provisions of this CMM and those of the 2011 and 2012 Interim Measures for pelagic fisheries are not to be considered precedents for future allocation or other decisions taken in accordance with Article 21 of the Convention, relating to participation in fisheries for *Trachurus murphyi*, and are not to affect the full recognition of the special requirements, including the fisheries development aspirations and interests, of developing States, in particular small island developing States and territories and possessions in the region, in accordance with the Convention. In particular, catches from 2011 to until at least this CMM is reviewed in accordance with paragraph 27 onwards will not be considered in future allocation decisions.

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3.4. Nevertheless, In recognition that paragraph 1 of Article 21 of the Convention requires that the Commission take into account the status of the resource for decisions regarding participation in fishing for fishery resources. Since implementation of and compliance with this CMM, as well as the Interim Measures for pelagic fisheries of 2007 as revised in 2009, 2011 and 2012, which are designed to promote are key for the rebuilding of the *Trachurus murphyi* stock, compliance with them are to be considered when adopting future decisions under Article 21 for *Trachurus murphyi*.

Effort management measures

4.5. Members and CNCs are to shall limit the total gross tonnage (GT)¹ of vessels flying their flag and participating in the *Trachurus murphyi* fisheries in the Convention Area to those that have been actively fishing in 2007 or 2008 or 2009 in the Convention Area and as set out in Table 1. Members and CNCs, and may substitute their vessels as long as the total level of GT for each Member and CNC does not exceed the level recorded in Table 1 does not exceed the values indicated in Table 1 of the 2012 Interim Measures for pelagic fisheries.

5.6. Members and CNCs will shall verify the effective presence of their vessels participating in the *Trachurus murphyi* fisheries as referred to in paragraph 4-5 through VMS reporting eords and catch reports provided in the format prescribed by the Data Standards.

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Catch management

6.7. In 2013 the total catch of *Trachurus murphyi* in the area to which this CMM applies in accordance with paragraph 1 shall be limited to 300 000 360 000 tonnes. This shall be shared among the Members and CNCs shall share in this total catch according to the same proportions as their 2010 catches in the areas to which this measure applies in accordance with paragraph 1 as reported to the Secretariat Executive Secretary and up to the limits set out in Table 2.

¹In the event that GT is not available, Members and CNCs shall participants are to utilise Gross Registered Tonnage (GRT) for the purposes of this CMM see Interim Measures.

7-8. In the event that a Member or CNCP reaches 70% of ~~their-its~~ catch limit established in accordance with paragraph 67, the Executive Secretary shall inform that Member or CNCP of that fact, with a copy to all other Members and CNCPs. That Member or CNCP shall close the fishery for ~~their-its~~ flagged vessels when the ~~total~~ catch of ~~its~~ flagged vessels is equivalent to 100% of ~~their-its~~ catch limit. Such Member or CNCP shall notify promptly the Executive Secretary of the date of the closure.

9. The provisions of this CMM are without prejudice to the rights of Members and CNCPs to adopt national measures limiting vessels flying their flag and fishing for *Trachurus murphyi* in the Convention Area to catches less than the limits specified in paragraph 7 and set out in Table 2, the level of catches of their flagged vessels fishing for *Trachurus murphyi* in the Convention area further from the levels specified in paragraph 6. In any such case, Members and CNCPs shall ~~endeavor to~~ notify the Executive Secretary of their domestic-national measures, when practicable, within 1 month of adoption. Upon receipt, to the Executive Secretary shall circulate such measures, for circulation to all Members and CNCPs without delay.

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10. A Member may transfer to another Member all or part of its entitlement to catch up to the limit specified in paragraph 7 provided that the transfer is notified in advance to the Executive Secretary for circulation to Members and CNCPs.

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8-11. Notwithstanding paragraph 7, Members and CNCPs agree, having regard to the advice of the Scientific Working Group that fishing mortality of *Trachurus murphyi* should be maintained at 2012 levels or below, that catches of *Trachurus murphyi* throughout the range of the stock in 2013 should not exceed 438,000 tonnes.²

Data collection and reporting

9-12. ~~Members and CNCPs engaged-participating~~ in the *Trachurus murphyi* fishery shall ~~only~~ report in an electronic format the fortnightly catches of their flagged vessels to the Secretariat within 10 days of the end of the fortnight, in accordance with ~~the specifications for exchange of data prescribed by~~ the Data Standards and using templates prepared by the Secretariat and available on the SPRFMO website.

10-13. The Executive Secretary ~~will~~ shall circulate monthly catches, aggregated by flag State, to all Members and CNCPs on a monthly basis.

11-14. Except as described in paragraph 129 above, each Member and CNCP ~~engaged participating~~ in the *Trachurus murphyi* fishery ~~is to~~ shall collect, verify, and provide all required data to the ~~Executive Secretariat~~ Secretary, in accordance with the Data Standards and the templates available on the SPRFMO website, including an annual catch report.

12-15. The ~~Executive Secretary~~ Secretariat shall verify the annual catch reports submitted by Members and CNCPs against the submitted data (tow by tow in the case of trawlers, and set by set or trip by trip in the case of purse seine fishing vessels). The Executive Secretary shall inform Members and CNCPs of the outcome of the verification exercise and any possible discrepancies encountered.

² This was the total of actual catches of *Trachurus murphyi* in 2013.

~~16.~~ Members and CNCPs ~~are to~~ shall provide to notify the ~~Executive Secretary~~ Secretariat within 10 days of the end of each month ~~of the VMS records for vessels flying their flag in the format prescribed by the SPRFMO Data Standards and using the templates on the SPRFMO website, of the vessels~~ which have actively fished or engaged in transshipment as a donor or receiving vessel in the Convention Area. These VMS data shall be provided in the format prescribed by the SPRFMO Data Standards and using the templates on the SPRFMO website.

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~~17.~~ Each ~~Member~~ and CNCP participating in the *Trachurus murphyi* fishery shall provide the Executive Secretary a list of vessels³ they have authorized to fish in the fishery in accordance with Article 25 of the Convention and shall provide data in respect of those vessels in accordance with the SPRFMO Data Standards. The Executive Secretary shall maintain a list of these vessels participating in the *Trachurus murphyi* fishery and will make it available on the SPRFMO website.

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~~14.~~~~18.~~ The ~~Executive Secretary~~ Secretariat shall report annually to the Commission on the list of vessels having actively fished or been engaged in transshipment in the Convention area during the previous year using data provided under the Data Standard.

~~15.~~~~19.~~ In order to facilitate the work of the Scientific Committee, Members and CNCPs ~~will shall~~ provide their annual national reports, in accordance with the existing guidelines for such reports, in advance of the 2013 Scientific Committee meeting. Members and CNCPs ~~will shall~~ also provide observer data for the 2013 fishing season to the Scientific Committee to the maximum extent possible. The reports ~~should shall~~ be submitted to the ~~Executive Secretary~~ Secretariat at least one month before the 2013 Scientific Committee meeting in order to ensure that the Scientific Committee has an adequate opportunity to consider the reports in its deliberations. ~~Failure to submit in time a report or other relevant information may result in it not being taken into consideration by the Scientific Committee.~~

~~16.~~~~20.~~ In accordance with Article 24(2), All-all Members and CNCPs ~~to which this CMM applies~~ participating in the *Trachurus murphyi* fishery are to ~~shall~~ provide, at least 10 days before the meeting of the Compliance and Technical Committee (CTC), a report describing their implementation of this CMM. On the basis of submissions in the first year the CTC shall develop a template to facilitate reporting in the following years. The implementation reports will be made available on the SPRFMO website.

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Comment [GVB1]: Might be better to put into the CTC forward program.

~~17.~~~~21.~~ The information collected under paragraphs ~~912, 114, and 1915,~~ and any stock assessments and research in respect of *Trachurus murphyi* fisheries ~~in the Convention Area~~ shall be submitted for review to the Scientific Committee. The Scientific Committee will conduct the necessary analysis and assessment, in accordance with its Programme agreed by the Commission, in order to provide updated advice on stock status and recovery.

Monitoring and control measures

³ Fishing vessels as defined in Article 1.1(h) of the Convention.

~~18. Until a SPRFMO Vessel Register has been established, the Secretariat, using the information provided by Members and CNCPs in accordance with the SPRFMO Data Standards, will maintain a register of fishing vessels, as defined in Article 1.1(h) of the Convention, associated with the *Trachurus murphyi* fishery by flag and will make it available on the SPRFMO website.~~

~~19.22.~~ Members and CNCPs, as port States, shall~~ould~~, subject to their national laws, facilitate access to their ports on a case by case basis to reefer vessels, supply vessels and vessels fishing for *Trachurus murphyi* in accordance with ~~the requirements established in this CMM~~. Members and CNCPs ~~should~~~~shall~~ implement measures to verify catches of *Trachurus murphyi* caught in the Convention Area that are landed or transhipped in its ports. When taking such measures, a Member or CNCP shall not discriminate in form or fact against fishing, reefer or supply vessels of any other Member or CNCP. Nothing in this paragraph shall prejudice the rights, jurisdiction and duties of these Members and CNCPs under international law. In particular, nothing in this paragraph shall be construed to affect:

(a) the sovereignty of Members and CNCPs over their internal, archipelagic and territorial waters or their sovereign rights over their continental shelf and in their exclusive economic zone;

(b) the exercise by Members and CNCPs of their sovereignty over ports in their territory in accordance with international law, including their right to deny entry thereto as well as adopt more stringent port State measures than those provided for in these Interim Measures.

~~20.23.~~ Until the Commission adopts an Observer Programme ~~in accordance with as indicated in~~ Article 28 of the Convention, all Members and CNCPs ~~participating engaged~~ in the *Trachurus murphyi* fishery shall ensure a minimum of ten percent scientific observer coverage of trips for vessels flying their flag and ensure that such observers collect and report data as described in the SPRFMO Data Standards. In the case of the flagged vessels of a Member or CNCP undertaking fewer than 5 trips in total, the observer coverage shall be calculated by reference to active fishing days for trawlers and sets for purse seine vessels.

~~24.~~ Members and CNCPs ~~engaged participating~~ in the *Trachurus murphyi* fisheries ~~are to~~ shall implement a vessel monitoring system (VMS) in accordance with the SPRFMO Data Standards.

Cooperation in respect of *Trachurus murphyi* fisheries in adjacent areas under national jurisdiction.

~~24.~~ Members and CNCPs participating in *Trachurus murphyi* fisheries in areas under national jurisdiction adjacent to the area to which this CMM applies in accordance with paragraph 1 shall cooperate with other Members and CNCPs in ensuring compatibility in the conservation and management of the fisheries. Such Members and CNCPs are invited to apply the measures set out in paragraphs 12 – 24, insofar as they are applicable, to vessels associated with the *Trachurus murphyi* fisheries in their areas under national jurisdiction. They are also requested to inform the Executive Secretary of the conservation and management measures in effect for *Trachurus murphyi* in areas under their national jurisdiction.

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Special requirements of developing States

~~23-25.~~ In recognition of the special requirements of developing States, in particular small island developing States and territories and possessions in the region, Members and CNCPs are urged to provide financial, scientific and technical assistance, where available, to enhance the ability of those developing States and territories and possessions to implement this CMM.

Review

~~24-26.~~ This Measure shall be reviewed by the Commission in 2014. The review shall take into account the latest advice of the ~~SPRFMO~~ Scientific Committee and the CTC and the extent to which this CMM, as well as the Interim Measures for pelagic fisheries of 2007, as amended in 2009, 2011 and 2012 have been complied with.

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Table 1: Gross Tonnage limits as referred to in paragraph 7

Member / CNCP	GT or GRT
Belize	9,814 GT
Chile	96,867.24 GT + 3,755.81 GRT
China	74,516 GT
Cook Islands	12,613 GRT
European Union	78,600 GT
Faroe Islands	23,415 GT
Korea	15,222 GT
Peru	75,416 GT
Russian Federation	74,470 GT ⁴
Vanuatu	31,220 GRT

⁴ This total includes the vessel Lafayette. Operational fishing data, in accordance with the consolidated data standards, has not been supplied to the Interim Secretariat in respect of this vessel and information supplied by some delegations indicates that the vessel probably was not capable of fishing in either 2009 or 2010. Some delegations requested the GT for this vessel (49,173 GT) should be held in abeyance pending receipt of operational fishing information. The Russian delegation stated that vessel Lafayette has duly obtained all certificates from the Russian Maritime Register of Shipping to be qualified for the fishing class; the vessel has undergone initial physical inspections and subsequent annual surveys to confirm its ability to be engaged in direct fishing operations.

Table 2: Catch limits established under paragraph 8

Member / CNCP	Catch Limits
Belize	1,145
Chile	237,551
China	32,507
European Union	34,496
Faroe Islands	5,950
Korea	4,182
Peru	20,707
Russian Federation	0
Vanuatu	23,462
Total	360,000

Working Paper 10/Rev 3

As prepared by Chair of Informal Working Group on 1 February 2013, 8 am

Conservation and Management Measure for *Trachurus murphyi*

The Commission of the SPRFMO,

Noting that despite the efforts that have been made to arrest the depletion of the *Trachurus murphyi* stock, it remains at very low levels;

Concerned in particular with the low levels of the current biomass, high fishing mortality and the high degree of associated uncertainties;

Taking into account the outcomes of the stock assessment carried out in October of 2012 and the advice of the Scientific Working Group (SWG) established by the Preparatory Conference,

Bearing in mind the commitment to apply the precautionary approach and take decisions based on the best scientific and technical information available as set out in Article 3 of the Convention;

Recognizing that a primary function of the Commission is to adopt conservation and management measures to achieve the objective of the Convention, including, as appropriate, conservation and management measures for particular fish stocks;

Affirming its commitment to rebuilding the stock of *Trachurus murphyi* and ensuring its long term conservation and sustainable management in accordance with the objective of the Convention,

Recognizing the need for effective monitoring and control and surveillance of fishing for *Trachurus murphyi* in the implementation of this measure pending the establishment of monitoring, control and surveillance measures pursuant to Article 27 of the Convention;

Recalling Articles 4.2, 20.4 and 21.2 of the Convention;

Adopts the following conservation and management measure in accordance with Article 8 of the Convention:

General Provisions

1. This Conservation and Management Measure (CMM) applies to fisheries for *Trachurus murphyi* undertaken by Members and Cooperating Non-Contracting Parties (CNCs) in the Convention Area and, in accordance with Article 20(4)(iii) and with the express consent of Chile, to fisheries for *Trachurus murphyi* undertaken by Chile in areas under its national jurisdiction.
2. Only fishing vessels duly authorized pursuant to Article 25 of the Convention that are flagged to Members and Cooperating Non-Contracting Parties (CNCs) shall participate in the fishery for *Trachurus murphyi* in the Convention area.

3. The provisions of this CMM and those of the 2011 and 2012 Interim Measures for pelagic fisheries are not to be considered precedents for future allocation or other decisions taken in accordance with Article 21 of the Convention, relating to participation in fisheries for *Trachurus murphyi*, and are not to affect the full recognition of the special requirements, including the fisheries development aspirations and interests, of developing States, in particular small island developing States and territories and possessions in the region, in accordance with the Convention. In particular, catches from 2011 to until at least this CMM is reviewed in accordance with paragraph 267 will not be considered in future allocation decisions.
4. In recognition that paragraph 1 of Article 21 of the Convention requires that the Commission take into account the status of the resource for decisions regarding participation in fishing for fishery resources, implementation of and compliance with this CMM, as well as the Interim Measures for pelagic fisheries of 2007 as revised in 2009, 2011 and 2012, which are designed to promote the rebuilding of the *Trachurus murphyi* stock, compliance with them are to be considered when adopting future decisions under Article 21 for *Trachurus murphyi*.

Effort management measures

5. Members and CNCPs shall limit the total gross tonnage (GT)¹ of vessels flying their flag and participating in the *Trachurus murphyi* fisheries in the Convention Area to ~~the total tonnage of their flagged vessels, one that have been~~ actively fishing in 2007 or 2008 or 2009 in the Convention Area and as set out in Table 1. Members and CNCPs may substitute their vessels as long as the total level of GT for each Member and CNCP does not exceed the level recorded in Table 1.
6. ~~Members and CNCPs shall verify the effective presence of their vessels participating in the *Trachurus murphyi* fisheries as referred to in paragraph 5 through VMS reporting and catch reports provided in the format prescribed by the Data Standards.~~

Comment [GV81]: Deleted because of consolidation of VMS references in para 16

Catch management

6. In 2013 the total catch of *Trachurus murphyi* in the area to which this CMM applies in accordance with paragraph 1 shall be limited to 360,000 tonnes. Members and CNCPs shall ~~are to~~ share in this total catch in the same proportions as their 2010 catches in the areas to which this measure applies in accordance with paragraph 4 as reported to the Executive Secretary and up to the limits set out in Table 2.
7. ~~However, having regard to the current specific circumstances of the *Trachurus murphyi* fishery, the Commission agrees, on a one-off basis, that 10% of the shares set out in Table 2 for Belize, China, European Union, Faroe Islands, Korea, Peru, and Vanuatu are to be transferred to Chile. As a consequence, the catch limits to be applied in 2013 in the areas to which this CMM applies shall be those set out in Table 3.~~

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¹In the event that GT is not available, Members and CNCPs shall utilise Gross Registered Tonnage (GRT) for the purposes of this CMM.

8. In the event that a Member or CNCP reaches 70% of its catch limit set out in established in accordance with paragraph 7 Table 3, the Executive Secretary shall inform that Member or CNCP of that fact, with a copy to all other Members and CNCPs. That Member or CNCP shall close the fishery for its flagged vessels when the total catch of its flagged vessels is equivalent to 100% of its catch limit. Such Member or CNCP shall notify promptly the Executive Secretary of the date of the closure.
9. The provisions of this CMM are without prejudice to the right of Members and CNCPs to adopt national measures limiting vessels flying their flag and fishing for *Trachurus murphyi* in the Convention Area to catches less than the limits set out in specified in paragraph 7 and set out in Table 23. In any such case, Members and CNCPs shall notify the Executive Secretary of their national measures, when practicable, within 1 month of adoption. Upon receipt, the Executive Secretary shall circulate such measures to all Members and CNCPs without delay.
10. A Member may transfer to another Member all or part of its entitlement to catch up to the limit set out in Table specified in paragraph 73, subject to the approval of the receiving Member, provided that the transfer is notified at least one month in advance to the Executive Secretary for circulation to Members and CNCPs.
11. Notwithstanding paragraphs 76 and 7, Members and CNCPs agree, having regard to the advice of the Scientific Working Group that fishing mortality of *Trachurus murphyi* should be maintained at or below 2012 levels or below, that catches of *Trachurus murphyi* throughout the range of the stock in 2013 should not exceed 438,000 tonnes - which was the provisional total catch of *Trachurus murphyi* in 2012.²

Data collection and reporting

12. Members and CNCPs participating in the *Trachurus murphyi* fishery shall report in an electronic format the fortnightly catches of their flagged vessels to the Secretariat within 10 days of the end of the fortnight, in accordance with the Data Standards and using templates prepared by the Secretariat and available on the SPRFMO website.
13. The Executive Secretary shall circulate monthly catches, aggregated by flag State, to all Members and CNCPs on a monthly basis.
14. Except as described in paragraph 132 above, each Member and CNCP participating in the *Trachurus murphyi* fishery shall collect, verify, and provide all required data to the Executive Secretary, in accordance with the Data Standards and the templates available on the SPRFMO website, including an annual catch report.
15. The Executive Secretary shall verify the annual catch reports submitted by Members and CNCPs against the submitted data (tow by tow in the case of trawlers, and set by set or trip by trip in the case of purse seine fishing vessels). The Executive Secretary shall inform Members and CNCPs of the outcome of the verification exercise and any possible discrepancies encountered.
16. Members and CNCPs participating in the *Trachurus murphyi* fisheries shall implement a

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²This was the total of actual catches of *Trachurus murphyi* in 2013.

vessel monitoring system (VMS) in accordance with the SPRFMO Data Standards and Members and CNCPs shall provide to the Executive Secretary within 10 days of the end of each month the VMS records for vessels flying their flag which have actively fished or engaged in transshipment as a donor or receiving vessel in the Convention Area. These VMS data shall be provided in the format prescribed by the SPRFMO Data Standards and using the templates on the SPRFMO website.

17. Each Member and CNCP participating in the *Trachurus murphyi* fishery shall provide the Executive Secretary a list of vessels³ they have authorized to fish in the fishery in accordance with Article 25 of the Convention and shall provide data in respect of those vessels in accordance with the SPRFMO Data Standards. The Executive Secretary shall maintain a list of these vessels participating in the *Trachurus murphyi* fishery and will make it available on the SPRFMO website.
18. The Executive Secretary shall report annually to the Commission on the list of vessels having actively fished or been engaged in transshipment in the Convention area during the previous year using data provided under the Data Standard.
19. In order to facilitate the work of the Scientific Committee, Members and CNCPs shall provide their annual national reports, in accordance with the existing guidelines for such reports, in advance of the 2013 Scientific Committee meeting. Members and CNCPs shall also provide observer data for the 2013 fishing season to the Scientific Committee to the maximum extent possible. The reports shall be submitted to the Executive Secretary at least one month before the 2013 Scientific Committee meeting in order to ensure that the Scientific Committee has an adequate opportunity to consider the reports in its deliberations.
20. In accordance with Article 24(2), all Members and CNCPs participating in the *Trachurus murphyi* fishery shall provide, at least 10 days before the meeting of the Compliance and Technical Committee (CTC), a report describing their implementation of this CMM. On the basis of submissions in the first year the CTC shall develop a template to facilitate reporting in the following years. The implementation reports will be made available on the SPRFMO website.
21. The information collected under paragraphs 12, 14, and 19, and any stock assessments and research in respect of *Trachurus murphyi* fisheries shall be submitted for review to the Scientific Committee. The Scientific Committee will conduct the necessary analysis and assessment, in accordance with its Programme agreed by the Commission, in order to provide updated advice on stock status and recovery.
22. Members-Contracting Parties and CNCPs, as port States, shall, subject to their national laws, facilitate access to their ports on a case by case basis to reefer vessels, supply vessels and vessels fishing for *Trachurus murphyi* in accordance with this CMM. Members-Contracting Parties and CNCPs shall implement measures to verify catches of *Trachurus murphyi* caught in the Convention Area that are landed or transhipped in its ports. When taking such measures, a Member-Contracting Party or CNCP shall not discriminate in form or fact against fishing, reefer or supply vessels of any other Member or CNCP. Nothing in this paragraph shall prejudice the rights, jurisdiction and duties of these Members-Contracting Parties and CNCPs under international law. In particular, nothing in this

³ Fishing vessels as defined in Article 1.1(h) of the Convention.

paragraph shall be construed to affect:

- (a) the sovereignty of ~~Members-Contracting Parties~~ and CNCPs over their internal, archipelagic and territorial waters or their sovereign rights over their continental shelf and in their exclusive economic zone;
- (b) the exercise by ~~Members-Contracting Parties~~ and CNCPs of their sovereignty over ports in their territory in accordance with international law, including their right to deny entry thereto as well as adopt more stringent port State measures than those provided for in ~~this CMM~~ ~~Interim-Measures~~.

23. Until the Commission adopts an Observer Programme in accordance with Article 28 of the Convention, all Members and CNCPs participating in the *Trachurus murphyi* fishery shall ensure a minimum of ten percent ~~25~~ scientific observer coverage of trips for vessels flying their flag and ensure that such observers collect and report data as described in the SPRFMO Data Standards. In the case of the flagged vessels of a Member or CNCP undertaking ~~no more than 2~~ fewer than 5 trips in total, the 10% observer coverage shall be calculated by reference to active fishing days for trawlers and sets for purse seine vessels.

~~24. Members and CNCPs participating in the *Trachurus murphyi* fisheries shall implement a vessel monitoring system (VMS) in accordance with the SPRFMO Data Standards.~~

Cooperation in respect of fisheries in adjacent areas under national jurisdiction

~~25-24.~~ Members and CNCPs participating in *Trachurus murphyi* fisheries in areas under national jurisdiction adjacent to the area to which this CMM applies in accordance with paragraph 1 shall cooperate with other Members and CNCPs in ensuring compatibility in the conservation and management of the fisheries. Such Members and CNCPs are invited to apply the measures set out in paragraphs 12 – ~~24~~23, insofar as they are applicable, to vessels associated with the *Trachurus murphyi* fisheries in their areas under national jurisdiction. They are also requested to inform the Executive Secretary of the conservation and management measures in effect for *Trachurus murphyi* in areas under their national jurisdiction.

Special requirements of developing States

~~26-25.~~ In recognition of the special requirements of developing States, in particular small island developing States and territories and possessions in the region, Members and CNCPs are urged to provide financial, scientific and technical assistance, where available, to enhance the ability of those developing States and territories and possessions to implement this CMM.

Review

~~27-26.~~ This Measure shall be reviewed by the Commission in 2014. The review shall take into account the latest advice of the Scientific Committee and the CTC and the extent to which this CMM, as well as the Interim Measures for pelagic fisheries of 2007, as amended in 2009, 2011 and 2012, have been complied with.

Table 1: Gross Tonnage limits as referred to in paragraph 75

Member / CNCP	GT or GRT
Belize	9,814 GT
Chile	96,867.24 GT + 3,755.81 GRT
China	74,516 GT
Cook Islands	12,613 GRT
European Union	78,600 GT
Faroe Islands	23,415 GT
Korea	15,222 GT
Peru	75,416 GT
Russian Federation	74,470 GT ⁴
Vanuatu	31,220 GRT

⁴ This total includes the vessel Lafayette. Operational fishing data, in accordance with the consolidated data standards, has not been supplied to the Interim Secretariat in respect of this vessel and information supplied by some delegations indicates that the vessel probably was not capable of fishing in either 2009 or 2010. Some delegations requested the GT for this vessel (49,172 GT) should be held in abeyance pending receipt of operational fishing information. The Russian delegation stated that vessel Lafayette has duly obtained all certificates from the Russian Maritime Register of Shipping to be qualified for the fishing class; the vessel has undergone initial physical inspections and subsequent annual surveys to confirm its ability to be engaged in direct fishing operations.

Table 2: Shares in 2013 fishery as referred to in paragraph 6⁵ Catch limits established under paragraph 8

Member / CNCP	Catch Limit Tonnage Share
Belize	1,145
Chile	237,551
China	32,507
European Union	34,496
Faroe Islands	5,950
Korea	4,182
Peru	20,707
Russian Federation	0
Vanuatu	23,462
Total	360,000

⁵ The Russian Federation notified the Commission that it considers it had a legitimate right to a share in the fishery notwithstanding the situation referred to in footnote 4 and asserts its right to participate in the fishery in 2013 in a proportion calculated by reference to the fishing activities it reported to the Executive Secretary for 2012.

Table 3: Catch Limits in 2013 as established in paragraph 7

Member / CNCP	Catch Limit
Belize	1,031
Chile	249,796
China	29,256
European Union	31,046
Faroe Islands	5,355
Korea	3,764
Peru	18,636
Vanuatu	21,116
Total	360,000

Working Paper 10/Rev 4

As prepared by Chair of Informal Working Group at midday on 1 February 2013

Conservation and Management Measure for *Trachurus murphyi*

The Commission of the SPRFMO,

Noting that despite the efforts that have been made to arrest the depletion of the *Trachurus murphyi* stock, it remains at very low levels;

Concerned in particular with the low levels of the current biomass, high fishing mortality and the high degree of associated uncertainties;

Taking into account the outcomes of the stock assessment carried out in October of 2012 and the advice of the Scientific Working Group (SWG) established by the Preparatory Conference,

Bearing in mind the commitment to apply the precautionary approach and take decisions based on the best scientific and technical information available as set out in Article 3 of the Convention,

Recognizing that a primary function of the Commission is to adopt conservation and management measures to achieve the objective of the Convention, including, as appropriate, conservation and management measures for particular fish stocks;

Affirming its commitment to rebuilding the stock of *Trachurus murphyi* and ensuring its long term conservation and sustainable management in accordance with the objective of the Convention,

Recognizing the need for effective monitoring and control and surveillance of fishing for *Trachurus murphyi* in the implementation of this measure pending the establishment of monitoring, control and surveillance measures pursuant to Article 27 of the Convention;

Recalling Articles 4.2, 20.4 and 21.2 of the Convention;

Adopts the following conservation and management measure in accordance with Article 8 of the Convention:

General Provisions

1. This Conservation and Management Measure (CMM) applies to fisheries for *Trachurus murphyi* undertaken by Members and Cooperating Non-Contracting Parties (CNCs) in the Convention Area and, in accordance with Article 20(4)(a)(iii) and with the express consent of Chile, to fisheries for *Trachurus murphyi* undertaken by Chile in areas under its national jurisdiction.
2. Only fishing vessels duly authorized pursuant to Article 25 of the Convention that are flagged to Members and Cooperating Non-Contracting Parties (CNCs) shall participate in the fishery for *Trachurus murphyi* in the Convention area.

3. The provisions of this CMM and those of the 2011 and 2012 Interim Measures for pelagic fisheries are not to be considered precedents for future allocation or other decisions taken in accordance with Article 21 of the Convention, relating to participation in fisheries for *Trachurus murphyi* in the Convention Area and in adjacent areas of national jurisdiction in the circumstances provided for in Article 21(4)(ii) and (iii) with the consent of the Coastal State Contracting Party or Parties, and are not to affect the full recognition of the special requirements, including the fisheries development aspirations and interests, of developing States, in particular small island developing States and territories and possessions in the region, in accordance with the Convention. In particular, catches from 2011 to until at least this CMM is reviewed in accordance with paragraph 26 will not be considered in future allocation decisions.
4. In recognition that paragraph 1 of Article 21 of the Convention requires that the Commission take into account the status of the resource for decisions regarding participation in fishing for fishery resources, implementation of and compliance with this CMM, as well as the Interim Measures for pelagic fisheries of 2007 as revised in 2009, 2011 and 2012, which are designed to promote the rebuilding of the *Trachurus murphyi* stock, compliance with them are to be considered when adopting future decisions under Article 21 for *Trachurus murphyi*.

Effort management

5. Members and CNCPs shall limit the total gross tonnage (GT)¹ of vessels flying their flag and participating in the *Trachurus murphyi* fisheries in the Convention Area to the total tonnage of their flagged vessels that were actively fishing in 2007 or 2008 or 2009 in the Convention Area and as set out in Table 1. Members and CNCPs may substitute their vessels as long as the total level of GT for each Member and CNCP does not exceed the level recorded in Table 1.

Catch management

6. In 2013 the total catch of *Trachurus murphyi* in the area to which this CMM applies in accordance with paragraph 1 shall be limited to 360,000 tonnes. Members and CNCPs are to share in this total catch in the same proportions as their 2010 catches as reported to the Executive Secretary in the area to which this CMM applies and in the tonnages set out in Table 2.
7. However, having regard to the current specific circumstances of the *Trachurus murphyi* fishery, on a one-off basis 10% of the tonnages set out in Table 2 of Belize, China, European Union, Faroe Islands, Korea, Peru, and Vanuatu are to be transferred to Chile. As a consequence, the catch limits to be applied in 2013 in the areas to which this CMM applies shall be those set out in Table 3.
8. In the event that a Member or CNCP reaches 70% of its catch limit set out in Table 3, the Executive Secretary shall inform that Member or CNCP of that fact, with a copy to

¹In the event that GT is not available, Members and CNCPs shall utilise Gross Registered Tonnage (GRT) for the purposes of this CMM.

all other Members and CNCPs. That Member or CNCP shall close the fishery for its flagged vessels when the total catch of its flagged vessels is equivalent to 100% of its catch limit. Such Member or CNCP shall notify promptly the Executive Secretary of the date of the closure.

9. The provisions of this CMM are without prejudice to the right of Members and CNCPs to adopt measures limiting vessels flying their flag and fishing for *Trachurus murphyi* in the Convention Area to catches less than the limits set out in Table 3. In any such case, Members and CNCPs shall notify the Executive Secretary of the measures, when practicable, within 1 month of adoption. Upon receipt, the Executive Secretary shall circulate such measures to all Members and CNCPs without delay.
10. A Member may transfer to another Member all or part of its entitlement to catch up to the limit set out in Table 3, subject to the approval of the receiving Member. Before the transferred fishing takes place, the transferring Member shall notify the transfer to the Executive Secretary for circulation to Members and CNCPs without delay.
11. Notwithstanding paragraphs 6 and 7, Members and CNCPs agree, having regard to the advice of the Scientific Working Group that fishing mortality of *Trachurus murphyi* in 2013 throughout the range of the stock should be maintained at or below 2012 levels, that total catches of *Trachurus murphyi* in 2013 should not exceed 438,000 tonnes, – the total catch for 2012 reported to the Executive Secretary by 20 January 2013.

Data collection and reporting

12. Members and CNCPs participating in the *Trachurus murphyi* fishery shall report in an electronic format the monthly catches of their flagged vessels to the Secretariat within 10 days of the end of the month, in accordance with the Data Standards and using templates prepared by the Secretariat and available on the SPRFMO website.
13. The Executive Secretary shall circulate monthly catches, aggregated by flag State, to all Members and CNCPs on a monthly basis.
14. Except as described in paragraph 12 above, each Member and CNCP participating in the *Trachurus murphyi* fishery shall collect, verify, and provide all required data to the Executive Secretary, in accordance with the Data Standards and the templates available on the SPRFMO website, including an annual catch report.
15. The Executive Secretary shall verify the annual catch reports submitted by Members and CNCPs against the submitted data (tow by tow in the case of trawlers, and set by set or trip by trip in the case of purse seine fishing vessels). The Executive Secretary shall inform Members and CNCPs of the outcome of the verification exercise and any possible discrepancies encountered.
16. Members and CNCPs participating in the *Trachurus murphyi* fisheries shall implement a vessel monitoring system (VMS) in accordance with the SPRFMO Data Standards. These VMS data shall be provided to the Executive Secretary within 10 days of each quarter in the format prescribed by the SPRFMO Data Standards and using the templates on the SPRFMO website.

17. Each Member and CNCP participating in the *Trachurus murphyi* fishery shall provide the Executive Secretary a list of vessels² they have authorized to fish in the fishery in accordance with Article 25 of the Convention and shall provide data in respect of those vessels in accordance with the SPRFMO Data Standards. They shall also notify the Executive Secretary of the vessels that are actively fishing or engaged in transshipment in the Convention Area within 10 days of the end of each month. The Executive Secretary shall maintain lists of the vessels so notified and will make them available on the SPRFMO website.
18. The Executive Secretary shall report annually to the Commission on the list of vessels having actively fished or been engaged in transshipment in the Convention area during the previous year using data provided under the Data Standard.
19. In order to facilitate the work of the Scientific Committee, Members and CNCPs shall provide their annual national reports, in accordance with the existing guidelines for such reports, in advance of the 2013 Scientific Committee meeting. Members and CNCPs shall also provide observer data for the 2013 fishing season to the Scientific Committee to the maximum extent possible. The reports shall be submitted to the Executive Secretary at least one month before the 2013 Scientific Committee meeting in order to ensure that the Scientific Committee has an adequate opportunity to consider the reports in its deliberations.
20. In accordance with Article 24(2), all Members and CNCPs participating in the *Trachurus murphyi* fishery shall provide, at least 10 days before the meeting of the Compliance and Technical Committee (CTC), a report describing their implementation of this CMM. On the basis of submissions in the first year the CTC shall develop a template to facilitate reporting in the following years. The implementation reports will be made available on the SPRFMO website.
21. The information collected under paragraphs 12, 14, and 19, and any stock assessments and research in respect of *Trachurus murphyi* fisheries shall be submitted for review to the Scientific Committee. The Scientific Committee will conduct the necessary analysis and assessment, in accordance with its Programme agreed by the Commission, in order to provide updated advice on stock status and recovery.
22. Contracting Parties and CNCPs, as port States, shall, subject to their national laws, facilitate access to their ports on a case by case basis to reefer vessels, supply vessels and vessels fishing for *Trachurus murphyi* in accordance with this CMM. Contracting Parties and CNCPs shall implement measures to verify catches of *Trachurus murphyi* caught in the Convention Area that are landed or transhipped in its ports. When taking such measures, a Contracting Party or CNCP shall not discriminate in form or fact against fishing, reefer or supply vessels of any Member or CNCP. Nothing in this paragraph shall prejudice the rights, jurisdiction and duties of these Contracting Parties and CNCPs under international law. In particular, nothing in this paragraph shall be construed to affect:
 - (a) the sovereignty of Contracting Parties and CNCPs over their internal, archipelagic and territorial waters or their sovereign rights over their continental shelf and in their exclusive economic zone;

² Fishing vessels as defined in Article 1.1(h) of the Convention.

(b) the exercise by Contracting Parties and CNCPs of their sovereignty over ports in their territory in accordance with international law, including their right to deny entry thereto as well as adopt more stringent port State measures than those provided for in this CMM.

23. Until the Commission adopts an Observer Programme in accordance with Article 28 of the Convention, all Members and CNCPs participating in the *Trachurus murphyi* fishery shall ensure a minimum of ten % scientific observer coverage of trips for vessels flying their flag and ensure that such observers collect and report data as described in the SPRFMO Data Standards. In the case of the flagged vessels of a Member or CNCP undertaking no more than 2 trips in total, the 10% observer coverage shall be calculated by reference to active fishing days for trawlers and sets for purse seine vessels.

Cooperation in respect of fisheries in adjacent areas under national jurisdiction

24. Members and CNCPs participating in *Trachurus murphyi* fisheries in areas under national jurisdiction adjacent to the area to which this CMM applies in accordance with paragraph 1 shall cooperate with other Members and CNCPs in ensuring compatibility in the conservation and management of the fisheries. Such Members and CNCPs are invited to apply the measures set out in paragraphs 12 – 23, insofar as they are applicable, to vessels associated with the *Trachurus murphyi* fisheries in their areas under national jurisdiction. They are also requested to inform the Executive Secretary of the conservation and management measures in effect for *Trachurus murphyi* in areas under their national jurisdiction.

Special requirements of developing States

25. In recognition of the special requirements of developing States, in particular small island developing States and territories and possessions in the region, Members and CNCPs are urged to provide financial, scientific and technical assistance, where available, to enhance the ability of those developing States and territories and possessions to implement this CMM.

Review

26. This Measure shall be reviewed by the Commission in 2014. The review shall take into account the latest advice of the Scientific Committee and the CTC and the extent to which this CMM, as well as the Interim Measures for pelagic fisheries of 2007, as amended in 2009, 2011 and 2012, have been complied with.

Table 1: Gross Tonnage limits as referred to in paragraph 5

Member / CNCP	GT or GRT
Belize	9,814 GT
Chile	96,867.24 GT + 3,755.81 GRT
China	74,516 GT
Cook Islands	12,613 GRT
European Union	78,600 GT
Faroe Islands	23,415 GT
Korea	15,222 GT
Peru	75,416 GT
Russian Federation	74,470 GT ³
Vanuatu	31,220 GRT

³ This total includes the vessel Lafayette. Operational fishing data, in accordance with the consolidated data standards, has not been supplied to the Interim Secretariat in respect of this vessel and information supplied by some delegations indicates that the vessel probably was not capable of fishing in either 2009 or 2010. Some delegations requested the GT for this vessel (49,173 GT) should be held in abeyance pending receipt of operational fishing information. The Russian delegation stated that vessel Lafayette has duly obtained all certificates from the Russian Maritime Register of Shipping to be qualified for the fishing class; the vessel has undergone initial physical inspections and subsequent annual surveys to confirm its ability to be engaged in direct fishing operations.

Table 2: Tonnages in 2013 fishery as referred to in paragraph 6⁴

Member / CNCP	Tonnage
Belize	1,145
Chile	237,551
China	32,507
European Union	34,496
Faroe Islands	5,950
Korea	4,182
Peru	20,707
Vanuatu	23,462
Total	360,000

⁴ The Russian Federation notified the Commission that it considers it had a legitimate right to a share in the fishery notwithstanding the situation referred to in footnote 4 and asserts its right to participate in the fishery in 2013 in a proportion calculated by reference to the fishing activities it reported to the Executive Secretary for 2010.

Table 3: Catch Limits in 2013 as established in paragraph 7

Member / CNCP	Catch Limit
Belize	1,031
Chile	249,796
China	29,256
European Union	31,046
Faroe Islands	5,355
Korea	3,764
Peru	18,636
Vanuatu	21,116
Total	360,000

SM2

PCA 2013 Review Panel Findings and Recommendations

IN PROCEEDINGS CONDUCTED BY

**THE REVIEW PANEL ESTABLISHED UNDER ARTICLE 17 AND ANNEX II OF THE
CONVENTION ON THE CONSERVATION AND MANAGEMENT OF HIGH SEAS
FISHERY RESOURCES IN THE SOUTH PACIFIC OCEAN**

with regard to

**THE OBJECTION BY THE RUSSIAN FEDERATION TO A DECISION OF THE
COMMISSION OF THE SOUTH PACIFIC REGIONAL FISHERIES MANAGEMENT
ORGANISATION**

**Findings and Recommendations of the Review Panel
5 July 2013
The Hague, the Netherlands**

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DEFINED TERMS USED HEREIN

1982 Convention	United Nations Convention on the Law of the Sea of 10 December 1982
1995 Agreement	Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks of 4 December 1995
Acting Executive Secretary	Acting Executive Secretary of the SPRFMO
CMM 1.01	Conservation and Management Measure for <i>Trachurus murphyi</i> adopted by the Commission on 1 February 2013
CNCP	Cooperating Non-Contracting Party
Commission	Commission of the Organisation
Convention	Convention on the Conservation and Management of High Seas Fishery Resources in the South Pacific Ocean of 14 November 2009
Convention Area	Area to which the Convention applies pursuant to Article 5
Decision	Provisions of CMM 1.01 to which the Russian Federation objects
GT	Gross tonnage
Interim Secretariat	Secretariat during the Preparatory Conference
Member	Member of the Commission
Objection	Objection by the Russian Federation made pursuant to Article 17 of the Convention and dated 19 April 2013
Participants	The Organisation and Members taking part in the Review Panel proceedings
PCA	Permanent Court of Arbitration
Secretariat	Secretariat of the Organisation based in Wellington, New Zealand
SPRFMO or Organisation	South Pacific Regional Fisheries Management Organisation
SWG	Science Working Group

I. INTRODUCTION

1. This Review Panel is convened pursuant to Article 17 and Annex II of the Convention on the Conservation and Management of High Seas Fishery Resources in the South Pacific Ocean (“**Convention**”).
2. Having considered the information supplied by and the views of the Participants described herein concerning the Objection of the Russian Federation (hereinafter “**Russia**”), the Review Panel now transmits to the Acting Executive Secretary its findings and recommendations pursuant to Article 17(5)(e) and Annex II, paragraph 9 of the Convention.

II. PROCEDURAL HISTORY

3. By letter dated 19 April 2013, Russia invoked Article 17 of the Convention which permits Members of the Commission of the South Pacific Regional Fisheries Management Organisation (“**Commission**”) to object to a decision adopted by the Commission within 60 days of the date of notification of the decision. As set out in more detail below, Russia objects to its exclusion from the established shares in the catch limit of *Trachurus murphyi* in 2013 as specified in the Commission’s Conservation and Management Measure for *Trachurus murphyi* (document “**CMM 1.01**”).
4. By letter dated 30 April 2013, Russia informed the Acting Executive Secretary of the SPRFMO of the appointment of Professor Kamil A. Bekyashev as a member of the Review Panel. Sra. Valeria Carvajal was then appointed to the Review Panel by the Chairperson of the Commission. On 21 May 2013, by agreement between Russia and the Chairperson of the Commission, Professor Bernard H. Oxman was appointed as the third member and chair of the Review Panel. The Review Panel was therefore established on 21 May 2013. On 12 June 2013, the Commission Members and the Organisation were provided with copies of the Review Panel members’ *curricula vitae* and signed declarations of independence and impartiality.
5. On 27 May 2013, the Review Panel transmitted a message to Commission Members in which it noted that the Permanent Court of Arbitration (“**PCA**”) in The Hague, the Netherlands would provide administrative assistance during these proceedings. The message included a Procedural Timetable in which the Review Panel fixed time limits for written submissions from Russia, the South Pacific Regional Fisheries Management Organisation (“**SPRFMO**” or “**Organisation**”) and the other Members of the Commission (together, the “**Participants**”).
6. On 7 June 2013, the Review Panel issued Procedural Directive No. 1, including the following instruction for the content of written submissions:

1. Substance of Written Submissions

1. Without prejudice to its findings and recommendations in any respect, the Review Panel requests that, in addition to such other matters as may be considered relevant, memoranda, information and documents submitted to it in accordance with the Convention address or are pertinent to one or more of the following matters:
 - (a) Whether, apart from the question of discrimination referred to in subparagraph (b) below, the decision with respect to CMM 1.01 to which the Russian Federation has objected is inconsistent with the provisions of the Convention or other relevant international law as reflected in the 1982 Convention or the 1995 Agreement, and in this respect the basis for the decision in fact and law, the competence of the Commission to make that decision, and the competence of the Review Panel with regard to that decision.

- (b) Whether the decision with respect to CMM 1.01 to which the Russian Federation has objected unjustifiably discriminates in form or in fact against the Russian Federation, and in this respect the standard and means for determining what constitutes unjustifiable discrimination under the Convention.
 - (c) The standard and means for determining whether alternative measures are equivalent in effect to the decision with respect to CMM 1.01 to which the Russian Federation has objected, and the relevance in this respect of paragraphs 5, 6, 7, and 11 of CMM 1.01.
 - (d) Whether, with reference to subparagraphs (a) and (j) of paragraph 10 of Annex II of the Convention, the catch limit specified by the Russian Federation in its letter objecting to the decision with respect to CMM 1.01 is an alternative measure that is equivalent in effect to that decision. The Review Panel requests that the question of alternative measures be included in the matters addressed by the Russian Federation in its memorandum due by 14 June 2013.
 - (e) Whether, with reference to subparagraph (b) of paragraph 10 of Annex II of the Convention, there are specific modifications to the catch limit referred to in sub-paragraph (d) above that would render it an alternative measure that is equivalent in effect to the decision with respect to CMM 1.01 to which the Russian Federation has objected.
 - (f) Whether, with reference to subparagraph (c) of paragraph 10 of Annex II of the Convention, other alternative measures would be equivalent in effect to the decision with respect to CMM 1.01 to which the Russian Federation has objected.¹
7. On 13 June 2013, the SPRFMO Commission Chairperson and Acting Executive Secretary submitted an Information Paper and supporting materials.
 8. On 14 June 2013, Russia submitted additional information in support of its 19 April 2013 letter.
 9. On 21 June 2013, the Review Panel received written submissions from the Republic of Chile (hereinafter “**Chile**”), Chinese Taipei, the European Union Delegation to the SPRFMO, and New Zealand. Russia and Chile requested an opportunity to be heard at the Hearing scheduled for 1 July 2013 in The Hague. Chinese Taipei requested the opportunity to attend the Hearing without being heard.
 10. By e-mail communication dated 26 June 2013, the Review Panel established the schedule for the 1 July Hearing.
 11. On 27 June 2013, Russia submitted comments in response to the written submission of New Zealand.
 12. A Hearing was held at the Peace Palace in The Hague on 1 July 2013. Delegations from Chile, Chinese Taipei, Russia, and the Organisation attended the Hearing. Oral interventions were made by representatives of Russia and Chile, and by the Chairperson of the Commission and the Acting Executive Secretary of the Organisation.

¹ “**1982 Convention**” refers to the United Nations Convention on the Law of the Sea of 10 December 1982, and “**1995 Agreement**” refers to the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks of 4 December 1995.

III. FACTUAL BACKGROUND

13. Recognising that it is the first Review Panel to be convened under the Convention since the Convention's entry into force, the Review Panel first addresses the relevant history of the Convention, the Organisation, and the issues posed.
14. The following summary is based on the Organisation's Information Paper, the written submissions, and statements made at the Hearing.

The Convention

15. The Convention, adopted 14 November 2009 after several years of international consultations, and which came into effect 24 August 2012, endeavours to ensure the "long-term conservation and sustainable use of fishery resources in the South Pacific Ocean and . . . [to safeguard] the marine ecosystems" there.²
16. The Convention creates the SPRFMO, comprised of a Commission, several committees, and a Secretariat ("**Secretariat**").
17. The Commission currently has eleven Members (Australia, Belize, Chile, Cook Islands, Republic of Cuba (hereinafter "**Cuba**"), EU, Kingdom of Denmark in respect of the Faroe Islands (hereinafter "**Faroe Islands**"), Republic of Korea (hereinafter "**Korea**"), New Zealand, Russia, and Chinese Taipei).³ It held its first meeting 28 January to 1 February 2013. At this meeting, the Commission adopted four conservation and management decisions, one of which focused on the conservation and management of the Chilean jack mackerel (*Trachurus murphyi*).

Trachurus murphyi

18. The sustainable management of *Trachurus murphyi* was of high concern to the negotiating parties during the drafting of the Convention. Catches of the species had increased throughout the 1980s and reached their peak in 1995, totaling five million tonnes.⁴ After declining for the following four years and then stabilising until 2007, they again declined and have continued to drop through the present.⁵
19. In light of these trends, while international negotiations leading up to the conclusion of the Convention were ongoing, the negotiating parties undertook initiatives to study and manage the fishery. As an initial step, at the first international consultations meeting in 2006, the participants established a Science Working Group ("**SWG**") to provide scientific data on the stock.⁶ At the 2007 international consultations, the participants adopted Interim Measures, pursuant to which, participants were to verify the effective presence of their vessels in the area prescribed by the measures and to communicate appropriate data to the Interim Secretariat.⁷

² Convention, Preamble, first recital. See also Article 2, describing the Convention's objective.

³ The People's Republic of China becomes a Member on 6 July 2013.

⁴ Organisation Information Paper, para. 9.

⁵ Organisation Information Paper, para. 9.

⁶ Report of the First International Meeting on the Establishment of the Proposed South Pacific Regional Fisheries Management Organisation held on 14-17 February 2006.

⁷ Organisation Information Paper, paras. 7, 10-11; 2007 Interim Measures Adopted by Participants in Negotiations to Establish South Pacific Regional Fisheries Management Organisation, p. 1.

20. By 2008, the SWG had indicated it had concerns about the declining state of the *Trachurus murphyi* stock.⁸ In the absence of agreed stock assessments, in 2009, the SWG carried out a comprehensive review of the fishery and other indicators as a basis for advice to the ongoing international consultations.⁹ At that time, the fishery was suffering from low biomass, recruitment, and spawning, suggesting that urgent and adequate measures limiting fishing were required.¹⁰ Further, the SWG advised that the fishing mortality was likely to have exceeded sustainable levels since at least 2002 and would continue to do so.¹¹
21. In response to the SWG's advice, at the final international consultations in 2009, the participants adopted Revised Interim Measures, in which they agreed to voluntarily restrain their catches beginning in 2010 until the Convention entered into force to the levels they recorded in 2007, 2008, or 2009.¹² The responsibility for reviewing these measures was passed to the Convention Preparatory Conference with the suggestion that they be reviewed and revised by 31 December 2010, taking account of the forthcoming stock assessment the SWG proposed.¹³
22. In the first stock assessment by the SWG carried out in 2010, data indicated that immediate catch reductions were required to prevent further biomass decline.¹⁴ The key management message from the SWG was that if catches continued at 2010 levels, it was certain that the biomass would continue to decline at a rapid pace.¹⁵ At the opening meeting of the Preparatory Conference, the Chair stated:

Between the time of our First Meeting in 2006 and the end of . . . 2010, jack mackerel total biomass is estimated to have declined by 65 percent to its historically lowest level—only 11 percent of the estimated unfished biomass level. Spawning biomass is estimated to have declined to only 3 percent of the unfished level, quite possibly making this the most depleted major fish stock under the responsibility of a[] [regional fisheries management organisation] anywhere in the world. Immediate and substantial Measures are required to reverse this decline. . . . [F]ailing to implement such Measures will result in continued decline in a stock that was once the largest fish stock in the South Pacific Ocean, but is now reaching levels which are almost uneconomical to fish.¹⁶

⁸ Hearing transcript, p. 16:1-6.

⁹ Hearing transcript, p. 16:7-14.

¹⁰ Organisation Information Paper, paras. 12-13.

¹¹ Hearing transcript, p. 16:15-17.

¹² Organisation Information Paper, para. 14.

¹³ Hearing transcript, p. 17:5-11.

¹⁴ Organisation Information Paper, para. 15.

¹⁵ Organisation Information Paper, para. 15; Hearing transcript, p. 18:13-17; Report of the 9th SWG meeting, p. 3.

¹⁶ Hearing transcript, pp. 17:16-18:11.

23. The second Preparatory Conference adopted additional Interim Measures in 2011, providing that participants would limit 2011 catches to 60 percent of those in 2010.¹⁷ In principle, 2012 catches would then be reduced to 40 percent of those in 2010. Four delegations (Cuba, Faroe Islands, Korea, and the Bolivarian Republic of Venezuela) advised they could not accept the decision; the People's Republic of China (hereinafter "**China**") subsequently advised it would reduce its 2010 catch by 30 percent in 2011.¹⁸
24. In the absence of any significant improvement in the status of the stock, the participants at the following and last Preparatory Conference unanimously affirmed a reduction to 40 percent of 2010 catches for 2012.¹⁹

Controversy surrounding the vessel Lafayette

25. On 22 July 2009, Russia advised the Interim Secretariat that it had authorised four vessels to fish in the area covered by the Convention ("**Convention Area**") in 2009.²⁰
26. On 16 September 2009, Russia confirmed that those four vessels had all been active in the Convention Area during 2009. On 5 November 2009, however, Russia informed the Interim Secretariat that it had authorised more vessels to fish in 2009 but that they had not yet "entered fisheries."²¹
27. On 17 November 2009, Russia informed the Interim Secretariat that the vessel *Lafayette* would fish in the Convention Area in the 2009 season for "horse mackerel," a name often used to refer to the Chilean jack mackerel.²² After seeing a news item suggesting that the *Lafayette* was a mother ship or processing vessel rather than a fishing trawler, the Interim Secretariat asked Russia to confirm that the *Lafayette* would fish as a midwater trawler during 2009.²³ On 10 December 2009, Russia replied that the *Lafayette* would fish as a midwater trawler.²⁴
28. In late January 2010, French authorities in Papeete conducted an inspection of the *Lafayette*. After the inspection, the authorities communicated to the Executive Secretary of the Preparatory Conference: "The captain of the vessel considers that he is a master of a 'fishing vessel' but we did not find any fishing gear or fishing equipment on board."²⁵ Further communication with these authorities led the Executive Secretary to conclude that the vessel could not have fished in December 2009.
29. In February 2010, the Executive Secretary requested that Russia confirm the presence of the *Lafayette* in the Convention Area in 2009 using appropriate records. When that confirmation was not received, the Executive Secretary chose not to include the *Lafayette* in the list of vessels actively fishing at the time.²⁶

¹⁷ Organisation Information Paper, para. 16.

¹⁸ Hearing transcript, p. 19:5-10.

¹⁹ Organisation Information Paper, para. 16.

²⁰ Organisation Information Paper, para. 17.

²¹ Organisation Information Paper, para. 18.

²² Organisation Information Paper, para. 18 .

²³ Organisation Information Paper, paras. 18-19.

²⁴ Organisation Information Paper, para. 19.

²⁵ Organisation Information Paper, para. 24.

²⁶ Organisation Information Paper, paras. 27-28.

30. On 3 April 2010, Russia sent the Interim Secretariat more detailed records for the *Lafayette*, prompting the Executive Secretary to include the *Lafayette* on the list of vessels actively fishing *Trachurus* species in 2009.
31. In June 2010, the *Lafayette* was the only vessel authorised by Russia to fish for *Trachurus murphyi* in the Convention Area for 2010.²⁷ On 13 July 2010, Russia provided monthly catch reports for its catches of *Trachurus murphyi* in the Convention Area for December 2009 to June 2010.²⁸
32. On 23 July 2010, the Preparatory Conference adopted a report in which delegates expressed concern at a lack of compliance with the Interim Measures in respect of complete and fine-scale data.²⁹
33. In October 2010, Russia's Annual Report to the Organisation for 2009 contained information about its vessels that appeared to the Secretariat to be spatially and temporally inconsistent with the records provided earlier in respect of the *Lafayette*.³⁰ None of the tow-by-tow records found therein showed fishing during December 2009.
34. In December 2010, Russia sent the Interim Secretariat its monthly catch data on *Trachurus murphyi* in the Convention Area for the remainder of 2010, totaling 41,315 tonnes.³¹
35. The 2011 Interim Measures adopted in January 2011 included a footnote stating that Russia noted that it would not apply paragraph 11 (committing participants to the submission of tow-by-tow data for trawlers to verify annual catch reports) for its 2010 catch data; rather, Russia would observe the 2009 Revised Interim Measures commitment to provide all data covering January to December of the previous year by 30 June.³²
36. On 23 March 2011, the French authorities in Papeete advised the Executive Secretary that they considered the *Lafayette* to be a former oil tanker converted into a processing vessel, not operating as an active trawler in 2009.³³
37. On 30 March 2011, the Executive Secretary circulated a summary of the French inspection of the *Lafayette* to the participants in the Preparatory Conference.³⁴ After receiving requests and expressions of concern from certain participants, the Executive Secretary asked Russia to provide additional data.³⁵

²⁷ Organisation Information Paper, para. 31.

²⁸ Organisation Information Paper, para. 31.

²⁹ Organisation Information Paper, para. 32.

³⁰ Organisation Information Paper, para. 33.

³¹ Organisation Information Paper, para. 34.

³² Organisation Information Paper, para. 35.

³³ Organisation Information Paper, para. 36.

³⁴ Organisation Information Paper, para. 37.

³⁵ Organisation Information Paper, para. 38.

38. The Executive Secretary also requested that the Republic of Peru (hereinafter “Peru”) provide unloading or transshipping data involving the *Lafayette* for 2010.³⁶ Peru provided data showing that four of its vessels transshipped 31,275 tonnes to the *Lafayette* in 2010.³⁷ Further correspondence from participants between May and August 2011 raised additional doubt about the status of the *Lafayette*; the Executive Secretary was asked to investigate further.³⁸
39. On 23 September 2011, the Interim Secretariat presented detailed data submissions that it had received, showing Russia’s reported monthly catch in 2010 of 41,315 tonnes and Peru’s of 40,516 tonnes. Russia’s presentation to the SWG reflected the same total, but did not contain any detailed information for 2010 activities (although its report made clear that in 2010 there were no other Russian fishing vessels in the Convention Area with which the *Lafayette* could have pair-trawled).³⁹
40. At the same meeting, some participants expressed concern at the possible double-counting of Russian and Peruvian reported catches in 2010.⁴⁰
41. In accordance with the 2011 Interim Measures, on 28 October 2011, the Executive Secretary asked Russia and Peru to verify the 2010 data they had provided.⁴¹
42. On 8 January 2012, the Executive Secretary circulated a report with the results of the 2010 verification exercise. It noted that the Interim Secretariat was not able to verify the catches of Peru and Russia based on detailed operational information. Thereafter, Peru provided its operational catch data.⁴²
43. Later that month, the EU provided the Executive Secretary with a report concerning an inspection of the *Lafayette* carried out by the Kingdom of Spain during December 2011 which, according to the EU, confirmed the findings of the French authorities that it was highly unlikely that the *Lafayette* could have acted as a pair trawler.⁴³
44. On 30 January 2012, the Executive Secretary circulated to the Preparatory Conference a letter from Chile expressing concern about non-compliance with the 2011 Interim Measures and highlighting the situation of the *Lafayette*. Other delegates expressed a similar concern about the credibility of the *Lafayette* data. Russia stated that it had been unable to launch a full scale investigation, but that the vessel had not been authorised to fish in the Convention Area in 2011.⁴⁴
45. After further discussion, but without reaching agreement on how to handle the matter, the Preparatory Conference adopted the following footnote to accompany Table 1 of the 2012 Interim Measures (listing the 2010 GT for participants):

³⁶ Organisation Information Paper, para. 39.

³⁷ Organisation Information Paper, para. 40.

³⁸ Organisation Information Paper, paras. 41-48.

³⁹ Organisation Information Paper, para. 49.

⁴⁰ Organisation Information Paper, para. 49.

⁴¹ Organisation Information Paper, para. 51.

⁴² Organisation Information Paper, para. 51.

⁴³ Organisation Information Paper, para. 54.

⁴⁴ Organisation Information Paper, para. 59.

This total includes the vessel *Lafayette*. Operational fishing data, in accordance with the consolidated data standards, has not been supplied to the Interim Secretariat in respect of this vessel and information supplied by some delegations indicates that the vessel probably was not capable of fishing in either 2009 or 2010. Some delegations requested the GT for this vessel (49,173 GT) should be held in abeyance pending receipt of operational fishing information. The Russian delegation stated that vessel *Lafayette* has duly obtained all certificates from the Russian Maritime Register of Shipping to be qualified for the fishing class; the vessel has undergone initial physical inspections and subsequent annual surveys to confirm its ability to be engaged in direct fishing operations.

46. On 6 March 2012, the data section of the SPRFMO website was updated to note that for Russia, aggregated annual catch data were provided for a single vessel, but the data were not included in the data table, pending receipt of operational fishing information.⁴⁵ Thereafter, the data report prepared for the SWG meeting in October 2012 did not include Russia's reported catch for 2010. The data paper prepared for the first meeting of the Commission also did not contain the 2010 reported catch for Russia but rather made reference to the footnote to Table 1 of the 2012 Interim Measures set out above.⁴⁶
47. Russia's position on the data it has given in respect of the *Lafayette* is that it met its obligations to provide overall catch data, consistent with the 1982 Convention and the 1995 Agreement. It disputes the view of some Members of the Commission that the data reporting standards agreed by the participants in 2007 were obligatory. Further, Russia asserts that the data it has provided indicates that the *Lafayette*'s catch was received by the *Lafayette*.⁴⁷ The Federal Agency for Fisheries investigated and confirmed this to be accurate.⁴⁸ In response to a question at the Hearing regarding the distinction between catch taken from the sea and catch transferred by another vessel, the representative of Russia stated (as transcribed from simultaneous translation into English):

According to Russian legislation, each vessel has a quota. A quota is allocated per vessel which operates and fishes in the high seas. In this situation — in this case the situation often arises as follows, and there are plenty of examples like that, including in the 200-mile coastal zone of the Russian Federation, where a vessel obtains a large quota and, for various reasons, is unable to fill the quota. What it does then is that it brings in other vessels which supply the shortfall, and the fish butt against the vessel's bigger quota. So, in the grand scheme of things, the quota belongs to the original vessel. So, what a vessel can do is obtain fish in the sea and hire other vessels, help it fill the quota, and, of course, it pays the other vessels. Essentially, it leases or rents the other vessels' services.⁴⁹

⁴⁵ Organisation Information Paper, para. 61.

⁴⁶ Organisation Information Paper, para. 63.

⁴⁷ Hearing transcript, p. 62:5-6. The transcription of the English interpretation of this statement as given at the Hearing is: "The reports received by the Russian Federation from *Lafayette* highlight that the catch of 2010 was, in fact, produced by this particular vessel." The original statement given in Russian was: "Отчеты, полученные Российской Федерацией с судна «Лафайет» уточняют то, что улов 2010 года был получен этим судном".

⁴⁸ Hearing transcript, p. 62:5-6.

⁴⁹ Hearing transcript, pp. 84:25-85:13.

Perhaps in 2010, actually, yes, in 2010, we did have certain problems regarding this. And I think the questions we have now been asked regarding Lafayette must have had to do with that because for 200-mile economic zones we did even at that time have fairly strict rules. We ran our own — we gathered our own statistics. However, for vessels that operated outside the 200-mile economic zones, we had them operate under somewhat more lax rules, such as they were not expected to submit data exactly on a daily basis and to provide data in a very detailed manner, such as tow-by-tow, such as the amount of catch. Now the situation has changed. They submit data both by the area where they have been fishing by their daily catch. And if we have any additional request, they will give us information on a tow-by-tow basis, and these fishes break down and everything else. So, the situation in Russia has changed dramatically in what concerns the high seas; that is the vast expanses of the ocean outside of the 200-mile Economic Zone. That is, we, compared to a couple of years ago, gather probably ten times as much information as we used to on the one hand. It's a major burden, and there's a lot of information to process. On the other hand, we have information as to where, who, what, and when. And immediately on a computer screen, essentially in realtime, we can find out where a specific vessel is and what it is doing at the time. All of this information is available electronically. At this time, any information that is being requested, we can easily transmit, should there be a request.⁵⁰

IV. THE ADOPTION OF CMM 1.01

48. Adopted at the first meeting of the Commission, CMM 1.01 sets out conservation and management measures for *Trachurus murphyi*.
49. A draft of CMM 1.01 prepared by a working group was finalised on 1 February 2013. This draft as presented to the Commission included a total allowable catch and individual catch limits for certain Members and Cooperating Non-Contracting Parties (“CNCPS”) for 2013. No catch was accorded to Russia.
50. The text of the relevant provisions as finally adopted state:

5. Members and CNCPS shall limit the total gross tonnage (GT)¹ of vessels flying their flag and participating in the *Trachurus murphyi* fisheries in the Convention Area to the total tonnage of their flagged vessels that were actively fishing in 2007 or 2008 or 2009 in the Convention Area and as set out in Table 1. Members and CNCPS may substitute their vessels as long as the total level of GT for each Member and CNCPS does not exceed the level recorded in Table 1.

6. In 2013 the total catch of *Trachurus murphyi* in the area to which this CMM applies in accordance with paragraph 1 shall be limited to 360,000 tonnes. Members and CNCPS are to share in this total catch in the same proportions as their 2010 catches as reported to the Executive Secretary in the area to which this CMM applies and in the tonnages set out in Table 2.

7. However, having regard to the current specific circumstances of the *Trachurus murphyi* fishery, on a one-off basis 10 % of the tonnages set out in Table 2 [see below] of Belize, China, European Union, Faroe Islands, Korea, Peru and Vanuatu are to be transferred to Chile. As a consequence, the catch limits to be applied in 2013 in the areas to which this CMM applies shall be those set out in Table 3 [see below].

[...]

⁵⁰ Hearing transcript, pp. 86:16-87:17.

11. Notwithstanding paragraphs 6 and 7, Members and CNCPs agree, having regard to the advice of the Scientific Working Group that fishing mortality of *Trachurus murphyi* in 2013 throughout the range of the stock [that is, including areas under the national jurisdiction of States other than Chile] should be maintained at or below 2012 levels, that total catches of *Trachurus murphyi* in 2013 should not exceed 438,000 tonnes – the total catch for 2012 reported to the Executive Secretary by 20 January 2013.

Table 2: Tonnages in 2013 fishery as referred to in paragraph 6⁴

Members / CNCP	Tonnage
Belize	1,145
Chile	237,551
China	32,507
European Union	34,496
Faroe Islands	5,950
Korea	4,182
Peru	20,707
Vanuatu	23,462
Total	360,000

Footnote 4 to Table 2: The Russian Federation notified the Commission that it considers it had a legitimate right to a share in the fishery notwithstanding the situation referred to in footnote 3 and asserts its right to participate in the fishery in 2013 in a proportion calculated by a reference to the fishing activities it reported to the Executive Secretary in 2010.

Table 3: Catch Limits in 2013 as established in paragraph 7

Members / CNCP	Catch Limit
Belize	1,031
Chile	249,796
China	29,256
European Union	31,046
Faroe Islands	5,355
Korea	3,764
Peru	18,636
Vanuatu	21,116
Total	360,000

51. At the adoption of CMM 1.01, Russia made the following statement:

The Russian Federation held position that the CMM for *Trachurus murphyi* and the calculation for financial contributions to the Organization were based on incomplete data in that those data not include data reported by the Russian Federation to the Interim Secretariat in 2010.

We are not in the position to support the decision unjustifiably discriminates in form or in fact against the member of the Commission, or is inconsistent with the provisions of this Convention or other relevant international law as reflected in the 1982 Convention or the 1995 Agreement.

The Russian Federation, based on its *Trachurus murphyi* catch data for 2010 reported in the Interim Secretariat in the amount of the 41 315 tons, will limit its catch in 2013 within the total allowable catch recommended by the Science Working Group. The Russian Federation will notify the SPRFMO Secretariat about its limitations in due course.

We also do not support budget of the Commission without full reflections of Russian catch data for 2010 in the budget calculation.⁵¹

52. In response to a question from a member of the Review Panel, the Acting Executive Secretary advised that monthly reports for this year pursuant to the aforementioned provisions of CMM 1.01 had been received from Chile, China, the Republic of Ecuador, and the EU.⁵²

V. RUSSIA'S OBJECTION

53. In its letter of 19 April 2013, Russia states:

[W]e present the objection in respect of established shares in the catch limit of *Trachurus murphyi* in 2013 specified in [CMM 1.01].

We adhere to the position that the decision on distribution of shares in the total allowable catch of *Trachurus murphyi* between the countries demonstrates unjustifiable discrimination against the Russian Federation in form and in fact, and is inconsistent with the provisions of the Convention.

The Russian Federation is guided by the fact that the Commission has neither grounds nor competence to review the data presented by the Parties by the date the Convention took effect.

We also note that the Russian Federation duly presented to the Secretariat of the Organization data on the Russian catch of *Trachurus murphyi* in 2010 amounting to 41,315 tonnes.

However, CMM 1.01 proves that these data have been disregarded in the course of establishing *Trachurus murphyi* catch limit in 2013.

⁵¹ Annex K to the Report of the First Meeting of the Commission from 28 January 2013 – 1 February 2013.

⁵² In response to a subsequent request from the Review Panel, the Acting Executive Secretary transmitted the monthly catch reports for *Trachurus murphyi* up to May 2013 that had been circulated to all Commission Members and CNCPs on 18 June 2013. In addition to the Commission Members listed by the Acting Executive Secretary at the Hearing, the monthly catch reports included reports for 2013 from the Faroe Islands, Korea, Peru and Vanuatu (some of which were zero reports).

In accordance with paragraph 6 of CMM 1.01 the Parties agreed that the total catch of *Trachurus murphyi* in 2013 shall be limited to 360,000 tonnes whereas the countries are to share in this total catch in the same proportions as their 2010 catches.

With the view to the above and following the principle of shares distribution in the catch of *Trachurus murphyi* in 2013 the Russian Federation establishes *Trachurus murphyi* catch limit in the Convention area in respect of the Russian fisheries equal to 19,944 tonnes.

54. For the purposes of these Findings and Recommendations, the Review Panel refers to the above as the “**Objection**” and to Russia’s reference to “the distribution on shares in the total allowable catch of *Trachurus murphyi*” as the “**Decision**.”

VI. SUMMARIES OF THE ARGUMENTS OF THE PARTICIPANTS

55. The Review Panel summarises the arguments of the Participants in these proceedings that are of particular relevance to its Findings and Recommendations. These summaries are without prejudice to the complete written and oral submissions which the Review Panel has considered in their entirety.

Procedural validity of the Objection

56. Article 17(2) of the Convention provides that:

- (a) Any member of the Commission may present to the Executive Secretary an objection to a decision within 60 days of the date of notification “the objection period”. In that event the decision shall not become binding on that member of the Commission to the extent of the objection, except in accordance with paragraph 3 and Annex II.
- (b) A member of the Commission that presents an objection shall at the same time:
 - (i) specify in detail the grounds for its objection;
 - (ii) adopt alternative measures that are equivalent in effect to the decision to which it has objected and have the same date of application; and
 - (iii) advise the Executive Secretary of the terms of such alternative measures.
- (c) The only admissible grounds for an objection are that the decision unjustifiably discriminates in form or in fact against the member of the Commission, or is inconsistent with the provisions of this Convention or other relevant international law as reflected in the 1982 Convention or the 1995 Agreement.

57. Russia maintains that it has met the requirements of Article 17(2).⁵³

⁵³ Russia’s argument in respect of alternative measures is described *infra* at para. 83 *et seq.*

58. Chile submits that Russia's Objection fails to meet the requirements of Article 17(2).⁵⁴ First, with respect to the timeliness of the Objection under Article 17(2)(a), Chile argues that the Objection is only validly made in respect of the non-use of its data but not in respect of using 2010 as a reference year.⁵⁵ According to Chile, the "time period to present an Objection . . . expired when the second document submitted by the Russian Federation was presented. Therefore, the Objecting Party could only present arguments to support its formal presentation" and not add new facts.⁵⁶
59. Chile further contends that Russia's Objection does not "specify in detail the grounds for its objection" as required by Article 17(2)(b)(i) because in Russia's first letter (19 April 2013), it objected on the grounds that its catch date of 2010 was wrongfully excluded from the calculation for 2013, "thus constituting the unjustified discrimination on which the objection is based"; whereas in its submission of 14 June 2013, Russia argues that the 2010 data should not be considered for the 2013 calculation. Chile submits that these arguments are contradictory and of a different nature, and cannot be said to "specify" the grounds of the Objection in detail. The second submission cannot widen the first, and, in any event, is untimely.⁵⁷
60. Turning next to Article 17(2)(b)(ii), Chile contends that Russia fails to "adopt alternative measures that are equivalent in effect to the decision to which it has objected and have the same date of application." According to Chile, Russia's offer of an alternative measure based on consideration of 2010 data is contradictory to its initial position that 2010 data should not be considered.⁵⁸
61. Finally, Chile contests Russia's Objection on the ground that Russia did not question the use of the 2010 catch data as a basis for the calculation of catch limits during the drafting of CMM 1.01. Chile concludes that the Commission appropriately adopted the application of 2010 data for determining the 2013 limits and that Russia has waived its opportunity to object, or, in the alternative, that Russia has no legitimate basis for its Objection.⁵⁹

Inconsistency with the Convention

62. Russia submits that the Decision is inconsistent with the Convention. It argues that the Commission wrongfully only took into account 2010 data and failed to consider, *inter alia*, Russia's historical catch and significant contribution to scientific research as the Commission was obliged to do under Article 21(1) of the Convention.⁶⁰ Russia insists that CMM 1.01 concerns both conservation and management, including the distribution of quotas, and therefore engages Article 21(1).⁶¹ Russia also contends that the 2010 catch data are not an appropriate basis for determining national catch limits as they were obtained when the Revised Interim Measures were in force and that, because the Revised Interim Measures were voluntary and non-binding, those measures could "in no way . . . serve as a precedent or as a reference for future management decisions of the Commission."⁶²

⁵⁴ Chile, 21 June 2013, para. 6.

⁵⁵ Hearing transcript, p. 48:9-19.

⁵⁶ Hearing transcript, p. 41:16-21.

⁵⁷ Chile, 21 June 2013, paras. 4, 26.

⁵⁸ Chile, 21 June 2013, para. 5.

⁵⁹ Chile, 21 June 2013, paras. 25, 29.

⁶⁰ Hearing transcript, pp. 28:7-29:13; p. 34:6-16; p. 37:17-23; p. 39:14-19. See also *infra* para. 92.

⁶¹ Hearing transcript, pp. 102:11-103:3.

⁶² RF, 14 June 2013, p. 3.

63. In addition, Russia contends that the Commission was not competent to review the 2010 catch data before the Convention entered into force.⁶³ Russia also argues that the Revised Interim Measures so limited the catch and “effort” that the 2010 catches do not reflect the real potential catch abilities of the participants.⁶⁴ Russia states that no other regional fisheries management organisation uses a particular year as a basis for allocating the total allowable catch into national catch limits.⁶⁵
64. The Chairperson of the Commission asserts that the adoption of the measures in CMM 1.01 did not implicate Article 21(1) of the Convention.⁶⁶
- [P]articipants were quite clear that in developing the measures [in CMM 1.01], they were not engaged in an Article 21 decision-making exercise; rather, they were attempting to find an acceptable means of urgently and severely reducing current catches to allow the potential of a stock rebuild to a level at which an Article 21 exercise could reasonably be undertaken.⁶⁷
65. According to the Chairperson, negotiating an Article 21 allocation process was simply not feasible for the Commission’s first meeting; that would have been a highly complex process and there was already much that needed to be done.⁶⁸ Participants were aware that they were adopting a one-year measure in response to an urgent need to reduce catch without prejudice to future allocation or other decisions under Article 21(1) relating to participation in the fisheries.⁶⁹ The reference to Article 21(2) in the preamble to CMM 1.01 concerns the possibility of the application of the measures to a straddling stock in areas within a coastal State’s national jurisdiction as would occur in the implementation of CMM 1.01, and was not intended to invoke the criteria set out in Article 21(1).⁷⁰
66. The Chairperson maintains that when establishing the measures under CMM 1.01, the Commission exercised its broad functions under Article 8 of the Convention.⁷¹ CMM 1.01 was not an allocation of participation in fisheries but a temporary “distribution of limits.”⁷² The common intention of the participants was to redistribute limits on catch without entering into a formal allocation process; it was covered, in legal terms, by the general powers and functions of the Commission, and by the statements in the Interim Measures referring to the lack of precedential effect, particularly in any future allocation process.⁷³

⁶³ Objection; RF, 14 June 2013, pp. 2-3. In this regard, the Russian Federation notes that para. 6 of CMM 1.01 does not contain any reference to the need to confirm the specified data by the Interim Secretariat (Hearing transcript, p. 35:1-3).

⁶⁴ RF, 14 June 2013, p. 3.

⁶⁵ RF, 14 June 2013, p. 3.

⁶⁶ Hearing transcript, p. 53:16-22; p. 56:12-14, 20-22; p. 72:2; p. 73:4-8; p. 74:8-10.

⁶⁷ Hearing transcript, p. 23:9-15.

⁶⁸ Hearing transcript, pp. 53:23-54:11.

⁶⁹ Hearing transcript, p. 23:2-8; p. 54:11-15.

⁷⁰ Hearing transcript, p. 53:5-12; p. 54:20-24; see also Hearing transcript, p. 66:13-19.

⁷¹ Hearing transcript, p. 81:16-20.

⁷² Hearing transcript, p. 81:21-22.

⁷³ Hearing transcript, p. 82:12-17.

67. Chile supports the view of the Chairperson that the adoption of CMM 1.01 was not a decision taken under Article 21; the Commission adopted the measure in conformity with Article 8 of the Convention which empowers the Commission to, *inter alia*, exercise any function and take any decision that may be necessary to achieve the objective of the Convention.⁷⁴
68. It is the EU's position that the legal basis for the CMM 1.01 was the Convention and not the Interim Measures or Revised Interim Measures.⁷⁵ Article 21(1) of the Convention is the main provision governing participation and does not include potential catch as a criterion.⁷⁶ In contrast, the EU stresses the fact that "historic catch and past and present fishing patterns and practices in the Convention Area" is a criterion to be applied when determining participation.⁷⁷
69. Finally, Chile contends that the Organisation had an extensive interim period during which there was full consensus regarding the need for regulation and information.⁷⁸ Chile submits that in accordance with Article 3(1)(a)(iv) of the Convention, the Commission has the power and duty to verify data.⁷⁹ Notwithstanding that the Convention came into force in August 2012, the adoption of measures was to be based on prior data and does not constitute a retroactive application of the Convention;⁸⁰ the Commission was at liberty to use data from 2010 or any other year.⁸¹

Inconsistency with other relevant international law

70. Russia submits that the Decision constitutes a violation of Articles 87, 116, and 119 of the 1982 Convention as well as Article 8 of the 1995 Agreement, which, like Article 119 of the 1982 Convention, conveys a principled commitment in international law prohibiting discrimination in conservation.⁸²
71. Chile submits that CMM 1.01 is consistent with international law because it was adopted in accordance with the terms of the Convention—namely Article 8—at a time when the Convention was in force.⁸³ Further, the Convention is consistent with related international law instruments.⁸⁴
72. New Zealand states that the Decision is consistent with Article 119 of the 1982 Convention,⁸⁵ and the 1995 Agreement, particularly paragraphs (a), (b), (c) and (e) of Article 5.⁸⁶

⁷⁴ Hearing transcript, p. 67:3-10.

⁷⁵ EU, 21 June 2013, p. 1.

⁷⁶ EU, 21 June 2013, p. 2. The EU points out that the use of potential catches as a reference point could be in contradiction with the precautionary approach of Articles 2 and 3 of the Convention.

⁷⁷ EU, 21 June 2013, p. 2.

⁷⁸ Hearing transcript, pp. 46:20-47:7.

⁷⁹ Hearing transcript, p. 47:9-11; Chile, 21 June 2013, para. 18. Chile joins New Zealand on this point (Hearing transcript, p. 47:17-22 referring to New Zealand, 21 June 2013, para. 2).

⁸⁰ Hearing transcript, p. 47:11-13; Chile, 21 June 2013, paras. 20, 30e.

⁸¹ Hearing transcript, p. 47:13-15.

⁸² Hearing transcript, p. 34:13-16; p. 60:11-21; RF, 27 June 2013, para. 5.

⁸³ Hearing transcript, p. 94:17-24.

⁸⁴ Hearing transcript, p. 95:18-21, referring to the 1982 Convention and the 1995 Agreement (referred to by Chile as the New York Agreement).

⁸⁵ NZ, 21 June 2013, para. 5.

⁸⁶ NZ, 21 June 2013, para. 6.

Discrimination in form or in fact

73. In respect of the calculation of the 2013 catch limits, it is Russia's position that the omission of its 2010 data on the basis of their incompleteness⁸⁷ unjustifiably discriminates against Russia considering that the Russian delegations to the meetings of the Preparatory Conference, Working Groups, and the Commission provided detailed, reasonable explanations for the missing data as reflected in the decisions issued following those meetings.⁸⁸ Further, Russia states that its delegations have consistently commented that "lack of a part of data cannot serve as a reason for exclusion of the Russian 2010 catches taken in 2010 from the calculation."⁸⁹
74. To the extent that its exclusion was based on allegedly missing data, Russia maintains that since 2007, other States have failed to report appropriate data but were not excluded in the same way.⁹⁰ In any event, Russia asserts that it provided all necessary data at the appropriate time.⁹¹
75. Further, Russia contends that the Commission's choice of applying the 2010 catch data in the course of calculating catch limits was an additional form of unjustifiable discrimination. In its view, the use of a single year's data to calculate its catch limit is discriminatory toward any State not fishing in the Convention Area that year.⁹² According to Russia, the actual catch quota allocated to it for 2013 should be 19,944 tonnes based on its 2010 catch of 41,315 tonnes, rather than zero tonnes.⁹³
76. New Zealand, Chile, and the EU dispute Russia's position.
77. New Zealand argues that the Commission took the appropriate steps under Article 3 of the Convention in deciding not to take into account the data provided by Russia in light of the Secretariat's conclusion that the information provided was insufficient.⁹⁴ Thus, according to New Zealand, the Commission was entitled to discount data submitted by Russia where that data did not meet the standards set out over the course of the Preparatory Conference and there was no unjustified discrimination.⁹⁵

⁸⁷ RF, 14 June 2013, p. 1.

⁸⁸ RF, 19 April 2013, p. 1; RF, 27 June 2013, para. 7.

⁸⁹ RF, 19 April 2013, p. 2; RF, 14 June 2013, p. 1; RF, 27 June 2013, para. 7.

⁹⁰ RF, 27 June 2013, para. 6.

⁹¹ Hearing transcript, p. 32:7-15.

⁹² Hearing transcript, p. 58:17-19; see also RF, 14 June 2013, para. 5.

⁹³ RF, 19 April 2013, p. 2.

⁹⁴ NZ, 21 June 2013, para. 3.

⁹⁵ NZ, 21 June 2013, para. 7.

78. Likewise, in Chile's view, the exclusion of Russia's 2010 data is justified by the facts described above as set out by the Secretariat demonstrating the unreliability of the figures submitted. Chile points in particular to Russia's failure to submit information on monthly catches within 30 days after the end of each month throughout 2010 in contravention of paragraph 15 of the 2009 Interim Measures in force at that time.⁹⁶ It notes also that Russia did not comply with the data standard set out in paragraph 14 of the 2009 Interim Measures by not submitting information on its 2010 fishing activities on a tow-by-tow basis.⁹⁷ Chile maintains that evidence shows that the *Lafayette* was not capable of performing catches and that this is uncontested by Russia.⁹⁸ It states that, of the 41,315 tonnes reported by Russia for 2010, 31,275 tonnes were catches transshipped from Peruvian vessels; thus, to consider 41,315 tonnes as part of Russia's catch of 2010 would be partly duplicative.⁹⁹
79. The EU agrees with Chile and maintains that the Decision does not discriminate unjustifiably against Russia because Russia failed to provide information that would "underpin the reliability" of the data it put forward.¹⁰⁰ According to the EU's understanding of the inspection reports, the *Lafayette* was neither equipped for fishing nor could have acted as a pair trawler as no other Russian vessel was authorised to fish jack mackerel in the reference period. The EU submits that there was an "absence of reliable data" from Russia for 2010.¹⁰¹
80. In respect of Russia's view stated at the Hearing that the selection of 2010 data as a baseline also constituted discrimination, New Zealand and Chile assert that, at the time of the adoption of CMM 1.01, Russia did not raise any objection to the use of 2010. Thus, the Commission understood the use of 2010 as a reference year to be agreed.¹⁰²
81. In New Zealand's opinion, the use of the 2010 catch data to make the 2013 limits was "a legitimate decision" in the context of the negotiations over the prior Interim Measures. New Zealand highlights that in the Interim Measures adopted in 2011 and 2012 as well as in CMM 1.01, the participants and the Commission agreed that 2010 should be used as a reference year for those particular measures.¹⁰³
82. Finally, Chile also disputes the legitimacy of Russia's discrimination arguments in these review proceedings considering that Russia signed the Convention in January 2011 and that, in Chile's view, under Article 18 of the Vienna Convention on the Law of Treaties, States may not frustrate the objective of an international instrument after having signed.¹⁰⁴

⁹⁶ Chile goes further to argue that "it can be concluded that from the 41,315 tonnes reported by the Russian Federation for 2010, 31,275 tonnes correspond to catches transshipped by Peruvian vessels." Chile, 21 June 2013, para. 11.

⁹⁷ Chile emphasises that the Russian Federation has not provided any evidence to contradict the inspection evidence presented by the European Union and France regarding the vessel *Lafayette*'s lack of capability to take catches itself. Chile, 21 June 2013, para. 15.

⁹⁸ Chile, 21 June 2013, paras. 10, 16.

⁹⁹ Hearing transcript, p. 44:13-19; Chile, 21 June 2013, paras. 11, 15.

¹⁰⁰ EU, 21 June 2013, p. 1.

¹⁰¹ EU, 21 June 2013, p. 1.

¹⁰² NZ, 21 June 2013, para. 10; Chile, 21 June 2013, paras. 24-25, 30d, 30f.

¹⁰³ NZ, 21 June 2013, para. 10.

¹⁰⁴ Hearing transcript, pp. 68:24-69:1.

Alternative measures

83. In its Objection, Russia articulated its alternatives measures as follows:

[F]ollowing the principle of shares distribution in the catch of *Trachurus murphyi* in 2013 the Russian Federation establishes *Trachurus murphyi* catch limit in the Convention area in respect of the Russian fisheries equal to 19,944 tonnes.¹⁰⁵

84. On 14 June 2013, Russia submitted that “[t]he calculation of the Russian jack mackerel’s catch limit for 2013 totaling to 19 944 tonnes is given in the table below.”¹⁰⁶ In the table, based on a total catch figure of 41,315 GT for 2010, Russia calculated that it had a right to a 5.54 percent percentage of the total allowable catch of 360,000 GT (*i.e.*, 19,944 GT), and in doing so, adjusted down the proportions assigned to the other Commission Members and CNCs in Table 2 to CMM 1.01.

85. On 27 June 2013, in response to New Zealand’s submission of 21 June 2013, Russia stated that:

The alternative nature of the measure proposed by the Russian Federation is that irrespective of the actual catch of jack mackerel by the Russian fishing vessels in 2013, in case the TAC of 360,000 tons of *Trachurus murphyi* is fished by the members of the Commission, the Russian Party will cease fishing for *Trachurus murphyi* in the Convention Area.¹⁰⁷

86. At the Hearing, Russia described its alternative measures in the following terms:

Being guided by the principle of the distribution of the amounts of jack mackerel catch for 2013 established in CMM. 1.01, the Russian Party establishes a restriction on the jack mackerel catch for Russian fishing vessels in the Convention Regulation Area in 2013 at the level of 19,944 tons. The Russian Federation . . . does not suggest review of the overall catch for other countries for 2013. In 2013, when the level of 360,000 tons is reached in the region covered by CMM 1.01, the Russian Federation, irrespective of the amount of the quorum used until then of the national quota, will stop fishing. Taking into account this approach, the applicable limits should be seen as equivalent to Measure CMM 1.01 and also being in line with the objectives of the Convention.¹⁰⁸

VII. ANALYSIS

87. The Review Panel finds that the letter dated 19 April 2013 from Russia to the Acting Executive Secretary complies with the requirements of Article 17(2) of the Convention. Russia was not estopped by its prior positions or statements from exercising its right to object under that provision, nor is it precluded from making arguments in the alternative. Its subsequent explanations and arguments are not understood by the Review Panel to constitute amendments to the Objection precluded by the sixty-day time limit specified in Article 17(2)(a).

¹⁰⁵ Objection, p. 2.

¹⁰⁶ RF, 14 June 2013, p. 1.

¹⁰⁷ RF, 27 June 2013, para. 13.

¹⁰⁸ Hearing transcript, pp. 38:11-39:1.

88. Russia made clear to the Review Panel that fishing by vessels of Russian registry for *Trachurus murphyi* in the Convention Area in 2013 would cease when the total allowable catch of 360,000 tonnes specified in CMM 1.01 is reached.¹⁰⁹ It is therefore evident that the Objection is not directed to the failure to include Russia's reported catch in 2010 in the calculation of the total allowable catch.
89. The Objection is directed to only one aspect of CMM 1.01. That is the absence of any catch allocation to Russia. In that respect Russia challenges the legality of the Decision and asserts that the Decision unjustifiably discriminates against Russia within the meaning of paragraph 2(c) of Article 17 of the Convention. In this connection, bearing in mind the suggestion of Chinese Taipei that the use of various terms be clarified, the Review Panel notes its agreement with the representatives of Chile and Russia that paragraphs 6, 7, and 11 of CMM 1.01 apply to catch taken directly from the sea and not to catch transferred from another vessel.
90. The adoption of a total allowable catch limit reasonably likely to protect the dramatically depleted stock of *Trachurus murphyi* from further deterioration and to lay the foundation for its sustainable rehabilitation was and remains an urgent objective. The Review Panel understands that no comprehensive effort to effect comparative allocations on the basis of Article 21 was undertaken or possibly could have been pursued without disrupting the conservation effort that culminated in CMM 1.01.
91. The Review Panel also accepts that the result of allocating no catch to Russia for 2013 was an unplanned consequence of the confluence of the decision to rely on 2010 data for the purpose of calculating 2013 catch limits with the decision to decline to take into account the reported catch of the *Lafayette* for 2010 in light of uncertainty as to the extent to which that catch had actually been transshipped to the *Lafayette*. For its part, given the information presented in these proceedings, the Review Panel considers that it does not have sufficient basis to determine the source of the portion of the *Lafayette's* reported catch that is not attributable to the Peruvian vessels.
92. Chile, the EU, and New Zealand contend that the reliance on 2010 data for the purpose of fixing both the total allowable catch and catch limits for individual Members and CNCPs for 2013 was justified. That contention may well survive scrutiny in most circumstances. However no convincing argument has been made in the written or oral submissions to justify the failure to allocate any catch to Russia. Russia is accorded an effort tonnage by paragraph 5 of CMM 1.01. The Chairperson of the Commission stated during the Hearing:

The Russian Federation is a major State with a significant historical connection to fishing for jack mackerel in the Pacific as well as more recent activity in the fishery in this century. It actively participated from the beginning in the Consultations that resulted in the adoption of the Convention, in all three meetings of the Preparatory Conference, and in the First Meeting of the new Commission. Their delegates also played their part in the work of the Science Working Group and the Data and Information Working Group.¹¹⁰

Moreover, no convincing argument has been made in the written or oral submissions to justify the resultant potential windfall to others that are accorded allocations, including those that may have entered the fishery only after the date on which negotiation of the Convention commenced.

¹⁰⁹ Hearing transcript, pp. 38:11-39:1; pp. 60:22-61:6; p. 63:18-22; see also RF, 27 June 2013, para. 13.

¹¹⁰ Hearing transcript, pp. 26:19-27:4. See also Hearing transcript, pp. 91:16-92:9 and pp. 59:20-60:10.

93. The Review Panel accordingly concludes that the failure to allocate any catch to Russia resulted in unjustifiable discrimination against Russia. For many of the reasons articulated in the written submissions and oral presentations, and in light of the alternative grounds for objection specified by Article 17(2)(c), and the differing consequences set forth in paragraph 10 of Annex II, the Review Panel also concludes that the Decision is not inconsistent with the provisions of the Convention or other relevant international law as reflected in the 1982 Convention or the 1995 Agreement.
94. There remains the question of alternative measures that are equivalent in effect to the Decision to which Russia has objected.
95. In its written submission, New Zealand asserts that any catch allocation to Russia would alter either the total allowable catch, or the allocations to other Members and Cooperating Parties, or both. Such an allocation therefore could not have equivalent effect to the Decision.
96. Without in any way minimising the practical difficulties apparent from New Zealand's analysis, the Review Panel concludes that paragraphs 1 and 2 of Article 17 cannot be read in isolation from each other and that both apply to decisions on catch allocation.
97. In this respect the Review Panel notes that in the context of these proceedings, the statement of Russia that fishing by Russian vessels would cease when the total allowable catch is reached largely eliminates concern about the impact of its Objection on the total allowable catch as such.
98. But within that constraint, an additional allocation to Russia could, as a practical matter, affect the allocations to one or more other Members or CNCs. Given Chile's statement during the Hearing that it would be a matter of days before it reached its catch limit, the likely effect would be on other participants in the fishery that have justified expectations during the current fishing season based on the allocations in CMM 1.01.
99. The Review Panel therefore believes that the alternative measure, to have equivalent effect to CMM 1.01, should seek to avoid inconsistency not only with the total allowable catch but also with the allocations to other Members and CNCs.

VIII. FINDINGS AND RECOMMENDATIONS

100. In light of the foregoing, pursuant to Article 17(5)(e) of the Convention, the Review Panel:

- a. *Finds* that the Decision to which objection has been presented unjustifiably discriminates in form or in fact against Russia;
- b. *Finds* that the alternative measures adopted by Russia are not equivalent in effect to the Decision to which objection has been presented by Russia;
- c. *Recommends* the following alternative measures as equivalent in effect to the Decision to which objection has been presented:

Russia will authorise vessels registered in the Russian Federation to catch *Trachurus murphyi* in the Convention Area in 2013:

- (i) only after Russia concludes from data reported by the Organisation, and in accordance with Article 3, paragraph 1(a)(v) of the Convention, that it is likely that the total catch in 2013 will not reach the total allowable catch of 360,000 tonnes referred to in paragraph 6 of CMM 1.01, and
 - (ii) only until the Organisation reports that this total allowable catch has been reached;
- d. *Finds*, without prejudice to the foregoing, that the Decision to which objection has been presented by Russia is not inconsistent with the provisions of the Convention or other relevant international law as reflected in the 1982 Convention or the 1995 Agreement.

101. The costs of these proceedings shall be borne as provided in paragraph 7 of Annex II of the Convention, and shall be paid upon issuance of the final Statement of Account from the PCA.


Done in English, accompanied by an unofficial Russian translation prepared by the PCA, at the PCA's facilities in the Peace Palace in The Hague, this 5th day of July, 2013, and transmitted to the Acting Executive Secretary in accordance with Article 17(5)(e) and paragraph 9 of Annex II of the Convention.



Prof. Kamil A. Bekyashev



Sra. Valeria Carvajal



Professor Bernard H. Oxman
Chairman

SM3

PCA 2018

Review Panel

Findings and Recommendations

PCA Case No. 2018-13

IN PROCEEDINGS CONDUCTED BY

THE REVIEW PANEL ESTABLISHED UNDER ARTICLE 17 AND ANNEX II OF THE
CONVENTION ON THE CONSERVATION AND MANAGEMENT OF HIGH SEAS
FISHERY RESOURCES IN THE SOUTH PACIFIC OCEAN

with regard to

THE OBJECTION BY THE REPUBLIC OF ECUADOR TO A DECISION OF THE
COMMISSION OF THE SOUTH PACIFIC REGIONAL FISHERIES MANAGEMENT
ORGANISATION (CMM 01-2018)

Findings and Recommendations of the Review Panel
5 June 2018

Review Panel:

Prof. Don MacKay (Chair)
Ms. Cecilia Engler
Prof. Erik J. Molenaar

Registrar:

Martin Doe Rodriguez
Permanent Court of Arbitration

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DEFINED TERMS

1982 Convention	United Nations Convention on the Law of the Sea of 10 December 1982
1995 Agreement	Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks of 4 December 1995
2013 Review Panel	Review Panel established under Article 17 and Annex II of the Convention with regard to the objection of the Russian Federation to CMM 1.01 dated 19 April 2013
2013 Review Panel Findings and Recommendations	Findings and Recommendations of the 2013 Review Panel dated 5 July 2013
CMM	Conservation and Management Measure
CMM 01-2017	Conservation and Management Measure for <i>Trachurus murphyi</i> adopted by the Commission on 22 January 2017
CMM 01-2018	Conservation and Management Measure for <i>Trachurus murphyi</i> adopted by the Commission on 3 February 2018
CNCP	Cooperating Non-Contracting Party
Commission	Commission of the South Pacific Regional Fisheries Management Organisation, established by Article 7 of the Convention
Convention	Convention on the Conservation and Management of High Seas Fishery Resources in the South Pacific Ocean of 14 November 2009
Convention Area	Area to which the Convention applies pursuant to Article 5 thereof
Executive Secretary	Executive Secretary of SPRFMO
Member	Member of the Commission of the South Pacific Regional Fisheries Management Organisation
MT	Metric tonne(s)
Objection	Objection by Ecuador made pursuant to Article 17 of the Convention dated 28 March 2018
Participants	The Organisation and Members taking part in the 2018 Review Panel proceedings
PCA	Permanent Court of Arbitration
RFMOs/As	Regional fisheries management organisations or arrangements
Secretariat	Secretariat of the Organisation based in Wellington, New Zealand
SPRFMO or Organisation	South Pacific Regional Fisheries Management Organisation, established by Article 6 of the Convention
SWG	Science Working Group
TAC	Total allowable catch

I. INTRODUCTION

1. This Review Panel is convened pursuant to Article 17 and Annex II of the Convention on the Conservation and Management of High Seas Fishery Resources in the South Pacific Ocean (the “**Convention**”), in relation to the Objection by the Republic of Ecuador (“**Ecuador**”).
2. Having reviewed and considered the views and submissions of, as well as the information supplied by, the Participants described herein relating to the Objection, the Review Panel hereby transmits to the Executive Secretary its findings and recommendations pursuant to Article 17(5)(e) and Annex II, paragraph 9 of the Convention.

II. PROCEDURAL HISTORY

3. On 3 February 2018, at its sixth meeting in Lima, Peru, the Commission of the South Pacific Regional Fisheries Management Organisation (the “**Commission**”) adopted a Conservation and Management Measure for *Trachurus murphyi* (“**CMM 01-2018**”).
4. In a letter dated 28 March 2018, Ecuador presented an objection to that decision pursuant to Article 17(2)(a) of the Convention, which permits Members of the Commission (“**Members**”) to object to a decision of the Commission within 60 days of the date of notification of the decision. As will be further described in the following sections, Ecuador objects to its tonnage and percentage share in the total allowable catch (“**TAC**”) of *Trachurus murphyi* in 2018 as specified in paragraph 5 and Tables 1 and 2 of CMM 01-2018 (the “**Objection**”).
5. In its letter, Ecuador appointed Mr. Rodrigo Arturo Polanco Zamora as a member of the Review Panel. On 13 April 2018, Prof. Erik J. Molenaar was appointed to the Review Panel by the Commission Chair, Mr. Osvaldo Urrutia. On 23 April 2018, Ecuador informed the Commission Chair of the appointment of Ms. Cecilia Engler as a member of the Review Panel in lieu of Mr. Polanco, after the latter advised that he was unable to accept the position. On 25 April 2018, in accordance with paragraph 1(c) of Annex II of the Convention, Prof. Don MacKay was appointed as the third member and chair of the Review Panel by agreement between Ecuador and the Commission Chair. The Review Panel was therefore established on 25 April 2018. Under cover of a letter from the Commission Chair, dated 25 April 2018, the Members were provided with copies of the Review Panel members’ *curricula vitae*. That same letter of 25 April 2018 informed the Members that the Permanent Court of Arbitration (“**PCA**”) would act as Registry to the Review Panel in the proceedings.
6. By letter dated 30 April 2018 on behalf of the Review Panel, the PCA issued Procedural Directive No. 1, including a timetable for the proceedings, to the South Pacific Regional Fisheries Management Organisation (“**SPRFMO**” or the “**Organisation**”), Members, and Cooperating Non-Contracting Parties (“**CNCs**”). The letter further advised that a hearing would be held on Wednesday 23 May 2018 at the Peace Palace in The Hague, the Netherlands, and attached the Review Panel Members’ signed declarations of independence and impartiality.
7. Procedural Directive No. 1 included the following instructions regarding the content of written submissions from Ecuador, the Organisation, and the other Members (together, the “**Participants**”):

2. Substance of Written Submissions

- 2.1 Without prejudice to its findings and recommendations in any respect, the Review Panel requests that, in addition to such other matters as may be considered relevant, memoranda, information and documents submitted to it in accordance with the Convention address or are pertinent to one or more of the following matters:

- (a) Whether, apart from the question of discrimination referred to in sub-paragraph (b) below, the decision with respect to CMM 01-2018 to which the Republic of Ecuador has objected is inconsistent with the provisions of the Convention – in particular Articles 3, 19 and 21 – or other relevant international law as reflected in the 1982 Convention or the 1995 Agreement, and in this respect the basis for the decision in fact and law, the competence and margin of appreciation of the Commission to make that decision, and the competence of the Review Panel with regard that decision.
- (b) Whether the decision with respect to CMM 01-2018 to which the Republic of Ecuador has objected unjustifiably discriminates in form or in fact against the Republic of Ecuador, and in this respect the standard and means for determining what constitutes unjustifiable discrimination under the Convention.
- (c) The standard and means for determining whether the alternative measures adopted by the Republic of Ecuador are equivalent in effect to the decision with respect to CMM 01-2018 to which the Republic of Ecuador has objected, and the relevance in this respect of paragraphs 4, 5, and 10 of CMM 01-2018.
- (d) Whether, with reference to sub-paragraphs (a) and (j) of paragraph 10 of Annex II of the Convention, the total catch and its share specified by the Republic of Ecuador in its Objection are alternative measures that are equivalent in effect to the decision to which the Republic of Ecuador has objected.
- (e) Whether, with reference to sub-paragraph (b) of paragraph 10 of Annex II of the Convention, there are specific modifications to the total catch and the share referred to in sub-paragraph (d) above that would render it an alternative measure that is equivalent in effect to the decision with respect to CMM 01-2018 to which the Republic of Ecuador has objected.
- (f) Whether, with reference to sub-paragraph (c) of paragraph 10 of Annex II of the Convention, other alternative measures would be equivalent in effect to the decision with respect to CMM 01-2018 to which the Republic of Ecuador has objected.

2.2. Without prejudice to its findings and recommendations in any respect, the Review Panel further requests that the written information, documents, and material submitted by the Organisation include, in addition to other information, documents and material that the Organisation deems relevant, the following:

- (a) Information, documents and material on *Trachurus murphyi* and the *Trachurus murphyi* fishery, including its area of distribution, the status of the fishery resource, the fleets actively fishing for the resource and their fishing areas, the historic and present catches, and the past and present fishing patterns and practices.
- (b) Information, documents and material on the conservation and management measures applicable to *Trachurus murphyi*, in particular the allocation of the total allowable fishing effort and the total allowable catch, including their history, rationale, agreed allocation criteria, and the sources of information considered in the allocation processes, including information about the fishing reserve referred to by Ecuador in its Objection.

2.3. The Review Panel may seek further information following the receipt of written submissions.

- 8. On 14 May 2018, Ecuador and the Organisation each submitted a memorandum (“**Ecuador Memorandum**” and “**SPRFMO Memorandum**”, respectively), with the Organisation also submitting relevant supporting material (“**SPRFMO Supporting Material**”).
- 9. The Republic of Peru (“**Peru**”) submitted a written memorandum (“**Peru Memorandum**”) on 16 May 2018, and requested the opportunity to make oral submissions at the hearing.

10. New Zealand, the Commonwealth of Australia (“**Australia**”) and the Republic of Chile (“**Chile**”) filed written memoranda on 17 May 2018 (“**New Zealand Memorandum**”, “**Australia Memorandum**”, and “**Chile Memorandum**”, respectively). Australia and Chile submitted supporting material with their memoranda. New Zealand and Chile also requested the opportunity to make oral submissions at the hearing.
11. By letter dated 17 May 2018 on behalf of the Review Panel, the PCA invited Participants to submit in writing any information they may have relating to the following matters:
 - (a) the Commission’s basis and process for establishing the tonnage or percentage difference between the total allowable catch for the resource throughout its range (as set forth in paragraph 11 of CMM 1.01 and paragraph 10 of subsequent CMMs, including CMM 01-2018) and the total allowable catch for the area of application of the CMM (as set forth in paragraph 6 of CMM 1.01 and paragraph 5 of subsequent CMMs, including CMM 01-2018);
 - (b) data regarding the estimated or actual annual tonnage of catch of *Trachurus murphyi* in the years 2013-2018 in the areas of national jurisdiction of Chile, Ecuador, and Peru; and
 - (c) the reports of the Jack mackerel Working Groups established between 2013 and 2017 to address conservation and management measures, including allocation of catch limits, for *Trachurus murphyi*; the submissions made to these Working Groups; and any other written material submitted to or produced by these Working Groups.
12. A hearing schedule was issued on 19 May 2018, setting out the schedule for the hearing including the order of oral submissions to be made by Ecuador, the Organisation, Peru, New Zealand and Chile.
13. On 21 May 2018, Ecuador submitted its written comments on the submissions made by the Organisation and the other Members (“**Ecuador Comments**”). The Organisation and Peru, in turn, responded to the Panel’s request of 17 May 2018 and submitted certain further materials.
14. A hearing was held at the Peace Palace in The Hague on 23 May 2018. Delegations from Ecuador, the Organisation, Peru, Chile, New Zealand, Australia, and Chinese Taipei attended the hearing. Oral interventions were made by representatives of Ecuador, the Organisation, Peru, Chile, and New Zealand.

III. FACTUAL BACKGROUND

The Convention

15. The United Nations Convention on the Law of the Sea of 10 December 1982 (the “**1982 Convention**”) calls on States to cooperate with each other in the conservation and management of living resources on the high seas, and to establish regional and sub-regional fisheries organisations to that end.¹ When the same stock or stocks of associated species occur both within the exclusive economic zone and in an area beyond and adjacent to the zone, the 1982 Convention also calls on relevant coastal States and the States fishing for those stocks in the adjacent area to agree upon measures necessary for the conservation of these stocks in the adjacent area, either directly or through appropriate subregional or regional organizations.² The Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks of 4 December 1995 (the “**1995 Agreement**”) further provides that

¹ 1982 Convention, Articles 117 and 118.

² 1982 Convention, Article 63(2).

fisheries for straddling and highly migratory fish stocks should be managed through regional fisheries management organisations or arrangements (“**RFMOs/As**”).³

16. The Convention on the Conservation and Management of High Seas Fishery Resources in the South Pacific Ocean came into effect on 24 August 2012, with the objective of “ensuring the long-term conservation and sustainable use of fishery resources in the South Pacific Ocean and in so doing safeguarding the marine ecosystems in which the resources occur.”⁴ The Convention applies within the geographical area as described in Article 5 of the Convention, being the waters of the Pacific Ocean within that area lying beyond areas under national jurisdiction (the “**Convention Area**”).⁵ The Convention creates the Organisation, comprised of a Commission, a Secretariat (the “**Secretariat**”), a Scientific Committee, and other subsidiary bodies.
17. At present, the Commission comprises 15 Members: the Commonwealth of Australia, the Republic of Chile, the People’s Republic of China, the Cook Islands, the Republic of Cuba, the Republic of Ecuador, the European Union, the Kingdom of Denmark in respect of the Faroe Islands, the Republic of Korea, New Zealand, the Republic of Peru, the Russian Federation, Chinese Taipei, the United States of America and the Republic of Vanuatu. The Organisation also has four CNCPs: the Republic of Colombia, Curaçao, the Republic of Liberia, and the Republic of Panama.
18. Ecuador participated in the international consultations to establish SPRFMO, which were held between 2007 and 2009, as well as in two of three Preparatory Conferences held between 2010 and 2012. Ecuador attended the 1st Commission Meeting (2013) as an Observer State, and hosted the 2nd Commission Meeting (2014) in Manta as a CNCP. At the 3rd Commission Meeting (2015) Ecuador still participated as a CNCP, but subsequently acceded to the Convention on 11 May 2015, and obtained full membership of the Commission on 10 June 2015.⁶ Ecuadorian scientists have also participated in every Scientific Committee Meeting.⁷

Trachurus murphyi

19. One of the species managed by SPRFMO is *Trachurus murphyi* (also known as “Chilean jack mackerel”, “horse mackerel”, or “jurel”). This species occurs both in the Convention Area and in adjacent areas under national jurisdiction.
20. The Commission adopted its first Conservation and Management Measure (“**CMM**”) regarding *Trachurus murphyi* by a vote at its 1st Meeting (2013). CMM 1.01 was drafted with regard to, among other things, the Jack mackerel Working Group’s recommendations regarding the TAC of *Trachurus murphyi* and its allocation.
21. While the sovereign rights of coastal States are not affected by CMMs adopted by the Commission,⁸ Members may consent to the application of such measures within areas under their national jurisdiction.⁹ Chile is the only coastal State to have expressly consented to the extension of CMM 1.01 (and each subsequent amended CMM in relation to *Trachurus murphyi*) in this regard.¹⁰ The area of application of the *Trachurus murphyi* CMMs thus includes both the

³ 1995 Agreement, Article 8.

⁴ Convention, Preamble, first recital. *See also* Article 2, describing the Convention’s objective.

⁵ Convention, Article 5(1).

⁶ SPRFMO Memorandum, para. 84.

⁷ SPRFMO Memorandum, para. 85.

⁸ Convention, Article 20(4)(c).

⁹ Convention, Article 20(4)(a), Annex III.

¹⁰ CMM 1.01, para. 1; CMM 2.01, para. 1; CMM 3.01, para. 1; CMM 4.01, para. 1; CMM 01-2017, para. 1; CMM 01-2018, para. 1.

Convention Area and areas under Chile’s national jurisdiction (hereinafter referred to as the “**Applicable Area**”).

22. CMM 1.01 set a TAC throughout the range of the *Trachurus murphyi* fishery resource (the “**TAC (Resource)**”), as well as a TAC for *Trachurus murphyi* within the Applicable Area (the “**TAC (Applicable Area)**”). The TAC (Resource) in CMM 1.01 was set at 438,000 tonnes,¹¹ and the TAC (Applicable Area) was set at 360,000 tonnes.¹² The TAC (Applicable Area) was then allocated among those Members and CNCPs participating in the *Trachurus murphyi* fishery.¹³
23. On 19 April 2013, the Russian Federation objected to the absence of any allocation to it in CMM 1.01, arguing that such absence was inconsistent with the Convention and amounted to unjustifiable discrimination.¹⁴ In accordance with Article 17 and Annex II of the Convention, a Review Panel was established to examine the Russian Federation’s objection (the “**2013 Review Panel**”). The 2013 Review Panel, in its Findings and Recommendations on the Objection by the Russian Federation dated 5 July 2013 (the “**2013 Review Panel Findings and Recommendations**”), summarised the early phases of *Trachurus murphyi* conservation as follows:

The sustainable management of *Trachurus murphyi* was of high concern to the negotiating parties during the drafting of the Convention. Catches of the species had increased throughout the 1980s and reached their peak in 1995, totaling five million tonnes. After declining for the following four years and then stabilising until 2007, they again declined and have continued to drop through the present.

In light of these trends, while international negotiations leading up to the conclusion of the Convention were ongoing, the negotiating parties undertook initiatives to study and manage the fishery. As an initial step, at the first international consultations meeting in 2006, the participants established a Science Working Group (“**SWG**”) to provide scientific data on the stock. At the 2007 international consultations, the participants adopted Interim Measures, pursuant to which, participants were to verify the effective presence of their vessels in the area prescribed by the measures and to communicate appropriate data to the Interim Secretariat.

By 2008, the SWG had indicated it had concerns about the declining state of the *Trachurus murphyi* stock. In the absence of agreed stock assessments, in 2009, the SWG carried out a comprehensive review of the fishery and other indicators as a basis for advice to the ongoing international consultations. At that time, the fishery was suffering from low biomass, recruitment, and spawning, suggesting that urgent and adequate measures limiting fishing were required. Further, the SWG advised that the fishing mortality was likely to have exceeded sustainable levels since at least 2002 and would continue to do so.

In response to the SWG’s advice, at the final international consultations in 2009, the participants adopted Revised Interim Measures, in which they agreed to voluntarily restrain their catches beginning in 2010 until the Convention entered into force to the levels they recorded in 2007, 2008, or 2009. The responsibility for reviewing these measures was passed to the Convention Preparatory Conference with the suggestion that they be reviewed and revised by 31 December 2010, taking account of the forthcoming stock assessment the SWG proposed.

In the first stock assessment by the SWG carried out in 2010, data indicated that immediate catch reductions were required to prevent further biomass decline. The key management message from the SWG was that if catches continued at 2010 levels, it was certain that the

¹¹ CMM 1.01, para. 11.

¹² CMM 1.01, para. 6.

¹³ CMM 1.01, para. 6.

¹⁴ 2013 Review Panel Findings and Recommendations, paras. 62, 70, 73, 89.

biomass would continue to decline at a rapid pace. At the opening meeting of the Preparatory Conference, the Chair stated:

Between the time of our First Meeting in 2006 and the end of . . . 2010, jack mackerel total biomass is estimated to have declined by 65 percent to its historically lowest level—only 11 percent of the estimated unfished biomass level. Spawning biomass is estimated to have declined to only 3 percent of the unfished level, quite possibly making this the most depleted major fish stock under the responsibility of a[] [regional fisheries management organisation] anywhere in the world. Immediate and substantial Measures are required to reverse this decline. . . . [F]ailing to implement such Measures will result in continued decline in a stock that was once the largest fish stock in the South Pacific Ocean, but is now reaching levels which are almost uneconomical to fish.

The second Preparatory Conference adopted additional Interim Measures in 2011, providing that participants would limit 2011 catches to 60 percent of those in 2010. In principle, 2012 catches would then be reduced to 40 percent of those in 2010. Four delegations (Cuba, Faroe Islands, Korea, and the Bolivarian Republic of Venezuela) advised they could not accept the decision; the People’s Republic of China (hereinafter “China”) subsequently advised it would reduce its 2010 catch by 30 percent in 2011.

In the absence of any significant improvement in the status of the stock, the participants at the following and last Preparatory Conference unanimously affirmed a reduction to 40 percent of 2010 catches for 2012.¹⁵

24. In relation to the Russian Federation’s objection, the 2013 Review Panel found, *inter alia*, that the failure to make any catch allocation to the Russian Federation in CMM 1.01 amounted to unjustifiable discrimination.¹⁶ The 2013 Review Panel therefore recommended an alternative measure authorising the Russian Federation to catch *Trachurus murphyi* in 2013, but only after the Russian Federation could conclude that it was likely that the total catch in 2013 would not reach the TAC (Applicable Area) of 360,000 tonnes, and only until the Organisation reported that such limit had been reached.¹⁷

Subsequent Conservation and Management Measures

25. The CMM regarding *Trachurus murphyi* conservation has been amended each year at the annual meeting of the Commission in accordance with Article 20(3) of the Convention, which requires the Commission to “regularly review the total allowable catch or total allowable fishing effort established for any fishery resource.” The Organisation submits that, since 2010, when the biomass of *Trachurus murphyi* in the Southeast Pacific was at its lowest, the stock has enjoyed a consistent increase. Recent assessments indicate that the biomass of *Trachurus murphyi* is nearly rebuilt for the first time since the 1980s.¹⁸
26. The following table shows the amendments made to the *Trachurus murphyi* catch limits since the adoption of CMM 1.01:

¹⁵ 2013 Review Panel Findings and Recommendations, paras. 18-24 (internal references omitted).

¹⁶ 2013 Review Panel Findings and Recommendations, paras. 90, 93.

¹⁷ 2013 Review Panel Findings and Recommendations, para. 100.

¹⁸ SPRFMO Memorandum, para. 24; Report of the 5th Scientific Committee Meeting, September 2017, SPRFMO Supporting Material, pp. 49-51.

Year (CMM)	TAC (Resource) (tonnes)	TAC (Applicable Area) (tonnes)	Difference (tonnes)	Reported catch (Applicable Area) (tonnes)
2013 (CMM 1.01)	438,000	360,000	78,000	353,123
2014 (CMM 2.01)	440,000	390,000	50,000	395,085
2015 (CMM 3.01)	460,000	410,000	50,000	394,212
2016 (CMM 4.01)	460,000	410,000	50,000	388,575
2017 (CMM 01-2017)	493,000	443,000	50,000	402,050
2018 (CMM 01-2018)	576,000	517,582	58,418	

27. Ecuador received its first allocation of *Trachurus murphyi* as a CNCP under CMM 3.01 for 2015, in the amount of 1,100 tonnes.¹⁹ It received the same allocation (1,100 tonnes) under CMM 4.01 for 2016, after it had become a Member of the Commission in 2015.²⁰
28. Each CMM regarding *Trachurus murphyi* has contained a paragraph permitting Members and CNCPs who have received allocations under that CMM to transfer part or all of their allocation to another Member or CNCP, subject to the approval of the receiving Member or CNCP.²¹ CMM 01-2018 requires that any such transfer occur by 31 December 2018.²² Since its first allocation under CMM 3.01, each year Ecuador has transferred its entire *Trachurus murphyi* allocation to Chile using this transfer mechanism, including its allocation under CMM 01-2018.²³
29. The Commission held its fifth meeting in Adelaide, Australia between 18 and 22 January 2017. Prior to that meeting, the Scientific Committee had recommended an increase of the TAC (Resource) “which equates to an increase of 33 000 tonnes of catch in the Convention Area”.²⁴ The Commission therefore convened a working group to negotiate the allocation of the additional TAC (Applicable Area).²⁵ Australia describes the working group’s process as follows:

The Chair of the JMWG [Jack mackerel Working Group] presented a number of models and discussions eventually focussed on a straight proportional increase model based on the tonnages contained in Table 1 of CMM 4.01 as a percentage of the overall catch limit throughout the range of the stock (460,000 tonnes).

The JMWG opted to base this model on a proportionate increase of the catch limit of the entire stock in 2016 (460,000 tonnes) as opposed to the catch limit applicable in the area to which CMM 4.01 applied (410,000). The JMWG considered whether all of the 33,000 tonnes should be distributed to Members in Table 1, or if some of this amount should be added to the existing 50,000 tonnes set aside for catch in the area outside the measure. In this regard, the JMWG discussed the fact that the revised catch limit recommended by the Scientific Committee (of which the 33,000 tonnes was a part) related to the entire range of the stock, which includes waters under the national jurisdiction of Peru, and possibly Ecuador, whose waters are at the northern range of the stock.

¹⁹ CMM 3.01, Table 1. *See also* SPRFMO Memorandum, paras. 53, 57, 86.

²⁰ CMM 4.01, Table 1. *See also* SPRFMO Memorandum, para. 61.

²¹ CMM 1.01, para. 10; CMM 2.01, para. 9; CMM 3.01, para. 9; CMM 4.01, para. 9; CMM 01-2017, para. 9; CMM 01-2018, para. 9.

²² CMM 01-2018, para. 9.

²³ SPRFMO Memorandum, Table 9; Peru Memorandum, Table 4.

²⁴ Email from SPRFMO Chair to Heads of Delegations dated 19 December 2016, SPRFMO Supporting Material, p. 180.

²⁵ SPRFMO Memorandum, para. 67; Email from SPRFMO Chair to Heads of Delegations dated 19 December 2016, SPRFMO Supporting Material, p. 180.

Ultimately, the JMWG decided to recommend not to distribute any of the 33,000 tonnes to the area outside the measure. The catch limit for the area in which the measure applies reflects this decision, in that consistent with previous years it remains 50,000 tonnes less than the overall catch limit for the range of the stock recommended by the Scientific Committee. This so-called “set aside” amount had been 50,000 tonnes since the adoption of CMM 2.01 in 2014. Together, these choices of the JMWG meant that instead of proportionately increasing the amount “set aside” by 3587 tonnes, this additional tonnage could be allocated to Members.²⁶

30. Ecuador informed the Commission that it could not attend the 5th Commission Meeting (2017) due to a large earthquake it had experienced in 2016.²⁷ However, on 20 January 2017, the Commission received a letter from Ecuador requesting that it be granted 4,590 tonnes in addition to the 1,100 tonnes allocated in 2015 (being a total of 5,690 tonnes).²⁸ The Organisation notes that this letter was considered by the working group and the Commission, but the increase sought was not agreed.²⁹
31. The working group also considered requests for increased allocations from Peru and Korea, as well as a request for a first-time allocation from Cuba.³⁰ In response to these requests, Peru received an increase which was 2,069 tonnes higher than a proportional increase; Korea received 1,426 tonnes above a proportional increase (1,000 tonnes of which came from a one-off transfer from Chile); and Cuba received a first-time allocation of 1,100 tonnes.³¹ Except for the foregoing, all other Members with existing allocations, including Ecuador, otherwise received proportional increases to their allocations.
32. CMM 01-2017 thus set a TAC (Resource) of 493,000 tonnes³² and a TAC (Applicable Area) of 443,000 tonnes.³³ CMM 01-2017 allocated the TAC (Applicable Area) to the participating Members and CNCPs in tonnages, with Ecuador receiving an allocation of 1,179 tonnes.³⁴ The CMM also included a new percentage allocation for participating Members and CNCPs in relation to the TAC (Resource), which were to apply from 2018 to 2021 inclusive.³⁵ Ecuador’s allocation percentage in CMM 01-2017 was set at 0.2391%.³⁶
33. The Organisation contends that the percentage allocations were fixed for five years due to the difficulty and uncertainty created by the time-consuming process of renegotiating allocations.³⁷ The percentages listed in Table 2 of CMM 01-2017 total 89.8579% of the TAC (Resource) for 2017, which corresponds to the TAC (Applicable Area) for 2017.
34. Also at the 2017 meeting, Vanuatu submitted a Proposal on Interim Allocation of Jack Mackerel Quotas (“**Vanuatu Proposal**”).³⁸ The proposal involved establishing and assigning a “minimum annual utilization” threshold to each Member and CNCP participating in the *Trachurus murphyi*

²⁶ Australia Memorandum, paras. 13-15.

²⁷ Objection, p. 7; SPRFMO Memorandum, paras. 66, 84.

²⁸ Letter from Ministerio de Agricultura, Ganadería, Acuacultura y Pesca to the Executive Secretary dated 19 January 2017, SPRFMO Supporting Material, pp. 197-198; SPRFMO Memorandum, para. 66.

²⁹ SPRFMO Memorandum, paras. 68-69.

³⁰ SPRFMO Memorandum, para. 81; Report of the 5th Meeting of the Commission, SPRFMO Supporting Material, p. 190.

³¹ Australia Memorandum, para. 20.

³² CMM 01-2017, para. 10.

³³ CMM 01-2017, para. 5.

³⁴ CMM 01-2017, Table 1.

³⁵ CMM 01-2017, para. 26 and fn. 4; SPRFMO Memorandum, para. 70;

³⁶ CMM 01-2017, Table 2; SPRFMO Memorandum, Table 7.

³⁷ SPRFMO Memorandum, para. 81; Australia Memorandum, para. 22.

³⁸ Proposal on Interim Allocation of Jack Mackerel Quotas, SPRFMO Supporting Material, pp. 227-228; SPRFMO Memorandum, para. 79.

fishery, which would prevent that Member or CNCP's catch allocation from increasing the following year if the utilisation threshold had not been reached in the Member or CNCP's reported catch or transfers. Any increase in the catch allocation would be forfeited, and allocated by the Commission to Members or CNCPs with no or very low allocations.³⁹ The Commission decided that further consideration of the Vanuatu Proposal was required, and that a revised proposal should be submitted to the 2018 Commission meeting.⁴⁰

Adoption of CMM 01-2018

35. Between 30 January and 3 February 2018, the Commission held its sixth meeting in Lima, Peru, at which CMM 01-2018 was adopted. No Jack mackerel Working Group was established for this meeting due to the intended continued application of the fixed percentage allocations contained in CMM 01-2017.⁴¹ At that meeting, the Scientific Committee presented a report recommending that the TAC (Resource) for 2018 should not exceed 576,000 tonnes.⁴² A working paper was subsequently prepared by Chile to set the TAC (Resource) and TAC (Applicable Area) for CMM 01-2018.⁴³ The working paper suggested increasing the TAC (Resource) for 2018 to 576,000 tonnes and the TAC (Applicable Area) for 2018 to 517,582 tonnes, with the percentage allocations specified in CMM 01-2017 to be applied to determine the catch allocations for Members and CNCPs participating in the *Trachurus murphyi* fishery in 2018.⁴⁴
36. At the same meeting, Ecuador presented a proposal to develop its *Trachurus murphyi* fishing in the Convention Area, and requested that it be assigned an allocation of 6,500 tonnes for 2018 (1.13% of the TAC (Resource)).⁴⁵ Ecuador argued that its allocation under CMM 01-2017 (1,179 tonnes/0.2391% of the TAC (Resource)) was insufficient for it to develop its high seas *Trachurus murphyi* fishery in a profitable way, stating that:
- the intertemporal equilibrium point for the investment in a used vessel dedicated to the fishing of jack mackerel in waters of the SPRFMO convention is reached from the 6,500 MT; this is 5,321 [MT] in addition to the current quota[.]⁴⁶
37. Ecuador added that the 2016 earthquake had prevented it from attending the Commission's 2017 meeting in Adelaide where the prior allocations were set.⁴⁷ Ecuador therefore proposed that the Organisation consider increasing Ecuador's allocation to 6,500 tonnes. In particular, it proposed that the requested increase could be taken from the "reserve", being the difference between the TAC (Applicable Area) and the TAC (Resource).⁴⁸
38. The Commission did not agree to Ecuador's proposal, and all efforts to reach consensus on the proposal having been exhausted, the Commission voted on the amendment of CMM 01-2017 in

³⁹ Proposal on Interim Allocation of Jack Mackerel Quotas, SPRFMO Supporting Material, pp. 227-228.

⁴⁰ SPRFMO Memorandum, para. 81; Report of the 5th Meeting of the Commission, SPRFMO Supporting Material, p. 190.

⁴¹ SPRFMO Memorandum, para. 74.

⁴² Report of the 5th Scientific Committee Meeting, September 2017, SPRFMO Supporting Material, p. 49.

⁴³ SPRFMO Memorandum, para. 74.

⁴⁴ Working Paper 11, Revision 3, "COMM6-Report Annex 7a: Edits to CMM 01-2017 (*Trachurus murphyi*)", SPRFMO Supporting Material, pp. 199-203.

⁴⁵ Objection, p. 1; Report of the 6th Meeting of the Commission, SPRFMO Supporting Material, p. 212; SPRFMO Memorandum, para. 75.

⁴⁶ Proposal by Ecuador to develop JUREL fishing in the area of the SPRFMO Convention, 6th Meeting, SPRFMO, 2 February 2018, p. 2.

⁴⁷ Report of the 6th Meeting of the Commission, SPRFMO Supporting Material, p. 212.

⁴⁸ Proposal by Ecuador to develop JUREL fishing in the area of the SPRFMO Convention, 6th Meeting, SPRFMO, 2 February 2018, p. 4.

accordance with Chile's working paper.⁴⁹ Thirteen Members voted in favour, one Member voted against (Ecuador) and one Member was not present (Cook Islands), resulting in the Commission's adoption of CMM 01-2018.⁵⁰ The allocation recorded for Ecuador in the newly adopted CMM 01-2018 was 1,377 tonnes, corresponding to 0.2391% of the TAC (Resource).⁵¹

39. The relevant provisions of CMM 01-2018, as finally adopted, state:

5. In 2018 the total catch of *Trachurus murphyi* in the area to which this CMM applies in accordance with paragraph 1 shall be limited to 517 582 tonnes. Members and CNCPs are to share in this total catch in the tonnages set out in Table 1 of this CMM.
6. Catches will be attributed to the flag State whose vessels have undertaken the fishing activities described in Article 1 (1)(g)(i) and (ii) of the Convention.
[...]
10. Members and CNCPs agree, having regard to the advice of the Scientific Committee, that catches of *Trachurus murphyi* in 2018 throughout the range of the stock should not exceed 576 000 tonnes.
[...]
25. This Measure shall be reviewed by the Commission in 2019. The review shall take into account the latest advice of the Scientific Committee and the CTC, and the extent to which this CMM, CMM 1.01 (*Trachurus murphyi*, 2013), CMM 2.01 (*Trachurus murphyi*, 2014), CMM 3.01 (*Trachurus murphyi*; 2015), CMM 4.01 (*Trachurus murphyi*, 2016) and CMM 01-2017 (*Trachurus murphyi*) as well as the Interim Measures for pelagic fisheries of 2007, as amended in 2009, 2011 and 2012, have been complied with.
26. Without prejudice to Members and CNCPs without an entitlement in Table 1 and the rights and obligations specified in Article 20(4)(c) and having regard to paragraph 10, the percentages included in Table 2 will be used by the Commission as a basis for the allocation of Member and CNCPs' catch limits from 2018 to 2021 inclusive.

Table 1: Tonnages in 2018 fishery as referred to in paragraph 5

Members / CNCP	Tonnage
Chile	371,887
China	36,563
Cook Islands	0
Cuba	1,285
Ecuador (HS)	1,377
European Union	35,186
Faroe Islands	6,386
Korea	7,385
Peru (HS)	11,684
Russian Federation	18,907

⁴⁹ Report of the 6th Meeting of the Commission, SPRFMO Supporting Material, p. 212.

⁵⁰ Report of the 6th Meeting of the Commission, SPRFMO Supporting Material, p. 212.

⁵¹ CMM 01-2017, Table 2; SPRFMO Memorandum, Table 8.

Vanuatu	26,921
Total	517,582

Table 2: Percentages⁴ related to the catches referred to in paragraph 10

Members / CNCP	%
Chile	64.5638
China	6.3477
Cook Islands	0.0000
Cuba	0.2231
Ecuador (HS)	0.2231
European Union	6.1086
Faroe Islands	1.1087
Korea	1.2822
Peru (HS)	2.0284
Russian Federation	3.2825
Vanuatu	4.6738

⁴ These percentages shall apply from 2018 to 2021 inclusive.⁵²

40. A revised Vanuatu Proposal was submitted at the 2018 Commission Meeting, repeating the mechanism outlined in the earlier proposal and including that any forfeited allocation would become available for redistribution by the Commission to other Members or CNCPs with no or very low allocations.⁵³ The Organisation notes that the revised Vanuatu Proposal received general support from Members at the 2018 meeting, but was withdrawn to allow one Member further time to adjust its internal procedures in preparation for adoption of the proposed mechanism.⁵⁴ The Organisation further notes that the Commission requested that Vanuatu resubmit the proposal at the next Commission meeting.⁵⁵
41. Following the rejection of its proposal at the 2018 Commission Meeting, on 2 March 2018, Ecuador transferred its entire 2018 catch entitlement to Chile, as it has done each year since 2015.⁵⁶

IV. ECUADOR'S OBJECTION

42. Ecuador objects to its allocation under CMM 01-2018 and argues that CMM 01-2018 unjustifiably discriminates in form or in fact against Ecuador and is inconsistent with the Convention, the 1982 Convention, and the 1995 Agreement.⁵⁷ Ecuador invokes Articles 3(1)(a)(viii), 19, and 21(1)(e)-(f) of the Convention, Article 119(1)(a) of the 1982

⁵² CMM 01-2018, paras. 5-10, 25-26, Tables 1-2.

⁵³ Proposal to Amend CMM 10-2017 [*sic*] on Jack Mackerel, SPRFMO Supporting Material, p. 230; SPRFMO Memorandum, para. 82.

⁵⁴ SPRFMO Memorandum, para. 83; Report of the 6th Meeting of the Commission, SPRFMO Supporting Material, p. 212.

⁵⁵ SPRFMO Memorandum, para. 83.

⁵⁶ SPRFMO Memorandum, Table 9.

⁵⁷ Objection, p. 3.

Convention, and Articles 5(b), 24(2)(c), and 25(1)(a) of the 1995 Agreement, all of which require consideration of the special requirements of developing coastal States.⁵⁸

43. In particular, Ecuador argues that it is a developing coastal State that wishes to develop its own high seas *Trachurus murphyi* fishery, but that this is not economically feasible or sustainable under its current allocation of 1,377 tonnes.⁵⁹ Rather, a minimum allocation of 6,500 tonnes would be required in order to allow for the operation of a single vessel.⁶⁰ According to Ecuador, CMM 01-2018 is based on “only the criterion of historical catches with their practices regimes [...] which disadvantages small and developing nations such as Ecuador, that does not have a record in the fishing of jack mackerel.”⁶¹ Ecuador adds that “force majeure caused by the effects of the 2016 earthquake” prevented it from attending the Commission’s 2017 meeting in Adelaide where the prior allocations were set, and that its absence from that meeting “does not justify the lack of application of the fair criteria that would have resulted in a greater allocation of quota to the country.”⁶²

V. ARGUMENTS OF THE PARTICIPANTS

44. For the purposes of these Findings and Recommendations, the Review Panel summarises relevant aspects of the Participants’ submissions. These summaries are without prejudice to the complete written and oral submissions which the Review Panel has considered in their entirety.

Procedural Validity of the Objection

45. Article 17(2) of the Convention states:
- (a) Any member of the Commission may present to the Executive Secretary an objection to a decision within 60 days of the date of notification “the objection period”. In that event the decision shall not become binding on that member of the Commission to the extent of the objection, except in accordance with paragraph 3 and Annex II.
 - (b) A member of the Commission that presents an objection shall at the same time:
 - (i) specify in detail the grounds for its objection;
 - (ii) adopt alternative measures that are equivalent in effect to the decision to which it has objected and have the same date of application; and
 - (iii) advise the Executive Secretary of the terms of such alternative measures.
 - (c) The only admissible grounds for an objection are that the decision unjustifiably discriminates in form or in fact against the member of the Commission, or is inconsistent with the provisions of this Convention or other relevant international law as reflected in the 1982 Convention or the 1995 Agreement.
46. Peru and Chile both submit that the Objection fails to meet the procedural requirements of Article 17(2) of the Convention. They argue that the Objection is directed at modifying Ecuador’s percentage allocation for the jack mackerel fishery as contained in Table 2 of CMM 01-2017, to which Ecuador did not raise any objection.⁶³ According to Peru, since CMM 01-2018 does not modify in any sense the percentage allocations contained in CMM 01-2017, Ecuador’s Objection

⁵⁸ Objection, pp. 3-6.

⁵⁹ Objection, p. 7.

⁶⁰ Objection, p. 7.

⁶¹ Objection, p. 7.

⁶² Objection, p. 7.

⁶³ Peru Memorandum, paras. 24, 49; Chile Memorandum, para. 3; Hearing Transcript, 63:19-64:2.

effectively constitutes an objection to what was agreed in CMM 01-2017.⁶⁴ Chile adds that Ecuador did not present any proposed amendment to CMM 01-2017 for the consideration of the Commission in advance of its Sixth Annual Meeting in accordance with the Organisation's rules of procedure.⁶⁵ On this basis, Peru and Chile assert that the Objection has not been submitted within the 60-day deadline in Article 17(2)(a) of the Convention.⁶⁶

47. Peru and Chile also both submit that Ecuador has implicitly accepted the validity of CMM 01-2018 by transferring its allocation to Chile in March 2018, thereby making full use of the benefit granted to it under the CMM while objecting to it shortly thereafter.⁶⁷ Chile adds that the same is true of CMM 01-2017.⁶⁸
48. Ecuador responds that its proposal was acknowledged and discussed at the 2018 Commission Meeting, and that a decision on it was made at that meeting.⁶⁹ Ecuador therefore submits that its objection was raised within the time established for this purpose.⁷⁰

Inconsistency with the Convention, the 1982 Convention, and the 1995 Agreement

49. Ecuador submits that CMM 01-2018 is inconsistent with the Convention, the 1982 Convention and the 1995 Agreement.⁷¹ Ecuador refers to specific provisions within these instruments providing for the recognition of the special requirements of developing (coastal) States.⁷² In particular, Ecuador invokes Articles 21(1)(e)-(f) of the Convention,⁷³ which provide:

1. When taking decisions regarding participation in fishing for any fishery resource, including the allocation of a total allowable catch or total allowable fishing effort, the Commission shall take into account the status of the fishery resource and the existing level of fishing effort for that resource and the following criteria to the extent relevant:

[...]

- (e) the fisheries development aspirations and interests of developing States in particular small island developing States and of territories and possessions in the region;
- (f) the interests of coastal States, and in particular developing coastal States and territories and possessions, in a fishery resource that straddles areas of national jurisdiction of such States, territories and possessions and the Convention Area[.]

50. Ecuador adds that the decision is inconsistent with Article 3(1)(a)(viii) of the Convention, which provides:

⁶⁴ Peru Memorandum, paras. 25, 49; Hearing Transcript, 79:11-17.

⁶⁵ Chile Memorandum, para. 5; Hearing Transcript, 64:13-65:17. This was equally noted by the Organisation during the Hearing (Hearing Transcript, 26:16-20).

⁶⁶ Peru Memorandum, paras. 25, 49; Chile Memorandum, para. 6.

⁶⁷ Peru Memorandum, paras. 23, 60; Chile Memorandum, para. 4; Hearing Transcript, 64:3-12.

⁶⁸ Chile Memorandum, para. 4, *referring to* Letter from Ecuador to Executive Secretary dated 24 May 2017, Chile Supporting Material, pp. 14-15; Hearing Transcript, 63:19-64:2.

⁶⁹ Ecuador Comments, p. 6; Hearing Transcript, 46:17-48:8; 102:2-7.

⁷⁰ Ecuador Comments, p. 6.

⁷¹ Objection, p. 3.

⁷² Objection, pp. 4-7.

⁷³ Objection, p. 4.

In giving effect to the objective of this Convention and carrying out decision making under this Convention, the Contracting Parties, the Commission and subsidiary bodies established under Article 6 paragraph 2 and Article 9 paragraph 1 shall:

(a) apply, in particular, the following principles:

[...]

(viii) the interests of developing States, in particular the least developed among them and small island developing States, and of territories and possessions, and the needs of developing State coastal communities, shall be recognised[.]

51. Ecuador also refers to those provisions that provide for the development and enhancement of the ability of developing States to develop their fisheries.⁷⁴ In particular, Ecuador invokes Article 19 of the Convention, which provides:

1. The Commission shall give full recognition to the special requirements of developing State Contracting Parties in the region, in particular the least developed among them and small island developing States, and of territories and possessions in the region, in relation to the conservation and management of fishery resources in the Convention Area and the sustainable use of such resources

2. In giving effect to the duty to cooperate in the establishment of conservation and management measures for fishery resources covered by this Convention, the members of the Commission shall take into account the special requirements of developing State Contracting Parties in the region, in particular the least developed among them and small island developing States, and territories and possessions in the region, in particular:

[...]

(c) the need to ensure that such measures do not result in transferring, directly or indirectly, a disproportionate burden of conservation action onto such developing State Contracting Parties, and territories and possessions.

3. The members of the Commission shall cooperate either directly or through the Commission and other regional or sub-regional organisations to:

(a) enhance the ability of developing State Contracting Parties in the region, in particular the least developed among them and small island developing States, and of territories and possessions in the region, to conserve and manage fishery resources and to develop their own fisheries for such resources[.]

52. The provisions of the Convention on which Ecuador bases its objection are consistent with Article 119(1)(a) of the 1982 Convention and Articles 5(b), 24(2)(c), and 25(1)(a) of the 1995 Agreement. Ecuador claims, therefore, that the decision is also inconsistent with the aforementioned provisions.

53. Ecuador argues that, since its current allocation does not allow it to develop a *Trachurus murphyi* fishery, it fails to achieve the objective of the aforementioned provisions and is therefore inconsistent with them.⁷⁵

⁷⁴ Objection, pp. 4-6.

⁷⁵ Hearing Transcript, 24:14-25:8; 42:19-43:21.

54. Peru submits that there is no evidence of inconsistency with the provisions of the Convention, the 1982 Convention or the 1995 Agreement.⁷⁶ It contends that, while there is an express recognition of the special requirements of developing States in relation to the conservation and management of fishery resources, this is only one of ten criteria to be taken into account.⁷⁷ Peru also questions the relevance of some of the provisions of the 1982 Convention and the 1995 Agreement invoked by Ecuador.⁷⁸
55. New Zealand states that it does not see any basis to consider that CMM 01-2018 would be inconsistent with the provisions of the Convention or other international law as reflected in the 1982 Convention and the 1995 Agreement.⁷⁹ New Zealand submits that “decision making by the Commission pursuant to Article 21 and in accordance with Articles 3 and 19, must be considered as a holistic exercise”, and that the Article 21 criteria should be considered to be a “range of factors of greater or lesser relevance in any given circumstance”.⁸⁰ New Zealand therefore contends that “Article 21 decisions should not be found to be inconsistent with the Convention or other international law merely because a Member requests a greater allocation and is able to point to provisions of the Convention in doing so, but does not receive one.”⁸¹
56. Australia submits that Ecuador’s inconsistency argument is not supported by the facts.⁸² According to Australia, the allocations contained in each CMM cannot be based exclusively on historic catch, since Ecuador, a State without a record of *Trachurus murphyi* fishery within the Convention Area, received an allocation of 1,179 tonnes in CMM 01-2017.⁸³ Australia also notes that the working group decided to deviate from a strictly proportionate increase of the additional 33,000 tonnes in 2017, and that the tonnages and percentages in CMM 01-2017 “represent a compromise achieved from balancing a range of interests and factors which were not exclusively represented by historic catch of Members”.⁸⁴ Australia further asserts that most Members held the view that the allocation in CMM 4.01 reflected an outcome consistent with Article 21(1) of the Convention, hence its use by the working group as a basis for the percentage allocations recorded in CMM 01-2017.⁸⁵ Finally, Australia points out that Articles 21(1)(e)-(f) of the Convention were taken into account in the consideration of the requests made by, *inter alia*, Ecuador, Peru and Cuba for shares in the 33,000 tonnes to be allocated in 2017, and that seven of the 11 States listed in Table 1 of CMM 01-2017 are developing States or Small Island Developing States, whose allocations accounted for over 86% of the CMM 01-2017 TAC (Applicable Area).⁸⁶
57. Chile disagrees with Ecuador’s statement that the Commission only considered the historical catch criterion as a basis for its allocation.⁸⁷ According to Chile, the allocation process adopted in CMM 01-2017 and CMM 01-2018 reflects the application of various different criteria included in Article 21 of the Convention, as evidenced by the fact that Ecuador received an allocation despite having no historical catch in the Convention Area.⁸⁸ According to Chile, Ecuador’s

⁷⁶ Peru Memorandum, para. 61.

⁷⁷ Peru Memorandum, para. 41.

⁷⁸ Peru Memorandum, paras. 43-47.

⁷⁹ New Zealand Memorandum, para. 18.

⁸⁰ New Zealand Memorandum, para. 23; Hearing Transcript, 53:8-55:7.

⁸¹ New Zealand Memorandum, para. 25.

⁸² Australia Memorandum, paras. 29-30.

⁸³ Australia Memorandum, para. 31. *See also* fn. 32: “Note Ecuador has reported catch history in its EEZ between the years 1990 and 2015”, *referring to* Australia Supporting Material, p. 123.

⁸⁴ Australia Memorandum, paras. 33, 35.

⁸⁵ Australia Memorandum, para. 32.

⁸⁶ Australia Memorandum, para. 34.

⁸⁷ Chile Memorandum, paras. 16-17, 38; Hearing Transcript, 125:19-126:5.

⁸⁸ Chile Memorandum, para. 38; Hearing Transcript, 69:2-24.

allocation includes consideration of its status as a coastal State and its interests and aspirations as a developing State, expressed in Articles 21(1)(e)-(f) of the Convention.⁸⁹

58. Chile further contends that if Ecuador raises its status as a developing coastal State as a basis for a claim for higher allocation, its compliance with other applicable duties under the Convention should also be open to scrutiny.⁹⁰ Therefore, Chile argues that Ecuador should be asked how its own conservation and management measures for *Trachurus murphyi* in areas under its national jurisdiction are intended to avoid harmful impact to the living marine resources as a whole in the Convention Area, how those measures are compatible with those adopted by the Commission, and what scientific research it has conducted on the *Trachurus murphyi* fishery.⁹¹

Unjustifiable Discrimination

59. Ecuador asserts that CMM 01-2018 and its imposition of the *Trachurus murphyi* catch limit of 1,377 tonnes on Ecuador is “unjustifiabl[e] and discriminat[ory], in form or in fact; ‘since only the criterion of historical catches with their practices regimes, is being considered’”.⁹² Ecuador submits that this criterion “disadvantages small and developing nations...that [do] not have a record in the fishing” of *Trachurus murphyi*.⁹³ Ecuador asserts that it is a developing country to which all the provisions of the Convention, the 1982 Convention, and the 1995 Agreement providing for the special requirements of developing coastal States apply, which it submits “were not considered at the time of the allocation”.⁹⁴ Ecuador argues that there is no evidence that the criteria under Article 21 of the Convention (other than historical catch) were applied.⁹⁵
60. Ecuador asserts that it wishes to develop its *Trachurus murphyi* fishery in the area of the Convention, but that this is “unfeasible and economically unsustainable” with the allocation set in CMM 01-2018.⁹⁶ Given its allocation of only 0.2391% of the TAC (Resource), Ecuador contends that, at the current expected rates of growth of the TAC (Resource) of around 17% annually, it would take approximately 25 years to obtain the 6,500 tonnes needed for the viability of a single fishing vessel.⁹⁷ Ecuador adds that it is difficult for it to obtain transfers of allocations from other Members without having an existing fishery in which to put such transfers to use, and that it cannot rely on transfers that it cannot control.⁹⁸ Ecuador thus argues that, if the Commission only takes into consideration historical catches when allocating annual catch allocations, “Ecuador will continue to be excluded and as such, discriminated”.⁹⁹ Ecuador further submits that its transfers of quota to Chile demonstrate that its current allocation is insufficient to develop a *Trachurus murphyi* fishery.¹⁰⁰
61. Furthermore, Ecuador submits that, given that there is a “reserve” of 58,418 tonnes, its suggested increase to its allocation would not harm the sustainability of the species, would not cause detriment to the allocations to other members, and would not cause any damage, such that its refusal necessarily “unjustifiably discriminates in form or fact” against Ecuador independently of

⁸⁹ Chile Memorandum, para. 18.

⁹⁰ Chile Memorandum, paras. 19-20.

⁹¹ Chile Memorandum, para. 20; Hearing Transcript, 70:13-71:4.

⁹² Objection, p. 7.

⁹³ Objection, p. 7; Hearing Transcript, 99:14-25.

⁹⁴ Ecuador Memorandum, p. 2, *referring to* Annex 3, World Economic Situation and Prospects (WESP) 2014 Country Classification.

⁹⁵ Ecuador Comments, p. 5.

⁹⁶ Objection, p. 7.

⁹⁷ Ecuador Memorandum, p. 2; Ecuador Comments, p. 5; Hearing Transcript, 42:10-18.

⁹⁸ Hearing Transcript, 44:18-45:22; 105:8-15.

⁹⁹ Ecuador Memorandum, p. 2.

¹⁰⁰ Ecuador Comments, p. 5.

its status as a coastal and developing State.¹⁰¹ It contends that, since the report of the Scientific Committee determines that the current biomass would support catches of 576,000 tonnes, Ecuador's suggested increase to its allocation is justified.¹⁰²

62. Ecuador raises its absence from the 2017 Commission meeting held in Adelaide as causing “the lack of application of the fair[ness] criteria that would have resulted in a greater allocation of” *Trachurus murphyi*.¹⁰³ Ecuador's absence, it explains, was justified and due to the effects of an earthquake which occurred in the region in 2016.¹⁰⁴ Yet, Ecuador notes that both Peru and Korea received the more-than-proportional increases that they requested, while Ecuador did not.¹⁰⁵
63. Peru contends that Ecuador has not demonstrated that there was any act or omission amounting to discrimination.¹⁰⁶ According to Peru, the percentages in CMM 01-2018 are the same as those in CMM 01-2017, which resulted from the agreements reached at the Commission's fifth meeting and negotiations that have taken place since 2013 in which Ecuador has fully participated.¹⁰⁷ Peru adds that Ecuador's proposal to increase its allocation would be at the expense of the allocations already assigned to other participants in the *Trachurus murphyi* fishery, which would constitute a discriminatory act against other Members.¹⁰⁸
64. Peru also submits that historical catch is not the only criterion used to determine catch allocations in the *Trachurus murphyi* CMMs, and states that since the Commission's first meeting, “historical catches have been considered, as well as fishing patterns and practices [...] [and], perhaps in a less explicit manner, the other nine criteria of Art. 21 (1)”.¹⁰⁹ Peru also argues that, given the recovering status of the *Trachurus murphyi* stock, any CMM in respect of it must be aimed at guaranteeing the long-term sustainable use of the fishery resource and that a variety of criteria are therefore considered in determining the allocations for those participating in the *Trachurus murphyi* fishery.¹¹⁰ Further, Peru points out that States without a historical catch of *Trachurus murphyi*, including Ecuador itself, have benefitted from catch allocations.¹¹¹
65. Finally, Peru suggests that Ecuador could use the transfer mechanism contemplated within the CMMs to develop its *Trachurus murphyi* fishery.¹¹² Peru states that the absence of a large allocation is not an impediment to the development or expansion of fisheries within the purview of the Organisation given the clear and simple mechanisms for transfers within the CMMs.¹¹³ Peru argues that the use of this process would allow a further increase in Ecuador's participation in the fishery without requiring a modification of CMM 01-2018.¹¹⁴
66. New Zealand contends that Members should be presumed to be operating in good faith in the absence of evidence to the contrary.¹¹⁵ Accordingly, it submits that “there should be a fairly high threshold for a finding that discrimination is unjustifiable”.¹¹⁶ New Zealand suggests that

¹⁰¹ Ecuador Memorandum, p. 2.

¹⁰² Ecuador Comments, pp. 2-4.

¹⁰³ Objection, p. 7.

¹⁰⁴ Objection, p. 7; Hearing Transcript, 44:7-12.

¹⁰⁵ Hearing Transcript, 43:22-44:6, 101:12-102:1.

¹⁰⁶ Peru Memorandum, paras. 26-27, 52.

¹⁰⁷ Peru Memorandum, paras. 27-28, 32, 50, 52-53.

¹⁰⁸ Peru Memorandum, paras. 20, 29, 48, 54; Hearing Transcript, 79:24-80:8; 127:16-128:15.

¹⁰⁹ Peru Memorandum, para. 18. *See also id.*, paras. 33-36, 57.

¹¹⁰ Peru Memorandum, paras. 37-39.

¹¹¹ Peru Memorandum, paras. 19, 36.

¹¹² Peru Memorandum, para. 59; Hearing Transcript, 80:19-81:1.

¹¹³ Peru Memorandum, paras. 21-22.

¹¹⁴ Peru Memorandum, para. 59.

¹¹⁵ New Zealand Memorandum, para. 26; Hearing Transcript, 57:18-23.

¹¹⁶ New Zealand Memorandum, para. 26.

unjustifiable discrimination would involve either: (a) the Commission’s unwillingness to treat Ecuador’s request on the same basis as a similar request by other members; or (b) the Commission’s insistence on an unreasonable level of information from Ecuador about the basis of its request and its capability and readiness to participate in the fishery.¹¹⁷ In this vein, New Zealand recalls that the percentages used by the Commission as a basis for allocations in CMM 01-2018 were already decided and agreed in CMM 01-2017, and that Ecuador did not present a formal proposal to amend CMM 01-2017 within the deadline agreed by the Commission.¹¹⁸ Moreover, New Zealand considers that Ecuador’s request for a greater allocation in 2017 was considered by the Commission at that time, and resulted in Ecuador receiving an increased allocation.¹¹⁹ Thus, New Zealand concludes that insufficient evidence has been presented to demonstrate that CMM 01-2018 unjustifiably discriminates against Ecuador.¹²⁰

67. Chile submits that Ecuador’s claim of discrimination cannot be supported.¹²¹ Chile points out that, since Ecuador has no historical catch to speak of, Ecuador’s current percentage allocation is necessarily “based on other criteria established in Article 21 of the Convention different from historical catches”.¹²² Chile also contends that “precisely the consideration given to the Republic of Ecuador as a coastal State and developing State has supported the catch percentage allocated to Ecuador in the Convention Area”.¹²³ Thus, granting a further allocation to Ecuador on the basis of its status as a coastal developing State would, Chile submits, result in double-counting the same criteria, which would unjustifiably discriminate against the other participants in the *Trachurus murphyi* fishery.¹²⁴
68. Finally, Chile recalls that CMM 01-2017 is the basis for the current allocations and notes that, given that the TAC (Resource) for 2018 increased by approximately 16.84% in relation to 2017, “all States participating in the fishery increased their allocation in tonnages by the same proportion, with no discrimination at all”.¹²⁵

Alternative Measures

69. In relation to alternative measures, Ecuador notes that the difference between the TAC (Resource) and the TAC (Applicable Area) in CMM 01-2018 creates a “reserve” of 58,418 tonnes.¹²⁶ Ecuador therefore proposes that its allocation may be raised to 6,500 tonnes by taking from this “reserve”, thereby leaving the allocations of other Members unchanged.¹²⁷
70. Accordingly, Ecuador contends that the proposed alternative measure “is similar and equivalent, since it does not violate the principles of long-term maintenance, conservation and sustainable management” of *Trachurus murphyi*.¹²⁸ It submits that, to the extent that the increase in Ecuador’s allocation does not affect the TAC (Resource), “the precautionary principles of maintenance, conservation and sustainable management in the capture of the mackerel species remain in force”.¹²⁹

¹¹⁷ New Zealand Memorandum, para. 27; Hearing Transcript, 57:9-17.

¹¹⁸ New Zealand Memorandum, para. 28; Hearing Transcript, 56:25-57:8.

¹¹⁹ New Zealand Memorandum, para. 29.

¹²⁰ New Zealand Memorandum, para. 30.

¹²¹ Chile Memorandum, paras. 21-22.

¹²² Chile Memorandum, para. 22; Hearing Transcript, 72:1-19.

¹²³ Chile Memorandum, para. 24; Hearing Transcript, 72:24-73:2.

¹²⁴ Chile Memorandum, para. 25; Hearing Transcript, 73:3-6.

¹²⁵ Chile Memorandum, paras. 27-28.

¹²⁶ Ecuador Memorandum, p. 3; Objection, p. 7; Hearing Transcript, 39:1-40:20.

¹²⁷ Objection, pp. 7-8; Hearing Transcript, 115:21-116:5.

¹²⁸ Ecuador Memorandum, p. 3.

¹²⁹ Ecuador Memorandum, p. 3; Hearing Transcript, 40:21-41:18.

71. The Organisation submits that Ecuador's reference to a "reserve" is inaccurate. It explains that, in light of the range of the *Trachurus murphyi* fishery and the fact that the TAC (Applicable Area) applies only to the high seas and areas under Chile's national jurisdiction, the difference between the TAC (Resource) and the TAC (Applicable Area) refers by implication to catches within the areas under the national jurisdiction of Ecuador and Peru.¹³⁰ The Organisation therefore states that there is no "reserve" as contended by Ecuador.¹³¹
72. Peru is also of the view that there is no "reserve".¹³² It submits that such a concept is not contemplated by the Convention, the 1982 Convention or the 1995 Convention.¹³³ In any event, Peru contends that Ecuador's proposal to utilise the unallocated percentage of the TAC (Resource) would result in a reduction of the percentage of jack mackerel to be caught outside the Convention Area, and argues that such an approach would result in the Organisation impliedly determining allocations in areas under national jurisdiction without the consent of the relevant coastal States, in contravention of Article 5 of the Convention.¹³⁴
73. New Zealand agrees with the Organisation's analysis that there is no "reserve" of 58,218 tonnes, asserting that such difference "is rather an allowance for the fisheries for jack mackerel in areas within national jurisdictions, not included in the area to which CMM 01-2018 applies (i.e. those in the exclusive economic zones of Ecuador and Peru)".¹³⁵ New Zealand notes that the establishment of such an allowance is in fact foreseen in Article 20(3)(c) of the Convention, as well as Article 7(1)(a) of the 1995 Agreement and Article 63(2) of the 1982 Convention.¹³⁶ Accordingly, New Zealand submits that the alternative measure proposed by Ecuador is not an "equivalent measure", as it would increase the TAC in the Convention Area.¹³⁷
74. New Zealand contends that for any alternative measure to have equivalent effect, the measure must not result in either: (a) the TAC (Applicable Area) exceeding 517,582 tonnes; or (b) the TAC (Resource) exceeding 576,000 tonnes.¹³⁸ In addition, New Zealand refers to the 2013 Review Panel Findings and Recommendations, and contends that any alternative measure may not adversely affect the rights and interests of other Members under the measure being objected to, where those Members have not themselves objected and remain subject to its terms.¹³⁹ New Zealand further suggests that these restrictions mean that the scope for a Review Panel to impose alternative measures is inherently more limited in the case of allocation decisions.¹⁴⁰
75. Finally, while not making any suggestions as to other potential equivalent alternative measures, New Zealand suggests that the Review Panel "could provide suggestions to the Commission on how it might give due consideration to the Republic of Ecuador's aspirations" when CMM 01-2018 is next reviewed by the Commission in 2019.¹⁴¹
76. Australia also disagrees with the characterisation of the difference between the TAC (Resource) and the TAC (Applicable Area) as a "reserve", on the basis that such difference is set aside to

¹³⁰ SPRFMO Memorandum, para. 92, referring to Annex III of the Convention; Hearing Transcript, 119:7-120:2.

¹³¹ SPRFMO Memorandum, para. 94(f); Hearing Transcript, 21:9-25.

¹³² Peru Memorandum, paras. 30-31, 55; Hearing Transcript, 80:9-13.

¹³³ Peru Memorandum, paras. 16, 31, 55.

¹³⁴ Peru Memorandum, paras. 15, 17, 51, 56; Hearing Transcript, 80:13-18, 114:21-25, 128:22-129:2.

¹³⁵ New Zealand Memorandum, para. 36; Hearing Transcript, 59:18-60:8.

¹³⁶ Hearing Transcript, 59:23-60:25

¹³⁷ New Zealand Memorandum, para. 37.

¹³⁸ New Zealand Memorandum, paras. 33, 38; Hearing Transcript, 58:18-59:9; 110:23-111:1.

¹³⁹ New Zealand Memorandum, paras. 34-35; Hearing Transcript, 59:10-61:8; 111:6-16.

¹⁴⁰ New Zealand Memorandum, para. 39; Hearing Transcript, 111:17-25.

¹⁴¹ New Zealand Memorandum, paras. 40-43.

accommodate catches within areas under national jurisdiction.¹⁴² In Australia’s view, such amount would be more properly characterised as a “percentage of the overall catch limit for the stock that has been deliberately set aside by the Commission.”¹⁴³

77. Australia also submits that Ecuador’s suggested alternative measure is not equivalent in effect to the decision in CMM 01-2018.¹⁴⁴ Australia argues that the difference between the TAC (Resource) and the TAC (Applicable Area) should not be adjusted,¹⁴⁵ in light of CMM 01-2018’s primary purpose being to “ensure that catch of *Trachurus murphyi* is sustainable.”¹⁴⁶ Australia submits that Ecuador has failed to justify why the areas outside the scope of CMM 01-2018 as stipulated in its paragraph 1 should “bear the exclusive burden of accommodating the increased tonnage and percentage in Ecuador’s proposals”.¹⁴⁷
78. Chile also submits that the difference between the TAC (Resource) and the TAC (Applicable Area) is not a “reserve established by the Commission for coastal States”, but rather corresponds to the tonnages or percentages outside the Applicable Area.¹⁴⁸ In this regard, Chile argues that the Commission lacks jurisdiction to allocate catches within areas under the national jurisdiction of coastal States adjacent to the Convention Area.¹⁴⁹ Chile recalls that the only way that the Commission may allocate percentages or tonnage in relation to areas under the national jurisdiction of a State is when that State has expressly consented to this, such as Chile has done in relation to the *Trachurus murphyi* CMMs.¹⁵⁰ Chile therefore contends that the alternative measure proposed by Ecuador lacks equivalent effect as required by the Convention.¹⁵¹
79. Chile suggests that Ecuador could develop its fishery through the transfer mechanism contained in CMM 01-2018, which Ecuador has applied on previous occasions.¹⁵² It also suggests that Ecuador and Peru could determine the allocation of the resources within areas under their national jurisdiction through an exercise of bilateral cooperation, either directly or through SPRFMO.¹⁵³
80. Finally, Chile refers to the Vanuatu Proposal, recalling that a revised version is intended to be submitted at the next annual Commission meeting in 2019.¹⁵⁴ Chile is of the view that this proposal, once adopted by the Commission, will allow access for new entrants to this fishery and increase catch entitlements for Members with lower allocations.¹⁵⁵
81. Ecuador responds to the argument that there is no “reserve” by pointing to the difference between the TAC (Resource) and the TAC (Applicable Area). Ecuador notes that Annex III allows the Commission to set the TAC for the fishery resources throughout their range and submits that nowhere is it established that the difference between the TAC (Resource) and the TAC

¹⁴² Australia Memorandum, paras. 39-42.

¹⁴³ Australia Memorandum, para. 42.

¹⁴⁴ Australia Memorandum, para. 46.

¹⁴⁵ Australia Memorandum, para. 46.

¹⁴⁶ Australia Memorandum, para. 44.

¹⁴⁷ Australia Memorandum para. 46.

¹⁴⁸ Chile Memorandum, paras. 12-14; Hearing Transcript, 68:6-69:1; 124:20-23.

¹⁴⁹ Chile Memorandum, paras. 7-9, 11; Hearing Transcript, 65:18-68:5; 113:8-14.

¹⁵⁰ Chile Memorandum, paras. 10, 35-36; Hearing Transcript, 125:1-6.

¹⁵¹ Chile Memorandum, paras. 29, 37.

¹⁵² Chile Memorandum, paras. 30-31, 39, *referring to* Transfers of Jack Mackerel Catch Entitlement 2017, Chile Supporting Material, p. 21; Transfers of Jack Mackerel Catch Entitlement 2018, Chile Supporting Material, p. 23; Hearing Transcript, 74:9-25; 126:6-13.

¹⁵³ Chile Memorandum, para. 11.

¹⁵⁴ Chile Memorandum, para. 34, *referring to* Report of the 6th Meeting of the Commission, Chile Supporting Material, p. 28. The Report is also available at SPRFMO Supporting Material, p. 212. *See also* Hearing Transcript, 75:1-21; 113:15-20, 126:14-18.

¹⁵⁵ Chile Memorandum, paras. 32-33, 40; Hearing Transcript, 77:5-12.

(Applicable Area) corresponds to catch in the areas under the national jurisdiction of Peru, Ecuador, or any other Member.¹⁵⁶ Ecuador adds that Peru does not in fact recognise the application of the TAC (Resource) to their waters.¹⁵⁷

VI. ANALYSIS

82. The background to the establishment of SPRFMO is well covered in the memorandum from the Organisation itself, as well as those from Members, and the oral presentations. The Organisation has been highly successful in its effective management of *Trachurus murphyi* which was in catastrophic decline, an outcome that has been described as “nothing short of remarkable”.¹⁵⁸ The way in which it has operated has been testament to the foresight and commitment of those involved in establishing the Organisation, and the Commission’s current Members and CNCPs. It has also been testament to the willingness of Members and CNCPs to significantly reduce and constrain their catches so as to enable the recovery of the stock. This sets the context for the commendably conservative approach taken by Members and CNCPs to the setting of the TACs and the management of the stock(s), and their contemplation of only modest increases in the TACs which respect the scientific advice upon which they are based.
83. Ecuador has objected to its 2018 allocation of the TAC (Applicable Area) for *Trachurus murphyi* established in paragraph 5 and Tables 1 and 2 of CMM 01-2018, adopted during the 6th Commission Meeting (2018). The Objection by Ecuador invokes both of the admissible grounds for an objection set out in Article 17(2)(c) of the Convention, namely unjustifiable discrimination and inconsistency with the provisions of the Convention or other relevant international law as reflected in the 1982 Convention or the 1995 Agreement. Before turning to these grounds, the Review Panel first addresses the procedural validity of the Objection.

Procedural Validity of the Objection

84. The allocations included in Table 1 of CMM 01-2018 are the result of the mathematical application of the percentages included in Table 2 to the increased TAC recommended by the Scientific Committee and adopted by the Commission for 2018, culminating in proportionally increased allocations. For this reason, several Participants in these proceedings argued that Ecuador’s Objection is in fact directed at Table 2, which was adopted during the 5th Commission Meeting (2017) and made applicable from 2018 to 2021 inclusive as part of CMM 01-2017 (albeit reproduced once again in CMM 01-2018), and to which Ecuador did not object.
85. The Review Panel acknowledges the importance and usefulness of multi-annual allocation agreements, which are the result of difficult negotiations requiring a high level of mutual compromise and accommodation by Members and CNCPs, and in which the multi-annual character of the allocation is often a key consideration.
86. It is the view of the Panel, however, that individual Members are always entitled to propose amendments to multi-annual decisions, and the Commission can amend those decisions at any time. Ecuador made such a proposal to amend CMM 01-2017 at the 6th Commission Meeting (2018), and Members entertained this proposal. The Panel agrees with Ecuador’s contention that, in adopting CMM 01-2018 without accepting Ecuador’s proposed amendment, the Commission decided on a question of substance to which Ecuador had the right to object. If there had been any concern regarding non-compliance with procedural requirements for the presentation of proposals for amendment, this was not explicitly dealt with at the time. The Review Panel has also

¹⁵⁶ Ecuador Comments, pp. 3-6; Hearing Transcript, 108:25-109:15.

¹⁵⁷ Hearing Transcript, 39:18-20, 103:1-5.

¹⁵⁸ New Zealand Memorandum, para. 17.

considered the implications of Ecuador's transfer of its allocation before invoking the objection procedure and concludes that it has no material effect on the procedural validity of the Objection.

87. The Review Panel further notes that the Objection is in part based on circumstances which stretch back to the special situation affecting Ecuador during and after the 5th Commission Meeting (2017), as well as Ecuador's perception of a persistent lack of acknowledgment of its interests and aspirations by the Commission over a period of some years.
88. The Review Panel also realises that Members will not—and should not—take lightly the decision to object to a measure adopted by the Commission, considering the strict procedural and substantive standards of Articles 17(2)-(6) of the Convention, as are addressed further below.
89. In light of these considerations, the Review Panel finds no reason to dismiss the Objection based on procedural invalidity.

Inconsistency with the Convention, the 1982 Convention, and the 1995 Agreement

90. In relation to the ground of inconsistency, Ecuador argues that the allocation accorded to it pursuant to paragraph 5 and Tables 1 and 2 of CMM 01-2018 is inconsistent with the Convention as well as with the 1982 Convention and the 1995 Agreement. In its oral submissions, Ecuador asserted that the allocation exercise was inconsistent with the Convention because the Commission did not apply Article 21 correctly. In support of its argument, Ecuador invokes several provisions of these conventions, all of which require consideration of the special requirements of developing (coastal) States.
91. The Review Panel considers it appropriate to start out by noting that the competence of the Commission to take decisions on the allocation of the TAC pursuant to the Convention is not inconsistent with the competence of RFMOs/As to take such decisions as stipulated by the 1982 Convention or the 1995 Agreement. In fact, the Convention implements and builds on the 1982 Convention and the 1995 Agreement in this regard. The 1982 Convention does not explicitly or specifically deal with the allocation of the TAC by regional fisheries bodies, but recognises the special position and interests of developing States in the context of marine capture fisheries more broadly, *inter alia*, in Articles 61, 62, and 119.
92. The 1995 Agreement explicitly includes allocation of the TAC as part of the functions of RFMOs/As in Article 10(b), and provides guidance on allocation by means of the implicit and explicit allocation criteria incorporated in Articles 7(2)(d) and (e) and 11. Articles 11(f) and 25(1)(a) and (b) implicitly or explicitly refer to the interests of developing States in relation to allocation, and the broader interests of developing States are also prominently reflected in the Preamble and other provisions of the 1995 Agreement. However, this falls short of specific guidance on how these (and other criteria) are to be practically applied with regard to specific fish stocks, such as by prioritising them or giving them weight. The 1995 Agreement thus recognises that RFMOs/As—and thereby their members or participants—have a wide margin of discretion in allocating the TAC.
93. As the Convention implements and builds on the 1982 Convention and the 1995 Agreement, this wide margin of discretion is also accorded to the Commission pursuant to Article 21 of the Convention. While there are differences between the 1995 Agreement and the Convention with regard to their explicit and implicit allocation criteria, such as their number, order and content, the Review Panel is unable to draw any definitive conclusions from such differences. As neither the 1995 Agreement nor the Convention provide guidance on how these criteria are to be practically applied with regard to specific fish stocks, there is no fundamental difference between them in this regard.

94. In light of the genesis of the developing States provisions in the 1982 Convention, and the reinforcement of the importance of the interests of developing States in the 1995 Agreement and the Convention, the Panel shares Ecuador's view that such interests need to be treated with the utmost seriousness. This is of course consistent with well-established international principles supporting the sustainable development of developing States, and also with the view that developing States should not be disadvantaged because their economic status has prevented them from developing a high seas fishery. This is especially pertinent in the context of RFMOs/As such as SPRFMO, whose membership comprises a large number of developing coastal States in the region.
95. In light of the foregoing, it is the opinion of the Review Panel that the decision on the allocation of the TAC (Applicable Area) laid down in paragraph 5 and Tables 1 and 2 of CMM 01-2018 would be inconsistent with the Convention, the 1982 Convention, or the 1995 Agreement if the Panel determines that the Commission acted outside of its aforementioned wide margin of discretion. This also implies that a Member invoking inconsistency must substantiate its claim with compelling evidence.
96. In the view of the Panel, a determination of inconsistency could for example arise if the allocation were exclusively based on only one of the allocation criteria listed in Article 21(1) of the Convention. Ecuador argues in its Objection and memorandum that the decision on the allocation of the TAC in CMM 01-2018 is based exclusively on the criterion of historic catch laid down in Article 21(1)(a). In the opinion of the Review Panel, this argument is not supported by the material available to it in these proceedings. Of particular significance in this regard is the initial high seas allocation accorded to Ecuador in 2015, despite not having any historic catch in the high seas. The SPRFMO Memorandum and its supporting material provide other examples of the efforts undertaken within the Commission since the 2013 Review Panel Findings and Recommendations to ensure that the allocation of the TACs for *Trachurus murphyi* is based on a broader range of allocation criteria and considerations than historic catch alone.
97. The Review Panel considers that Ecuador has not otherwise substantiated its claim of inconsistency, and the Panel itself also has not found there to be compelling evidence that the Commission has acted outside its wide margin of discretion on allocation pursuant to the Convention. The Panel therefore finds that the decision to which objection has been presented is not inconsistent with the Convention, the 1982 Convention or the 1995 Agreement.

Unjustifiable Discrimination

98. Ecuador's Objection also invokes the ground of unjustifiable discrimination. This is founded on Article 17(2)(c) of the Convention, which provides that an admissible ground for objection is that "the decision unjustifiably discriminates in form or in fact" against a Member.
99. As regards the meaning of "unjustifiable discrimination" in Article 17(2)(c), the reference to "in form or in fact" reflects the different ways in which discrimination can occur.¹⁵⁹ These words include not only direct discrimination (including discrimination as regards procedure), but also measures which, although they are not overtly discriminatory, have an effect, substantive result, or outcome that is discriminatory.
100. In respect of procedural discrimination, the Review Panel finds it useful to recall the background relating to Ecuador's requests for allocations, and the extent to which these have been satisfied.

¹⁵⁹ This language is also found in Article 119(3) of the 1982 Convention, which requires that conservation measures in the high seas not discriminate "in form or in fact" against the fishermen of any State.

101. Ecuador communicated its aspiration to develop its own high seas *Trachurus murphyi* fishery during the 1st and 2nd Commission Meetings in 2013 and 2014.¹⁶⁰ In 2015, it was allocated 1,100 tonnes, and Ecuador further requested that “each Member consider transferring to Ecuador 200 tonnes of its allocation to assist Ecuador’s entry into the high seas fishery”.¹⁶¹ None of the Members appear to have acceded to that request during 2015 or thereafter. Ecuador’s allocation for 2016 was maintained, but Ecuador communicated its expectation to have an increased allocation in future years.
102. On 20 January 2017, during the 5th Commission Meeting held between 18 and 22 January 2017, the Commission received a letter from Ecuador communicating its regret for not participating in the meeting given the condition of the country, which it described as a “force majeure problem” (arising out of the effects of the 2016 earthquake which struck the region). In that letter, Ecuador stated that it “ratifies” its initial request for an allocation of over 10,000 tonnes, clarifying that it was requesting an increase of 4,590 tonnes, for a total allocation of 5,690 tonnes.¹⁶² As the Jack mackerel Working Group tasked with seeking agreement on allocation received this request late during its meeting, the group was ultimately unable to accommodate Ecuador’s request. As explained by the current Commission Chair during the hearing, it is his view that the Jack mackerel Working Group could not make a decision based on a single letter, and the absence of Ecuador during the Meeting precluded it from effectively making its case and engaging in a negotiation process with other Members.¹⁶³
103. The Commission adopted CMM 01-2017 which limited the TAC (Applicable Area) to 443,000 tonnes, and established the respective allocations in tonnes in Table 1. Ecuador’s allocation was set at 1,179 tonnes. CMM 01-2017 also adopted, for the first time, a multi-annual allocation agreement, expressed in a percentage allocation of the TAC (Resource) to apply from 2018 to 2021 inclusive (Table 2 of CMM 01-2017). Ecuador’s percentage share was set at 0.2391%. The fact that the multi-annual allocation agreement was made at the 5th Commission Meeting meant that Ecuador’s absence potentially affected its aspiration for a higher allocation not only in 2017, but for a period of five years. However, Ecuador did not object to this decision, nor does it seem to have communicated or engaged in any other way with Members or the Commission Chair that would have sent a clear signal that it was dissatisfied with the adopted CMM.
104. Based on the agreements reached in 2017, the intention was for the 6th Commission Meeting (2018) to limit the review of CMM 01-2017 to updating the TAC (Resource) and TAC (Applicable Area) according to the latest advice by the Scientific Committee, and adjusting the allocations consistent with the percentages agreed in 2017. This is clearly reflected in the working paper prepared by Chile at the request of the Commission Chair at the time.¹⁶⁴ The Commission did not consider it necessary to convene a Jack mackerel Working Group, as had been the practice in previous years.
105. During the meeting, without complying with Rule 4 of the Rules of Procedure of the Commission, Ecuador made a request, supported by a presentation, for a high seas allocation of 6,500 tonnes of *Trachurus murphyi* and for the amendment of Table 2 of CMM 01-2017 to reflect a percentage share for Ecuador of 1.13%. As stated by the Commission Chair during the hearing, he was not aware of Ecuador’s expectation of a significantly increased allocation for 2018 until very late in the meeting. The Commission Chair added that Members were not expecting Ecuador to bring

¹⁶⁰ Statement of Ecuador (Annex I), SPRFMO Supporting Material, p. 99; Statement of Ecuador (Annex R), SPRFMO Supporting Material, pp. 142-143.

¹⁶¹ Report of the 3rd Commission Meeting, SPRFMO Supporting Material, p. 146.

¹⁶² Letter from Ministerio de Agricultura, Ganadería, Acuacultura y Pesca to the Executive Secretary dated 19 January 2017, SPRFMO Supporting Material, pp. 197-198.

¹⁶³ Hearing Transcript, 90:15-91:6; 94:19-95:16.

¹⁶⁴ See Working Paper 11, SPRFMO Supporting Material, p. 222.

the discussion regarding the agreement reflected in CMM 01-2017 to the table, and were unprepared to discuss Ecuador's request.¹⁶⁵ The Commission could not agree on Ecuador's request, and resorted to qualified-majority voting under Article 16(2) of the Convention to adopt CMM 01-2018. CMM 01-2018 allocates 1,179 tonnes of the TAC (Applicable Area) to Ecuador and maintains Ecuador's percentage allocation of the TAC (Resource).

106. As regards procedural discrimination, there is of course a presumption that Members will be operating in good faith when taking their decisions, and there has been no claim that there was an absence of good faith in this particular case. Indeed, Ecuador specifically said this in its oral submissions.¹⁶⁶ However, bad faith is not necessarily a requirement for discrimination. The finding of the 2013 Review Panel was that there had been discrimination, but the Objector there also specifically disavowed any suggestion of bad faith.¹⁶⁷ That said, for there to be unjustifiable discrimination in the procedures relating to allocation, there would for example need to be treatment of Ecuador which was clearly inconsistent with the treatment of other similarly placed Members, or some unreasonable requirements made of Ecuador but not applied to other Members.
107. Ecuador has explained the justification for its absence from the 5th Commission Meeting (2017), and thus from the discussions on the multi-annual allocation agreements in the TACs. It is nevertheless the opinion of the Review Panel that Ecuador's absence does not mean that the rejection of its proposal at that meeting has necessarily amounted to procedural discrimination against Ecuador. It also does not necessarily follow that the Commission's decision to maintain the same percentage allocations at the 6th Commission Meeting (2018) amounted to such discrimination. In fact, all evidence seems to point to the contrary: Ecuador's proposals were considered despite the late hour at which each of them was submitted. Under such circumstances, the Review Panel does not find that there is any evidence of procedural discrimination against Ecuador.
108. Ecuador is also suggesting discrimination as regards the substantive result or outcome of the process. In other words, that the outcome of the allocation process discriminated against it by virtue of the result itself, even if the procedure was not discriminatory. This is based on what it regards as the inadequacy of the allocation it received, especially when considered in light of the various provisions in the Convention, the 1982 Convention and the 1995 Agreement that support the special position and interests of developing States in the context of marine capture fisheries. Certainly, there may be a point at which the small size of an allocation to a developing State in the region, when compared with higher allocations to other States over a period of time, might be regarded as discriminatory in result. However, in the Panel's view that is not the case in this instance. As noted elsewhere, other factors appear to have affected the size of Ecuador's allocation. It is not sufficient for Ecuador merely to point to the fact that it is a developing State when comparing its allocations with others, since many of the other Members with allocations are also developing States. The period of time under consideration here in relation to the various allocations is also very short. Therefore, although a sustained failure to increase Ecuador's allocation over a longer period of time might amount to discrimination in result absent other legitimate reasons for it, in the Panel's view that point has not yet been reached.
109. The Review Panel therefore finds that CMM 01-2018 does not unjustifiably discriminate, in form or in fact, against Ecuador.

¹⁶⁵ Hearing Transcript, 26:16-20; 28:7-15.

¹⁶⁶ Hearing Transcript, 38:18-25; 49:14-19.

¹⁶⁷ 2013 Hearing Transcript, 101:18-20.

Alternative Measures

110. Having found that the decision is not inconsistent with the Convention, the 1982 Convention, or the 1995 Agreement, and that it does not unjustifiably discriminate against Ecuador, paragraph 10(j) of Annex II to the Convention nevertheless requires the Review Panel to assess whether the alternative measures proposed by Ecuador are equivalent in effect to the objected decision.
111. Ecuador proposes alternative measures consisting of increasing its high seas allocation by drawing on what it calls the fishing “reserve”. Considering the relevance of the “reserve” for the test of equivalency, as well as the different interpretations of this “reserve” by the Participants, the Review Panel feels compelled to clarify this issue.
112. The CMMs adopted by the Commission since 2013 identify two TACs: one for the resource throughout the range of the stock (*i.e.* the TAC (Resource)), and one for the area of application of the CMM (*i.e.* the TAC (Applicable Area)). As regards CMM 01-2018, these are reflected in paragraphs 10 and 5 respectively.
113. The range of the stock assessed by the Scientific Committee, in the absence of a definite answer regarding the structure of the stock(s), includes the stock(s) of *Trachurus murphyi* at present predominantly found in the area extending westwards from Chile and Peru out to about 120°W.¹⁶⁸ This area therefore includes areas of the high seas as well as areas under the national jurisdiction of Chile, Ecuador, and Peru. In 2018, the Commission agreed that catch in this area should not exceed 576,000 tonnes.
114. The Applicable Area of CMM 01-2018, in turn, is defined in its paragraph 1 as “the Convention Area and [...] with the express consent of Chile, [applies] to fisheries for *Trachurus murphyi* undertaken by Chile in its areas under national jurisdiction.” The TAC (Applicable Area) for 2018 was set at 517,582 tonnes.
115. In the view of the Panel, this cannot be interpreted in any other way than that the geographical area of the range of the stock falling outside the Applicable Area of all CMMs for *Trachurus murphyi* comprises areas under the national jurisdiction of States other than Chile in which *Trachurus murphyi* occur. At present these are areas under the national jurisdiction of Peru and Ecuador. In its memorandum, the Organisation notes that “Ecuador is located at the northern range limit of Jack mackerel and reports the lowest catches of all coastal States”.¹⁶⁹ It is for these

¹⁶⁸ The *Trachurus murphyi* profile developed by the Scientific Committee of the Commission and updated in 2018 notes that: “[f]or the purposes of *T. murphyi* assessments to be conducted in the immediate future, the westward boundary of this stock could be assumed to be about 120°W, to cover all areas currently fished in the southeast Pacific Ocean, until further information becomes available to improve the definition of this boundary”. See “Information describing Chilean jack mackerel (*Trachurus murphyi*) fisheries relating to the South Pacific Regional Fishery Management Organisation”, Working Draft, 21 January 2014, p. 14. The Jack Mackerel Sub-group of the SWG has carried out parallel assessments of the jack mackerel stock(s) in the Eastern South Pacific under the two main working stock structure hypotheses: jack mackerel caught off the coasts of Peru and Chile each constitute separate stocks which straddle the high seas; and jack mackerel caught off the coasts of Peru and Chile constitute a single shared stock which straddles the high seas. The profile also notes that the area of distribution of *Trachurus murphyi* in the Pacific Ocean reaches the areas under the national jurisdiction of Australia and New Zealand. However, these areas have historically reported low catches of *Trachurus murphyi*, and no catches have been reported since 2010. See “Catch data submitted to the SPRFMO Secretariat (as at 28 December 2017)”, COMM 6 – INF 03, Australia Supporting Material, pp. 123, 125.

¹⁶⁹ SPRFMO Memorandum, para. 14.

areas that CMM 01-2018 “reserves” or “sets aside” 58,418 tonnes (the difference between the TAC (Resource) and the TAC (Applicable Area)).

116. The fact that this “reserve” is at present intended for areas under the national jurisdiction of Peru and Ecuador is reflected in what the Commission Chair during the hearing called “the careful language” of paragraphs 5 and 10 of CMM 01-2018.¹⁷⁰ The TAC (Applicable Area) established in paragraph 5 of the CMM, and each participant’s share in it, are legally binding on Members, as reflected in the use of the word “shall”. By contrast, paragraph 10 reads: “Members and CNCs agree [...] that catches of *Trachurus murphyi* in 2018 throughout the range of the stock *should* not exceed 576,000 tonnes.”¹⁷¹ The hortatory nature of the word “should” in this provision is a recognition of the sovereign rights of coastal States that have not given their consent pursuant to Articles 20(4)(a)(ii)-(iii) and 21(2) of the Convention. In fact, paragraph 10 reflects, and provides substantive content to, the obligation to cooperate to ensure compatibility of conservation and management measures established for straddling fishery resources, as required by Articles 3(1)(a)(vi), 4, 20(4)(a)(i), and 21(4)(b) of the Convention.
117. Ecuador rejects the position that the “reserve” represents *Trachurus murphyi* occurring in areas under the national jurisdiction of Peru and Ecuador on the ground that it lacks a scientific basis. However, Ecuador seems to be confusing the purpose of the “reserve” with the means used to arrive at a particular sharing arrangement between the TAC (Applicable Area)—covering the Convention Area and areas under the national jurisdiction of Chile—and the implicit or set-aside TAC for catch in areas under the national jurisdiction of Peru and Ecuador. Indeed, that sharing arrangement does not necessarily have a scientific basis (such as zonal attachment), but reflects above all the outcome of negotiations between Members. As mentioned by the Commission Chair during the hearing, the amount of the “reserve” was an integral part of the overall allocation negotiation, and “some Members agreed to the outcome precisely because this number was also part of the deal”.¹⁷² That point is again made clear in the explanation as to why Peru was allocated a higher-than-proportional increase in its share of the TAC (Applicable Area) during the 5th Commission Meeting (2017).¹⁷³
118. Having clarified the purpose of the “reserve”, the Panel concludes that the alternative measure proposed by Ecuador is not equivalent in effect to CMM 01-2018. Increasing Ecuador’s allocation for the high seas in the manner it suggests would result in an increase in the TAC (Applicable Area), at the expense of the amount set aside for relevant coastal States (at present, Peru and Ecuador). Considering the hortatory nature of paragraph 10, this risks increasing the catch throughout the range of the stock, to the detriment of CMM 01-2018’s conservation objective and the rebuilding efforts of the Commission.
119. Another consequence of the purpose of the “reserve” as clarified is that nothing precludes Ecuador from increasing its catch of *Trachurus murphyi* in areas under its national jurisdiction, subject to its obligation to cooperate to ensure compatibility of measures established for the high seas and those adopted for areas under national jurisdiction (as discussed in paragraph 116 above). The Review Panel recognises, however, that this possibility is limited by the natural variability of *Trachurus murphyi* distribution in areas under its national jurisdiction, a circumstance that is beyond Ecuador’s control.
120. The Review Panel now turns to the assertions made by several Participants in these proceedings that it is beyond the competence of the Review Panel to recommend anything that may alter the TAC, the allocations or otherwise adversely affect the rights and interests of other Members or

¹⁷⁰ Hearing Transcript, 22:3.

¹⁷¹ Emphasis added.

¹⁷² Hearing Transcript, 21:20-25.

¹⁷³ Hearing Transcript, 80:18-90:14.

CNCPs. While immaterial to its findings, the Review Panel nevertheless considers it necessary to reject this restrictive interpretation. While the test of equivalency is, undoubtedly, harder to meet for allocation decisions, this should not preclude the right of a Member to object and to be granted relief if it meets the high threshold of review established under Article 17, in particular in the context of the Commission's wide margin of discretion on allocation under Article 21.

121. In the Review Panel's view, if a Panel were to find that an objected decision discriminates against an objecting member, and taking into account the purpose of the extraordinary meeting envisaged in paragraph 10(d) of Annex II of the Convention, it would be reasonable for a Panel to have the ability to recommend the convening of an extraordinary meeting. While this is not explicitly provided for in Annex II of the Convention, such an approach might be chosen in lieu of modifying or proposing new allocations of a TAC. An extraordinary meeting is also convened if a Review Panel finds that the objected decision is inconsistent with the Convention or with relevant international law.

Possible Ways Forward

122. The Review Panel will now turn to the invitations made by several Participants in their written and oral submissions for guidance as to how Ecuador's aspirations in developing a future high seas fishery for *Trachurus murphyi* could be addressed.
123. While obvious, it is worth stating that any solution will need to be rooted in long-term, consistent, inclusive, and transparent cooperation in good faith among all Members and CNCPs. Sustained cooperation represents the best option to ensure the long-term conservation and sustainable use of *Trachurus murphyi* as required by Article 2 of the Convention for the benefit of all Members and CNCPs. The Review Panel encourages all Members and CNCPs to maintain and strengthen this spirit in future meetings.
124. Some Participants referred in their written and oral submissions to the "holistic" nature of the Commission's decision-making process on allocation. In this respect, the Review Panel invites Members to consider whether the interests of developing States in the region might not be better taken into account in a more deliberative and specific discussion as part of that decision-making process.
125. It is of considerable significance to the Review Panel that, during the hearings, several Participants expressed their confidence that Ecuador's aspirations could be accommodated at future Commission meetings, provided Ecuador would submit a sufficiently compelling proposal in a timely manner, and would engage actively and constructively with other Members during Commission meetings and intersessionally. It was also suggested that the SPRFMO Secretariat might be in a position to provide assistance to Ecuador in this regard, whether through the fund to assist developing States (established under Article 19(5) of the Convention and Regulation 5 and Annex 1 of the Financial Regulations of the Commission) or otherwise.
126. During the hearing, Ecuador highlighted the shortcomings of the allocation transfer system, including its limited ability to ensure a predictable supply and the large extent to which it is driven by market forces. The Review Panel therefore invites the Commission to consider exploring the possibility of adjustments to the allocation transfer system that would address the sorts of difficulties experienced by Ecuador, such as by incorporating the notion of a right of first refusal, or elements thereof, for Members or CNCPs with no or very low allocations. An alternative could be for individual Members to revise their domestic transfer procedures to assist Ecuador directly within the framework of the present system.
127. The Panel has noted that, on some occasions, Members have made "one-off" transfers outside the scope of the allocation transfer system under paragraph 9 of CMM 01-2018; for instance, Chile's

agreement to a transfer of 1,000 tonnes to Korea in 2017 to address the latter's problems with the size of its allocation.¹⁷⁴ The Review Panel invites Members to consider whether this would be a possible option for Ecuador as well, for example if such one-off transfers were limited in duration to a certain number of years, and were compensated by exclusion from proportional increases in allocations generated by increases in TACs, whether or not adjusted by a percentage of rent.

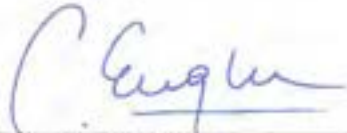
128. Finally, several Participants expressed their hope and confidence that Ecuador's aspirations could be addressed in the context of the so-called "Vanuatu Proposal" which has a dual objective of promoting increased utilisation of allocations, and increasing the allocations of Members or CNCPs with no or very low allocations. While the overall effect of the Vanuatu Proposal remains to be seen, the Review Panel can only encourage Members to make the necessary efforts towards a successful adoption of the Vanuatu Proposal at the upcoming Commission meeting, which is scheduled to take place in The Hague in January 2019. As part of the adoption of the Vanuatu Proposal, Members might also be willing to enter into an understanding that ensures that Ecuador would be among the first to benefit from it. It may also be worthwhile to explore whether the necessary support exists to develop options for promoting increased utilisation of the set-aside TAC.

¹⁷⁴ SPRFMO Memorandum, para. 69.

VII. FINDINGS AND RECOMMENDATIONS

129. In light of the foregoing, pursuant to Article 17(5)(e) of the Convention, the Review Panel:
- a. *Finds* that the decision to which objection has been presented is not inconsistent with the provisions of the Convention or other relevant international law as reflected in the 1982 Convention or the 1995 Agreement;
 - b. *Finds* that the decision to which objection has been presented does not unjustifiably discriminate, in form or in fact, against Ecuador; and
 - c. *Finds* that the alternative measures proposed by Ecuador are not equivalent in effect to the decision to which objection has been presented.
130. The costs of these proceedings shall be borne as provided in paragraph 7 of Annex II of the Convention.

Done in English, accompanied by an unofficial Spanish translation prepared by the PCA, at the PCA's headquarters at the Peace Palace in The Hague, this 5th day of June 2018, and transmitted to the Executive Secretary in accordance with Article 17(5)(e) and paragraph 9 of Annex II of the Convention.



Ms. Cecilia Engler



Prof. Erik J. Molenaar



Prof. Don MacKay
Chair



Mr. Martin Doe Rodriguez
Registrar, Permanent Court of Arbitration

SM4

2018

**SPRFMO Performance Review
Panel Report**

**REPORT OF THE SOUTH PACIFIC REGIONAL
FISHERIES MANAGEMENT ORGANISATION
PERFORMANCE REVIEW PANEL**

1 DECEMBER 2018

**Dr. Penelope Ridings (Chair)
Ms. Alexa Cole
Ms. Lyn Goldsworthy
Prof. Stuart Kaye**

The opinions expressed are those of the authors and do not reflect the opinions of their employers or any organisation with which they are affiliated.

EXECUTIVE SUMMARY

1. The South Pacific Regional Fisheries Management Organisation (SPRFMO) held its inaugural meeting in January 2013. In the intervening six years SPRFMO has steadily grown in membership and as an organisation. Its major success has been the progressive recovery of the Jack mackerel stock in the eastern Pacific Ocean, based on the precautionary approach. The Contracting Parties of SPRFMO, through its interim measures, were amongst the first to adopt multilateral measures consistent with the provisions of United Nations resolution 61/105 relating to an assessment framework for bottom fishing in the Convention Area. SPRFMO's Scientific Committee has undertaken reliable stock assessments, especially of Jack mackerel, and has consistently provided good quality scientific advice, even in the absence of adequate data. SPRFMO has adopted a suite of conservation and management measures concerning monitoring, control and surveillance (MCS), drawing on the best practice of other Regional Fisheries Management Organisations (RFMOs). Over the six years since its establishment, SPRFMO has put in place a credible range of conservation and management measures to conserve and manage the fisheries within its Convention Area.
2. SPRFMO has a strong legal and institutional structure. Much of the success of SPRFMO as an organisation is due to the Commission heeding the advice of the Scientific Committee. The recovery of the Jack mackerel stock required hard decisions to be taken by Members. This was facilitated by a decision-making process which enables decisions to be taken by consensus and, if that fails, to take decisions by vote. Of note is SPRFMO's objection procedure which has been used twice to date and allows Members to object to a decision of the Commission and have a fair and impartial hearing of their concerns. This is a point of difference between SPRFMO and other RFMOs.
3. SPRFMO has a robust suite of MSC measures and is working diligently to implement its monitoring, control and surveillance (MCS) measures. While some improvements could be made to the existing MCS measures, the Commission should focus on fully implementing the MCS measures it has adopted. The one exception to this is the need for a SPRFMO-specific high seas boarding and inspection scheme. Most pressing, however, in order to fully implement the SPRFMO Observer Programme and make use of the MCS data that is collected, a dedicated Secretariat staff member in the professional category to undertake the compliance function is needed.
4. SPRFMO now has 15 Members and four Cooperating Non-Contracting Parties (CNCs), but it is still a relatively small organisation. It has a hard working, efficient and effective Secretariat and a budget which is on the bounds of being too tight for the organisation. If more is to be expected of the Secretariat, additional financial resources need to be provided to ensure that the Secretariat has the necessary resources to properly undertake these tasks.
5. SPRFMO faces certain challenges in the future. In particular it needs to move away from its initial concentration on the necessary recovery of the Jack mackerel stock to other stocks within its purview, particularly Jumbo flying squid and updating the bottom fishing measure. The organisation also needs to make more effective use of the data that it collects. These and the application of the precautionary approach are priority areas for the immediate future. In the

longer term SPRFMO could look towards adopting a more comprehensive ecosystem approach to fisheries management.

6. More fundamentally, the Commission and its Members need to decide what organisation SPRFMO should be in the future. In the view of the Panel, SPRFMO needs to be an organisation which is effective, efficient, and provides a constructive benefit to its Members and CNCs. Without further demonstration of the benefits of the organisation to its Members, and more broadly, there is the danger that SPRFMO will stagnate. The Panel considers it important for SPRFMO to face the challenges over the next few years and to maintain and enhance its relevance to fisheries management in the Pacific Ocean.
7. It follows that the Panel sees the First Performance Review as an opportunity for SPRFMO Members, the Commission and its subsidiary bodies to reflect not only on the performance of SPRFMO since its establishment, but on how the organisation might address its future challenges. The Panel sees its role as not only to provide an assessment of the current functioning of the organisation, but to provide guidance to the organisation on how its conservation and management measures could be even more effective in meeting the objectives of the SPRFMO Convention and be in even closer alignment with the principles and approaches set out in Article 3 of the Convention.
8. To this end, the Panel has identified a number of findings and recommendations for the Commission and its subsidiary bodies to consider. These are set out in the table below and cover the assessment criteria set out in the Panel's terms of reference. In short, SPRFMO has a strong legal foundation and to date the implementation of the Convention has been fundamentally sound. Aside from a few priority areas identified above, the Panel's recommendations are directed towards incremental improvements, rather than a major change in the direction or approach of SPRFMO.
9. The Panel is mindful that in accordance with Decision 06-2018, the subsidiary bodies are to consider the Panel report during their meetings and report to the Commission, which in the case of the Scientific Committee will be at the 2020 Commission meeting. Given the number of recommendations and the budgetary implications of some of the recommendations, the Panel expects that it will take some time for the Commission and its subsidiary bodies to consider and progressively implement the recommendations as appropriate. The Panel also notes that many of its recommendations are longer term in nature, and therefore the Panel anticipates that the Commission will take those forward, as appropriate, in a measured and systematic manner.

TABLE OF KEY FINDINGS AND RECOMMENDATIONS

CONSERVATION AND MANAGEMENT

Status of Fishery Resources

The Panel:

- a) **Commends** the efforts made by the Commission and Scientific Committee to develop and continually improve stock assessments for Jack mackerel, the constraint applied by the Commission and fishing nations engaged in the Jack mackerel fishery and the precautionary approach taken by the Commission which has resulted in a rebuilding of the stock;
- b) **Recommends** that the Commission maintain a precautionary approach to setting catch limits for the Jack mackerel stock;
- c) **Acknowledges** the significant work that has been undertaken by participants in the Scientific Committee's Deepwater Working Group to develop an assessment framework for deepwater stocks and to develop preliminary assessments for Orange roughy, and the progress that has been made in the Squid Working Group over the last year to develop stock assessment methods for Jumbo flying squid;
- d) **Recommends** that the Commission, Scientific Committee and Members of the Commission accelerate efforts to advance robust stock assessments of Orange roughy and Jumbo flying squid and give priority to collecting the necessary data for stock assessment purposes; and
- e) **Notes** that there is little information on the status of non-target and bycatch species or the impact of SPRFMO fisheries on associated or dependent species and **Urges**, as a first step, that the Commission increase data collection in order to improve understanding of the impacts of fishing on associated and dependent species.

Ecosystem Management

The Panel:

- a) **Notes** that although SPRFMO has generally taken into account an ecosystem approach to fisheries management in the individual management of Jack mackerel and bottom fishing, additional actions could be taken by the Commission and Scientific Committee to better integrate ecosystem elements into the assessment of target species. This could include, for example, consideration of deepwater chondrichthyans, seabird mitigation measures for all fisheries, habitat mapping, and examination of climate change impacts;
- b) **Recommends** that the Commission apply a highly precautionary approach to fishery management decisions in the absence of sufficient information to permit the application of an ecosystem approach to management;
- c) **Recommends** that the Scientific Committee develop a workplan to progress fisheries management decisions, which takes into account a more holistic ecosystem-based approach. Elements of that workplan could include:

- i. A review of available tools and processes to lead to an integrated ecosystem fisheries management approach;
 - ii. Identification of environmental data that will assist in both applying an ecosystem approach and to assessing the effect of climate change impacts and the subsequent consideration of management decisions;
 - iii. A review of the Jack mackerel fishery to determine the impact of the fishery on non-target species and habitat, to identify gaps in habitat, biological and bycatch data, and a programme for collection of that data;
 - iv. Consideration of the use of cost and resource effective ecosystem-based models; and
 - v. Exploration of cooperation mechanisms with other bodies that may assist or benefit SPRFMO in the development of a relevant ecosystem-based fisheries management approach that is both cost and resource effective for SPRFMO.
- d) **Notes** the concerns raised by some Members and CNCPs about known and expected impacts of changing El Niño and La Nina events and potential impacts arising from anthropogenic climate change on the SPRFMO Convention Area, including the impact that such changes may have on major existing and potential target fisheries; and
- e) **Recommends** as an initial step that the Scientific Committee identify the research and data collection required for it to develop advice to inform the Commission on what action may be required to take into account the observed or expected impacts associated with a rapidly changing climate.

Data Collection

The Panel:

- a) **Commends** the Commission and Scientific Committee practice of ongoing regular review and amendment of the CMM on Standards for the Collection, Reporting, Verification and Exchange of Data, and **Notes** in particular the need to ensure that data collection is directly linked to delivery of conservation and management consistent with the objective of the Convention;
- b) **Recommends** the Commission and Scientific Committee regularly review data collection requirements to ensure they align with the needs of new or revised CMMs, while recognising the challenges to SPRFMO database management through the addition of new data collection, access and storage requirements and **Notes** the need for investment in building the capacity of the SPRFMO database to meet these challenges;
- c) **Recommends** that the Commission strengthen the timelines for the submission and independent verification of catch and effort data for the Jumbo flying squid fishery and **Urges** such measures to be adopted together with a general management measure for that fishery;
- d) **Recommends** that the Commission implement more effective and comprehensive bycatch data collection and reporting, particularly but not limited to dependent and associated species in each fishery and identified species of concern, the collection of sufficient biological data to support the development of reliable stock assessments for

- all fisheries, and the extension of data collection programmes to include environmental data and other data to assist in estimating potential impacts on non-target species;
- d) **Recommends** that the Scientific Committee review and provide advice on any additional data requirements necessary to support the implementation of an effective VME protocol;
 - f) **Recommends** that the Commission review, as a matter of priority, dataset sharing processes and procedures, both for data exchange within SPRFMO and externally, and provide specific guidance to the Secretariat with a view to removing impediments to the exchange and sharing of data; and
 - g) **Recommends** that the Commission work towards a standardisation of scientific data collection processes and procedures for observers across the different fisheries, and consider mechanisms to harmonise coordination of data collection with other regional and/or sub-regional observer programmes.

Quality and Provision of Scientific Advice

The Panel:

- a) **Commends** the Commission for its consistent and respectful approach to the advice provided by the Scientific Committee, and its willingness to act on that advice, particularly in the case of the Jack mackerel fishery; and
- b) **Recommends** that the Commission take urgent action to implement management measures for the Jumbo flying squid fishery, and for precautionary measures to be put in place until sufficient information is available to undertake a reliable stock assessment.

The Panel:

- a) **Commends** the Commission for adopting a significant number of substantive CMMs for fisheries under its purview and the efforts it has made to apply best-practice of other RFMOs to the development of CMMs;
- b) **Recognises** the progress in collating and analysing information about Jumbo flying squid and developing stock assessments but **Considers** that the absence of a precautionary management measure for the Jumbo flying squid is problematic;
- c) **Acknowledges** the efforts being undertaken to systematically build information sufficient to undertake assessments for all deepwater stocks;
- d) **Recommends** that the Commission take urgent action to update the management measures for bottom fisheries, adopt a precautionary approach to the conservation of all deepwater stocks, and implement a SPRFMO-wide approach to the management and protection of VMEs as a matter of priority;
- e) **Commends** the work undertaken thus far to minimise bycatch of seabirds and **Recommends** that the Commission extend the CMM relating to seabird bycatch to all fisheries in the SPRFMO Convention Area;
- f) **Commends** the adoption of CMM 13-2018 as a framework for the development of proposals for new and exploratory fisheries in line with the precautionary approach;
- g) **Recommends** that the Commission and its subsidiary bodies strictly apply the procedural and substantive requirements of CMM 13-2018 for all new and exploratory fishery proposals;
- h) **Recommends** that the Commission review current efforts to give effect to Article 3(1)(a)(ii) to ensure impacts on non-target and associated or dependent species are taken into account, and Article 3(1)(a)(vii) which requires marine ecosystems to be protected, in particular those ecosystems which have long recovery times following disturbance;
- i) **Recommends** that the Commission develop conservation and management measures for species of concern, with particular priority to be given to measures to prevent adverse impacts of fishing activities on chondrichthyans;
- j) **Recognises** the difficulty of reaching allocation decisions, including in the Jack mackerel fishery, **Considers** that the Article 21 allocation criteria provide a solid foundation for decision-making, and **Encourages** the continued consideration of these criteria in making future allocation decisions for both Jack mackerel and other stocks; and
- k) **Recommends** that the Commission develop a timeline for the implementation of measures to give full effect to Article 3(1)(a)(x) on measures to prevent pollution and waste originating from fishing vessels, discards, catch by lost gear or abandoned gear and impacts on other species and marine ecosystems.

Capacity Management

The Panel:

- a) **Notes** that there does not appear to be excess fishing capacity in the Jack mackerel and bottom fisheries under existing catch controls, and although recent information indicates the Jumbo flying squid is not of conservation concern, there is insufficient information to determine whether the current level of fishing capacity in this fishery is appropriate;
- b) **Recommends** that the Commission maintain and enhance monitoring of fishing capacity systematically in all fisheries, especially where there is a risk that catch limits may be exceeded in future; and
- c) **Recommends** that the Commission consider the implementation of fishing effort limits in the Jumbo flying squid fishery based on existing fishing capacity as a precautionary interim measure pending further scientific and management advice from the Scientific Committee.

COMPLIANCE AND ENFORCEMENT

Flag State Duties

The Panel:

- a) **Commends** the Convention's recognition that compliance issues are integral to the effective functioning of the Commission;
- b) **Recognises** the steady improvement in implementation compliance demonstrated through the Final Compliance Reports;
- c) **Notes** that although the vast majority of the Members and CNCs claim a clear understanding of their flag state duties, they also indicate that there is room for improvement in implementation;
- d) **Encourages** Members and CNCs to identify those measures where there is a lack of understanding of the implementation obligations;
- e) **Recommends** the translation of those measures identified in d) above into the languages necessary to improve Members and CNCs' understanding of their obligations;
- f) **Recommends** the Commission convene an intersessional working group (electronic) to identify the audit points/implementation obligations for all existing measures, and that all new measures adopted by the Commission identify the audit points/implementation obligations;
- g) **Notes** that lack of capacity has been identified by more than half the Members and CNCs as one of the reasons that all flag state obligations have not been fulfilled; and
- h) **Recommends** that the Commission, in conjunction with the Secretariat, consolidate, and make publicly available, a list of capacity building needs and requests identified by Members and CNCs in order to track progress, prioritise the needs and requests, and facilitate the ability of others to meet them.

Port State Measures

The Panel:

- a) **Commends** the Commission for adopting a Port Inspection regime in 2014 and then further refining the measure in 2017;
- b) **Notes** that some Members and CNCPs indicate insufficient information about Members and CNCPs' implementation of the measure to fully evaluate its effectiveness;
- c) **Recommends** that the report from the Secretariat, required by paragraph 35 of the Port Inspection measure, be enhanced to clearly specify whether any vessels have been denied entry under the measure, and if so, the basis for the denial;
- d) **Encourages** the Secretariat to clarify reporting requirements for Members and CNCPs if it is not receiving sufficient information to meet the recommendation above;
- e) **Notes** that the Port Inspection measure is due to be reviewed in 2019;
- f) **Recommends** that the Commission revise the Port Inspection measure to specify that all potential IUU vessels should be inspected and consider other revisions to improve reporting by Members and CNCPs of their implementation of the measure; and
- g) **Notes** that improved reporting may indicate the need for further revisions to the Port Inspection measure in future.

Monitoring, Control and Surveillance

The Panel:

- a) **Commends** the Commission for its rigor in adopting an impressive suite of MCS measures in its first six years of operation;
- b) **Encourages** the Commission to focus on implementation of these MCS measures, rather than the adoption of new tools at this time;
- c) **Recognises** the challenge in adopting a SPRFMO-specific high seas boarding and inspection regime, but also **Recognises** the difficulty in operationalising the current measure;
- d) **Recommends** that the Commission continues to work towards the adoption of its own high seas boarding and inspection regime tailored to the Convention, its Members and CNCPs, and its fisheries;
- e) **Commends** the Secretariat for the work that it has done thus far to implement the MCS measures, but **Notes** that there is no one on the Secretariat's staff who has specific expertise in compliance issues;
- f) **Recommends** that the Commission prioritise hiring a professional staff member with compliance expertise to lead the Secretariat's efforts to implement the MCS measures already adopted and to analyse the data captured through these measures;
- g) **Encourages** the Commission to continue to develop the SPRFMO Observer Programme and review and revise the measure to include all necessary aspects of the Observer Programme;
- h) **Recommends** that in its review of the Transshipment measure in 2019, the Commission address the issue related to the area of application of the measure and consider requiring all transshipments to be observed;

- i) **Encourages** the Commission to clarify the IUU Vessel List measure on the issues related to revocation of permits and modification of the IUU Vessel List at the annual meeting in the near term, but does not consider this an immediate priority; and
- j) **Recommends** review of the CMS measure and consideration of the changes identified by the Panel.

Follow-up on Infringements

The Panel:

- a) **Notes** that Members and CNCPs seem satisfied with each other's follow up on infringements;
- b) **Recognises** that it is difficult to tell, from the Final Compliance Reports, whether or not there have been investigations and enforcement action taken, when appropriate, in response to alleged violations;
- c) **Recommends** that the Commission require information on investigations and enforcement actions in response to alleged violations, and if already provided, that the Final Compliance Monitoring better document that information; and
- d) **Recommends** that the Commission consider revisions to the responses to non-compliance section of the CMS measure.

Cooperative Mechanisms to Detect and Deter Non-compliance

The Panel:

- a) **Recognises** the achievement of the Commission in establishing a robust MCS programme quickly in the early years of the Commission;
- b) **Notes** that implementation of these measures can be challenging for a Secretariat with limited personnel and resources;
- c) **Recommends** a modest investment of resources to facilitate increased engagement of the SPRFMO Secretariat with colleagues from other RFMO Secretariats, which will provide a benefit to the Commission beyond the expenditure of resources in expertise gained, shared lessons learned, use of best practices and avoid spending time and money developing tools, templates, processes and procedures that already exist;
- d) **Recommends** additional engagement by the Commission with other international regional organisations that could serve as force multipliers on MCS issues (e.g., the Forum Fisheries Agency's Regional Surveillance Centre); and
- e) **Notes** the significant need for increased analysis of data collected pursuant to existing and developing MCS measures.

Market-related Measures

The Panel:

- a) **Notes** that the Commission has not adopted any market-related measures;
- b) **Recognises** that other MCS measures were more urgently needed and remain in the early stages of implementation;
- c) **Further Recognises** that the development of effective, non-discriminatory, market-related measures will likely involve expenditure of significant resources, particularly limited Secretariat resources;
- d) **Recommends** that the Commission not undertake the development of a Catch Documentation Scheme or other market-related measure at this time; and
- e) **Encourages** Members and CNCPs to consider what targeted market-related measures might be most needed in the future, and to work strategically to develop them at the appropriate time.

DECISION-MAKING AND DISPUTE SETTLEMENT

Decision-making

The Panel:

- a) **Acknowledges** the effectiveness of the consensus first/vote later approach used in the SPRFMO Convention;
- b) **Recommends** that the Chair of the Commission continues to provide clear guidance on when attempts to achieve consensus have been exhausted;
- c) **Recommends** the continued use of informal discussions in attempts to achieve consensus; and
- d) **Notes** the decision and observations on decision-making of the Article 17 review panel in 2018, and **Urges** their consideration by the Members.

Dispute Resolution

The Panel:

- a) **Notes** that there are effectively two mechanisms for the resolution of disputes within the Commission:
 - The Article 17 review panel process
 - The Article 34 arbitration process;
- b) **Notes** that the Article 34 arbitration process has never been used since the SPRFMO Convention entered into force;
- c) **Notes** the Article 17 review panel process has been used twice since the SPRFMO Convention entered into force in 2013;
- d) **Acknowledges** that the Article 17 review panel process is a point of difference between SPRFMO and most other RFMOs;

- e) **Acknowledges** the effectiveness of the Article 17 review panel process in resolving disagreement between Members and in progressing the long term resolution of disputes;
- f) **Notes** that the support of the Article 17 review panel process by the Secretariat is both expensive and time-consuming, including for Commission Chairs, and that the SPRFMO Contingency Fund was used in 2018 to support the Article 17 review panel process at that time;
- g) **Recommends** that Members consider making a special budgetary allocation at the first meeting following a use of the Article 17 review panel process to reimburse the SPRFMO budget in order to cover the costs associated with support to the most recent Article 17 review panel proceedings;
- h) **Recommends** the Commission take steps to ensure the effective implementation of the findings of an Article 17 review panel at the first meeting following the decision of the panel;
- i) **Commends** the use of the Permanent Court of Arbitration as the venue and provider of secretarial services for the Article 17 review panel process, in terms of efficiency and timeliness;
- j) **Notes** that frequent use of the Article 17 review panel process is likely to generate very significant costs, and potentially undermine the system of decision-making provided for in the SPRFMO Convention; and
- k) **Notes** the Commission in the wake of the 2013 use of the Article 17 review panel process indicated the process was intended as an unusual occurrence, and **Urges** Members to continue to view the Article 17 review panel process in that light.

INTERNATIONAL COOPERATION

Transparency

The Panel:

- a) **Acknowledges** the open and transparent processes adopted by the Commission and its subsidiary bodies;
- b) **Recommends** that the Commission give consideration to developing a process for inviting observers to meetings where their participation would facilitate the meeting; and
- c) **Recommends** that the Executive Secretary notify observers of the establishment of a review panel under Article 17 of the Convention and of the findings and recommendations of the review panel.
- d) **Acknowledges** that SPRFMO decisions, scientific advice, and other relevant materials are made publicly available in a timely fashion; and that the SPRFMO website contains up to date information which is accessible and user friendly;
- e) **Commends** the Secretariat for working to develop a new SPRFMO website; and
- f) **Recommends** that the Secretariat develop a communications strategy in order to enhance communications with Members, CNCPs and observers, to cost-effectively increase the visibility and profile of SPRFMO in the wider international fisheries

community, and to ensure that there is a targeted approach to communications which bring direct benefits to the organisation.

Relationship with Cooperating Non-Contracting Parties (CNCP)

The Panel:

- a) **Recommends** that further information is provided to CNCPs by the Commission on the benefits of becoming party to the SPRFMO Convention; and
- b) **Recommends** that the Commission further encourages CNCPs to cooperate with the Commission in implementing its conservation and management measures, including data submission requirements, and that the Commission apply a consistent approach to the granting of CNCP status.

Relationship with Non-Members or Non-CNCPs Undermining the Objectives of the Convention

The Panel:

- a) **Recommends** that the Commission continue to encourage non-Members and non-CNCPs found to be fishing within the Convention Area to cooperate with the Commission, including through requesting CNCP status;
- b) **Urges** the Secretariat to include in the SPRFMO Annual Administrative Report information on the outreach to non-Members and non-CNCPs that has been undertaken in the previous year; and
- c) **Recommends** that Members and the Secretariat take a more proactive approach towards identifying those vessels of non-Members and non-CNCPs that are undertaking fishing operations in the SPRFMO Convention Area.

Cooperation with International Organisations

The Panel:

- a) **Acknowledges** that cooperation with other international organisations can be advantageous for SPRFMO and that increasing the cooperation with neighbouring and overlapping RFMOs can bring direct benefits to the organisation;
- b) **Recommends** that the Commission develop a cooperation strategy which targets cooperation towards organisations and activities which would provide a direct benefit to SPRFMO; and
- c) **Recommends** that in addition to the development of any necessary formal linkages through MOUs, the Secretariat engage informally with colleagues in other RFMOs to learn and share experiences of operational activities, not only in the MCS area as recommended above.

Special Requirements of Developing States

The Panel:

- a) **Notes** that the Commission has appropriate mechanisms to assist developing States to participate in the Commission, in particular the Developing States budget category which can be used to assist developing States to attend meetings of the Commission and its subsidiary bodies, but **Acknowledges** that the Commission could do more to address some of the capacity needs of Members and CNCPs; and
- b) **Recommends** that the Commission and Secretariat encourage the use of the Developing States budget category for more than funding the attendance of participants from developing countries at SPRFMO meetings and that the Commission work to remove any impediments to accessing the Special Requirements Fund for technical assistance and capacity building.

FINANCIAL AND ADMINISTRATIVE ISSUES

Availability of Resources for Activities

The Panel:

- a) **Acknowledges** that Members and CNCPs pay their contributions on time and that this is of great assistance in ensuring the smooth operation of the organisation's finances;
- b) **Considers** that the Secretariat is at the limits of what is achievable with the current financial and personnel resources. If the Commission adopts conservation and management measures which require the Secretariat to perform additional tasks, it should accompany this with the necessary budgetary resources to fund the increase in responsibilities;
- c) **Encourages** the Secretariat to prepare an estimate of the additional financial cost which is likely to arise from proposed conservation and management measures;
- d) **Recommends** that if the SPRFMO Observer Programme is to be properly implemented as part of the suite of MCS measures, the Commission should prioritise hiring a professional staff member with compliance expertise, as recommended above;
- e) **Recommends** that the Commission include in the budget a provision for increasing progressively over a five year period the level of the contingency fund, and to reimburse any expenditures from the Fund for any Article 17 review process, until it reaches a level of 3 months of the operating budget as provided in the SPRFMO Financial Regulations; and
- f) **Acknowledges** that the 2020 review of the budget formula needs to take into account the durability of the formula so that the necessary work of the organisation drives the level of budget, rather than the level of individual contributions.

The Panel:

- a) **Acknowledges** the importance of the Secretariat providing support to the Chair of the Commission and subsidiary bodies not only at meetings but also during the intersessional period;
- b) **Recommends** that the Commission, on advice of the Executive Secretary, give consideration to reviewing the structure of the Secretariat to ensure the most cost effective use of staff resources, and to investing additional resources in building the capacity of the Secretariat to analyse scientific and MCS data; and
- c) **Recommends** that the Commission set aside a half day for the Finance and Administration Committee in advance of the annual Commission meeting, and following the annual meeting of the Compliance and Technical Committee.

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ABBREVIATIONS AND ACRONYMS

ACAP	Agreement on the Conservation of Albatrosses and Petrels
CCAMLR	Convention on the Conservation of Antarctic Marine Living Resources
CMM	Conservation and Management Measure
CNCP	Cooperating Non-Contracting Party
CTC	Compliance and Technical Committee
FAC	Finance and Administration Committee
FAO	U.N. Food and Agriculture Organisation
IATTC	Inter-American Tropical Tuna Commission
IGO	Intergovernmental Organisation
MCS	Monitoring, Control and Surveillance
NGO	Non-governmental Organisation
RFMO	Regional Fisheries Management Organisation
SC	Scientific Committee
SPRFMO	South Pacific Regional Fisheries Management Organisation
VME	Vulnerable Marine Ecosystem
WCPFC	Western and Central Pacific Fisheries Commission

1. INTRODUCTION

1.1 International Background

1. In 2006, Australia, Chile and New Zealand initiated a process of consultations to enable states to cooperate in addressing the gap that existed in international conservation and management of non-highly migratory fisheries and protection of biodiversity in the marine environment in high seas areas of the South Pacific Ocean. The process resulted in a series of international meetings which led to the establishment of a regional fisheries management organisation (RFMO) with the ongoing responsibility for “the long-term conservation and sustainable use of fishery resources in the South Pacific Ocean and in so doing safeguarding the marine ecosystems in which the resources occur”.¹
2. On 14 November 2009, the 8th International Meeting adopted the Convention on the Conservation and Management of High Seas Fishery Resources in the South Pacific Ocean, together with a Resolution regarding the holding of a Preparatory Conference to assist the efficient commencement of the work of the Commission of the South Pacific Regional Fisheries Management Organisation (SPRFMO) established by the Convention.
3. The Convention on the Conservation and Management of High Seas Fishery Resources in the South Pacific Ocean entered into force on 24 August 2012. It held its inaugural meeting in Auckland, New Zealand in January 2013. The SPRFMO Secretariat was formally established in 2013 in Wellington, New Zealand.

1.2 SPRFMO Performance Review Panel

1.2.1 The Panel

4. Article 30 of the SPRFMO Convention provides for a regular review of the effectiveness of the conservation and management measures (CMMs) adopted by the Commission in meeting the objective of the Convention and the consistency of such measures with the principles and approaches in Article 3 of the Convention. Such reviews may include examination of the effectiveness of the provisions of the Convention itself and are to be undertaken at least every five years.
5. At its 6th meeting in January 2018 the SPRFMO Commission decided to undertake a performance review of SPRFMO during the 2018 intersessional period. Decision 06-2018 on the First SPRFMO Performance Review (attached at Annex 1) provides for the Commission to appoint a Panel comprised of four international independent experts, two of whom are nationals of SPRFMO Members familiar with SPRFMO, and two of whom are external experts with experience in relevant areas of science, fisheries and marine ecosystems management and legal matters, including compliance and enforcement.
6. The selection of the Panel was undertaken in accordance with the Commission decision and finalised on 5 June 2018. The Panel is composed of the following:

¹ Convention, preamble.

Two experts who are nationals of SPRFMO Members:

Prof. Stuart Kaye

Dr. Penelope Ridings

Two external experts

Ms. Alexa Cole;

Ms. Lyn Goldsworthy.

7. Dr. Ridings was appointed Chairperson by consensus of the Panel. The Secretariat was not part of the Panel but supported and facilitated its activities, including by providing access to information and facilities that the Panel required to undertake its work. Annex 2 contains short biographies for the Panel members.

1.2.2 Criteria for the SPRFMO Performance Review

8. The Commission agreed to specific criteria for the Panel to address, attached at Annex 1. They follow those adopted by other RFMOs for their performance reviews and relate to conservation and management, compliance and enforcement, decision-making and dispute settlement, international cooperation and financial and administrative issues.

1.2.3 Approach of the Panel

9. The review focused on the effectiveness of SPRFMO to achieve its mandate in accordance with the criteria set out in the terms of reference. The aim was to assess whether SPRFMO in its current legal and operational structure meets its objectives, and on the basis of this evaluation to identify any gaps or weaknesses and to present possible actions to address the issues.
10. The Panel developed a questionnaire based on the above criteria which was addressed to all SPRFMO Members, Cooperating non-Contracting Parties (CNCs) and observers. The Panel received 17 responses to the questionnaire from 13 Members, three CNCs and one observer. The questionnaire and a summary of the responses to the questionnaire is attached at Annex 3. In addition to the responses, the Panel also took into account available background information and information compiled by the Secretariat. It also held with interviews with the Chairs of the Commission and subsidiary bodies, staff of the Secretariat, and independent experts. On behalf of the Panel, the Secretariat followed up with Members to ensure that all those that wished to talk to the Panel had an opportunity to do so.
11. The Panel met in Wellington from 30 July – 3 August, 2018. All subsequent work including drafting of the Report was undertaken electronically.

1.2.4 Structure of the Panel Report

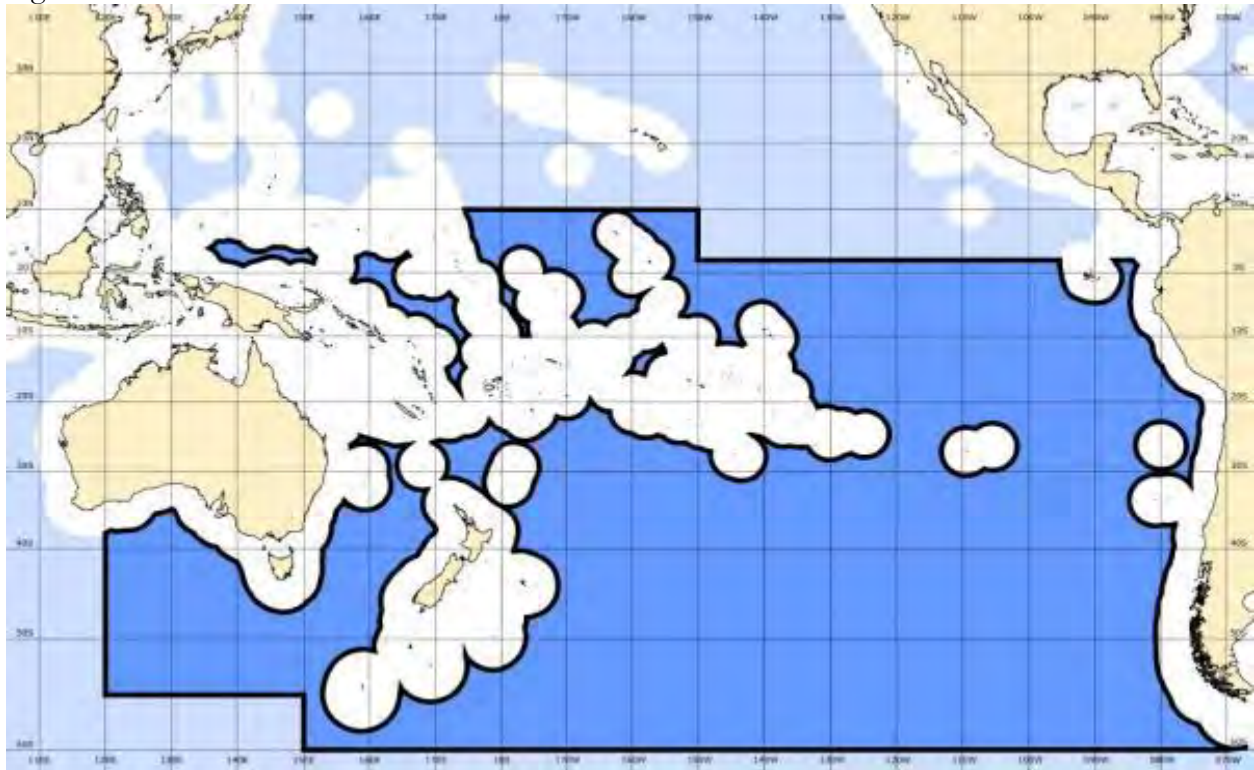
12. The report consists of seven sections. The first two provide introductory and background information relating to SPRFMO. The following five sections address each of the areas of the Performance Review criteria and include the Panel's consideration of factual information, its assessment and recommendations. The Executive Summary contains a table summarising the main findings and recommendations.

2. INTRODUCTION TO SPRFMO

2.1 Area of Competence and Fisheries

13. The SPRFMO area of competence (Convention Area) generally consists of the high seas areas of the Pacific Ocean between 10° North and 20° South and 135° East and 150° West. Article 5 of the Convention sets out the precise coordinates of the organisation's area of competence. The Secretariat has prepared an indicative map of the SPRFMO area for illustrative purposes only (Figure 1 below).

Figure 1



Disclaimer: The SPRFMO Secretariat has made the above map available for information purposes only. It is a pictorial illustration of the area of application of the Convention that is properly described in legal terms in Article 5. The map is not part of the Convention text and has no legal status. It is not intended to reflect exactly the maritime spaces of adjoining coastal states and cannot be considered to constitute recognition of the claims or positions of any of the participants in the negotiations leading to the adoption of the Convention concerning the legal status and extent of waters and zones claimed by such participants.

14. The objective of the Convention is to ensure the long-term conservation and sustainable use of fishery resources within SPRFMO's area of competence. Article 1(f) of the Convention defines fishery resources as excluding highly migratory species, anadromous and catadromous species, and marine mammals. It follows that SPRFMO does not manage fishery resources managed by

the Western and Central Pacific Fisheries Commission (WCPFC), the Inter-American Tropical Tuna Commission (IATTC) or the International Whaling Commission.

15. The main high seas species caught within the SPRFMO Convention Area are Jack mackerel, Jumbo flying squid in the southeast Pacific, and deep-sea species such as Orange roughy and Alfonsino which are found on seamounts in the southwest Pacific. Other species found in the SPRFMO Convention Area include various species of mackerel (Scomber mackerel, Chub mackerel) and squid.

2.2 Objectives and Responsibilities of the Organisation

16. Article 2 of the SPRFMO Convention sets out its objective: “through the application of the precautionary approach and an ecosystem approach to fisheries management, to ensure the long-term conservation and sustainable use of fishery resources and, in so doing, to safeguard the marine ecosystems in which these resources occur”.
17. The precautionary approach and an ecosystem approach are accorded particular weight in the Convention. According to Article 3 of the Convention, the Contracting Parties, Commission and subsidiary bodies are to take into account international best practice in the application of the precautionary approach and to apply the ecosystem approach widely to conservation and management through an integrated approach which safeguards the marine ecosystems.
18. In addition, Article 3 of the Convention requires the organisation to apply a number of principles relating to responsible fisheries management. These include:
 - a transparent, accountable and inclusive approach based on best international practice;
 - fishing commensurate with sustainable use and taking into account the impact on non-target and associated and dependent species;
 - the prevention or elimination of over-fishing and excess fishing capacity;
 - full and accurate data reporting;
 - decisions based on best scientific evidence available;
 - promotion of cooperation and coordination between Contracting Parties;
 - protection of marine ecosystems;
 - recognition of the interests of developing States, in particular the least developed, small island developing States, territories and possessions;
 - ensuring compliance and enforcement of conservation and management measures; and
 - minimisation of pollution, waste from fishing vessels, discards and catch by lost or abandoned gear.

2.3 Structure of the Organisation

2.3.1 Commission

19. SPRFMO is open to States, regional economic integration organisations and entities that participated in the International Consultations on the Establishment of SPRFMO, that have jurisdiction over waters adjacent to the Convention Area or that have an interest in fishery resources. The Convention also provides that a fishing entity whose vessels fish or intend to fish for resources may deposit an instrument expressing its firm commitment to abide by the Convention and CMMs adopted under it, in which case references to Members of the Commission include the fishing entity.
20. The Commission currently has fifteen Members: Australia, Republic of Chile, People's Republic of China, Cook Islands, Republic of Cuba, Republic of Ecuador, European Union, Kingdom of Denmark in respect of Faroe Islands, Republic of Korea, New Zealand, Republic of Peru, Russian Federation, Chinese Taipei, United States of America and the Republic of Vanuatu. Four States currently hold the status of CNCP: the Republic of Colombia, Curaçao, Republic of Liberia and Republic of Panama.
21. The Commission is the main decision-making body of SPRFMO and has a wide range of functions and may take decisions necessary to achieve the objectives of the Convention. Among its functions set out in Article 8 of the Convention are to adopt CMMs, determine the nature and extent of participation in fishing for fishery resources including particular fish stocks, promote the conduct of scientific research, develop and establish effective monitoring, control, surveillance (MCS), compliance and enforcement, and supervise the organisational, administrative, financial and other internal affairs of the Organisation.

2.3.2 Scientific Committee

22. The Scientific Committee (SC) was established by Article 10 of the Convention. Its functions include to: (a) plan, conduct and review scientific assessments of the status of fishery resources; (b) provide advice and recommendations to the Commission and its subsidiary bodies based on such assessments; (c) provide advice and recommendations to the Commission and its subsidiary bodies on the impact of fishing on the marine ecosystems in the Convention Area; (d) encourage and promote cooperation in scientific research; and (e) provide such other scientific advice to the Commission and its subsidiary bodies as it considers appropriate. Participants in the Scientific Committee are experts from Members and CNCPs, as well as observers and other invited experts.
23. The Scientific Committee meets some months in advance of the annual Commission meeting. Its work in its first year was based on the research programme developed by the Science Working Group, established by the Preparatory Conference of SPRFMO. The Commission approves annually a work plan to guide the work of the Scientific Committee.
24. The Scientific Committee has established three fishery-defined Working Groups: the Jack Mackerel Working Group and the Deepwater Working Group created at SC1, and the Squid Working Group, created at SC4. It may also establish task groups for limited periods of time, such as the Fishery Dependent Acoustic Data Task Group, established at SC2 for three years.

At its 6th Meeting in 2018, the Scientific Committee recommended creating a Habitat Definition, Description, and Monitoring Working Group with the main objective of providing environmental indicators to complement fisheries management decisions. These groups meet during the annual Scientific Committee meeting and occasionally in intersessional SC Workshops.

2.3.3 Compliance and Technical Committee

25. The Compliance and Technical Committee (CTC) was established by Article 11 of the Convention. Its functions include to: (a) monitor and review the implementation of and compliance with the SPRFMO CMMs; (b) provide information, technical advice and recommendations relating to the implementation of and compliance with the SPRFMO Convention and its CMMs; and (c) review the implementation of cooperative measures for MCS and enforcement adopted by the Commission. CTC meetings are held immediately prior to the annual Commission meeting.

2.3.4 Eastern and Western Sub-Regional Management Committees

26. Article 12 of the Convention establishes the Eastern and Western Sub-regional Management Committees to provide recommendations on CMMs and on participation in fishing for fishery resources in the parts of the Convention area that lie east and west respectively of the latitude 120⁰ West. The Eastern Sub-regional Management Committee met for the first time in 2014 to address conservation and management and participation in the fishery for Chilean Jack mackerel. It has not met since that time and the Western Sub-regional Management Committee has never met.

2.3.5 Finance and Administration Committee

27. The Finance and Administration Committee (FAC) was established by Article 13 of the Convention. Its functions are to advise the Commission on financial and administrative matters, including the budget, the time and place of meetings of the Commission, on publications of the Commission, and on matters relating to the Executive Secretary and the staff of the Secretariat. It met for the first time in 2014 and currently meets each year during the annual Commission meeting.

2.3.6 Secretariat

28. The Secretariat for SPRFMO is headquartered in Wellington, New Zealand. A Headquarters Agreement between SPRFMO and New Zealand concluded on 15 April 2014 grants standard privileges and immunities to the organisation and international staff. The Secretariat is headed by an Executive Secretary who is responsible for the management and supervision of the Secretariat and the provision of advice to the Commission. The terms and conditions of the staff of the Secretariat are governed by rules adopted by the Commission.

3. CONSERVATION AND MANAGEMENT

3.1 Status of fishery resources

3.1.1 Status and trends of fishery resources under the purview of SPRFMO

3.1.1.1 Jack mackerel

29. Jack mackerel catches within the southeast Pacific Ocean grew rapidly over the 1980s and 1990s to peak at close to five million tonnes in 1995.² During the 1990s and early 2000s fishing mortalities were well above sustainable fishing levels and this led to a steep decline in the Jack mackerel stock. In 2011, assessment results estimated the biomass to be 10% to 19% of the total biomass which would have existed if there had been no fishing.³ Countries involved in the fishery followed the recommendations of the Science Working Group which had been established during the negotiations of SPRFMO and adopted Interim Measures for Pelagic Fisheries. These provided for the limitation of effort and catch reductions of Jack mackerel.⁴
30. On the establishment of SPRFMO in 2013, the Science Working Group had assessed the Jack mackerel stock at being between 8% and 17% of estimated unfished levels.⁵ In response, the Commission adopted an explicit rebuilding strategy and catches in 2013 were constrained across the whole southeast Pacific Ocean to a maximum of 440,000 tonnes.⁶ This would allow the spawning stock biomass (SSB) to rebuild to at least 80% of the population size estimated to be at the point of maximum growth rate (B_{MSY}).⁷ Catches remained constrained over the following years which allowed a recovery of the stock from an estimated SSB in 2011 of 1.5 million tonnes to 4.8 million tonnes in 2018.⁸
31. An assessment of the Jack mackerel stock completed in May 2018, indicated that conditions for Jack mackerel stock continued to improve, and the stock showed recovery across its entire distribution range in the southeast Pacific since the time-series low in 2010.⁹ SC concluded that projections indicated that the biomass was expected to increase over the next 5 years at least.¹⁰
32. However, SC also noted “there remains a number of key uncertainties associated with both the assessment and projections both in estimation and expectations of future environmental

² SPRFMO SC6-JM01, Annex 1_rev2.

³ Report of the 10th Science Working Group, 2011.

⁴ 2011 and 2012 Interim Measures for Pelagic Fisheries found at www.sprfmo.int

⁵ Report, First Meeting of the Commission of SPRFMO, 2013, para 10.

⁶ CMM 1-01.

⁷ Spawning stock biomass (SSB) is an estimate of the total weight of the fish in a stock that is old enough to spawn and provides an indication of the status of the stock and the reproductive capacity of the stock. MSY means fishing at a level that takes the maximum catch (or yield) that can be safely removed from a fish stock, on a continuous basis, whilst maintaining its long-term productive capacity, and is achieved by keeping the SSB above safe biological limits. B_{MSY} is the biomass that enables a fish stock to deliver the maximum sustainable yield. In theory, B_{MSY} is the population size at the point of maximum growth rate. The surplus biomass that is produced by the population at B_{MSY} is the maximum sustainable yield that can be harvested without reducing the population (from <http://www.seafish.org>).

⁸ SPRFMO SC6 Report, Annex 7, Jack mackerel Technical Annex, p. 110.

⁹ SPRFMO SC6 Report, para 40.

¹⁰ SPRFMO SC6 Report, para 34.

conditions”.¹¹ These may affect future recruitment levels, and thus estimates of biomass. SC addressed these uncertainties by exploring different assumptions in model runs and a range of scenarios used in the projections with differing values of recruitment regimes and stock recruitment steepness parameters. The Panel endorses the efforts made by SC to address these uncertainties through the application of multiple stock models and scenarios.

33. In terms of trends, the Jack mackerel stock continues to improve under the cautious approach adopted by the Commission. Near term spawning biomass is expected to increase from the 2018 estimate of 4.8 million tonnes to 5.6 million tonnes in 2019 (with approximate 90% confidence bounds of 4.5 – 7.0 million tonnes).¹² SC6 recommended to the Commission a status quo fishing effort which gives 2019 catches throughout the range of the Jack mackerel stock(s) at or below 591,000 tonnes while also recommending additional precaution and further investigation to develop an approach which is robust to assessment uncertainties.¹³

3.1.1.2 Deepwater Stocks

34. Bottom fishing is currently conducted in the SPRFMO Convention Area on seamounts and ridges by Australia and New Zealand. The main Australian and New Zealand fisheries use bottom trawls for Orange roughy, midwater trawls for alfonsinos, and bottom longlines for bluenose, wreckfishes, and toothfish. Orange roughy accounts for the largest proportion of deepwater stock catches.
35. Orange roughy is currently fished mainly from three locations to the east of New Zealand (North, Central, and South Louisville Ridge) and three locations in the Tasman Sea (West Norfolk Ridge, Lord Howe Rise and North West Challenger Plateau). A further location in the Tasman Sea, South Tasman Rise, has not been fished since 2007. Catches of Orange roughy peaked in the area in the mid-1990s at around 15,000 tonnes. In more recent years they have averaged approximately 1200 tonnes per annum.¹⁴
36. In 2007, the participants in the negotiations to establish SPRFMO adopted voluntary Interim Measures relating to bottom fishing consistent with the provisions of United Nations resolution 61/105 relating to an assessment framework for bottom fishing in the Convention Area.¹⁵ According to these Interim Measures, the participants agreed not to extend bottom fishing into new areas, and to limit catch or effort to that existing in an agreed reference period of 2002-2006. The core of these measures were adopted by the Commission in 2014 as CMM 2.03. It was to be reviewed in 2016 taking into account the latest advice of the Scientific Committee, including with respect to appropriate catch levels for principal target species and/or appropriate reference periods, but has been rolled over annually since that time. The current measure, CMM 03-2018, includes the establishment of a bottom fishing footprint; the limitation of catch to 2002-2006 levels; the requirement to undertake an assessment of the impact of flagged vessels’ bottom fishing, which is to take into account the 2011 SPRFMO Bottom Fishery Impact

¹¹ SPRFMO SC6 Report, para 32.

¹² SPRFMO SC6 Report, para 41.

¹³ SPRFMO SC6 Report, p. 13.

¹⁴ COMM6-INFO03, Table 5.1.

¹⁵ See www.sprfmo.int

Assessment Standard and areas identified where vulnerable marine ecosystems (VMEs) are known or suspected to occur in the area to be fished; rules for action to be taken in certain circumstances where VMEs are encountered; and additional requirements relating to observer coverage. The measure has effectively closed most of the SPRFMO Convention Area to bottom fishing for most SPRFMO Members. Since 2015, Australia, New Zealand, Chile, and the EU have been collaborating on a revised conservation and management measure (CMM) for bottom fishing based on a spatial management approach. CMM 03-2018 specifically provides that it is to be reviewed again at the regular meeting of the Commission in 2019 “with the aim of adopting a new bottom fishing CMM”.

37. There are more than 30 demersal species commonly caught in the SPRFMO bottom fisheries for which stock assessments and catch limits may be required, as well as advice on the impact of fishing on associated and dependent species with which the fishery interacts. The 2017 SC meeting discussed a tiered approach to undertaking assessments with three levels depending on risk from fishing: full benchmark assessments for the main five to ten species; data limited assessment; and no assessment necessary. A draft assessment framework for bottom fisheries was adopted based on estimable parameters and available information to provide direction for future assessment work and speed SC’s processes in developing advice for the Commission.¹⁶ The SC meeting in 2018 discussed preliminary work to characterise species into the assessment framework and noted that this was still a work in progress.¹⁷
38. In 2017, SC also considered the various preliminary stock assessment models that have been developed for Orange roughy stocks. Although SC was of the view that none of the methods was ideal for the assessment of SPRFMO Orange roughy stocks, SC considered them to be collectively indicative of stock status and potential yields.¹⁸
39. Based on these preliminary assessments, SC considered that the stocks on the Louisville Ridge (Louisville North, Central and South) have a lower potential of having low stock status, and the stocks in the Tasman Sea (Lord Howe Rise, Northwest Challenger Plateau, and West Norfolk Ridge) are estimated to have a higher potential of being depleted.¹⁹ It nevertheless highlighted the urgent need to collect information to support robust assessments of Orange roughy in the SPRFMO Area for sound management advice.²⁰ It also provided advice on catch limits for the Louisville Ridge and Tasman Sea,²¹ which it reaffirmed at its meeting in 2018, noting that the approach to the setting of these catch limits was precautionary.²² However, as noted above, CMM 03-2018 does not provide for the setting of catch limits. Rather, the catches of the participants in bottom fisheries are constrained so they each do not exceed their annual average levels over 2002 to 2006.

¹⁶ SPRFMO SC5 Report, para 83.

¹⁷ SPRFMO SC6 Report, p. 21.

¹⁸ SPRFMO SC5 Report, para 98. SC6, at para 46, also noted New Zealand’s 2014 assessment of the biological Orange roughy stock that includes the Westpac Bank and considered it was appropriate to support management advice.

¹⁹ SPRFMO SC5 Report, para 100.

²⁰ SPRFMO SC6 Report, para 98.

²¹ SPRFMO SC5 Report, para 100.

²² SPRFMO SC6 Report, para 44.

40. The Panel recognises the considerable work that has been undertaken by participants in the Deepwater Working Group to develop an assessment framework for deepwater stocks which includes data poor assessments, to collate the preliminary assessments for Orange roughy, and to design acoustic surveys and sampling for Orange roughy stock assessments. The Panel encourages SPRFMO to implement the assessment framework for deepwater stocks, with priority to be given to the preparation of robust stock assessments for Orange roughy, at least in the two main sub-areas of the Louisville Ridge and the Tasman Sea.

3.1.1.3 Jumbo flying squid

41. The southeast Pacific Ocean currently supports the largest squid fishery in the world, with a catch of more than 1 million tonnes in 2014.²³ Currently seven SPRFMO Members fish this stock in the SPRFMO Area, and in the case of Chile and Peru, fishing within their own EEZs. Jumbo flying squid are mostly caught at night using the jigging method and large lights to attract the fish.
42. Jumbo flying squid are a highly productive species, fast growing and with a short life span of approximately one to two years. Most die after spawning, although natural mortality is poorly understood.²⁴ Stock structure is not known for the Southeast Pacific and the squid within any country's jurisdiction at any time are probably only part of a larger more widely distributed stock or stock sub-unit.²⁵ There may be indications of two genetic units in the Pacific Ocean, although SC in 2018 has suggested further genetic analysis be undertaken.²⁶
43. The Panel considers that the SC Squid Working Group has made considerable progress over the last year in developing stock assessment methods for Jumbo flying squid. In 2018, SC6 considered three methods for undertaking stock assessments of Jumbo flying squid and recommended that each of the models be further developed and tested.²⁷ SC considered the preliminary results of one of the models which show that Jumbo flying squid can probably sustain exploitation rates of 50% while maintaining spawning biomass well above B_{MSY} .²⁸ It also indicated that catch and effort data, and biological data relating to size frequency, weight and maturity at a suitable intra-annual time scale was needed for all the models.²⁹ The Panel notes the additional work that will be required to improve necessary data collection, further develop stock assessment models and better understand stock structure and population dynamics of Jumbo flying squid.

3.1.3 Status of associated or dependent species that belong to the same ecosystem

44. The fishery for Jack mackerel is generally a mono-specific fishery. In the offshore fishery, the catch consists of 90 – 98% Jack mackerel, with minor by-catches of Chub mackerel (*Scomber japonicus*) and Pacific bream (*Brama australis*).³⁰ In some fisheries, catches of Chub mackerel have

²³ SC5-SQ02.

²⁴ SPRFMO Species Profile, 4 May 2007; SC6 Report, para 168.

²⁵ SPRFMO SC6 Report, para 158.

²⁶ SC6 Report, paras 175 and 183.

²⁷ SC6 Report, para 168.

²⁸ SC6 Report, para 168.

²⁹ SC6 Report, para 173.

³⁰ SC4 Report, Annex 7, p. 2.

increased over the last few years.³¹ Non-target fish species have received limited attention in the Jack mackerel fisheries thus far and there is little information on the status of these by-catch stocks. Jumbo flying squid jigging operations are also mono-specific and non-target fish catches are assumed to be near zero.

45. In contrast, as noted above, a range of deepwater fish stocks are taken in the bottom fisheries. Non-target fish stocks in bottom fisheries will be subject to the tiered assessment framework adopted by SC5 in 2017. There is, however, little information on the status of these stocks.
46. In addition to bycatch fish stocks, bottom fisheries tend to have a benthic invertebrate bycatch. SC in 2018 considered the impact of bottom trawl and line fisheries on benthic bycatch. It noted the variability in benthic invertebrate bycatch of different fishing methods and fished areas, with the estimated impact of bottom line fishing being about three times smaller than that of bottom trawl fishing in the western SPRFMO Area. It agreed that further work should be done to assess catchability in both trawl and bottom line fisheries and to enable more sophisticated use of bycatch data in habitat suitability models.³² The Panel notes the importance of comprehensive collection of data on benthic bycatch in all bottom fisheries and expects that additional work will be required to integrate information about benthic bycatch into the bottom fishing encounter protocols for VMEs.
47. The potential for Deepwater shark (chondrichthyan) species to interact with bottom fisheries in the SPRFMO Area has been recognised by SC, which has also noted that such species are particularly vulnerable to impact.³³ The Panel notes the progress made to develop an ecological risk assessment for the effects of demersal trawl, midwater trawl and demersal longline gears on Deepwater chondrichthyans (sharks, rays and chimaeras) in the SPRFMO Area.³⁴ Additional data is required to progress this work and the Panel supports the recommendation of SC that biological data collection for deepwater chondrichthyans be strengthened for SPRFMO demersal fisheries.³⁵
48. Information on the pelagic Jack mackerel fishery shows interaction with Porbeagle sharks, at an increasing rate in recent years.³⁶ A Southern Hemisphere status assessment of Porbeagle shark was presented to SC5, and indicates that the impact of fishing is low across the entire Southern Hemisphere range of the Porbeagle shark population.³⁷ The key recommendation from the project, which the Panel endorses, is to improve the collection and analysis of biological and catch rate data relating to this shark species.
49. There is currently no accurate indication of the status of albatross and petrel species caught in association with SPRFMO fisheries. Analysis of fishing activity information and observer information shows interactions with seabirds (petrel and shearwaters), great white sharks, sea

³¹ Chile, Annual Report, SC6-05.

³² SC6 Report, paras 93 and 96.

³³ SC5 Report, para 70.

³⁴ SC6 Report, paras 56-61.

³⁵ SC6 Report, para 63.

³⁶ SC6-Doc09.

³⁷ SC5-INF01-rev1, p. 5.

snakes and turtles in the deepwater fishery.³⁸ SC5 noted that seabird interactions may occur across bottom, Jack mackerel and squid jig fisheries, and that observer programmes that specifically task observers to document seabird interactions and to report such data would progress an understanding of the current impact of those fisheries on seabirds.³⁹

50. The squid fishery operating on the western side of the south Pacific has not reported capturing any marine mammals, seabirds, reptiles nor any other species of concern. However, SC6 agreed that there may be some risk to seabird species from jig fishing and encouraged Members and CNCPs to collect additional data to help quantify this risk.⁴⁰ The Panel notes the importance of data collection in order to improve understanding of the impacts of fishing on associated and dependent species.

Panel's Findings and Recommendations

51. The Panel:

- a) **Commends** the efforts made by the Commission and Scientific Committee to develop and continually improve stock assessments for Jack mackerel, the constraint applied by the Commission and fishing nations engaged in the Jack mackerel fishery and the precautionary approach taken by the Commission which has resulted in a rebuilding of the stock;
- b) **Recommends** that the Commission maintain a precautionary approach to setting catch limits for the Jack mackerel stock;
- c) **Acknowledges** the significant work that has been undertaken by participants in the Scientific Committee's Deepwater Working Group to develop an assessment framework for deepwater stocks and to develop preliminary assessments for Orange roughy, and the progress that has been made in the Squid Working Group over the last year to develop stock assessment methods for Jumbo flying squid;
- d) **Recommends** that the Commission, Scientific Committee and Members of the Commission accelerate efforts to advance robust stock assessments of Orange roughy and Jumbo flying squid and give priority to collecting the necessary data for stock assessment purposes; and
- e) **Notes** that there is little information on the status of non-target and bycatch species or the impact of SPRFMO fisheries on associated or dependent species and **Urges**, as a first step, that the Commission increase data collection in order to improve understanding of the impacts of fishing on associated and dependent species.

³⁸ SC6-Doc-09.

³⁹ SC5 Report, para 150.

⁴⁰ SC6 Report, para 200.

3.2 Ecosystem approach

52. The application of the ecosystem and precautionary approaches to fisheries management is embedded throughout the SPRFMO Convention, including in Articles 2 (Objective), 3 (Conservation and Management Principles and Approaches), 8 (Functions of the Commission), 10 (Scientific Committee), 20 (Conservation and Management Measures), 22 (New and Exploratory Fisheries), 23 (Data Collection, Compilation and Exchange) and 24 (Obligations of Members of the Commission). Article 2 of the Convention states:

The objective of this Convention is, through the application of the precautionary approach and an ecosystem approach to fisheries management, to ensure the long-term conservation and sustainable use of fishery resources and, in so doing, to safeguard the marine ecosystems in which these resources occur.

53. Article 3(2)(a) requires the wide application of the precautionary approach to conservation and management of fishery resources in order to protect those resources and to preserve the marine ecosystems in which they occur.

54. Article 3(2)(b) specifically references the ecosystem approach and requires:

An ecosystem approach shall be applied widely to the conservation and management of fishery resources through an integrated approach under which decisions in relation to the management of fishery resources are considered in the context of the functioning of the wider marine ecosystems in which they occur to ensure the long-term conservation and sustainable use of those resources and in so doing, safeguard those marine ecosystems.

55. The identification of the ecosystem approach in the SPRFMO Convention has evolved from the FAO Code of Conduct for Responsible Fisheries and the guiding concepts, principles and requirements associated with the implementation of the ecosystem approach to fisheries management identified by FAO in 2003.⁴¹ These include the avoidance of overfishing, reversibility of changes to the marine ecosystem and capacity to rebuild stocks, minimisation of fisheries impact, consideration of species interactions, maintenance of ecosystem integrity, application of the precautionary approach, jurisdictional compatibility and collaboration, and improvement of human well-being and equity. When there is insufficient scientific information to apply the ecosystem approach, and particularly to project or predict threats of serious or irreversible damage, a precautionary approach is advised.

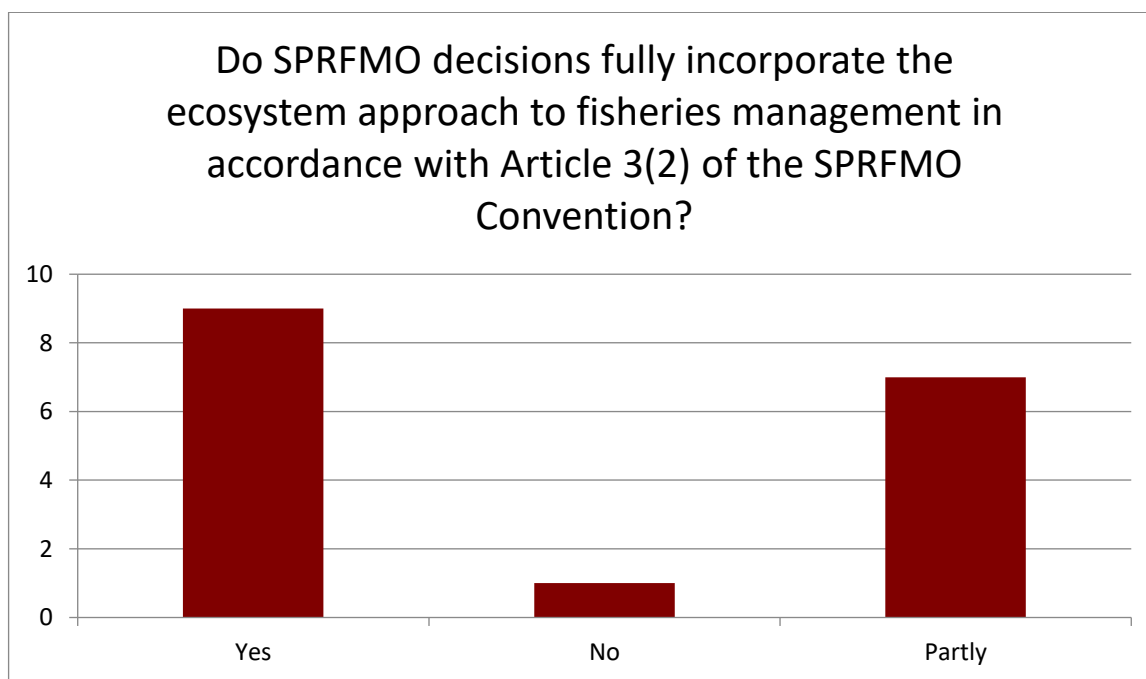
56. This means that SPRFMO is required to ensure the ongoing functioning of the wider marine ecosystem when setting management decisions for target species. The SPRFMO Convention does not include a detailed definition of the ecosystem approach or specific directions on how to apply it. Nevertheless, the guidance in the Convention is sufficient for SPRFMO to determine how it wishes to operationalise this requirement.

57. SPRFMO has adopted Convention Area-wide measures which include ecosystem-based elements for bottom fisheries (CMM 03-2018), prohibiting the use of large-scale pelagic driftnets and Deepwater gillnets (CMM 08-2013), minimising bycatch of seabirds (CMM 09-

⁴¹ FAO, Ecosystem Approach to Fisheries: <http://www.fao.org/3/y4470e0d.htm>

2017), management of new and exploratory fisheries (CMM 13-2016) and an exploratory potting fishery (CMM 14b-2018). They have also adopted a highly precautionary measure for the management of the Jack mackerel (*Trachurus murphyi*) fishery (CMM 01-2018), and the SPRFMO Observer Programme (CMM 16-2018), the primary function of which is the collection of scientific information “that can be used for effective assessment and management of SPRFMO fisheries resources, including both target species and bycatch, and interaction of fishing activities with the environment and species occurring in the SPRFMO area, to improve the certainty of future scientific advice while taking into account ecosystem considerations”.⁴²

- 58. SC has had a dedicated agenda item on the ecosystem approach to fisheries management since 2014, and has discussed the impact of fishing activities on Ecologically or Biologically Significant Marine Areas (EBSAs) and on VMEs,⁴³ the establishment of a VME database,⁴⁴ interactions with bycatch, including protected species,⁴⁵ and mitigation of seabird impacts including appropriate observer coverage.⁴⁶
- 59. At its 2018 Meeting, the Commission accepted the SC recommendation to establish a Habitat Definition, Description and Monitoring Working Group.⁴⁷ Its primary objective is described as “providing environmental indicators associated to the habitat of main commercial resources exploited in the SPRFMO area to complement decision making of fisheries management”,⁴⁸ with an initial priority on the Chilean Jack mackerel *Trachurus murphyi* fishery.



⁴² CMM 16-2018, SPRFMO Observer Programme, preambular paragraph 6.

⁴³ SPRFMO SC2 2014, para 8.1; SPRFMO SC3 2015, para 8.1.

⁴⁴ SPRFMO SC2 2014, para 8.2.

⁴⁵ SPRFMO SC2 2014, paras 8.3 and 4; SPRFMO SC3 2015, para 8.3, SPRFMO SC4 2016, para 8.

⁴⁶ SPRFMO SC2 2014, paras 8.5 and 8.6; SPRFMO SC3 2015, paras 8.4, 8.5; SPRFMO SC5, paras 137-154.

⁴⁷ SPRFMO COMM-6, paras 3a and 3b, and Annex 3.

⁴⁸ SPRFMO SC6 2018, Annex 10.

60. The Panel assessed the extent to which SPRFMO decisions incorporate an ecosystem approach to fisheries management. As noted in the table above, most respondents felt that decision-making by the Commission was generally quite precautionary and consistent with the advice from SC, and that SPRFMO thereby incorporated ecosystem considerations, at least in part, where information was available. Seabird mitigation measures, VME protection measures in the bottom fisheries, and stock rebuilding efforts in place for the Jack mackerel fishery were referenced by respondents. However, several acknowledged that SPRFMO fisheries are still assessed on a single-species basis and that insufficient data currently existed to include dependent and associated species trends in management measures. Suggestions were also raised on the need for cumulative impact assessment and consideration of climate change impacts.
61. A number of those respondents who indicated that SPRFMO only partly incorporated an ecosystem approach expressed concern about the lack of management decisions for the Jumbo flying squid fishery. They highlighted the fact that this was the largest fishery in the Convention Area, yet no fisheries management decisions had been taken and there were serious gaps in the provision and collection of fisheries, biological and environmental data on this fishery.
62. Most respondents agreed that there were gaps that could be addressed to improve implementation of the ecosystem approach. Aside from the need for improved monitoring and observation of the squid fishery, it was suggested that there be a greater focus on non-target species, bycatch, trophic effects and the cumulative impacts of SPRFMO fisheries. The need to collect data on quantitative seabird and other megafauna interactions and biological data to improve understanding of impacts from fishing on dependent and associated species as well as on the ecosystem was also mentioned. It was acknowledged by respondents that this would require substantive data collection and analysis, with cost implications. It was also noted that full implementation and a wider coverage of the Observer Programme should significantly contribute to closing these information gaps.
63. The Panel notes that existing CMMs, notably on bottom fishing and seabird mitigation, take into consideration impacts on the marine ecosystem where information is available. However, sufficient data for all bycatch species and the impacts from fishing on those species has not yet been obtained. This makes a full ecosystem approach to managing the fisheries difficult to apply.
64. The ecosystem approach has been most closely implemented in CMM 03-2018 on the bottom fisheries, where benthic impact assessment is required. While this is currently a data-poor fishery, the Panel understands significant work is progressing to improve the measure, including an improved scientific understanding of VME habitats and impacts on the benthic environment from bottom fishing and the inclusion of cumulative impact assessment.
65. Catch limits for target species are currently set based on single-species models where these are available, such as in the Jack mackerel fishery. Although independent CMMs apply to minimise seabird bycatch and the impact of certain destructive fishing gear, there is little consideration of the wider ecosystem. The Panel acknowledges that while a single species model is used for the development of Jack mackerel catch limits, and other ecosystem considerations considered only in part, the context for management decisions has been very precautionary. In contrast, there

are few indications that ecosystem or precautionary approaches have been incorporated into management decisions for the Jumbo flying squid fishery.

66. The Panel considers that in light of the specific mention in the SPRFMO Convention of the need to apply an ecosystem approach which seeks to integrate fishery management decisions with the wider context of the marine ecosystems in which the fishery occurs, the Commission and Scientific Committee should investigate and take account of the wider ecosystem in which the SPRFMO fisheries function.
67. The Panel notes concerns expressed by some respondents that strengthening El Niño Southern Oscillation events within the SPRFMO Convention Area may have consequent effects on impacted fisheries. The Panel notes the work undertaken by the Intergovernmental Panel on Climate Change (IPCC), which indicates that globally oceans are warming, losing oxygen and acidifying,⁴⁹ and the preparation of a Special IPCC Report on Oceans and Cryosphere, which intends to include a chapter reviewing the possible impact of a changing ocean on marine ecosystems and dependent communities.⁵⁰ Discussions are also occurring within FAO relating to the possible impacts of a changing climate on the health of oceans, including fisheries.⁵¹ These point to a need for SPRFMO to be in the forefront of the consideration of climate change on the fisheries within its purview.

Panel's Findings and Recommendations

68. The Panel:
 - a) **Notes** that although SPRFMO has generally taken into account an ecosystem approach to fisheries management in the individual management of Jack mackerel and bottom fishing, additional actions could be taken by the Commission and Scientific Committee to better integrate ecosystem elements into the assessment of target species. This could include, for example, consideration of deepwater chondrichthyans, seabird mitigation measures for all fisheries, habitat mapping, and examination of climate change impacts;
 - b) **Recommends** that the Commission apply a highly precautionary approach to fishery management decisions in the absence of sufficient information to permit the application of an ecosystem approach to management;
 - c) **Recommends** that the Scientific Committee develop a workplan to progress fisheries management decisions, which takes into account a more holistic ecosystem-based approach. Elements of that workplan could include:
 - i. A review of available tools and processes to lead to an integrated ecosystem fisheries management approach;
 - ii. Identification of environmental data that will assist in both applying an ecosystem approach and to assessing the effect of climate change impacts and the subsequent consideration of management decisions;

⁴⁹ http://www.un.org/depts/los/consultative_process/icp18_presentations/barrett.pdf

⁵⁰ <https://www.ipcc.ch/report/srocc/>

⁵¹ <http://www.fao.org/climate-change/en/>

- iii. A review of the Jack mackerel fishery to determine the impact of the fishery on non-target species and habitat, to identify gaps in habitat, biological and bycatch data, and a programme for collection of that data;
 - iv. Consideration of the use of cost and resource effective ecosystem-based models; and
 - v. Exploration of cooperation mechanisms with other bodies that may assist or benefit SPRFMO in the development of a relevant ecosystem-based fisheries management approach that is both cost and resource effective for SPRFMO.
- d) **Notes** the concerns raised by some Members and CNCPs about known and expected impacts of changing El Niño and La Nina events and potential impacts arising from anthropogenic climate change on the SPRFMO Convention Area, including the impact that such changes may have on major existing and potential target fisheries; and
- e) **Recommends** as an initial step that the Scientific Committee identify the research and data collection required for it to develop advice to inform the Commission on what action may be required to take into account the observed or expected impacts associated with a rapidly changing climate.

3.3 Data collection and sharing

69. Article 3 of the Convention provides that in giving effect to the objective of the Convention and in carrying out decision-making, the Contracting Parties, Commission and subsidiary bodies are required to collect, verify, report and share full and accurate data on fishing, including information relating to the impacts on the marine ecosystems in which fishery resources occur, and to do this in a timely and appropriate manner.⁵² According to Article 23: “To enhance the information base for the conservation and management of fishery resources, non-target and associated or dependent species and the protection of the marine ecosystems in which those resources occur; and to contribute to the elimination or reduction of IUU fishing and its negative impact on those resources”, the Commission is to develop standards, rules and procedures, for the collection, verification and timely reporting of relevant data by Commission Members, to compile and manage data to ensure that the provision of best available scientific advice is enabled, to ensure the security of that data, to exchange data among Members and with other relevant organisations including where this may assist in efforts to minimise Illegal, Unreported and Unregulated (IUU) fishing, and to make specified data public.
70. The obligations of Commission Members are set out in Article 24 and include the collection, verification and reporting of scientific, technical and statistical data on fishery resources and marine ecosystems in conformity with the standards, rules and procedures established by the Commission. Article 28 also requires the Commission, inter alia, to establish an observer programme “to collect verified catch and effort data, other scientific data and additional information related to the fishing activity in the Convention Area, and its impacts on the marine environment”.
71. During the international negotiations of the SPRFMO Convention, a Data and Information Working Group was formed to identify the types of data to be collected, prepare standards for

⁵² Art 3(1)(a)(iv).

the collection, verification exchange and reporting of data, and standards for data security, and terms and conditions for making data available. It first met in 2006 and developed standards for the collection, reporting, verification and exchange of data, as well as other standards, such as for the collection of transshipment, landings and observer data.⁵³ This Working Group was disbanded in 2013 on the establishment of the Commission.

3.3.1 Agreed data submission formats, specifications and timeframes

72. At its first meeting in 2013, the Commission adopted a Conservation and Management Measure on Standards for the Collection, Reporting, Verification and Exchange of Data, CMM 02-2018. It has amended this CMM annually based on advice received from SC. In addition, the Commission has adopted data collection requirements for new and exploratory fisheries (CMM 13-2016), and for specific fisheries.⁵⁴
73. CMM 02-2018 includes annexes providing specific instructions on data collection requirements for various fishing methods, observers at sea, landings, transshipments and annual catches, as well as specifications for exchange of data, and a list of ‘other species of concern’ for which data are to be collected. The CMM is regularly reviewed and updated in light of data requirements.
74. The Panel considered the extent to which SPRFMO has agreed formats, specifications and timeframes for data submission. Responses indicate broad agreement that existing data collection formats, specifications and timeframes meet expected requirements. Fourteen and fifteen responses respectively rated existing data collection formats, and specifications as either “excellent” or “good”, and thirteen agreed that timeframes meet expected requirements. The following comment perhaps best summarises the general sentiment expressed:

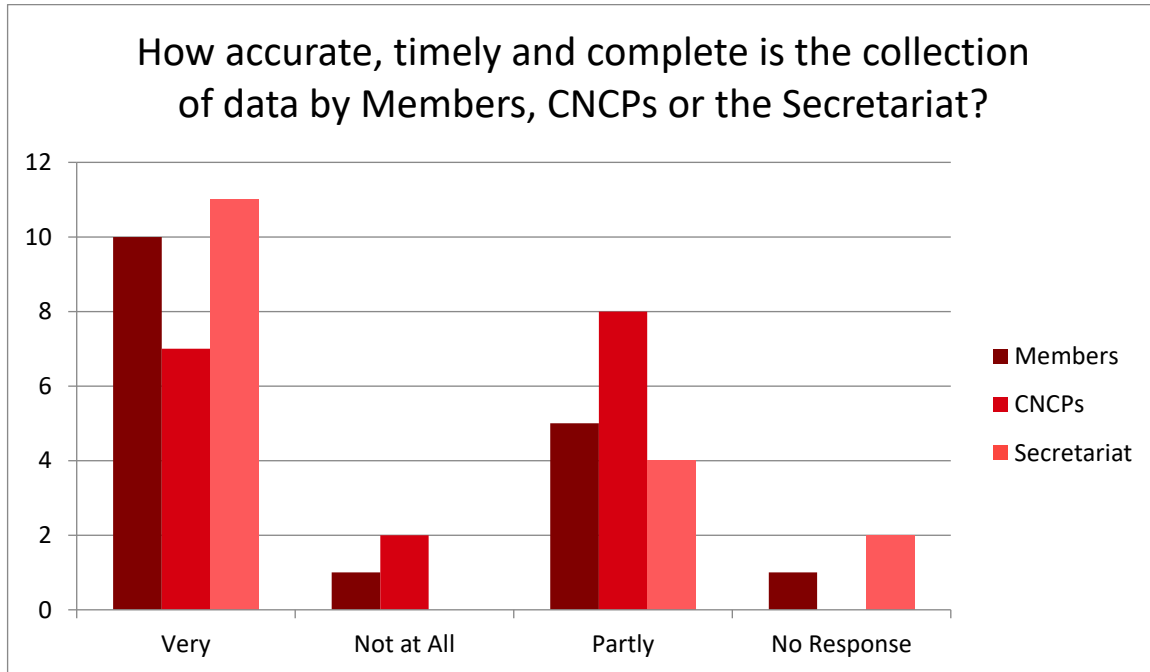
The agreed formats and specifications are as good as they could be. The timeframes for filling and reporting on those forms are also very good in most cases, although in the jumbo flying squid fishery these timeframes are a bit longer than desirable.
75. The Panel considers that existing formats and specifications for fisheries data are within accepted global practice, and the process of regular review and amendment of the data standards appears to be working well. The Panel, however, views it as important to ensure that data collected is relevant to the scientifically defensible “information” needed to progress the objectives of the Convention. The Panel notes that information collection and requirements change with the adoption of each new or revised CMM. New fisheries, such as the exploratory potting fishery, the newly adopted observer programme, and the need for an improved VME identification protocol may require a review of data and information considerations and a subsequent update of formats, specifications and timelines.

⁵³ <http://www.sprfmo.int/meetings/meeting-archive/international-consultations-and-preparatory-conference/new-meetingpage-Data-and-Information-Working-Group/d-iwg-meetings/>

⁵⁴ CMM 01-2018 for the Jack mackerel fishery, CMM 03-2018 for Bottom Fishing, and CMM 14b-2018 for the Exploratory Potting Fishery).

3.3.2 Collection and sharing of data

76. The Panel assessed the collection and sharing of data by SPRFMO, Members and CNCPs. Responses to the questionnaire indicate strong agreement that the SPRFMO Secretariat fulfils its responsibilities with respect to accurate, complete and timely circulation of data once received. The response on whether Members and CNCPs met their data submission obligations was mixed (see table below). In particular, a majority of respondents felt that CNCPs were only partially or not fulfilling these requirements.



77. Evidence for this is found in the Compliance Reports annexed to the annual Commission reports, which indicate that some Members and CNCPs have been unable to meet timelines agreed for submission of required data.⁵⁵ While some submissions have been slightly delayed, others have been more significantly delayed and some submissions have also been incomplete. Although the frequency of failures to meet timelines and completeness of data is declining, the Panel considers that SPRFMO should encourage, and facilitate where possible, the submission of complete, accurate and timely data, especially by CNCPs.
78. The Panel also recognises the growth in data information collection requirements with the adoption of each new or revised CMM. The database and its modules were built during the period 2010-12 and based upon the Data Standards applicable at that time. The Secretariat has proposed some enhancements to the capabilities of the database to make it more fit for purpose.⁵⁶ The Panel considers that new developments such as the exploratory potting fishery and the Observer Programme could benefit from better data and information considerations. Effective management of the Jumbo flying squid fishery is also likely to require much more

⁵⁵ See COMM6 – Report, Annex 5, Final Compliance Report; COMM5 – Report, Annex 5, Final Compliance Report.

⁵⁶ FAC5 Doc 05 Suppl.4 - Database software development and update.

accurate and timely data collection and storage. The large number of vessels involved in the fishery is likely to pose particular challenges for appropriate data storage.

3.3.4 Fishing and research data

79. Research and associated activities to support the scientific work of SPRFMO are primarily funded and conducted by Members and SPRFMO is dependent on those Members to report on these activities to SPRFMO. Research priorities are set out in the SC work plan⁵⁷ and this provides a level of coordination for research to support SPRFMO's objectives. The Panel notes that while a dedicated science programme funded and owned by SPRFMO would facilitate a more integrated and consistent approach, this was likely to be unrealistic. However, SPRFMO should consider opportunities to engage in collaborative research or data sharing with adjacent RFMOs and other organisations.
80. Fishing research activities in the SPRFMO Convention Area are undertaken on an *ad hoc* basis and there is no mechanism for notifying non-fishing research and for approval of fishing research. A proposal was submitted to SC6 for a CMM on fishing research to address these issues and to provide a more systematic approach to research activities.⁵⁸ SC agreed to recommend to the Commission that it adopt a CMM to provide for research activities in the Convention Area taking into account that research should be enabled within sustainable limits and that different types of research should be recognised.⁵⁹ The Panel notes that SPRFMO does not have a standardised database for Members to submit catch, effort and associated biological data from research cruises, or other scientific research activities. Sharing of research data is therefore undertaken on an *ad hoc* basis and through SC's Working Groups. The Panel's general comments on data also apply to research data.

3.3.5 Data for stock assessments and data collection gaps

81. SPRFMO and its Members hold a range of data and information used for stock assessment purposes. In particular, a data-rich model has been built for the Jack mackerel fishery, based on both fishery-dependent and fishery-independent data and from multiple participants⁶⁰
82. In the case of many deepwater stocks caught in SPRFMO fisheries, the data quality and quantity varies through time and by species.⁶¹ Particularly for stocks such as Orange roughy, catch and effort data are unlikely to be adequate for reliable stock assessments and biological information (age, length, sex data) will be necessary to inform assessments on stock status of these key deepwater stocks.
83. The SPRFMO Secretariat holds various squid fishing data, particularly recent data, on vessels, fishing date, start and end position, crew numbers, and number of jigging machines, lighting power, hours fished and catch weights. However, it does not hold comprehensive data on measures of effort such as vessel days, fishing hours or number of vessels, or on comprehensive

⁵⁷ See COMM6-Report, Annex 3 for the 2018 Work Plan for Scientific Committee.

⁵⁸ SC6-Doc 32.

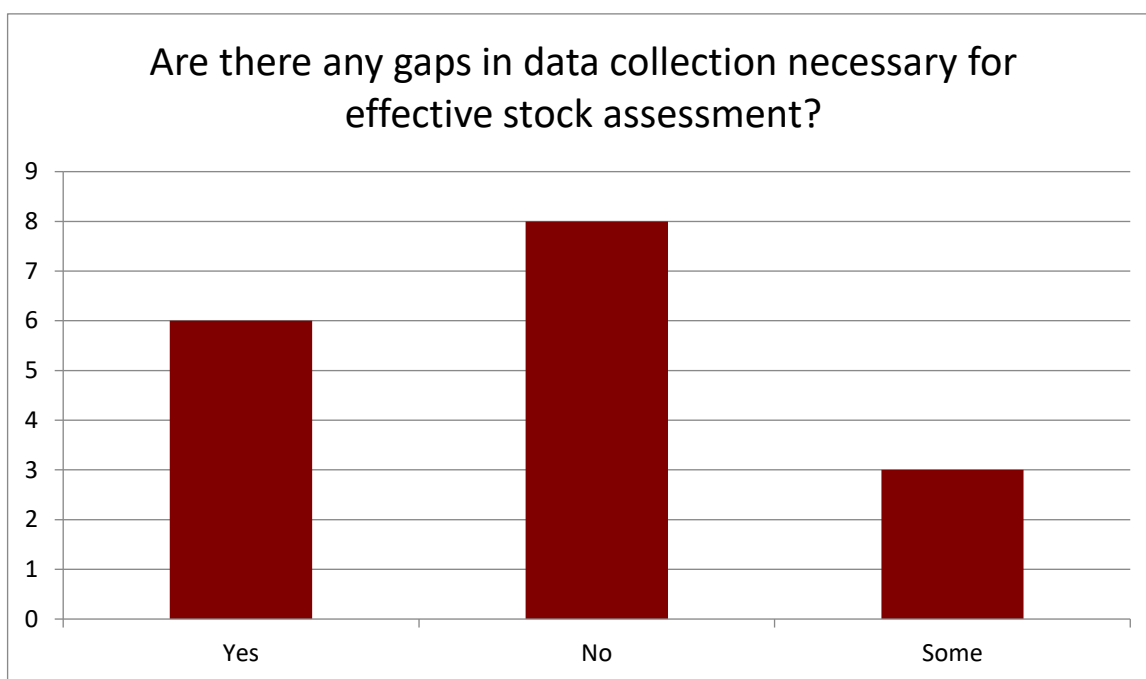
⁵⁹ SC6 – Report, para 255.

⁶⁰ See SSCW6-Report of Jack mackerel stock assessment workshop.

⁶¹ SC5-Doc08_rev1 – Report of the SPRFMO Deep Water Working Group Workshop.

or complete historical catch data.⁶² Currently there is insufficient data on the Jumbo flying squid fishery to develop a reliable stock assessment. Biological sampling throughout the season for Jumbo flying squid is limited and thus provides little information on stock structure and status. SC6 noted that all the stock assessment models considered in the Squid Working Group needed fishery (catch and effort) and biological data size (frequency, weight and maturity) at a suitable intra-annual time scale.⁶³

84. The Panel examined the extent to which SPRFMO collects accurate and complete data to facilitate effective stock assessments and ensure the provision of best scientific advice. More than two thirds of respondents agreed that there are at least some gaps in the data collection necessary for effective stock assessment, particularly in the bottom and Jumbo flying squid fisheries (see table below). A similar result was recorded in connection with gaps in data collection necessary for ensuring best scientific advice is available.

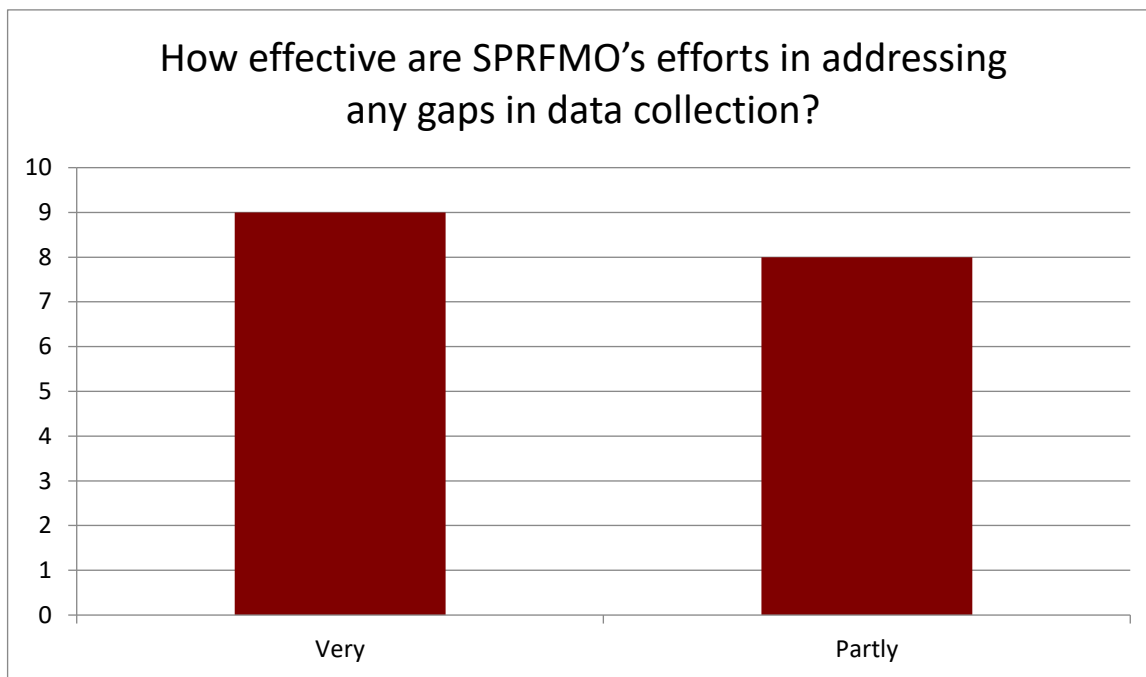


85. The respondents made a number of suggestions for collecting additional data for stock assessment purposes including basic data from the squid fishery to permit the development of a robust stock assessment, additional data on bycatch species from all fisheries to contribute to a more comprehensive understanding of impacts of fishing on the ecosystem, increased scientific sampling on board vessels, acoustic surveys and the possible use of low-information assessments using existing data for the Orange roughy fishery. Other key information gaps identified included biological data (e.g., age, length, sex) of targeted stocks, information on non-target stocks and protected species, as well as habitat and ecosystem data. It was also noted that “[m]odels can never adequately replace the need for baseline data”.

⁶² SC6-SQ01.

⁶³ SC6-Report, para 173.

86. In terms of the extent to which SPRFMO is addressing these gaps in the collection and sharing of data as required, respondents to the questionnaire generally felt that SPRFMO was effective or partly effective in this area (see table below).



87. Nevertheless, several respondents provided additional comments, including concerns that SPRFMO's mandate to collect specific data was not always clear, about how to ensure effective collection of data or information which is to be provided voluntarily, and a recognition that gaps sometimes relate more to constraints and limitations around knowledge of and access to appropriate sampling, data and information systems.
88. The Panel agrees with respondents that there are gaps in the collection of data for stock assessment purposes and for the provision of the best scientific advice available. This is most notable in the Jumbo flying squid fishery. The Panel notes recent efforts to improve stock assessment inputs for this fishery through individual data releases provided by some but not all relevant fishing nations,⁶⁴ and the consideration of three proposed stock assessment models at SC6-2018.⁶⁵ Because of the absence of observer coverage, adequate biological information has not been collected for stock assessment purposes.
89. With respect to Jack mackerel, the Panel notes some lack of clarity around the number of stocks involved in the Jack mackerel fishery⁶⁶ which could impede appropriate stock assessment and management advice. The Panel suggests that fisheries independent data for the Jack mackerel fishery could be generated through scientific sampling on-board,⁶⁷ and that tagging studies could provide further insights around the number of stocks involved, although acknowledges that

⁶⁴ SC6-SQ02, 03, 04.

⁶⁵ SC6-SQ05, 06, 07.

⁶⁶ SC5-Report, paras 29-35.

⁶⁷ See for example the self-sampling programme outlined in SC6-JM03.

these can be expensive. The Panel notes the intention to undertake tagging studies between 2019-2020.⁶⁸

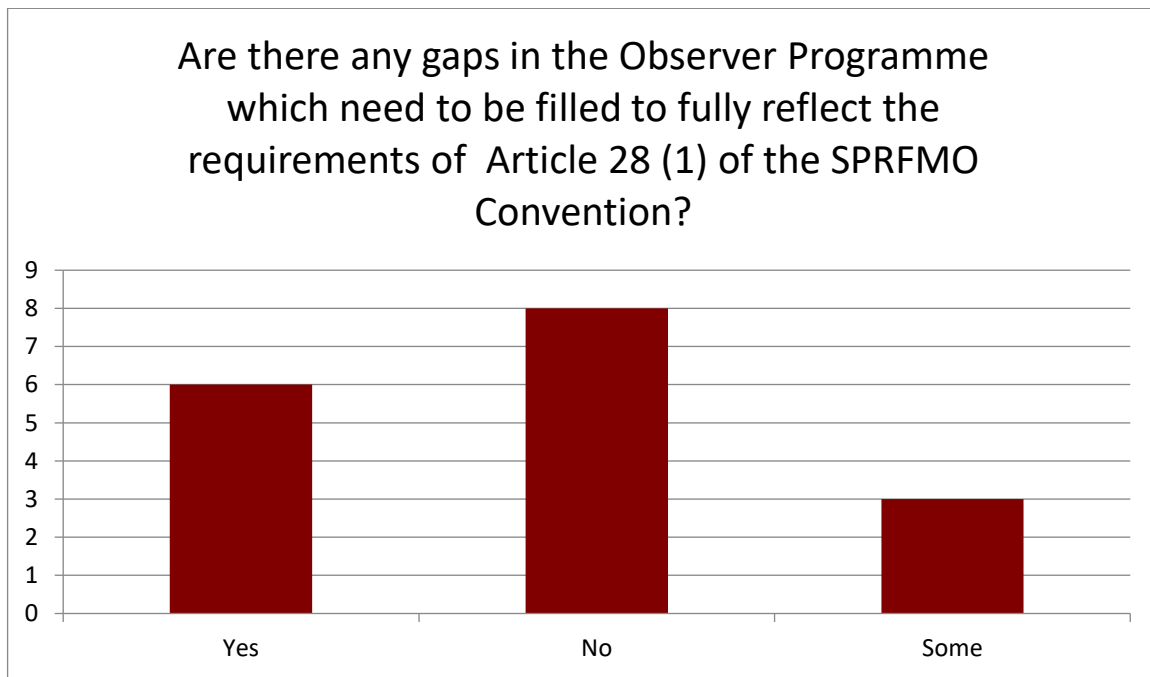
90. In addition to the information to inform effective fish stock assessments, there is currently inadequate information to assess key impacts of fishing on protected species and benthic habitats, and on wider ecosystem functioning. The Panel agrees with a respondent who suggested that there is value for the effective management of the Jack mackerel fishery from the collection of habitat and ecosystem information, including short, medium and long-term environmental variables and interactions with birds, mammals and protected species.
91. The Panel notes that the current Scientific Committee work plan includes work to address identified information gaps, particularly, but not only, in the Jumbo flying squid fishery.⁶⁹ The Panel commends efforts made by SC to address data gaps, but notes that progress is dependent on Members agreeing to collect and report fishery-dependent data and to resourcing the collection of fishery-independent data.
92. The Panel also observes that the timely implementation and strengthening of the SPRFMO Observer Programme will address many of the identified data gaps.
93. In addition to addressing identified gaps in the provision of information for the purposes of stock assessment and ecosystem-based fishery management advice, the Panel is concerned that full use is not being made of the various datasets provided by Members and held by the Secretariat. CMM 02-2018 places responsibility on the Secretariat for the maintenance of confidentiality of the data provided by Members. There is no specific guidance given to the Secretariat on the sharing of datasets. Understandably, the Secretariat seeks specific permission from all owners of the data prior to sharing. However, this process inhibits the sharing of data not only with SC, but also with external researchers and other organisations. This has resulted, for example, in duplication of effort for the Jack mackerel fishery, where those engaged in the fishery are required to provide data for stock assessment purposes, as agreed by the Jack mackerel Working Group, as well data required through the Data Standard CMM.
94. The Panel considers that sharing of data – both inwardly to SC and outwardly to stakeholder organisations - is crucial not only to ensure that management advice is based on the best scientific evidence available, but also for the credibility of SPRFMO. The collection and storage of data is of little use if it is not shared for the purpose of furthering the objectives of the Convention.
95. In order for data to be shared it also must be easily stored and accessible. The current database constraints identified by the Secretariat have already been noted above. The Panel considers there will be a need to adjust processes for handling and storing data to take into account new information collection requirements with the adoption of new or revised CMMs.

⁶⁸ See SC5-Report, para 32.

⁶⁹ COMM6-Report, Annex 3.

3.3.6 Observer Programme

96. The Commission approved CMM 16-2018 (SPRFMO Observer Programme) at its 2018 meeting. This CMM, which will enter into force in April 2019, establishes the primary aim of onboard observers as the collection of scientific data rather than enforcement, although it notes that the information collected may be used to support the delivery of other functions of the Commission, including the Compliance and Technical Committee as appropriate.⁷⁰ The CMM ties levels of observer coverage to the CMMs for each fishery. This means there is no specified minimum level of observer coverage for fisheries for which there is no existing measure, such as Jumbo flying squid. For fisheries where 100 percent observer coverage is not in effect, the CMM requires that coverage is representative of the fishery. This suggests that some observers should be present throughout the season as well as across the area fished. It is unclear how this would be achieved.
97. Until CMM 16-2018 comes into force, 10% scientific observer coverage of trips is required for trawlers and purse seiners engaged in the Jack mackerel fishery, 100% coverage for bottom fishing conducted by trawl and 10% for bottom fishing undertaken using other gear types. There are currently no observer requirements set for the squid fishery. There is also no standardisation of data collection processes and procedures for observers across different fisheries.



98. Respondents were mixed in their consideration of gaps in the Observer Programme, as noted in the table above. Some expressed concern about the lack of standardisation of observer coverage or data collection across the fisheries; others noted that it was difficult to assess what type of information was missing because CMM 16-2018 lacks the criteria for certifying national

⁷⁰ CMM 16-2018, SPRFMO Observer Programme, preambular paragraphs.

programmes. The need for observer coverage to be directly linked to data and verification needs was also stressed.

99. The Panel observes that the absence of mandated observer coverage on some fisheries may impede the capacity of SPRFMO to verify data collected and reported.

Panel's Findings and Recommendations

100. The Panel:

- a) **Commends** the Commission and Scientific Committee practice of ongoing regular review and amendment of the CMM on Standards for the Collection, Reporting, Verification and Exchange of Data, and **Notes** in particular the need to ensure that data collection is directly linked to delivery of conservation and management consistent with the objective of the Convention;
- b) **Recommends** the Commission and Scientific Committee regularly review data collection requirements to ensure they align with the needs of new or revised CMMs, while recognising the challenges to SPRFMO database management through the addition of new data collection, access and storage requirements and **Notes** the need for investment in building the capacity of the SPRFMO database to meet these challenges;
- c) **Recommends** that the Commission strengthen the timelines for the submission and independent verification of catch and effort data for the Jumbo flying squid fishery and **Urges** such measures to be adopted together with a general management measure for that fishery;
- d) **Recommends** that the Commission implement more effective and comprehensive bycatch data collection and reporting, particularly but not limited to dependent and associated species in each fishery and identified species of concern, the collection of sufficient biological data to support the development of reliable stock assessments for all fisheries, and the extension of data collection programmes to include environmental data and other data to assist in estimating potential impacts on non-target species;
- d) **Recommends** that the Scientific Committee review and provide advice on any additional data requirements necessary to support the implementation of an effective VME protocol;
- f) **Recommends** that the Commission review, as a matter of priority, dataset sharing processes and procedures, both for data exchange within SPRFMO and externally, and provide specific guidance to the Secretariat with a view to removing impediments to the exchange and sharing of data; and
- g) **Recommends** that the Commission work towards a standardisation of scientific data collection processes and procedures for observers across the different fisheries, and consider mechanisms to harmonise coordination of data collection with other regional and/or sub-regional observer programmes.

3.4 Quality and provision of scientific advice

101. Article 3 of the Convention requires those carrying out decision making under the Convention to apply the principle that “decisions shall be based on the best scientific and technical information available and the advice of all relevant subsidiary bodies”. Article 10 sets out the functions of the Scientific Committee, which generally include the provision of scientific advice.
102. According to Article 10(4), the Commission may also engage the services of external experts to provide information that may assist the development of scientific advice by SC, including on the impact of fishing on the marine ecosystems in the Convention Area. There is also provision for periodic independent peer review of SC’s reports, advice and recommendations.⁷¹
103. There has been no independent peer review of SC’s advice to date, however the Commission has established a Scientific Support budget category, which is used, among other things, to fund the participation of experts at SC workshops and meetings.⁷² Monies in this budget category accrue and it is capped at NZ \$50,000.⁷³
104. The Panel examined the extent to which SPRFMO receives and acts on the basis of the best scientific advice relevant to fishery resources as well as to effects on the marine ecosystem. All participant responses indicated high or partial satisfaction with the effectiveness of SPRFMO’s efforts to receive and act on the basis of best scientific advice relevant to fishery resources and the marine ecosystem, although there was a more positive response with respect to scientific advice relating to fishery resources. Respondents particularly noted that SPRFMO receives and acts on the basis of the best scientific advice with respect to the Jack mackerel fishery. The following comment is representative:

We think this has been a real strength of the Commission – a willingness to act on SC advice (as referenced in the Chair’s opening speeches in 2017 and 2018). We think this is an area where other RFMOs have been challenged but SPRFMO to date has a good record.

105. Those respondents indicating that SPRFMO had been partly effective in receiving and acting on best scientific advice available did so on the basis of the absence of advice and management measures on the Jumbo flying squid fishery, and the limited attention paid to associated species or the marine ecosystem. As a couple of respondents noted:

The effectiveness of the SPRFMO efforts are highly dependent on the preparedness and willingness of its Members and CNCPs to cooperate with the Secretariat in the provision of adequate data and information and to jointly work within the Commission to improve the information and data that goes into the scientific advice and to act in a timely and effective manner on such advice. There is clearly some room for improvement in all of them, particularly with respect to the Jumbo flying squid fishery.

⁷¹ Article 10(5).

⁷² See SC6-Doc10.

⁷³ Reg 2.4, Financial Regulations of the Commission.

Now that the Jack mackerel fishery is “under control”, seeking and action on better information for squid, bottom fisheries, and various effects of fishing on other ecosystem components should become more of a priority.

106. The Panel considers that the Commission has consistently adopted and acted on the advice received from SC. A notable example of this approach has been the decisive action taken by the Commission to constrain the Jack mackerel fishery following advice from SC. The Panel notes the progress that is being made toward improving scientific knowledge to assist with the management of Deepwater fisheries and the need for sufficient data on the Jumbo flying squid fishery so that SC is in a position to provide scientific advice on the management of the fishery.
107. The Panel suggests that SPRFMO now prioritise actions to improve information for squid, bottom fisheries, and the impacts of fishing on other ecosystem components so that SC is in a better position to provide the best scientific advice on which the Commission can base management decisions.

Panel's Findings and Recommendations

108. The Panel:
 - a) **Commends** the Commission for its consistent and respectful approach to the advice provided by the Scientific Committee, and its willingness to act on that advice, particularly in the case of the Jack mackerel fishery; and
 - b) **Recommends** that the Commission take urgent action to implement management measures for the Jumbo flying squid fishery, and for precautionary measures to be put in place until sufficient information is available to undertake a reliable stock assessment.

3.5 Adoption of conservation and management measures

109. The development and implementation of CMMs is detailed in Article 20 of the Convention. The CMMs adopted by the Commission are to include measures which:
 - (a) ensure the long-term sustainability of fishery resources and promote the objective of their responsible utilisation;
 - (b) prevent or eliminate over fishing and excess fishing capacity to ensure that levels of fishing effort do not exceed those commensurate with the sustainable use of fishery resources;
 - (c) maintain or restore populations of non-target and associated or dependent species to above levels at which their reproduction may become seriously threatened; and
 - (d) protect the habitats and marine ecosystems in which fishery resources and non-target and associated or dependent species occur from the impacts of fishing, including measures to prevent significant adverse impacts on vulnerable marine ecosystems and precautionary measures where it cannot adequately be determined whether vulnerable marine ecosystems are present or whether fishing would cause significant adverse impacts on vulnerable marine ecosystems.
110. At the time of this review, SPRFMO has 15 CMMs in force,⁷⁴ including CMMs for the management of the Jack mackerel fishery, bottom fisheries, one exploratory potting fishery, a

⁷⁴ These and CMM 16-2018 can be found at <https://www.sprfmo.int/measures>

framework measure to assist the development of new and exploratory fisheries proposals; data collection and reporting standards, prohibition of deepwater gillnets, and seabird bycatch mitigation, as well a number of measures addressing compliance and enforcement, including an authorised vessels list, vessel monitoring system, inspections, regulation of transshipment and vessels without nationality. CMM 16-2018 on the SPRFMO Observer Programme enters into force on 27 April 2019.

3.5.1 Measures based on best scientific advice

111. SPRFMO has adopted a range of measures designed to ensure the long-term conservation and sustainable use of resources, based on scientific advice provided by SC.
112. The CMM for the Jack mackerel fishery (CMM 01-2018) aims to allow the rebuilding of the stock. The mechanisms for the administration, participation and control of the fishery contained in the CMM are strengthened by requirements established in other measures covering data collection and reporting (CMM 02-2018), vessel monitoring (CMM 06-2018), seabird bycatch minimisation (CMM 09-2017), and regulation of transshipment (CMM 12-2018). The CMM currently does not include any agreed target or limit reference points or ecosystem-based considerations. SC's Multi-Annual Work Plan, approved at COMM-6 2018, includes proposed work to evaluate alternative stock structure hypotheses and assessment models, review existing data, improve knowledge on growth estimations, recruitment under climatic drivers and Jack mackerel connectivity.
113. There is currently no stock assessment or specific management measure for the Jumbo flying squid fishery. SC has included squid assessment and connectivity on its work plan and is currently reviewing a number of potential models for assessing squid stocks. Management of squid activities is currently limited to vessels being listed on the Record of Authorised Vessels and data collection and reporting obligations.
114. The SC work plan includes a number of items relating to improving scientific knowledge of the deepwater fishery, including Orange roughly assessments for Louisville Ridge and Tasman Sea stocks and other stock assessments. It also includes work on ecological risk assessment, spatial modelling of VME habitat, and revision of the Bottom Fishery Impact Assessment Standard.
115. The SC Habitat Monitoring Working Group has prioritised work to improve the scientific understanding of the Jack mackerel habitat, which will feed into considerations of a more integrated ecosystem approach to managing this fishery, and possible responses to climatic drivers.
116. With respect to CMM 09-2017 on minimisation of bycatch of seabirds, SC6-2018 encouraged Members to collect and analyse data on seabird bycatch consistent with Agreement on the Conservation of Albatrosses and Petrels (ACAP) guidance and to report their analyses to ACAP. It also provided advice to the Commission on observer coverage levels needed to improve estimates of seabird bycatch.⁷⁵

⁷⁵ SPRFMO-SC6-Report, paras 191 and 196.

117. In addition to work identified above, SC's current work plan includes work to improve scientific knowledge on ecological risk assessment for deepwater sharks and teleost stocks,⁷⁶ use of modelling to assess VME and habitat, benthic and VME indicator taxa, and cumulative impacts from bottom fisheries.⁷⁷
118. As discussed further below, there is as yet no CMM giving effect to Art 3(1)(a)(x), which focuses on "pollution and waste originating from fishing vessels, discards, catch by lost or abandoned gear and impacts on other species and marine ecosystems shall be minimised".
119. In considering whether SPRFMO has adopted an effective range of CMMs based on best scientific evidence available, respondents largely concurred that SPRFMO had adopted an array of valuable CMMs during its first five years. The following comments are indicative of the general sentiment expressed:

We think there has been a considered effort to be best-practice and learn lessons from other RFMOs. This is aided by the mix of Members – some are in many RFMOs (like Australia, the EU, China) and others are only a part of SPRFMO so far (Chile) so there is a good mix of good institutional knowledge and practice in RFMOs coupled with fresh perspective.

It will be a "No" or at best a "Partly" in the case of the Jumbo flying squid fishery for which there are no specific fisheries management measures, and so far, the measures adopted to improve the information and data reporting have been rather weak.

120. Of those who responded that SPRFMO had only partly adopted a full range of appropriate CMMs, all cited the absence of specific fisheries management measures for the Jumbo flying squid fishery as being of concern.
121. Respondents also made a number of suggestions to amend existing CMMs and for new CMMs, including a dedicated squid CMM, updating the bottom fishing CMM, a review of compatibility of measures with other arrangements for stocks that straddle the SPRFMO Convention Area, greater facilitation of scientific research, coverage of chondrichthyans,⁷⁸ coverage of pollution, waste and discards, and coverage of associated or dependent species.
122. The Panel commends the pace at which the Commission has approached the adoption of appropriate conservation and management measures for fisheries under its purview and the efforts it has made to apply best-practice of other RFMOs to the development of CMMs.
123. The Panel considers that although there has been progress to collate and analyse information about the Jumbo flying squid stock and to complete stock assessments to assist in the development of a CMM, the absence of a management measure for the Jumbo flying squid fishery is problematic, especially in light of the fact that it is the largest fishery in the SPRFMO Convention Area.
124. The Panel commends the work undertaken thus far to minimise bycatch of seabirds. It encourages ongoing collection and analysis of data to ensure estimates of seabird bycatch are

⁷⁶ I.e. ray-finned fishes apart from the primitive bichirs, sturgeons, paddlefishes, freshwater garfishes, and bowfins.

⁷⁷ SPRFMO COMM-6 Report, Annex 3.

⁷⁸ I.e., sharks, rays, skates and chimeras.

accurate, and continued liaison with ACAP to ensure that measures taken reflect what is required to minimise bycatch. The Panel notes that measures are yet to be extended to all fisheries.

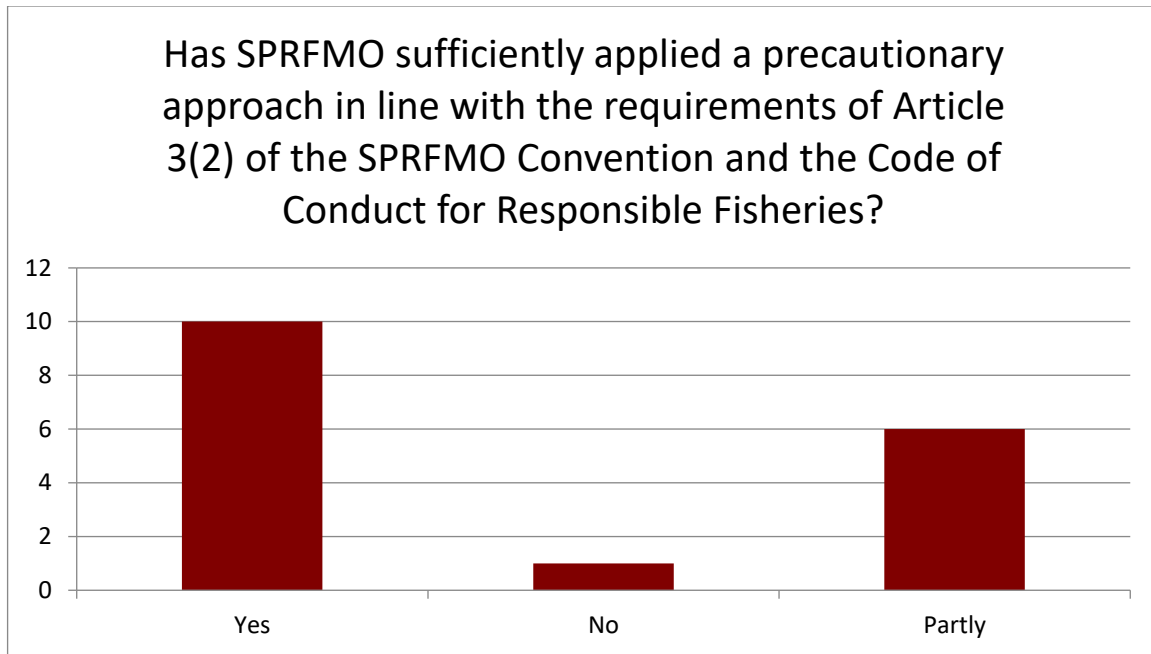
125. The Panel notes there is further work to be undertaken for SPRFMO to give full effect to Article 3(1)(a)(ii) to ensure impacts on non-target and associated or dependent species are taken into account, and Article 3(1)(a)(vii) which requires marine ecosystems to be protected, in particular those ecosystems which have long recovery times following disturbance.
126. The Panel appreciates current efforts to update the CMM on Bottom Fishing (CMM 03-2018). While commending the inclusion of prior impact assessment and 100% observer coverage in the CMM, and the precautionary approach taken to setting limits on catch while assessments can be undertaken, the Panel notes that these limits are not yet based on full scientific assessment. In addition, there is no SPRFMO-agreed approach to the management and protection of VMEs. Neither has the 2011 Bottom Fishery Impact Assessment Standard been reviewed to take into account the latest scientific information available.

3.5.2 Application of the precautionary approach

127. The Panel reviewed the extent to which SPRFMO has applied a precautionary approach as set forth in Article 3(2) of the Convention and the Code of Conduct for Responsible Fisheries, including the application of precautionary reference points as called for in Article 20 (2) of the Convention.
128. Article 3(2)(a)(i) requires SPRFMO to be more cautious when information is uncertain, unreliable, or inadequate; and (ii) to not use the absence of adequate scientific information as a reason for postponing or failing to adopt CMMs.
129. A precautionary approach has been incorporated, at least partially, into the management decisions relating to the Jack mackerel and Deepwater fisheries, but not as yet to the Jumbo flying squid fishery. Work has also been undertaken toward application of a precautionary approach to the management of non-target species, vulnerable species, including VMEs and deepwater sharks, and in considering the impacts of fishing on ecosystems, including cumulative impacts.
130. The approach taken by SPRFMO to the Jack mackerel fishery is particularly encouraging. The stock is rebuilding because of the willingness by all Members to reduce catch and apply the requisite caution.
131. In the absence of comprehensive information, catches for the bottom fishery have been limited to average catches between 2002-2006 and geographically constrained to the spatial footprint of fishing over the same period.
132. In light of this, respondents considered that the precautionary approach had generally been applied, at least to the Jack mackerel and Deepwater fisheries (see table below). The same results were recorded in answer to the question of whether SPRFMO had sufficiently applied precautionary reference points as called for in Article 20(2) of the Convention. However, several tempered their support with concerns, particularly about the squid fishery:

Partly and uneven across fisheries... the precautionary approach has been incorporated fully or almost fully in the management decisions of the Deepwater and the Jack mackerel fisheries but no such approach is being applied in the case of the jumbo flying squid fishery.

The Jack mackerel measure has been particularly effective. The bottom fishing measure needs to be updated to take into consideration new information. A squid management measure also needs to be developed, once additional scientific information is obtained.



133. The Panel agrees that the application of the precautionary approach has been uneven across fisheries. The Commission’s application of the precautionary approach to the Jack mackerel fishery is allowing the stock to rebuild.
134. In the Panel’s view, the approach taken to the bottom fishery has been restrained in the absence of comprehensive information. However, it urges work on a revised bottom fishing measure to continue and take account of new information, or the absence of information, in the determination of stock levels and trends, the incorporation of an assessment of impacts on non-target species, the implementation of an effective VME protocol, and the setting of data-based limit and target reference points as called for by the Convention.
135. The Panel notes that a precautionary approach has not been applied to the squid fishery, which is currently very lightly regulated, but also notes the significant progress made by SC6 to understand the stock and develop appropriate models to assess the stock.⁷⁹
136. The Panel notes the work undertaken by SC in 2018 to provide guidance on the exploratory potting fishery (CMM 14b-2018) and hopes that any additional work required to ensure its

⁷⁹ SPRFMO SC6 Report, paras 145-17.

alignment with CMM 13-2018 and the full application of the precautionary approach is undertaken in 2019.

137. With respect to the application of reference points, as called for under Article 20(2) of the Convention, SPRFMO has included reference points in its initial precautionary rebuilding plan for the Jack mackerel fishery. However, these do not appear to have been fully accepted. It has not adopted any reference points, precautionary or otherwise, for other target species, bycatch fish, seabirds, marine mammals, other species of concern, vulnerable species, or benthic habitats in bottom fisheries. The Commission has asked SC to develop a tiered assessment framework, including associated reference points, for fish species but not for other ecosystem components.

138. Most respondents agreed that reference points had been adopted at least for the Jack mackerel fishery, but added qualifying comments:

We understand that the Jack mackerel rebuilding strategy is based on a limit reference point though this is not necessarily easy to find.

We think this is the right time to consider reference points for the demersal fishery and would like this work to progress.

139. The Panel notes that reference points were included in the precautionary rebuilding plan for the Jack mackerel fishery but that there appears to be some confusion around whether they were fully accepted. It recognises that work is being undertaken to consider reference points in other target fisheries, and further notes that associated reference points were currently not being considered for other ecosystem components.

3.5.3 Allocation criteria

140. The SPRFMO Convention provides for allocation criteria in Article 21 to be applied by the SPRFMO Commission when taking decisions regarding participation in fishing for any fishery resource. These criteria are to be considered in conjunction with the status of the fishery resource and the existing level of fishing effort for that resource.

141. SPRFMO has applied at least some of the Article 21(1) criteria in making decisions relating to participation in fishing and allocation of total allowable catch to the Jack mackerel fishery. This is the only fishery with a catch limit/allocation at present.

142. The application of these criteria was considered by the Article 17 review panel which convened in June 2018 at the request of Ecuador. It found that the criteria in Article 21 of the SPRFMO Convention needed to be read consistently with the United Nations Convention on the Law of the Sea and the 1995 United Nations Fish Stocks Agreement.⁸⁰

143. The Article 17 review panel found that there was wide discretion available to the Commission in applying the allocation criteria in Article 21, and the onus of proof to demonstrate a failure to correctly apply Article 21 was upon any challenging party.⁸¹ It found that applying only a single criterion exclusively would amount to a failure to exercise the discretion correctly, but it

⁸⁰ Article 17 review panel, PCA Case 2018-13, para 93.

⁸¹ Article 17 review panel, PCA Case 2018-13, paras 92-93.

was not the case in the action brought by Ecuador.⁸² The Article 17 review panel decision means there is a high hurdle to be cleared for any party to challenge effectively the validity of a catch allocation based on the exercise of discretion by the Commission under Article 21. This may mitigate against future use of the Article 17 procedure in the future.

144. In considering the application of the Article 21 criteria to the Jack mackerel fishing, most respondents agreed that the criteria had been applied properly. As one respondent said “[r]ather than focusing on individual criteria under Article 21(1), the negotiations have been more holistic in nature, recognising that many of the criteria are not readily subject to quantification and are, as a result, difficult to include in an explicit manner”. However, some recognised the difficulty of allocation decisions. Specific comments on the Jack mackerel fishery included:

We accept that we may need to approach allocation differently in future (in the conduct of the negotiations or the way in which the outcome/deliberations are recorded, or both). We think that is difficult ... but we are confident that the goodwill and cooperation we have seen in SPRFMO makes it possible to negotiate a fair outcome if the 5 year % shares are reopened.

We would like to see the Commission maintain % shares over a period of time to avoid the need to have an allocation discussion at every meeting – that gives us space in the agenda to deal with increasingly complex matters on MCS and in other fisheries, and also provides Members and their industries with a greater sense of certainty.

145. The Panel recognises the extended and challenging negotiations between Members to accommodate the interests of Members with widely differing histories and aspirations in the Jack mackerel fishery. It notes a proposal for a mechanism to potentially make available some quota for allocation to new SPRFMO Members and Members with low Jack mackerel catch allocations and would encourage further efforts in this regard.⁸³ Nonetheless the Article 21 allocation criteria provides a solid foundation for decision-making and the Panel encourages the continued consideration of the Article 21 criteria in making allocation decisions in the future for both Jack mackerel and other species.

3.5.4 Unregulated fisheries, including new and exploratory fisheries

146. SPRFMO has adopted a comprehensive measure for new and exploratory fisheries (CMM 13-2016).⁸⁴ As noted in the first paragraph of CMM 13-2016:

This CMM is intended to ensure that sufficient information is available to evaluate the long term potential of new and exploratory fisheries, to assist the formulation of management advice, to evaluate the possible impacts on target stocks and non-target and associated and dependent species, to ensure new and exploratory fishery resources are developed on a precautionary and gradual basis and to promote the sustainable management of new and exploratory fisheries.

⁸² Article 17 review panel, PCA Case 2018-13, para. 96.

⁸³ COMM6-Prop04 rev1.

⁸⁴ <https://www.sprfmo.int/asures/>

147. The CMM provides a framework for the preparation of new and exploratory fisheries proposals. Detailed Fisheries Operation Plans are to be submitted to the Scientific Committee, which considers the Plans and provides advice and recommendations to the Commission on such matters as appropriate precautionary catch limits, cumulative impacts and impacts on the marine ecosystem, and the sufficiency of the information available to inform the level of precaution required. Following consideration by CTC, the Commission may approve fishing in accordance with the Fisheries Operation Plan and adopt a CMM in respect of the exploratory fishery including a precautionary catch limit and any other management measures the Commission considers appropriate.
148. To date, SPRFMO has approved two exploratory fisheries. The first was a proposal for exploratory bottom longlining for toothfish by New Zealand vessels outside the bottom longlining footprint.⁸⁵ This included a catch limit of 30 tonnes for each of 2016 and 2017, monitored on a shot-by-shot basis, rules consistent with the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR) protocol for research longline fishing on small, isolated features were applied, and monitoring and collection of information relating to marine mammals, seabirds, turtles and other species of concern. The second was a Cook Island Exploratory Potting Fishery for lobsters and crabs.⁸⁶ This provided for three research fishing trips over not more than 90 days per annum with a total allowable catch of 1000 tonnes. The CMM provided for the presentation at the next SC meeting of a full and comprehensive exploratory fishing proposal conforming with CMM 13-2016 and the Fisheries Operation Plan. The 2019 (7th) regular session of the Commission is to take into account SC advice and determine whether the exploratory fishing programme may continue.
149. At SC6, the Cook Islands presented its Fisheries Operation Plan for the exploratory potting fishery.⁸⁷ Although noting that no exploratory fishing had taken place under the CMM, SC identified three options for addressing precautionary catch limits, but noted the proposal did not adequately address criteria relating to catch limits.⁸⁸ In addition, New Zealand proposed extending its toothfish exploratory fishery,⁸⁹ and the EU proposed a new toothfish exploratory fishery.⁹⁰ These will be considered at COMM7 in January 2019.
150. In considering the effectiveness of SPRFMO's measures on unregulated fisheries, including new and exploratory fisheries, most respondents supported efforts by SPRFMO to address new and exploratory fisheries (see table below). Several respondents referred to CMM 13-2016 and praised the requirement for detailed planning of exploratory fisheries and the need for review by both SC and CTC prior to advice being provided to the Commission. It was also noted that CMM 13-2016 can be refined and improved as further exploratory fisheries are proposed.

⁸⁵ CMM 4.14.

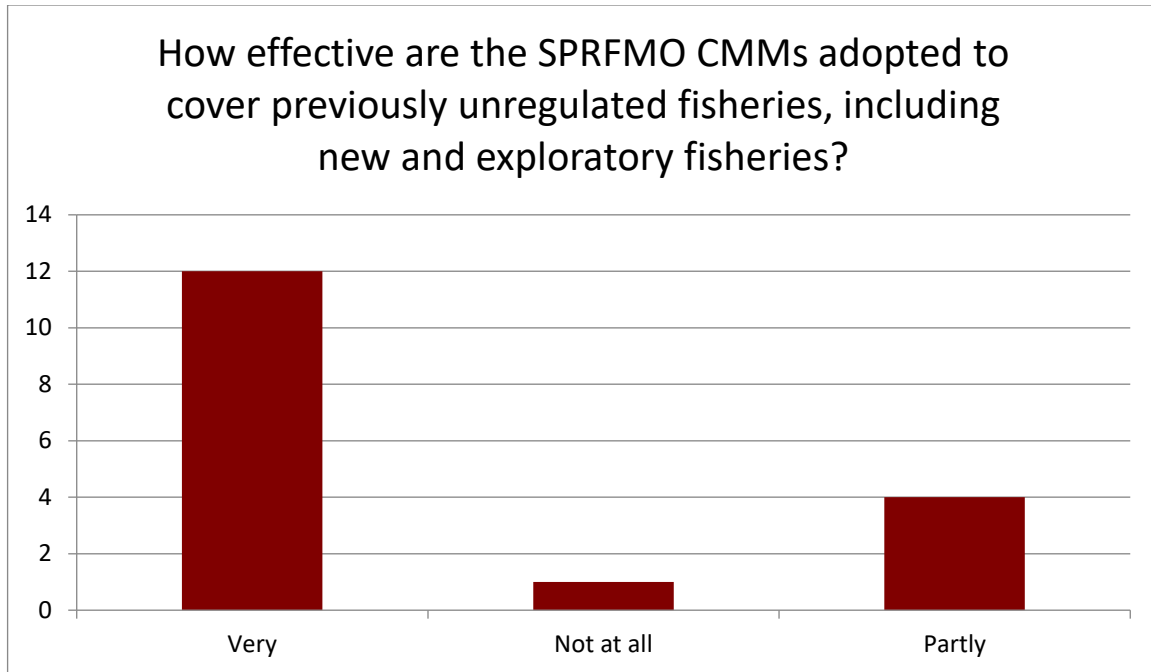
⁸⁶ CMM 14b-2018.

⁸⁷ SC6-DW01.

⁸⁸ SC6 – Report, para 241.

⁸⁹ SC6-DW03.

⁹⁰ SC6-DW02.

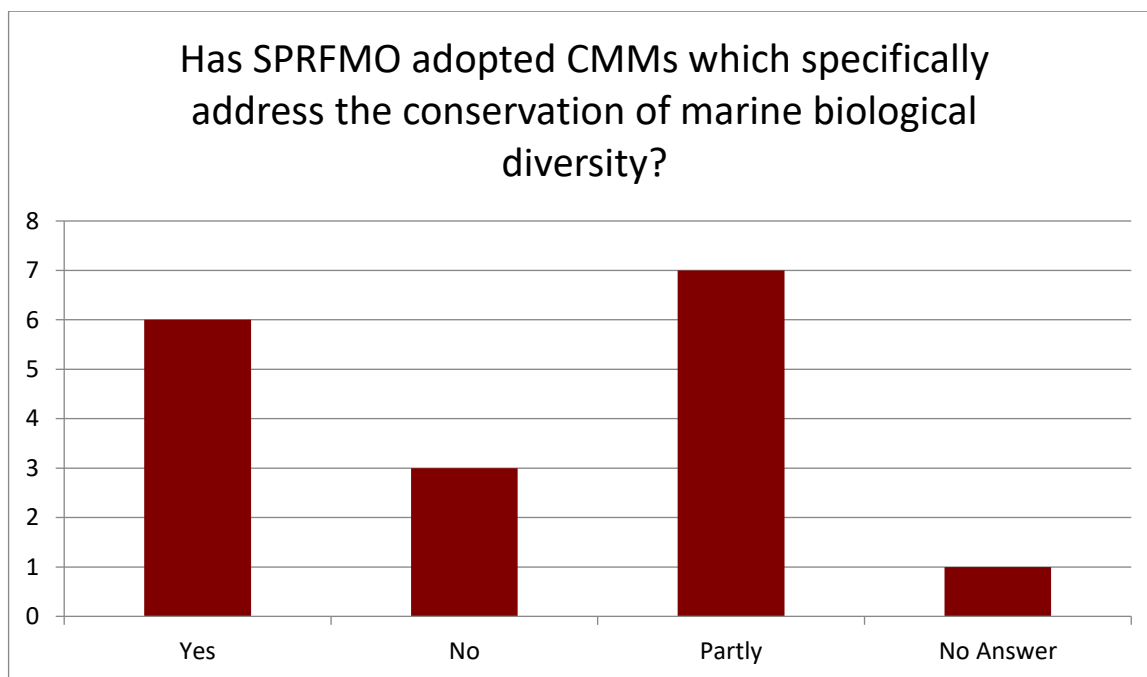


151. Nonetheless, some respondents expressed concern at the approach taken in establishing CMM 14b-2018 for the exploratory potting fishery, noting that this “will be a test case for how effective this measure is” and hoping that the potting fishery will align with CMM 13-2016 as it proceeds.
152. The Panel considers that the first exploratory fishery related to toothfish was quite precautionary. In contrast, the proposal for an exploratory potting fishery for lobsters and crabs was not fully in line with CMM 13-2016. There was no Fisheries Operation Plan prepared for review by SC and CTC prior to consideration by the Commission on appropriate management arrangements, and there was some doubt whether the 1000 tonne catch limit is sufficiently precautionary. The Panel commends the adoption of CMM 13-2018 and believes that it provides an excellent framework for the development of proposals for new and exploratory fisheries in line with the precautionary approach. It urges all proposals be reviewed through this process and for its procedural and substantive requirements to be strictly applied by the Commission and its subsidiary bodies.

3.5.5 Marine biological diversity and minimising adverse impacts

153. The need to preserve marine biodiversity, avoid adverse impacts on the marine environment, maintain the integrity of marine ecosystems, and minimise the risk of long-term or irreversible effects of fishing activities are specifically referenced in the Preamble to the SPRFMO Convention. SPRFMO has prohibited the use of large scale pelagic nets and deepwater gill nets (CMM 08-2013) and adopted a CMM on minimising impact on seabirds (CMM 09-2017). It has also gone part way to addressing vulnerable marine ecosystems through the interim bottom fishing CMM (CMM 03-2017).

154. However, SPRFMO does not have a specific CMM to address marine biological diversity on a spatial scale. Information was presented to SC1 on areas in the Western and South Pacific region that met the criteria developed by the Convention on Biological Diversity (CBD) for Ecologically or Biologically Significant Marine Areas.⁹¹ SC participants recognised the need for greater coordination between these parallel processes to identify and protect EBSAs and VMEs in the SPRFMO Area, in particular the requirement for greater coordination between spatial management planning processes that might result under the CBD and SPRFMO in response to identification of EBSAs and VMEs.⁹² The impact of fishing activities on EBSAs and on VMEs was discussed further by SC in 2014 and 2015, which noted its awareness of EBSAs within the Convention Area and that any conservation needs for EBSAs would be addressed through CMMs.⁹³
155. There is currently no SPRFMO-wide comprehensive measure to protect VMEs in the Convention Area.⁹⁴ Neither are measures specifically addressed to non-target species other than seabirds, including species of concern listed in Annex 14 of CMM 02-2018.
156. SC's Multi-Annual Work Plan, adopted in 2018, includes an annual review of benthic and VME indicator taxa from 2019, the collection and review of VME catch and other benthic sampling data from 2020, the development of a design approach for a review of benthic bycatch in 2019, consideration of VME and habitat suitability modelling in 2020, and the review and revision of the Bottom Fishery Impact Assessment Standard, including impacts on non-fish species in 2019.



⁹¹ SC1 INF-01 Areas meeting ESBA criteria for Ecologically or Biologically Significant Marine Areas.

⁹² SPRFMO SC1 Report, p. 10-11.

⁹³ SPRFMO SC2 2014, paragraphs 8.1; SPRFMO SC3 2015, paragraph 8.1, p. 17.

⁹⁴ While the Bottom Fishing CMM effectively closes most of the SPRFMO Convention Area to bottom fishing, it is not a SPRFMO-wide comprehensive measure to protect VMEs.

157. Respondents to the questionnaire gave a highly mixed response to the question of whether SPRFMO has adopted measures which specifically address the conservation of marine biological diversity (see table above). Respondents largely agreed that some efforts had been made to protect biological diversity and to minimise adverse impacts on seabirds and VMEs from fishing activities. However, most agreed that further work was required to specifically address biodiversity concerns.
158. The Panel concurs with this view and urges further work be undertaken to ensure the protection of biological diversity and the minimisation of adverse impacts from fishing.

3.5.6 Minimising pollution, waste, and discards

159. Article 3(1)(a)(x) states that in giving effect to the Convention the Commission shall minimise “pollution and waste originating from fishing vessels, discards, catch by lost gear or abandoned gear and impacts on other species and marine ecosystems”.
160. SPRFMO currently has no specific CMM to address marine pollution such as pollutants prohibited under the MARPOL Annex V, waste or marine noise. There is also no clear policy on discards and catch of non-target fishery resources.
161. Data is collected under various CMMs related to associated or dependent non-main species, excessive fishing, and negative effects on ecosystems; however, they are not directed to achieving the necessary effectiveness in reducing these impacts.
162. Only three respondents felt that SPRFMO had adopted measures to address this issue, while the majority of respondents noted that thus far SPRFMO has only partly dealt with this issue.
163. While it is clear no specific measure has been adopted, or even discussed, on this topic, some respondents noted that some of the measures that have been adopted may aid in achieving this goal. For example, one respondent noted that CMM 08-2013 has helped minimise catch by ghost fishing.
164. Other respondents highlighted CMM 02-2018, which addresses the catch of non-target fishery resources and impacts on associated or dependent species and CMM 09-2017 on minimising bycatch on seabirds.
165. The Panel notes that these, and other measures, will play a role in partially meeting Article 3(1)(a)(x), but do not fully give effect to the intent of this provision.

Panel’s Findings and Recommendations

166. The Panel:
- a) **Commends** the Commission for adopting a significant number of substantive CMMs for fisheries under its purview and the efforts it has made to apply best-practice of other RFMOs to the development of CMMs;
 - b) **Recognises** the progress in collating and analysing information about Jumbo flying squid and developing stock assessments but **Considers** that the absence of a precautionary management measure for the Jumbo flying squid is problematic;

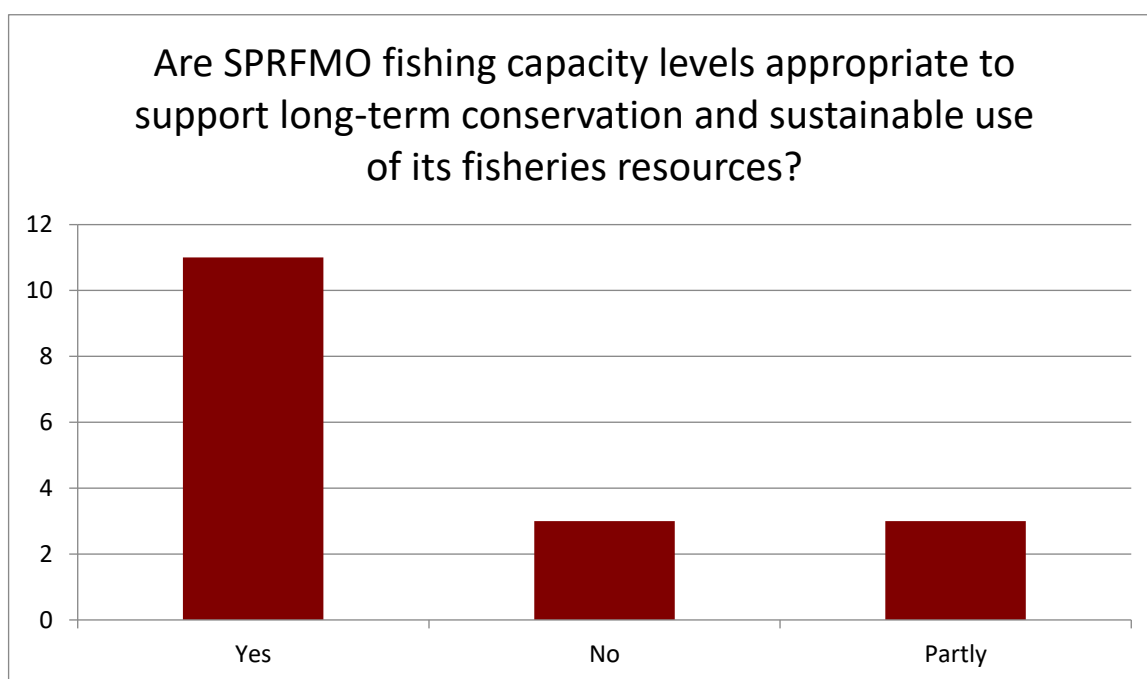
- c) **Acknowledges** the efforts being undertaken to systematically build information sufficient to undertake assessments for all deepwater stocks;
- d) **Recommends** that the Commission take urgent action to update the management measures for bottom fisheries, adopt a precautionary approach to the conservation of all deepwater stocks, and implement a SPRFMO-wide approach to the management and protection of VMEs as a matter of priority;
- e) **Commends** the work undertaken thus far to minimise bycatch of seabirds and **Recommends** that the Commission extend the CMM relating to seabird bycatch to all fisheries in the SPRFMO Convention Area;
- f) **Commends** the adoption of CMM 13-2018 as a framework for the development of proposals for new and exploratory fisheries in line with the precautionary approach;
- g) **Recommends** that the Commission and its subsidiary bodies strictly apply the procedural and substantive requirements of CMM 13-2018 for all new and exploratory fishery proposals;
- h) **Recommends** that the Commission review current efforts to give effect to Article 3(1)(a)(ii) to ensure impacts on non-target and associated or dependent species are taken into account, and Article 3(1)(a)(vii) which requires marine ecosystems to be protected, in particular those ecosystems which have long recovery times following disturbance;
- i) **Recommends** that the Commission develop conservation and management measures for species of concern, with particular priority to be given to measures to prevent adverse impacts of fishing activities on chondrichthyans;
- j) **Recognises** the difficulty of reaching allocation decisions, including in the Jack mackerel fishery, **Considers** that the Article 21 allocation criteria provide a solid foundation for decision-making, and **Encourages** the continued consideration of these criteria in making future allocation decisions for both Jack mackerel and other stocks; and
- k) **Recommends** that the Commission develop a timeline for the implementation of measures to give full effect to Article 3(1)(a)(x) on measures to prevent pollution and waste originating from fishing vessels, discards, catch by lost gear or abandoned gear and impacts on other species and marine ecosystems.

3.6 Capacity management

167. Article 3 of the Convention establishes as one of the principles to be applied in giving effect to the Convention that “overfishing and excess fishing capacity shall be prevented or eliminated”.⁹⁵ Article 20 provides for the Commission to develop CMMs including to prevent or eliminate over fishing and excess fishing capacity. Specific measures include the determination of “the nature and extent of fishing for any fishery resource including the establishment of a total allowable catch or total allowable fishing effort”.

⁹⁵ Article 3(1)(a)(iii).

168. A limitation on fishing effort in the Jack mackerel fishery was the first management action taken on an interim basis by the participants in the SPRFMO negotiations.⁹⁶ The current CMM on Jack mackerel continues explicitly to limit fishing effort to 2007 to 2009 levels but also puts in place limits on catch.⁹⁷
169. The 2007 Interim Measures also provided for the limitation of fishing effort or catch in bottom fisheries in the SPRFMO Area to existing levels in terms of the number of fishing vessels and other parameters that reflect the level of catch, fishing effort, and fishing capacity. The current CMM limits the bottom fishing catch of those participants in the fishery.⁹⁸
170. There are a limited number of vessels participating in the Jack mackerel and bottom fisheries. In 2017, there were nine vessels actively fishing for Jack mackerel and three Australian flagged vessels and 11 New Zealand vessels fishing in the SPRFMO Convention Area for deepwater species.⁹⁹ In addition, there is in-season catch monitoring for Jack mackerel that identifies the vessels operating in the Convention Area in the previous month.¹⁰⁰ In contrast to these two fisheries, there were 302 vessels fishing in the Southeast Pacific squid fishery in 2017, an increase from 274 vessels actively fishing in 2015 and 2016.¹⁰¹



⁹⁶ 2007 Interim Measures, according to which participants agree to limit the total level of gross tonnage (GT) of vessels flying their flag fishing for pelagic stocks in 2008 and 2009 to the levels of total GT recorded in 2007 in the SPRFMO Area.

⁹⁷ CMM 01-2018, para 4.

⁹⁸ CMM 03-2018, para 8(c).

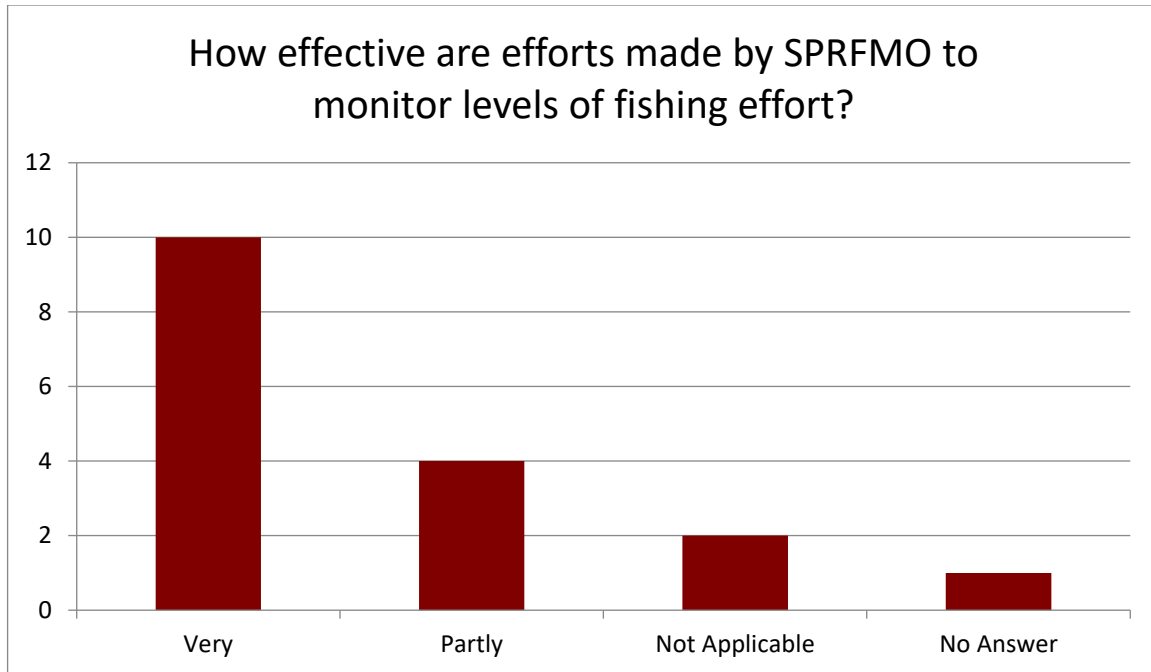
⁹⁹ COMM6-INF04 - 2017 List of Authorised Vessels.

¹⁰⁰ CMM 01-2018, para 16.

¹⁰¹ COMM5-INF04 - 2016 List of Authorised Vessels; COMM-04-INF-05 – 2015 List of Authorised Vessels.

171. The Panel examined the extent to which SPRFMO has identified fishing capacity levels commensurate with the long-term conservation and sustainable use of fishery resources, taken actions to prevent or eliminate excess fishing capacity and effort and monitor the levels of fishing effort. The responses to the Panel’s questionnaire demonstrated a reasonably consistent view that SPRFMO fishing capacity levels are appropriate to support long-term conservation and sustainable use (see table above).
172. Respondents generally considered that there were no current capacity issues for the Jack mackerel or bottom fisheries. It was noted that catch limits as output controls were an effective tool for supporting long-term conservation, catch limits had been applied for the Jack mackerel fishery and catches were also constrained in the bottom fishery. However, several respondents expressed the view that there was no constraint on the Jumbo flying squid fishery and insufficient information to determine if this was an issue. One respondent also noted that the lack of management controls in this fishery was unlikely to be consistent with supporting long term conservation and sustainable use.
173. The Panel considers that the issue of fishing capacity and effort limits is closely related to catch limits and agrees that catch limits or output controls can be a more effective tool for long-term conservation and management than input controls. Where catch limits are in place, as in the Jack mackerel and bottom fisheries, there is less of an imperative to manage fishing capacity and in both these fisheries there appears to be no current capacity issues.
174. However, in the Jumbo flying squid fishery there are no catch limits, nor sufficient information to determine whether the current level of fishing effort is appropriate. The Panel has noted the recent increase in fishing effort in this fishery as well as the considerable work being undertaken in the SC’s Squid Working Group to better understand this fishery. The Panel considers that the Commission should look to stabilise fishing capacity in this fishery on an interim basis while further data collection and research is undertaken to determine the stock status and management advice for Jumbo flying squid. This would assist in addressing the concerns of some respondents that SPRFMO had not taken sufficient action to prevent or eliminate excess fishing capacity and effort in that fishery.
175. Monitoring of fishing effort is achieved through SPRFMO’s comprehensive data collection processes for fishing activities.¹⁰² Fishing effort is registered at fine temporal and spatial scales for all fisheries activities in the SPRFMO area. VMS, observer requirements and monthly catch reporting also apply to the Jack mackerel and bottom fisheries.
176. In general, respondents considered that SPRFMO had made effective efforts to monitor levels of fishing effort (see table below). There was, however, some concern over the insufficiency of data being provided in the squid fisheries. One respondent also noted the need for regular data submission or other means of monitoring in order to ensure that sustainable catch levels are not exceeded in future. Those respondents recording “not applicable” did so on the basis that SPRFMO essentially managed on the basis of catch limits, rather than effort limits.

¹⁰² CMM 02-2018.



177. The Panel acknowledges the importance of monitoring, including of fishing effort. While there does not appear to be an issue at present with the level of fishing effort in the Jack mackerel and bottom fisheries, and insufficient information to determine whether this is an issue in the Jumbo flying squid fishery, the Panel considers that capacity should continue to be monitored in the future in case effort increases and leads to overfishing or TAC overshoot, especially in olympic fisheries or where TACs are small, as may be the case in future for deepwater stocks.

Panel’s Findings and Recommendations

178. The Panel:

- a) **Notes** that there does not appear to be excess fishing capacity in the Jack mackerel and bottom fisheries under existing catch controls, and although recent information indicates the Jumbo flying squid is not of conservation concern, there is insufficient information to determine whether the current level of fishing capacity in this fishery is appropriate;
- b) **Recommends** that the Commission maintain and enhance monitoring of fishing capacity systematically in all fisheries, especially where there is a risk that catch limits may be exceeded in future; and
- c) **Recommends** that the Commission consider the implementation of fishing effort limits in the Jumbo flying squid fishery based on existing fishing capacity as a precautionary interim measure pending further scientific and management advice from the Scientific Committee.

4. COMPLIANCE AND ENFORCEMENT

179. Article 3 establishes, as one of the core principles in giving effect to the Convention, that “effective compliance with conservation and management measures shall be ensured and sanctions for any violations shall be adequate in severity to discourage violations wherever they occur and in particular shall deprive offenders of the benefits accruing from their illegal activities”.¹⁰³
180. Article 8 further identifies the development of “effective monitoring, control, surveillance, compliance and enforcement procedures,” and “processes ... to assess flag State performance with respect to the implementation of their obligations under this Convention” as among the functions of the Commission.¹⁰⁴
181. The inclusion of compliance and enforcement issues in the core principles and functions of the Commission highlights that these are not issues solely on the shoulders of flag states (see Articles 24 and 25 discussed further below), but that compliance and enforcement are the responsibility of the Commission as a whole.
182. Responses to the questionnaire show a diversity of perspectives on how the Commission is doing in relation to compliance and enforcement matters, running the gamut from top marks to much room for improvement. In addition, responses from some Members and CNCPs show that they are focused solely on how well they have implemented their obligations rather than looking at the bigger picture of the Commission as a whole.

4.1 Flag State Duties

183. Article 24 outlines the obligations of Members of the Commission to 1) implement the Convention and any CMMs; 2) cooperate in furthering the objective of the Convention; 3) take necessary measures to prevent, deter and eliminate IUU fishing; and 4) collect, verify and report scientific, technical, and statistical data.¹⁰⁵ Article 24(2) also requires that Members report on their implementation of the CMMs and compliance and enforcement procedures. Members are also required to take measures and cooperate to ensure compliance by their nationals and fishing vessels owned, operated or controlled by its nationals, and to investigate any violations.¹⁰⁶ Under Article 24(4), Members must make evidence related to alleged violations available to prosecuting authorities of other Members. And finally, Members must fulfil the obligations of the Convention in good faith and exercise their rights under the Convention without an abuse of right.¹⁰⁷
184. Article 25 further articulates the specific Flag State Duties under the Convention. Paragraph 1 requires that Members must ensure that their vessels: 1) comply with the Convention and CMMs; 2) do not conduct unauthorised fishing in waters under national jurisdiction adjacent to

¹⁰³ Art. 3(a)(ix).

¹⁰⁴ Art. 8(g) and (h).

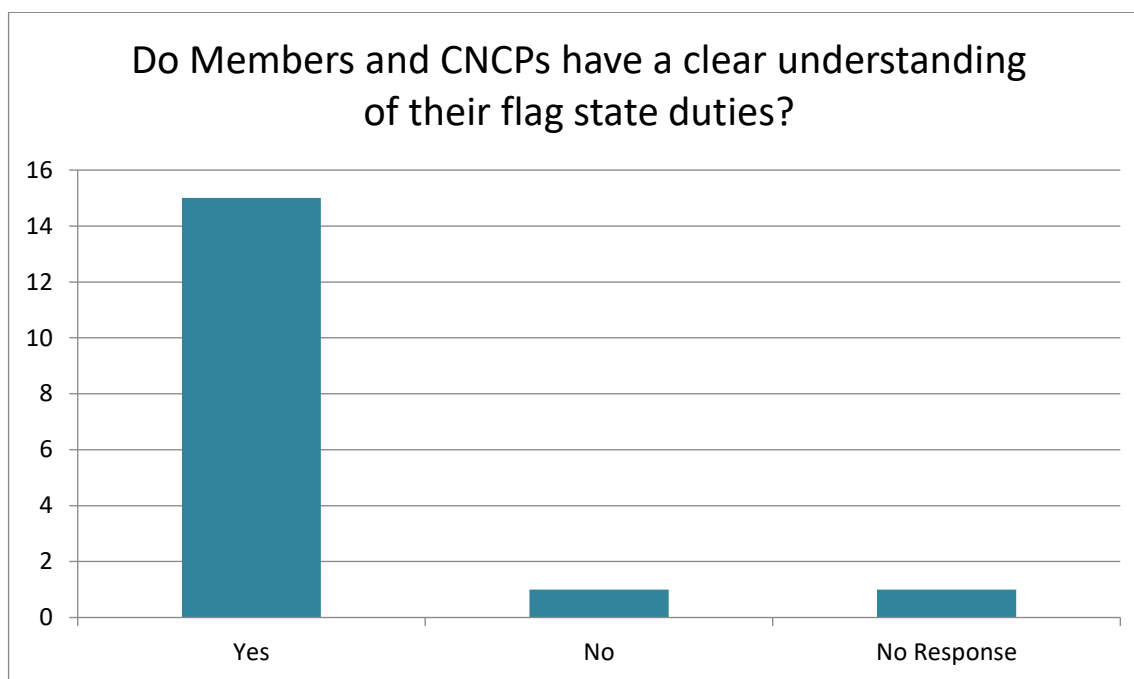
¹⁰⁵ See Art. 24(1).

¹⁰⁶ See Art. 24(3).

¹⁰⁷ See Art. 24(5).

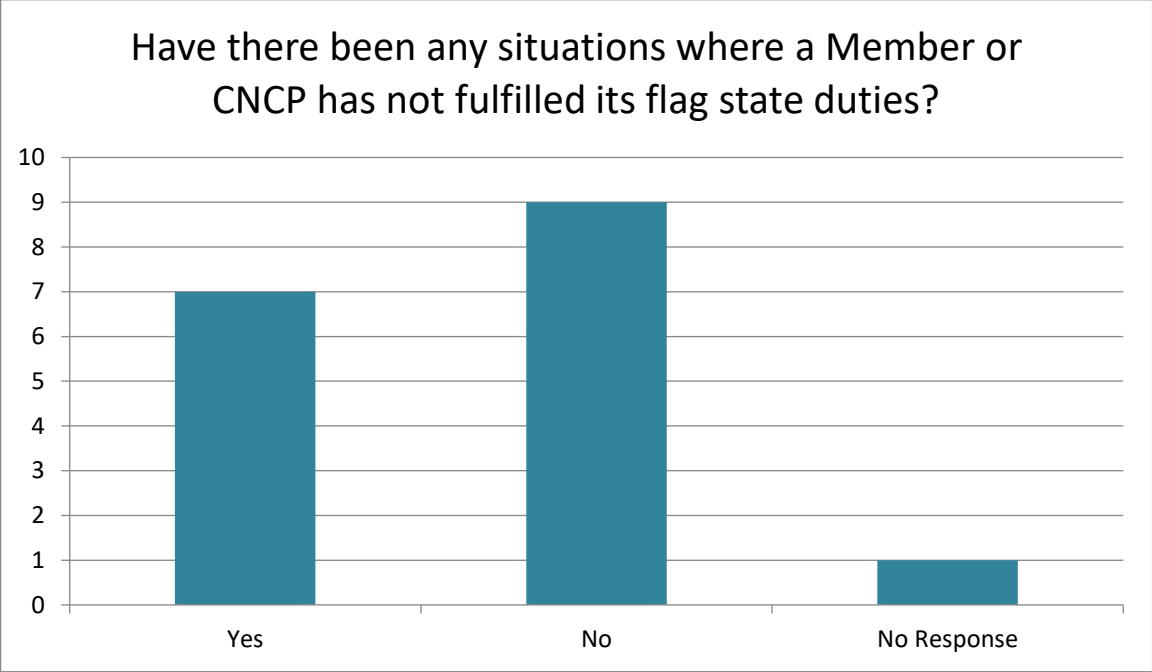
the Convention Area; 3) carry the required Vessel Monitoring System (VMS) equipment and operate it in accordance with the adopted standards and procedures; and 4) land or transship fishery resources caught in the Convention Area. It also specifies flag State requirements relating to authorisations to fish, vessel registries, investigations, penalties and sanctions, and limitations on flag vessels' operations in the Convention Area.

185. In the questionnaire, the Panel first sought to determine how well Members and CNCPs understood their flag State duties and then identify any room for improvement as well as the underlying causes for any instances where Members and CNCPs were unable to fulfil their responsibilities.



186. As indicated by the table above, respondents almost uniformly believe that they have a clear understanding of their flag State duties. A review of the narrative responses, however, reveals that the reality is not quite so clearcut. Nearly all respondents feel that Article 25 sets out the flag state obligations clearly, but only a few respondents noted that compliance with Article 25 also requires compliance with and an understanding of obligations set out in CMMs.
187. Respondents generally focused on the lack of compliance issues with Article 25 as evidence that the flag state duties are well understood. However, one Member noted that even as recently as the annual meeting in 2018, there was evidence that Members and CNCPs were interpreting their obligations in CMMs differently. This Member stressed the importance of consistent interpretations of CMMs and said it would like the Commission to devote additional time to improving consistency in interpretations.
188. Other respondents, despite indicating that the obligations were well understood, commented that the failure of some Members and CNCPs to comply with their obligations was evidence that there was a lack of understanding of their obligations.

189. The Panel is of the view that the failure to meet an obligation is not always evidence of a lack of understanding of that obligation. Clearly, however, regardless of whether Members and CNCPs understand all of their obligations, over half of the respondents think that there is room for improvement in implementation of those obligations.



190. A review of recent Final Compliance Reports does not indicate a troubling lack of compliance, and in fact, they demonstrate a positive trend in terms of improvement in the levels of compliance. It is expected that in the early years of the Commission it would take some time before all Members and CNCPs are able to fully implement their obligations and that there would be steady improvement in implementation. The Final Compliance Reports back this up.

191. In response to the question “If a Member or CNCP has not fulfilled its flag state duties, what do you think the reason for this is?”, lack of knowledge, capacity, and political will were all identified as factors.

192. From discussions with the Secretariat, and review of the responses to the questionnaire, it is clear that language barriers may be contributing to a lack of knowledge or an incomplete understanding of Members and CNCPs’ implementation obligations. Under the Commission’s Rules of Procedure (ROP), “English shall be the official and working language of the Commission”, but the ROPs also state that the Secretariat “shall produce official Chinese, French, Russian and Spanish translations of the texts of the Convention, Rules of Procedure, Financial Regulations and any other documents as the Commission may decide”.¹⁰⁸

193. The Secretariat has noted that due to budgetary constraints limited translations have been completed. Translating all CMMs into Chinese, French, Russian and Spanish may not be

¹⁰⁸ ROP, Rule 10.

necessary and will be expensive; however, there may be some measures where there have been implementation challenges that would benefit from translation.

194. One Member noted that it would be helpful if Members and CNCPs could clearly identify those areas where there is a lack of knowledge/understanding of their obligations in order to help the Commission better address those areas.
195. Similarly, identifying clear audit points or implementation requirements for each conservation and management measure could improve Members and CNCPs' understanding and ability to implement their obligations fully.
196. A recent independent review of the Compliance Monitoring Scheme of WCPFC recommended the development of audit points for CMMs to aid in the assessment of Members and CNCPs' compliance.¹⁰⁹ The development of audit points could be helpful in the implementation process in addition to the compliance process. In addition, SPRFMO is at an earlier stage of development than WCPFC, with many fewer measures. Making the effort to clearly articulate the obligations/audit points of existing measures and building that into the development of new measures could feasibly be undertaken in a year by an intersessional working group of Members.
197. Over half the responses to the questionnaire indicated lack of capacity as at least one of the reasons why Members and CNCPs have not fulfilled all their flag state obligations. Despite this, there does not seem to be any mechanism whereby capacity building needs or requests are captured in one place.
198. The Final Compliance Report from 2017 (covering activities from 1 November 2015 – 31 October 2016), included the following language: "The CTC identified possible issues of capacity and agreed that the CTC should consider ways to include provision of technical assistance or capacity building in preparation of implementation reports and appropriate follow-up actions including compliance action plans. The CTC recommends that the Commission ask the Chairperson of the Commission and the CTC Chairperson to engage bilaterally and intersessionally with the corresponding Members and CNCPs in order to identify possible shortcomings, ascertain possible solutions and courses of action. The Secretariat will facilitate this process".
199. The meeting report from 2018 does not indicate whether or not this occurred, but the Panel thinks that there would be benefits to the Commission of consolidating all of the capacity building needs and requests in one place where they can be tracked. This will help ensure that such needs and requests are not lost and will assist those who might be in a position to meet those needs in connecting with those in need. Furthermore, such consolidation would help the Commission evaluate and prioritise these needs and requests.
200. Lack of political will was also identified as a potential cause for failure to fulfil flag state duties. This is often the hardest to address and sometimes can be difficult to identify. By addressing lack of knowledge and lack of capacity, it becomes easier to identify when a failure to implement an obligation stems from a lack of political will. Isolating those circumstances can also have a

¹⁰⁹ See <https://www.wcpfc.int/node/31636>.

positive effect on influencing political will, as few Members and CNCs will want to be characterised as lacking the political will to comply with their obligations under the Convention.

201. In responding to the question “Are there ways that Members and CNCs could better fulfil their flag state duties?”, respondents provided a wide array of suggestions, including the expected recommendations to improve understanding of their obligations, build capacity to implement obligations and address the lack of political will. In addition, respondents suggested that greater international cooperation, strong remedial action in response to non-compliance, and improved quality and timeliness of data submissions could all help Members and CNCs better fulfil their flag state duties.

Panel’s Findings and Recommendations

202. The Panel:

- a) **Commends** the Convention’s recognition that compliance issues are integral to the effective functioning of the Commission;
- b) **Recognises** the steady improvement in implementation compliance demonstrated through the Final Compliance Reports;
- c) **Notes** that although the vast majority of the Members and CNCs claim a clear understanding of their flag state duties, they also indicate that there is room for improvement in implementation;
- d) **Encourages** Members and CNCs to identify those measures where there is a lack of understanding of the implementation obligations;
- e) **Recommends** the translation of those measures identified in d) above into the languages necessary to improve Members and CNCs’ understanding of their obligations;
- f) **Recommends** the Commission convene an intersessional working group (electronic) to identify the audit points/implementation obligations for all existing measures, and that all new measures adopted by the Commission identify the audit points/implementation obligations;
- g) **Notes** that lack of capacity has been identified by more than half the Members and CNCs as one of the reasons that all flag state obligations have not been fulfilled; and
- h) **Recommends** that the Commission, in conjunction with the Secretariat, consolidate, and make publicly available, a list of capacity building needs and requests identified by Members and CNCs in order to track progress, prioritise the needs and requests, and facilitate the ability of others to meet them.

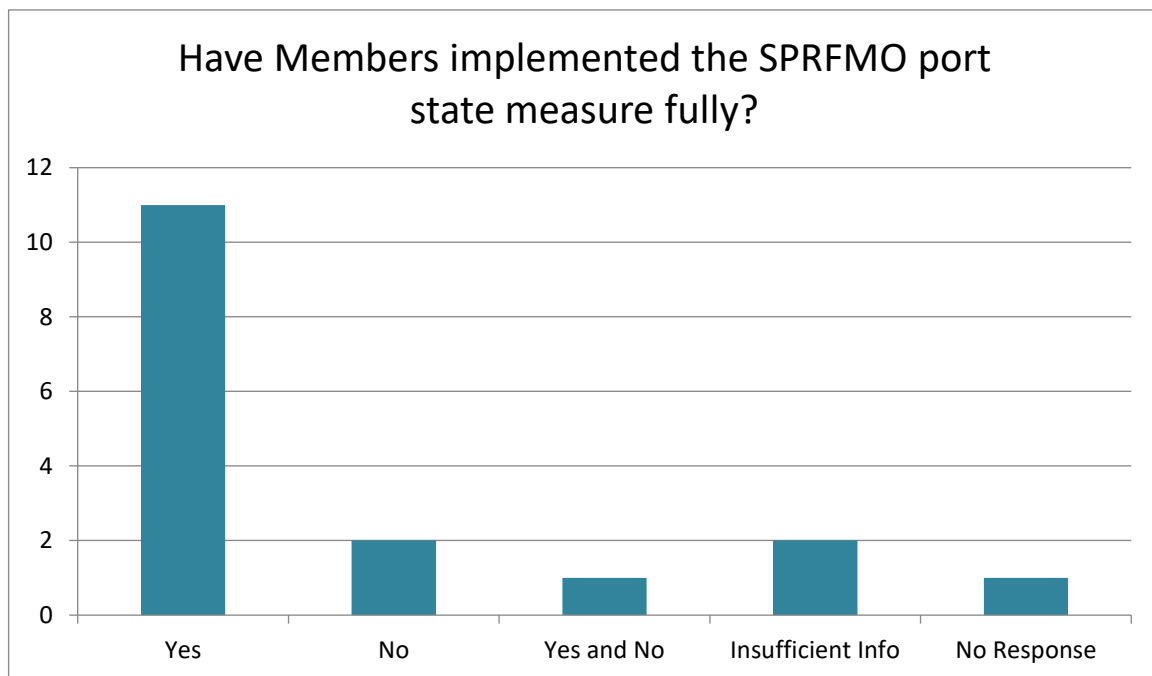
4.2 Port State Measures

203. Article 26 of the Convention specifies that port State Contracting Parties have the right and duty to “promote the effectiveness of subregional, regional and global conservation and management measures”.¹¹⁰ It further states that each Member shall: 1) give effect to CMMs in relation to entry and use of ports by fishing vessels that have fished in the Convention Area

¹¹⁰ Art. 26(1).

with respect to landing and transshipment of fishery resources, inspection of documents, catch and gear and use of port services, and 2) provide assistance to flag States in ensuring compliance by their vessels when they are voluntarily in the port of a port State.¹¹¹

- 204. If a port State considers that a fishing vessel using its port has violated the Convention or a conservation and management measure, it shall notify the flag State concerned, the Commission, and other relevant States and appropriate international organisations.¹¹²
- 205. In 2014, the Commission adopted a Port Inspection conservation and management measure, which was superseded by a revised measure in 2017, CMM 07-2017. The scope of this measure is to provide “an effective scheme of port inspections in respect of foreign fishing vessels carrying SPRFMO-managed species caught in the SPRFMO Convention Area and/or fish products originating from such species that have not been previously landed or transhipped at port, or at sea following the applicable SPRFMO procedures”.¹¹³
- 206. The Final Compliance Reports for the past three years show improvement in Members and CNCPs’ compliance with the obligations of the Port Inspection measure. Where there is non-compliance, it appears to stem either from late submission of reports or the inability to determine whether the obligation has been implemented.

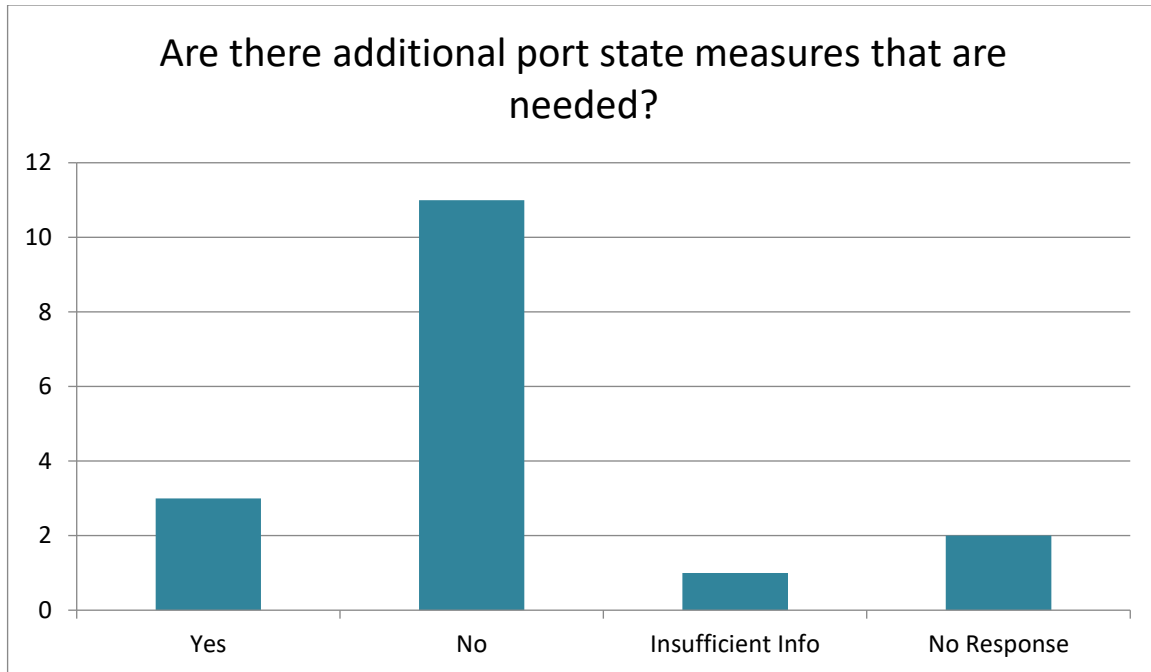


¹¹¹ Art. 26(2).

¹¹² Art. 26(3).

¹¹³ CMM 07-2017, para 1.

207. The responses to the questionnaire, however, show some confusion and indicate a lack of sufficient information to affirmatively state whether Members and CNCPs are fully implementing this obligation. Thirty-five percent of those responding could not affirmatively state that the measure was being fully implemented (see table above).
208. In their comments, respondents noted that they had no reason to think that the measure was not being fully implemented but simply did not have sufficient information to know. In addition, some responses note that the measure will not apply to all Members and CNCPs as some of them do not have foreign vessels offloading fisheries resources caught in the Convention Area in their ports.
209. Respondents appear to have confidence in the effectiveness in the Port Inspection CMM. However, there were still comments that indicated that there were areas for improvement.
210. One Member noted that the level of inspections remained low and that the effectiveness of the measure could be improved with increased inspections. Two Members or CNCPs noted that greater consistency with the FAO Port State Measures Agreement (PSMA) would improve the effectiveness of the Port Inspection measure. In particular, one Member suggested clarifying the obligations of port States to allow/deny port entry and port services in respect of vessels that may have engaged in IUU fishing. For potential IUU vessels, the PSMA obligation is to deny port entry, but entry can be allowed for the purposes of an inspection, provided port services are denied. The SPRFMO Port Inspection measure allows a port State to choose whether to allow/deny port access to a potential IUU vessel and if access is allowed, the State must follow specified inspection procedures. However, the inspection procedures do not differentiate between potential IUU and non-IUU vessels (e.g., paragraph 15 says Members should inspect at least 5% of vessels, but it should differentiate so that all potential IUU vessels have to be inspected), representing a potentially significant departure from the PSMA.
211. The Panel agrees that this is an area for improvement in the Port Inspection measure. Clarifying that all potential IUU vessels be inspected would improve the effectiveness of the measure to prevent any Members or CNCPs' ports from being used to land or transship fishery resources caught in the Convention Area.



212. The majority do not see the need for additional port state measures at this stage, although at least a handful think some improvements are needed.
213. Two responses indicated improvements along the lines of those discussed above. One Member recommended expanding the Port Inspection measure to apply not just to foreign vessels, but also to domestic flagged vessels.
214. The Panel notes that the Port Inspection measure is due to be reviewed in 2019, which will provide another opportunity in the near future, hopefully with improved reporting, to evaluate the current effectiveness of the measure.

Panel’s Findings and Recommendations

215. The Panel:
- a) **Commends** the Commission for adopting a Port Inspection regime in 2014 and then further refining the measure in 2017;
 - b) **Notes** that some Members and CNCs indicate insufficient information about Members and CNCs’ implementation of the measure to fully evaluate its effectiveness;
 - c) **Recommends** that the report from the Secretariat, required by paragraph 35 of the Port Inspection measure, be enhanced to clearly specify whether any vessels have been denied entry under the measure, and if so, the basis for the denial;
 - d) **Encourages** the Secretariat to clarify reporting requirements for Members and CNCs if it is not receiving sufficient information to meet the recommendation above;
 - e) **Notes** that the Port Inspection measure is due to be reviewed in 2019;

- f) **Recommends** that the Commission revise the Port Inspection measure to specify that all potential IUU vessels should be inspected and consider other revisions to improve reporting by Members and CNCPs of their implementation of the measure; and
- g) **Notes** that improved reporting may indicate the need for further revisions to the Port Inspection measure in future.

4.3 Monitoring, Control and Surveillance

216. Article 27 of the Convention states that the Commission shall establish “appropriate cooperative procedures for effective monitoring, control and surveillance of fishing and to ensure compliance with this Convention and the conservation and management measures adopted by the Commission”.¹¹⁴ It specifically identifies: an authorised vessel list; an inspection program, both at sea and in port; regulation of transshipment; reporting on violations detected, progress and outcomes of investigations, and enforcement actions taken; and addressing IUU fishing activities.¹¹⁵ It also discusses market-related measures, which are addressed in Section 4.6 below.
217. The Commission has made great strides in hitting each of these marks in these early days of the Commission. It adopted an IUU Vessel List in its first annual session in 2013, and has amended the measure twice since then.¹¹⁶ In 2014, it adopted an authorised vessel list (currently CMM 05-2016), a Vessel Monitoring System (currently CMM 06-2018), and a measure for Port Inspections (currently CMM 07-2017). All of these MCS measures have been amended at least once since initial adoption. In 2015, the Commission adopted a Compliance Monitoring Scheme (currently CMM 10-2018), a Boarding and Inspection measure (CMM 11-2015), and a Transshipment measure (currently CMM 12-2018). In 2016, the Commission adopted a measure for Vessels without Nationality (CMM 15-2016). And in 2018, SPRFMO established an Observer Programme (CMM 16-2018).
218. In six short years, the Commission has established an impressive array of MCS tools, and has sought to refine and fine-tune them along the way. This demonstrates a commitment to the mandates of Article 27 of the Convention.
219. Adopting MCS measures, however, is not enough, in and of itself. In order for the MCS measures to be effective, they have to be well-tailored to enable monitoring of and ensure compliance with the CMMs that are adopted. In other words, can you use the MCS tools you have to detect violations of the measures that have been adopted?
220. Members and CNCPs overwhelmingly felt that SPRFMO’s MCS measures were well-tailored to their needs. Respondents indicated that the Commission’s suite of MCS measures was what was needed to detect violations and ensure compliance with its CMMs.
221. The Panel generally concurs with this assessment and finds that the tools that have been established or that are currently in development are the right tools to deter violations and ensure

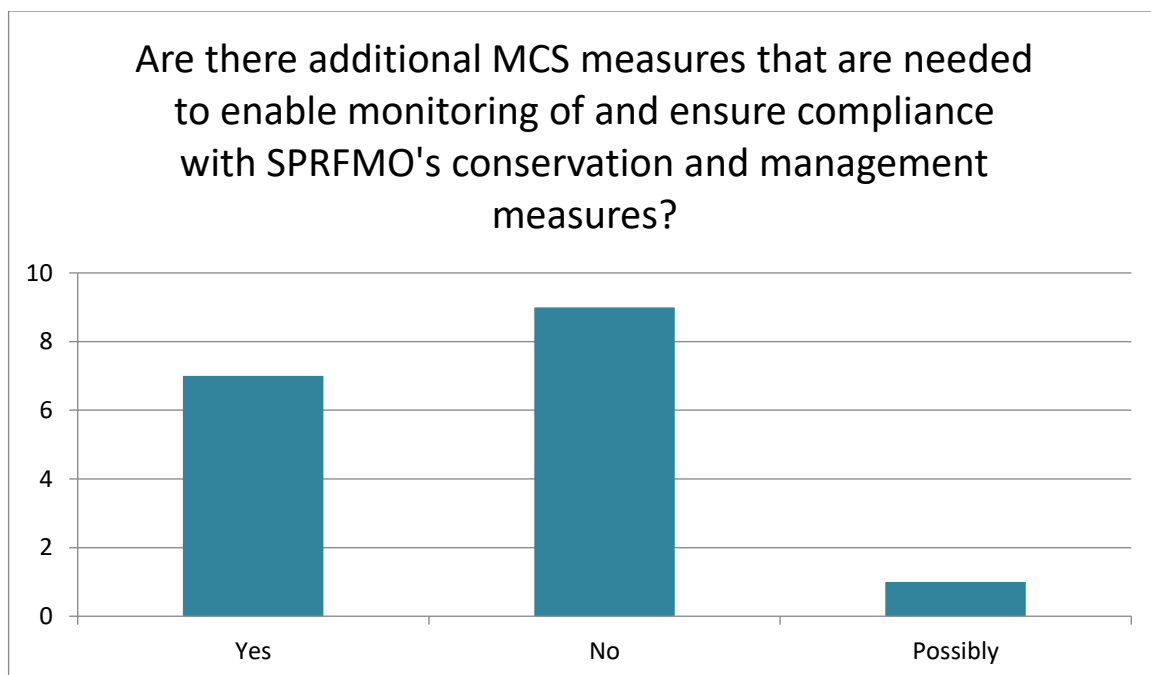
¹¹⁴ Art. 27(1).

¹¹⁵ Art. 27(1).

¹¹⁶ See CMM 04-2017.

compliance. The one exception to this is the Commission’s boarding and inspection scheme. Currently this measure merely cites Articles 21 and 22 of the 1995 Agreement (UN Fish Stocks Agreement). We see many benefits from the Commission adopting its own high seas boarding and inspection scheme that is tailored to the Convention, its Members and CNCPs, and its fisheries.

222. We do recognise, however, that the Commission has attempted to adopt its own high seas boarding and inspection regime, without success thus far. We applaud the foresight in the drafting of the Convention to make the application of Articles 21 and 22 of the 1995 Agreement automatic after a period of three years.¹¹⁷ Nonetheless, the Panel recommends that Members and CNCPs continue to work toward the goal of a SPRFMO-specific high seas boarding and inspection regime.



223. Although a number of respondents said there were additional MCS measures needed, most comments referred to the need to fully implement the MCS measures that already exist. Some respondents also noted the need for a SPRFMO-specific high seas boarding and inspection regime.

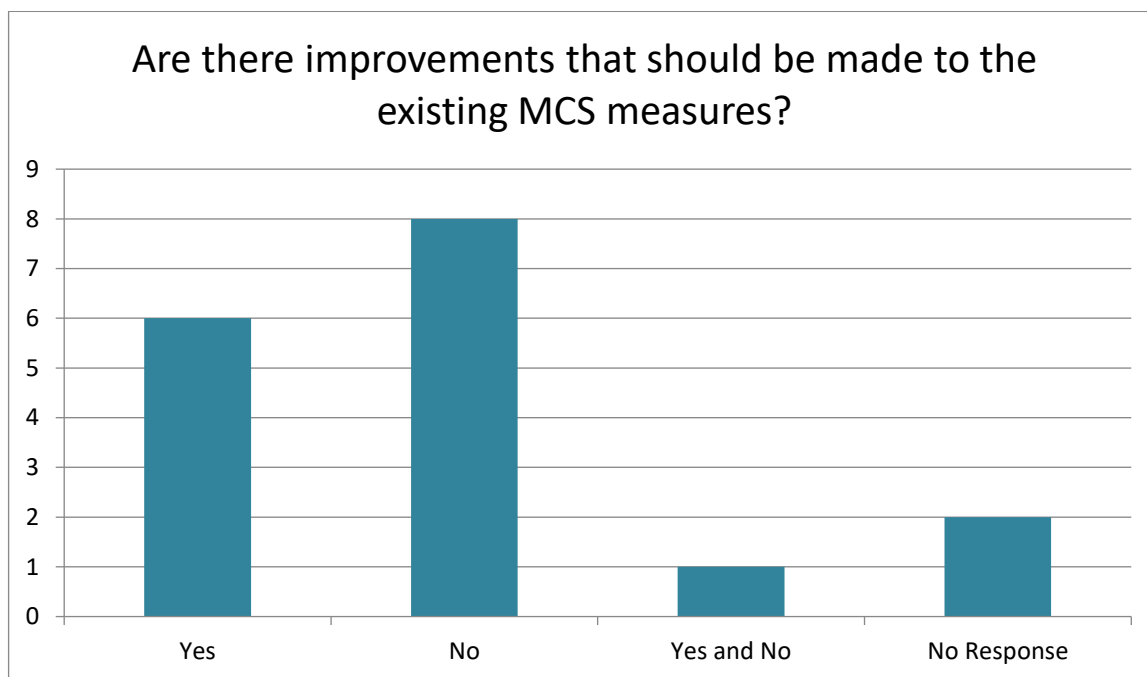
224. One Member identified a number of gaps in the current MCS measures, including: measures for the control of nationals, vessel marking and identification, Non-contracting Party vessel sightings (which can inform outreach efforts and assist in combatting IUU fishing), and lost/abandoned/discarded gear. Another Member noted that the possibility of developing a Catch Documentation Scheme in the future.

225. The Panel notes that there are two other related issues that have been generating significant interest and discussion in the international realm – observer safety and concerns about forced

¹¹⁷ See Art. 27(3).

labour in the fishing industry. As discussed below, it may be possible to incorporate provisions related to observer safety into the SPRFMO Observer Programme measure during its 2019 review. Regardless of whether these two issues are ripe for discussion at the Commission immediately, they are likely to come up in the near future as they continue to receive significant international attention. The Panel wants to highlight these as issues of potential future interest and attention.

- 226. From the perspective of the Panel, the current suite of MCS measures (with the addition of a SPRFMO-specific high seas boarding and inspection regime) is sufficient to meet the needs of the Commission at this time. This is not to say that we do not see the value of the additional MCS measures identified above, but rather it is a recognition of the significant efforts towards implementation of existing or developing MCS measures that are needed.
- 227. Based on our conversations with the Secretariat’s Executive Secretary and staff, we are concerned that the Secretariat had reached its capacity to implement the MCS measures with the Commission Vessel Monitoring System, and the implementation of the Observer Programme would put it beyond its capacity to deliver, in the absence of additional resources.
- 228. The Secretariat has done admirable work to implement the existing MCS measures, but we cannot help but be concerned by the dearth of specific compliance expertise among the Secretariat’s staff. It is important to give the Secretariat every opportunity to excel at meeting its tasks by providing it with the necessary expertise and resources.
- 229. Furthermore, even if implemented, the Secretariat does not have sufficient resources to analyse the data captured through the MCS measures. Without analysis, these data have little meaningful import.



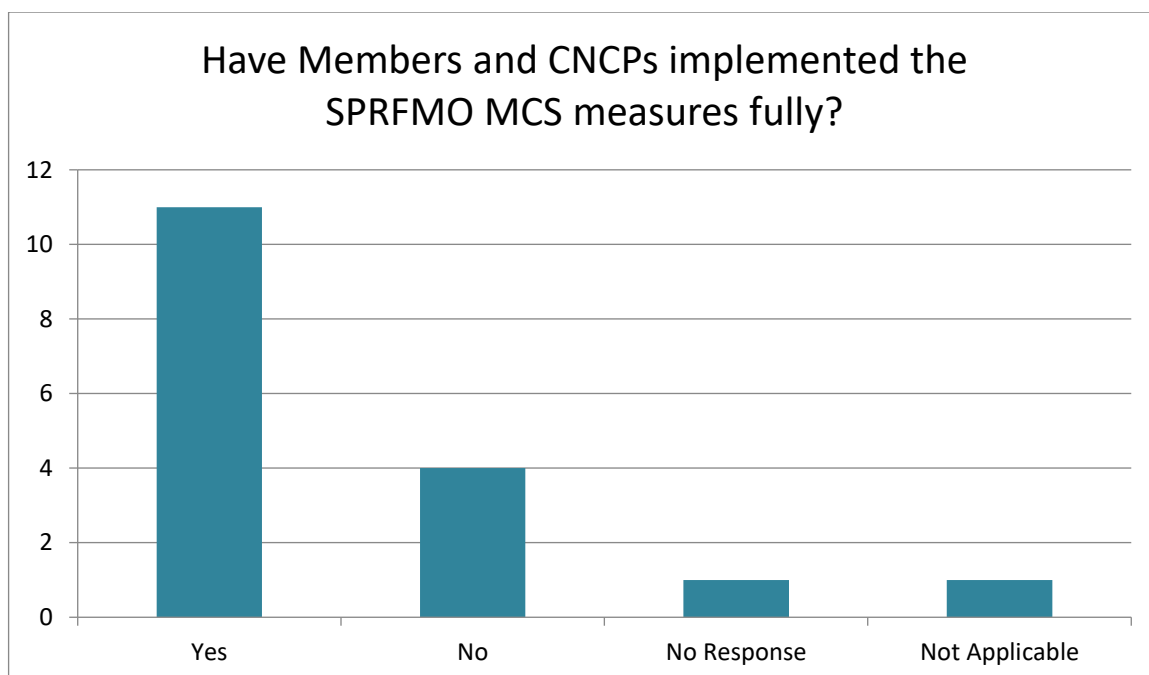
230. There was a mixed response from respondents on whether there were improvements needed to existing MCS measures. A number of respondents saw the most critical issue the need to fully implement existing measures.
231. As noted above, the Panel also believes that implementation of existing MCS measures should be a priority. However, through the process of implementation, we often discover useful changes that can be made to existing measures to improve their functioning.
232. Members and CNCP flagged some improvements that were needed to a number of existing MCS measures, including the VMS, transshipment, Observer Programme, IUU Vessel List and CMS measures.
233. Implementation of the VMS measure seems to be progressing fairly smoothly, however, there were some needed improvements recommended by Members and CNCPs. The suggested improvements include the need to increase the polling rate, clarification of arrangements for accessing VMS data from the Secretariat without flag State consent (including the spatial/temporal aspects), and the need to ensure that Members and CNCP have arrangements in place to prevent tampering with units by their vessels. In addition, one Member would like to see coastal States given restricted access to VMS data that allows them to receive near real-time information about vessels on the high seas within 100nm of their EEZs, for MCS purposes, similar to that of WCPFC.
234. In the Panel's view, the VMS measure seems to be a strong and coherent measure. We do, however, see that there are some small improvements that could be made. First, in paragraph 17, the requirement is solely that Members ensure that their vessels "install and use" the required VMS units. The term "use" is ambiguous and does not imply the level of use that we imagine should be expected. Changing paragraph 17 to read "install, activate and continuously operate" would eliminate the ambiguity and make clear the level of use that Members are expected to require of their vessels. We also agree with the comment above that additional clarity could be provided to the process for requesting and obtaining VMS data from vessels flagged to other Members and the addition of access to a 100 nautical mile buffer could provide benefits. We note, however, that the VMS measure is due to be reviewed in 2020, and do not see the recommended improvements discussed as sufficiently urgent to warrant moving that review up a year earlier to 2019.
235. Several Members or CNCPs recommended improvements to the SPRFMO Observer Programme. The Panel notes that this measure was just adopted in 2018 and is not scheduled to enter into force until 90 days after the conclusion of the 2019 Annual Meeting, therefore, it may be premature to evaluate it in any great depth. It was noted that there are a number of aspects that need to be finalised before the measure enters into force, including: arrangements for selecting the accreditation provider; the process for obtaining, maintaining, and revoking accreditation; reviewing the rights and duties established for observers and crew on board fishing vessels; and levels of observer coverage need to be established. We also note that at least some aspects of the measures will be reviewed at the 2019 Annual Meeting.
236. We urge the Commission to give the Observer Programme measure significant attention in 2019. Obviously, establishing observer coverage levels is an essential element that must be

addressed. It is also critical to clearly establish the process for obtaining, maintaining and revoking accreditation *before* there are any issues or questions related to accreditation. The Panel also notes that we are not clear on how paragraphs 2, 5 and 6 interact with each other. In particular, paragraph 6 seems to imply that observers may be selected individually, which if correct, would seem to have potential to undermine the intent of paragraphs 2 and 5 of ensuring that observers be independent and impartial. We suggest that the Commission may want to revisit these paragraphs during its review in 2019 and either revise paragraph 6 or clarify its relationship with paragraphs 2 and 5. Finally, the Panel also notes that several other RFMOs have been working to address the issue of observer safety and encourages the Commission to consider adding elements relating to observer safety into the observer measure during its review in 2019.

237. The Transshipment measure also generated some comments from respondents in particular related to the area of application which has been subject to differing interpretations. Some respondents read the measure as only requiring that transshipment of SPRFMO-managed species must be between vessels on the Record of Authorised Vessels when it occurs in the Convention Area, while others read it as applying wherever the transshipment occurs. The measure is due to be reviewed at the Annual Meeting in 2019, and this difference of interpretation should be addressed at that time.
238. In addition, the Panel notes that the Transshipment measure does not require that transshipments be observed, which can pose a large gap in effective monitoring of transshipment activities. We recommend that the Commission consider closing this gap when it reviews the measures in 2019.
239. At the Annual Session in 2018, there were differences of opinion between Members and CNCPs on the requirements of the IUU Vessel List measure. Specifically, the disagreement revolved around the issue of whether a Member was required to revoke an IUU-listed vessel's authorisations to fish anywhere in the world or only in the SPRFMO Convention Area. This difference of opinion made reaching consensus on the IUU Vessel List difficult and should be resolved. In addition, a Member noted the need to clarify that the modification procedures apply not only intersessionally, but also at the annual session.
240. The Panel sees these clarifications to the IUU Vessel List as needed, but does not see them as an immediate priority compared to other work described above and below.
241. The Commission's Compliance and Monitoring Scheme (CMS) measure is a good measure and contains many important elements. There are a number of improvements that could be made to make the process more effective, which we discuss below, but there are also some modifications that could be made to the measure itself. First, as the CMS develops and becomes more robust in implementation and relies less on self-reports and more on Commission data, assessments may become more contentious. For this reason, it would be useful to include a provision in the measure that makes clear that a Member or CNCP may not block its own compliance assessment. Second, the measure is silent on how issues related to violations by a Member or CNCP's vessel will be assessed. A CMS should focus on the action of the Member or CNCP and not on the vessel, so an alleged (or proven) violation by a Member or CNCP's

vessel should not, in and of itself, cause a Member or CNCP to be non-compliant. However, if a Member or CNCP fails to act in response to an alleged (or proven) violation by its vessel, it should be held to account for that failure. Third, the current process for responses to non-compliance, as outlined in Annex I, could use some review and revision. In particular, the utility of the “Compliance Review” and “Compliance Action Plan” are worth reconsidering. The Panel recognises that these come from CMS measures from other RFMOs, but nonetheless is not aware of these providing much benefit at any RFMO.

- 242. The Panel notes that this measure was just reviewed in 2018, and recognises that there are other priority items which the Commission should consider. Despite that, we see review and revision of this measure sooner rather than later to have one major benefit – it will be easier to reach agreement on needed changes *before* the CMS process potentially becomes more contentious as more CMMs are adopted and the Secretariat is able to do more data analysis to feed into the CMS.
- 243. Respondents generally found that SPRFMO’s MCS measures are effective and integrated, with just a few exceptions. As noted above, the one consistent message is the need to fully implement the MCS measures that have been adopted for them to be effective.
- 244. The Panel has already stressed above that we see implementation of existing or developing MCS measures as one of the top priorities in this area. In order to effectively implement the MCS measures, the Secretariat needs additional resources and expertise. In particular, the Secretariat needs a professional staff member with compliance expertise to help lead the Secretariat’s implementation of the MCS measures.
- 245. In addition, full implementation requires that the data collected be able to be analysed. Currently, the Secretariat has limited ability to do this work due to other obligations and limited resources.



246. The Panel notes that at this time, the CMS assessments are based entirely, or almost entirely, on self-assessments provided by Members and CNCPs and that data collected through the Commission's MCS measures are not currently used to verify the information provided. In order for the CMS to be more robust and meaningful, assessments have to be based on verifiable information beyond self-reporting from Members and CNCPs.
247. Several respondents noted a lack of capacity to fully implement the SPRFMO MCS measures fully, but none provided any specific examples of areas that were proving difficult to implement. As has been discussed in Section 4.1 above, the Commission does not maintain a consolidated list of capacity needs and requests. The Panel notes that this information could be helpful in improving the Commission's ability to prioritise and address those needs.
248. Many of the MCS measures are recently adopted, and some have already been amended more than once since adoption. This could be contributing to some of the challenges to implementation.
249. A review of the Final Compliance Reports indicates a moderate level of non-compliance in relation to the MCS measures, although they also show a positive trend towards compliance. The Reports tend to show implementation struggles by vessels flagged to Members or CNCPs more so than difficulties in putting the obligations into place.
250. Generally, it seems that Members and CNCPs are on track to implement the MCS measures, but some could benefit from some capacity assistance, which we understand is already occurring in some areas.
251. The Panel thinks this is an area that may be more meaningfully reviewed in a few years' time.

Panel's Findings and Recommendations

252. The Panel:
- a) **Commends** the Commission for its rigor in adopting an impressive suite of MCS measures in its first six years of operation;
 - b) **Encourages** the Commission to focus on implementation of these MCS measures, rather than the adoption of new tools at this time;
 - c) **Recognises** the challenge in adopting a SPRFMO-specific high seas boarding and inspection regime, but also **Recognises** the difficulty in operationalising the current measure;
 - d) **Recommends** that the Commission continues to work towards the adoption of its own high seas boarding and inspection regime tailored to the Convention, its Members and CNCPs, and its fisheries;
 - e) **Commends** the Secretariat for the work that it has done thus far to implement the MCS measures, but **Notes** that there is no one on the Secretariat's staff who has specific expertise in compliance issues;

- f) **Recommends** that the Commission prioritise hiring a professional staff member with compliance expertise to lead the Secretariat’s efforts to implement the MCS measures already adopted and to analyse the data captured through these measures;
- g) **Encourages** the Commission to continue to develop the SPRFMO Observer Programme and review and revise the measure to include all necessary aspects of the Observer Programme;
- h) **Recommends** that in its review of the Transshipment measure in 2019, the Commission address the issue related to the area of application of the measure and consider requiring all transshipments to be observed;
- i) **Encourages** the Commission to clarify the IUU Vessel List measure on the issues related to revocation of permits and modification of the IUU Vessel List at the annual meeting in the near term, but does not consider this an immediate priority; and
- j) **Recommends** review of the CMS measure and consideration of the changes identified by the Panel.

4.4 Follow-up on infringements

- 253. Some of the issues related to follow-up on infringements has been discussed above in discussions on the IUU Vessel List and the Compliance and Monitoring Scheme. Nonetheless, this Section is focused specifically on how Members and CNCPs are exercising their flag State responsibilities.
- 254. Respondents overwhelming agreed that CNCPs follow up on alleged infringements of CMMs, although the comments show that the “yes” responses are not quite as unequivocal as they may seem. The comments show that most Members and CNCPs think they all generally do a good job or try to the “best of the abilities of the affected Members and CNCPs”.
- 255. It is not realistic to expect that the Commission will operate without any alleged violations by at least a small number of vessels flagged to Members and CNCPs, so it is important to note again that the important consideration is about what was the response by flag States to the alleged violations.
- 256. A review of the Final Compliance Reports reflects very little information about investigations into alleged violations and even fewer reports of actual sanctions put in place. This does not mean that SPRFMO has not effectively addressed some instances of IUU fishing. There have been several incidents where there have been effective flag or coastal State investigations and significant sanctions have been imposed. Most of these issues have been covered during the IUU Vessel List discussions. The Compliance Monitoring Scheme reports, however, also identify some alleged violations and it is difficult to tell from the reports whether the flag States are taking action to address these instances of alleged non-compliance. The reports tend to focus on the challenges of implementation and corrective action (e.g., adding vessels to the list of authorised vessels) instead of any actions take with respect the vessels’ infringements.
- 257. Admittedly, it is not always clear from the reports whether or not an infringement occurred or whether the obligation had not yet been fully implemented at the time of the alleged violation. As a result, it is difficult to gauge whether or not there were investigations into alleged violations

that should have occurred that did not happen. It is also possible that this information is discussed during the Compliance assessment process, but is not captured within the Final Compliance Report.

258. In response to the question “If Members and CNCPs do not follow up on alleged infringements, please explain what is the reason or reasons” two main reasons were given – lack of capacity and lack of political will.
259. These responses are not surprising given earlier comments regarding implementation. At this stage, it is difficult to discern from the Final Compliance Reports where lack of implementation or lack of follow up on infringements is the result of a lack of capacity versus a lack of political will. Once again, the Panel notes the benefit of collating all capacity building needs and requests in one place, which could help to distinguish between those two scenarios. The Panel also notes that implementation can sometimes take time and some instances of a lack of implementation represents neither a lack of capacity or political will, but rather a process of implementation that is in progress. As discussed above, the Commission is new and many of the MCS measures are either newly adopted or newly revised and so implementation is likely ongoing in a number of cases.
260. In response to the question “Is there something that could be done to improve efforts to follow up on alleged infringements?” respondents focus on three areas.
261. Some respondents highlighted the importance of better communication between Members and CNCPs on these issues as key to improving these efforts, as well as clarification of obligations in measures. No specific measures were identified, broad reference to all measures was made.
262. Other respondents once again highlighted a lack of capacity and noted that a comprehensive capacity building programme would improve this issue.
263. Finally, other respondents felt that the way to improve follow up on infringements was to strengthen the responses to non-compliance aspect of the Compliance and Monitoring Scheme.

Panel’s Findings and Recommendations

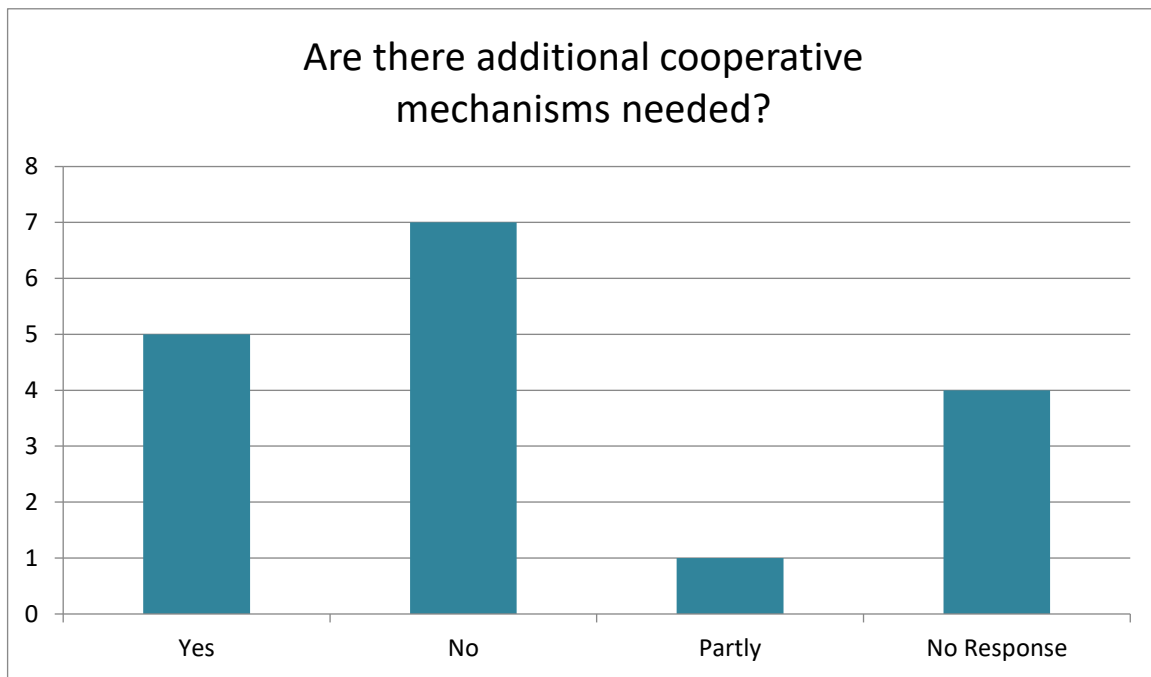
264. The Panel:
 - a) **Notes** that Members and CNCPs seem satisfied with each other’s follow up on infringements;
 - b) **Recognises** that it is difficult to tell, from the Final Compliance Reports, whether or not there have been investigations and enforcement action taken, when appropriate, in response to alleged violations;
 - c) **Recommends** that the Commission require information on investigations and enforcement actions in response to alleged violations, and if already provided, that the Final Compliance Monitoring better document that information; and
 - d) **Recommends** that the Commission consider revisions to the responses to non-compliance section of the CMS measure.

4.5 Cooperative mechanisms to detect and deter non-compliance

265. Article 31 states that the Commission shall seek to make arrangements for consultation, cooperation and collaboration with other organisations, particularly “it shall seek to cooperate with other relevant organisations with the aim of reducing and eventually eliminating IUU fishing”.¹¹⁸ Section 6.4 below speaks more generally regarding cooperation with other international organisations.
266. In terms of formal agreements with other organisations, neither of the MOUs currently in place have enforcement and compliance as the heart of the MOU, but the agreement with CCAMLR certainly includes mechanisms for collaboration and cooperation on MCS issues. As noted in Section 6.4 below, it is not always necessary for cooperation to be under the rubric of a formal MOU.
267. Respondents generally agree that SPRFMO has established cooperative mechanisms to monitor compliance, detect and deter non-compliance and remedy compliance issues. The Commission has established or is in the process of establishing the primary tools of an effective MCS regime, including an IUU Vessel List, a VMS, the SPRFMO Observer Programme, an authorised vessel list, a port inspection measure, and a CMS.
268. The Commission has done a good job of quickly creating the necessary framework for the Commission’s MCS program. However, the implementation of these measures falls in large part on the Secretariat, who must struggle to implement these measures with limited personnel and resources.
269. The Panel notes that the Secretariat could benefit from additional engagement with colleagues at other RFMO Secretariats. Obviously, in-person engagement is often most productive, but cooperative benefits can be achieved through electronic means. In particular, the ability to share lessons learned, best practices, templates, processes and procedures could be enormously beneficial to the Commission.
270. The benefits that could accrue from increased engagement with colleagues from other RFMOs would far exceed any expenditure of resources to facilitate that engagement. Reaping the benefits of the experience from other organisations in developing and establishing MCS tools such as a Vessel Monitoring System, Observer Programme, Information Management System and authorised vessel list can help prevent costly missteps and avoid the need to reinvent the wheel.
271. As discussed in greater detail below, a number of the Secretariat’s staff have accumulated a variety of collateral duties. Their performance of these collateral duties has been impressive and all have shown themselves willing to shoulder increasing workloads and duties. However, ensuring that they are not isolated in the performance of these duties is essential.

¹¹⁸ Art. 31(3).

272. It was evident from the responses to questions in this Section that some respondents were not certain as to what was meant by “cooperative mechanisms” with some focusing on the existence of MCS measures and others on MOUs with other organisations.
273. Furthermore, the mixed responses to both questions (ii) and (iii) displays some ambiguity in assessing whether these MCS measures are effective or being used effectively, although the majority of respondents responded in the affirmative. Many of these tools are in the early stages of implementation, and it may be too soon to gauge their effectiveness.
274. The Commission continues to tweak and refine its MCS measures as its goes through its early stages of implementation. Section 4.3 above discussed the individual measures in greater detail and suggests their strengths and weaknesses.
275. In the Panel’s view, there is a significant need for greater analysis of the information collected through the existing and developing MCS measures. Collecting data without analysing or utilising those data is a major gap in the ability of the MCS measures to be effective. Data analysis, however, takes time and resources, which are at a scarcity in the Secretariat at this stage. In order for the Commission’s MCS tools to be effective, there will need to be some investment in additional resources for the Secretariat to undertake data analysis work on a greater scale than it is currently able to do.



276. Here again, the responses (set out in the table above) are spread out with no consensus from the respondents on whether additional cooperative mechanisms are needed. The comments received were supportive of additional engagement with other international organisations on MCS issues.

277. From the perspective of the Panel, it would be better to invest in data analysis of the information collected under the existing or development MCS measures rather than developing additional MCS tools.

Panel's Findings and Recommendations

278. The Panel:

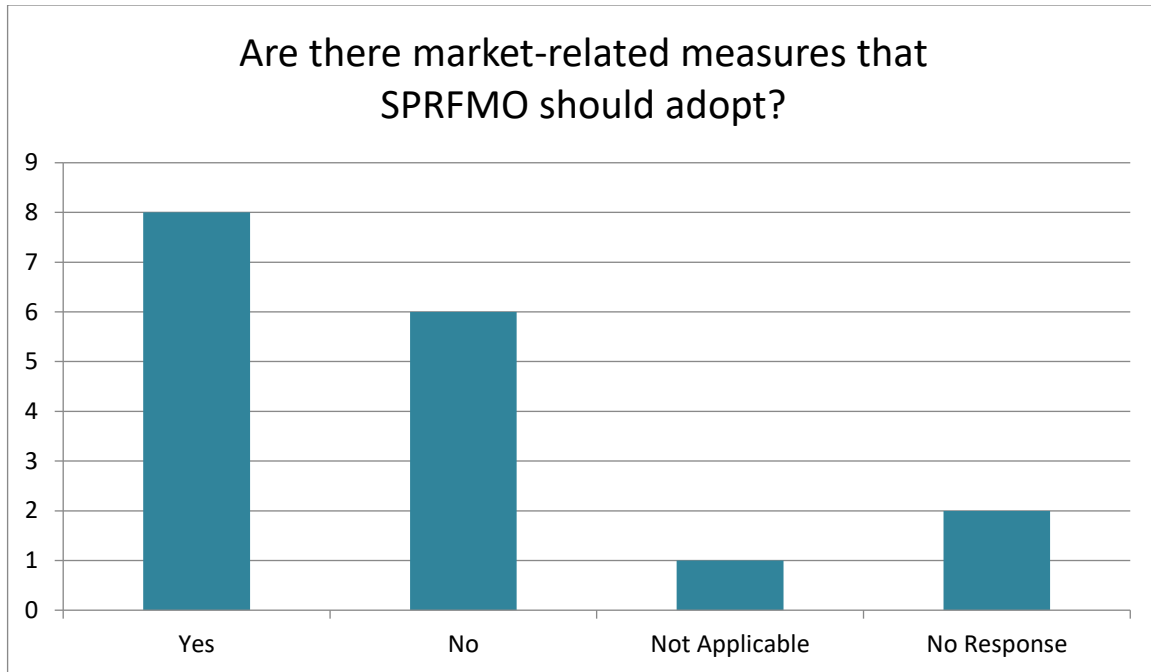
- a) **Recognises** the achievement of the Commission in establishing a robust MCS programme quickly in the early years of the Commission;
- b) **Notes** that implementation of these measures can be challenging for a Secretariat with limited personnel and resources;
- c) **Recommends** a modest investment of resources to facilitate increased engagement of the SPRFMO Secretariat with colleagues from other RFMO Secretariats, which will provide a benefit to the Commission beyond the expenditure of resources in expertise gained, shared lessons learned, use of best practices and avoid spending time and money developing tools, templates, processes and procedures that already exist;
- d) **Recommends** additional engagement by the Commission with other international regional organisations that could serve as force multipliers on MCS issues (e.g., the Forum Fisheries Agency's Regional Surveillance Centre); and
- e) **Notes** the significant need for increased analysis of data collected pursuant to existing and developing MCS measures.

4.6 Market-related measures

279. In addition to the measures discussed above in Section 4.3, Article 27 also states that in order to ensure compliance with the Commission's CMMs and for effective monitoring, control and surveillance of fishing, the Commission shall adopt "non-discriminatory market-related measures, consistent with international law, to monitor transshipment, landings, and trade to prevent, deter and eliminate IUU fishing, including, where appropriate, catch documentation schemes".¹¹⁹

280. To date, the Commission has not adopted any market-related measures, nor have there been any proposals for market-based measures.

¹¹⁹ Art. 27(1)(d).



281. Respondents seem split on whether or not there are market-related measures that should be adopted at this stage. No Members or CNCPs seem to see market-related measures as an urgent need, but several discussed the idea of exploring a Catch Documentation Scheme for the Commission. Some see it as a discussion that should begin now, while others think a Catch Documentation Scheme is something to consider in the future.
282. In addition to a Catch Documentation Scheme, other market-related measures that were noted by respondents as ones that could be considered include import controls relating to vessels that are IUU listed, and measures addressing the situation of flag States not acting properly to regulate their vessels.
283. In response to the question, “Please explain why SPRFMO has not adopted market-related measures”, most respondents highlighted that they were either not necessary yet or that they did not rise to the same level of priority as other MCS measures yet. As noted above, no Members or CNCPs indicated that they saw the lack of any market-related measures as a failure of the Commission.
284. The Panel is cognisant that other MCS measures have more urgency for the Commission and represent a significant expenditure of Secretariat resources to implement.

Panel’s Findings and Recommendations

285. The Panel:
- a) **Notes** that the Commission has not adopted any market-related measures;
 - b) **Recognises** that other MCS measures were more urgently needed and remain in the early stages of implementation;

- c) **Further Recognises** that the development of effective, non-discriminatory, market-related measures will likely involve expenditure of significant resources, particularly limited Secretariat resources;
- d) **Recommends** that the Commission not undertake the development of a Catch Documentation Scheme or other market-related measure at this time; and
- e) **Encourages** Members and CNCPs to consider what targeted market-related measures might be most needed in the future, and to work strategically to develop them at the appropriate time.

5. DECISION-MAKING AND DISPUTE SETTLEMENT

5.1 Decision-making

286. Decision-making under the SPRFMO Convention is pursuant to Article 16. It provides:

1. As a general rule, decisions by the Commission shall be taken by consensus. For the purpose of this Article, “consensus” means the absence of any formal objection made at the time the decision was taken.
2. Except where this Convention expressly provides that a decision shall be taken by consensus, if the Chairperson considers that all efforts to reach a decision by consensus have been exhausted:
 - (a) decisions of the Commission on questions of procedure shall be taken by a majority of the members of the Commission casting affirmative or negative votes; and
 - (b) decisions on questions of substance shall be taken by a three-fourths majority of the members of the Commission casting affirmative or negative votes.
3. When the issue arises as to whether a question is one of substance or not, that question shall be treated as one of substance.

287. This requires the Members to seek consensus and if unattainable move to a vote model and is not uncommon in international relations. A purely consensus model effectively gives each participant a veto on decision-making, and can therefore make it difficult for an organisation to move forward. Similarly, a purely majority voting model can mean an individual State’s wishes can be overridden. The model used in the SPRFMO Convention attempts to balance these two limitations by combining the methods of decision-making.

288. It is apparent that the questionnaire responses disclose a reasonable level of satisfaction among Members with its decision-making model. Almost 77% of responses indicate a level of satisfaction that is at the highest or second highest level. The remaining responses did not respond to this question. Accordingly, the survey does not disclose any significant dissatisfaction with the decision-making process and practices of SPRFMO.

289. A number of Members also commented on their satisfaction with the consensus/vote model:

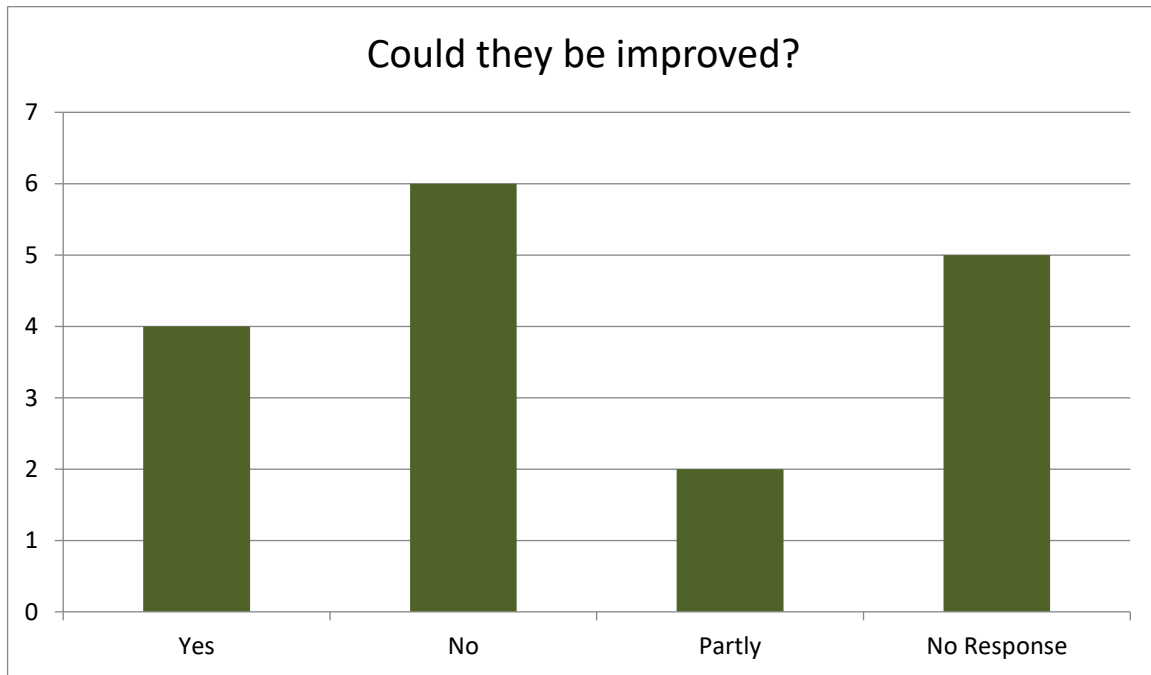
In our view, the most important achievement of the Convention is to establish the possibility to vote once all efforts at consensus are exhausted.

SPRFMO’s decision-making processes are excellent – and the voting and objections procedures were recognised in the 2016 UNFSA States Parties consultations. It is critical that we be able to vote in SPRFMO ... We think that the ability to vote is a useful lever to encourage efforts towards consensus, but we also think it’s important that SPRFMO is ‘not afraid to vote.’

290. One concern raised was not so much with the process, but seeking clarification as to what will be involved to identify when consensus cannot be reached:

It is our criterion that a limit must be established to the consideration “that efforts have been exhausted” in order to arrive at a decision by consensus, otherwise the debates go on too long.

291. The Panel considers this is a reasonable inquiry. It may be useful for the Chair to identify a time period in the course of a particular discussion when it may be deemed that consensus has not been achieved, and there is some evidence that this has occurred from time to time. In interviews it was evident that past and present Chairs have use of informal processes to encourage discussion to try to reach consensus, while also attempting to indicate periods of time in which efforts to reach consensus will be deemed to be unsuccessful. This seems to have been reasonably effective.
292. The SPRFMO Convention also has a requirement of transparency in Article 18. The attitudes of Members as to whether this requirement of transparency was being met was explored in the questionnaire.
293. Almost all the responses were either in agreement that SPRFMO’s decision-making was transparent, or were partly of the view. There were no negative responses, and the only null response was indicated to be from a CNCP that was yet to attend a meeting. This is suggestive that the requirement of transparency in Article 18 is being met. This was also borne out in interviews, where there was a degree of comfort expressed as to transparency of decision-making.
294. The questionnaire also asked whether decision-making could be improved. There was a significant range of responses with respect to this question.



295. It is clear there was no consensus on whether decision-making could be improved. Direct feedback from the Members provides limited assistance of where improvement could be made.

The Arbitration Panel for the Ecuador dispute made a number of recommendations relating to the decision-making processes of the Commission. It would be beneficial if these

recommendations could be evaluated formally by the Commission and incorporated where appropriate.

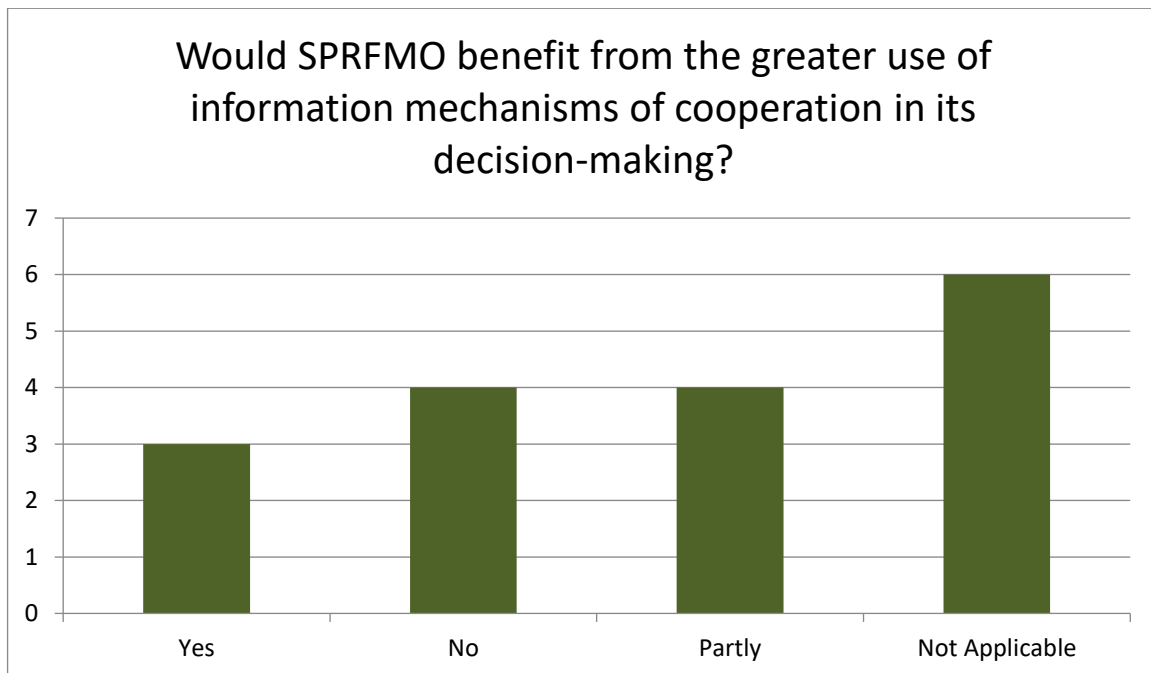
296. Drawing from this comment, the Article 17 review panel did consider whether the current approach to decision-making worked in the interests of developing States. They stated:

Some Participants referred in their written and oral submissions to the “holistic” nature of the Commission’s decision-making process on allocation. In this respect, the Panel invites Members to consider whether the interests of developing States in the region might not be better taken into account in a more deliberative and specific discussion as part of that decision-making process.¹²⁰

297. The Panel is of the view that it is entirely appropriate for the Members to give consideration to the invitation of the Article 17 review panel, particularly in the light of Article 19 of the SPRFMO Convention which recognises the special requirements of developing States.

298. The Panel notes in Section 3.4 that in the context of Jack mackerel, the CMMs adopted had made use of the recommendations of the Scientific Committee, and that stock allocations had remained within the envelope of that indicated by the Scientific Committee. The Panel considers that the progressive recovery of the Jack mackerel stock is SPRFMO’s greatest success to date, and the appropriate consideration of the recommendations of the Scientific Committee appears to be a factor in that success. Accordingly, the Panel commends the Commission for the use of the recommendations of the Scientific Committee in the formulation of CMMs.

299. The Panel also thought it appropriate to explore the use of informal mechanisms in decision-making.



¹²⁰ Article 17 review panel, PCA Case 2018-13, para 124.

300. There was no consensus in relation to whether greater use of informal mechanisms would be appropriate. In the course of interviews, it was apparent that some use of informal mechanisms had been made by Chairs, past and present. Given the general level of satisfaction with the existing processes for decision-making, the lack of consensus can be taken to indicate that there is no consensus for any increase in the scope of informal mechanisms.
301. A number of written responses indicated what else might be possible. One response from a Member stated:
- Among the possible informal mechanisms, prior conciliations can be carried out with the members with the highest incidence and experience in specific subjects that are submitted for approval in order to make the analysis more concrete and efficient.
302. While another Member stated:
- A good number of CMM require from us more discussion and accuracy that could be resolved intersessional and in an informal process. The simple discussion and sharing the different ideas and point of views would improve the discussions during the meetings and could take us to adopt measures easily and with a better understanding for every delegation. This kind of procedure was implemented in the past, but with not enough representation.
303. Planned action by the new Executive Secretary coincidentally may assist in addressing this concern. He indicated his intention to increase the level of analysis accompanying material provided by the Secretariat to support the Commission's meetings, and for this to be ready well in advance of meetings as far as was possible. The Panel is supportive of measures that do not entail significant cost which would assist delegations, particularly from non-English speaking Members and Small Island Developing States, to more fully engage in the Commission's meetings.

Panel's Findings and Recommendations

304. The Panel:
- a) **Acknowledges** the effectiveness of the consensus first/vote later approach used in the SPRFMO Convention;
 - b) **Recommends** that the Chair of the Commission continues to provide clear guidance on when attempts to achieve consensus have been exhausted;
 - c) **Recommends** the continued use of informal discussions in attempts to achieve consensus; and
 - d) **Notes** the decision and observations on decision-making of the Article 17 review panel in 2018, and **Urges** their consideration by the Members.

5.2 Dispute settlement

305. The SPRFMO Convention has a dispute resolution procedure which is provided for in Article 34:
1. Contracting Parties shall cooperate in order to prevent disputes and shall use their best endeavours to resolve any disputes by amicable means which may include, where a dispute is of a technical nature, referring the dispute to an *ad hoc* expert panel.
 2. In any case where a dispute is not resolved through the means set out in paragraph 1, the provisions relating to the settlement of disputes set out in Part VIII of the 1995 Agreement shall apply, *mutatis mutandis*, to any dispute between the Contracting Parties.
 3. Paragraph 2 shall not affect the status Contracting Party in relation to the 1995 Agreement or the 1982 Convention.
306. These provisions are broadly consistent with those found in the constituent documents of other RFMOs which were adopted in the years since the decision of the Annex VIII Arbitral Tribunal in the *South Bluefin Tuna Cases*.¹²¹ They have not been used to date.
307. SPRFMO also has a review procedure in respect of decisions taken by the Commission, which provides a limited form of dispute resolution. A review can only be requested where a decision that discriminates in form or fact against a member of the Commission, or where a decision is inconsistent with the SPRFMO Convention, or other international law as reflected in the Law of the Sea Convention or the United Nations Fish Stocks Agreement. The procedure concerned is found in Articles 17(2) and 17(3) of the SPRFMO Convention:
2. (a) Any member of the Commission may present to the Executive Secretary an objection to a decision within 60 days of the date of notification “the objection period”. In that event the decision shall not become binding on that member of the Commission to the extent of the objection, except in accordance with paragraph 3 and Annex II.
(b) A member of the Commission that presents an objection shall at the same time: (i) specify in detail the grounds for its objection; (ii) adopt alternative measures that are equivalent in effect to the decision to which it has objected and have the same date of application; and (iii) advise the Executive Secretary of the terms of such alternative measures.
(c) The only admissible grounds for an objection are that the decision unjustifiably discriminates in form or in fact against the member of the Commission, or is inconsistent with the provisions of this Convention or other relevant international law as reflected in the 1982 Convention or the 1995 Agreement.
 3. Any member of the Commission that has objected to a decision may at any time withdraw that objection. The decision shall then become binding on that member in accordance with paragraph 1(b) or on the date of the withdrawal of the objection whichever is the later.
308. The review procedure above has been invoked on two occasions: once by the Russian Federation in 2013; and once by the Republic of Ecuador in 2018. In both cases, the review

¹²¹ (2000) XXIII RIAA 1; For example see Article 31, Western and Central Pacific Fisheries Convention; Article 20, Southern Indian Ocean Fisheries Agreement.

panels sat at the facilities of the Permanent Court of Arbitration in The Hague, in the Netherlands. In the first instance, Russia successfully sought review of a decision of the Commission that excluded it from receiving any allocation of Jack mackerel. In the second instance, Ecuador was unable to overturn a decision with respect to an allocation it received. In each case, the time periods required in the SPRFMO Convention were met and the Permanent Court of Arbitration ensured the proceedings were supported appropriately.

309. The questionnaire provided in the lead up to this review specifically addressed dispute resolution, and sought responses in respect of satisfaction with the processes. All of the textual responses to the questionnaire addressed the Article 17 reviews.
310. The elements of the questionnaire directed at dispute resolution asked questions as to the effectiveness of dispute resolution and whether the process was considered expeditious. A clear consensus on the effectiveness of SPRFMO's dispute resolution process did emerge. All the responses were either confirmatory of this proposition or partly confirmatory of it. No responses were negative.
311. Where commentary was offered by Members, it was of the view that the review process under Article 17 had been effective. One Contracting Party stated:
- ...we can consider that both Review Panel procedures that took place in the past were effectively resolved. In our view, the Convention and rules of procedures established from every Panel were correctly followed.
312. Another Contracting Party stated:
- The SPRFMO dispute resolution process has been very effective in resolving disputes and achieving a prompt resolution to issues of concern to Members. It allows for a robust and transparent review of a commission decision and provides an aggrieved Member with redress without initiating more formal dispute resolution procedures. It also enables prompt resolution of disputes, which among other things, reduces costs for both the aggrieved Member and the Commission.
313. The next question was directed at whether the procedures were expeditious. This was relatively clear in the responses. No response was negative, while all responses were either partly or completely of the view that the dispute resolution process was expeditious. The answer which indicated "partly" expressed concern about implementation of the findings of the second review panel.
314. The next question was directed at concerns over the cost. Only one Member expressed concern in this category, which from comments made was directed at the Article 17 process only. Otherwise all responses were essentially happy with process. Comments made in relation to this question expressed support for the use of the procedure, and no comments were made with respect to costs being excessive.
315. From the interviews conducted, it was universally expressed that the review panel process had been expeditious and had served a purpose in dealing with disputes within the Commission. Interviewees felt the process was well run, and the support from the Permanent Court of

Arbitration was excellent. Consideration of other venues had been made by the Chairs, but in both cases the ability of the Court to support the panel in a timely fashion was determinative of the location. Feedback from the Secretariat indicated that there was a surge in work in the lead up to each review panel, and this additional workload was substantial and subject to urgent time constraints. There was also significant cost involved to the Secretariat, with the funds to support the activity being drawn from reserve funds from outside of the Annual Budget. These funds are now essentially exhausted, and may take many years to replenish. With this in mind, it may be appropriate for the Members to consider a special budget allocation to reimburse the SPRFMO budget in the budget cycle immediately following an Article 17 review panel in order to cover the costs associated with support to the most recent proceedings.

316. The Panel notes that in addition to the additional workload and resource cost to the Secretariat, there was a significant burden borne by the Chair of the Commission in both instances. Both Chairs invested substantial time and energy in drafting legal pleadings, working with the Secretariat, and representing the Commission at the Permanent Court of Arbitration. The Commission has been fortunate that in both instances it had Chairs that were able to invest the time and provide the expertise needed to represent the Commission's interest, but the Panel notes that this may not always be the case.
317. The Panel formed the view that the Members, CNCPs and observers were, in general, favourably disposed to the review panel procedure. Most felt it provided an excellent response to the challenges of a vote after failing to achieve consensus, and had been useful in encouraging the engagement of Members in respect of what otherwise might be difficult disputes. The Panel notes that the review panel process had been largely effective in assisting Members in moving towards the resolution of what otherwise might be a difficult dispute, and was a useful innovation present within the SPRFMO Convention.
318. The Panel was of the view that it was unusual for a process involving external review to be used within an RFMO twice in a period of five years. The efficacy of the process, and certainly costs involved, might be compromised if there was recourse to the process on a regular basis. There is every reason to believe this would not be the case, given the statement in the Report of the 2nd Commission Meeting, the first following the initial review panel:

Delegations agreed that the fact that a vote had been necessary on this occasion was not to be seen as a precedent for the future. The circumstances of this particular occasion were unusual and it was anticipated that similar decisions in the future would be able to be achieved by consensus.¹²²

319. The Panel also noted that the formal dispute resolution process under Article 34 had never been used, so no evaluation of that process was possible.

¹²² *Report of the Second Meeting of the Commission of the South Pacific Regional Fisheries Management Organisation*, Manta, Ecuador 27– 31 January 2014, para. 10.

Panel's Findings and Recommendations

320. The Panel:

- a) **Notes** that there are effectively two mechanisms for the resolution of disputes within the Commission:
 - The Article 17 review panel process
 - The Article 34 arbitration process;
- b) **Notes** that the Article 34 arbitration process has never been used since the SPRFMO Convention entered into force;
- c) **Notes** the Article 17 review panel process has been used twice since the SPRFMO Convention entered into force in 2013;
- d) **Acknowledges** that the Article 17 review panel process is a point of difference between SPRFMO and most other RFMOs;
- e) **Acknowledges** the effectiveness of the Article 17 review panel process in resolving disagreement between Members and in progressing the long term resolution of disputes;
- f) **Notes** that the support of the Article 17 review panel process by the Secretariat is both expensive and time-consuming, including for Commission Chairs, and that the SPRFMO Contingency Fund was used in 2018 to support the Article 17 review panel process at that time;
- g) **Recommends** that Members consider making a special budgetary allocation at the first meeting following a use of the Article 17 review panel process to reimburse the SPRFMO budget in order to cover the costs associated with support to the most recent Article 17 review panel proceedings;
- h) **Recommends** the Commission take steps to ensure the effective implementation of the findings of an Article 17 review panel at the first meeting following the decision of the panel;
- i) **Commends** the use of the Permanent Court of Arbitration as the venue and provider of secretarial services for the Article 17 review panel process, in terms of efficiency and timeliness;
- j) **Notes** that frequent use of the Article 17 review panel process is likely to generate very significant costs, and potentially undermine the system of decision-making provided for in the SPRFMO Convention; and
- k) **Notes** the Commission in the wake of the 2013 use of the Article 17 review panel process indicated the process was intended as an unusual occurrence, and **Urges** Members to continue to view the Article 17 review panel process in that light.

6. INTERNATIONAL COOPERATION

6.1 Transparency

6.1.1 Extent to which SPRFMO is operating in a transparent manner

321. Article 18 of the Convention requires the Commission to promote transparency in decision making processes and other activities carried out under the Convention. It provides for meetings to be open to all registered participants and observers subject to rules of procedure which shall not be overly restrictive regarding participation. It also provides for the publication of all reports and CMMs, the dissemination of non-commercially sensitive information, and the facilitation as appropriate of consultations with non-governmental organisations and representatives of the fishing industry. The Convention's transparency provisions are consistent with Article 12 of the UN Fish Stocks Agreement and paragraph 7.1.9 of the FAO Code of Conduct on Responsible Fisheries which strongly encourages transparency in fisheries management and decision-making.
322. The Commission Rules of Procedure provide for the participation of observers of non-Members which participated in the International Consultations on the Establishment of SPRFMO, have jurisdiction over waters adjacent to the Convention Area, or which have an interest in the work of the Commission and are invited by the Commission; the FAO, specialised agencies, RFMOs, and other intergovernmental organisations (IGOs) invited by the Commission; and non-governmental organisations (NGOs) invited by the Commission in accordance with the rules of procedure. Rule 9 also provides for NGOs to provide 50 days' advance notice of interest, and participation is accepted unless a simple majority of Members objects. Observer status remains in effect for future meetings unless the Commission decides otherwise.
323. The approach towards observers at meetings of the Commission and subsidiary bodies follows the promotion of transparency in the Convention. Observers are able to present information papers to meetings, participate in deliberations, and are to be given timely access to all documents subject to any rules relating to the confidentiality of certain data and other commercially sensitive information that the Commission may decide. In practice observers are able to participate in all meetings, including subsidiary bodies, except Heads of Delegation meetings.
324. The number of observers participating in meetings of the Commission has varied from year to year and not all observers attend each year. Eight IGOs and 13 NGOs covering a range of fishing and environmental interests have obtained observer status.
325. The Panel considers that SPRFMO has an open and transparent approach to the participation of observers, especially NGO observers. This conclusion is supported by the questionnaire responses set out below. Respondents commented that there is a clear process for the participation of observers and that "SPRFMO runs extremely open meeting processes", and that some observers "do in fact participate very actively and effectively".



326. There is, nevertheless, potential for increased participation by a wider group of observers, both IGO and NGO observers. For example, there is no provision in the rules of procedure, as is the case with some RFMOs, for the Commission to invite the participation of an IGO or NGO to facilitate the work of the meeting. Such an approach might be adopted where matters are to be considered by the Commission or its subsidiary bodies and in which an IGO or NGO has particular expertise.
327. While SPRFMO has open and transparent processes, it should continue to be vigilant in ensuring that observers are provided with relevant information to enable them to participate or observe deliberations if they wished. For example, one of the questionnaire responses noted that occasionally observers are unintentionally left off of communications concerning webinars or informal meetings. It was also noted by two respondents that environmental NGOs were not advised of the Ecuador objection to the 2017 Commission decision on Chilean Jack mackerel. The objection procedure in Article 17 of the Convention requires that Members be notified of an objection. The Panel notes that it would be useful in future for observers to also be advised of recourse to the objection procedure.

Panel's Findings and Recommendations

328. The Panel:
- a) **Acknowledges** the open and transparent processes adopted by the Commission and its subsidiary bodies;
 - b) **Recommends** that the Commission give consideration to developing a process for inviting observers to meetings where their participation would facilitate the meeting; and

- c) **Recommends** that the Executive Secretary notify observers of the establishment of a review panel under Article 17 of the Convention and of the findings and recommendations of the review panel.

6.1.2 Extent to which materials are made publicly available in a timely fashion

329. Transparency is enhanced when decisions, meeting reports and scientific analysis of an RFMO is openly available. The Commission's website is comprehensive and includes basic documents, all documents relating to past and upcoming meetings, CMMs, the SC work plan, catch information and information on cooperation with other organisations. Meeting documents are posted on the website prior to meetings and all meeting reports are posted at the conclusion of the meetings.
330. SPRFMO has a secure part of the website for Members only. This is used for confidential documents, such as the draft Compliance Monitoring Report. The secure part of the website also contains other non-public domain information such as catch and effort data. The SPRFMO data rules provide for access to the SPRFMO database to be accorded to authorised users.
331. The Secretariat is planning to upgrade its website. This is due in part to the website host no longer supporting the website software. The upgrade is likely to bring improvements to the design of the website. The content of the website is updated by the Secretariat on a regular basis.
332. The Panel considers that SPRFMO publishes its reports, conservation measures, scientific advice on which decisions are based, and relevant information relating to authorised vessels in a timely manner. This assessment is confirmed by the questionnaire responses, all of which responded that SPRFMO reports, conservation measures and scientific advice and other relevant non-commercial sensitive information are made publicly available in a timely manner.
333. In response to the question on the effectiveness of the SPRFMO website in making relevant information publicly available and easily accessible, a small number of respondents (three) considered that the website was partly effective. A couple of Members commented that the website was difficult if you were a member of the public or entering the SPRFMO website for the first time as it was not always easy for those less familiar with the website to find information. Another commented on the need to update it regularly, and another on the need to remove outdated content.
334. An upgraded website is expected to address some of the issues raised in questionnaire responses relating to the website's user friendliness and the need to remove outdated content. The Panel commends the Secretariat for work in upgrading the SPRFMO website.
335. The SPRFMO website is the main source of information on the activities of the organisation not only for Members, CNCs, environmental stakeholders and the fishing industry, but also for the wider community. Article 29 of the Convention requires the Commission to prepare an annual report detailing the decisions of the Commission and actions taken in response to recommendations of the United Nations General Assembly or FAO. This report is concise and to the point and meets the requirements of Article 29. However, it is not a vehicle for the dissemination of information on SPRFMO and its achievements. Neither is the Annual

Administrative Report prepared by the Secretariat, which duplicates some of what is in the Annual Report. The Panel sees merit in SPRFMO having a website which provides up-to-date information on SPRFMO and its achievements. While preparing and maintaining information on the website requires Secretariat time and resources, this is offset by the savings achieved by being able to refer inquirers to the website, particularly for Frequently Asked Questions.

336. Including information on the website not only meets a transparency objective, it can also give the organisation greater visibility. The Panel considers that there is benefit in SPRFMO having greater visibility and profile in the wider international fisheries community. Publicising more broadly the achievements of the organisation can assist in demonstrating the relevance of SPRFMO to Members and CNCPs thereby assisting in garnering domestic support for the organisation and its activities. This applies in particular to the achievements of the organisation, such as the recovery of the Jack mackerel stock, which are not widely known or appreciated. Increasing the profile for the organisation may also assist in catalysing additional financial and scientific resources from outside the organisation. A good website is important to maintain a profile, but visibility can also be gained by having a social media presence. SPRFMO has a Facebook page which includes general news content for a wider audience.
337. Although there is benefit to be achieved through increased profile and visibility, the benefits must be balanced against the burden on the Secretariat in maintaining the website and a social media presence. There is a danger that attempts to increase profile and visibility, if not properly focussed and targeted, will be a waste of resources. For this reason, the Panel considers that the Secretariat should develop a communications strategy which identifies the target audience and the groups to be influenced, the purpose, messages and expected outcome of the communications. The expenditure of staff resources on communications should be weighed against the direct benefit to the organisation, such as in terms of the additional resources which could be brought into the organisation from sources other than Member contributions.

Panel's Findings and Recommendations

338. The Panel:

- a) **Acknowledges** that SPRFMO decisions, scientific advice, and other relevant materials are made publicly available in a timely fashion; and that the SPRFMO website contains up to date information which is accessible and user friendly;
- b) **Commends** the Secretariat for working to develop a new SPRFMO website; and
- c) **Recommends** that the Secretariat develop a communications strategy in order to enhance communications with Members, CNCPs and observers, to cost-effectively increase the visibility and profile of SPRFMO in the wider international fisheries community, and to ensure that there is a targeted approach to communications which bring direct benefits to the organisation.

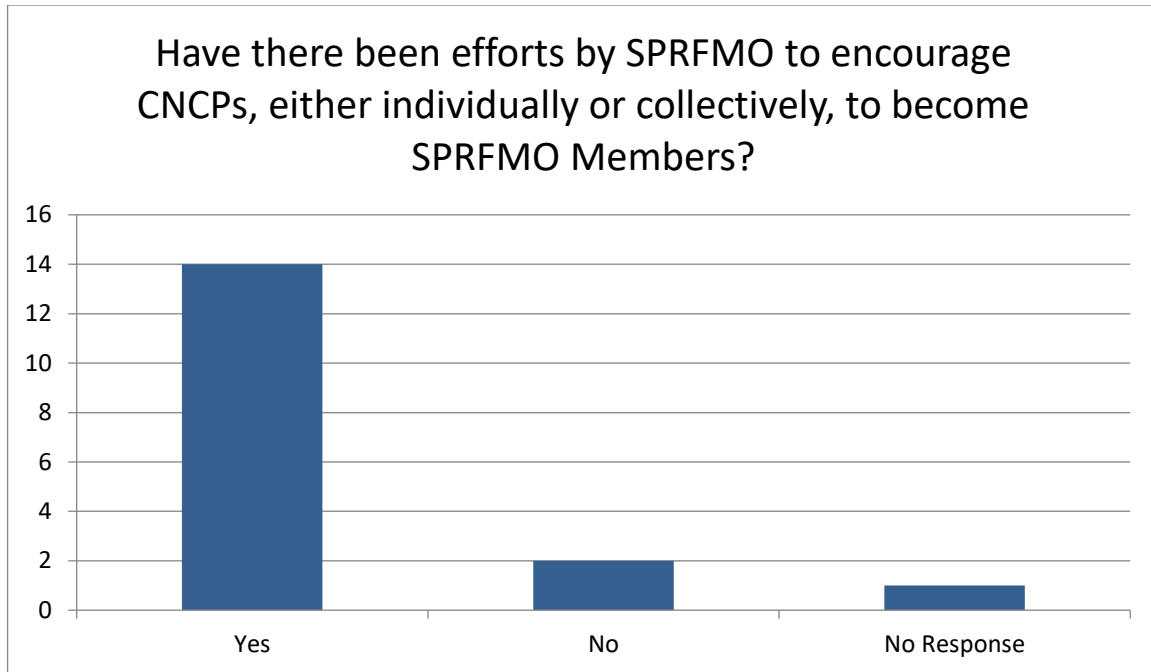
6.2 Relationship with Cooperating Non-Contracting Parties

339. Article 32 of the Convention provides for the Commission to cooperate with non-Parties to the Convention, including by requesting non-Contracting Parties whose vessels fish in the Convention Area to become party to the Convention or to agree to cooperate fully in the

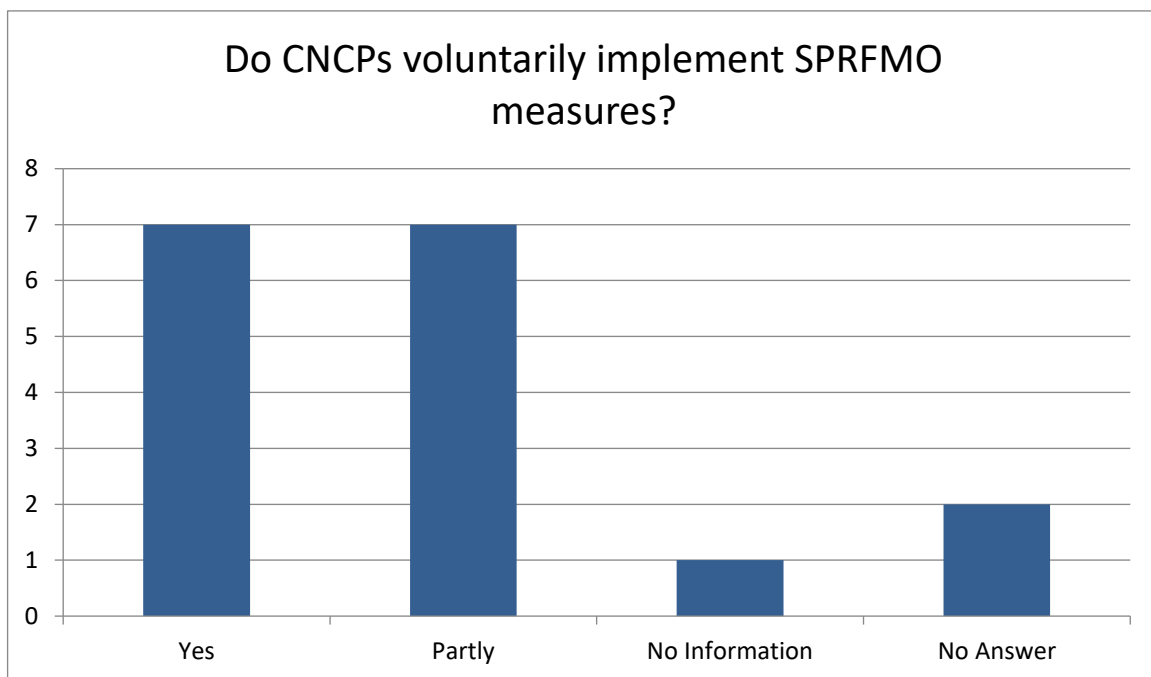
implementation of CMMs adopted by the Commission. Members of the Commission are obliged to exchange information on the activities of fishing vessels of non-Contracting Parties that are engaged in fishing in the Convention Area and to take measures to deter activities of such vessels which undermine the effectiveness of applicable CMMs. Cooperation with non-Contracting Parties that are relevant port States or market States is also encouraged.

340. In order to facilitate cooperation with non-Parties, the Commission has adopted rules to recognise the status of Cooperating non-Contracting Party.¹²³ Each year, the Executive Secretary contacts all non-Contracting Parties whose vessels fish in the Convention Area and those known to have an interest in fishing in the Convention Area, to request them to become a Contracting Party or attain the status of Cooperating non-Contracting Party. Requests for Cooperating non-Contracting Party status must include relevant information to support the status, including a commitment to cooperate fully in the implementation of the CMMs adopted by the Commission and a statement of intent to make voluntary financial contributions commensurate with what would be assessed should it become a Member. CNCP status is reviewed by CTC and granted by the Commission on an annual basis. Once CNCP status is granted, the CNCP is to comply with all CMMs adopted by the Commission; provide all data Members of the Commission are required to submit; inform the Commission annually of the measures it takes to ensure compliance by its vessels with the Commission's CMMs; respond in a timely manner to alleged violations of CMMs adopted by the Commission and any IUU activities of vessels flying its flag, and accept boarding in accordance with the Commission's high seas boarding and inspection procedures. CNCP status may be renewed subject to a review of the CNCP's compliance with the Convention's objectives and requirements. CNCPs that fail to comply with any of the CMMs adopted by the Commission are deemed to have undermined the effectiveness of the CMMs adopted by the Commission and may be subject to sanctions. This may include the revocation of CNCP status.
341. The identity of States obtaining CNCP status has changed over the period SPRFMO has been established. Those countries participating in the preparatory conferences, China, Colombia, Ecuador, France (in respect of its territories), Peru, Tonga, United States of America, and Vanuatu, were initially CNCPs on establishment of the Commission. China, Ecuador, Peru, United States and Vanuatu have since become Members of the Commission. The CNCP status of France and Tonga has not been renewed. The Republic of Colombia, which is a coastal State adjacent to the Convention Area although without a fishing presence, has mostly maintained its CNCP status since the establishment of the Commission. CNCP status has additionally been granted to Curaçao, the Republic of Liberia and the Republic of Panama with flagged reefer and/or support vessels in the Convention Area. Belize became a Member of the Commission, but withdrew from the Convention in 2016.
342. As indicated in the table below, the questionnaire responses were fairly uniform in confirming that SPRFMO had made efforts to encourage CNCPs, either individually or collectively, to become Members of SPRFMO. Those States that participated in the international consultations for SPRFMO were encouraged to, and most have, become Members.

¹²³ Decision of SPRFMO Members (Decision 02.2018), first passed in 2013 and updated in 2015, 2016 and 2018.



343. The reason why other States including CNCPs have not become Members may be due to differing national priorities. As one respondent noted: “Their [CNCNP] participation as Members may not be necessary in terms of their national objectives and activities in the fisheries”. However, another also commented that there could be more active encouragement by explaining the advantages of becoming a SPRFMO member.



344. As set out in SPRFMO Decision 02-2018, the continuation of CNCP status is conditional on compliance with CMMs. As indicated in the table above, the answer to the question of whether CNCPs comply with SPRFMO CMMs was mixed.
345. A number of Members noted that the degree of compliance by CNCPs with CMMs was variable, pointing to SPRFMO’s compliance reports and the Commission’s consideration of CNCP status.
346. By way of background, at the 5th Commission meeting, the Commission issued guidance to Panama regarding its future CNCP status.¹²⁴ This stated that Panama’s CNCP status was approved in 2017, but it should not expect that its CNCP status would be approved in 2018 unless corrective action was taken as requested by the Commission in its Final Compliance Report and it demonstrated considerable improvement with regard to its CNCP obligations, including a commitment to participate in the effective operation of the Commission. During discussion at COMM6, CTC indicated that Panama had provided most of the information, but expressed concern about the lateness. The Commission expressed its expectation that in order to maintain its CNCP status in 2019, Panama would have to greatly improve its level of compliance and hold to its Compliance Action Plan.¹²⁵
347. The Panel considers that that SPRFMO has a solid foundation set out in the Decision 02-2018 on the grant of CNCP status for ongoing cooperation between Members and CNCPs. However, compliance by CNCP with applicable CMMs is mixed. It has not been possible to identify clearly the reason for this. However, one respondent noted that “many measures that are not clearly known ... might have not been implemented” and suggested a training programme to recognise and articulate these. The Panel considers, and as noted in Section 4, that compliance can be encouraged by a clear articulation of requirements and cooperation to facilitate compliance with CMMs. There is also a balance to be struck between facilitating compliance and sanctioning non-compliance. As one responded commented: “We should take care not to hold CNCPs to different standards”.

Panel’s Findings and Recommendations

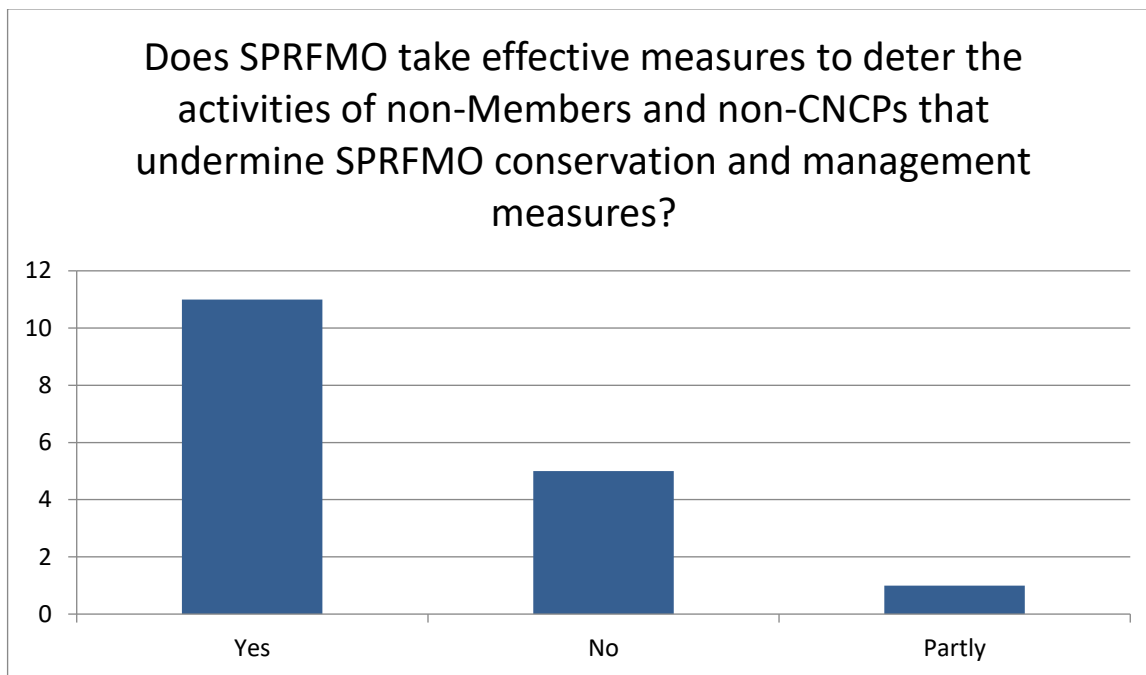
348. The Panel:
- a) **Recommends** that further information is provided to CNCPs by the Commission on the benefits of becoming party to the SPRFMO Convention; and
 - b) **Recommends** that the Commission further encourages CNCPs to cooperate with the Commission in implementing its conservation and management measures, including data submission requirements, and that the Commission apply a consistent approach to the granting of CNCP status.

¹²⁴ See COMM5 Report, Annex 7.

¹²⁵ COMM6-Report, p. 3.

6.3 Relationship with Non-Members or Non-CNCPs

349. There appears to be little information on the activities of non-Members or non-CNCPs that might be undertaking fishing operations in the SPRFMO Convention Area. A vessel from Bolivia, the Cape Flower, was found to have fished in the SPRFMO Convention Area. Bolivia was informed of the need to obtain the status of Member or CNCP in order to carry out operations in the SPRFMO Area and invited to participate of the Commission. However, one respondent to the questionnaire stated that “[i]n hindsight, being clearer that NCP [Non-Contracting Party] vessels engaged in fishing constitutes IUU fishing would have been a better response”.
350. In general, the approach to non-Members and non-CNCPs has been on an ad hoc basis if a Member or the Secretariat become aware of a non-Member fishing in the Convention Area. Reefer vessels may pose a particular risk in this regard. The responses to the Panel’s questionnaire demonstrate that some Members consider that SPRFMO could do more to address fishing by non-Members or non-CNCPs that undermines SPRFMO measures.



351. The Panel understands that there are mechanisms available to Members which provide information on the location of commercial fishing vessels and that these and other mechanisms could be used to monitor the fishing activity in the Convention Area. It is expected that there is IUU fishing taking place in the Convention Area, but there is little information on the true extent of IUU fishing in the Convention Area and for non-highly migratory species within the purview of the Convention.
352. There was a similar response rate to the question “Does SPRFMO encourage non-Members and non-CNCPs to become Members or CNCPs of SPRFMO?” One respondent noted that non-Members could be encouraged to become a party “by actively explaining the advantages of

becoming a SPRFMO member”. Another respondent considered that “there does not appear to be much outreach to [non-Contracting Parties] not engaged in SPRFMO but whose participation would be useful”. This suggests that increased outreach, including through increasing the visibility of the organisation may also increase knowledge of SPRFMO and its CMMs.

Panel’s Findings and Recommendations

353. The Panel:

- a) **Recommends** that the Commission continue to encourage non-Members and non-CNCPs found to be fishing within the Convention Area to cooperate with the Commission, including through requesting CNCP status;
- b) **Urges** the Secretariat to include in the SPRFMO Annual Administrative Report information on the outreach to non-Members and non-CNCPs that has been undertaken in the previous year; and
- c) **Recommends** that Members and the Secretariat take a more proactive approach towards identifying those vessels of non-Members and non-CNCPs that are undertaking fishing operations in the SPRFMO Convention Area.

6.4 Cooperation with international organisations

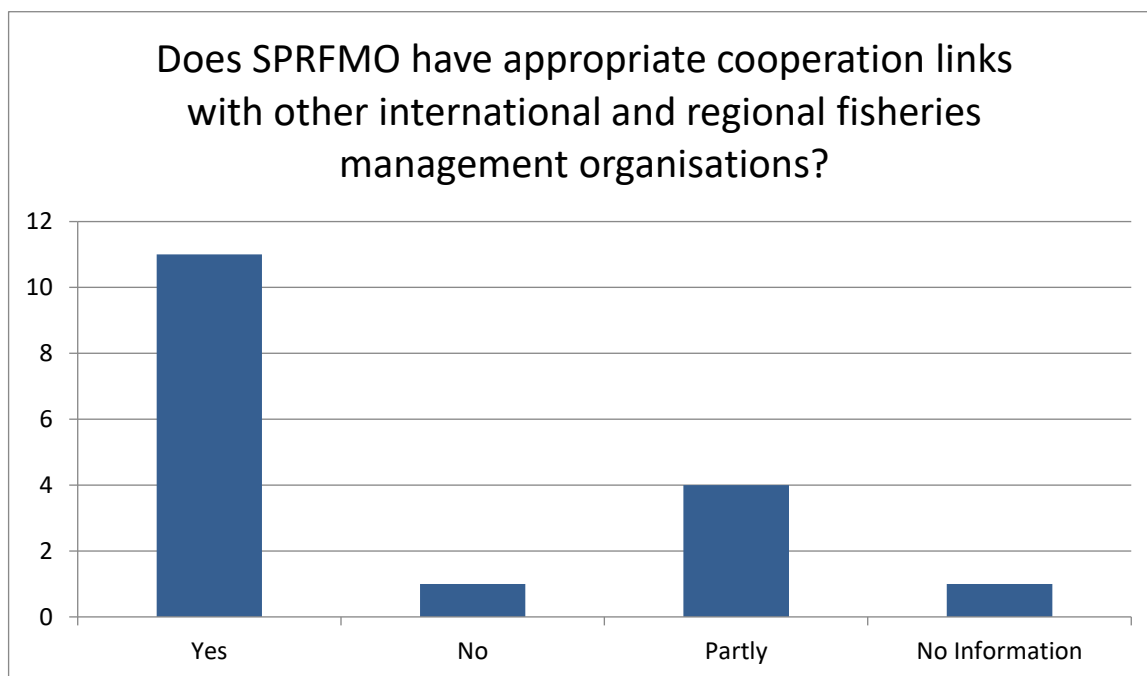
354. SPRFMO has two cooperation Memorandum of Understanding with the Secretariats of ACAP and CCAMLR. The objective of the MOU with ACAP is to facilitate cooperation between the two Secretariats with a view to supporting efforts to minimise the incidental by-catch of albatrosses and petrels within the SPRFMO Convention Area. The areas of cooperation include data collection and exchange, and the design and testing of albatross and petrel bycatch mitigation measures. The objective of the Arrangement with CCAMLR is to facilitate cooperation between SPRFMO and CCAMLR in order to advance their respective objectives, particularly with respect to stocks and species which are within the competence and/or mutual interest of both organisations. The Arrangement with CCAMLR is to operate for three years from 15 April 2016. Before the three years has expired, the organisations are to separately review the operation of the arrangement and decide whether it should be renewed. In addition to the two existing MOU, the Permanent Commission for the South Pacific has formally expressed interest in commencing negotiations with SPRFMO on a cooperation framework and Peru is leading an initiative on a Regional Network to combat IUU Fisheries from Latin American and the Caribbean.¹²⁶ Work on these is progressing.

355. The MOUs have provided a vehicle for some cooperation between SPRFMO and ACAP and CCAMLR respectively. ACAP contributed expertise to the development of the SPRFMO conservation and management measure on minimising bycatch of seabirds. The SPRFMO Data Manager underwent a very useful short term placement at the CCAMLR Secretariat in 2017 with the objective of experiencing and discussing best practices and different approaches on

¹²⁶ COMM6-Report, p. 7.

matters such as data management and information sharing, operation of VMS software, MCS measures, and leveraging scientific expertise in toothfish stock assessments.¹²⁷

356. As indicated in the table below, in response to the question of whether SPRFMO has appropriate cooperation links with other international and regional fisheries management organisations, most responded affirmatively. However, some indicated a need to strengthen links with some RFMOs, notably CCAMLR and with other RFMOs which have competency over stocks located in the Convention area, especially IATTC and WCPFC. Similarly, some considered that it would be useful for SPRFMO to cooperate with these RFMOs specifically on the reduction and elimination of IUU fishing. Of those Members suggesting SPRFMO should cooperate more actively with other RFMOs, the general preference was for substantive cooperation which brought direct benefits. One Member expressed caution that “we are realistic in that for SPRFMO to stay cost-effective, cooperation has to be largely ‘on paper’ rather than travelling to other RFMO meetings”.



357. The Panel considers that cooperation with other international organisations could usefully be advanced in order to bring direct benefits to the organisation. Although in some cases MOU are needed in order for cooperation between the organisations to take place, the emphasis should be on substantive, rather than formulaic, cooperation between SPRFMO and other organisations. This applies in particular to neighbouring and overlapping RFMOs, such as CCAMLR, WCPFC, and IATTC. Not all cooperation needs to be under the umbrella of a MOU between the Commission and another organisation. Rather the Panel considers that members of the Secretariat should engage with colleagues in other RFMOs to learn from their experience and gain insights into how they handle operational matters.

¹²⁷ Annual Administrative Report, 2017.

358. Given the tight fiscal position of SPRFMO, there should be a planned and strategic approach to cooperation with other organisations. A cooperation strategy should be developed which targets cooperation, both formal and informal, towards organisations and activities, which would benefit SPRFMO.
359. The Panel considers that SPRFMO would benefit from the renewal of the MOU with CCAMLR, especially given their respective toothfish fisheries, and from knowledge sharing with CCAMLR on the operation of the VMS software, VMS data analysis, observer programme, data management and information sharing. As noted in Section 4.5 there are real benefits to be gained through SPRFMO increasing its informal cooperation with other RFMOs, particularly those with sophisticated information management systems, such as WCPFC. The Panel notes that attendance at other RFMO Commission meetings does not usually represent value for money. There is also some question over the value of attendance at multilateral processes where the role of observers is limited. A cooperation strategy would identify SPRFMO needs, set out the benefits which SPRFMO would seek to gain through cooperating with other organisations, and identify where assistance in meeting these needs can be obtained cost-effectively. It would provide a framework for the Secretariat and Commission to prioritise expenditure on cooperative initiatives.

Panel's Findings and Recommendations

360. The Panel:
- a) **Acknowledges** that cooperation with other international organisations can be advantageous for SPRFMO and that increasing the cooperation with neighbouring and overlapping RFMOs can bring direct benefits to the organisation;
 - b) **Recommends** that the Commission develop a cooperation strategy which targets cooperation towards organisations and activities which would provide a direct benefit to SPRFMO; and
 - c) **Recommends** that in addition to the development of any necessary formal linkages through MOUs, the Secretariat engage informally with colleagues in other RFMOs to learn and share experiences of operational activities, not only in the MCS area as recommended above.

6.5 Special requirements of developing States

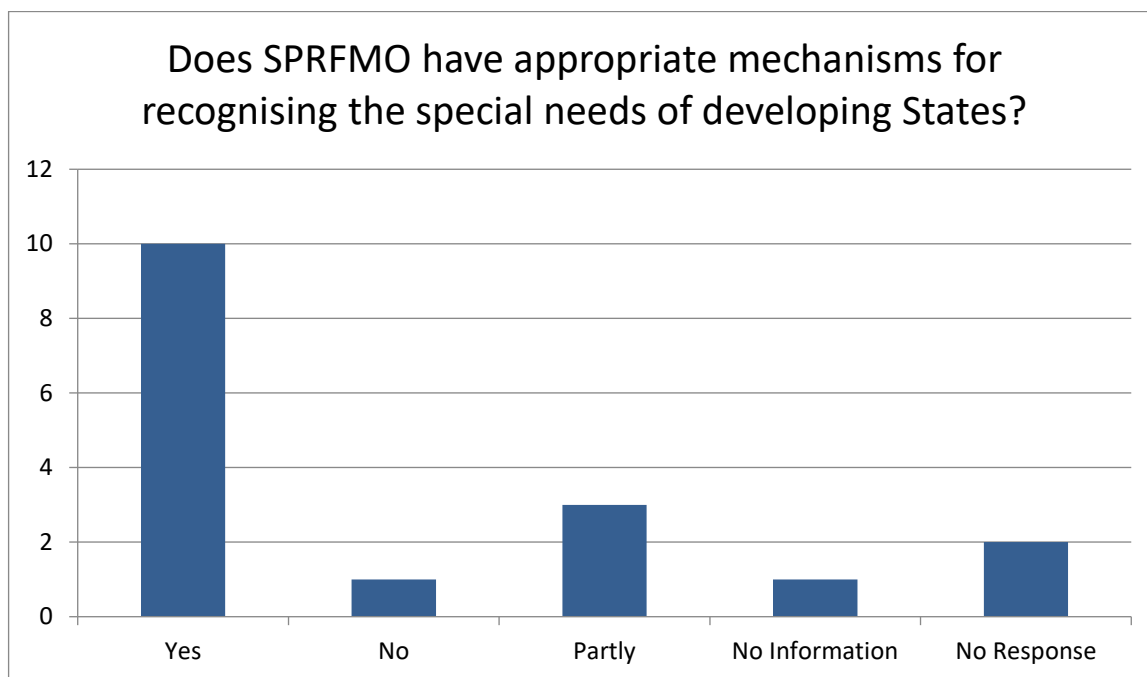
361. Article 19(1) of the SPRFMO Convention provides:

The Commission shall give full recognition to the special requirements of developing State Contracting Parties in the region, in particular the least developed among them and small island developing States, and of territories and possessions in the region, in relation to the conservation and management of fishery resources in the Convention Area and the sustainable use of such resources.

362. Consistent with Article 19(5), the Commission has established a Special Requirements Fund to facilitate the effective participation of developing States in the region, which may include assistance towards conservation and management of the fishery resources capacity building in

key areas. Regulation 5 and Annex 1 of the Financial Regulations set out the detailed guidelines for the administration of the Special Requirements Fund. These provide for applications to be made for technical assistance and capacity building based on detailed project documentation, which is then reviewed and approved by the Commission according to set criteria.

363. In addition to the Special Requirements Fund, the Commission has established a Developing States budget category with a cap of \$30,000.¹²⁸ This tends to be used to fund attendance at meetings of the Commission or its subsidiary bodies. In the last number of years, the Commission has approved \$20,000 annually for the Developing States budget category.
364. Most Members and CNCs consider that SPRFMO has appropriate mechanisms for recognising the requirements of developing States (see table below).



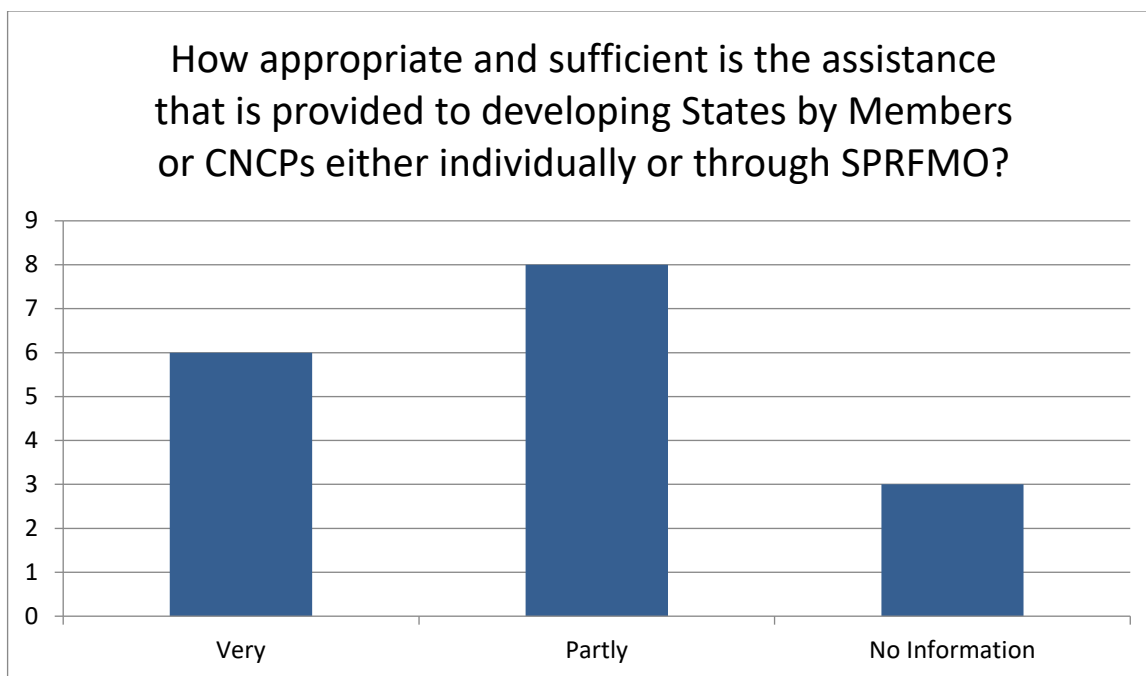
365. However, there was some concern expressed over the concentration on funding for participation at meetings. One Member stated:

Other obligations under Art 19.1.a) and b), and 19.4 regarding assistance to build capacity to improve conservation and management measures and to enable participation in fishing, including facilitating access to resources have not been actioned through the Commission.

366. Another suggested:

Whilst recognition of the special needs of developing states is explicitly provided for in the SPRFMO Convention, the organisation could perhaps be more proactive in identifying areas where capacity building assistance could be provided to developing States to support their compliance with SPRFMO measures.

¹²⁸ Financial Regulations, Reg 2.4.



367. These views were reinforced in answers to a second question regarding how appropriate and sufficient is the assistance that is provided to developing States by Members or CNCPs either individually or through SPRFMO (see table above). One Member stated: “It is unclear whether sufficient investments are being made by members in assisting capacity building in developing state members”. Another stated that “SPRFMO could be more structured in the way that it provides assistance to developing States and assisting in identifying areas where capacity building assistance is needed”. The review panel in the Ecuador dispute also referred to the suggestion of capacity building to provide assistance to Ecuador.¹²⁹

368. The Panel considers that appropriate mechanisms are set out in the Convention and the Financial Regulations to address the special requirements of developing States. However, there do not appear to have been any requests for use of the Special Requirements Fund, despite it sitting at over NZ \$80,000.¹³⁰ The Panel suggests that the Commission explore whether there are any impediments to accessing the Fund, such as project design work and the procedures for Commission review of projects, which if removed could facilitate the Fund’s use for technical assistance and capacity building. Furthermore, disbursements from the Developing States budget category have overly concentrated on funding the attendance of participants at meetings. The Panel considers that these funds, together with the Special Requirements Fund, could be used more specifically for technical assistance and capacity building of developing States.

¹²⁹ Report of the Review Panel, para 125.

¹³⁰ FAC5-Report, p.3.

Panel's Findings and Recommendations

369. The Panel:

- a) **Notes** that the Commission has appropriate mechanisms to assist developing States to participate in the Commission, in particular the Developing States budget category which can be used to assist developing States to attend meetings of the Commission and its subsidiary bodies, but **Acknowledges** that the Commission could do more to address some of the capacity needs of Members and CNCPs; and
- b) **Recommends** that the Commission and Secretariat encourage the use of the Developing States budget category for more than funding the attendance of participants from developing countries at SPRFMO meetings and that the Commission work to remove any impediments to accessing the Special Requirements Fund for technical assistance and capacity building.

7. FINANCIAL AND ADMINISTRATIVE ISSUES

7.1 Availability of resources for activities

370. The total SPRFMO budget for the 2018/19 (July-June) year is NZ \$1,103,000 of which NZ \$660,000 [60%] is spent on personnel resources.¹³¹ The allocated budget has grown from NZ \$918,069 in its first year of operation (2014/15).
371. Article 15 (2) of the Convention sets out the basis for the financial contribution formula. The first set of Financial Regulations detailed the formula in Reg 4.7 as including the following elements:
- (a) A base fee of 10% divided in equal shares between all Members of the Commission, with developing countries eligible for a base fee reduction if they had not fished in the previous financial year;
 - (b) A national wealth component of 30% (subdivided into 15% GNI, and 15% GNI per capita); and
 - (c) A catch component of 60%; subdivided into 45% for pelagic and 15% for demersal fishery resources.
- In addition, on a transitional basis for the first year until 30 June 2014, the pelagic resources were further subdivided with 5% for squid and 40% for all others.
372. The adopted budget formula created difficulties for Members due to the substantial variations it produced from year to year in the contributions of individual Members. This was largely due to the variability in catches, and the large increase in squid catches over the period since the negotiation of the Convention. As a result, the financial contributions formula was reviewed at the Commission's third meeting in 2016, and again at the 4th meeting in 2017. However, no agreement could be reached on an amendment to the budget contribution formula in the Financial Regulations until COMM5 in 2018. The amendment to the Financial Regulations contained a revised budget formula which aimed to reduce volatility in the movement of Members' contributions:
- (a) A base fee of 20%:
 - (i) 10% divided in equal shares between all Members of the Commission, with developing countries eligible for a base fee reduction if they had not fished in the calendar year two years prior to the year in which the budget is adopted; and
 - (ii) 10% divided proportionally amongst the Members engaged in fishing over a five-year period which begins six years before the calendar year in which the budget is adopted, based upon the number of years each Member has engaged in fishing;
 - (b) A national wealth component of 30% (subdivided into 15% GNI, and 15% GNI per capita); and
 - (c) A catch component of 50%; subdivided into 37.5% for pelagic and 12.5% for demersal fishery resources. The catch component is to be calculated on the basis of a five-year average of each Member's respective catch limits and quota allocations where available, or a five-year average of its total reported annual catch, with the five-year average to commence six years before the calendar year in which the budget is adopted. This is subject to:

¹³¹ COMM6-Budget 2018-19.

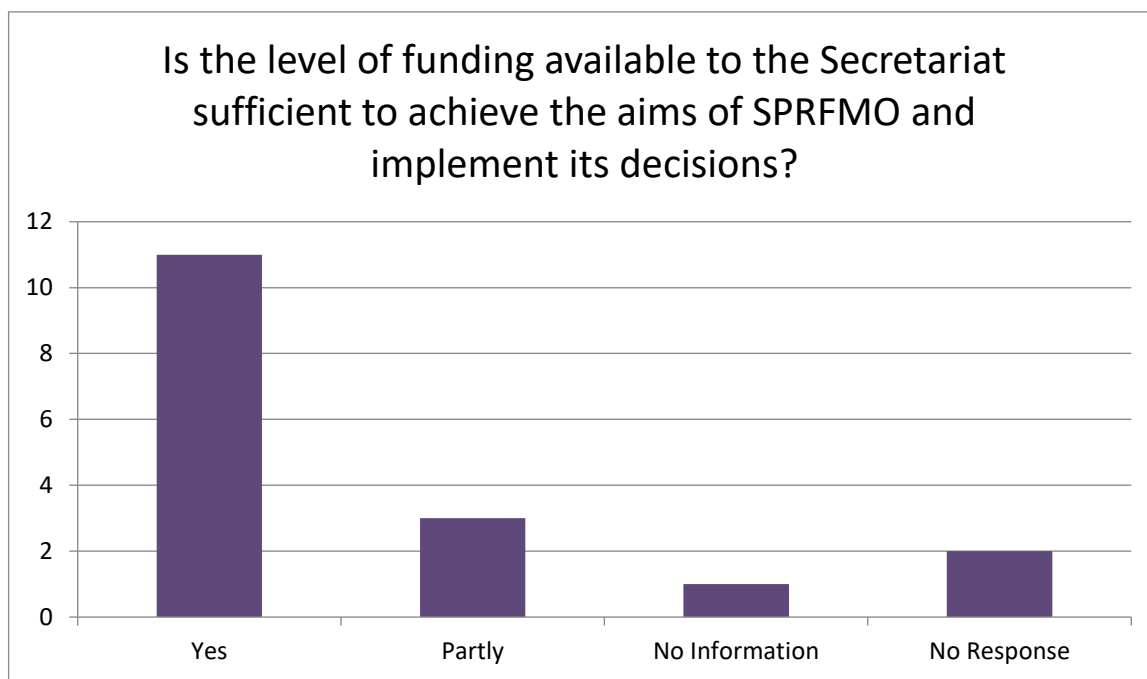
(i) a factor of 0.5 being applied to the five-year average for catches of *Dosidicus gigas*; and
(ii) where a catch limit or quota applies to a fishery resource that straddles the Convention Area and an area under a Member's national jurisdiction, the relative catch contribution is the proportion of its total catch taken from the Convention Area over a preceding ten-year period.

373. It was also agreed that the budget formula would be reviewed in 2020.
374. The revised budget formula has temporarily resolved the significant issues concerning contributions of Members since the establishment of SPRFMO. In the first few years of SPRFMO's operation there were budget surpluses, which were used to build up the Accumulated Surplus Account, which includes the excess of receipts over expenditures at the end of the financial year and the balance of any unexpended appropriations at the end of the 12-month budget period. These surpluses were used to smooth out the disparity caused by the strict application of the budget formula set out in the Financial Regulations. While this resulted in a more even year-to-year contribution from Members, the Accumulated Surplus Fund has been drawn down.
375. In accordance with the Financial Regulations, Reg 4, paragraph 5, the Commission is to attempt to maintain the Accumulated Surplus Account at a level sufficient to finance operations during the first three months of the financial year, estimated at NZ \$225,000.¹³² FAC4 recommended retaining funds in the Accumulated Surplus Account to provide the Commission with a "buffer" in anticipation of a further increase in the budget in the financial year 2018-19.
376. In addition to the Accumulated Surplus Account, Annex 2 of the Financial Regulations provides for a Contingency Fund, which may be used in emergency situations, for unforeseen or unforeseeable extraordinary expenses that are necessary to meet a financial obligation; or for ensuring essential operations of the Secretariat in the absence of sufficient Member contributions over and above the amount available in the Accumulated Surplus Account. The Commission is to determine the level of the Contingency Fund but the Annex 2 provides for it to accumulate over time to reach and maintain a level equivalent to three months of the approved budget.
377. FAC4 held in January 2017 in recommended that the Commission agree to transfer NZ \$100,000 to the Contingency Fund. In 2018 the Commission transferred NZ \$25,000 to the Contingency Fund.¹³³ It was this fund that was used to fund the SPRFMO extraordinary expenditures of the objection procedure initiated by Ecuador, the SPRFMO share of which amounted to NZ \$71,000.
378. SPRFMO Members routinely pay their contributions in a timely manner. The organisation has not to date experienced significant issues with Members being in arrears, other than one Member which has since withdrawn from the organisation.
379. The questionnaire responses of Members indicated a general reluctance to increase the organisation's budget to any great degree (see table below). No respondents considered the

¹³² FAC-5 Report.

¹³³ COMM6 – Report, p. 3.

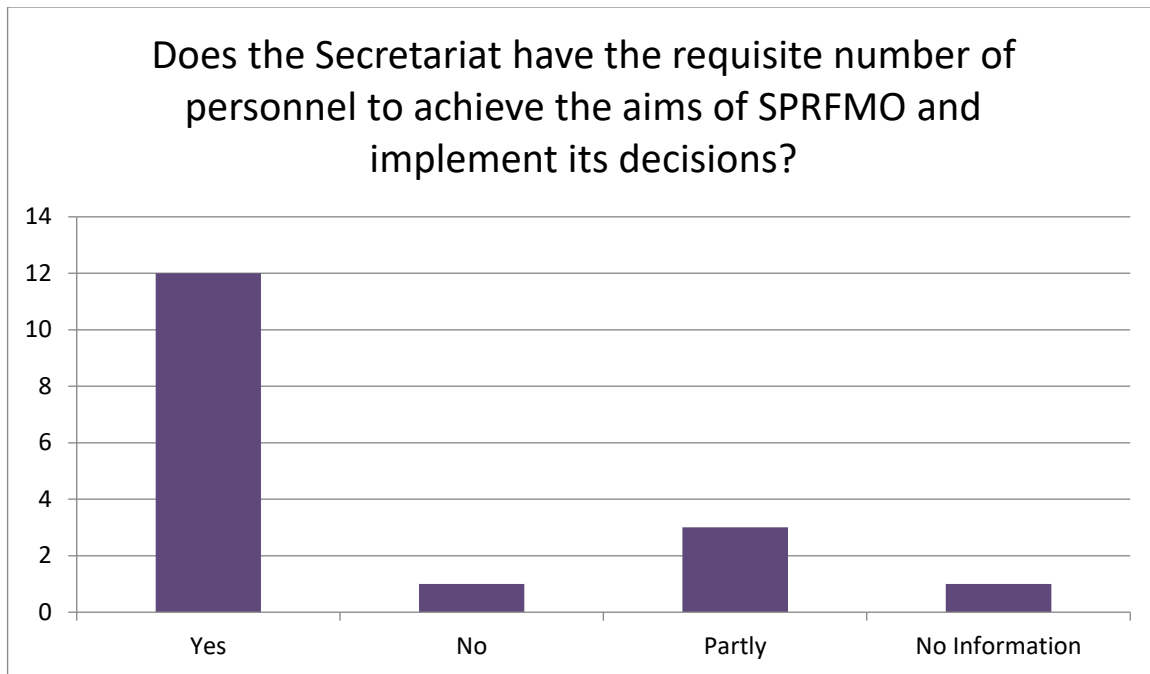
funding to be insufficient. One respondent noted that “the current level of funding seems commensurate with the size and duties of the SPRFMO” while another stated the “[b]udget is sufficient at this time, but may not be sufficient if programs and needs expand”.



380. The number of staff positions has increased from three in 2014 (Executive Secretary, Data Manager and Office Manager, all in the professional category)¹³⁴ to five staff members in 2018 (Executive Secretary, Data Manager, Communications Officer, in the professional category, and a Finance and Administration Officer and IT and VMS Officer in the general services category). By way of comparison there were four CMMs in 2014, compared to 15 CMMs in place in 2018. There is also a part-time (20% FTE) data technician under contract¹³⁵ and a secondee (60% FTE). When SPRFMO was established, certain services, such as finance and IT, were outsourced, but have since been brought in-house. The SPRFMO staff is multi-cultural and hardworking. Over the years the staff have taken on collateral duties in response to new demands made of the Secretariat. In some cases, collateral duties have been outside their skill and experience levels.
381. Consistent with the responses on the overall budget, Members commented that “current staffing level seems commensurate with the funding available and the size and duties of the SPRFMO” and on the desirability of the organisation having a small and lean Secretariat: “the Secretariat should remain small and cost-effective”. However, a few respondents recognised that “if the Commission decides to have the Secretariat take on more responsibilities, such as for the observer programme, additional resources may be needed”.

¹³⁴ See Staff Regulations, Reg 5.1.

¹³⁵ See Staff Regulations, Reg 11.



382. In the Panel's assessment, the organisation's financial management has been assisted due to two factors. First, the Accumulated Surplus Account accumulated unexpended funds in the first few years of the organisation's operations which was used subsequently to smooth out the disparity in contributions caused by a strict application of a budget formula which did not take account of large increases in catches of particular species after the negotiation of the Convention. Second, Members pay their contributions on time which is of great assistance in ensuring the smooth financial operation of the Secretariat.
383. Members have been reluctant to see significant increases in their contributions and have worked to keep increases arising from the application of the budget formula to less than 15%.¹³⁶ At the same time the workload of the Secretariat has increased. The Panel assesses that the Secretariat is at the limit of what can reasonably be expected of the available financial and personnel resources. There is very limited capacity to do more, such as increased data collection and analysis, the implementation and operation of the VMS or the observer programme. Neither is the organisation able to fund unexpected requirements from the existing budget, such as the objection procedure brought by Ecuador.
384. The Panel nevertheless considers that the organisation has good mechanisms in place to assist with future budget management, in particular the Contingency Fund and the Accumulated Surplus Fund. However, the current amount in these Funds does not meet the level suggested in the Financial Regulations and therefore they do not provide the level of financial comfort that would be expected.

¹³⁶ See FAC4-Report, p. 3.

385. As noted in section 6.1, increasing the profile of the organisation and its external connections may bring additional resources to SPRFMO which may enable it to undertake activities which it might otherwise not be resourced to undertake.

Panel's Findings and Recommendations

386. The Panel:

- a) **Acknowledges** that Members and CNCPs pay their contributions on time and that this is of great assistance in ensuring the smooth operation of the organisation's finances;
- b) **Considers** that the Secretariat is at the limits of what is achievable with the current financial and personnel resources. If the Commission adopts conservation and management measures which require the Secretariat to perform additional tasks, it should accompany this with the necessary budgetary resources to fund the increase in responsibilities;
- c) **Encourages** the Secretariat to prepare an estimate of the additional financial cost which is likely to arise from proposed conservation and management measures;
- d) **Recommends** that if the SPRFMO Observer Programme is to be properly implemented as part of the suite of MCS measures, the Commission should prioritise hiring a professional staff member with compliance expertise, as recommended above;
- e) **Recommends** that the Commission include in the budget a provision for increasing progressively over a five year period the level of the contingency fund, and to reimburse any expenditures from the Fund for any Article 17 review process, until it reaches a level of 3 months of the operating budget as provided in the SPRFMO Financial Regulations; and
- f) **Acknowledges** that the 2020 review of the budget formula needs to take into account the durability of the formula so that the necessary work of the organisation drives the level of budget, rather than the level of individual contributions.

7.2 Efficiency and cost-effectiveness

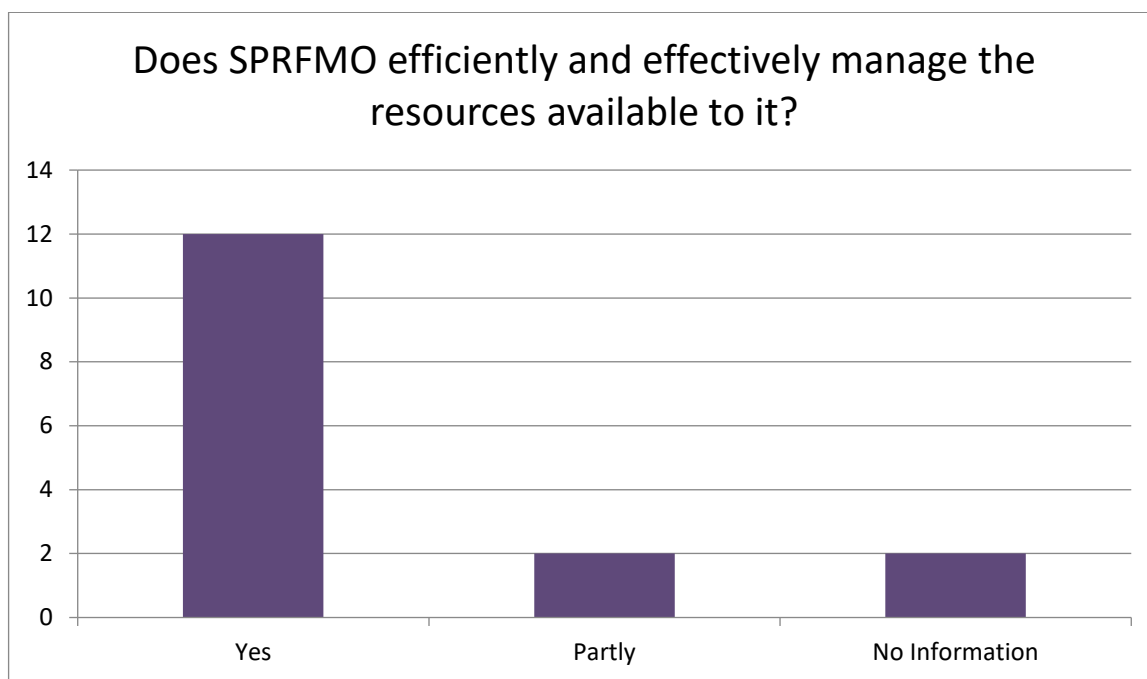
7.2.1 Efficient and effective management of human and financial resources

387. SPRFMO has a July-June financial year and a budget process which forecasts the budget for the two subsequent years. Detailed budgets are approved by the Commission at its annual session. The Financial Regulations provide for expenditures to be moved between budget lines with the approval of the Commission Chair. In the past, FAC has encouraged the Secretariat to prepare budgets with sufficient detail and justification for additional expenditures. The accounts are audited annually and the organisation has consistently received a clear audit.

388. Management of human and financial resources is in the hands of the Executive Secretary. As noted in the previous section, the number of staff personnel in the Secretariat has grown incrementally since its establishment. At COMM6, the Commission approved a secondments and intern policy which sets out a procedure for the management of secondments and the advertisement of internship opportunities. The Commission also amended the Financial

Regulations to include a travel policy under which the Executive Secretary forecasts in advance the specific travel to be undertaken, with the Commission Chair to be consulted on any deviations.

389. In general Members consider that SPRFMO efficiently and effectively manages the resources available to it (see table below). One respondent referred to the need to consult with the Chair on the travel programme and another noted that “[a]s decisions are made regarding CMMs, the impact on the budget should also be considered”. For example, the VMS satellite airtime fee is an additional cost being borne by NZ/Australia even though the cost is due to those Members implementing the CMM and providing the data direct to the Secretariat.



390. The Panel agrees that the organisation makes efficient and cost-effective use of its financial and human resources. The Secretariat has hardworking staff who have adapted to the additional duties required of them as the organisation has grown. However, this has meant that the mix of positions may not be the same as if one had started with a clean slate. For example, it is usual for a fully functioning RFMO to have a Compliance Manager who is responsible for the management of all the RFMO’s MCS functions. The Data Manager and the Executive Secretary have in effect taken on some of the responsibilities of a Compliance Manager as well as a Science Manager. This is not sustainable. It is recommended that consideration be given to reviewing the structure of the Secretariat in light of the additional functions expected of it.
391. The role of the Chairs of the Commission and the subsidiary bodies must also be recognised. They are active and engaged Chairs who perform some functions which in other RFMOs may be performed by a Secretariat. The Commission has been fortunate to be so well-served by its Chairs, but the Panel cautions against relying on all future Chairs having the time, resources and inclination to be so engaged. The Panel considers that the degree of autonomy given to the

Executive Secretary over financial and personnel matters is not as great as seen in other RFMOs. This is something that the Commission may wish to reflect on in the future.

7.2.2 Meeting schedule and organisation

392. The Commission meets annually for a week in January, with a CTC meeting held over three days prior to the Commission meeting. FAC meets concurrently with the Commission meeting. The Scientific Committee meets a few months in advance of the Commission meeting.
393. No respondents to the questionnaire noted any issues with the organisation of the meetings of the Commission and subsidiary bodies. With respect to the schedule of meetings all respondents except one considered that the SPRFMO schedule of meetings was appropriate. The one differing Member suggested that the meeting of FAC could be held in advance of the Commission meeting, rather than concurrently with the meeting.
394. The Panel considers that although in general Members and CNCPs do not have difficulties with the schedule or organisation of the SPRFMO meetings, the Commission should consider holding a dedicated session of FAC prior to the Commission meeting and following the CTC meeting. It would also be expected that FAC deliberations would continue, as at present, in parallel with the Commission meeting to take into account Commission decisions with budgetary implications. This would allow Members to give the budget and related issues the attention they deserve and would be particularly important when there are significant issues for FAC, such as review of the budget formula.
395. During the interviews it was suggested that the Eastern (and Western) Sub-regional Management Committee meet more frequently to decide on allocations within the respective areas. The Panel does not see a strong need for the Management Committees in light of the active manner in which all Members engage in decisions on setting of TACs and their allocation.

Panel's Findings and Recommendations

396. The Panel:
 - a) **Acknowledges** the importance of the Secretariat providing support to the Chair of the Commission and subsidiary bodies not only at meetings but also during the intersessional period;
 - b) **Recommends** that the Commission, on advice of the Executive Secretary, give consideration to reviewing the structure of the Secretariat to ensure the most cost effective use of staff resources, and to investing additional resources in building the capacity of the Secretariat to analyse scientific and MCS data; and
 - c) **Recommends** that the Commission set aside a half day for the Finance and Administration Committee in advance of the annual Commission meeting, and following the annual meeting of the Compliance and Technical Committee.

CONCLUSION

397. The Panel concludes that in its first five years of operation SPRFMO has done an excellent job of leading the recovery of the Jack mackerel stock and putting in place a range of conservation and management and MCS measures based on best-practices of other RFMOs. The Panel has identified the challenges that SPRFMO faces in the future, in particular the need to now concentrate on other stocks within its purview, particularly Jumbo flying squid and updating the bottom fishing measure based upon the precautionary approach. In the future, SPRFMO could also look towards adopting a more comprehensive ecosystem approach to fisheries management. In approaching the next five years of operation, the Commission needs to think strategically about how to meet these challenges while remaining an effective and efficient organisation that provides a constructive benefit to its Members and CNCs. Without a further commitment to building the capacity and the resources of the organisation, there is the danger that SPRFMO will stagnate and fail provide meaningful benefits to the fishery resources it manages and its Members. The Panel considers it important for SPRFMO to face the challenges over the next few years and to maintain and enhance its relevance to fisheries management in the Pacific Ocean.

**6th Meeting of the Commission
Lima, Peru, 30 January to 3 February 2018**

**COMM6-Report ANNEX 9: DECISION 06-2018
First SPRFMO Performance Review**

(COMM6-Prop14)

The Commission of the South Pacific Regional Fisheries Management Organisation (SPRFMO);

RECALLING Article 30 (1) of the Convention, which provides that the Commission shall review the effectiveness of the conservation and management measures adopted by the Commission in meeting the objectives of this Convention and the consistency of such measures with the principles and approaches of Article 3 of the Convention. Such reviews may include examination of the effectiveness of the provisions of the Convention itself and shall be undertaken at least every five years;

BEARING IN MIND Article 30 (2) of the Convention that such reviews shall include contributions from the subsidiary bodies as appropriate and the participation of persons of recognized competence who are independent of the Commission;

RECOGNISING that Article 30 (4) of the Convention provides that the result of any such reviews shall be made publicly available following its submission to the Commission;

TAKING INTO ACCOUNT Article 8(p) of the Convention, which provides the Commission with the authority to take any decisions that may be necessary for achieving the objectives of the Convention;

GIVING EFFECT to Article 8 of the Convention,

has decided to adopt the following Decision:

1. A performance review of SPRFMO shall be conducted during the 2018 intersessional period. The final report and its conclusions, including recommendations, of the Review Panel shall be submitted prior to the 2019 annual meeting of the Commission for its consideration at that meeting
2. A Review Panel shall be appointed by the Commission. Panel members shall be independent and participate in their personal capacity. Their expertise should cover the relevant areas of science, fisheries and marine ecosystems management and legal matters, including compliance and enforcement issues.
3. The terms of reference for the review are listed in Annex I this Decision. The Review Panel may consider adding criteria, if needed.

Panel Composition

4. The Review Panel shall be composed of four international independent experts as follows:
 - (i) two experts who are nationals of SPRFMO Members with experience in the SPRFMO context and a thorough understanding of the SPRFMO Convention;
 - (ii) two external experts, among whom there is experience in relevant areas of science, fisheries and marine ecosystems management and legal matters, including compliance and enforcement issues.
5. The Review Panel membership should aim to reflect the SPRFMO Membership in terms of regional balance, fishing and non-fishing nations and developing and developed countries.

Selection of the Review Panel Members

6. SPRFMO Members may provide in writing two names, one for each category, to the Chairperson of the Commission, through the Secretariat, by 28 February 2018. SPRFMO Observers may provide in writing two names for the category of external experts. The submission will include a CV and a short presentation of each candidate.
7. The Chairperson of the Commission, through the Secretariat, shall provide to Members, by 15 March 2018, two lists containing the names proposed for the appointment of the four experts.
8. SPRFMO Members shall immediately acknowledge receipt of the communication. Members may respond in writing to the Chairperson of the Commission, through the Secretariat, within 30 days indicating their vote for two persons from each list. In case of a tie between two or more candidates from the same list, a vote will be immediately re-run for those candidates. SPRFMO Members shall reply to the communication from the Chairperson with the list of tied candidates within 15 days indicating their vote for one person from the list/s.
9. The Chairperson of the Commission, immediately after the end of the 30-day period, or 15-day period in case of a re-run, shall, through the Secretariat, inform Members of the result of the selection process.
10. Once the persons with the highest votes have been identified, the Secretariat shall write to each person selected by the Members for appointment to the Review Panel, indicating SPRFMO's desire to appoint him or her, requesting their commitment to comply with the terms of the current Decision and seeking their positive response.

Review Panel function and tasks

11. At the latest by 20 May 2018, the Review Panel will appoint a Chairperson amongst its Members by consensus. Immediately after his/her appointment the Chairperson shall start making the necessary arrangements to ensure the good organisation of the works of the Review Panel, including the distribution of tasks amongst Members of the Panel. The Review Panel will meet in Wellington unless a more cost-effective location is identified at a date convenient to all panel members but no later than 31

August 2018. Economy class travel, accommodation and subsistence costs will be available to Review Panel members, if requested, to support their participation. Costs will be borne by the SPRFMO budget either directly or through voluntary contributions¹³⁷.

12. The review shall include a desktop study with questionnaires and interviews carried out during June/July 2018 by the Review Panel in support of this work prior to the meeting of the Review Panel, addressed to all SPRFMO Members, Cooperating non-Contracting Parties (CNCs) and observers. All SPRFMO Members, CNCs and observers are encouraged to participate in the questionnaires and interviews. The replies from the questionnaires will be made available at the secure part of the SPRFMO website when the Panel's Final Report is made available in accordance with Article 30(4). Members of the Review Panel shall respect the applicable SPRFMO rules regarding any confidential information disclosed in the documents and information made available to them and only use them exclusively for the purposes of this Decision.
13. The SPRFMO Secretariat shall provide logistical support and information to the Review Panel but shall not form part of this Panel.
14. The Review Panel will adopt the report and its conclusions and recommendations by consensus. In the event consensus cannot be reached, individual members of the Panel may include their views in the Panel's report. The Panel may consider the use in the report of the terminology proposed in Annex 2 of this Decision.

Timeline

15. In accordance with paragraph 1, the final report and its conclusions, including recommendations and a table summarising the main findings, of the Review Panel shall be communicated by the Panel Chairperson to SPRFMO Members and CNCs and to the Chairpersons of the Scientific Committee (SC), the Compliance and Technical Committee (CTC) and the Finance and Administration Committee (FAC) no less than 50 days in advance of the dates fixed for the opening of their 2019 annual meetings for their consideration at those meetings.
16. The SC, CTC and FAC shall consider the final report during their meetings and report to the Commission the results of their discussions including plans for addressing any of the recommendations made by the performance review and tracking progress in that regard. Noting that the SC will not meet until after the 2019 annual meeting of the Commission, the SC will report on its discussions to the Commission at its 2020 annual meeting.
17. The final report and the conclusions of the Commission and each of its subsidiary bodies shall be placed on the SPRFMO website.
18. Following this performance review, subsequent reviews may be conducted at least every five years in accordance with Article 30 (1) of the SPRFMO Convention.

¹³⁷ The SPRFMO Commission allocated NZD 15 000 in its 2017-18 Budget for this purpose (see Annex 2 of the Report of the 4th Meeting of the Finance and Administration Committee (2017)).

Annex I

This annex provides a list of specific criteria that the review panel should address and if appropriate provide recommendations for their review.

Area	General criteria	Detailed criteria	
1. <i>Conservation and management</i>	Status of fishery resources	<ul style="list-style-type: none"> • Status of fishery resources under the purview of SPRFMO. • Trends in the status of those resources. • Status of species that belong to the same ecosystems as, or are associated with or dependent upon, targeted fishery resources. 	
	Ecosystem approach	<ul style="list-style-type: none"> • Extent to which SPRFMO decisions take account of and incorporate an ecosystem approach to fisheries management in accordance with Article 3 (2) of the Convention. 	
	Data collection		<ul style="list-style-type: none"> • Extent to which SPRFMO has agreed formats specifications and timeframes for data submissions.
			<ul style="list-style-type: none"> • Extent to which SPRFMO Members and CNCPs, individually or through SPRFMO, collect and share complete and accurate data concerning fishery resources and other relevant data in a timely manner.
			<ul style="list-style-type: none"> • Extent to which fishing and research data and fishing vessel and research vessel data are gathered by SPRFMO and shared among Members and CNCPs.
			<ul style="list-style-type: none"> • Extent to which SPRFMO collects accurate and complete data to facilitate effective stock assessment and ensure that the provision of the best scientific advice is enabled, according with Article 23 (b).
			<ul style="list-style-type: none"> • Extent to which SPRFMO is addressing any gaps in the collection and sharing of data as required.
Quality and provision of scientific advice	<ul style="list-style-type: none"> • Extent to which SPRFMO receives and acts on the basis of the best scientific advice relevant to the fishery resources under its purview, as well as to the effects of harvesting, research, conservation and associated activities on the marine ecosystem. 		
Adoption of conservation and management measures		<ul style="list-style-type: none"> • Extent to which SPRFMO has adopted conservation and management measures (CMMS) for fishery resources that ensure the long-term conservation and sustainable use of those resources and are based on the best scientific evidence available. 	
		<ul style="list-style-type: none"> • Extent to which SPRFMO has applied a precautionary approach including as set forth in Article 3 (2) of the Convention and the Code of Conduct for Responsible Fisheries, including the application of precautionary reference points as called for in Article 20 (2) of the Convention. 	

		<ul style="list-style-type: none"> • Extent to which SPRFMO has followed the criteria established under Article 21 (1) of the Convention, in the adoption of measures to the allocation of the total allowable catch or total allowable fishing effort
		<ul style="list-style-type: none"> • Extent to which SPRFMO has moved toward the adoption of CMMs for previously unregulated fisheries, including new and exploratory fisheries.
		<ul style="list-style-type: none"> • Extent to which SPRFMO has taken due account of the need to conserve marine biological diversity and minimise adverse impacts of harvesting, research, conservation and associated activities on fishery resources and its marine ecosystems.
		<ul style="list-style-type: none"> • Extent to which SPRFMO has adopted measures to minimise pollution, waste, discards, catch by lost or abandoned gear, catch of non-target fishery resources, and impacts on associated or dependent species through measures including, to the extent practicable, the development and use of selective, environmentally safe and cost-effective fishing gear and techniques.
	Capacity management	<ul style="list-style-type: none"> • Extent to which SPRFMO has identified fishing capacity levels commensurate with the long-term conservation and sustainable use of fishery resources. • Extent to which SPRFMO has taken actions to prevent or eliminate excess fishing capacity and effort. • Extent to which SPRFMO monitors the levels of fishing effort, including taking into account annual notifications for participation by Members and CNCPs.
	Flag State duties	<ul style="list-style-type: none"> • Extent to which SPRFMO Members and CNCPs are fulfilling their duties as flag States under Article 25 of the Convention, pursuant to CMMs adopted by SPRFMO and under other international instruments, including, <i>inter alia</i>, the 1982 Law of the Sea Convention, the 1995 Agreement and the 1993 FAO Compliance Agreement, as applicable.
	Port State measures	<ul style="list-style-type: none"> • Extent to which SPRFMO has adopted measures relating to the exercise of the rights and duties of its Members and CNCPs as port States, including under Article 26 of the Convention, the Code of Conduct for Responsible Fisheries and the FAO Port States Measures Agreement. • Extent to which these measures are effectively implemented.
2. Compliance and enforcement	Monitoring, control and surveillance	<ul style="list-style-type: none"> • Extent to which SPRFMO has adopted integrated Monitoring, Control and Surveillance measures (e.g. record of vessels, VMS, inspections in port and at sea, regulation of transshipment, market-related measures, compliance, fight against IUU fishing, etc) including under Article 27 of the Convention and other relevant international provisions. • Extent to which these MCS measures are effectively implemented.
	Follow-up on infringements	<ul style="list-style-type: none"> • Extent to which SPRFMO, its Members and CNCPs follow up on infringements to CMMs.

	Cooperative mechanisms to detect and deter non-compliance	<ul style="list-style-type: none"> • Extent to which SPRFMO has established adequate cooperative mechanisms to monitor compliance, detect and deter non-compliance and remedy compliance issues (e.g. compliance committees, IUU vessel lists, sharing of information about non-compliance). • Extent to which these mechanisms are being effectively utilised.
	Market-related measures	<ul style="list-style-type: none"> • Extent to which SPRFMO has adopted measures relating to the exercise of the rights and duties of its Members and CNCPs as market States for fishery resources.
3. <i>Decisionmaking and dispute settlement</i>	Decision-making	<ul style="list-style-type: none"> • Efficiency of Commission meetings, meetings of its subsidiary bodies and working groups (including intersessional working groups) in addressing critical issues in a timely and effective manner. • Extent to which SPRFMO has transparent and consistent decision-making procedures that facilitate the adoption of Decisions in a timely and effective manner. • Existence of an informal mechanism of cooperation between Members and CNCPs based on reciprocities.
		Dispute settlement
	4. <i>International cooperation</i>	Transparency
	Relationship with CNCPs	<ul style="list-style-type: none"> • Extent to which SPRFMO facilitates cooperation between Members and CNCPs including through encouraging CNCPs to become Members or to implement voluntarily SPRFMO CMMs.
	Relationship with non-Members or non-CNCP undermining the objectives of the Convention	<ul style="list-style-type: none"> • Extent to which SPRFMO provides for action in accordance with international law against non-Members or non-CNCPs undermining the objective of the Convention, as well as measures to deter such activities, as well as encouraging them to become Members and CNCPs or to implement voluntarily SPRFMO CMMs.
	Cooperation with international organisations	<ul style="list-style-type: none"> • Extent to which SPRFMO cooperates with other international organisations, including under Article 31 of the Convention.
	Special requirements of developing States	<ul style="list-style-type: none"> • Extent to which SPRFMO recognises the special needs of developing States and pursues forms of cooperation with Developing States, including under Article 19 of the Convention and the Code of Conduct for Responsible Fisheries.
		<ul style="list-style-type: none"> • Extent to which SPRFMO Members and CNCPs, individually or through the Commission, provide relevant assistance to developing States.

<i>5. Financial and administrative issues</i>	Availability of resources for activities	<ul style="list-style-type: none"> • Extent to which financial and other resources are made available to achieve the aims of SPRFMO and to implement SPRFMO’s decisions.
	Efficiency and cost-effectiveness	<ul style="list-style-type: none"> • Extent to which SPRFMO is efficiently and effectively managing its human and financial resources, including those of the Secretariat.
		<ul style="list-style-type: none"> • Extent to which the schedule and organisation of the meetings could be improved.

ANNEX II

The following terms and associated definitions are proposed as guidance the Commission and subsidiary bodies' discussions so as to remove ambiguity surrounding how particular paragraphs of the panel's report should be interpreted.

- Level 1: **RECOMMENDED; RECOMMENDATION** (formal); **REQUESTED** (informal): A conclusion for an action to be undertaken by the Commission, a subsidiary (advisory) body of the Commission and/or the Secretariat. Note: Subsidiary (advisory) bodies of the Commission must have their Recommendations and Requests formally provided to and accepted by the Commission. The intention is that the higher body will consider the action for endorsement under its own mandate, if the subsidiary body does not already have the required mandate. Ideally, this should be task-specific and contain a timeframe for completion.
- Level 2: **AGREED**: Any point of discussion from a meeting, which the SPRFMO Commission or relevant subsidiary bodies considers to be an agreed course of action covered by its mandate, which has not already been dealt with under Level 1 above; a general point of agreement among delegations/participants of a meeting which does not need to be elevated in the Commission's reporting structure.
- Level 3: **NOTED/NOTING; CONSIDERED; URGED; ACKNOWLEDGED**: General terms to be used for consistency. Any point of discussion from a meeting, which the reviewers consider to be important enough to record in a meeting report for future reference. Any other term may be used to highlight to the reader of a SPRFMO report, the importance of the relevant paragraph. Other terms may be used but will be considered for explanatory/informational purposes only and shall have no higher rating within the reporting terminology hierarchy than Level 3.

ANNEX 2: BIOGRAPHIES FOR MEMBERS OF THE SPRFMO REVIEW PANEL

Dr. Penelope Ridings (Chair) is a New Zealand Barrister and International Law Consultant providing advice on international law, oceans and fisheries, environment, trade and investment. She is currently Legal Advisor to the Western and Central Pacific Fisheries Commission and earlier represented New Zealand at the negotiations for that Convention. Previously she was a lawyer and diplomat with the New Zealand Ministry of Foreign Affairs and Trade, including as the Ministry's chief International Legal Adviser. She has represented New Zealand in multilateral negotiations, including on Port State Measures and marine biodiversity beyond national jurisdiction, regional fisheries management meetings, including SPRFMO and CCAMLR, bilateral legal and fisheries talks, and international dispute settlement. She was Agent for New Zealand before the International Court of Justice in *Whaling in the Antarctic (Australia v Japan, New Zealand Intervening)* and before the International Tribunal for the Law of the Sea in the *Request for an Advisory Opinion submitted by the Sub-Regional Fisheries Commission*. She is also formerly New Zealand Ambassador to Poland, Estonia, Latvia and Lithuania, and New Zealand High Commissioner to Samoa. In 2015 she was granted the Member of the New Zealand Order of Merit (MNZM) for Services to the State.

Alexa A. Cole is the Deputy Chief of the Enforcement Section of NOAA General Counsel. She previously served as the Senior Enforcement Attorney for the Pacific Islands Region in Honolulu and as an Enforcement Attorney in the Headquarters office in the Section. Prior to joining NOAA, Alexa was an Associate for a firm in Washington, DC. In her current position, she supervises the international, legislative, and policy issues for the Enforcement Section. Alexa has a large international practice for NOAA, including serving on the US delegation to regional fisheries management organizations and Treaty negotiations, as well as developing and leading capacity building initiatives around the world. She was Chair of the Technical and Compliance Committee of the Western and Central Pacific Fisheries Commission from 2015 through 2018. In addition, Alexa has extensive experience prosecuting federal administrative enforcement cases involving international and domestic fisheries, protected resources, marine national monuments and national marine sanctuaries. Alexa received a B.A. in Geography and Environmental Studies from McGill University, a J.D. from Vermont Law School, and a Masters degree in International Public Policy at The Johns Hopkins University, Paul H. Nitze School of Advanced International Studies.

Lyn Goldsworthy AM has spent more than 35 years working across oceans and Antarctic policy issues for the non-government sector. She has attended more than 25 CCAMLR meetings and several SPRFMO and SIOFA meetings as an advisor on the Australian government delegations. She is currently a member of the Australian government Sub Antarctic Fisheries Management Advisory Committee and served on the Antarctic Science Advisory Committee for 16 years. Lyn was awarded the Order of Australia (Member) for services to conservation and environment in 1991, and the New Zealand Antarctic Conservation Trophy in 1990. She is currently undertaking a PhD at Institute of Antarctic and Marine Studies, University of Tasmania, considering CCAMLR approach as a case study for precautionary and ecosystem-based marine resource management in the current dynamic geopolitical and physical climate.

Prof. Stuart Kaye is Director and Professor of Law at the Australian National Centre for Ocean Resources and Security at the University of Wollongong. Prior to this appointment he was Dean and Winthrop Professor of Law at the University of Western Australia between 2010 and 2013. He also previously held a Chair in Law at the University of Melbourne and was Dean of Law at the University of Wollongong between 2002 and 2006. He holds degrees in arts and law from the University of Sydney, and a doctorate in law from Dalhousie University. He is admitted as a barrister of the Supreme Courts of New South Wales, Tasmania and Queensland. He has written over 100 articles and other publications, as well as a number of books, including *Australia's Maritime Boundaries* (2001), *The Torres Strait* (1998), and *International Fisheries Management* (2001), and co-authoring *International Law – Cases and Material with Australian Perspectives* (3rd Edn, 2014) for Cambridge University Press. He was appointed to the International Hydrographic Organization's Panel of Experts on Maritime Boundary Delimitation in 1995 and in 2000 was appointed to the List of Arbitrators under the Environmental Protocol to the Antarctic Treaty. He was chair of the Australian International Humanitarian Law Committee from 2003 to 2009, for which he was awarded the Australian Red Cross Society Distinguished Service Medal. He was elected a Fellow of the Royal Geographical Society in 2007 and the Australian Academy of Law in 2011. He holds the rank of Commander in the Royal Australian Navy Reserve, providing advice to the Australian Defence Force and Maritime Border Command with respect to international law.

ANNEX 3: SUMMARY OF QUESTIONNAIRE RESPONSES

The Panel received seventeen responses from Members, CNCPs and Observers. The table below represents a summary of all of the responses received. In any instance where the total number of responses to any question is less than 17, the missing responses reflects when one or more respondents did not answer a specific question or deemed it not applicable. All substantive responses are captured in the table.

CONSERVATION AND MANAGEMENT				
<i>Ecosystem Management</i>				
	Yes	No	Partly	
Do SPRFMO decisions fully incorporate the ecosystem approach to fisheries management in accordance with Article 3(2) of the SPRFMO Convention?	9	1	7	
Are there gaps or changes which would improve implementation of the ecosystem approach?	10	6	1	
<i>Data Collection</i>				
	Excellent	Good	Acceptable	Inadequate
How effective are the SPRFMO data collection:				
Formats?	4	11	1	1
Specifications?	4	10	2	1
Timeframes?	3	10	4	0
	Yes/Very	No/Not at all	Partly	
How accurate, timely and complete is the collection of data by:				
Members?	10	1	5	
CNCPs?	7	2	8	
SPRFMO?	11	0	4	
Are there any gaps in data collection necessary for effective stock assessment?	7	5	5	
Are there any gaps in data collection necessary for ensuring best scientific advice is available?	7	6	4	
How effective are SPRFMO's efforts in addressing any gaps in data collection?	9	0	8	
Are there any gaps in CMM 16-2018 (Observer Programme) which need to be filled to fully reflect the requirements of Article 28(1) of the SPRFMO Convention?	6	8	3	

<i>Quality and Provision of Scientific Advice</i>			
	Very	Not at all	Partly
How effective are SPRFMO's efforts to receive and act on best scientific advice relevant to the fishery resources it covers?	13	0	4
How effective are SPRFMO's efforts to receive and act on best scientific advice relevant to the effects of harvesting, research, conservation and associated activities on the marine environment?	10	0	7
<i>Adoption of Conservation and Management Measures</i>			
	Yes	No	Partly
Has SPRFMO adopted an effective range of Conservation and Management Measures for fishery resource management that ensure the long-term conservation and sustainable use of those resources and are based on the best scientific evidence available?	12	1	4
Has SPRFMO sufficiently applied a precautionary approach in line with the requirements of Article 3(2) of the SPRFMO Convention and the Code of Conduct for Responsible Fisheries?	10	1	6
Has SPRFMO sufficiently applied precautionary reference points as called for in Article 20(2) of the Convention?	10	1	6
Has SPRFMO sufficiently incorporated the criteria established under Article 21(1) of the SPRFMO Convention, in the adoption of measures relating to the allocation of the total allowable catch or total allowable fishing effort?	12	1	4
How effective are the SPRFMO CMMs adopted to cover previously unregulated fisheries, including new and exploratory fisheries?	12	1	4
Has SPRFMO adopted CMMs which specifically address the conservation of marine biological diversity?	6	3	7
Has SPRFMO adopted CMMs which specifically aim to minimise adverse impacts of harvesting, research, conservation and associated activities on fishery resources and its marine ecosystems?	11	1	4

	Yes	No	Partly	No Info
Has SPRFMO adopted CMMs which specifically aim to minimise pollution, waste, discards, catch by lost of abandoned gear, catch of no-target fishery resources, and impacts on associated or dependent species?	3	2	9	1
<i>Capacity Management</i>				
	Yes/Very	No/Not at all	Partly	
Are SPRFMO fishing capacity levels appropriate to support long-term conservation and sustainable use of its fisheries resources?	11	3	3	
How effective have been actions taken by SPRFMO to prevent or eliminate excess fishing capacity and effort?	10	1	3	
How effective are efforts made by SPRFMO to monitor levels of fishing effort?	10	0	4	
COMPLIANCE AND ENFORCEMENT				
<i>Flag State Duties</i>				
	Yes	No		
Do Members and CNCPs have a clear understanding of their flag state duties?	15	1		
Have there been any situations where a Member or CNCP has not fulfilled its flag state duties?	7	9		
Are there ways that Members and CNCPs could better fulfil their flag state duties?	12	2		
<i>Port State Measures</i>				
	Yes	No	Both	Insufficient Info
Have Members implemented the SPRFMO port state measure fully	11	2	1	2
Is the port state measure adopted by SPRFMO effective?	14	1	0	1
Are there additional port state measures that are needed?	3	11	0	1
<i>Monitoring, Control and Surveillance</i>				
	Yes	No	Both/Possibly	
Are SPRFMO's MCS measures well-tailored to enable monitoring of and ensure compliance with SPRFMO's conservation and management measures?	15	2	0	

	Yes	No	Both/Possibly		
Are there additional MCS measures that are needed to enable monitoring of and ensure compliance with SPRFMO's conservation and management measures?	7	9	1		
Are there improvements that should be made to the existing MCS measures?	6	8	1		
Are the SPRFMO MCS measures effective and integrated?	12	3	0		
Have Members and CNCPs implemented the SPRFMO MCS measures fully?	11	4	0		
<i>Follow-up on Infringements</i>					
	Yes	No			
Do Members and CNCPs follow up on alleged infringements of conservation and management measures?	15	1			
<i>Cooperative Mechanisms to Detect and Deter Non-compliance</i>					
	Yes	No	Partly		
Has SPRFMO established cooperative mechanisms to monitor compliance, detect and deter non-compliance and remedy compliance issues?	14	1	0		
If there are cooperative mechanisms, are they effective in monitoring compliance, detecting and deterring non-compliance and remedying compliance issues?	12	0	1		
Are the cooperative mechanisms being used effectively?	13	0	1		
Are there additional cooperative mechanisms needed?	5	7	1		
<i>Market-related Measures</i>					
	Yes	No			
Are there market-related measures that SPRFMO should adopt?	8	6			
DECISION-MAKING AND DISPUTE SETTLEMENT					
<i>Decision-making</i>					
	Good	=>	=>	=>	Poor
How do you assess SPRFMO decision-making process and practices?	8	5	0	0	0
	Yes	No	Partly		
Are the processes and practices inclusive and transparent?	12	0	3		
Could they be improved?	4	6	2		

	Yes	No	Partly
Would SPRFMO benefit from the greater use of information mechanisms of cooperation in its decision-making?	3	4	4
<i>Dispute Resolution</i>			
	Yes	No	Partly
Has the dispute resolution process used by SPRFMO been effective in resolving disputes?	13	0	2
Has the SPRFMO dispute resolution process been expeditious?	14	0	1
Do you have any concerns with the SPRFMO dispute resolution process, such as procedures or costs?	1	12	2
INTERNATIONAL COOPERATION			
<i>Transparency</i>			
	Yes	No	Partly
Are relevant intergovernmental organisations and interested environmental organisations and fishing industry organisations able to effectively participate in all SPRFMO meetings?	15	1	1
Does SPRFMO facilitate consultations with non-governmental organisations, representatives of the fishing industry, and other interested bodies on SPRFMO conservation and management measures?	14	1	1
Are all SPRFMO reports, conservation measures and scientific advice and other relevant non-commercial sensitive information made publicly available in a timely manner?	17	0	0
How effective is the SPRFMO website making relevant information publicly available and easily accessible?	14	0	3
<i>Relationship with Cooperating Non-Contracting Parties (CNCP)</i>			
	Yes	No	
Have there been efforts by SPRFMO to encourage CNCPs, either individually or collectively, to become SPRFMO Members?	14	2	
	Yes	Partly	No Info
Do CNCPs voluntarily implement SPRFMO measures?	7	7	1

<i>Relationship with Non-Members or Non-CNCPs Undermining the Objectives of the Convention</i>				
	Yes	No	Partly	No Info
Does SPRFMO take effective measures to deter the activities of non-Members and non-CNCPs that undermine SPRFMO conservation and management measures?	11	5	1	0
Does SPRFMO encourage non-Members and non-CNCPs to become Members or CNCPs of SPRFMO?	12	1	1	1
<i>Cooperation with International Organisations</i>				
	Yes/Very	No/Not at all	Partly	No Info
Does SPRFMO have appropriate cooperation links with other international and regional fisheries management organisations?	11	1	4	1
How effective is the cooperation with other regional fisheries management organisations which have competency over stocks located in the Convention Area?	9	2	4	1
Does SPRFMO cooperate with relevant fisheries organisations specifically on the reduction and elimination of IUU fishing?	9	1	3	1
<i>Special Requirements of Developing States</i>				
	Yes/Very	No/Not at All	Partly	No Info
Does SPRFMO have appropriate mechanisms for recognising the special needs of developing States?	10	1	3	1
How appropriate and sufficient is the assistance that is provided to developing States by Members or CNCPs either individually or through SPRFMO?	6	0	8	3
FINANCIAL AND ADMINISTRATIVE ISSUES				
<i>Availability of Resources for Activities</i>				
	Yes	No	Partly	No Info
Is the level of funding available to the Secretariat sufficient to achieve the aims of SPRFMO and implement its decisions?	11	0	3	1
Does the Secretariat have the requisite number of personnel to achieve the aims of SPRFMO and implement its decisions?	12	1	3	1
Does the SPRFMO budget process lead to the necessary financial resources being available to the SPRFMO Secretariat?	12	0	2	2

<i>Efficiency and Cost-effectiveness</i>				
	Yes	No	Partly	No Info
Does SPRFMO efficiently and effectively manage the resources available to it?	12	0	2	2
Does SPRFMO have the right organisational structure and working groups to efficiently undertake its work?	15	2	0	0
Is the SPRFMO schedule of meetings appropriate?	16	1	0	0
Is the organisation of SPRFMO meetings effective in achieving SPRFMO's objectives?	16	0	0	1

SM5

28 January 2022

COMM10-Report Annex 7a

CMM 01-2022



10TH MEETING OF THE SPRFMO COMMISSION

Held virtually, 24 to 28 January 2022 (NZDT)

COMM 10 – Report ANNEX 7a Conservation and Management Measure 01-2022 Jack Mackerel *(COMM 10 – Prop08)*

CMM 01-202~~1~~⁴

Conservation and Management Measure for *Trachurus murphyi* (supersedes CMM 01-202~~1~~⁰)

The Commission of the South Pacific Regional Fisheries Management Organisation;

NOTING that the *Trachurus murphyi* stock remains at very low levels;

CONCERNED in particular with the low levels of the current biomass, historically high fishing mortality, the need to maintain low fishing mortality, and the high degree of associated uncertainties;

TAKING INTO ACCOUNT the outcomes of the stock assessment carried out on ~~27 September~~³ to ~~28~~² October 202~~1~~⁰ and the advice of the Scientific Committee;

BEARING IN MIND the commitment to apply the precautionary approach and take decisions based on the best scientific and technical information available as set out in Article 3 of the Convention;

RECOGNISING that a primary function of the Commission is to adopt Conservation and Management Measures (CMMs) to achieve the objective of the Convention, including, as appropriate, CMMs for particular fish stocks;

AFFIRMING its commitment to rebuilding the stock of *Trachurus murphyi* and ensuring its long-term conservation and sustainable management in accordance with the objective of the Convention;

RECOGNISING the need for effective monitoring and control and surveillance of fishing for *Trachurus murphyi* in the implementation of this measure pending the establishment of monitoring, control and surveillance measures pursuant to Article 27 of the Convention;

NOTING Article 4(1) regarding the need to ensure compatibility of conservation and management measures established for fishery resources that are identified as straddling areas under the national jurisdiction of a coastal State Contracting Party and the adjacent high seas of the Convention Area and acknowledge their duty to cooperate to this end;

BEARING IN MIND, the Findings and Recommendations of the Review Panel, from 5 June 2018, convened pursuant to Article 17 and Annex II of the Convention, in relation to the Objection by the Republic of Ecuador and their statements on possible ways forward in relation to that objection;

RECALLING Articles 4(2), 20(3), 20(4) and 21(2) of the Convention;

RECALLING also Article 21(1) of the Convention;

ADOPTS the following CMM in accordance with Articles 8 and 21 of the Convention:

General Provisions

1. This CMM applies to fisheries for *Trachurus murphyi* undertaken by vessels flagged to Members and Cooperating Non-Contracting Parties (CNCs) included on the Commission Record of Vessels (CMM 05-2021) in the Convention Area and, in accordance with Article 20(4)(a)(iii) and with the express consent of Chile and Ecuador, to fisheries for *Trachurus murphyi* undertaken by Chile and Ecuador in areas under their national jurisdiction.
2. Only fishing vessels duly authorised pursuant to Article 25 of the Convention and in accordance with CMM 05-2021 (Record of Vessels) that are flagged to Members and Cooperating Non-Contracting Parties (CNCs) shall participate in the fishery for *Trachurus murphyi* in the Convention Area.
3. This CMM is not to be considered a precedent for future allocation decisions.



Effort Management

4. Relevant Members and CNCPs shall limit the total gross tonnage (GT)¹ of vessels flying their flag and participating in the fishing activities described in Article 1, (1)(g)(i) and (ii) of the Convention in respect of the *Trachurus murphyi* fisheries in the Convention Area to the total tonnage of their flagged vessels that were engaged in such fishing activities in 2007 or 2008 or 2009 in the Convention Area and as set out in Table 1 of CMM 1.01 (*Trachurus murphyi*; 2013). Such Members and CNCPs may substitute their vessels as long as the total level of GT for each Member and CNCP does not exceed the level recorded in that table.

Catch Management

5. In 202~~21~~ the total catch of *Trachurus murphyi* in the area to which this CMM applies in accordance with paragraph 1 shall be limited to ~~710,702~~ 817,943 tonnes. Members and CNCPs are to share in this total catch in the tonnages set out in Table 1 of this CMM.
6. Catches will be attributed to the flag State whose vessels have undertaken the fishing activities described in Article 1 (1)(g)(i) and (ii) of the Convention.
7. In the event that a Member or CNCP reaches 70% of its catch limit set out in Table 1, the Executive Secretary shall inform that Member or CNCP of that fact, with a copy to all other Members and CNCPs. That Member or CNCP shall close the fishery for its flagged vessels when the total catch of its flagged vessels is equivalent to 100% of its catch limit. Such Member or CNCP shall notify promptly the Executive Secretary of the date of the closure.
8. The provisions of this CMM are without prejudice to the right of Members and CNCPs to adopt measures limiting vessels flying their flag and fishing for *Trachurus murphyi* in the Convention Area to catches less than the limits set out in Table 1. In any such case, Members and CNCPs shall notify the Executive Secretary of the measures, when practicable, within 1 month of adoption. Upon receipt, the Executive Secretary shall circulate such measures to all Members and CNCPs without delay.
9. By 31 December each year a Member or CNCP may transfer to another Member or CNCP all or part of its entitlement to catch up to the limit set out in Table 1, without prejudice to future agreements on the allocation of fishing opportunities, subject to the approval of the receiving Member or CNCP. When receiving fishing entitlement by transfer, a Member or CNCP may either allocate it domestically or endorse arrangements between owners participating in the transfer. Members and CNCPs receiving fishing entitlements by transfer who have consented to a total allowable catch that will apply throughout the range of the fishery resource under Art 20(4)(a)(iii) may pursue those entitlements in the Convention Area and in their areas under their national jurisdiction. Before the transferred fishing takes place, the transferring Member or CNCP shall notify the transfer to the Executive Secretary for circulation to Members and CNCPs without delay.
10. Members and CNCPs agree, having regard to the advice of the Scientific Committee, that catches of *Trachurus murphyi* in 202~~21~~ throughout the range of the stock should not exceed ~~782~~ 900,000 tonnes.
11. The Executive Secretary shall inform Members and CNCPs when catches of *Trachurus murphyi* in the range of its distribution have reached 70% of the amount referred to in paragraph 10. The Executive Secretary shall notify Members and CNCPs when the amount referred to in paragraph 10 has been reached.

¹ In the event that GT is not available, Members and CNCPs shall utilise Gross Registered Tonnage (GRT) for the purposes of this CMM.



Data Collection and Reporting

12. Members and CNCPs participating in the *Trachurus murphyi* fishery shall report in an electronic format the monthly catches of their flagged vessels to the Secretariat within 20 days of the end of the month, in accordance with CMM 02-2021 (Data Standards) and using templates prepared by the Secretariat and available on the SPRFMO website.
13. When total catches have reached 70% of the amount indicated in paragraph 10, Members and CNCPs agree to implement a 15-day reporting period:
 - a) for purposes of implementing this system, the calendar month shall be divided into 2 reporting periods, viz: day 1 to day 15 and day 16 to the end of the month;
 - b) once the 15-day reporting has been activated, Members and CNCPs shall report their catches within 10 days of the end of each period, excepting the first report, which shall be made within 20 days of the end of the period.
14. The Executive Secretary shall circulate monthly catches, aggregated by flag State, to all Members and CNCPs on a monthly basis. Once 15-day reporting has been activated the Executive Secretary shall circulate 15-day catches, aggregated by flag State, to all Members and CNCPs on a 15-day basis.
15. Except as described in paragraphs 12 and 13 above, each Member and CNCP participating in the *Trachurus murphyi* fishery shall collect, verify, and provide all required data to the Executive Secretary, in accordance with CMM 02-2021 (Data Standards) and the templates available on the SPRFMO website, including an annual catch report.
16. The Executive Secretary shall verify the annual catch reports submitted by Members and CNCPs against the submitted data (tow-by-tow in the case of trawlers, and set-by-set or trip-by-trip in the case of purse-seine fishing vessels). The Executive Secretary shall inform Members and CNCPs of the outcome of the verification exercise and any possible discrepancies encountered.
17. Members and CNCPs participating in the *Trachurus murphyi* fisheries shall implement a vessel monitoring system (VMS) in accordance with CMM 06-2020 (VMS) and other relevant CMMs adopted by the Commission.
18. Each Member and CNCP participating in the *Trachurus murphyi* fishery shall provide the Executive Secretary a list of vessels² they have authorised to fish in the fishery in accordance with Article 25 of the Convention and CMM 05-2021 (Record of Vessels) and other relevant CMMs adopted by the Commission. They shall also notify the Executive Secretary of the vessels that are actively fishing or engaged in transshipment in the Convention Area within 20 days of the end of each month. The Executive Secretary shall maintain lists of the vessels so notified and will make them available on the SPRFMO website.
19. The Executive Secretary shall report annually to the Commission on the list of vessels having actively fished or been engaged in transshipment in the Convention Area during the previous year using data provided under CMM 02-2021 (Data Standards).
20. In order to facilitate the work of the Scientific Committee, Members and CNCPs shall provide their annual national reports, in accordance with the existing guidelines for such reports, in advance of the 202~~21~~²⁴ Scientific Committee meeting. Members and CNCPs shall also provide observer data for the 202~~21~~²⁴ fishing season to the Scientific Committee to the maximum extent possible. The reports shall be submitted to the Executive Secretary at least one month before the 202~~21~~²⁴ Scientific Committee meeting in order to ensure that the Scientific Committee has an adequate opportunity to consider the reports in its deliberations. Members should notify the Executive Secretary in the event they will not be submitting an annual report together with the reasons for not doing so.
21. In accordance with Article 24(2) of the Convention, all Members and CNCPs participating in the *Trachurus*

² Fishing vessels as defined in Article 1 (1)(h) of the Convention.



murphyi fishery shall provide a report describing their implementation of this CMM in accordance with the timelines specified in CMM 10-2020 (Compliance Monitoring Scheme). On the basis of submissions received the CTC shall develop a template to facilitate future reporting. The implementation reports will be made available on the SPRFMO website.

22. The information collected under paragraphs 11, 13 and 18, and any stock assessments and research in respect of *Trachurus murphyi* fisheries shall be submitted for review to the Scientific Committee. The Scientific Committee will conduct the necessary analysis and assessment, in accordance with its SC Multi-annual workplan (2022~~1~~) agreed by the Commission, in order to provide updated advice on stock status and recovery.
23. Contracting Parties and CNCPs, as port States, shall, subject to their national laws, facilitate access to their ports on a case-by-case basis to reefer vessels, supply vessels and vessels fishing for *Trachurus murphyi* in accordance with this CMM. Contracting Parties and CNCPs shall implement measures to verify catches of *Trachurus murphyi* caught in the Convention Area that are landed or transhipped in its ports. When taking such measures, a Contracting Party or CNCP shall not discriminate in form or fact against fishing, reefer or supply vessels of any Member or CNCP. Nothing in this paragraph shall prejudice the rights, jurisdiction and duties of these Contracting Parties and CNCPs under international law. In particular, nothing in this paragraph shall be construed to affect:
 - a) the sovereignty of Contracting Parties and CNCPs over their internal, archipelagic and territorial waters or their sovereign rights over their continental shelf and in their exclusive economic zone;
 - b) the exercise by Contracting Parties and CNCPs of their sovereignty over ports in their territory in accordance with international law, including their right to deny entry thereto as well as adopt more stringent port State measures than those provided for in this CMM and other relevant CMMs adopted by the Commission.
24. Until the Commission adopts an Observer Programme in accordance with Article 28 of the Convention, all Members and CNCPs participating in the *Trachurus murphyi* fishery shall ensure a minimum of 10% scientific observer coverage of trips for trawlers and purse seiners flying their flag and ensure that such observers collect and report data as described in CMM 02-2021 (Data Standards). In the case of the flagged vessels of a Member or CNCP undertaking no more than 2 trips in total, the 10% observer coverage shall be calculated by reference to active fishing days for trawlers and sets for purse seine vessels.

Cooperation in Respect of Fisheries in Adjacent Areas Under National Jurisdiction

25. Members and CNCPs participating in *Trachurus murphyi* fisheries in areas under national jurisdiction adjacent to the area to which this CMM applies in accordance with paragraph 1, and Members and CNCPs participating in *Trachurus murphyi* fisheries in the area to which this CMM applies, shall cooperate in ensuring compatibility in the conservation and management of the fisheries. Members and CNCPs participating in *Trachurus murphyi* fisheries in areas under national jurisdiction adjacent to the area to which this CMM applies are invited to apply the measures set out in paragraphs 12-24, insofar as they are applicable, to vessels associated with the *Trachurus murphyi* fisheries in their areas under national jurisdiction. They are also requested to inform the Executive Secretary of the Conservation and Management Measures in effect for *Trachurus murphyi* in areas under their national jurisdiction.
26. Acknowledging the duty to cooperate to promote and ensure that CMMs established for the high seas and those adopted for areas under national jurisdiction are compatible, as required by Article 4 paragraph 2 and Article 8 (f) of the Convention, coastal State Contracting Parties participating in the *Trachurus murphyi* fishery in areas under national jurisdiction that have not given their express consent under Article 20 paragraph 4 (a) (ii), will undertake their utmost efforts to restrain from authorising catches that exceed the difference between the amount agreed in paragraph 10 of this CMM and the total catch allocated in paragraph 5 of this CMM.
27. Where, due to exceptional and unforeseen circumstances in the stock biomass in the inter-sessional period,



coastal States that have not given their express consent under Article 20 paragraph 4 (a) (ii) establish domestic measures concerning catches of *Trachurus murphyi* in areas under their national jurisdiction that may result in exceeding such difference as indicated in paragraph 26 above, they agree to:

- a) submit to the Secretariat, as a matter of urgency and no later than 15 days after their adoption, a report explaining to the Commission how the national measures concerning the *Trachurus murphyi* fishery in areas under their national jurisdiction are compatible with those adopted by the Commission, and how they have taken into account the requirements of Article 4 paragraph 2 (a), (b) and (c) of the Convention;
 - b) report to the Secretariat any subsequent changes to the national measures, no later than 15 days after their adoption;
 - c) cooperate in the coordination of the conservation measures they intend to apply with the Scientific Committee and the Commission to ensure that the intended measures do not undermine the effectiveness of the conservation and management measures adopted by the Commission.
28. At its next annual meeting, the Scientific Committee will assess the information received and provide advice to the Commission regarding the possible impact of the national measures adopted on the *Trachurus murphyi* fishery. The CTC will consider the information provided by the coastal State and whether the national measures it adopted are compatible with those established by the Commission and will advise the Commission accordingly. The Commission will consider measures to ensure compatible management, considering the advice of the Scientific Committee and the CTC.
29. In case any Member or CNCP considers that the information presented by the coastal State has not taken into account the requirements of Article 4, 2 (a), (b) and (c) of the Convention, it may request a special meeting of the Commission in accordance with Article 7 paragraphs 3 and 4 of the Convention and Regulation 3 of the SPRFMO Rules of Procedure, except that such special meeting may take place by electronic means, under the same quorum provided for by the Rules of Procedure for special meetings.

Special Requirements of Developing States

30. In recognition of the special requirements of developing States, in particular small island developing States and territories and possessions in the region, Members and CNCPs are urged to provide financial, scientific and technical assistance, where available, to enhance the ability of those developing States and territories and possessions to implement this CMM.

Review

31. This Measure shall be reviewed by the Commission in 2023~~2~~. The review shall take into account the latest advice of the Scientific Committee and the CTC, and the extent to which this CMM, CMM 1.01 (*Trachurus murphyi*, 2013), CMM 2.01 (*Trachurus murphyi*, 2014), CMM 3.01 (*Trachurus murphyi*; 2015), CMM 4.01 (*Trachurus murphyi*, 2016), CMM 01-2017 (*Trachurus murphyi*), CMM 01-2018 (*Trachurus murphyi*), CMM 01-2019 (*Trachurus murphyi*), ~~and~~ CMM 01-2020 (*Trachurus murphyi*) and CMM 01-2021 (*Trachurus murphyi*) as well as the Interim Measures for pelagic fisheries of 2007, as amended in 2009, 2011 and 2012, have been complied with.
32. Without prejudice to Members and CNCPs without an entitlement in Table 1 and the rights and obligations specified in Article 20(4)(c) and having regard to paragraph 10, the percentages included in Table 2 will be used by the Commission as a basis for the allocation of Member and CNCPs' catch limits from 2018 to 2022~~1~~ inclusive.



Table 1: Tonnages in 2021 fishery as referred to in paragraph 5.

Member / CNCP	Tonnage
Chile	504 889 581 074
China	49 639 57 129
Cook Islands	0
Cuba	1 745 2 008
Ecuador	9 883 11 374
European Union	47 769 54 977
Faroe Islands	8 670 9 978
Korea	10 027 11 540
Peru (HS)	15 862 18 256
Russian Federation	25 669 29 543
Vanuatu	36 549 42 064
Total	710 702 817 943

Table 2: Percentages³ related to the catches referred to in paragraph 10.

Member / CNCP	%
Chile	64.5638
China	6.3477
Cook Islands	0.0000
Cuba	0.2231
Ecuador	1.2638
European Union	6.1086
Faroe Islands	1.1087
Korea	1.2822
Peru (HS)	2.0284
Russian Federation	3.2825
Vanuatu	4.6738

³ These percentages shall apply from 2018 to 2021 inclusive as amended in 2020 [and as extended in 2022](#).

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25 January 2022

COMM10-Report Annex 9b

Statement of Chile CMM 01-2022



10TH MEETING OF THE SPRFMO COMMISSION

Held virtually, 24 to 28 January 2022 (NZDT)

COMM 10 – Report ANNEX 9b Statement of Chile regarding CMM 01-2022 on *Trachurus murphyi* *Republic of Chile*

Chile's statement at the adoption of the Jack mackerel measure for 2022
Vice Ministry of Fisheries, Ms Alicia Gallardo
25.01.2022

Mr Chair,

Distinguished delegates from SPRFMO Commission members, cooperating non-contracting parties, and observers;

Dear friends and colleagues;

It is my pleasure to address the SPRFMO Commission at the Tenth Meeting of our organisation. We have come a long way since the 2007 interim measures first regulating the jack mackerel fishery on the high seas, the adoption of the SPRFMO Convention in 2009 and our first meeting as Commission in Auckland in 2013.

SPRFMO is today a reliable organisation that boasts achievements that very few other RFMOs can show. One of them is the recovery of the jack mackerel fishery from a state of near-collapse in the early 2010s, one of the rare success stories in international fisheries. Our organisation has much to show close to its 10th anniversary, also beyond the management of the jack mackerel fishery.

Unfortunately, the impact of the COVID-19 pandemic still resonates in our work. Although the virtual format has been a most valuable tool, and we have made progress in some areas in the last two years, it is undeniable that the pandemic's restrictions have forced us to delay or postpone essential discussions.

One such decision initially set to be debated at this meeting concerns a central aspect of SPRFMO: participation and fishing rights in the jack mackerel fishery. A substantive discussion should occur in 2023 after we have agreed on the rollover of the current agreement. However, this issue is too important for my delegation and, therefore, it is here, distinguished delegates, that in my capacity of Vice-ministry of Fisheries of Chile, I would like to make a few points under this agenda item.

As you all remember very well, at the 5th SPRFMO Commission meeting held in Adelaide in 2017, members agreed by consensus on the participation percentages in the fishery, intended to last for five years. The Adelaide agreement proved very successful. It provided the certainty and confidence that directly supported the recovery of the jack mackerel fishery and delivered a straight framework to carry on sustainable fishing operations. Since then, SPRFMO members have acted with a sense of long-term responsibility and a shared determination that have benefited us all. My country offered proof of this purpose, demonstrated by giving consent to adopt a TAC that applied throughout the range of the fishery, including our EEZ under Article 20 paragraph 4 of the SPRFMO Convention.



Mr Chair, Chile has followed the implementation of the 2017 agreement closely. The facts are well-known to you all. Between 2017 and 2021, five out of ten SPRFMO members with jack mackerel quota have operated and fished the whole or part of their annual allocation. China caught 32.2% of its allocation, the Republic of Korea 30.2%, the European Union 45.7%, the Russian Federation 33.4%. Chile has fished nearly 120% of its quota given the transfers by SPRFMO members, effectively fishing 78.4% of all the jack mackerel catches throughout the South-East Pacific. Other members that were given quota allocation do not record catches of jack mackerel on the high seas under the 2017 agreement.

Under the current agreement, Chile was allocated 64.6% of the regional TAC. Yet, we have fished 78.3% of the total catches of jack mackerel from 2017 to 2021. These numbers speak for themselves. They underline that Chile is the leading jack mackerel fishery in the South-East Pacific. Equally, they show that Chile has paid a cost through quota transfers that have benefitted SPRFMO members.

Distinguished delegates, the next meeting will be crucial for managing the jack mackerel fishery and our organisation's stability. We will decisively favour another 5-year agreement consistent with the reality of the fishery, balancing fairness with stable fishing rights.

Crucially, we would like to see all SPRFMO members supporting such a future agreement. We endorse and respect the right of all coastal states to adopt unilateral measures in their waters for straddling stocks as recognised in international law, including the SPRFMO Convention. Still, they must be compatible with those adopted by the Commission because otherwise, we run the risk of exceeding the sustainable limits advised by science. Therefore, Chile invites and encourages all SPRFMO members to be part of a future agreement that can bring stability to the management measures throughout the whole range of the jack mackerel stock. We hope to start informal discussions long before the next meeting in 2023.

Finally, we would like to thank all SPRFMO members for the inter-sessional work, especially the cooperative discussion for the jack mackerel roll-over we have adopted. Thank you Mr Chair.

SM7

August 2022

SC10-Report Annex 10

Jack Mackerel Technical Advice



SPRFMO SC10-Report

Annex 10. Jack Mackerel Technical Annex

1. Introduction

1. This document and content are based on discussions and analyses conducted at the 10th SPRFMO Scientific Committee (SC) meeting in 2022. The analyses updated the model and assumptions from the jack mackerel benchmark meeting (SCW14) and the report can be found on the meeting link ([here](#)). During SC10, the model was updated with new data, and subsequently accepted by the SC. Discussions at SC10 focused on the following topics:
 - Review and update of data sets;
 - Corrections to an error in the length metrics of the growth model used;
 - Change to the handling of selectivity and weight of the catch at age data for the offshore fleet in 2022.
2. A benchmark workshop for the jack mackerel stock assessment was completed in 2022 (SCW14). The main objective of the SCW14 workshop was to update the assessment with new data based on the updated aging criteria developed by Chile. These data included age compositions and weight-at-age in the catches of Chile and the offshore fleets, and in the acoustic surveys of Central and North of Chile. As a consequence of this update, a new maturity-at-age vector was estimated and a new value of natural mortality was derived ($M=0.28$). Overall, the changes caused by the new aging criteria led to the understanding of a faster-growing species that is earlier to mature.
3. In addition, CPUE indices were updated to include a factor for increases in the efficiency of fishing effort (“effort creep”). The efficiency factor for the offshore CPUE index was estimated to be approximately 2.5% per year, whereas the factor was set at a very preliminary value of 1% per year for the Chilean and Peruvian CPUE indices (not based on a quantitative analysis). Reference points were also updated from previously-set interim levels. In addition, for the single-stock hypothesis, a new reference point has been derived for a limit biomass, B_{lim} , which was estimated at 8% of unfished spawning biomass. Compared to the most recent assessment using the ‘old’ age composition data, the perception of stock is relatively unchanged and is estimated to be well above B_{MSY} , with fishing mortality is well below F_{MSY} .

Scientific Name and General Distribution

4. The Chilean jack mackerel (*Trachurus murphyi*, Nichols 1920) is widespread throughout the South Pacific. It is found along the shelf and oceanic waters adjacent to Ecuador, Peru, and Chile, and across the South Pacific along the Subtropical Convergence Zone in what has been described as the “jack mackerel belt” that goes from the coast of Chile to New Zealand within a 35° to 50° S variable band across the South Pacific.

Main Management Units

5. At least five management units of *T. murphyi* associated to distinct fisheries are identified in the SE Pacific: the Ecuadorian fishery, which is managed as part of a more general pelagic fishery within the Ecuadorian EEZ; the Peruvian fishery, which is managed as part of a jack mackerel, mackerel and sardine fishery directed exclusively for direct human consumption taking place almost entirely within the Peruvian EEZ; the northern and the central-southern Chilean fisheries which are managed as separate management units, with the northern fishery being mostly within the Chilean EEZ and the central-southern Chilean fishery which straddles the Chilean EEZ and the adjacent high sea; and, the purely high sea fishery which is a multinational fishery being managed entirely within the context of the SPRFMO. At present there is no directed fishery for *T. murphyi* in the central and western South Pacific and around New Zealand, where incidental catches are very small.

Stock Structure

6. There are a number of competing stock structure hypotheses, and up to five and more separate stocks have been suggested: i) a Peruvian stock (northern stock) which is a straddling stock with respect to the high seas; ii) a Chilean stock (southern stock) which is also a straddling stock with respect to the high seas; iii) a central Pacific stock which exists solely in the high seas; iv) a southwest Pacific stock which exists solely in the high seas; v) and, a New Zealand-Australian stock which straddles the high seas and both the New Zealand and Australian EEZs. Regarding specifically the eastern and central South Pacific, the SPRFMO has identified the following four alternative stock structure working hypotheses: 1) jack mackerel caught off the coasts of Peru and Chile each constitute separate stocks which straddle the high seas; 2) jack mackerel caught off the coasts of Peru and Chile constitute a single shared stock which straddles the high seas; 3) jack mackerel caught off the Chilean area constitute a single straddling stock extending from the coast out to about 120°W; and, 4) jack mackerel caught off the Chilean area constitute separate straddling and high seas stocks.
7. Accordingly, the Jack Mackerel Sub-group (JMSG) of the Science Working Group (SWG) of the SPRFMO at its 11th Session ([SWG-11](#)) carried out parallel assessments of the jack mackerel stock(s) in the Eastern South Pacific under the two main working hypotheses already identified. That is: jack mackerel caught off the coasts of Peru and Chile constitute a single shared stock which straddles the high seas (hypothesis 1); or that jack mackerel caught off the coasts of Peru and Chile each constitute separate stocks (the Peruvian or northern and the Chilean or southern stock) which straddle the high seas (hypothesis 2). In following up on the SWG-11 recommendations, the SPRFMO Commission at its 1st Commission Meeting requested the newly established Scientific Commission (SC) to continue the work on evaluating alternative hypotheses on jack mackerel stock population. Pending more conclusive findings on the stock population structure of jack mackerel, the 2nd Commission meeting requested the SC to continue and expand the stock assessment work under both stock hypotheses considered in the 11th SWG Meeting, and this continues to be one of the main tasks undertaken at SC10.

Fishery

8. The fishery for jack mackerel in the south-eastern Pacific is conducted by fleets from the coastal states (Chile, Peru and Ecuador), and by distant water fleets from various countries, operating beyond the EEZ of the coastal states.
9. The fishery by the coastal states is conducted by purse seiners. The largest fishery exists in Chile, where the fish are used for fish meal. In Peru, the fishery is variable from year to year. Here the fish are taken by purse seiners that also fish for other pelagic species (e.g., anchovy, mackerel, sardines). According to government regulations, the jack mackerel in Peru may only be used for human consumption. Ecuador constitutes the northern fringe of the distribution of jack mackerel. Here the fish only occur in certain years, when the local purse seiners may take substantial quantities (70,000 tons in 2011). Part of the catch is processed into fish meal but recently jack mackerel has been promoted to be used for human consumption.
10. The distant water fleets operating for jack mackerel outside the EEZs have been from a number of parties including Belize, China, Cook Islands, Cuba, European Union (Netherlands, Germany, Poland and Lithuania), Faroe Islands, Korea, Japan, Russian Federation, Ukraine and Vanuatu. These fleets consist exclusively of pelagic trawlers that freeze the catch for human consumption. In the 1980s a large fleet from Russia and other Eastern European countries operated as far west as 130° W. After the economic reforms in the communist countries around 1990, the fishery by these countries in the eastern Pacific was halted. It was not until 2003 that foreign trawlers re-appeared in the waters outside the EEZs of the coastal states.
11. The jack mackerel fishery in Chilean and offshore waters is mono-specific. In the offshore fishery, the catch consists of 90 – 98% jack mackerel, with minor bycatch of chub mackerel (*Scomber japonicus*)

and Pacific bream (*Brama australis*). The available time series of jack mackerel catches in the south-eastern Pacific by Member are shown in Table A10.1 with the catch summarised by fleets in Figure A10.1.

Management

12. Jack mackerel were managed by coastal states beginning in the mid-1990s. National catch quotas for jack mackerel were introduced by Peru in 1995 and by Chile in 1999. Peru introduced a ban on the use of jack mackerel for fish meal in 2002. For the international waters, the first voluntary agreement to limit the number of fishing vessels was introduced in 2010. Catch limits for jack mackerel were established for the south-eastern Pacific starting from 2011.

Information on the environment in relation to the fisheries

13. Important environmental events such as the El Niño effect of 2016 affect oceanographic dynamics. During such events, the depth of the 15°C isotherm and oxycline change significantly affecting the spatial distribution of jack mackerel and their availability in different regions (see for example the work of the Habitat Monitoring Working Group of the Scientific Committee as reported in previous [meetings of the Scientific Committee](#)). The extent that such changes affect the overall population productivity is unclear.

Reproductive Biology

14. The main spawning season happens from October to December; however, spawning has been described from July to March. Gonadosomatic index and egg surveys have been used to determine the time of spawning.

2. Data used in the assessment

Fishery Data

15. The catch data for the model represents a summation of catch values from various Members (Table A10.1) to form four “fleets”, which are intended to be consistent with the gear and general areas of fishing (Figure A10.1). The summarised catches from each of these fleets are presented in Table A10.2.
16. Length data are available from all major fisheries both inside and outside the EEZs. Length distributions from Chile and the older international fleet were converted into age distributions using annual Chilean age-length keys. The more recent length composition data from China were converted to age compositions by applying Chilean age-length keys as compiled by quarter of the year and then aggregated (Table A10.3, Table A10.4, and Table A10.5). The EU provided age-length keys which were used to convert EU length distribution data to age. For Peruvian and Ecuadorian fisheries, length frequency data (Table A10.6) were used directly and fit within the model according to the specified growth curve.
17. In the benchmark workshop prior to SC10 (SCW14), a new Chilean ageing method was included into the assessment. This resulted in revisions to age composition data for both Chilean fleets, as well as the offshore fleet. In addition, several biological variables (weight, maturity, natural mortality) were re-estimated and updated. Some detail on the revisions to the historical data and the validation approach can be found in the SCW11 [report](#).
18. In the benchmark workshop SCW14, it was further agreed that a protocol should be developed to include self-sampling data from the Offshore fleet into the assessment. As introduced in meeting documents SC10-JM03 and SC10-JM04, the protocol stipulates that length-distributions from quarters that are not sampled in the observer program but that are covered in the self-sampling, will be included

into the assessment. For SC10 this meant that self-sampling data for 2021_Q2, 2022_Q2 and 2022_Q3 were included in the assessment data.

19. Several CPUE data series are used in the model, with changes in methodology to calculate the series introduced during SC4, SC6, SC7, SC9 and SC10. From SC10 onwards, the CPUE series include a factor that compensates for efficiency increases of fishing operations as estimated in global effort analysis (e.g. Rousseau et al 2019).
20. For the Chilean purse seiner fleet in the southern-central area, a “Generalized Linear Model” (GLM; McCullagh & Nelder, 1989) approach has been used to standardise the CPUE. Here trip-based CPUE has been modelled as a linear combination of explanatory variables, with the goal of estimating a year-effect that is proportional to jack mackerel biomass. Factors in the GLM included year, quarter, zone, and vessel hold capacity. Effort units were computed as the number of days spent fishing by each vessel. This CPUE series was revised during SC4 to exclude trips with no jack mackerel catches. This was preferred because it better reflected changes in management over time (particularly the introduction of vessel-level quotas starting in 2000). To account for changes in fleet behaviour arising from the changes in management, the revised CPUE series from the GLM was modelled with a catchability change in year 2000. In addition, an overall increase of technical efficiency of 1% per year has been included during SC10.
21. Prior to the 2018 assessment (SC6), Peru presented a CPUE abundance index derived from the industrial purse seine fleet. This fishery has a strong focus on anchoveta and other stocks such as chub mackerel (*Scomber japonicus*) and bonito (*Sarda chiliensis*). With increasing catch rates in those fisheries, the focus on jack mackerel shifted, and the CPUE index was deemed to be no longer indicative of jack mackerel biomass. This resulted in a lack of CPUE data between 2015 and 2017. Thus, for the 2018 assessment CPUE indicators were calculated based on artisanal and small-scale fleets. These fleets are and have been targeting jack mackerel on a regular basis, operating at a closer distance to the coast than the industrial fleets. Historical data on catch by haul capacity for the artisanal fleets were recovered beginning in 2000. A Generalised Additive Model, in which the dependent variable (catch per trip) is gamma-distributed using a log-link function, was applied by removing the operational (holding capacity) and temporal effects (year, month). The GAM combined data from both artisanal and industrial fleets, although concerns were raised about the accuracy of the historical data (e.g., from missing fleet identifiers) and thus there is a need for continued development. In addition, an overall increase of technical efficiency of 1% per year has been included during SC10.
22. Up to the 2017 assessment (SC5), the European Union CPUE index (un-standardised), the Russian CPUE index (un-standardised) and the Chinese CPUE index (standardised with a GLM) were included as separate indices of exploitable biomass for the offshore fleet. However, it was noted that these fleets shared similar temporal and spatial dynamics and the European Union and Russian data were incorporated into a combined standardised offshore CPUE index in 2018 (SC6), with the Chinese CPUE kept separate. In 2019 (SC7), haul-by-haul data of China, EU, Korea, Vanuatu, and Russia were combined and standardised into a single Offshore CPUE time series ([SC7-JM06 rev1](#)). The standardisation procedure followed what had previously been done during SCW6. A GAM was fit to catch data with an offset of log(effort) assuming a negative binomial distribution. Vessel, month of the year, year, and El Niño effect (sea surface temperature anomaly) were taken as linear effects while two-dimensional smoothers were applied to correct for spatial effects. In SC9, the vessel explanatory variable was replaced by vessel contracting party, which resulted in CPUE indices that were similar in trend ([SC9-JM02](#)). Note that the start year of the various offshore CPUE indices has varied over time. Originally, when the European Union CPUE index was separate from the Chinese and Russian CPUE indices (SC5), the index began in 2003. In SC6, when the Russian CPUE data was incorporated into the combined Offshore index, this index was taken as beginning in 2006. From 2019 (SC7), the combined Offshore CPUE index has been included in the stock assessment as an index for the period from 2008 to the

present. In addition, an overall increase of technical efficiency of 2.5% per year has been included during SC10.

23. In all standardised CPUE series (Table A10.7), no explicit correction for search time has been incorporated. In some products, such as the offshore CPUE, effort in weeks is taken rather than effort by day (of positive registrations) to account for searching time. However, the inability to consistently define and accurately measure searching time remains an issue.
24. In SCW14, advances in fishing technological efficiency (also termed “effort creep”) were explicitly incorporated in the CPUE standardization process. As mentioned previously, annual effort creep value of 2.5% was thus applied to CPUE for the offshore fleet (details in [SCW14-WD01](#)). For the other CPUE series from Chile and Peru, no formal evaluations of technological advances had been conducted. As such, an interim level of 1% efficiency improvement was applied to each series. It was agreed that further analyses would be required to understand the model reaction to the effort creep factor and noted that at this stage this factor does not appear to have an important effect on model results. SCW14 further recommended specific studies to evaluate the potential efficiency improvements for these fleets, including the technical equipment (e.g., those under consideration by the SPRFMO Scientific Committee’s Habitat Monitoring Working Group), and any other factors that could influence effective fishing effort.
25. Further, the lack of a defined protocol for CPUE standardisation has been noted. Development of CPUE standardisation guidelines has thus been identified as a priority to improve the quality of the assessment.

Fisheries Independent Data

26. The Chilean jack mackerel research programme has included surveys using hydro-acoustics and the daily egg production method (DEPM). Acoustic estimates have been used as relative abundance indices. For the northern region (N-Chile), data on acoustic biomass and numbers, and weights at age are available from 1984-1988, 1991, and 2006-2021. For the central-southern regions, these data are available from 1997 to 2009. In previous jack mackerel assessments, the acoustic survey in northern Chile was assigned the same selection-at-age curve as the northern Chile fishing fleet. However, given that the survey age composition data indicate that it catches younger ages than the fishing fleet, the SC6 considered it more appropriate to assign the survey its own selectivity.
27. Egg surveys (using DEPM) were conducted on an annual basis from 1999 to 2008 along the central zone of the Chilean coast in order to assess the biomass of the spawning stock. In addition, there are estimates of abundance and numbers-at-age for the central-southern regions based on DEPM for the years 2001, 2003, 2004, 2005, 2006, 2008. Egg survey results have been used as relative abundance indices in the models. Age composition data from the acoustic and DEPM Chilean surveys are shown in Table A10.8, Table A10.9, and Table A10.10.
28. In SC10, as mentioned previously, changes were made to the Chilean ageing methods. These resulted in updated historical age composition data for both Chilean surveys and the commercial catches.
29. The Peruvian jack mackerel research programme includes egg and larvae surveys and hydro-acoustic stock assessment surveys. Results of these egg and larvae surveys provide information on the spatial and temporal variability of jack mackerel larvae along the Peruvian coast beginning in 1966. Acoustic biomass estimates of jack mackerel were available beginning in 1983. As these surveys had Peruvian anchoveta as the target species, the data only covered the first 80 miles, and eventually 100 miles from the coast. Corrections to compensate for this partial coverage of acoustic biomass estimates of jack mackerel were made using an environmental index describing the potential habitat of this species based on available monthly data on SST, Sea Surface Salinity (SSS), water masses (WM), oxycline depth (OD) and chlorophyll (CHL). An alternative acoustic index for Peru was presented at SC3. This was constructed using backscatter information without converting the information to biomass estimates

using length-frequency data. This method was proposed to address the reduced quality of the available length-frequency data in recent years. This alternative series was included in the jack mackerel assessment in SC4, thus replacing the Peruvian acoustic series used in previous assessments. The last value provided for this series corresponds to 2013. The El Niño conditions in 2014 and 2015 affected the distribution of jack mackerel making them more dispersed and outside the area covered by the anchovy survey. Further work is needed to standardise and analyse the survey data to develop a reasonable index from the later data. The index has been retained in the current assessment and extends from 1985 to 2013.

30. Acoustic surveys, to estimate the biomass and distribution of jack mackerel, have also been conducted along the Chilean coast, inside and outside of the EEZ, using scientific vessels. Additionally, comprehensive acoustic surveys have been conducted from the Chilean commercial fleet. The time series of available acoustic estimates extends from 1984 to present day (intermittently, depending on the area). All abundance indices (fishery CPUE and survey) series used in the model are presented in Table A10.7.

Biological Parameters

31. The maturity-at-age for jack mackerel in Chile was estimated by Leal et al. (2013) and has been updated by applying the new ageing criteria (SCW14-WD04) to the otoliths and histological maturity data collected between September 2011 and January 2012. Overall, the changes caused by the new aging criteria led to the understanding of a faster-growing species that is earlier to mature. Maturity-at-length was consistently observed with L_{50} at about 22-23 cm fork length (FL). The maturity-at-age values, for the single/Southern stock and those for the far-north stock, are shown in Table A10.11.
32. To fit the length composition data from the far-north fleet, a growth curve was used to convert age compositions predicted by the model to predicted lengths, with the conversion occurring within the model. The values for the von Bertalanffy growth parameters are given in Table A10.12. It was noted in SC10 that the growth parameters reflected fish Total Length, whereas the data were in Fork Length. The parameters were since corrected. Ageing imprecision was previously acknowledged using an age-error matrix, as shown in Table A10.13. However, because this matrix is based on expert judgement instead of empirical data, the discussions during SC4 led to selecting the final assessment model with this ageing error option turned off.
33. Mean weight-at-age is required for all fishing fleets and biomass indices in order to relate biomass quantities to the underlying model estimates of jack mackerel abundance (in numbers). The four weight-at-age matrices for the fishing fleets correspond to: Fleet 1 (northern Chile), Fleet 2 (central-south Chile), Fleet 3 (the far north fleet) and Fleet 4 (the offshore trawl fleet). These values are shown in Table A10.14, Table A10.15, Table A10.16, and Table A10.17.
34. For the Chilean fleets, the mean weight-at-age is calculated by year by taking the mean length-at-age in the catch and a length-weight relationship derived for the year. Before SC3, the same weight-at-age matrix was used for the Northern Chilean Fleet (Fleet 1) and the Southern Chilean Fleet (Fleet 2). Beginning in SC3, a weight-at-age matrix specific for Northern Chile has been applied. The method uses two information sources: the length-age keys and the parameters of the weight-at-length relationship from IFOP's monitoring programme of the Chilean fisheries. The information was separated into two zones which correspond to fishing areas (and acoustic surveys) that occur in Chile. Annual weight-at-length relationship was fitted to the data by each fleet independently, and these relationships were applied to mean length-at-age within each zone, resulting in the weights-at-ages seen in Table A10.14 and Table A10.15. The information covers the period 1974-2021; for earlier years the weight-at-age from 1974 was used.

35. For the far north fleet, mean weight-at-age is fixed for all years and was initially calculated from the time-invariant mean length-at-age estimated from the growth function (Table A10.12). The information covers the period from 1970 to present year (Table A10.16).
36. The weights-at-age for the offshore fleet are derived from EU age-length keys as well as age-length keys from the Chilean South-Central fleet. The EU reported both age, length, and weight data, allowing for weight-at-age to be reported for their catches based on observer programme data compiled in 2019. For China, Vanuatu, Russia and Korea, length-weight information is transformed using the Chilean fleet-2 quarter-specific age-length keys (Table A10.17). Note that for most countries weight-at-length information is available. In some years however, including 2018, weight-at-length data from the Chinese fleet were missing, which resulted in using the length-weight relationship from the Chilean fleet 2. As of SCW14, due to the update in the Chilean ageing criteria, these weight-at-age data were updated for the time series beginning in 2015.
37. Historically, missing weight-at-age data were replaced with data from the previous year. In SCW14, it was recommended that those missing data be replaced with appropriate mean values by fleet instead. However, this has not been done during the SC10 assessment.
38. In SCW14, the Natural Mortality Tool (<https://connect.fisheries.noaa.gov/natural-mortality-tool/>) was used to derive values of M range from roughly 0.1 to 0.35 with a mode at 0.28. The L_{∞} was assumed to be 80.4cm, k was assumed at 0.16 and t_0 at -0.356 . The value of 0.28 was used for the assessment in SC10. The estimated M values are assumed to be the same for all ages and all years within the given stock (see Table A10.12).

Data Sets

39. A full description of data sets used for the assessment of jack mackerel is in [Annex 3](#) of the SC Data workshop 2015. Summaries of all data available for the assessment are provided in Table A10.18 and Figure A10.2.

3. The Assessment Model

40. A statistical catch-at-age model was used to evaluate the jack mackerel stocks. The JJM (“Joint Jack Mackerel Model”) is implemented in AD Model Builder (ADMB) and considers different types of information, which correspond to the available data on the jack mackerel fishery in the South Pacific area from 1970 to 2021 (Table A10.18).
41. The JJM model is an explicitly age-structured model that uses a forward projection approach and maximum likelihood estimation to solve for model parameters. The operational population dynamics model is defined by the standard catch equation with various modifications such as those described by Fournier & Archibald (1982), Hilborn & Walters (1992) and Schnute & Richards (1995). This model was adopted as the assessment method in 2010 after several technical meetings.

JJM Developments

42. Since its adoption, the JJM model has been improved by participating scientists. The most notable changes have been options to include length composition data (and specifying or estimating growth) and the capability to estimate natural mortality by age and time (although this capability is not used). The model is flexible and permits the use of catch information either at age or size for any fleet, and explicitly incorporates regime shifts in population productivity.
43. The model consists of several components, (i) the dynamics of the stock; (ii) the fishery dynamics; (iii) observation models for the data; and (iv) the procedure used for parameter estimation (including uncertainties).

44. A JM modelling workshop was held from 7/8 – 9/10 June 2022, attended by 33 people, with the aim of building capacity for utilization of the existing JIM model but also identifying several ways in which it could be improved to enhance transparency and ease of use. These ideas were subsequently fed into the JM Benchmark Workshop in July (SCW14).
45. Stock dynamics: recruitment is assumed to occur in January while the spawning season is assumed to be an instantaneous process occurring in mid-November. The population's age composition considers individuals from 1 to 12+ years old. In all cases a stochastic Beverton-Holt relationship (Beverton & Holt 1957) between stock and recruitment is included. Each cohort survives an age-specific mortality composed of fishing mortalities at-age by fleet and natural mortality (assumed to be constant over time and age). The model is not spatially-explicit, although the fisheries operate in geographically distinct areas. The initial population is based on an equilibrium condition and occurs in 1958 (12 years prior to the model start in 1970).
46. Fishery dynamics: The interaction of the fisheries with the population occurs through fishing mortality. Fishing mortality is assumed to be a composite of several processes – selectivity (by fleet), which describes the age-specific pattern of fishing mortality; catchability, which scales fishing effort to fishing mortality; and effort deviations, which are a random effect in the fishing effort – fishing mortality relationship. The selectivity pattern is non-parametric and assumed to be fishery-specific and time-variant. Catchability is specific to each of the seven abundance indices. The model includes temporal variation in both fishery and index selectivity patterns at the annual and regime scales, depending on the index and the stock structure hypothesis. More detail is included in the subsequent section.
47. Observation models for the data: There are four data components that contribute to the log-likelihood function: the total catch data, the age-frequency data, the length-frequency data and the abundance indices.
48. The probability distributions for the age and length-frequency proportions are assumed to be approximated by multinomial distributions. Sample size is specified to be gear-specific but mostly constant over years. For the total catch by fishery (4) and the abundance indices (7), a log-normal assumption has been assumed with constant CV; the CV for the fisheries being 0.05 whereas the CV for the abundance indices depends on the index. Beginning in 2018, as discussed in SC4 and agreed upon in SCW6, the Francis T1.8 weighting method (Francis 2011) is used to assign weighted sample sizes for age-frequency data. The data weights have been updated during the JM 2022 benchmark (SCW14).
49. Parameter estimation: The model parameters are estimated by maximising the log-likelihoods of the data plus the log of the probability density functions of the priors and smoothing penalties specified in the model. Estimation was conducted in a series of phases, the first of which used arbitrary starting values for most parameters. The model has been implemented and compiled in ADMB and its characteristics can be consulted in Fournier et al. (2012).

Model Details

50. Parameters estimated conditionally are listed in Table A10.19. The most numerous of these involve estimates of annual and age-specific components of fishing mortality for each year and for each of the four fisheries identified in the model. Parameters describing population numbers at age 1 in each year (and years prior to 1970 to estimate the initial population numbers at ages 1-12+) were the second most numerous type of parameter.
51. Equations and specifications for the assessment model are given in Table A10.20 and Table A10.21. Table A10.22 contains the initial variance assumptions for the indices and the age and length compositions.
52. The treatment of selectivity patterns and how they are shared among fisheries and indices are given in Table A10.23 and Table A10.24 for the two stocks under the two-stock model configurations

(hypothesis 2), and Table A10.25 for the single-stock hypothesis (hypothesis 1). Selectivity for the Far North fleet was specified with a regime shift in 2002 under the two-stock hypothesis, while annual variations beginning in 1981 were specified for the same fleet under the single-stock hypothesis. Depending on the model configuration, some growth functions were employed inside the model to convert model-predicted age compositions to length compositions, in order to fit the model to the length composition data.

53. Equilibrium-based reference points are calculated within the jjm model. The model estimates values of MSY and F_{MSY} using a Newton-Raphson minimization routine that finds the value of fishing mortality, given the terminal year relative catches (and selectivities-at-age) by fleet, and the terminal year weights-at-ages for each fleet, that maximizes catch. Since weights-at-age and “effective” selectivity change each year, these values can vary. MSY is thus defined as the maximum amount of catch that allows the remaining stock to generate sufficient recruitment to maintain the population at the same level. B_{MSY} is taken as the long-term average of biomass fished under MSY . Between 2013 and 2021, a provisional B_{MSY} level of 5.5 million tons was applied. In SCW14, the interim management reference point for B_{MSY} was revised to a ten-year average of the model-estimated B_{MSY} . A limit reference point B_{lim} (where B refers to spawning biomass) for the single-stock hypothesis was also developed during SCW14. B_{lim} was defined as the spawning biomass level below which recruitment would likely be impaired. As such, there should be no fishing when the current spawning biomass is estimated to be below B_{lim} . For jack mackerel, B_{lim} was computed from the lowest ratio of historical spawning biomass relative to the most-recently-estimated unfished spawning biomass. In SCW14, this ratio was estimated to be 8% of the unfished spawning biomass.

Models for Stock Structure Hypothesis

54. During SWG 11, two types of population structure were evaluated, and this was continued for subsequent evaluations. Beginning in 2020 (SC8), models under the one-stock hypothesis carry “h1” in front of the model number, models under the two-stock hypotheses carry “h2” in front of the model number.

Description of Model Explorations

55. As SC10 was an update assessment, after the benchmark of SCW14, the main model explorations involved incrementally adding new data components relative to the model and data adopted from SCW14. These are labelled “h1_0.x” and “h2_0.x. where $h1$ and $h2$ represent the stock structure hypothesis and x represents the number when a component was added (Table A10.26).
56. The rationale for the main updates and data revisions occurring through model configurations 0.00 to 0.10 has been explained in the “Data used in the assessment” section, earlier in this Annex.
57. Thereafter, Model 0.10 was renamed as Model 1.00. with an updated control file to reflect changes in selectivity for the current year, as was done in previous years.
58. During SC10, attention was brought to an analysis in the Peruvian National Report (SC10-Doc27). The analysis noted a mistake in the assessment, where growth parameters reflecting fish Total Length were applied to Fork Length data. The model was thus updated to correct the growth parameters ($L_{\infty}=73.56$; $L_0=13.56$; SC10-Doc27) in Model 1.01.
59. In the most recent years of the fishery, there has been a notable northward shift in the distribution of fishing effort by the offshore fleet. This geographical shift has been associated with catches of smaller and younger fish. As a result, the model fit to the age composition data in these terminal years was poor. To address this, a second sensitivity was developed (Model 1.02). Age composition data in the terminal year has traditionally been down-weighted to reflect uncertainty in those data points. To better fit to the offshore data in the final year, the sample size was increased to be the same as that of earlier years. It should be noted that the overall weight of the offshore age composition data is quite

low relative to other data sources. In addition, more flexibility was added to the selectivity of the offshore fleet in 2022.

60. The final model used the Francis weights agreed upon by SCW14 for the multinomial age composition sample sizes, and these weights were not updated in this assessment. Also, the model took a precautionary approach to assessment and advice. It assumed low steepness ($h=0.65$) and used the most recent recruitment time-series (2001-2015), similar to assessments prior to SC5. Recruitment used in the forecast was taken directly from the assessment.
61. Beginning in SC9, efforts have been made to increase the reproducibility and transparency of the assessment process. A centralised repository for data submissions was created on [Teams](#) to facilitate ease of access. R scripts were developed to document the assessment update process. These scripts included code to 1) read in, analyse, and raise catch at age/length data, 2) incrementally update data files for the bridging exercise from the previous year's assessment to the new assessment, 3) update model files for model sensitivity runs, 4) conduct projections with the final model, and 5) create an HTML document for result presentation. Scripts for processing the data (1) are found in the [jimData repository](#), whereas the assessment scripts can be found on the [jim repository](#), in the assessment folder.

4. Results

62. Results from incrementally updating the data (Models 0.00 to 0.10) indicated a slight increase in biomass for recent years, with the largest change driven by the update to Peruvian CPUE data. Correcting the growth parameters (Model 1.01) had negligible impacts on the stock status. Similarly, adding flexibility to selectivity estimates in the offshore fleet (Model 1.02) improved fits to recent age composition data, but had negligible impact on stock status. Overall, the stock (or stocks; depending on the stock structure hypothesis used) shows continued increasing trends in biomass, similar to previous years.
63. An analytical retrospective analysis involves running the model multiple times, each time removing the final year of data (for five years). The retrospective analysis shows that Model h1_1.02 tended to slightly under-estimate SSB, with a Mohn's rho of -0.13 (Figure A10.3). Recruitment tended to be underestimated, with a Mohn's rho of -0.34 (Figure A10.4). The negative bias in recruitment is likely due to the fact that recruitment in recent years has been very high, and estimated recruitment in the final year reverts to a mean. Model h2_1.02 had a slight tendency to over-estimate SSB (Mohn's rho of 0.12 (south) and 0.21 (north); Figure A10.5) and under-estimate recruitment for the south (Mohn's rho of -0.11) and over-estimate the same for the north (Mohn's rho of 0.24; Figure A10.6).
64. An alternative to the analytical retrospective analysis, which is based on the current model formulation, the "historical retrospective analysis" instead compares quantities derived from assessments previously adopted by the SC. This indicates the year-to-year changes in estimates of stock trends and reference points. This analysis was only conducted on Model h1_1.02 (raw values for biomass found in Table A10.27; graphically visualised in Figure A10.7 and Figure A10.8). The results indicate that the current model formulation has a higher estimate of biomass relative to estimates from previous years. This was likely due to the revision in Chilean age data. Estimates of fishing mortality in recent years remain similar to those from previous SCs, although the current model estimates fishing mortality to be higher for historical years. Recruitment estimates appear mostly in line with those of previous models, with peaks in recruitment shifting by approximately two years. Overall, the trends appear consistent over time. Another interesting comparison to make is that of the management reference points (biomass (B) at maximum sustainable yield (MSY) and fishing mortality (F) at MSY; B_{MSY} and F_{MSY} respectively) estimated over the years. The updates to the age data in 2022, and subsequently the biological parameters, likely resulted in large changes to the reference points, B_{MSY} in particular (Figure A10.8). Despite that, it is to be noted that stock status relative to those changed reference points remained largely the same for

recent years. Also, the stock has consistently been estimated as rebuilt since 2018, and not subject to overfishing since 2013, relative to the dynamically-estimated MSY reference points.

65. Fishery mean weights-at-age assumed for all models are shown in Figure A10.9, and those for the surveys are shown in Figure A10.10. Estimates of numbers-at-age from Model h1_1.02 are given in Table A10.28, and Model h2_1.02 results are in Table A10.29 (southern stock) and Table A10.30 (northern stock). Both models show similar good fits to the composition data (Figure A10.11, Figure A10.12, Figure A10.13, Figure A10.14, Figure A10.15, Figure A10.16, Figure A10.17, and Figure A10.18). The fits to age composition data from the surveys are given in Figure A10.19, Figure A10.20, Figure A10.21, Figure A10.22, Figure A10.23, and Figure A10.24. Models h1_1.02 and h2_1.02 fit the indices similarly (Figure A10.25 (h1), Figure A10.26 (h2 south), and Figure A10.27 (h2 north)); they both fit well to the Chilean CPUE data and poorly to recent years of the offshore and Peruvian CPUE data, although the relative abundance estimates remained within the uncertainty bounds of the data. Whereas the models predicted higher relative abundance than was shown in the offshore CPUE data, they predicted lower relative abundance than was shown in the Peruvian CPUE data. Estimates of fishery mean age compositions are shown in Figure A10.28 (h1_1.02) and Figure A10.29 (h2_1.02), and survey mean age compositions are shown in Figure A10.30 (h1_1.02) and Figure A10.31 (h2_1.02). Both models fit poorly to data from the Central-South Chilean acoustic survey. Both models seem to estimate mean length composition data for the Far North fleet relatively poorly in recent years, as shown in Figure A10.32 and Figure A10.33. Selectivity estimates for the fishery and indices are shown over time in Figure A10.34, Figure A10.35, Figure A10.36, and Figure A10.37.
66. For SC10, B_{MSY} was estimated to be approximately 7.8 million t under the single-stock hypothesis (h1_1.02), and 7.0 and 0.96 million t for the south and far north stocks respectively under the two-stock hypothesis (h2_1.02). B_{lim} was estimated to be approximately 1.24 million t, or 8% of the unfished spawning biomass, during SC10. More details on this reference point and the associated harvest control rule can be found in the SCW14 [report](#).
67. A summary of the time series stock status (spawning biomass, F , recruitment, total biomass) for the single-stock hypothesis (h1_1.02) is shown in Figure A10.38. It is noted that the biomass has been steadily increasing over the last decade, and is now above the B_{MSY} management reference point. For the jack mackerel stock, with the current level at around 54% of what is estimated to have occurred had there been no fishing (Figure A10.41).
68. Under the 2-stock hypothesis (h2_1.02), conditions of the jack mackerel stock in its entire distribution range in the southeast Pacific shows a continued recovery since the time-series low in 2010. It is noted that under the two-stock model, the southern unit shows an increasing trend in biomass over the last decade (Figure A10.39), while the northern unit only shows an increase in biomass beginning in the middle of the last decade (Figure A10.40). The southern unit showed similar results to that of the single-stock hypothesis, although SSB was estimated slightly higher under the former scenario. Estimates of exploitation rate for the northern stock were comparable to recent years, remaining at relatively low levels (Figure A10.40). Figure A10.42 and Figure A10.43 show the current total biomass to be approximately 55% and 61% of unfished total biomass for the southern and the far north stocks respectively.
69. Fishing mortality rates at age (combined fleets) were high starting in about 1992 across the entire jack mackerel population, but have declined in the past years, regardless of stock structure hypothesis or designation (Table A10.31, Table A10.32, Table A10.33, Figure A10.38, Figure A10.39, and Figure A10.40). It should be noted that the low probability of B_{2032} being greater than B_{MSY} under the F_{MSY} projection for model h1_1.05 is likely due to B_{MSY} being set at the interim level, and not the model-estimated B_{MSY} . Within the period 2001-2015, the level of expected recruitment was lower than the alternatives although recruitment has increased in recent years to about the long-term average mean. The aforementioned period was used for projections but Model 1.02 uses the period 2001 to 2019 to

fit the stock recruitment curve for the southern/single stock. Time series of quantities derived by Model h1_1.02 are presented in Table A10.34, whereas those of Model h2_1.02 are in Table A10.35 (southern stock) and Table A10.36 (far north stock). Short, medium and long-term predictions for the stock(s) under different fishing mortalities are found under Table A10.37 (h1_1.02) and Table A10.38 (h2_1.02).

5. Management Advice

70. New data and indicators on the status of the jack mackerel stock suggest that conditions evaluated in detail from the last benchmark assessment (completed in 2022) are relatively unchanged. The population trend is estimated to be increasing. The indications of stock improvement (higher abundance observed in the acoustic survey in the northern part of Chile, better catch rates apparent in all fisheries for which data are available, and increase in average age in the Chilean fisheries) drive the increase.
71. Historical fishing mortality rates and patterns relative to the provisional biomass target are shown in Figure A10.38 for Model h1_1.02. Near-term spawning biomass is expected to increase from 14.3 million t in 2022 to 15.5 million t in 2023 (with approximate 90% confidence bounds of 12.0 – 20.1 million t). Under the two-stock hypothesis, historical fishing mortality rates and patterns relative to the biomass targets estimated by Model h2_1.02 are shown in Figure A10.39 and Figure A10.40. Near-term spawning biomass is expected to increase from the 2022 estimate of 12.7 million t to 13.8 million t in 2023 for the southern stock (with approximate 90% confidence bounds of 10.0 – 19.2 million t), and decrease from 1.5 million t to 1.4 million t for the far north stock (with approximate 90% confidence bounds of .98 – 2.1 million t).
72. Recent increases in the model-calculated B_{MSY} values (which is different from the constant B_{MSY}) that are likely due to changes in selectivity of all fisheries combined, would imply an estimate of SSB at well over 50% over B_{MSY} for both the single-stock and the two-stock hypotheses.
73. Given current stock status, the fourth tier of the jack mackerel rebuilding plan (as defined in the SCW14 report) should be applied. This means that F_{MSY} would be used as the basis for catch advice. However, this would result in a potential increase of over three times of last year's recommended catch. In line with the "adjusted Annex K" rebuilding plan (SC2), catch advice relative to the previous year can only increase by a maximum of 15%. This results in advice of a 2023 catch level for jack mackerel within the entire jack mackerel range to be at or below 1,035,000t.
74. Projections show a high likelihood of the biomass being above B_{MSY} in 2024 even under the most conservative recruitment productivity scenario evaluated (h1_1.02.ls and h2_1.02.ls; Table A10.37 and Table A10.38). A re-evaluation of the rebuilding plan is recommended to analyse sustainable exploitation rates of the re-built jack mackerel stock.

6. Assessment Issues

75. Based on results from the 2022 benchmark workshop, assessment plans for the next benchmark should be developed several months prior so that data coordinators can configure alternatives and conduct a careful evaluation of all available information to best guide the Commission. One of the higher priority items for consideration continues to be the catch-at-age estimates (based on age-determinations being conducted from different labs) and mean body weights at age assumed in the model. Another priority for consideration is the development of guidelines for standardisation of CPUE indices and the collection of relevant data. In particular, evaluations of efficiency improvements for the Peruvian and Chilean fishing fleets were noted. Results of the data weighting and the retrospective pattern analysis also warrant further investigation.
76. The issue of evaluating sensitivities to the early fishery age composition data was raised. The SC noted that this might be a fruitful avenue for investigation in subsequent assessments, particularly since these

data (pre-1990) are less well-documented. Residual patterns in the age composition for the North Chilean fleet remain unresolved, and warrant further investigation as well.

77. The need for a closer evaluation comparing the performance of the model under the single-stock and two-stock hypotheses was noted, likely conducted using simulation and MSE.

7. References

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8. Tables

Table A10.1. Sources and values of catch (t) compiled for the four fleets used for the assessment (note that data for 2021 are not official figures, and 2022 are predictions).

Assigned Fleet	Fleet 1	Fleet 2	Fleet 3 (Far North)						Fleet 4 (Offshore Trawl)											Grand Total			
			Cook Islands	Cuba	Ecuador (ANJ)	Peru (ANJ)	USSR	Subtotal	Belize	China	Cuba	European Union	Faroe Islands	Japan	Korea	Peru	Russia / USSR	Ukraine	Vanuatu		Subtotal		
1970	101 685	10 309				4 711		4 711														0	116 705
1971	143 454	14 988				9 189		9 189														0	167 631
1972	64 457	22 546				18 782		18 782														5 500	111 285
1973	83 204	38 391				42 781		42 781														0	164 376
1974	164 762	28 750				129 211		129 211														0	322 723
1975	207 327	53 878				37 899		37 899														0	299 104
1976	257 698	84 571				54 154		54 154						35								35	396 458
1977	226 234	114 572				504 992		504 992						2 273								2 273	848 071
1978	398 414	188 267				386 793		386 793						1 667	403							51 290	1 024 764
1979	344 051	253 460		6 281		151 591	175 938	333 810			12 719	1 180		120			49 220					370 290	1 301 611
1980	288 809	273 453		38 841		123 380	252 078	414 299			45 130	1 780					292 892					339 802	1 316 363
1981	474 817	586 092		35 783		37 875	371 981	445 638			38 444			29			399 649					438 123	1 944 670
1982	789 912	704 771		9 589		50 013	84 122	143 724			74 292	7 136					651 776					733 204	2 371 611
1983	301 934	563 338		2 096		76 825	31 769	110 690			52 779	39 943		1 694			799 884					894 300	1 870 262
1984	727 000	699 301		560		184 333	15 781	200 674			33 448	80 129		3 871			942 479					1 059 927	2 686 902
1985	511 150	945 839		1 067		87 466	26 089	114 622			31 191			5 229			762 903					799 323	2 370 934
1986	55 210	1 129 107		66		49 863	1 100	51 029			46 767			6 835			783 900					837 502	2 072 848
1987	313 310	1 456 727		0		46 304	0	46 304			35 980			8 815			818 628					863 423	2 679 764
1988	325 462	1 812 793		5 676		118 076	120 476	244 229			38 533			6 871			817 812					863 215	3 245 699
1989	338 600	2 051 517		3 386	0	140 720	137 033	281 139			21 100			701			854 020					875 821	3 547 077
1990	323 089	2 148 786		6 904	4 144	191 139	168 636	370 823			34 293			157			837 609					872 059	3 714 757
1991	346 245	2 674 267		1 703	45 313	136 337	30 094	213 447			29 125						514 534					543 659	3 777 618
1992	304 243	2 907 817		0	15 022	96 660	0	111 682			3 196						32 000		2 736			37 932	3 361 674
1993	379 467	2 856 777			2 673	130 681		133 354														0	3 369 598
1994	222 254	3 819 193			36 575	196 771		233 346														0	4 274 793
1995	230 177	4 174 016			174 393	376 600		550 993														0	4 955 186
1996	278 439	3 604 887			56 782	438 736		495 518														0	4 378 844
1997	104 198	2 812 866			30 302	649 751		680 053														0	3 597 117
1998	30 273	1 582 639			25 900	386 946		412 846														0	2 025 758
1999	55 654	1 164 035			19 072	184 679		203 751						7								7	1 423 447
2000	118 734	1 115 565			7 122	296 579		303 701			2 318											2 318	1 540 318
2001	248 097	1 401 836			133 969	723 733		857 702			20 090											20 090	2 527 725
2002	108 727	1 410 266			604	154 219		154 823			76 261											76 261	1 750 077
2003	143 277	1 278 019			0	217 734		217 734			94 690											158 199	1 797 229
2004	158 656	1 292 943			0	187 369		187 369			131 020						7 438					94 685	1 934 411
2005	165 626	1 264 808			0	80 663		80 663		867	143 000	6 187				9 126	7 040					77 356	1 754 673
2006	155 256	1 224 685			0	277 568		277 568		481	160 000	62 137			10 474		0					129 535	2 020 136
2007	172 701	1 130 083	7		927	254 426		255 360		12 585	140 582	123 523	38 700		10 940		0					112 501	438 831
2008	167 258	728 850	0		0	169 537		169 537		15 245	143 182	108 174	22 919		12 600		4 800					100 066	1 472 631
2009	134 022	700 905	0		1 934	74 694		76 628		5 681	117 963	111 921	20 213	0	13 759	13 326	9 113					79 942	371 918
2010	169 012	295 796	0		0	4 613	17 559	22 172		2 240	63 606	67 497	11 643	0	8 183	40 516						45 908	726 573
2011	30 825	216 470	0		69 373	257 240		326 613		0	32 862	8	2 248	0	9 253	674	8 229					7 617	60 891
2012	13 256	214 204	0		77	187 292		187 369			13 012	0	0	0	5 492	5 346	0					16 068	39 917
2013	16361	214999	0		3563	79441		83004			8329	10101	0		5267	2670	0					14809	41175
2014	18219	254295	0		9	79191		79200			21155	20539	0		4078	2557	0					15324	63652
2015	34886	250327			289	23036		23325			29180	27955	0		5749	0	2561					21227	86672
2016	24657	295160			0	15121		15121			20208	11962	0		6430	0	0					15563	54163
2017	35002	311863			54	10094		10148			16802	27887	0		1235	0	3188					0	49113
2018	11551	415149			23	58356		58379			24366	9691	0		3717	0	4685					0	42460
2019	11875	432447			0	139811		139811			22699	11870	0		7444	0	9423					0	51436
2020	44155	517665			0	158880		158880			0	0	0		0	0	5245					0	5245
2021	61359	567267			8	123628		123636				43111					12193						55304
2022	83000	601000			8	180069		180077				45095					19680						64775

Table A10.2. Input catch (kilo tonnes) by fleet (combined) for the stock assessment model. Note that the final year's data are predictions.

Year	Fleet 1	Fleet 2	Fleet 3	Fleet 4
1970	101.69	10.31	4.71	1
1971	143.45	14.99	9.19	1
1972	64.46	22.55	18.78	5.5
1973	83.2	38.39	42.78	1
1974	164.76	28.75	129.21	1
1975	207.33	53.88	37.9	1
1976	257.7	84.57	54.15	1.04
1977	226.23	114.57	504.99	2.27
1978	398.41	188.27	386.79	51.29
1979	344.05	253.46	333.81	370.29
1980	288.81	273.45	414.3	339.8
1981	474.82	586.09	445.64	438.12
1982	789.91	704.77	143.72	733.2
1983	301.93	563.34	110.69	894.3
1984	727	699.3	200.67	1059.93
1985	511.15	945.84	114.62	799.32
1986	55.21	1129.11	51.03	837.5
1987	313.31	1456.73	46.3	863.42
1988	325.46	1812.79	244.23	863.22
1989	338.6	2051.52	316.25	875.82
1990	323.09	2148.79	370.82	872.06
1991	346.25	2674.27	213.45	543.66
1992	304.24	2907.82	111.68	37.93
1993	379.47	2856.78	133.35	1
1994	222.25	3819.19	233.35	1
1995	230.18	4174.02	550.99	1
1996	278.44	3604.89	495.52	1
1997	104.2	2812.87	680.05	1
1998	30.27	1582.64	412.85	1
1999	55.65	1164.04	203.75	1.01
2000	118.73	1115.57	303.7	2.32
2001	248.1	1401.84	857.74	20.09
2002	108.73	1410.27	154.82	76.26
2003	143.28	1278.02	217.73	158.2
2004	158.66	1292.94	187.37	295.44
2005	165.63	1264.81	80.66	243.58
2006	155.26	1224.69	277.57	362.63
2007	172.7	1130.08	255.36	438.83
2008	167.26	728.85	169.54	406.99
2009	134.02	700.9	76.63	371.92
2010	169.01	295.8	22.17	239.59
2011	30.82	216.47	326.39	60.89
2012	13.26	214.2	187.4	39.92
2013	16.36	215	80.59	41.18
2014	18.22	254.29	74.53	63.65
2015	34.89	250.33	22.45	86.67
2016	24.66	295.16	15.09	54.16
2017	35	311.86	8.87	49.11
2018	11.55	415.15	57.16	42.46
2019	11.88	432.45	135.78	51.44
2020	44.16	517.66	140.12	4.74
2021	61.36	567.27	123.64	55.3
2022	83	601	180.08	64.78

Table A10.3. Catch at age for Fleet 1. Units are relative value (they are normalised to sum to 100 for each year in the model).

Year	Age group (years)											
	1	2	3	4	5	6	7	8	9	10	11	12
1980	0	5	14	24	31	22	4	0	0	0	0	0
1981	1	7	13	21	33	19	5	1	0	0	0	0
1982	0	15	15	21	26	16	6	1	0	0	0	0
1983	1	9	17	27	28	15	3	0	0	0	0	0
1984	2	34	12	14	18	16	4	0	0	0	0	0
1985	1	18	26	30	18	5	1	0	0	0	0	0
1986	8	11	9	18	32	18	5	0	0	0	0	0
1987	15	68	11	3	2	1	0	0	0	0	0	0
1988	1	17	54	26	2	0	0	0	0	0	0	0
1989	0	9	42	39	8	1	0	0	0	0	0	0
1990	9	3	28	49	10	1	0	0	0	0	0	0
1991	11	33	8	18	24	6	1	0	0	0	0	0
1992	11	30	21	21	12	5	1	0	0	0	0	0
1993	15	72	8	4	1	0	0	0	0	0	0	0
1994	27	32	25	13	2	1	0	0	0	0	0	0
1995	5	69	18	6	2	0	0	0	0	0	0	0
1996	29	57	11	3	0	0	0	0	0	0	0	0
1997	36	60	3	0	0	0	0	0	0	0	0	0
1998	8	79	11	3	0	0	0	0	0	0	0	0
1999	9	84	5	2	0	0	0	0	0	0	0	0
2000	36	47	16	1	0	0	0	0	0	0	0	0
2001	51	48	1	0	0	0	0	0	0	0	0	0
2002	21	58	17	3	1	0	0	0	0	0	0	0
2003	21	72	4	2	1	0	0	0	0	0	0	0
2004	13	63	23	1	0	0	0	0	0	0	0	0
2005	40	44	11	4	1	0	0	0	0	0	0	0
2006	8	83	6	2	1	0	0	0	0	0	0	0
2007	12	69	13	3	2	0	0	0	0	0	0	0
2008	56	27	9	7	1	0	0	0	0	0	0	0
2009	20	68	4	8	0	0	0	0	0	0	0	0
2010	9	74	13	3	1	0	0	0	0	0	0	0
2011	77	20	2	1	0	0	0	0	0	0	0	0
2012	34	58	7	0	0	0	0	0	0	0	0	0
2013	31	66	1	1	1	0	0	0	0	0	0	0
2014	59	40	2	0	0	0	0	0	0	0	0	0
2015	14	60	15	6	4	1	0	0	0	0	0	0
2016	10	20	13	19	19	7	10	1	0	0	0	0
2017	31	61	6	1	1	0	0	0	0	0	0	0
2018	100	0	0	0	0	0	0	0	0	0	0	0
2019	20	19	9	14	13	6	7	4	3	3	1	2
2020	0	27	25	23	15	8	2	0	0	0	0	0
2021	18	3	4	14	22	18	12	7	3	1	1	0
2022	0	0	0	3	26	32	30	7	2	1	0	0

Table A10.4. Catch at age for fleet 2. Units are relative value (they are normalised to sum to 100 in the model).

Year	Age group (years)											
	1	2	3	4	5	6	7	8	9	10	11	12
1980	2	23	40	26	8	1	0	0	0	0	0	0
1981	2	20	32	31	12	3	0	0	0	0	0	0
1982	2	27	37	25	8	1	0	0	0	0	0	0
1983	15	28	24	20	11	2	0	0	0	0	0	0
1984	7	50	8	14	12	6	2	0	0	0	0	0
1985	3	27	26	20	17	7	2	0	0	0	0	0
1986	4	11	24	27	21	12	2	0	0	0	0	0
1987	8	46	7	10	17	10	2	0	0	0	0	0
1988	12	38	29	7	8	6	1	0	0	0	0	0
1989	1	12	42	30	9	5	2	0	0	0	0	0
1990	0	1	6	26	33	18	12	3	0	0	0	0
1991	1	3	0	6	27	29	18	10	4	1	0	0
1992	1	7	6	6	8	21	22	16	9	4	0	0
1993	1	16	17	14	12	10	14	12	4	1	0	0
1994	0	6	17	18	13	11	17	13	4	1	0	0
1995	1	19	17	22	20	8	7	4	1	0	0	0
1996	4	22	19	17	15	10	6	3	1	0	0	0
1997	8	42	21	10	6	5	5	2	1	1	0	0
1998	9	58	14	6	3	3	4	2	1	0	0	0
1999	20	52	15	6	2	1	1	1	1	0	0	0
2000	10	49	24	10	3	1	1	1	1	0	0	0
2001	6	41	28	12	4	2	2	2	1	1	1	0
2002	7	34	23	16	6	4	3	2	2	2	1	0
2003	4	31	28	21	8	3	2	2	1	1	0	0
2004	2	22	29	26	11	5	3	2	1	0	0	0
2005	2	8	20	33	19	9	5	2	1	1	0	0
2006	1	6	9	20	25	14	11	7	3	2	1	1
2007	0	13	17	11	15	15	12	9	4	2	1	1
2008	3	1	6	22	20	16	11	9	5	3	2	2
2009	2	15	2	19	21	16	10	7	4	2	1	1
2010	1	32	20	10	11	6	9	6	2	1	1	0
2011	2	11	14	36	11	8	13	2	1	0	0	0
2012	0	8	25	27	29	7	3	1	0	0	0	0
2013	2	18	31	33	14	2	0	0	0	0	0	0
2014	1	13	24	26	21	12	3	1	0	0	0	0
2015	10	45	14	10	10	7	3	1	0	0	0	0
2016	0	23	26	22	14	8	4	2	1	0	0	0
2017	3	21	16	16	16	11	7	4	3	1	0	1
2018	2	18	24	20	17	9	5	3	1	1	1	0
2019	0	9	17	22	24	14	8	4	1	0	0	0
2020	0	9	10	15	22	20	14	8	3	0	1	0
2021	0	4	15	18	24	18	11	6	2	1	0	0
2022	0	1	6	26	37	21	7	2	0	0	0	0

Table A10.5. Catch at age for Fleet 4. Units are relative value (they are normalised to sum to 100 for each year in the model).

Year	Age group (years)											
	1	2	3	4	5	6	7	8	9	10	11	12
2015	17	26	10	7	11	11	8	5	3	1	1	0
2016	6	14	17	25	22	7	3	2	1	1	0	0
2017	65	14	12	5	2	1	1	0	0	0	0	0
2018	15	21	7	12	18	15	8	3	1	0	0	0
2019	19	32	8	8	8	8	8	6	2	0	1	0
2020	14	53	24	4	1	1	1	0	0	0	0	0
2021	6	21	50	13	7	2	0	0	0	0	0	0
2022	14	79	3	2	1	0	0	0	0	0	0	0

Table A10.6. Catch at length for Fleet 3. Units are relative value (they are normalised to sum to 100 for each year in the model).

Total length (cm)

Year	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50									
1980	1	2	2	2	3	2	5	3	2	1	0	0	0	1	1	1	0	0	1	3	3	5	8	12	11	9	7	5	3	2	1	1	1	1	0	0	0	0	0	0	0	0	0							
1981	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	9	11	9	10	10	9	8	7	6	4	3	3	2	2	2	1	0	0	0	0	0	0	0	0							
1982	0	0	1	3	6	6	6	5	4	5	6	4	1	0	0	0	0	0	1	1	4	8	12	9	6	3	2	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0							
1983	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2	3	7	15	18	15	13	7	5	3	2	1	1	1	1	0	0	0	0	0	0	0	0	0	0							
1984	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	4	6	8	8	8	11	11	10	8	6	4	3	2	1	1	1	1	1	0	1	0	1	0	0	0	0							
1985	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	4	5	7	7	8	8	7	7	7	7	6	5	3	3	2	2	2	2	1	2	1	0	0	0							
1986	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	1	2	4	7	10	13	12	12	8	6	5	3	3	2	2	2	2	1	1	1	1	0	0	0						
1987	0	0	0	0	0	0	0	1	0	0	1	1	1	2	2	4	5	8	11	12	10	8	5	3	2	3	4	4	3	2	2	2	1	1	1	0	0	0	0	0	0	0	0							
1988	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	4	7	9	10	9	7	5	4	3	3	3	3	3	2	2	2	3	3	2	3	3	2	2	1	1	1	0	0	0						
1989	0	0	0	0	0	0	0	0	0	0	1	7	10	5	6	4	3	2	2	2	3	4	6	8	8	8	6	4	3	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0						
1990	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	3	5	6	7	9	12	13	10	8	6	4	3	3	2	1	1	0	0	0	0	0	0	0						
1991	0	0	0	0	0	0	0	0	0	0	0	0	2	4	2	1	1	1	2	2	3	4	5	5	7	8	8	8	7	6	4	3	3	2	2	2	2	2	1	1	1	1	1	0	0					
1992	0	0	0	0	0	0	0	0	0	1	2	1	1	1	1	1	1	1	1	2	3	4	7	9	12	11	8	6	6	5	5	4	3	2	1	1	0	0	0	0	0	0	0	0						
1993	0	0	0	0	0	0	0	0	0	1	2	2	3	4	6	9	12	9	7	6	5	6	5	5	5	4	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
1994	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	2	3	5	11	14	11	8	6	4	3	3	3	2	3	2	2	2	1	1	1	1	0	0	0	0	0	0	0					
1995	0	0	0	0	0	0	0	0	0	0	1	1	1	2	2	3	4	5	6	7	8	9	11	12	10	6	3	2	2	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0					
1996	0	0	0	0	0	0	0	0	0	1	2	2	2	3	5	6	6	6	6	7	9	8	6	6	5	4	4	3	3	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0					
1997	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	7	11	10	5	4	8	14	16	8	4	3	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
1998	0	0	0	0	0	0	0	1	2	4	3	2	4	7	16	20	14	8	4	3	2	2	2	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
1999	0	0	0	0	1	1	1	1	1	1	1	1	2	3	5	7	12	13	16	15	8	5	3	2	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
2000	0	0	0	0	0	0	0	0	0	4	8	7	5	4	4	10	8	7	8	12	11	7	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
2001	0	0	0	0	0	0	0	0	1	2	1	1	2	4	7	10	12	16	16	14	9	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
2002	0	0	0	0	1	0	0	0	0	0	0	1	1	1	0	0	1	3	9	16	19	19	14	7	3	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
2003	0	0	0	0	0	0	0	0	1	1	2	5	7	8	6	5	6	9	10	7	5	4	3	4	5	5	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
2004	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	6	7	9	12	13	11	8	8	7	5	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
2005	0	0	1	1	1	0	0	1	3	6	8	8	10	10	6	3	1	1	1	1	1	0	0	0	0	0	0	0	2	5	9	9	5	3	2	1	0	0	0	0	0	0	0	0	0	0				
2006	0	0	0	0	0	0	0	0	0	2	3	6	8	7	8	8	8	7	8	8	7	5	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
2007	0	0	0	0	0	0	0	0	0	0	0	0	1	5	9	8	5	6	4	3	6	10	12	11	8	6	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
2008	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	3	10	18	21	17	10	6	3	2	1	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
2009	1	1	1	1	0	0	0	0	0	1	4	4	4	2	2	1	1	1	0	1	1	0	0	0	0	1	2	5	11	19	20	11	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
2010	0	0	0	0	0	0	0	0	0	2	0	2	25	49	18	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
2011	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	8	18	23	24	18	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
2012	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	0	0	2	15	32	27	14	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2013	0	0	0	0	0	0	0	0	0	1	1	1	0	1	2	2	4	4	11	8	5	2	0	1	1	1	3	12	20	15	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	2	2	5	20	31	19	8	3	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2015	0	0	0	0	0	0	0	0	1	1	3	10	13	12	14	14	9	5	4	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2016	0	0	0	0	0	0	0	0	0	1	2	5	6	6	7	8	7	8	8	8	8	7	6	5	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
2017	0	0	0	0	0	1	2	3	4	5	6	8	8	7	7	8	8	7	5	5	3	3	3	3	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
2018	0	0	0	0	0	0	0	1	1	1	1	2	3	7	11	15	18	15	7	5	4	3	2	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2019	0	0	0	0	0	0	0	0	0	0	1	1	1	2	3	5	8	12	16	17	13	8	5	3	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2020	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	3	4	6	9	13	16	15	11	7																								

Table A10.7. Abundance indices used within the assessment model.

Year	Chile (1)	Chile (2)	Chile (3)	Chile (4)	Peru(2)	Peru(3)	Offshore
1970	-	-	-	-	-	-	-
1971	-	-	-	-	-	-	-
1972	-	-	-	-	-	-	-
1973	-	-	-	-	-	-	-
1974	-	-	-	-	-	-	-
1975	-	-	-	-	-	-	-
1976	-	-	-	-	-	-	-
1977	-	-	-	-	-	-	-
1978	-	-	-	-	-	-	-
1979	-	-	-	-	-	-	-
1980	-	-	-	-	-	-	-
1981	-	-	-	-	-	-	-
1982	-	-	-	-	-	-	-
1983	-	-	0.837	-	-	-	-
1984	-	99	0.77	-	-	-	-
1985	-	324	0.673	-	94.316	-	-
1986	-	123	0.567	-	108.116	-	-
1987	-	213	0.666	-	109.789	-	-
1988	-	134	0.585	-	114.18	-	-
1989	-	-	0.569	-	157.394	-	-
1990	-	-	0.487	-	229.757	-	-
1991	-	242	0.537	-	231.672	-	-
1992	-	-	0.492	-	180.355	-	-
1993	-	-	0.441	-	145.726	-	-
1994	-	-	0.473	-	95.245	-	-
1995	-	-	0.423	-	54.257	-	-
1996	-	-	0.418	-	29.967	-	-
1997	3530	-	0.343	-	31.664	-	-
1998	3200	-	0.291	-	43.994	-	-
1999	4100	-	0.296	5724	52.681	-	-
2000	5600	-	0.286	4688	105.784	-	-
2001	5950	-	0.341	5627	131.586	-	-
2002	3700	-	0.295	-	96.661	4.066	-
2003	2640	-	0.26	1388	67.471	4.754	-
2004	2640	-	0.281	3287	51.853	5.184	-
2005	4110	-	0.255	1043	75.171	4.069	-
2006	3192	112	0.276	3283	111.259	5.357	-
2007	3140	275	0.207	626	79.75	7.43	-
2008	487	259	0.136	1935	24.251	3.77	1683.82
2009	328	18	0.113	-	-	1.338	1171.55
2010	-	440	0.087	-	7.247	2.487	823.909
2011	-	432	0.048	-	35.283	6.324	733.503
2012	-	230	0.147	-	50.332	5.52	622.273
2013	-	144	0.129	-	64.504	2.439	707.994
2014	-	87	0.102	-	-	3.318	741.39
2015	-	459	0.083	-	-	2.649	1009.29
2016	-	587.244	0.15	-	-	2.276	728.148
2017	-	610.47	0.178	-	-	2.919	935.778
2018	-	374.11	0.179	-	-	8.17	800.295
2019	-	1487.07	0.197	-	-	13.703	972.161
2020	-	1728.27	0.258	-	-	14.988	-
2021	-	1870.36	0.271	-	-	18.067	1555.91
2022	-	-	0.323	-	-	20.371	-

Legend:

Chile (1): Acoustics for south-central zone in Chile

Chile (2): Acoustics for northern zone in Chile

Chile (3): Chilean south-central fishery CPUE for Fleet 1

Chile (4): Daily Egg Production Method

Peru(1): Peruvian acoustic index in Fleet 3

Peru(2): Peruvian fishery CPUE in Fleet 3

Offshore: Combined CPUE for China, EU, South Korea, Russia, and Vanuatu in Fleet 4

Table A10.8. Catch at age for acoustic surveys in southern Chile. Units are relative value (they are normalised to sum to 100 for each year in the model).

Age group (years)												
Year	1	2	3	4	5	6	7	8	9	10	11	12
2001	1	56	10	17	6	4	2	1	1	1	0	0
2002	2	45	27	13	5	5	2	1	0	0	0	0
2003	1	29	32	22	7	4	2	1	1	1	0	0
2004	1	13	19	25	17	10	9	4	1	0	0	0
2005	1	12	20	41	16	5	2	1	1	0	0	0
2006	0	0	13	34	32	8	6	4	2	1	0	0
2007	0	0	2	14	19	21	18	13	8	2	2	1
2008	0	0	0	12	33	25	13	9	4	2	1	2
2009	0	0	0	0	1	30	24	16	17	6	3	3

Table A10.9. Catch at age for acoustic surveys in northern Chile. Units are relative value (they are normalised to sum to 100 for each year in the model).

Age group (years)												
Year	1	2	3	4	5	6	7	8	9	10	11	12
2006	30	69	1	0	0	0	0	0	0	0	0	0
2007	8	60	23	8	2	0	0	0	0	0	0	0
2009	68	31	1	0	0	0	0	0	0	0	0	0
2013	45	13	21	15	5	1	0	0	0	0	0	0
2014	95	2	0	1	1	0	0	0	0	0	0	0
2015	72	21	4	2	1	0	0	0	0	0	0	0
2016	73	19	4	2	1	0	0	0	0	0	0	0
2017	66	23	8	2	1	0	0	0	0	0	0	0
2018	92	6	1	0	0	0	0	0	0	0	0	0
2019	16	59	20	4	1	0	0	0	0	0	0	0
2020	23	8	25	31	11	2	0	0	0	0	0	0
2021	62	5	13	12	6	2	0	0	0	0	0	0

Table A10.10. Catch at age for DEPM surveys in the southern area of Chile. Units are relative value (they are normalised to sum to one for each year in the model). Green shading reflects relative level with a darker green indicating a stronger cohort.

Age group (years)												
Year	1	2	3	4	5	6	7	8	9	10	11	12
2001	0	15	36	37	6	3	2	2	1	0	0	0
2003	0	2	15	24	10	16	11	12	6	2	1	0
2004	0	2	15	35	19	9	5	7	5	2	1	0
2005	0	0	0	1	38	24	16	11	5	3	2	0
2006	0	0	0	4	20	31	24	14	5	2	1	0
2008	0	0	0	4	12	22	27	20	9	5	0	0

Table A10.11. Jack mackerel sexual maturity by age used in the JJM models.

Age (yr)	1	2	3	4	5	6	7	8	9	10	11	12
Single / Southern Stock	0.520	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Far North Stock	0.000	0.370	0.980	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Table A10.12. Jack mackerel growth (von Bertalanffy) and natural mortality parameters used in JJM models.

Parameter	Far North stock	Single / South stock
L_{∞} (cm) (Total length)	73.56	73.56
k	0.16	0.16
L_0 (cm)	13.56	13.56
M (year ⁻¹)	0.33	0.28

L_0 is the mean length at the recruitment age (1 yrs).

Table A10.13. Ageing error matrix of jack mackerel. Columns represent the observed ages, while the rows represent the true age. These data are not used in the stock assessment.

	1	2	3	4	5	6	7	8	9	10	11	12+
1	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.76	0.22	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.24	0.51	0.23	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.02	0.23	0.50	0.23	0.02	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.02	0.23	0.49	0.23	0.02	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.03	0.23	0.48	0.23	0.03	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.03	0.24	0.46	0.24	0.03	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.03	0.24	0.45	0.24	0.03	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.24	0.44	0.24	0.04	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.24	0.43	0.24	0.04
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.24	0.42	0.29
12+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.24	0.71

Table A10.14. Input mean body mass (kg) at age over time assumed for Fleet 1 (northern Chile).

Year	Age group (years)											
	1	2	3	4	5	6	7	8	9	10	11	12
1970	0.157	0.202	0.271	0.346	0.444	0.57	0.709	0.867	1.076	1.313	1.579	1.826
1971	0.157	0.202	0.271	0.346	0.444	0.57	0.709	0.867	1.076	1.313	1.579	1.826
1972	0.157	0.202	0.271	0.346	0.444	0.57	0.709	0.867	1.076	1.313	1.579	1.826
1973	0.157	0.202	0.271	0.346	0.444	0.57	0.709	0.867	1.076	1.313	1.579	1.826
1974	0.157	0.202	0.271	0.346	0.444	0.57	0.709	0.867	1.076	1.313	1.579	1.826
1975	0.157	0.202	0.271	0.346	0.444	0.57	0.709	0.867	1.076	1.313	1.579	1.826
1976	0.157	0.202	0.271	0.346	0.444	0.57	0.709	0.867	1.076	1.313	1.579	1.826
1977	0.157	0.202	0.271	0.346	0.444	0.57	0.709	0.867	1.076	1.313	1.579	1.826
1978	0.157	0.202	0.271	0.346	0.444	0.57	0.709	0.867	1.076	1.313	1.579	1.826
1979	0.157	0.202	0.271	0.346	0.444	0.57	0.709	0.867	1.076	1.313	1.579	1.826
1980	0.203	0.201	0.237	0.275	0.328	0.375	0.504	0.861	0.995	1.159	1.397	1.534
1981	0.164	0.187	0.238	0.268	0.308	0.368	0.464	0.796	0.995	1.159	1.397	1.534
1982	0.183	0.201	0.233	0.261	0.295	0.344	0.402	0.447	0.995	1.159	1.397	1.534
1983	0.12	0.166	0.249	0.284	0.33	0.418	0.497	0.606	0.995	1.159	1.397	1.534
1984	0.151	0.148	0.243	0.289	0.342	0.421	0.499	0.567	0.995	1.159	1.397	1.534
1985	0.192	0.204	0.233	0.299	0.366	0.452	0.537	0.627	0.695	1.159	1.397	1.534
1986	0.136	0.212	0.273	0.313	0.408	0.475	0.55	0.687	1	1.159	1.397	1.534
1987	0.126	0.137	0.218	0.335	0.407	0.455	0.492	0.564	0.824	1.159	1.397	1.534
1988	0.182	0.197	0.221	0.34	0.444	0.49	0.539	0.801	1.108	1.159	1.397	1.534
1989	0.211	0.224	0.257	0.31	0.436	0.536	0.579	0.625	0.948	1.159	1.397	1.534
1990	0.11	0.271	0.318	0.38	0.457	0.572	0.675	0.752	0.797	1.485	1.397	1.534
1991	0.17	0.136	0.295	0.418	0.469	0.538	0.657	0.761	0.829	0.921	0.966	1.211
1992	0.147	0.186	0.23	0.296	0.47	0.545	0.605	0.712	0.844	0.968	1.334	1.534
1993	0.162	0.177	0.246	0.32	0.389	0.533	0.684	0.82	0.925	1.117	1.827	1.534
1994	0.195	0.226	0.287	0.347	0.454	0.614	0.783	0.884	1.014	1.178	1.581	1.534
1995	0.174	0.19	0.266	0.339	0.425	0.563	0.797	1.012	1.187	1.425	1.797	1.534
1996	0.189	0.193	0.281	0.362	0.512	0.704	0.954	1.182	1.356	1.445	2.008	1.534
1997	0.174	0.196	0.266	0.36	0.518	0.699	0.887	1.084	1.287	1.529	1.786	1.779
1998	0.151	0.165	0.251	0.343	0.539	0.794	1.025	1.218	1.404	1.584	1.933	2.526
1999	0.161	0.167	0.259	0.338	0.494	0.789	1.039	1.235	1.397	1.654	1.841	1.952
2000	0.188	0.199	0.262	0.357	0.486	0.801	1.058	1.159	1.31	1.454	1.656	2.052
2001	0.183	0.202	0.266	0.336	0.455	0.614	0.868	1.119	1.395	1.568	1.813	1.929
2002	0.182	0.201	0.265	0.33	0.449	0.638	0.86	1.093	1.312	1.499	1.665	2.073
2003	0.174	0.192	0.249	0.305	0.403	0.588	0.786	1.026	1.261	1.504	1.734	1.861
2004	0.195	0.204	0.259	0.311	0.396	0.52	0.685	0.857	1.065	1.395	1.517	1.772
2005	0.083	0.234	0.28	0.318	0.396	0.506	0.642	0.751	0.92	1.16	1.324	1.606
2006	0.114	0.186	0.289	0.349	0.413	0.512	0.618	0.76	0.938	1.041	1.312	1.725
2007	0.124	0.187	0.23	0.333	0.431	0.513	0.625	0.777	0.909	1.056	1.228	1.542
2008	0.033	0.215	0.287	0.336	0.421	0.525	0.62	0.726	0.88	1.016	1.16	1.479
2009	0.138	0.139	0.273	0.346	0.418	0.539	0.624	0.759	0.892	1.007	1.138	1.398
2010	0.095	0.182	0.236	0.321	0.414	0.539	0.651	0.796	1.056	1.374	1.56	1.778
2011	0.198	0.202	0.296	0.36	0.478	0.64	0.806	1.025	1.261	1.45	1.874	1.981
2012	0.201	0.213	0.297	0.349	0.491	0.65	0.827	1.062	0.968	1.835	2.222	2.796
2013	0.218	0.245	0.312	0.381	0.448	0.58	0.714	0.926	1.292	1.751	2.082	2.512
2014	0.192	0.265	0.418	0.544	0.643	0.785	0.913	1.002	1.345	1.592	2.407	2.971
2015	0.214	0.214	0.282	0.48	0.61	0.746	0.884	0.99	1.049	1.239	1.13	1.483
2016	0.236	0.258	0.316	0.377	0.483	0.584	0.791	0.872	1.132	1.284	1.544	2.045
2017	0.182	0.226	0.295	0.368	0.444	0.549	0.676	0.922	1.096	1.391	1.741	1.583
2018	0.105	0.241	0.304	0.376	0.493	0.594	0.771	0.922	1.342	1.627	1.792	2.549
2019	0.019	0.268	0.305	0.393	0.482	0.578	0.683	0.759	0.888	1.339	1.978	2.906
2020	0.062	0.23	0.302	0.424	0.56	0.686	0.813	1.014	1.204	1.366	1.408	2.801
2021	0.231	0.272	0.318	0.405	0.562	0.695	0.809	0.956	1.115	1.404	1.484	1.693
2022	0.231	0.227	0.361	0.412	0.458	0.496	0.582	0.629	0.947	1.404	1.484	1.693

Table A10.15. Input mean body mass (kg) at age over time assumed for Fleet 2 (central-south Chile).

Year	Age group (years)											
	1	2	3	4	5	6	7	8	9	10	11	12
1970	0.157	0.202	0.271	0.346	0.444	0.57	0.709	0.867	1.076	1.313	1.579	1.826
1971	0.157	0.202	0.271	0.346	0.444	0.57	0.709	0.867	1.076	1.313	1.579	1.826
1972	0.157	0.202	0.271	0.346	0.444	0.57	0.709	0.867	1.076	1.313	1.579	1.826
1973	0.157	0.202	0.271	0.346	0.444	0.57	0.709	0.867	1.076	1.313	1.579	1.826
1974	0.157	0.202	0.271	0.346	0.444	0.57	0.709	0.867	1.076	1.313	1.579	1.826
1975	0.157	0.202	0.271	0.346	0.444	0.57	0.709	0.867	1.076	1.313	1.579	1.826
1976	0.157	0.202	0.271	0.346	0.444	0.57	0.709	0.867	1.076	1.313	1.579	1.826
1977	0.157	0.202	0.271	0.346	0.444	0.57	0.709	0.867	1.076	1.313	1.579	1.826
1978	0.157	0.202	0.271	0.346	0.444	0.57	0.709	0.867	1.076	1.313	1.579	1.826
1979	0.157	0.202	0.271	0.346	0.444	0.57	0.709	0.867	1.076	1.313	1.579	1.826
1980	0.203	0.201	0.237	0.275	0.328	0.375	0.504	0.861	0.995	1.159	1.397	1.534
1981	0.164	0.187	0.238	0.268	0.308	0.368	0.464	0.796	0.995	1.159	1.397	1.534
1982	0.183	0.201	0.233	0.261	0.295	0.344	0.402	0.447	0.995	1.159	1.397	1.534
1983	0.12	0.166	0.249	0.284	0.33	0.418	0.497	0.606	0.995	1.159	1.397	1.534
1984	0.151	0.148	0.243	0.289	0.342	0.421	0.499	0.567	0.995	1.159	1.397	1.534
1985	0.192	0.204	0.233	0.299	0.366	0.452	0.537	0.627	0.695	1.159	1.397	1.534
1986	0.136	0.212	0.273	0.313	0.408	0.475	0.55	0.687	1	1.159	1.397	1.534
1987	0.126	0.137	0.218	0.335	0.407	0.455	0.492	0.564	0.824	1.159	1.397	1.534
1988	0.182	0.197	0.221	0.34	0.444	0.49	0.539	0.801	1.108	1.159	1.397	1.534
1989	0.211	0.224	0.257	0.31	0.436	0.536	0.579	0.625	0.948	1.159	1.397	1.534
1990	0.11	0.271	0.318	0.38	0.457	0.572	0.675	0.752	0.797	1.485	1.397	1.534
1991	0.17	0.136	0.295	0.418	0.469	0.538	0.657	0.761	0.829	0.921	0.966	1.211
1992	0.147	0.186	0.23	0.296	0.47	0.545	0.605	0.712	0.844	0.968	1.334	1.534
1993	0.162	0.177	0.246	0.32	0.389	0.533	0.684	0.82	0.925	1.117	1.827	1.534
1994	0.195	0.226	0.287	0.347	0.454	0.614	0.783	0.884	1.014	1.178	1.581	1.534
1995	0.174	0.19	0.266	0.339	0.425	0.563	0.797	1.012	1.187	1.425	1.797	1.534
1996	0.189	0.193	0.281	0.362	0.512	0.704	0.954	1.182	1.356	1.445	2.008	1.534
1997	0.174	0.196	0.266	0.36	0.518	0.699	0.887	1.084	1.287	1.529	1.786	1.779
1998	0.151	0.165	0.251	0.343	0.539	0.794	1.025	1.218	1.404	1.584	1.933	2.526
1999	0.161	0.167	0.259	0.338	0.494	0.789	1.039	1.235	1.397	1.654	1.841	1.952
2000	0.188	0.199	0.262	0.357	0.486	0.801	1.058	1.159	1.31	1.454	1.656	2.052
2001	0.183	0.202	0.266	0.336	0.455	0.614	0.868	1.119	1.395	1.568	1.813	1.929
2002	0.182	0.201	0.265	0.33	0.449	0.638	0.86	1.093	1.312	1.499	1.665	2.073
2003	0.174	0.192	0.249	0.305	0.403	0.588	0.786	1.026	1.261	1.504	1.734	1.861
2004	0.195	0.204	0.259	0.311	0.396	0.52	0.685	0.857	1.065	1.395	1.517	1.772
2005	0.083	0.234	0.28	0.318	0.396	0.506	0.642	0.751	0.92	1.16	1.324	1.606
2006	0.114	0.186	0.289	0.349	0.413	0.512	0.618	0.76	0.938	1.041	1.312	1.725
2007	0.124	0.187	0.23	0.333	0.431	0.513	0.625	0.777	0.909	1.056	1.228	1.542
2008	0.033	0.215	0.287	0.336	0.421	0.525	0.62	0.726	0.88	1.016	1.16	1.479
2009	0.138	0.139	0.273	0.346	0.418	0.539	0.624	0.759	0.892	1.007	1.138	1.398
2010	0.095	0.182	0.236	0.321	0.414	0.539	0.651	0.796	1.056	1.374	1.56	1.778
2011	0.198	0.202	0.296	0.36	0.478	0.64	0.806	1.025	1.261	1.45	1.874	1.981
2012	0.201	0.213	0.297	0.349	0.491	0.65	0.827	1.062	0.968	1.835	2.222	2.796
2013	0.218	0.245	0.312	0.381	0.448	0.58	0.714	0.926	1.292	1.751	2.082	2.512
2014	0.192	0.265	0.418	0.544	0.643	0.785	0.913	1.002	1.345	1.592	2.407	2.971
2015	0.214	0.214	0.282	0.48	0.61	0.746	0.884	0.99	1.049	1.239	1.13	1.483
2016	0.236	0.258	0.316	0.377	0.483	0.584	0.791	0.872	1.132	1.284	1.544	2.045
2017	0.182	0.226	0.295	0.368	0.444	0.549	0.676	0.922	1.096	1.391	1.741	1.583
2018	0.105	0.241	0.304	0.376	0.493	0.594	0.771	0.922	1.342	1.627	1.792	2.549
2019	0.019	0.268	0.305	0.393	0.482	0.578	0.683	0.759	0.888	1.339	1.978	2.906
2020	0.062	0.23	0.302	0.424	0.56	0.686	0.813	1.014	1.204	1.366	1.408	2.801
2021	0.231	0.272	0.318	0.405	0.562	0.695	0.809	0.956	1.115	1.404	1.484	1.693
2022	0.231	0.227	0.361	0.412	0.458	0.496	0.582	0.629	0.947	1.404	1.484	1.693

Table A10.16. Input mean body mass (kg) at age over time assumed for Fleet 3 (far north).

Year	Age group (years)											
	1	2	3	4	5	6	7	8	9	10	11	12
1970	0.045	0.171	0.377	0.642	0.945	1.265	1.587	1.9	2.196	2.47	2.721	2.946
1971	0.045	0.171	0.377	0.643	0.946	1.266	1.588	1.902	2.198	2.472	2.723	2.949
1972	0.03	0.13	0.306	0.548	0.835	1.148	1.47	1.789	2.095	2.382	2.647	2.887
1973	0.037	0.147	0.33	0.568	0.842	1.134	1.43	1.718	1.991	2.246	2.478	2.688
1974	0.038	0.147	0.326	0.558	0.825	1.108	1.393	1.671	1.934	2.178	2.402	2.603
1975	0.034	0.136	0.31	0.54	0.808	1.095	1.387	1.674	1.946	2.201	2.434	2.645
1976	0.044	0.16	0.34	0.567	0.822	1.087	1.351	1.606	1.845	2.065	2.266	2.446
1977	0.032	0.13	0.294	0.51	0.76	1.028	1.3	1.566	1.818	2.054	2.27	2.465
1978	0.032	0.129	0.295	0.516	0.774	1.05	1.332	1.608	1.872	2.117	2.343	2.547
1979	0.036	0.138	0.304	0.518	0.762	1.02	1.28	1.532	1.77	1.991	2.193	2.375
1980	0.036	0.136	0.298	0.506	0.743	0.994	1.245	1.49	1.721	1.934	2.13	2.306
1981	0.041	0.148	0.314	0.524	0.758	1.003	1.247	1.481	1.702	1.905	2.089	2.255
1982	0.039	0.144	0.309	0.519	0.755	1.002	1.249	1.488	1.712	1.92	2.108	2.278
1983	0.042	0.138	0.28	0.451	0.638	0.828	1.014	1.191	1.356	1.507	1.643	1.764
1984	0.044	0.156	0.328	0.541	0.778	1.024	1.267	1.501	1.719	1.921	2.103	2.267
1985	0.04	0.149	0.322	0.541	0.789	1.048	1.308	1.558	1.794	2.012	2.211	2.389
1986	0.042	0.151	0.323	0.539	0.781	1.033	1.285	1.527	1.755	1.965	2.156	2.327
1987	0.034	0.132	0.294	0.504	0.745	1.001	1.26	1.512	1.751	1.973	2.176	2.359
1988	0.038	0.145	0.315	0.533	0.78	1.041	1.302	1.554	1.793	2.013	2.215	2.396
1989	0.044	0.158	0.337	0.561	0.812	1.074	1.334	1.585	1.821	2.038	2.236	2.413
1990	0.042	0.15	0.32	0.532	0.769	1.017	1.263	1.499	1.722	1.927	2.113	2.28
1991	0.039	0.142	0.305	0.511	0.743	0.985	1.227	1.461	1.68	1.883	2.068	2.234
1992	0.04	0.148	0.318	0.534	0.776	1.031	1.286	1.531	1.763	1.976	2.171	2.346
1993	0.039	0.147	0.323	0.549	0.807	1.08	1.354	1.62	1.871	2.104	2.317	2.508
1994	0.036	0.147	0.335	0.584	0.874	1.186	1.503	1.813	2.109	2.385	2.638	2.867
1995	0.038	0.146	0.318	0.54	0.792	1.058	1.325	1.583	1.827	2.053	2.26	2.446
1996	0.038	0.145	0.317	0.537	0.788	1.053	1.318	1.576	1.82	2.045	2.251	2.436
1997	0.045	0.152	0.312	0.506	0.72	0.94	1.155	1.361	1.553	1.729	1.889	2.031
1998	0.04	0.14	0.294	0.483	0.693	0.911	1.126	1.333	1.526	1.703	1.864	2.008
1999	0.037	0.146	0.324	0.557	0.824	1.107	1.394	1.673	1.938	2.183	2.408	2.611
2000	0.035	0.145	0.336	0.592	0.893	1.218	1.55	1.877	2.189	2.481	2.75	2.994
2001	0.033	0.139	0.324	0.572	0.864	1.18	1.504	1.822	2.127	2.412	2.674	2.912
2002	0.036	0.145	0.33	0.576	0.861	1.167	1.478	1.783	2.074	2.344	2.593	2.817
2003	0.04	0.154	0.341	0.584	0.862	1.157	1.454	1.743	2.017	2.272	2.504	2.714
2004	0.038	0.149	0.333	0.574	0.852	1.148	1.447	1.74	2.017	2.275	2.511	2.724
2005	0.037	0.15	0.341	0.595	0.89	1.206	1.527	1.842	2.142	2.422	2.678	2.911
2006	0.038	0.152	0.347	0.606	0.907	1.23	1.558	1.88	2.187	2.473	2.735	2.973
2007	0.038	0.149	0.335	0.579	0.861	1.161	1.465	1.762	2.044	2.306	2.546	2.763
2008	0.036	0.146	0.334	0.585	0.876	1.19	1.51	1.823	2.122	2.4	2.656	2.888
2009	0.038	0.15	0.337	0.582	0.865	1.167	1.474	1.773	2.057	2.321	2.563	2.782
2010	0.039	0.15	0.332	0.567	0.837	1.123	1.411	1.691	1.956	2.203	2.428	2.631
2011	0.031	0.143	0.351	0.644	1	1.395	1.806	2.217	2.614	2.99	3.337	3.655
2012	0.032	0.145	0.349	0.632	0.971	1.344	1.731	2.115	2.485	2.834	3.156	3.449
2013	0.032	0.145	0.349	0.632	0.971	1.344	1.731	2.115	2.485	2.834	3.156	3.449
2014	0.032	0.145	0.349	0.632	0.971	1.344	1.731	2.115	2.485	2.834	3.156	3.449
2015	0.033	0.146	0.346	0.621	0.95	1.31	1.682	2.051	2.405	2.739	3.047	3.327
2016	0.033	0.146	0.346	0.621	0.95	1.31	1.682	2.051	2.405	2.739	3.047	3.327
2017	0.033	0.146	0.346	0.621	0.95	1.31	1.682	2.051	2.405	2.739	3.047	3.327
2018	0.033	0.146	0.346	0.621	0.95	1.31	1.682	2.051	2.405	2.739	3.047	3.327
2019	0.033	0.146	0.346	0.621	0.95	1.31	1.682	2.051	2.405	2.739	3.047	3.327
2020	0.033	0.146	0.346	0.621	0.95	1.31	1.682	2.051	2.405	2.739	3.047	3.327
2021	0.033	0.146	0.346	0.621	0.95	1.31	1.682	2.051	2.405	2.739	3.047	3.327
2022	0.033	0.146	0.346	0.621	0.95	1.31	1.682	2.051	2.405	2.739	3.047	3.327

Table A10.17. Input mean body mass (kg) at age over time assumed for Fleet 4 (offshore trawl). Weight-at-age 1970-2013 were assumed to be the same as Fleet 2.

Year	Age group (years)											
	1	2	3	4	5	6	7	8	9	10	11	12
1970	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
1971	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
1972	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
1973	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
1974	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
1975	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
1976	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
1977	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
1978	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
1979	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
1980	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
1981	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
1982	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
1983	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
1984	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
1985	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
1986	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
1987	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
1988	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
1989	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
1990	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
1991	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
1992	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
1993	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
1994	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
1995	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
1996	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
1997	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
1998	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
1999	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
2000	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
2001	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
2002	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
2003	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
2004	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
2005	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
2006	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
2007	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
2008	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
2009	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
2010	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
2011	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
2012	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
2013	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
2014	0.157	0.223	0.329	0.429	0.613	0.741	0.835	0.935	1.049	1.145	1.308	1.543
2015	0.228	0.248	0.295	0.434	0.655	0.818	0.933	1.098	1.214	1.326	1.27	1.823
2016	0.311	0.383	0.399	0.428	0.481	0.61	0.837	0.883	0.985	1.094	1.535	1.265
2017	0.059	0.192	0.47	0.549	0.659	0.703	0.739	0.922	0.962	1.094	1.359	1.543
2018	0.066	0.146	0.305	0.388	0.507	0.606	0.649	0.634	0.778	0.868	1.051	1.68
2019	0.127	0.136	0.244	0.51	0.79	0.927	1.04	1.042	1.128	1.263	1.249	1.405
2020	0.152	0.234	0.259	0.265	0.588	0.778	0.811	1.029	1.228	1.226	1.382	1.543
2021	0.103	0.204	0.251	0.277	0.279	0.343	0.544	0.67	0.617	0.966	1.032	0.979
2022	0.132	0.135	0.223	0.311	0.424	0.554	0.682	0.824	1.011	1.153	1.27	1.42

Table A10.18. Years and types of information used in the JJM assessment models.

Fleet	Catch-at-age	Catch-at-length	Landings	CPUE	Acoustic	DEPM
1 North Chile purse seine	1980-2022	-	1970-2022	-	Index: 1984-1988; 1991; 2006-2021 Age comps: 2006-2021	-
2 South-central Chile purse seine	1980-2022	-	1970-2022	1983-2022	1997-2009 Age comps: 2001-2009	Index: 1999-2001; 2003-2008 Age comps: 2001; 2003-2006; 2008
3 FarNorth	-	1980-2022	1970-2022	2002-2022	1985-2008; 2010-2013	-
4 International trawl off Chile	2015-2022	2015-2022*	1970-2022	China, EU, Korea, Russia, & Vanuatu (2008-2019; 2021)	-	-

(*) Are converted to age using age-length keys of central-southern area off Chile, the EU, and Russia.

Table A10.19. Symbols and definitions used for model equations.

General Definitions	Symbol/Value	Use in Catch at Age Model
Year index: $i = \{1970, \dots, 2022\}$	i	
Fleets (f) and surveys (s)	f, s	Identification of information source
Age index: $j = \{1, 2, \dots, 12^+\}$	j	
length index: $l = \{10, 11, \dots, 50\}$	l	
Mean length at age	L_j	
Variation coefficient of the length at age	cv	
Mean weight in year t by age j	$W_{t,j}$	
Maximum age beyond which selectivity is constant	$Maxage$	Selectivity parameterisation
Instantaneous Natural Mortality	M	Constant over all ages
Proportion females mature at age j	p_j	Definition of spawning biomass
Ageing error matrix	T	
Proportion of length at some age	Γ	Transform from age to length
Sample size for proportion in year i	T_i	Scales multinomial assumption about estimates of proportion at age
Survey catchability coefficient	q^s	Prior distribution lognormal(μ_q^s, σ_q^2)
Stock-recruitment parameters	R_0	Unfished equilibrium recruitment
	h	Stock-recruitment steepness
	σ_R^2	Recruitment variance
Unfished biomass	ϕ	Spawning biomass per recruit when there is no fishing
Estimated parameters		
$\phi_i(\#), R_0, h, \varepsilon_i(\#), \mu^f, \mu^s, M, \eta_j^s(\#), \eta_j^f(\#), q^s(\#)$		

Note that the number of selectivity parameters estimated depends on the model configuration.

Table A10.20. Variables and equations describing implementation of the Joint Jack Mackerel assessment model (JJM).

Eq	Description	Symbol/Constraints	Key Equation(s)
1)	Survey abundance index (s) by year. The symbol Δ^s represents the fraction of the year when the survey occurs.	I_i^s	$I_i^s = q^s \sum_{j=1}^{12} N_{ij} W_{ij} S_j^s e^{-\Delta^s Z_{ij}}$
2)	Catch biomass by fleet (f=1,2,3,4), year(i) and age (j) /length (l) (transformation from age to length composition. Fleet 3, FarNorth)	$\hat{C}_{il}, \hat{C}_{ij}, \hat{Y}_i$	$\hat{C}_{i,j}^f = N_{i,j} \frac{F_{i,j}^f}{Z_{i,j}^f} (1 - e^{-Z_{i,j}^f})$ $\hat{Y}_i^f = \sum_{j=1}^{12+} \hat{C}_{i,j}^f w_{i,j}^f$ $\hat{C}_{il} = \Gamma_{lj} \hat{C}_{ij}$ $\Gamma_{l,j} = \int_j^{j+1} e^{-\frac{1}{2\sigma_j^2}(l-L_j)^2} dl$ $L_j = L_{00}(1 - e^{-k}) + e^{-k} L_{j-1}$ $\sigma_j = cv L_j$
3)	Proportion at age j, in year i Proportion at length l, in year i		$p_{ij}^f = \frac{\hat{C}_{ij}^f}{\sum_j \hat{C}_{ij}^f} \quad p_{ij}^s = \frac{N_{ij} S_j^s e^{-\Delta^s Z_{ij}}}{\sum_j N_{ij} S_j^s e^{-\Delta^s Z_{ij}}}$ $P_{il} = \frac{C_{il}}{\sum_{l=10}^{50} C_{il}}$
4)	Initial numbers at age	$j = 1$	$N_{1970,j} = e^{\mu_R + \varepsilon_{1970}}$
5)		$1 < j < 11$	$N_{1970,j} = e^{\mu_R + \varepsilon_{1971-j}} \prod_{j=1}^j e^{-M}$
6)		$j = 12+$	$N_{1970,12+} = N_{1970,11} e^{-M} (1 - e^{-M})^{-1}$
7)	Subsequent years (i > 1970)	$j = 1$	$N_{i,1} = e^{\mu_R + \varepsilon_i}$
8)		$1 < j < 11$	$N_{i,j} = N_{i-1,j-1} e^{-Z_{i-1,j-1}}$
9)		$j = 12+$	$N_{i,12+} = N_{i-1,11} e^{-Z_{i-1,10}} + N_{i-1,12} e^{-Z_{i-1,11}}$
10)	Year effect and individuals at age 1 and i = 1958, ..., 2022	$\varepsilon_i, \sum_{i=1958}^{final\ year} \varepsilon_i = 0$	$N_{i,1} = e^{\mu_R + \varepsilon_i}$

Eq	Description	Symbol/Constraints	Key Equation(s)
11)	Index catchability		$q_i^s = e^{\mu^s}$
	Mean effect	μ^s, μ^f	$S_j^s = e^{\eta_j^s} \quad j \leq \text{maxage}$
	Age effect	$\eta_j^s, \sum_{j=1958}^{\text{final year}} \eta_j^s = 0$	$S_j^s = e^{\eta_{\text{maxage}}^s} \quad j > \text{maxage}$
12)	Instantaneous fishing mortality		$F_{ij}^f = e^{\mu^f + \eta_j^f + \phi_i}$
13)	Mean fishing effect	μ^f	
14)	Annual effect of fishing mortality in year i	$\phi_i, \sum_{i=1970}^{\text{final year}} \phi_i = 0$	
15)	age effect of fishing (regularised) In year time variation allowed	$\eta_j^f, \sum_{j=1958}^{\text{final year}} \eta_j^f = 0$	$S_{ij}^f = e^{\eta_j^f} \quad j \leq \text{maxage}$ $S_{ij}^f = e^{\eta_{\text{maxage}}^f} \quad j > \text{maxage}$
	In years where selectivity is constant over time	$\eta_{i,j}^f = \eta_{i-1,j}^f$	$i \neq \text{change year}$
16)	Natural Mortality	M	fixed
17)	Total mortality		$Z_{ij} = \sum_j F_{ij}^f + M$
17)	Spawning biomass (note spawning taken to occur at mid of November)	B_i	$B_i = \sum_{j=2}^{12} N_{ij} e^{-\frac{10.5}{12} Z_{ij}} W_{ij} p_j$
18)	Recruits (Beverton-Holt form) at age 1.	\tilde{R}_i	$\tilde{R}_i = \frac{\alpha B_i}{\beta + B_i}$ $\alpha = \frac{4hR_0}{5h-1}$ and $\beta = \frac{B_0(1-h)}{5h-1}$ where $B_0 = R_0 \varphi$ $\varphi = \sum_{j=1}^{12} e^{-M(j-1)} W_j p_j + \frac{e^{-12M} W_{12} p_{12}}{1 - e^{-M}}$ h=0.8

Table A10.21 Specification of objective function that is minimised (i.e., the penalised negative of the log-likelihood).

Eq	Likelihood /penalty component		Description / noted
19)	Abundance indices	$L_1 = 0.5 \sum_s \frac{1}{cv_s^2} \sum_i \log \left(\frac{I_i}{\hat{I}_i} \right)^2$	Surveys / CPUE indexes
20)	Prior on smoothness for selectivities	$L_2 = \sum_l \lambda_2^l \sum_{j=1}^{12} \left(\eta_{j+2}^l + \eta_j^l - 2\eta_{j+1}^l \right)^2$	Smoothness (second differencing), Note: $l=\{s, \text{ or } f\}$ for survey and fishery selectivity
21)	Prior on recruitment regularity	$L_3 = \lambda_3 \sum_{i=1958}^{\text{final year}} \varepsilon^2_i$ $\lambda_3 = \frac{0.5}{\sigma_R^2}$	Influences estimates where data are lacking (e.g., if no signal of recruitment strength is available, then the recruitment estimate will converge to median value).
22)	Catch biomass likelihood	$L_4 = 0.5 \sum_f \frac{1}{cv_f^2} \sum_{i=1970}^{\text{final year}} \log \left(\frac{Y_i^f}{\hat{Y}_i^f} \right)^2$	Fit to catch biomass in each year
23)	Proportion at age/length likelihood	$L_5 = - \sum_{v,l,j} n^v P_{i,j/l}^v \log(\hat{P}_{i,j/l}^v)$	$v=\{s, f\}$ for survey and fishery age composition observations $P_{i,j/l}$ are the catch-at-age/length proportions n effective sample size
24)	Dome-shaped selectivity	$L_6 = \lambda_4 \sum_{j=6}^{12} (\ln S_{j-1} - \ln S_j)^2$ $S_{j-1} > S_j$	(relaxed in final phases of estimation)
25)	Fishing mortality regularity	F values constrained between 0 and 5	(relaxed in final phases of estimation)
26)	Recruitment curve fit	$L_7 = \lambda_5 \sum_{j=1970}^{2015} \log \left(\frac{N_{i,1}}{\hat{R}_i} \right)^2$ $\lambda_5 = \frac{0.5}{\sigma_R^2}$	Conditioning on stock-recruitment curve over period 1970-2015. (Assessment models use the period 1970 to (present year – 3))
27)	Priors or assumptions	R_0 non-informative	$\sigma_R = 0.6$
28)	Overall objective function to be minimised	$\dot{L} = \sum_k L_k$	

Table A10.22. Coefficients of variation and sample sizes used in likelihood functions, with adjustments based on calculated Francis weights. Initial sample sizes are in parentheses.

Abundance index	CV	Catch biomass likelihood	CV
Acoustic CS-Chile	0.20	N-Chile	0.05
Acoustic N-Chile	0.50	CS-Chile	0.05
CPUE – Chile	0.15	Farnorth	0.05
DEPM – Chile	0.50	Offshore	0.05
Acoustic –Peru	0.20		
CPUE – Peru	0.20		
CPUE – Offshore	0.20		
Smoothness for selectivities (indexes)	Λ	Proportion at age likelihood (indexes)	n
Acoustic CS-Chile	100	Acoustic CS-Chile	6.8 (150)
Acoustic N-Chile	100	Acoustic N-Chile	12.4 (150)
CPUE – Chile	100	DEPM – Chile	1
CPUE – Offshore	100		
Smoothness for selectivities (fleets)	λ	Proportion at age (or length) likelihood	n
N -Chile	1	N-Chile	23.9 (100)
CS-Chile	25	CS-Chile	64.3 (250)
Farnorth	12.5	Farnorth (length)	30
Offshore	12.5	Offshore	12.6 (150)
Recruitment regularity	λ	S – Recruitment curve fit	cv
	1.4		0.6

Table A10.23. Description of JJM model components and how selectivity was treated (two-stock hypothesis; Far North Stock).

Item	Description	Selectivity assumption
Fisheries		
1)	Peruvian and Ecuadorian area fishery	Selectivity in the model under the two-stock hypothesis was estimated from length composition data (converted to age inside the model). Two regimes were considered – before and after 2002. This is a different assumption from the single-stock hypothesis, which has annual variations in selectivity between 1981 and 2022.
Index series		
2)	Acoustic survey in Peru	Assumed to be the same as in fishery 1)
3)	Peruvian fishery CPUE	Assumed to be the same as in fishery 1)

Table A10.24. Description of JJM model components and how selectivity was treated (two-stock hypothesis; Southern Stock).

Item	Description	Selectivity assumption
Fisheries		
1)	Chilean northern area fishery	Estimated from age composition data. Annual variations were considered since 1984
2)	Chilean central and southern area fishery	Estimated from age composition data. Annual variations were considered since 1984.
3)	Offshore trawl fishery	Estimated from age composition data. Annual variations were considered since 1980. Additional flexibility in selectivity was allowed for 2022 to reflect a change in the fishing pattern.
Index series		
4)	Acoustic survey in central and southern Chile	Estimated from age composition data. Two time-blocks were considered 1970-2004; 2005-2009.
5)	Acoustic survey in northern Chile	Estimated from age composition data. Selectivity changes were implemented in 2012 and 2016.
6)	Central and southern fishery CPUE	Assumed to be the same as 2)
7)	Egg production survey	Estimated from age composition data. Two time-blocks were considered 1970-2002; 2003-2008.
8)	Offshore fleet (China, EU, Korea, Russia, Vanuatu) CPUE	Assumed to be the same as 3)

Table A10.25. Description of JJM model components and how selectivity was treated under the single-stock hypothesis.

Item	Description	Selectivity assumption
Fisheries		
1)	Chilean northern area fishery	Estimated from age composition data. Annual variations were considered since 1984
2)	Chilean central and southern area fishery	Estimated from age composition data. Annual variations were considered since 1984.
3)	Peruvian and Ecuadorian area fishery	Estimated from length composition data (converted to age inside the model). Annual variations were considered since 1981
4)	Offshore trawl fishery	Estimated from age composition data. Annual variations were considered since 1980. Additional flexibility in selectivity was allowed for 2022 to reflect a change in the fishing pattern.
Index series		
5)	Acoustic survey in central and southern Chile	Estimated from age composition data. Two time-blocks were considered 1970-2004; 2005-2009.
6)	Acoustic survey in northern Chile	Estimated from age composition data 2006-2016. Selectivity changes were implemented in 2015 and 2016
7)	Central and southern fishery CPUE	Assumed to be the same as 2)
8)	Egg production survey	Estimated from age composition data 2001, 2003-2006, 2008. Two time-blocks were considered around 2003.
9)	Acoustic survey in Peru	Assumed to be the same as 3)
10)	Peruvian fishery CPUE	Assumed to be the same as 3)
11)	Offshore fleet (Vanuatu, Russia, Korea, EU & China) CPUE	Assumed to be the same as 4)

Table A10.26. Systematic model progression from the 2021 assessment data to the agreed revised datasets for 2022. Note that the data file names corresponding to each model follow the same naming convention, but with the stock-structure hypothesis denoted as h1 for the single-stock and h2 for the two-stock (e.g., “0.01.dat” with “h1_0.01.ctf” and “h2_0.01.ctf”).

Model	Description
Models 0.x	Data introductions
0.00	Exact 2021 (single stock h1 and two-stock h2) model and data set (model 1.14) from benchmark SCW14.
0.01	As 0.00 but with revised catches through 2021 (currently still estimates)
0.02	As 0.01 but with updated 2021 fishery age composition data for N_Chile, SC_Chile, and Offshore_Trawl, and updated 2021 fishery length composition data for FarNorth
0.03	As 0.02 but with updated 2021 weight at age data for all fisheries and their associated CPUE indices
0.04	As 0.03 but replaced offshore CPUE up to 2021
0.05	As 0.04 but with updated AcousN 2021 index, with associated age composition and weight at age
0.06	As 0.05 but with 2022 catch projections
0.07	As 0.06 but with updated 2022 fishery age composition data for N_Chile, SC_Chile, and Offshore_Trawl, and updated 2022 fishery length composition data for FarNorth
0.08	As 0.07 but with updated 2022 weight at age data for N_Chile, SC_Chile, and FarNorth fleets, and for their associated CPUE indices
0.09	As 0.08 but replaced SC_Chile_CPUE index (traditional absolute scaled CPUE by trip)
0.1	As 0.09 but replaced Peru_CPUE index
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Models 1.x	Updated Model and Sensitivities
1.00	As 0.10 but with updated model (selectivity changes, recruitment) to 2022; 0.10 data file
1.01	As 1.00 but with correct growth parameters to reflect FL (Linf=73.56; L0=13.56; SC10-Doc27 Peru National Report - ANJ)
1.02	As 1.01 but with added flexibility for selectivity in the offshore fleet

Table A10.27. Spawning biomass of jack mackerel (base model under the single-stock hypothesis) estimated in previous SPRFMO SC meetings.

Year	SC1	SC2	SC3	SC4	SC5	SC6	SC7	SC8	SC9	SC10
1970	8761	6726	10082	9770	9928	10319	10289	10629	11383	14378
1971	8112	6384	9164	8872	9037	10015	9964	10214	10979	13372
1972	7818	6173	8527	8289	8457	9854	9783	9964	10731	12456
1973	7726	6015	8042	7911	8079	9756	9666	9794	10521	11541
1974	7676	5910	7673	7633	7800	9646	9538	9625	10249	10560
1975	7763	5894	7446	7511	7675	9604	9480	9534	9984	9742
1976	8141	6075	7454	7638	7799	9752	9610	9638	9822	9136
1977	8810	6589	7808	8027	8186	10112	9948	9955	9808	8711
1978	9551	7151	8224	8445	8603	10458	10267	10256	9810	8562
1979	10188	7613	8553	8810	8965	10717	10497	10473	9832	8470
1980	10854	8276	9085	9349	9494	11124	10881	10847	10069	8560
1981	11170	8521	9213	9561	9693	11174	10920	10878	9982	8423
1982	10806	8122	8679	9137	9252	10513	10263	10217	9192	8033
1983	11092	8503	8926	9487	9578	10584	10358	10310	9344	9078
1984	11122	8635	8942	9653	9722	10502	10310	10264	9434	9507
1985	11554	9342	9557	10297	10351	10869	10721	10679	10077	10080
1986	13159	11355	11531	11890	11936	12177	12075	12039	11772	13579
1987	14919	13284	13459	13371	13411	13402	13344	13314	13297	18078
1988	15496	13716	13894	13801	13830	13717	13702	13679	13828	19862
1989	15050	13082	13256	13389	13406	13455	13472	13454	13502	18745
1990	14228	12207	12371	12701	12699	13076	13116	13101	13136	17271
1991	13098	11032	11197	11792	11763	12408	12466	12455	12537	16133
1992	11909	9856	10018	10772	10716	11542	11610	11602	11763	15260
1993	10802	8942	9082	9800	9722	10658	10726	10720	10743	13700
1994	9271	7518	7634	8165	8070	9061	9127	9123	9074	11132
1995	7154	5448	5532	5901	5794	6696	6761	6758	6666	8161
1996	5819	3820	3862	4174	4073	4775	4832	4831	4740	6003
1997	4950	2990	2965	3254	3181	3609	3655	3657	3564	4719
1998	4985	3158	3074	3539	3498	3677	3724	3730	3573	4814
1999	5668	3937	3795	4475	4457	4434	4499	4511	4278	5956
2000	6671	5018	4834	5616	5624	5463	5556	5574	5312	7308
2001	7481	5892	5690	6368	6404	6172	6298	6323	6095	7759
2002	8083	6699	6544	7010	7073	6805	6965	6997	6770	8442
2003	8201	6952	6848	7274	7349	7080	7270	7309	7078	8463
2004	7641	6564	6475	6908	6979	6725	6935	6980	6751	7815
2005	6708	5763	5676	6159	6225	5997	6213	6262	6056	7188
2006	5486	4682	4595	5102	5160	4979	5195	5248	5061	6049
2007	4119	3430	3324	3846	3890	3754	3973	4029	3857	4241
2008	3067	2545	2382	2890	2915	2779	2998	3055	2926	2986
2009	2130	1850	1598	2070	2074	1893	2103	2159	2076	2465
2010	1709	1647	1291	1775	1758	1538	1728	1778	1703	2413
2011	1855	1861	1382	1868	1832	1667	1817	1855	1782	2373
2012	2304	2115	1552	2065	2015	1980	2068	2090	2038	2458
2013	3085	2383	1814	2308	2248	2339	2362	2370	2348	2659
2014	-	2738	2222	2667	2572	2725	2687	2691	2719	3127
2015	-	3206	2720	3273	3103	3176	3019	3042	3107	3767
2016	-	-	3174	4116	3885	3606	3390	3456	3567	4857
2017	-	-	-	-	5294	4097	3915	4047	4190	6867
2018	-	-	-	-	-	4777	4821	5078	5264	9747
2019	-	-	-	-	-	-	6188	6673	6956	12041
2020	-	-	-	-	-	-	-	8273	8740	12802
2021	-	-	-	-	-	-	-	-	9960	13547
2022	-	-	-	-	-	-	-	-	-	14289

Table A10.28. Estimated begin-year numbers at age (Model *h*_{1.02}; single-stock hypothesis).

Year	Age group (years)											
	1	2	3	4	5	6	7	8	9	10	11	12
1970	5771.73	4671.65	3822.52	3129.81	2546.08	2054.31	1647.14	1311.23	1035.26	811.09	631.2	2543.37
1971	5377.5	4360.77	3525.02	2876.82	2341.76	1882.11	1508.53	1223.52	982.33	778.16	609.7	2386.32
1972	4958.65	4062.13	3287.4	2646.38	2139.98	1710.43	1361.01	1110.27	912.33	736.22	583.25	2245.59
1973	4433.17	3745.56	3062.18	2467.74	1972.27	1583.61	1261.69	1013.22	831.89	685.29	553.09	2125.2
1974	4500.37	3346.95	2817.72	2285.36	1817.97	1442.01	1154.83	932.79	756.18	623.2	513.52	2006.95
1975	5846.29	3393.3	2509.91	2077.7	1633.26	1283.52	1012.33	834.68	687.48	561.59	462.93	1872.29
1976	7300.93	4410.53	2542.53	1854.42	1496.14	1137.53	879.49	720.9	611.15	508.91	415.92	1729.48
1977	10829	5502.41	3288.47	1854.91	1302.21	1004.27	747.68	610.49	520.4	448.07	373.41	1574.17
1978	13584	8092.14	4018.65	2219.42	1095.21	796.58	631.45	504.51	428.73	371.34	320.09	1391.32
1979	14113.3	10149.8	5867.29	2686.09	1290.2	610.21	437.64	390.87	337.44	295.38	256.32	1181.32
1980	14697.2	10534	7330.1	3915.75	1573.8	714.72	328.23	257.39	240.58	209.37	183.7	894.1
1981	17152.4	10962.2	7591.7	4869.21	2288.62	894.2	400.81	196.53	158.02	147.5	128.7	662.56
1982	19827.8	12740.3	7657.37	4665.36	2564.23	1125.8	428.1	210.72	107.2	85.99	80.72	433.03
1983	27563.5	14623.4	8680.55	4571.48	2285.65	975.17	368.3	162.53	84.66	42.47	34.3	204.93
1984	20854.3	20330	10194.5	5501.8	2552.04	1136.19	431.88	151.73	59.09	27.97	14.1	79.43
1985	24765.5	15159.8	13368.2	6326.95	2871.56	977.2	336.61	122.56	39.75	14.46	6.88	23.02
1986	55243.2	18156.9	10321	8453.62	3480.79	1256.77	358.55	118.56	41.25	13.02	4.76	9.85
1987	51806.6	40836.9	12933.7	6864.83	5146.85	1789.98	544.29	150.88	47.51	16.02	5.05	5.67
1988	25731.2	38022.1	27938	8636.12	4261.79	2654.19	753.9	223.46	60.58	18.5	6.13	4.1
1989	15289.8	18773	26112.5	18216.8	5434.29	2482.39	1355.91	339.56	90.35	22.32	6.42	3.55
1990	17285.3	11268.8	13214.4	16778.4	11150.5	3273.84	1396.69	671.4	142.67	32.25	7.14	3.19
1991	22671.6	12793.5	8125.97	9032.83	10538.6	6564.27	1787.15	686.38	296.22	53.36	10.6	3.4
1992	25305.6	16766.1	9151.31	5609.24	5847.1	6193.34	3383.58	786.03	255.54	96.18	16.15	4.24
1993	14500.6	18722.3	11909.5	6218.14	3637.94	3619.62	3293.37	1382.3	211.48	55.43	24.27	5.15
1994	15774.3	10581.4	12653.2	7735.46	3853.49	2157.11	2023.37	1505.43	407.33	44.88	12.56	6.67
1995	14854.3	11526.1	7182.93	7848.01	4440.73	2047.11	1031.07	713.96	365.06	78.78	8.53	3.66
1996	15055.9	10705.4	6812.28	3501.95	3386.18	1772.38	793.91	301.05	144.83	53.49	9.8	1.52
1997	17642.8	10467.7	5680.93	2742.28	1293.59	1259.71	625.8	230.57	67.42	25.01	7.92	1.68
1998	17300.4	12304.2	4641.88	1732.15	939.97	507.55	467.82	184.65	52.45	11.96	3.87	1.49
1999	22025.8	12334	6045.69	1947.11	827.74	492.02	257.23	208.28	70.16	16.99	3.48	1.56
2000	20678.7	15771.5	7122.05	3322.12	1137.29	508	299.71	146.39	107.12	32.14	7.12	2.11
2001	20570.8	14925.4	9714.36	3960.59	2020.95	734.37	329.91	187.77	86.27	59.36	17.04	4.9
2002	18555.1	14381.7	8614.1	4471.56	2155.55	1217.04	448.29	193.2	102.98	44.59	29.78	11.01
2003	11286.6	13427.9	9219.72	5108.04	2610.22	1302.3	736.65	258.17	103.39	52.13	22.12	20.23
2004	10172.5	8093.3	8519.27	5523.73	2967.12	1574.77	794.15	430.45	140.31	53.25	26.33	21.39
2005	10989.1	7300.7	5125.47	5034.86	3111.58	1723.44	927.2	449.72	230.06	71.76	26.75	23.98
2006	6272.8	7752.11	4727.51	3104.08	2761.11	1719.23	981.4	514.34	238.34	118.84	36.92	26.1
2007	2127.24	4410.88	4793.51	2719.9	1649.51	1353	868.44	480.38	244.21	114.91	59.75	31.69
2008	5786.18	1418.69	2511.79	2489.14	1361.05	765.15	584.64	360.27	189.78	103.07	52.64	41.89
2009	9198.5	3648.79	745.1	1264.09	1142.87	596.92	331.16	254.1	153.85	84.37	49.25	45.17
2010	5379.48	6269.99	1980.09	371.33	479.33	381.29	198.19	115.11	93.68	63.56	37.81	42.32
2011	4432.69	3602.71	3524.87	1091.16	183.48	215.12	174.83	84.16	53.96	49.96	35.7	45
2012	4015.22	3172.7	2483.22	1915.14	598.51	96.06	116.95	92.99	49.68	33.74	32.14	51.92
2013	4332.18	2975.76	2276.21	1570.96	1140.86	338.16	57.78	73.67	60.72	33.04	22.6	56.32
2014	7372.45	3207.58	2121.74	1517.72	982.18	742.29	223.64	38.15	48.74	40.19	21.86	52.21
2015	7734.99	5463.35	2303.92	1431.79	989.97	646.23	495.21	148.66	24.82	31.18	25.54	47.06
2016	13846.5	5755.13	3865.62	1597.04	981.22	662.7	429.22	327.72	94.91	15.08	18.54	43.17
2017	21923	10390.1	4198.62	2723.12	1085.4	652.1	439.4	284.91	213.64	59.67	9.27	37.92
2018	27908.7	16412.8	7644.81	3025.3	1908.2	722.89	423.3	283.15	181.67	134.06	37.14	29.37
2019	16711	20956.9	12210.6	5517.65	2126.24	1291.11	472.93	270.3	178.35	113.99	83.92	41.63
2020	6825.92	12575.9	15668.6	8900.14	3935.48	1449.47	853.27	300.36	169.12	113.19	73.16	80.58
2021	15997.1	5142.27	9423.72	11618.8	6464.07	2779.27	967.19	546.9	188.03	108.51	74.21	100.81
2022	9709.52	12021.5	3835.35	6959.25	8485.88	4624.36	1920.77	633.86	347.27	118.29	69.3	111.77

Table A10.29. Estimated begin-year numbers at age (Model *h*_{2.02}; two-stock hypothesis; southern stock).

Year	Age group (years)											
	1	2	3	4	5	6	7	8	9	10	11	12
1970	5888.22	4756.58	3876.92	3154.7	2546.28	2037.51	1620.42	1279.65	1002.83	780.55	604.05	2263.64
1971	5480.5	4448.61	3587.55	2915.05	2356.9	1878.61	1496.89	1205.1	959.24	753.96	586.87	2156.11
1972	5064.62	4139.79	3351.6	2690.12	2164.7	1717.23	1360.01	1103.97	899.55	719.27	565.37	2056.88
1973	4507.86	3826.01	3120.07	2516.7	2008.7	1602.75	1268.79	1014.26	828.13	676.21	540.73	1971.36
1974	4410.14	3404.49	2878.29	2333.19	1866.44	1473.17	1173	941.15	758.78	621.52	507.59	1885.69
1975	5600.39	3329.97	2558.74	2146.08	1714.24	1335.21	1045.18	855.1	698.21	566.63	464.19	1787.45
1976	7051.41	4226.12	2493.02	1890.87	1552	1196.02	922.37	750.2	629.06	518.43	420.84	1672.32
1977	9490.49	5316.65	3147.23	1820.07	1338.17	1046.21	796.38	648.06	545.56	463.43	382.11	1542.77
1978	12156.5	7152.36	3946.35	2281.91	1276.96	897.59	695.64	558.72	470.4	401.11	340.95	1416.16
1979	12787.7	9141.88	5243.42	2779.08	1512.99	774.05	532.2	455.12	388.47	334.12	285.19	1249.32
1980	13296.4	9599.65	6665.43	3656.04	1822.7	914.41	455.76	335.53	294.24	249.96	215.26	988.61
1981	14760.1	9979.78	6992.42	4645.03	2414.98	1135.78	560.4	292.54	217.15	188.02	159.95	770.36
1982	16120.9	11013.6	7022.9	4524.13	2744.86	1324.03	616.18	326.68	172.49	125.51	109	539.3
1983	27246.3	11934.8	7507.15	4231.97	2332.66	1175.65	531.14	279.72	149.26	75.01	54.78	282.98
1984	22956.1	20176	8325.95	4809.99	2471.78	1253.99	591.29	249.37	111.69	51.8	26.11	117.57
1985	24039.9	16760.1	13350.4	5263.33	2620.62	1019.6	430.66	191.44	67.21	25.49	11.86	32.89
1986	55124.1	17641.9	11475.3	8500.69	2924.07	1166.4	396.26	157.33	60.67	19.18	7.29	12.8
1987	50004.1	40730	12566.3	7680.62	5217.43	1491.99	508.39	165.1	57.74	20.31	6.4	6.7
1988	22568.7	36653.3	27826.2	8427.92	4814.49	2707.76	629.11	207.59	63.09	20.58	7.12	4.59
1989	13072.4	16430.8	25153.5	18383.7	5429.34	2871.95	1402.94	283.48	82.32	22.43	6.95	3.95
1990	17439.4	9624.65	11562.3	16272	11511.3	3339.33	1637.99	697.73	118.17	29.02	7.2	3.5
1991	21836.8	12905.6	6947.49	7964.69	10513.5	6934.7	1849.83	814.47	308.12	44.09	9.72	3.58
1992	23917.5	16143.2	9237.73	4823.9	5254.81	6291.91	3647.39	828.41	309.85	102.98	14.02	4.23
1993	14378.9	17677.4	11452.8	6305.92	3161.56	3274.31	3403.39	1543.07	235.06	72.91	28.46	5.04
1994	14674.5	10474.5	11917.2	7521.92	3969.79	1887.12	1841.15	1593.5	484.67	55.12	18.49	8.49
1995	11531.2	10691.4	7094.77	7492.25	4427.09	2141.38	902.56	650.49	403.89	103.15	11.77	5.76
1996	13400.5	8261.03	6241.31	3685.45	3507.32	1857.39	859.27	271.78	139.3	65.62	14.68	2.49
1997	14556.7	9215.41	4180.31	2737.2	1547.36	1436.41	712.22	272.34	66.77	26.61	10.74	2.81
1998	15230.2	10088.5	4028.68	1638.71	1185.33	711.08	616.81	247.64	73.53	13.83	4.66	2.37
1999	17216.9	10847.4	5027.22	2123.55	921.21	695.24	402.52	313.54	108.78	27.12	4.44	2.26
2000	19270.7	12246.7	6226.66	2986.68	1319.81	593.74	446.04	244.55	174.1	53.32	11.82	2.92
2001	19863.8	13872.2	7467.63	3749.9	1903.71	880.53	397.42	289.41	149.71	99.39	28.61	7.91
2002	18409.2	13919.6	8294.3	4294.52	2270.31	1217.54	565.53	245.61	167.66	80.92	51.29	18.84
2003	12033	13338.1	8978.26	5118.55	2601	1415.88	759.72	337.21	136.04	86.83	40.34	34.96
2004	7346.12	8641.88	8597.94	5593.8	3103.44	1622.05	889.44	458.35	189.36	71.56	44.11	38.25
2005	8384.09	5248.24	5546.11	5280.5	3294.03	1864.31	980.96	516.82	250.26	97.72	35.74	41.14
2006	5301.28	5836.03	3352.43	3414.18	3000.05	1880.57	1088.34	555.19	277.46	129	49.46	38.92
2007	2435.93	3703.01	3609.91	2071.69	1935.11	1567.97	995.26	550.56	268.61	133.6	63.83	43.73
2008	5876.38	1617.75	2086.47	2041.27	1127.14	956	725.48	437.64	226.19	114.47	60.59	48.77
2009	5038.92	3657.21	863.92	1143.19	1014.6	519.08	436.27	333.83	196.57	103.16	54.89	52.44
2010	3832.12	3327.76	1955.46	447.36	465.83	354.01	180.41	162	133.34	85.44	47.2	49.1
2011	4056.03	2451.4	1616.82	1028.52	220.23	211.34	162.37	76.59	77.47	71.93	47.94	54.03
2012	4184.03	2883.99	1713.37	1091.87	617.5	121.31	116.82	86.59	45.94	49.71	47.37	67.16
2013	4889.8	3102.24	2084.52	1171.47	683.48	351.75	73.4	73.77	56.95	30.97	33.88	78.05
2014	8193.03	3622.18	2218.85	1417.39	740.54	431.47	228.97	48.16	48.92	38.15	20.9	75.51
2015	8490.65	6074.33	2620.79	1556.81	954.4	478.06	278.14	149.45	31.19	31.66	24.86	62.82
2016	11306.1	6314.96	4328.95	1851.24	1078.24	635.24	308.9	177.75	93.51	19.09	19.43	53.81
2017	14976.4	8474.37	4616.12	3083.84	1273.53	719.88	416.45	199.93	112.94	58.65	11.98	45.97
2018	22887.6	11179.9	6210.42	3332.59	2172.77	854.76	467.19	264.4	124.44	69.73	36.67	36.23
2019	16004.1	17167.1	8306.03	4510.82	2358.03	1484.76	564.82	298.72	164.56	76.79	43.39	45.37
2020	6817.61	12043	12843.3	6128.04	3241.2	1620.22	994.87	364.38	188.28	104	48.97	56.6
2021	15853	5136.43	9028.46	9566.44	4486.19	2279.49	1087.4	649.46	232.93	121.98	68.16	69.2
2022	9467.07	11913.7	3831.12	6672.22	7016.09	3184.12	1556.35	718.83	421.1	148.62	77.92	87.75

Table A10.30. Estimated begin-year numbers at age (Model *h2_1.02*; two-stock hypothesis; far north stock).

Year	Age group (years)											
	1	2	3	4	5	6	7	8	9	10	11	12
1970	2291.59	1553.02	1121.54	809.21	583.7	420.82	303.23	218.43	157.29	113.23	81.49	225.55
1971	2277.02	1647.44	1116.2	804.26	578.47	418.84	302.43	217.98	157.02	113.07	81.4	220.72
1972	2257.58	1636.93	1183.75	798.47	571.8	414.34	300.91	217.39	156.68	112.86	81.28	217.16
1973	2233.27	1622.86	1175.32	840.94	558.95	407.45	297.39	216.24	156.22	112.59	81.11	214.46
1974	2228.55	1605.19	1163.46	823.31	570.5	394.16	291.88	213.6	155.31	112.2	80.87	212.29
1975	2228.64	1600.99	1143.61	768.97	490.52	385.28	280.11	209.21	153.1	111.32	80.42	210.13
1976	2189.43	1601.86	1147.75	800.92	521.42	345.84	275.99	201.19	150.27	109.97	79.96	208.69
1977	3174.18	1573.56	1147.3	796.88	532.67	365.27	247.45	198.17	144.46	107.9	78.96	207.26
1978	2370.14	2272.51	1074.36	510.52	196.18	268.02	245.85	174.87	140.05	102.09	76.25	202.27
1979	2041.86	1695.8	1539.39	444.28	106.7	93.47	178.59	173.29	123.26	98.71	71.96	196.32
1980	1613.05	1462.12	1160.53	700.04	114.82	54.56	63.1	126.31	122.56	87.18	69.82	189.74
1981	2522.06	1153.98	989.03	473.62	142.06	54.17	36.29	44.46	88.99	86.35	61.42	182.86
1982	2933.83	1799.01	752.74	287.99	45.22	52.14	34.4	25.26	30.95	61.94	60.1	170.04
1983	1674.35	2103.39	1249.81	393.64	101.69	25.65	35.88	24.45	17.96	22	44.03	163.58
1984	817.09	1201.93	1484.37	756.18	192.51	64.3	18.01	25.64	17.47	12.83	15.72	148.34
1985	1939.89	586.55	848.22	898.22	369.94	121.75	45.15	12.87	18.32	12.48	9.17	117.22
1986	3007.03	1393.55	417.65	557.7	528.94	248.86	86.46	32.35	9.22	13.13	8.95	90.57
1987	4342.88	2160.85	996.23	284.93	356.65	365.73	177.63	62.04	23.22	6.62	9.42	71.41
1988	3093.21	3120.52	1543.2	673.32	178.45	244.9	260.71	127.42	44.51	16.65	4.75	57.98
1989	2018.62	2219.48	2190.21	887.6	294.08	108.67	170.75	185.94	90.88	31.74	11.88	44.74
1990	1104.95	1448.7	1561.36	1286.81	406.53	181.95	75.99	121.87	132.72	64.86	22.66	40.41
1991	1904.37	792.86	1017.15	900.88	566.02	248.16	126.92	54.21	86.93	94.67	46.27	44.99
1992	2139.39	1367.15	560.02	620.47	448.73	360.12	174.43	90.71	38.74	62.13	67.66	65.22
1993	1603.98	1536.58	971.18	360.24	347.96	296.99	254.97	124.9	64.95	27.74	44.49	95.15
1994	2111.59	1151.52	1085.56	593.62	180.24	221.71	208.81	182.25	89.28	46.43	19.83	99.81
1995	4290.97	1514.89	806.62	612.94	248.79	108.27	154.19	148.83	129.9	63.63	33.09	85.27
1996	2364.22	3059.44	982.77	223.22	52.23	87.92	68.27	107.13	103.41	90.25	44.21	82.24
1997	2701.34	1674.94	1833.52	130.17	3.67	10.67	50.1	46.2	72.5	69.98	61.08	85.58
1998	2084.76	1897	899.95	88.02	0.22	0.35	5.29	32.7	30.15	47.32	45.67	95.72
1999	4921.81	1449.54	901.09	13.74	0.01	0.01	0.15	3.31	20.49	18.89	29.65	88.58
2000	2202.23	3506.19	930.35	225.7	0.94	0	0.01	0.1	2.29	14.18	13.08	81.85
2001	1610.53	1571.43	2297.23	282.26	23.62	0.35	0	0	0.07	1.6	9.89	66.18
2002	1232.05	1131.94	853.19	121.51	0.6	2.44	0.18	0	0	0.05	1.05	49.81
2003	326.8	882.8	729.71	339.32	44.66	0.29	1.64	0.13	0	0	0.03	36
2004	2093.12	234.1	564.76	278.38	118.99	21.08	0.19	1.16	0.09	0	0	25.48
2005	1748.61	1499.34	149.45	213	96.36	55.72	14.11	0.14	0.82	0.06	0	18.01
2006	885.85	1254.56	1008.43	74.83	101.63	54.47	38.49	10.05	0.1	0.58	0.04	12.83
2007	158.1	633.56	761.08	288.36	18.93	39.59	35.36	27.01	7.05	0.07	0.41	9.03
2008	257.17	113.05	382.18	211.03	70.44	7.22	25.62	24.8	18.94	4.94	0.05	6.62
2009	2775.09	183.91	68.34	107.22	52.24	27.1	4.68	17.97	17.39	13.28	3.47	4.68
2010	1062.39	1984.22	110.6	18.64	25.71	19.72	17.5	3.28	12.6	12.19	9.31	5.71
2011	530.92	762.82	1368.91	63.57	10.4	15.93	13.83	12.51	2.34	9	8.71	10.74
2012	397.92	379.44	452.24	345.48	13.96	3.73	10.2	9.68	8.75	1.64	6.3	13.61
2013	348.6	284.93	239.43	160.12	111.33	6.27	2.48	7.2	6.83	6.17	1.16	14.05
2014	560	250.05	190.37	115.62	73.34	61.44	4.31	1.76	5.12	4.86	4.39	10.82
2015	506.93	401.46	163.83	82.67	46.95	37.71	41.77	3.06	1.25	3.63	3.45	10.79
2016	1947.41	364.09	279.57	99.07	48.86	30.09	26.6	29.9	2.19	0.9	2.6	10.19
2017	4008.36	1399.36	257.67	184.54	64.66	33.19	21.43	19.08	21.44	1.57	0.64	9.17
2018	3646.11	2881.14	999.68	178.98	127.6	45.44	23.77	15.39	13.71	15.4	1.13	7.05
2019	1068.62	2619.66	2029.98	644.18	113.67	85.3	32.27	17.04	11.03	9.82	11.04	5.86
2020	586.02	767.7	1839.38	1283.74	400.48	75.04	60.46	23.12	12.21	7.91	7.04	12.11
2021	800.81	421.08	542.5	1204.44	830.23	270.59	53.39	43.36	16.58	8.76	5.67	13.74
2022	1169.61	575.42	297.59	355.4	779.35	561.12	192.54	38.29	31.1	11.89	6.28	13.92

Table A10.31. Estimated total fishing mortality at age (Model h1_1.02; single-stock hypothesis).

Year	Age group (years)											
	1	2	3	4	5	6	7	8	9	10	11	12
1970	0	0.002	0.004	0.01	0.022	0.029	0.017	0.009	0.005	0.005	0.005	0.005
1971	0.001	0.003	0.007	0.016	0.034	0.044	0.027	0.013	0.008	0.008	0.008	0.008
1972	0.001	0.003	0.007	0.014	0.021	0.024	0.015	0.009	0.006	0.006	0.006	0.006
1973	0.001	0.005	0.013	0.026	0.033	0.036	0.022	0.013	0.009	0.009	0.009	0.009
1974	0.002	0.008	0.025	0.056	0.068	0.074	0.045	0.025	0.018	0.017	0.017	0.017
1975	0.002	0.009	0.023	0.048	0.082	0.098	0.06	0.032	0.021	0.02	0.02	0.02
1976	0.003	0.014	0.035	0.074	0.119	0.14	0.085	0.046	0.03	0.03	0.03	0.03
1977	0.011	0.034	0.113	0.247	0.211	0.184	0.113	0.073	0.057	0.056	0.056	0.056
1978	0.011	0.042	0.123	0.262	0.305	0.319	0.2	0.122	0.093	0.091	0.091	0.091
1979	0.013	0.045	0.124	0.255	0.311	0.34	0.251	0.205	0.197	0.195	0.195	0.195
1980	0.013	0.048	0.129	0.257	0.285	0.298	0.233	0.208	0.209	0.207	0.207	0.207
1981	0.017	0.079	0.207	0.361	0.429	0.457	0.363	0.326	0.328	0.323	0.323	0.323
1982	0.024	0.104	0.236	0.434	0.687	0.837	0.688	0.632	0.646	0.639	0.639	0.639
1983	0.024	0.081	0.176	0.303	0.419	0.534	0.607	0.732	0.828	0.823	0.823	0.823
1984	0.039	0.139	0.197	0.37	0.68	0.937	0.98	1.059	1.128	1.122	1.122	1.122
1985	0.03	0.104	0.178	0.318	0.546	0.723	0.763	0.809	0.836	0.831	0.831	0.831
1986	0.022	0.059	0.128	0.216	0.385	0.557	0.586	0.634	0.666	0.666	0.666	0.666
1987	0.029	0.1	0.124	0.197	0.382	0.585	0.61	0.632	0.663	0.681	0.681	0.681
1988	0.035	0.096	0.148	0.183	0.26	0.392	0.518	0.626	0.718	0.778	0.778	0.778
1989	0.025	0.071	0.162	0.211	0.227	0.295	0.423	0.587	0.75	0.86	0.86	0.86
1990	0.021	0.047	0.1	0.185	0.25	0.325	0.43	0.538	0.703	0.832	0.832	0.832
1991	0.022	0.055	0.091	0.155	0.252	0.383	0.541	0.708	0.845	0.915	0.915	0.915
1992	0.021	0.062	0.106	0.153	0.2	0.352	0.615	1.033	1.248	1.097	1.097	1.097
1993	0.035	0.112	0.152	0.198	0.243	0.302	0.503	0.942	1.27	1.205	1.205	1.205
1994	0.034	0.107	0.198	0.275	0.353	0.458	0.762	1.137	1.363	1.38	1.38	1.38
1995	0.048	0.246	0.438	0.561	0.638	0.667	0.951	1.315	1.641	1.804	1.804	1.804
1996	0.083	0.354	0.63	0.716	0.709	0.761	0.956	1.216	1.476	1.63	1.63	1.63
1997	0.08	0.533	0.908	0.791	0.656	0.711	0.941	1.201	1.45	1.585	1.585	1.585
1998	0.058	0.431	0.589	0.458	0.367	0.4	0.529	0.688	0.847	0.954	0.954	0.954
1999	0.054	0.269	0.319	0.258	0.208	0.216	0.284	0.385	0.501	0.589	0.589	0.589
2000	0.046	0.205	0.307	0.217	0.157	0.152	0.188	0.249	0.31	0.354	0.354	0.354
2001	0.078	0.27	0.496	0.328	0.227	0.214	0.255	0.321	0.38	0.41	0.41	0.41
2002	0.043	0.165	0.243	0.258	0.224	0.222	0.272	0.345	0.401	0.421	0.421	0.421
2003	0.053	0.175	0.232	0.263	0.225	0.215	0.257	0.33	0.384	0.403	0.403	0.403
2004	0.052	0.177	0.246	0.294	0.263	0.25	0.289	0.346	0.391	0.408	0.408	0.408
2005	0.069	0.155	0.222	0.321	0.313	0.283	0.309	0.355	0.381	0.384	0.384	0.384
2006	0.072	0.201	0.273	0.352	0.433	0.403	0.434	0.465	0.45	0.408	0.408	0.408
2007	0.125	0.283	0.375	0.412	0.488	0.559	0.6	0.649	0.583	0.501	0.501	0.501
2008	0.181	0.364	0.407	0.498	0.544	0.557	0.553	0.571	0.531	0.458	0.458	0.458
2009	0.103	0.331	0.416	0.69	0.818	0.823	0.777	0.718	0.604	0.523	0.523	0.523
2010	0.121	0.296	0.316	0.425	0.521	0.5	0.577	0.478	0.349	0.297	0.297	0.297
2011	0.054	0.092	0.33	0.321	0.367	0.329	0.351	0.247	0.19	0.161	0.161	0.161
2012	0.02	0.052	0.178	0.238	0.291	0.228	0.182	0.146	0.128	0.12	0.12	0.12
2013	0.021	0.058	0.125	0.19	0.15	0.133	0.135	0.133	0.133	0.133	0.133	0.133
2014	0.02	0.051	0.113	0.147	0.139	0.125	0.128	0.15	0.167	0.174	0.174	0.174
2015	0.016	0.066	0.086	0.098	0.121	0.129	0.133	0.169	0.218	0.24	0.24	0.24
2016	0.007	0.035	0.07	0.106	0.129	0.131	0.13	0.148	0.184	0.207	0.207	0.207
2017	0.009	0.027	0.048	0.076	0.126	0.152	0.159	0.17	0.186	0.194	0.194	0.194
2018	0.006	0.016	0.046	0.073	0.111	0.144	0.169	0.182	0.186	0.188	0.188	0.188
2019	0.004	0.011	0.036	0.058	0.103	0.134	0.174	0.189	0.175	0.163	0.163	0.163
2020	0.003	0.009	0.019	0.04	0.068	0.125	0.165	0.188	0.164	0.142	0.142	0.142
2021	0.006	0.013	0.023	0.034	0.055	0.089	0.143	0.174	0.183	0.168	0.168	0.168
2022	0.008	0.018	0.023	0.042	0.063	0.084	0.125	0.166	0.184	0.179	0.179	0.179

Table A10.32. Estimated total fishing mortality at age (Model *h2_1.02*; two-stock hypothesis; southern stock).

Year	Age group (years)											
	1	2	3	4	5	6	7	8	9	10	11	12
1970	0.000361	0.00206	0.00515	0.0115	0.0241	0.0283	0.0161	0.0082	0.00524	0.0052	0.0052	0.0052
1971	0.000552	0.00315	0.00788	0.0176	0.0366	0.043	0.0245	0.0124	0.00791	0.00785	0.00785	0.00785
1972	0.000455	0.00279	0.00649	0.0121	0.0206	0.0226	0.0133	0.0075	0.0054	0.00531	0.00531	0.00531
1973	0.000728	0.00463	0.0106	0.0189	0.0301	0.0322	0.0187	0.0102	0.00699	0.00682	0.00682	0.00682
1974	0.000942	0.00558	0.0136	0.0283	0.0549	0.0632	0.0361	0.0186	0.012	0.0119	0.0119	0.0119
1975	0.00155	0.00947	0.0225	0.0441	0.08	0.0899	0.0516	0.027	0.0177	0.0174	0.0174	0.0174
1976	0.00238	0.0148	0.0346	0.0657	0.114	0.127	0.073	0.0385	0.0256	0.0251	0.0251	0.0251
1977	0.00285	0.0181	0.0415	0.0744	0.119	0.128	0.0744	0.0404	0.0276	0.0269	0.0269	0.0269
1978	0.005	0.0305	0.0707	0.131	0.221	0.243	0.144	0.0834	0.0621	0.0611	0.0611	0.0611
1979	0.00676	0.0359	0.0806	0.142	0.224	0.25	0.181	0.156	0.161	0.16	0.16	0.16
1980	0.00693	0.0369	0.0811	0.135	0.193	0.21	0.163	0.155	0.168	0.166	0.166	0.166
1981	0.0128	0.0714	0.155	0.246	0.321	0.332	0.26	0.248	0.268	0.265	0.265	0.265
1982	0.0207	0.103	0.227	0.382	0.568	0.633	0.51	0.503	0.553	0.549	0.549	0.549
1983	0.0204	0.0801	0.165	0.258	0.341	0.407	0.476	0.638	0.778	0.775	0.775	0.775
1984	0.0346	0.133	0.179	0.327	0.606	0.789	0.848	1.03	1.2	1.19	1.19	1.19
1985	0.0294	0.0988	0.171	0.308	0.529	0.665	0.727	0.869	0.974	0.972	0.972	0.972
1986	0.0226	0.0593	0.121	0.208	0.393	0.55	0.596	0.722	0.815	0.817	0.817	0.817
1987	0.0306	0.101	0.119	0.187	0.376	0.584	0.616	0.682	0.752	0.768	0.768	0.768
1988	0.0374	0.0965	0.135	0.16	0.237	0.378	0.517	0.645	0.754	0.806	0.806	0.806
1989	0.0262	0.0714	0.156	0.188	0.206	0.282	0.418	0.595	0.763	0.857	0.857	0.857
1990	0.0211	0.0459	0.0927	0.157	0.227	0.311	0.419	0.537	0.706	0.814	0.814	0.814
1991	0.0221	0.0544	0.0848	0.136	0.233	0.363	0.523	0.686	0.816	0.866	0.866	0.866
1992	0.0223	0.0633	0.102	0.143	0.193	0.334	0.58	0.98	1.17	1.01	1.01	1.01
1993	0.0368	0.114	0.14	0.183	0.236	0.296	0.479	0.878	1.17	1.09	1.09	1.09
1994	0.0367	0.11	0.184	0.25	0.337	0.458	0.76	1.09	1.27	1.26	1.26	1.26
1995	0.0535	0.258	0.375	0.479	0.589	0.633	0.92	1.26	1.54	1.67	1.67	1.67
1996	0.0944	0.401	0.544	0.588	0.613	0.679	0.869	1.12	1.38	1.53	1.53	1.53
1997	0.0866	0.547	0.656	0.557	0.498	0.565	0.776	1.03	1.29	1.46	1.46	1.46
1998	0.0594	0.417	0.36	0.296	0.254	0.289	0.397	0.543	0.717	0.857	0.857	0.857
1999	0.0606	0.275	0.241	0.196	0.159	0.164	0.218	0.308	0.433	0.551	0.551	0.551
2000	0.0487	0.215	0.227	0.17	0.125	0.121	0.153	0.211	0.281	0.343	0.343	0.343
2001	0.0756	0.234	0.273	0.222	0.167	0.163	0.201	0.266	0.335	0.382	0.382	0.382
2002	0.0422	0.158	0.203	0.221	0.192	0.192	0.237	0.311	0.378	0.416	0.416	0.416
2003	0.051	0.159	0.193	0.22	0.192	0.185	0.225	0.297	0.362	0.397	0.397	0.397
2004	0.0563	0.164	0.208	0.25	0.23	0.223	0.263	0.325	0.382	0.414	0.414	0.414
2005	0.0823	0.168	0.205	0.285	0.281	0.258	0.289	0.342	0.383	0.401	0.401	0.401
2006	0.0788	0.2	0.201	0.288	0.369	0.356	0.401	0.446	0.451	0.424	0.424	0.424
2007	0.129	0.294	0.29	0.329	0.425	0.491	0.542	0.61	0.573	0.511	0.511	0.511
2008	0.194	0.347	0.322	0.419	0.495	0.505	0.496	0.52	0.505	0.455	0.455	0.455
2009	0.135	0.346	0.378	0.618	0.773	0.777	0.711	0.638	0.553	0.502	0.502	0.502
2010	0.167	0.442	0.363	0.429	0.51	0.499	0.577	0.458	0.337	0.298	0.298	0.298
2011	0.061	0.0782	0.113	0.23	0.316	0.313	0.349	0.231	0.164	0.138	0.138	0.138
2012	0.0192	0.0446	0.1	0.188	0.283	0.222	0.18	0.139	0.114	0.104	0.104	0.104
2013	0.0201	0.0551	0.106	0.179	0.18	0.149	0.142	0.131	0.121	0.114	0.114	0.114
2014	0.0192	0.0436	0.0743	0.115	0.158	0.159	0.147	0.154	0.155	0.148	0.148	0.148
2015	0.016	0.0587	0.0676	0.0873	0.127	0.157	0.168	0.189	0.211	0.208	0.208	0.208
2016	0.00829	0.0334	0.0591	0.0941	0.124	0.142	0.155	0.174	0.186	0.186	0.186	0.186
2017	0.0124	0.0308	0.0458	0.0702	0.119	0.152	0.174	0.194	0.202	0.19	0.19	0.19
2018	0.0076	0.0171	0.0398	0.0659	0.101	0.134	0.167	0.194	0.203	0.194	0.194	0.194
2019	0.00436	0.0102	0.0241	0.0505	0.0953	0.12	0.158	0.182	0.179	0.17	0.17	0.17
2020	0.00315	0.00811	0.0146	0.0319	0.072	0.119	0.146	0.167	0.154	0.142	0.142	0.142
2021	0.00567	0.0132	0.0224	0.0301	0.0628	0.102	0.134	0.153	0.169	0.168	0.168	0.168
2022	0.00781	0.0177	0.0218	0.0356	0.0649	0.0997	0.128	0.15	0.168	0.174	0.174	0.174

Table A10.33. Estimated total fishing mortality at age (Model *h2_1.02*; two-stock hypothesis; far north stock).

Age group (years)												
Year	1	2	3	4	5	6	7	8	9	10	11	12
1970	2.2e-05	0.000273	0.00254	0.00567	0.00189	0.000349	9.07e-05	9.07e-05	9.07e-05	9.07e-05	9.07e-05	9.07e-05
1971	4.32e-05	0.000536	0.00498	0.0111	0.00371	0.000685	0.000178	0.000178	0.000178	0.000178	0.000178	0.000178
1972	0.000103	0.00128	0.0119	0.0266	0.00887	0.00164	0.000426	0.000426	0.000426	0.000426	0.000426	0.000426
1973	0.000225	0.00279	0.026	0.058	0.0193	0.00357	0.000928	0.000928	0.000928	0.000928	0.000928	0.000928
1974	0.000729	0.00905	0.0841	0.188	0.0626	0.0116	0.00301	0.00301	0.00301	0.00301	0.00301	0.00301
1975	0.000227	0.00282	0.0262	0.0585	0.0195	0.0036	0.000936	0.000936	0.000936	0.000936	0.000936	0.000936
1976	0.000302	0.00375	0.0349	0.0779	0.0259	0.00479	0.00125	0.00125	0.00125	0.00125	0.00125	0.00125
1977	0.00416	0.0516	0.48	1.07	0.357	0.0659	0.0171	0.0171	0.0171	0.0171	0.0171	0.0171
1978	0.0048	0.0595	0.553	1.24	0.411	0.076	0.0198	0.0198	0.0198	0.0198	0.0198	0.0198
1979	0.00397	0.0493	0.458	1.02	0.341	0.0629	0.0164	0.0164	0.0164	0.0164	0.0164	0.0164
1980	0.00491	0.0609	0.566	1.26	0.421	0.0778	0.0202	0.0202	0.0202	0.0202	0.0202	0.0202
1981	0.00784	0.0972	0.904	2.02	0.672	0.124	0.0323	0.0323	0.0323	0.0323	0.0323	0.0323
1982	0.00276	0.0342	0.318	0.711	0.237	0.0437	0.0114	0.0114	0.0114	0.0114	0.0114	0.0114
1983	0.0015	0.0186	0.172	0.385	0.128	0.0237	0.00616	0.00616	0.00616	0.00616	0.00616	0.00616
1984	0.00149	0.0185	0.172	0.385	0.128	0.0237	0.00616	0.00616	0.00616	0.00616	0.00616	0.00616
1985	0.000775	0.00961	0.0893	0.2	0.0664	0.0123	0.00319	0.00319	0.00319	0.00319	0.00319	0.00319
1986	0.000454	0.00564	0.0524	0.117	0.039	0.0072	0.00187	0.00187	0.00187	0.00187	0.00187	0.00187
1987	0.000536	0.00664	0.0618	0.138	0.0459	0.00848	0.00221	0.00221	0.00221	0.00221	0.00221	0.00221
1988	0.00193	0.024	0.223	0.498	0.166	0.0306	0.00797	0.00797	0.00797	0.00797	0.00797	0.00797
1989	0.00175	0.0217	0.202	0.451	0.15	0.0277	0.00721	0.00721	0.00721	0.00721	0.00721	0.00721
1990	0.00191	0.0237	0.22	0.491	0.164	0.0302	0.00786	0.00786	0.00786	0.00786	0.00786	0.00786
1991	0.00142	0.0177	0.164	0.367	0.122	0.0226	0.00587	0.00587	0.00587	0.00587	0.00587	0.00587
1992	0.000964	0.012	0.111	0.248	0.0827	0.0153	0.00397	0.00397	0.00397	0.00397	0.00397	0.00397
1993	0.00141	0.0175	0.162	0.362	0.121	0.0223	0.0058	0.0058	0.0058	0.0058	0.0058	0.0058
1994	0.0021	0.026	0.242	0.54	0.18	0.0332	0.00863	0.00863	0.00863	0.00863	0.00863	0.00863
1995	0.00828	0.103	0.955	2.13	0.71	0.131	0.0341	0.0341	0.0341	0.0341	0.0341	0.0341
1996	0.0147	0.182	1.69	3.78	1.26	0.232	0.0604	0.0604	0.0604	0.0604	0.0604	0.0604
1997	0.0235	0.291	2.71	6.05	2.01	0.372	0.0967	0.0967	0.0967	0.0967	0.0967	0.0967
1998	0.0334	0.414	3.85	8.6	2.87	0.529	0.138	0.138	0.138	0.138	0.138	0.138
1999	0.00915	0.113	1.05	2.36	0.784	0.145	0.0377	0.0377	0.0377	0.0377	0.0377	0.0377
2000	0.00748	0.0928	0.863	1.93	0.642	0.119	0.0308	0.0308	0.0308	0.0308	0.0308	0.0308
2001	0.0226	0.281	2.61	5.83	1.94	0.358	0.0932	0.0932	0.0932	0.0932	0.0932	0.0932
2002	0.00333	0.109	0.592	0.671	0.393	0.0655	0.0155	0.0155	0.0155	0.0155	0.0155	0.0155
2003	0.00357	0.117	0.634	0.718	0.421	0.0701	0.0166	0.0166	0.0166	0.0166	0.0166	0.0166
2004	0.00363	0.119	0.645	0.731	0.429	0.0713	0.0169	0.0169	0.0169	0.0169	0.0169	0.0169
2005	0.00204	0.0666	0.362	0.41	0.24	0.04	0.00947	0.00947	0.00947	0.00947	0.00947	0.00947
2006	0.00519	0.17	0.922	1.04	0.613	0.102	0.0241	0.0241	0.0241	0.0241	0.0241	0.0241
2007	0.00537	0.175	0.953	1.08	0.633	0.105	0.0249	0.0249	0.0249	0.0249	0.0249	0.0249
2008	0.0053	0.173	0.941	1.07	0.625	0.104	0.0246	0.0246	0.0246	0.0246	0.0246	0.0246
2009	0.00546	0.179	0.969	1.1	0.644	0.107	0.0254	0.0254	0.0254	0.0254	0.0254	0.0254
2010	0.00126	0.0412	0.224	0.254	0.149	0.0247	0.00586	0.00586	0.00586	0.00586	0.00586	0.00586
2011	0.00589	0.193	1.05	1.19	0.696	0.116	0.0274	0.0274	0.0274	0.0274	0.0274	0.0274
2012	0.00399	0.13	0.708	0.802	0.471	0.0783	0.0185	0.0185	0.0185	0.0185	0.0185	0.0185
2013	0.00224	0.0733	0.398	0.451	0.264	0.044	0.0104	0.0104	0.0104	0.0104	0.0104	0.0104
2014	0.00284	0.0928	0.504	0.571	0.335	0.0558	0.0132	0.0132	0.0132	0.0132	0.0132	0.0132
2015	0.000974	0.0319	0.173	0.196	0.115	0.0191	0.00453	0.00453	0.00453	0.00453	0.00453	0.00453
2016	0.000481	0.0157	0.0854	0.0967	0.0567	0.00944	0.00223	0.00223	0.00223	0.00223	0.00223	0.00223
2017	0.000194	0.00633	0.0344	0.039	0.0229	0.0038	9e-04	9e-04	9e-04	9e-04	9e-04	9e-04
2018	0.000616	0.0202	0.109	0.124	0.0727	0.0121	0.00287	0.00287	0.00287	0.00287	0.00287	0.00287
2019	0.000722	0.0236	0.128	0.145	0.0852	0.0142	0.00336	0.00336	0.00336	0.00336	0.00336	0.00336
2020	0.000526	0.0172	0.0934	0.106	0.0621	0.0103	0.00244	0.00244	0.00244	0.00244	0.00244	0.00244
2021	0.000523	0.0171	0.093	0.105	0.0618	0.0103	0.00243	0.00243	0.00243	0.00243	0.00243	0.00243
2022	0.00135	0.0442	0.24	0.272	0.16	0.0265	0.00628	0.00628	0.00628	0.00628	0.00628	0.00628

Table A10.34. Summary of results for Model *h1_1.02* (single-stock hypothesis). Note that MSY values are a function of time-varying selectivity and average weight.

Year	Landings ('000 t)	SSB ('000 t)	Recruitment (age 1, millions)	Fishing Mortality (mean over ages 1-12)	F _{MSY}	SSB _{MSY} ('000 t)
1970	118	14378	5772	0.01	0.2	7095
1971	169	13372	5378	0.01	0.2	7065
1972	111	12456	4959	0.01	0.18	7063
1973	165	11541	4433	0.02	0.18	6978
1974	324	10560	4500	0.03	0.18	6952
1975	300	9742	5846	0.04	0.19	7023
1976	397	9136	7301	0.05	0.19	6970
1977	848	8711	10829	0.1	0.16	7162
1978	1025	8562	13584	0.15	0.17	7086
1979	1302	8470	14113	0.19	0.2	7288
1980	1316	8560	14697	0.19	0.2	7327
1981	1945	8423	17152	0.29	0.2	7364
1982	2372	8033	19828	0.52	0.23	7669
1983	1870	9078	27564	0.51	0.27	8050
1984	2687	9507	20854	0.74	0.27	7948
1985	2371	10080	24766	0.57	0.27	7745
1986	2073	13579	55243	0.44	0.29	7755
1987	2680	18078	51807	0.45	0.27	7859
1988	3246	19862	25731	0.44	0.3	7994
1989	3582	18745	15290	0.44	0.34	7790
1990	3715	17271	17285	0.42	0.38	7615
1991	3778	16133	22672	0.48	0.44	7232
1992	3362	15260	25306	0.59	0.44	7998
1993	3371	13700	14501	0.61	0.32	8907
1994	4276	11132	15774	0.74	0.34	8248
1995	4956	8161	14854	0.99	0.25	8617
1996	4380	6003	15056	0.98	0.22	8349
1997	3598	4719	17643	1	0.2	8159
1998	2027	4814	17300	0.6	0.18	8752
1999	1424	5956	22026	0.36	0.19	8545
2000	1540	7308	20679	0.24	0.17	8081
2001	2528	7759	20571	0.32	0.16	7952
2002	1750	8442	18555	0.29	0.19	8268
2003	1797	8463	11287	0.28	0.18	8262
2004	1934	7815	10172	0.29	0.19	7781
2005	1755	7188	10989	0.3	0.19	7657
2006	2020	6049	6273	0.36	0.19	7517
2007	1997	4241	2127	0.46	0.19	7418
2008	1473	2986	5786	0.47	0.17	7524
2009	1283	2465	9198	0.57	0.19	7216
2010	727	2413	5379	0.37	0.16	7614
2011	635	2373	4433	0.23	0.16	7321
2012	455	2458	4015	0.15	0.17	7399
2013	353	2659	4332	0.12	0.17	7699
2014	411	3127	7372	0.13	0.19	7797
2015	394	3767	7735	0.15	0.24	7544
2016	389	4857	13846	0.13	0.25	7602
2017	405	6867	21923	0.13	0.25	7982
2018	526	9747	27909	0.12	0.24	8455
2019	632	12041	16711	0.11	0.28	7860
2020	707	12802	6826	0.1	0.31	8083
2021	808	13547	15997	0.1	0.36	7712
2022	929	14289	9710	0.1	0.36	7453

Table A10.35. Summary of results for Model *h2_1.02* (two-stock hypothesis; southern stock). Note that MSY values are a function of time-varying selectivity and average weight.

Year	Landings (‘000 t)	SSB (‘000 t)	Recruitment (age 1, millions)	Fishing Mortality (mean over ages 1-12)	F _{MSY}	SSB _{MSY} (‘000 t)	
1970	118	13851	5888		0.01	0.19	6215
1971	169	12985	5480		0.01	0.19	6211
1972	111	12191	5065		0.01	0.18	6181
1973	165	11388	4508		0.01	0.18	6114
1974	324	10535	4410		0.02	0.19	6180
1975	300	9766	5600		0.03	0.18	6153
1976	397	9181	7051		0.05	0.18	6138
1977	848	8950	9490		0.05	0.18	6115
1978	1025	8892	12156		0.1	0.18	6202
1979	1302	8824	12788		0.14	0.21	6585
1980	1316	8973	13296		0.14	0.21	6665
1981	1945	8825	14760		0.23	0.2	6630
1982	2372	8048	16121		0.43	0.22	6797
1983	1870	8817	27246		0.46	0.27	7245
1984	2687	9441	22956		0.73	0.28	7239
1985	2371	10146	24040		0.61	0.28	6998
1986	2073	13604	55124		0.49	0.31	6966
1987	2680	17988	50004		0.48	0.28	7027
1988	3246	19603	22569		0.45	0.3	7126
1989	3582	18341	13072		0.44	0.34	6937
1990	3715	16981	17439		0.41	0.38	6769
1991	3778	15951	21837		0.46	0.44	6431
1992	3362	14980	23918		0.55	0.41	7135
1993	3371	13381	14379		0.57	0.31	7857
1994	4276	10860	14674		0.69	0.33	7283
1995	4956	7930	11531		0.93	0.25	7663
1996	4380	5790	13400		0.91	0.22	7389
1997	3598	4686	14557		0.87	0.21	7305
1998	2027	4844	15230		0.49	0.18	7912
1999	1424	5695	17217		0.31	0.18	7612
2000	1540	6880	19271		0.21	0.18	7174
2001	2528	7828	19864		0.26	0.17	7199
2002	1750	8654	18409		0.27	0.19	7346
2003	1797	8858	12033		0.26	0.19	7375
2004	1934	8140	7346		0.28	0.2	6904
2005	1755	7170	8384		0.29	0.19	6800
2006	2020	5939	5301		0.34	0.2	6775
2007	1997	4271	2436		0.43	0.19	6647
2008	1473	3130	5876		0.43	0.17	6706
2009	1283	2305	5039		0.54	0.18	6387
2010	727	1893	3832		0.39	0.15	6683
2011	635	1933	4056		0.19	0.17	6678
2012	455	2157	4184		0.13	0.17	6654
2013	353	2464	4890		0.12	0.17	6693
2014	411	3057	8193		0.12	0.2	6716
2015	394	3824	8491		0.14	0.24	6596
2016	389	4794	11306		0.13	0.25	6627
2017	405	6140	14976		0.13	0.25	7043
2018	526	8257	22888		0.13	0.25	7590
2019	632	10307	16004		0.11	0.28	7244
2020	707	11149	6818		0.1	0.29	7427
2021	808	11927	15853		0.1	0.34	6892
2022	929	12681	9467		0.1	0.33	6859

Table A10.36. Summary of results for Model *h2_1.05* (two-stock hypothesis; far north stock). Note that MSY values are a function of time-varying selectivity and average weight.

Year	Landings ('000 t)	SSB ('000 t)	Recruitment (age 1, millions)	Fishing Mortality (mean over ages 1-12)	F _{MSY}	SSB _{MSY} ('000 t)
1970	118	3030	2292	0	0.1	958
1971	169	3011	2277	0	0.1	958
1972	111	2998	2258	0	0.1	968
1973	165	2971	2233	0.01	0.1	960
1974	324	2878	2229	0.03	0.1	959
1975	300	2828	2229	0.01	0.1	962
1976	397	2794	2189	0.01	0.1	953
1977	848	2397	3174	0.18	0.1	961
1978	1025	2029	2370	0.2	0.1	963
1979	1302	1807	2042	0.17	0.1	958
1980	1316	1490	1613	0.21	0.1	957
1981	1945	1125	2522	0.33	0.1	953
1982	2372	1014	2934	0.12	0.1	955
1983	1870	1093	1674	0.06	0.1	946
1984	2687	1189	817	0.06	0.1	951
1985	2371	1231	1940	0.03	0.1	955
1986	2073	1271	3007	0.02	0.1	953
1987	2680	1428	4343	0.02	0.1	959
1988	3246	1593	3093	0.08	0.1	956
1989	3582	1781	2019	0.07	0.1	953
1990	3715	1788	1105	0.08	0.1	953
1991	3778	1732	1904	0.06	0.1	954
1992	3362	1681	2139	0.04	0.1	954
1993	3371	1675	1604	0.06	0.1	957
1994	4276	1608	2112	0.09	0.1	962
1995	4956	1231	4291	0.35	0.1	957
1996	4380	975	2364	0.63	0.1	957
1997	3598	689	2701	1	0.1	948
1998	2027	467	2085	1.43	0.1	950
1999	1424	440	4922	0.39	0.15	267
2000	1540	481	2202	0.32	0.15	270
2001	2528	270	1611	0.97	0.15	271
2002	1750	307	1232	0.16	0.14	276
2003	1797	317	327	0.17	0.14	274
2004	1934	281	2093	0.17	0.14	274
2005	1755	300	1749	0.1	0.14	276
2006	2020	340	886	0.25	0.14	276
2007	1997	301	158	0.26	0.14	275
2008	1473	226	257	0.26	0.14	276
2009	1283	164	2775	0.26	0.14	275
2010	727	230	1062	0.06	0.14	273
2011	635	285	531	0.28	0.14	283
2012	455	241	398	0.19	0.14	281
2013	353	226	349	0.11	0.14	281
2014	411	209	560	0.14	0.14	281
2015	394	224	507	0.05	0.14	280
2016	389	269	1947	0.02	0.14	280
2017	405	365	4008	0.01	0.14	280
2018	526	632	3646	0.03	0.14	280
2019	632	1060	1069	0.03	0.14	280
2020	707	1419	586	0.03	0.14	280
2021	808	1529	801	0.03	0.14	280
2022	929	1462	1170	0.07	0.14	280

Table A10.37. Summary results for the short, medium, and long-term predictions for Model *h1_1.02.ls* (single-stock hypothesis, low steepness, short timeseries). Note that “B” in all cases represents thousands of tonnes of spawning stock biomass, “P” represents probability as a percentage and B_{MSY} is taken to be the average B_{MSY} estimated over the last ten years.

F	B ₂₀₂₄	P(B ₂₀₂₄ >B _{MSY})	B ₂₀₂₈	P(B ₂₀₂₈ >B _{MSY})	B ₂₀₃₂	P(B ₂₀₃₂ >B _{MSY})	Catch 2023 (kt)	Catch 2024 (kt)
0	16447	100	17978	100	17868	100	0	0
0.75 × F ₂₀₂₁	14813	100	13485	100	12541	97	764	844
F ₂₀₂₁	14323	100	12409	99	11404	96	1006	1083
1.25 × F ₂₀₂₁	13856	100	11484	98	10462	93	1243	1305
F _{MSY}	10568	100	6908	68	6112	53	3120	2659

Table A10.38. Summary results for the short, medium, and long-term predictions for Model *h2_1.02.ls* (two-stock hypothesis). Note that “B” in all cases represents thousands of tonnes of spawning stock biomass, “P” represents probability as a percentage, and B_{MSY} is estimated dynamically within the model.

Southern Stock:

F	B ₂₀₂₄	P(B ₂₀₂₄ >B _{MSY})	B ₂₀₂₈	P(B ₂₀₂₈ >B _{MSY})	B ₂₀₃₂	P(B ₂₀₃₂ >B _{MSY})	Catch 2023 (kt)	Catch 2024 (kt)
0	14976	100	16498	100	16371	100	0	0
0.75 × F ₂₀₂₁	13556	100	12531	99	11594	98	645	705
F ₂₀₂₁	13128	100	11563	99	10558	96	849	905
1.25 × F ₂₀₂₁	12721	100	10724	98	9696	93	1048	1091
F _{MSY}	9994	100	6680	74	5865	58	2528	2175

Far North Stock:

F	B ₂₀₂₄	P(B ₂₀₂₄ >B _{MSY})	B ₂₀₂₈	P(B ₂₀₂₈ >B _{MSY})	B ₂₀₃₂	P(B ₂₀₃₂ >B _{MSY})	Catch 2023 (kt)	Catch 2024 (kt)
0	1460	100	1374	100	1290	99	0	0
0.75 × F ₂₀₂₁	1352	99	1031	95	840	82	72	72
F ₂₀₂₁	1321	99	947	92	734	67	94	91
1.25 × F ₂₀₂₁	1292	99	874	86	644	49	116	108
F _{MSY}	1202	99	682	59	417	1	187	154

9. Figures

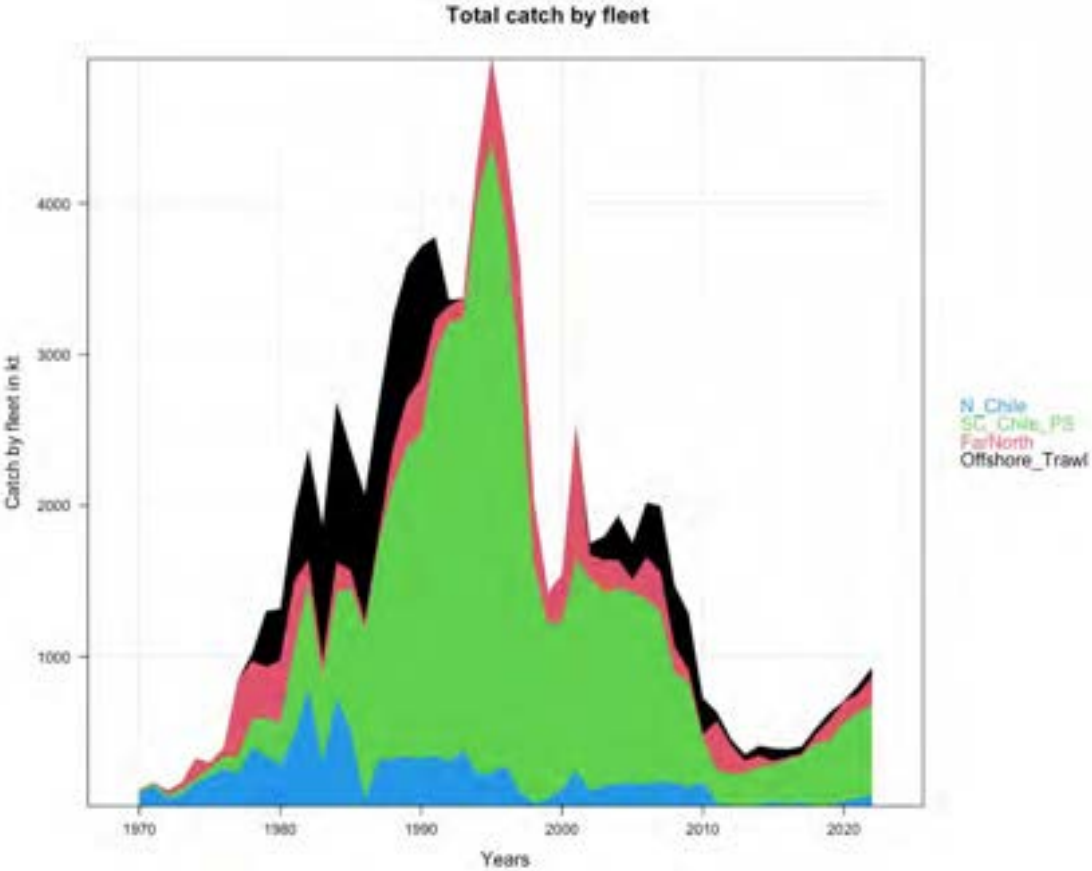


Figure A10.1: Catch of jack mackerel by fleet. Blue is the northern Chilean fleet, green is the south-central Chilean fleet, red is the far north fleet, and black is the offshore trawl fleet.

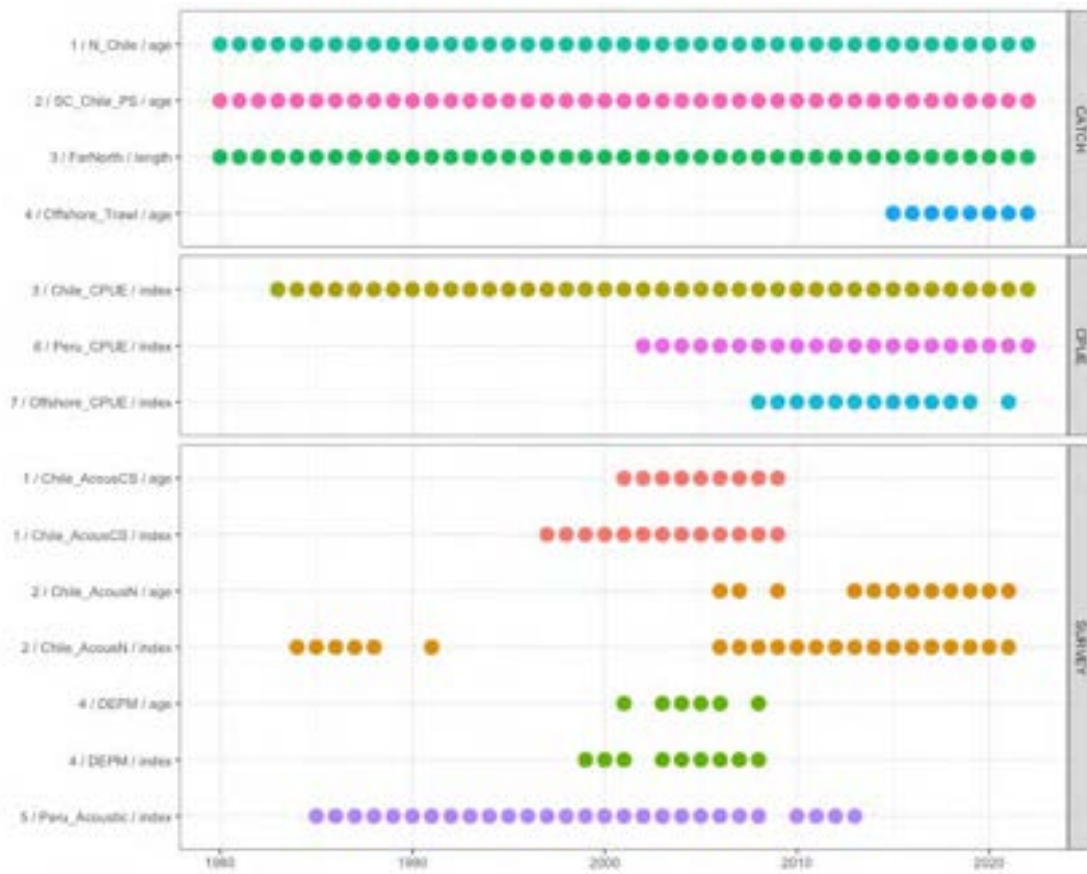


Figure A10.2: Years and types of information used in the jack mackerel assessment models.

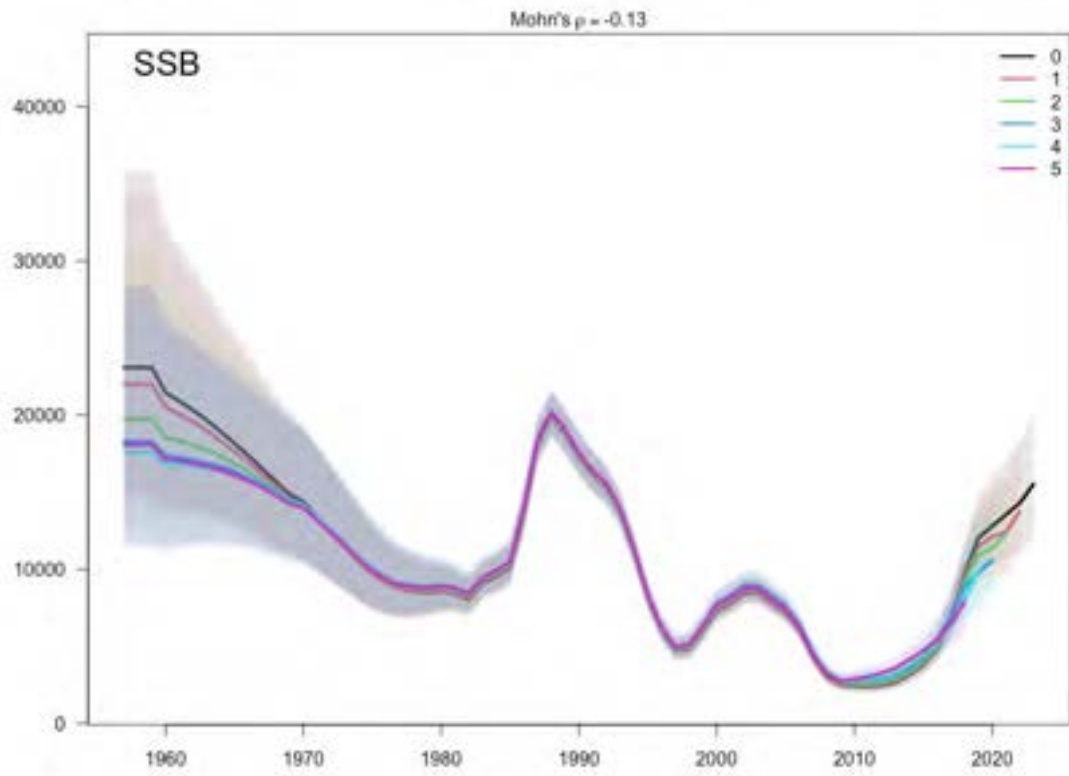


Figure A10.3: Model retrospective of spawning biomass from 5 separate model runs, based on Model h1_1.02 (single-stock hypothesis).

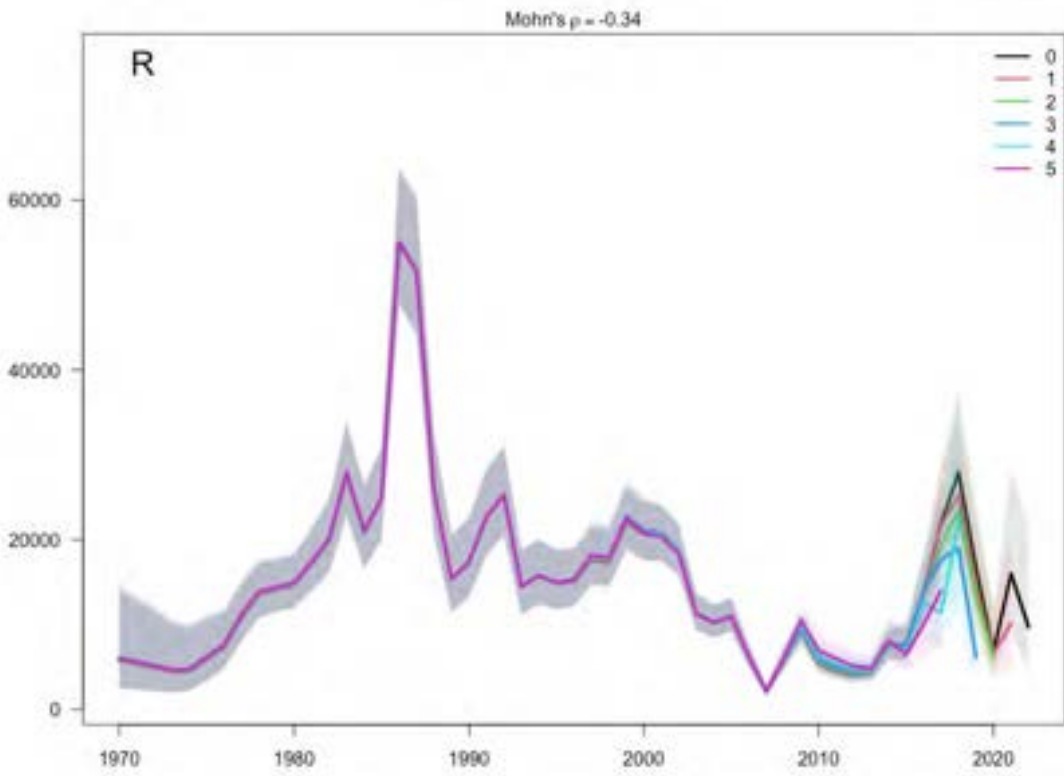


Figure A10.4: Model retrospective of recruitment from 5 separate model runs, based on Model h1_1.02 (single-stock hypothesis).

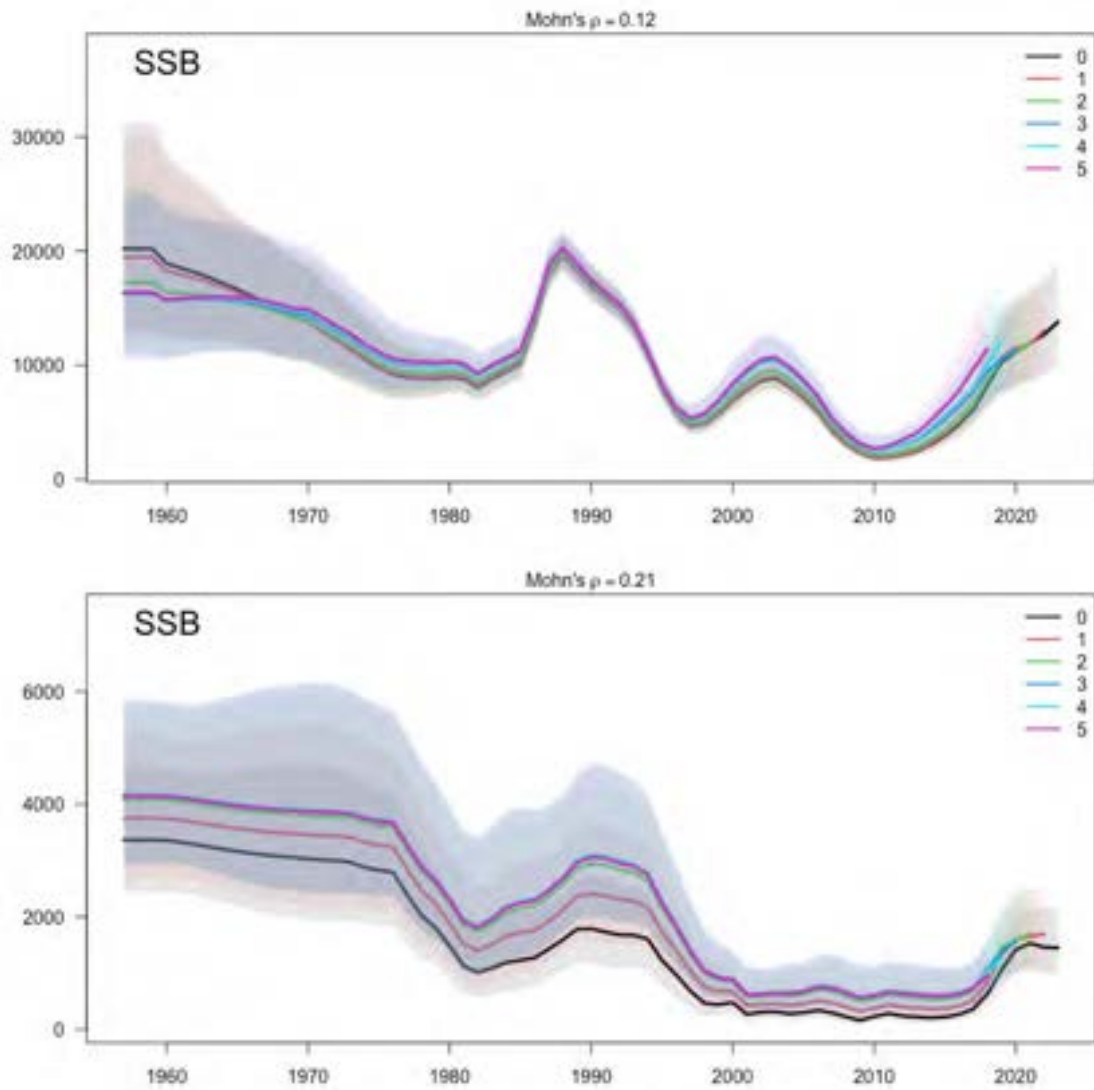


Figure A10.5: Model retrospective of spawning biomass from 5 separate model runs for the southern stock (top) and far north stock (bottom), based on Model h2_1.02 (two-stock hypothesis).

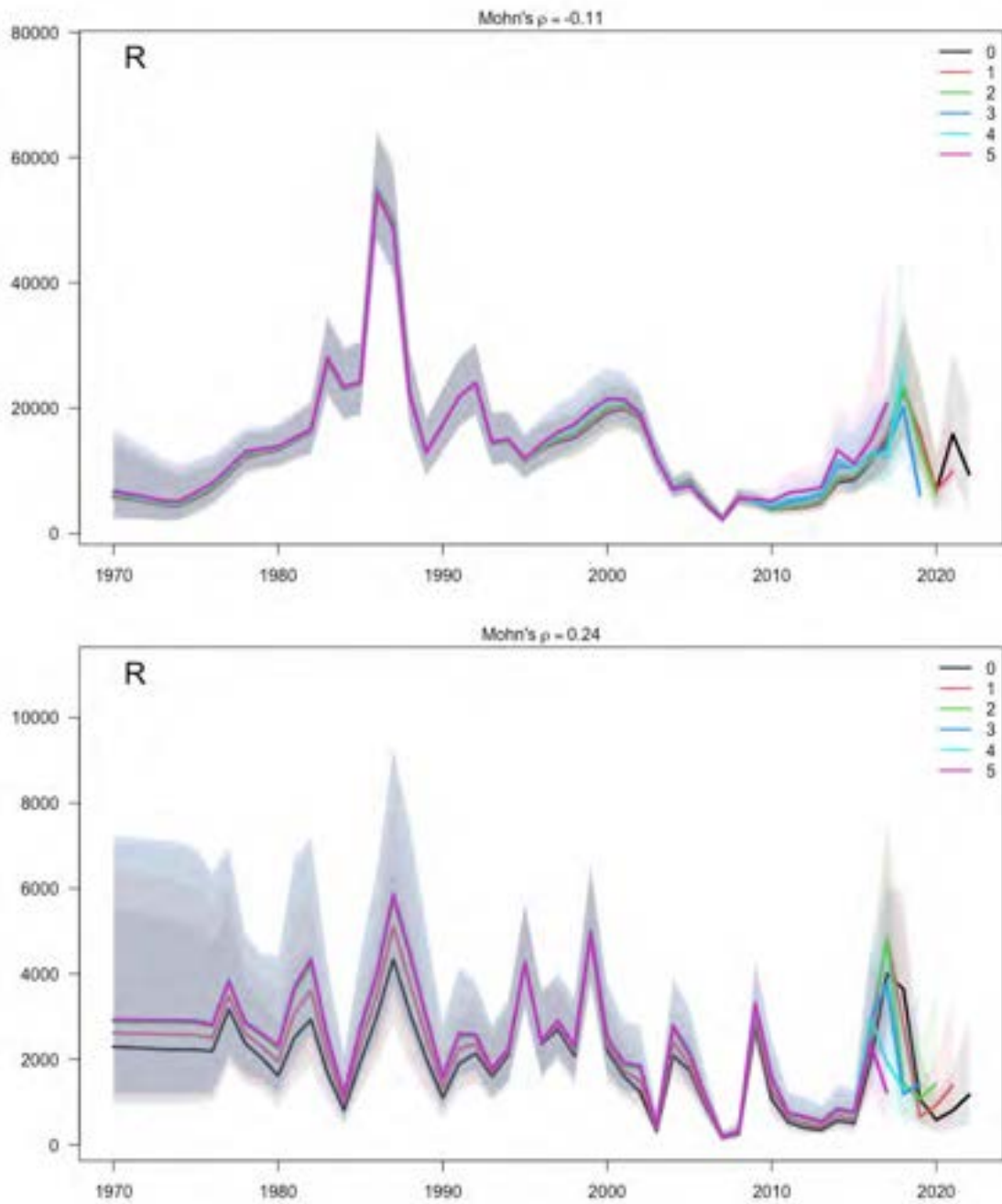


Figure A10.6: Model retrospective of southern stock recruitment from 5 separate model runs for the southern stock (top) and far north stock (bottom), based on Model h2_1.02 (two-stock hypothesis).

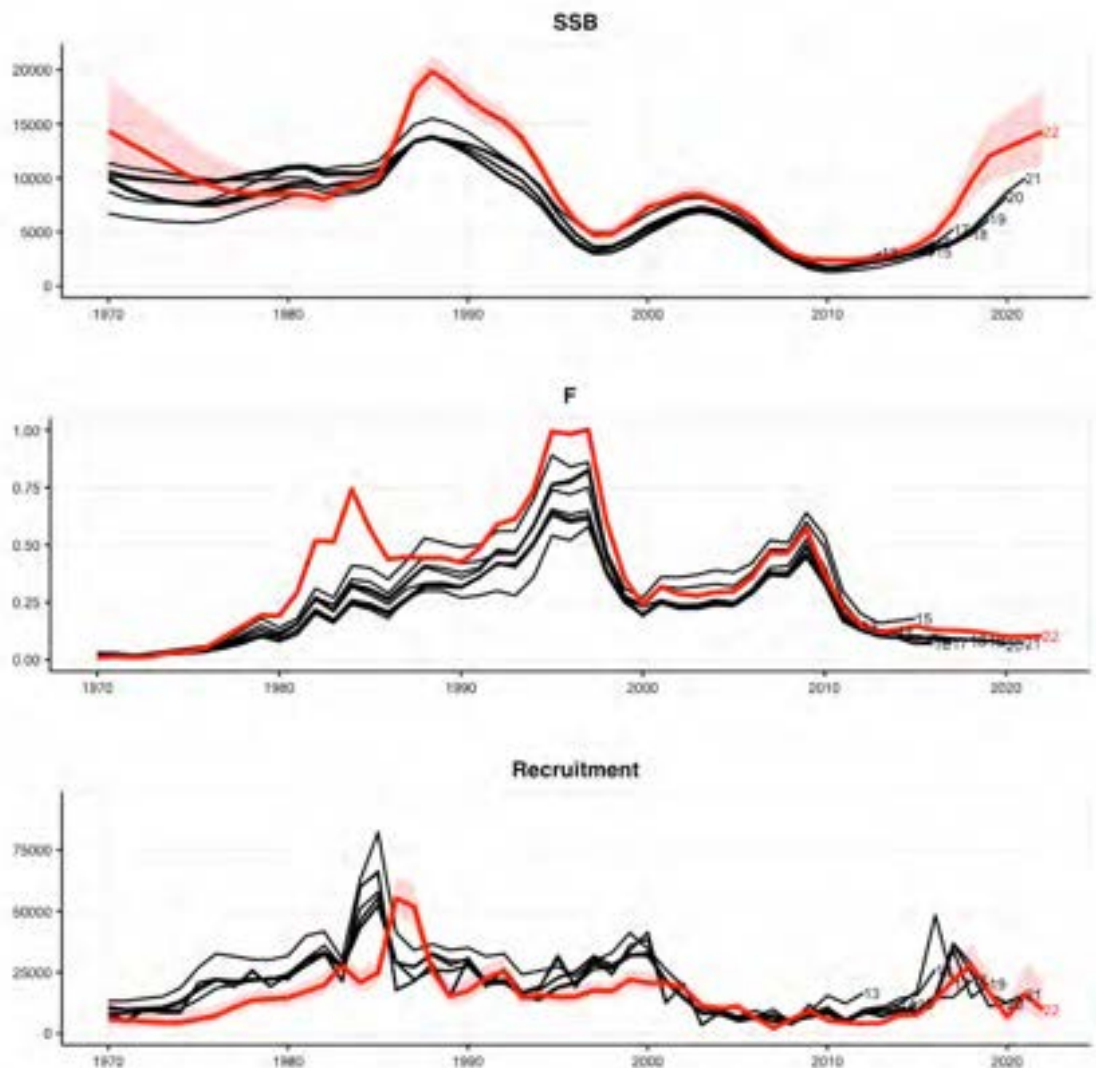


Figure A10.7: Historical retrospective of spawning stock biomass, fishing mortality, and recruitment estimated from Model h1_1.02 (single-stock hypothesis), as estimated and used for advice from SPFRMO Scientific Committees 2013-2022

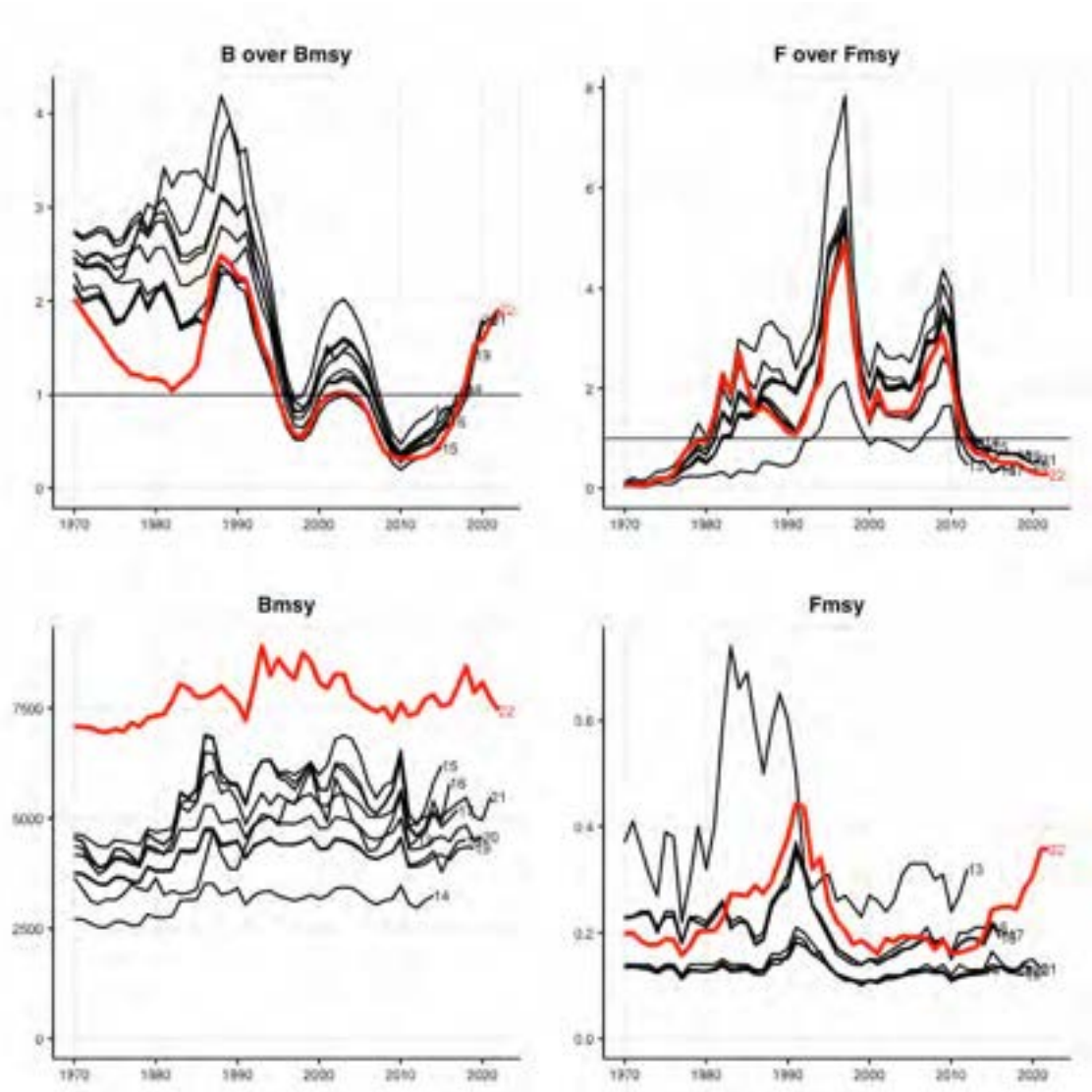


Figure A10.8: Historical retrospective of management reference points estimated from Model h1_1.02 (single-stock hypothesis), as estimated and used for advice from past (and present) SPRFMO scientific committees.

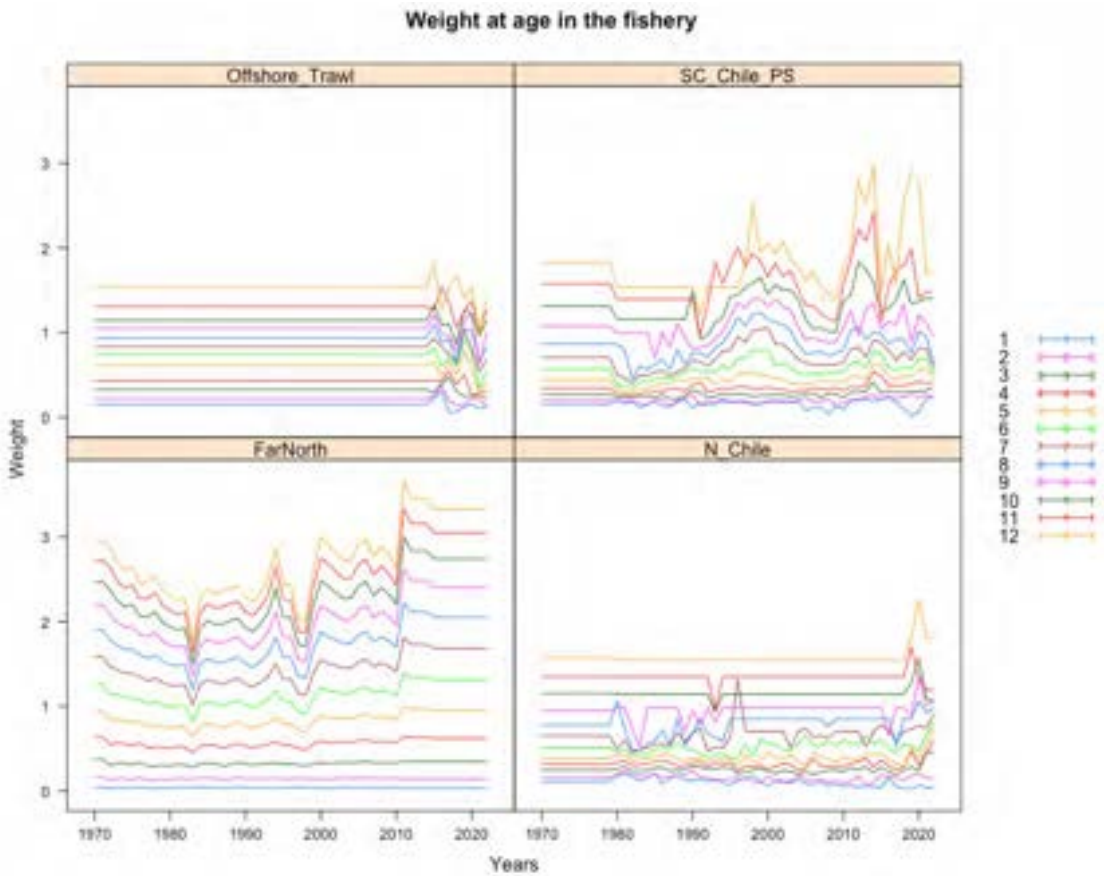


Figure A10.9: Mean weights-at-age (kg) over time used for the fisheries in the JJM models. Each line represents an age from 1 to 12.

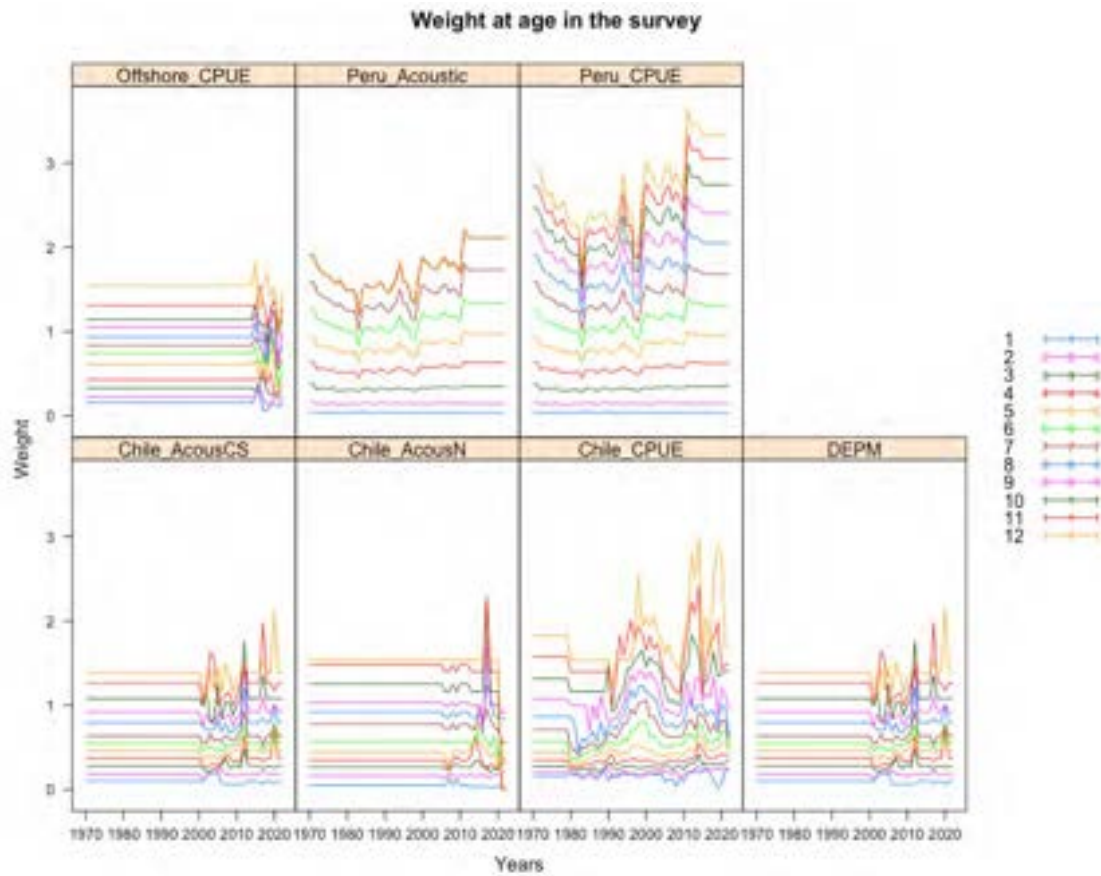


Figure A10.10: Mean weights-at-age (kg) over time used for the surveys in the JIM models. Each line represents an age from 1 to 12.

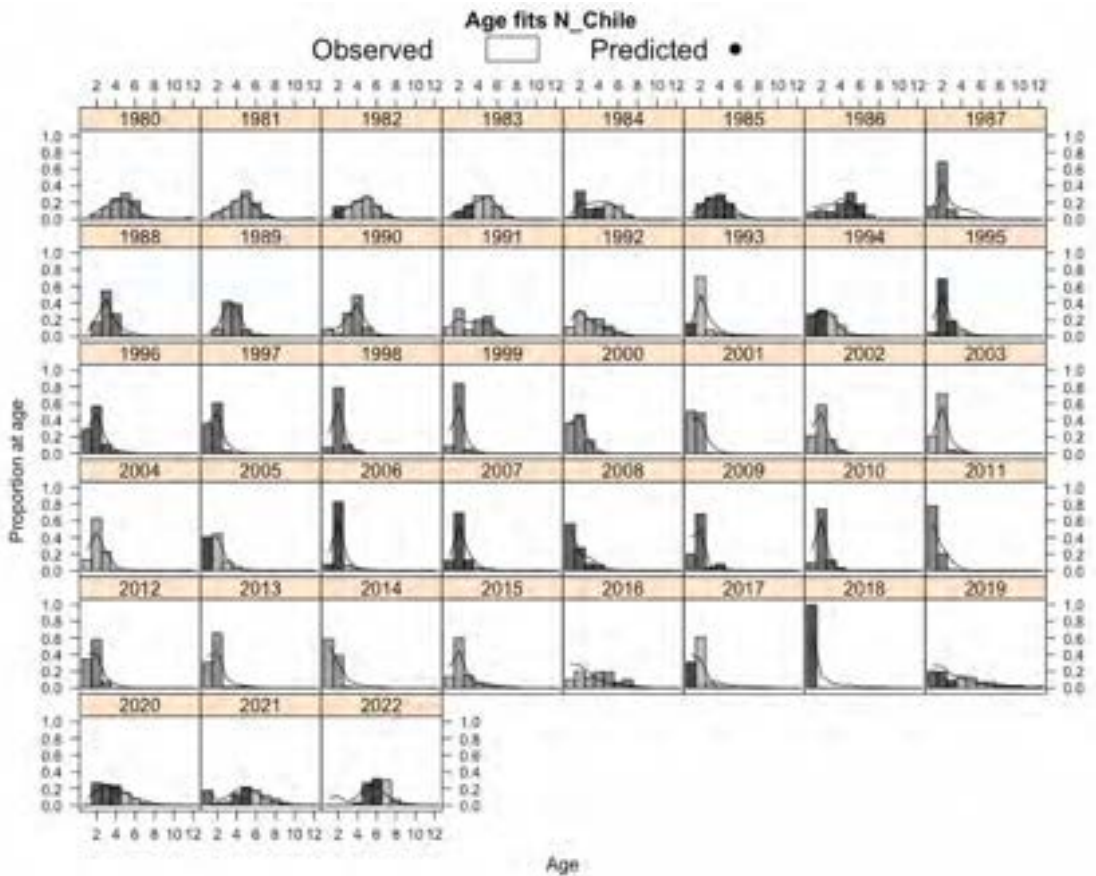


Figure A10.11: Model h1_1.02 (single-stock hypothesis) fit to the age compositions for the Chilean northern zone fishery (Fleet 1). Bars represent the observed data and lines represent the model predictions.

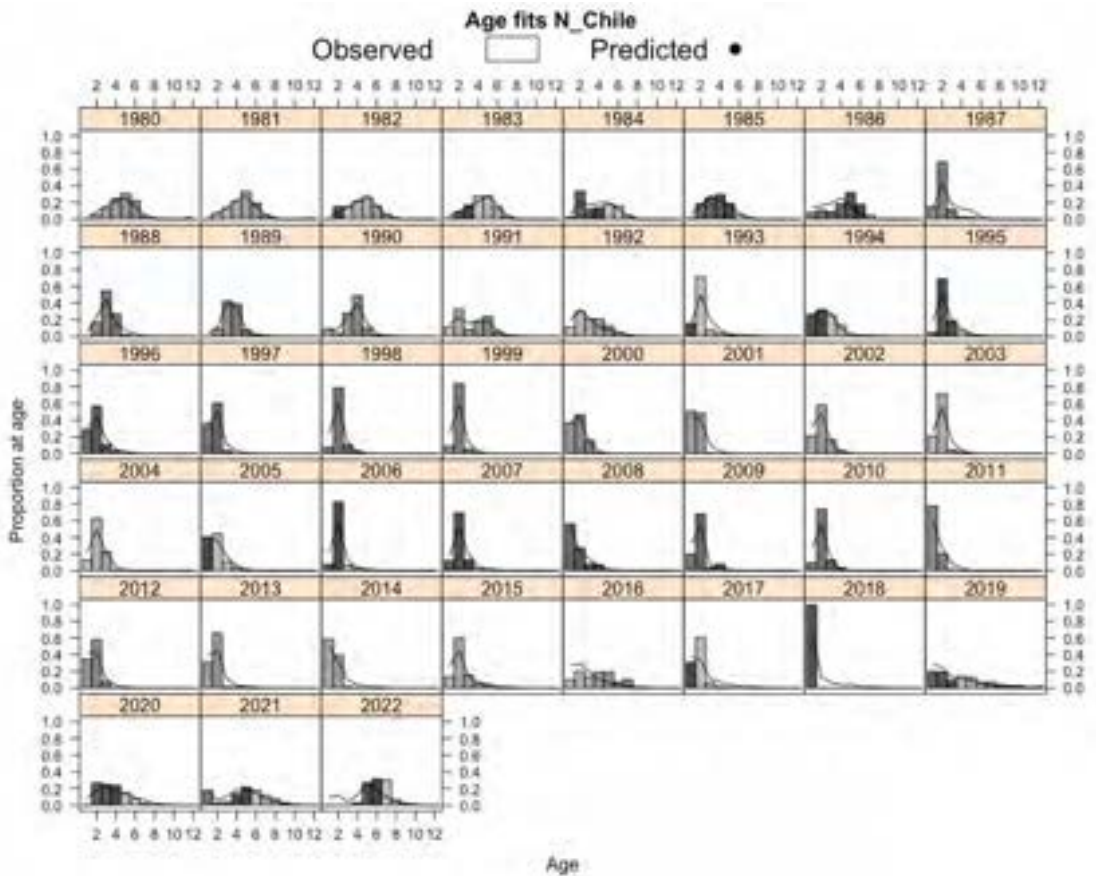


Figure A10.12: Model h2_1.02 (two-stock hypothesis) fit to the age compositions for the Chilean northern zone fishery (Fleet 1). Bars represent the observed data and lines represent the model predictions.

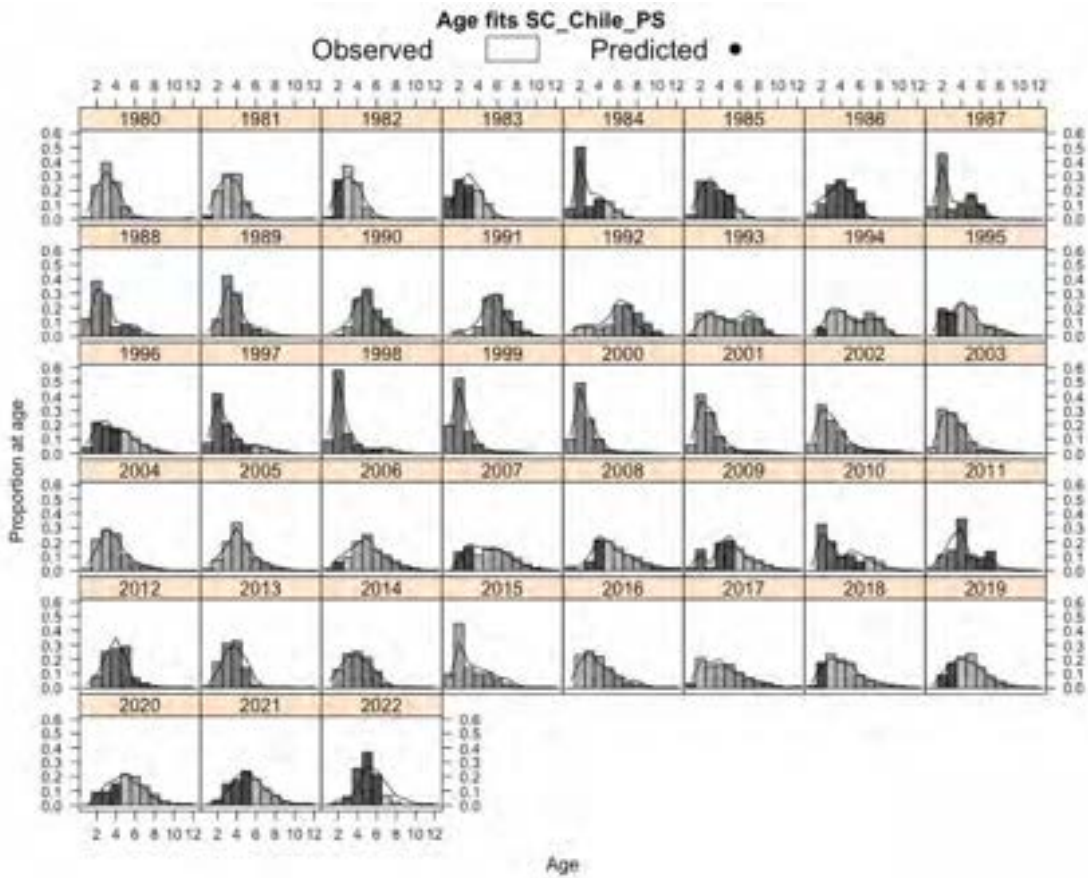


Figure A10.13: Model h1_1.02 (single-stock hypothesis) fit to the age compositions for the South-Central Chilean purse seine fishery (Fleet 2). Bars represent the observed data and lines represent the model predictions.

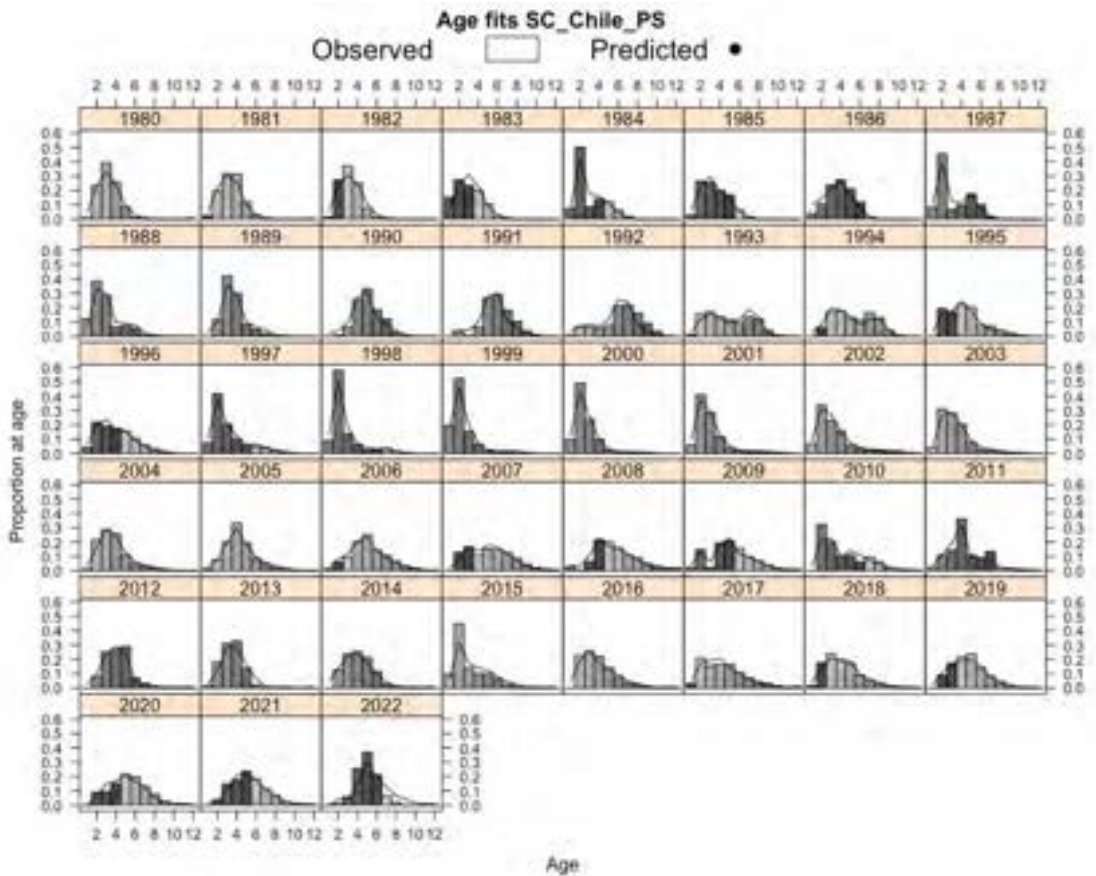


Figure A10.14: Model h2_1.02 (two-stock hypothesis) fit to the age compositions for the South-Central Chilean purse seine fishery (Fleet 2). Bars represent the observed data and lines represent the model predictions.

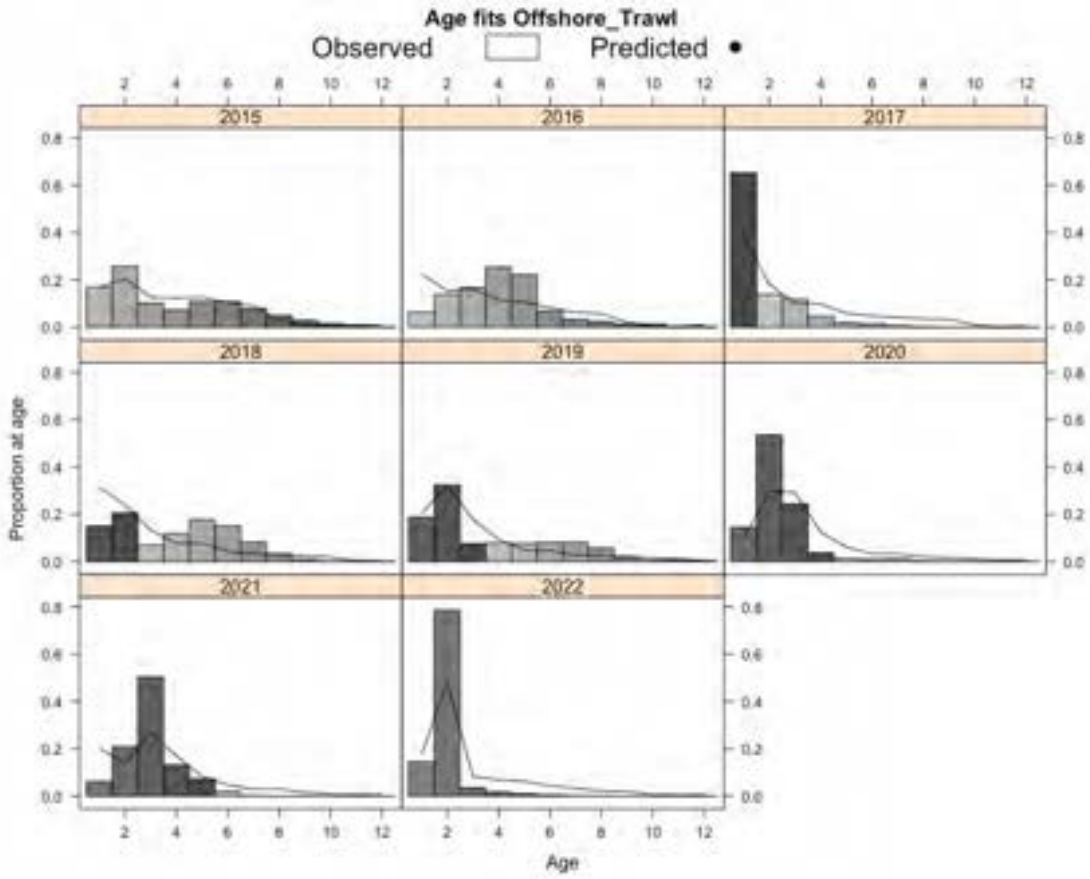


Figure A10.15: Model h1_1.02 (single-stock hypothesis) fit to the age compositions for the offshore trawl fishery (Fleet 4). Bars represent the observed data and lines represent the model predictions.

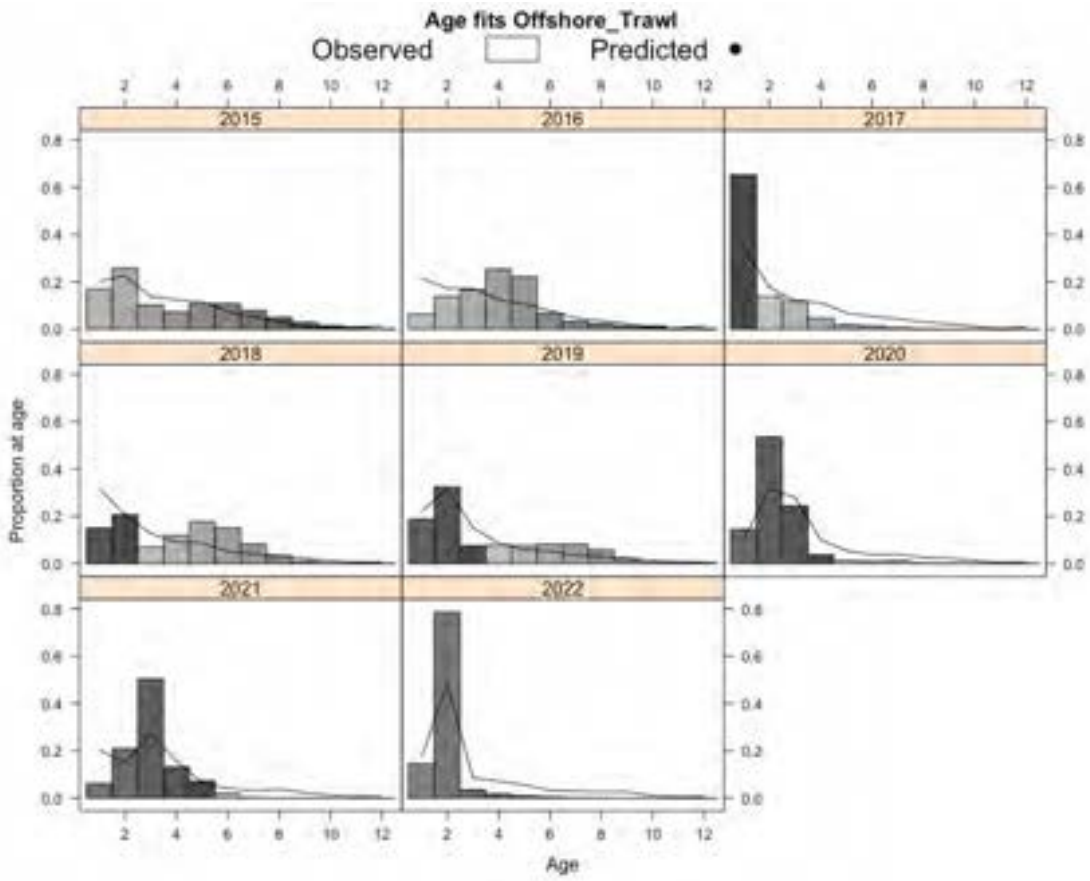


Figure A10.16: Model h2_1.02 (two-stock hypothesis) fit to the age compositions for the offshore trawl fishery (Fleet 4). Bars represent the observed data and lines represent the model predictions.

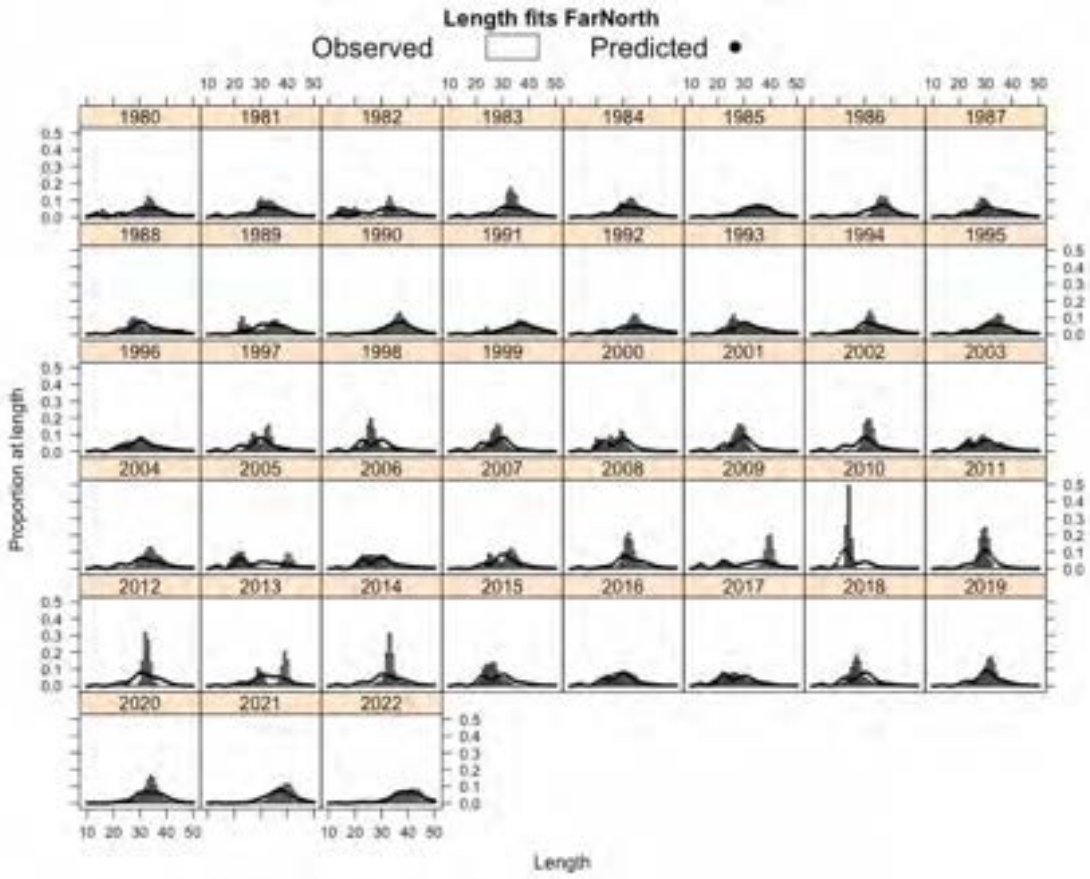


Figure A10.17: Model h1_1.02 (single-stock hypothesis) fit to the length compositions for the far north fishery (Fleet 3). Bars represent the observed data and lines represent the model predictions.

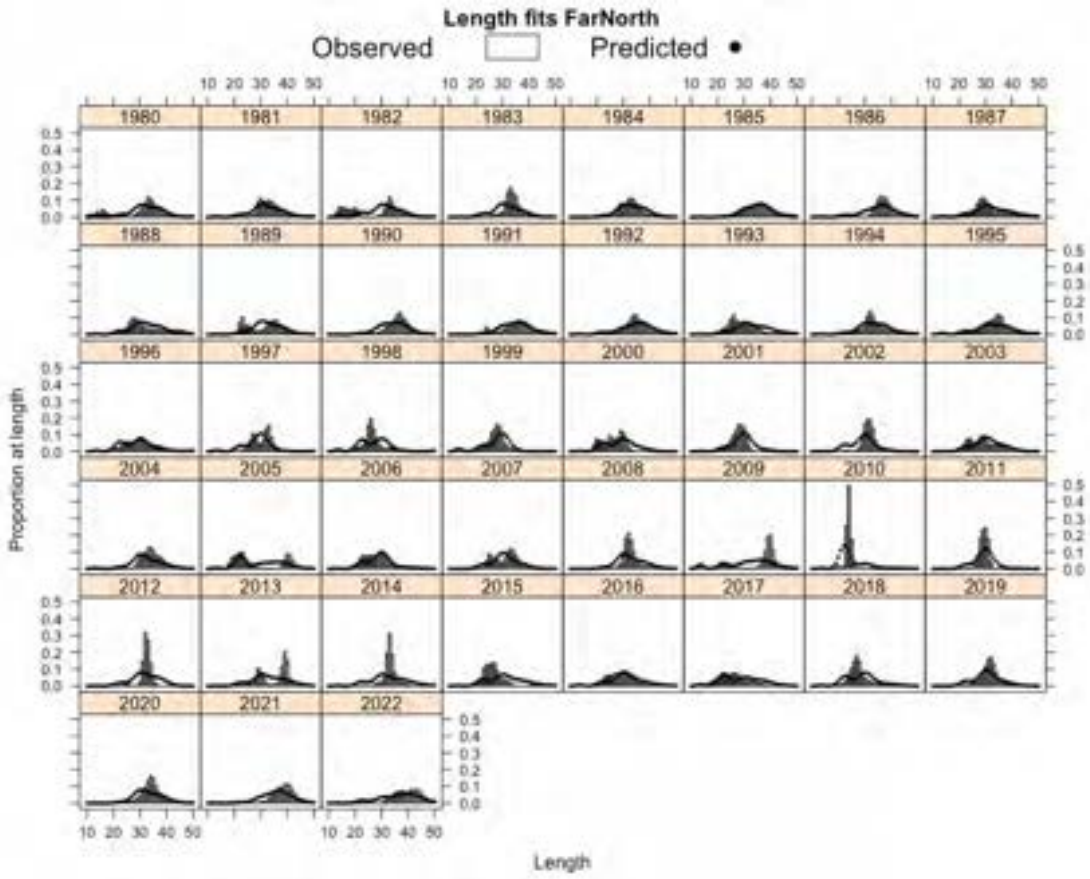


Figure A10.18: Model h2_1.02 (two-stock hypothesis) fit to the length compositions for the far north fishery (Fleet 3). Bars represent the observed data and lines represent the model predictions.

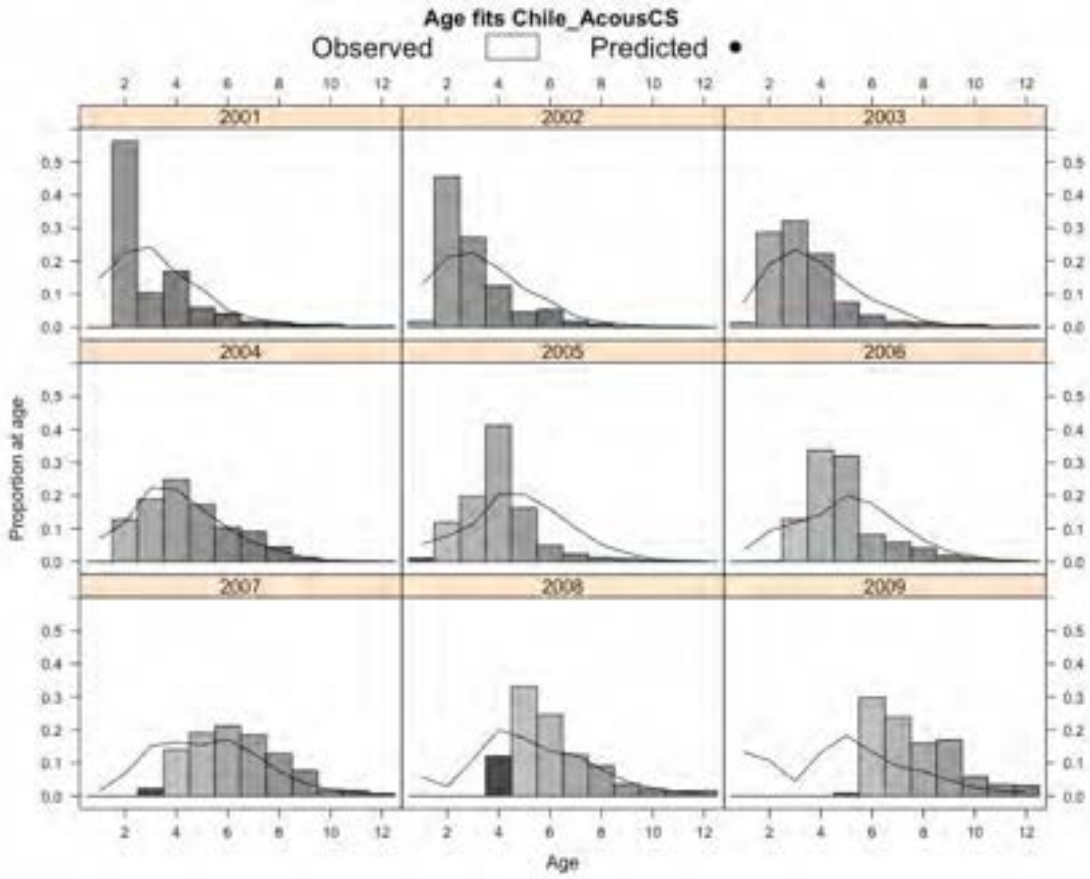


Figure A10.19: Model h1_1.02 (single-stock hypothesis) fit to the age compositions for the South-Central Acoustic survey. Bars represent the observed data and lines represent the model predictions.

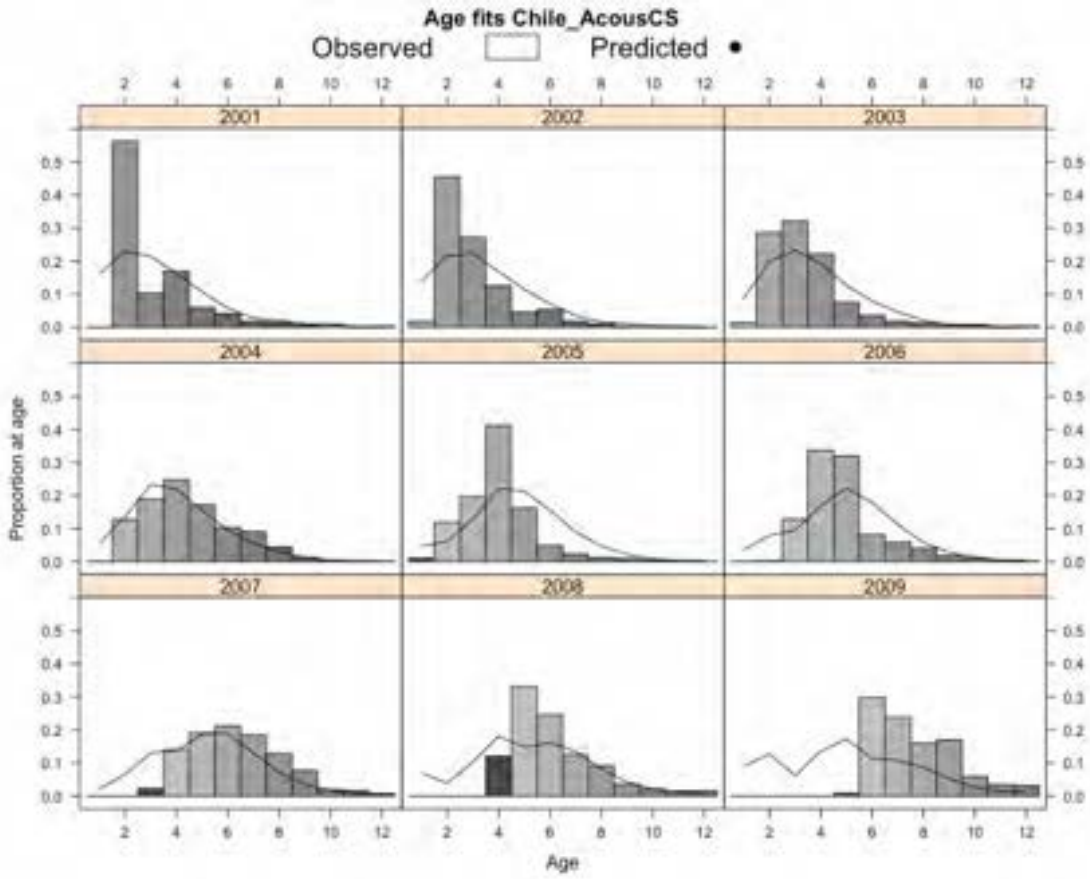


Figure A10.20: Model h2_1.02 (two-stock hypothesis) fit to the age compositions for the South-Central Acoustic survey. Bars represent the observed data and lines represent the model predictions.

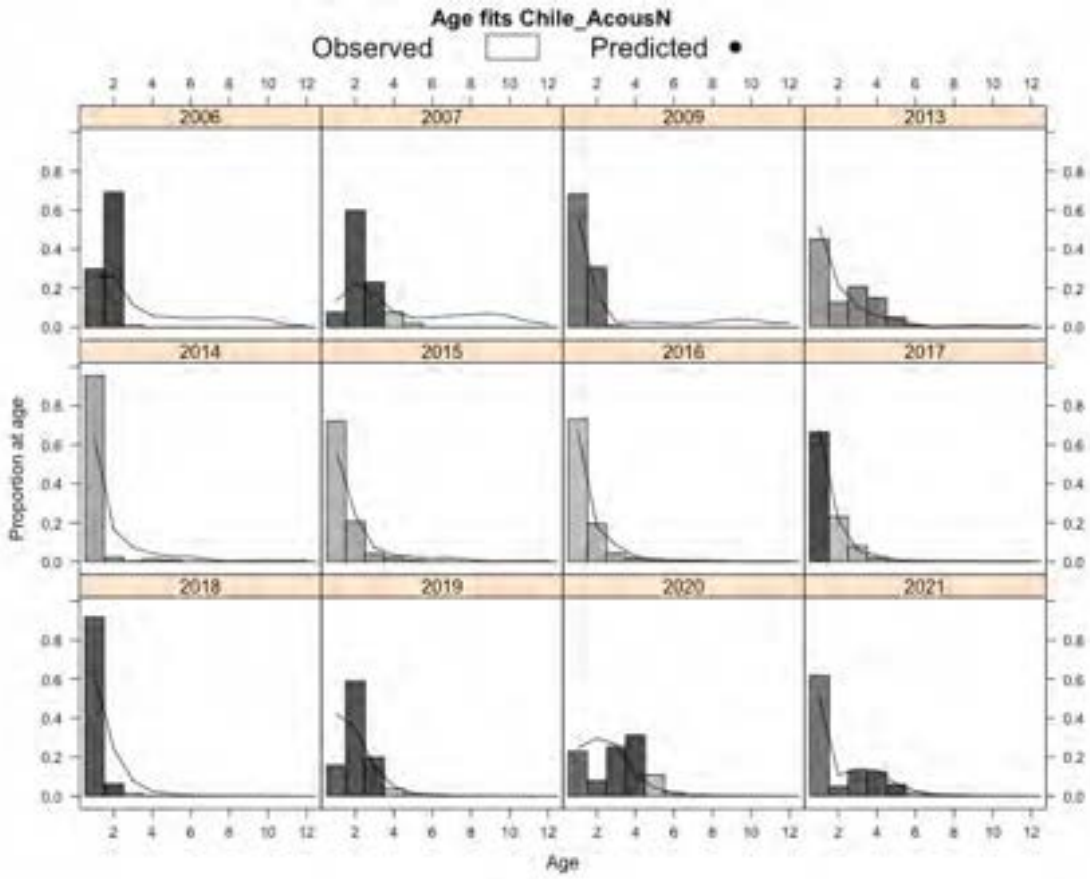


Figure A10.21: Model h1_1.02 (single-stock hypothesis) fit to the age compositions for the North Chilean acoustic survey. Bars represent the observed data and lines represent the model predictions.

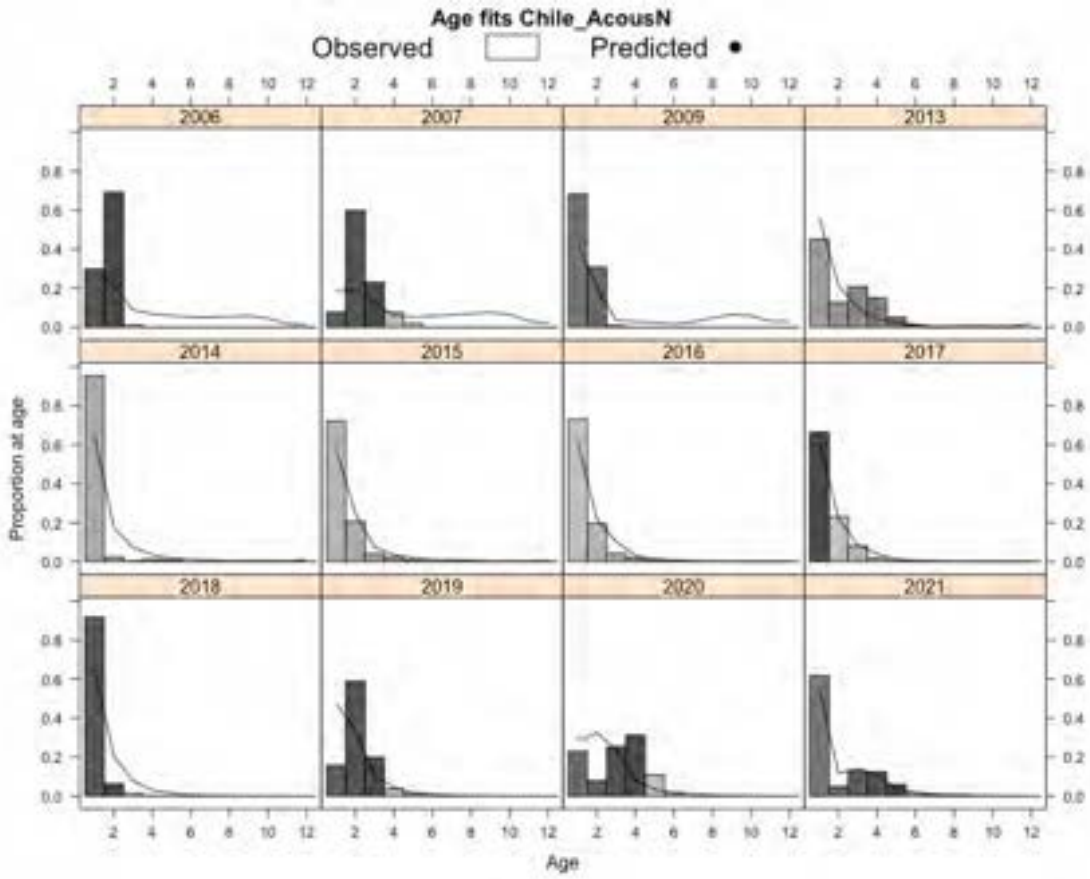


Figure A10.22: Model h2_1.02 (two-stock hypothesis) fit to the age compositions for the North Chilean acoustic survey. Bars represent the observed data and lines represent the model predictions.

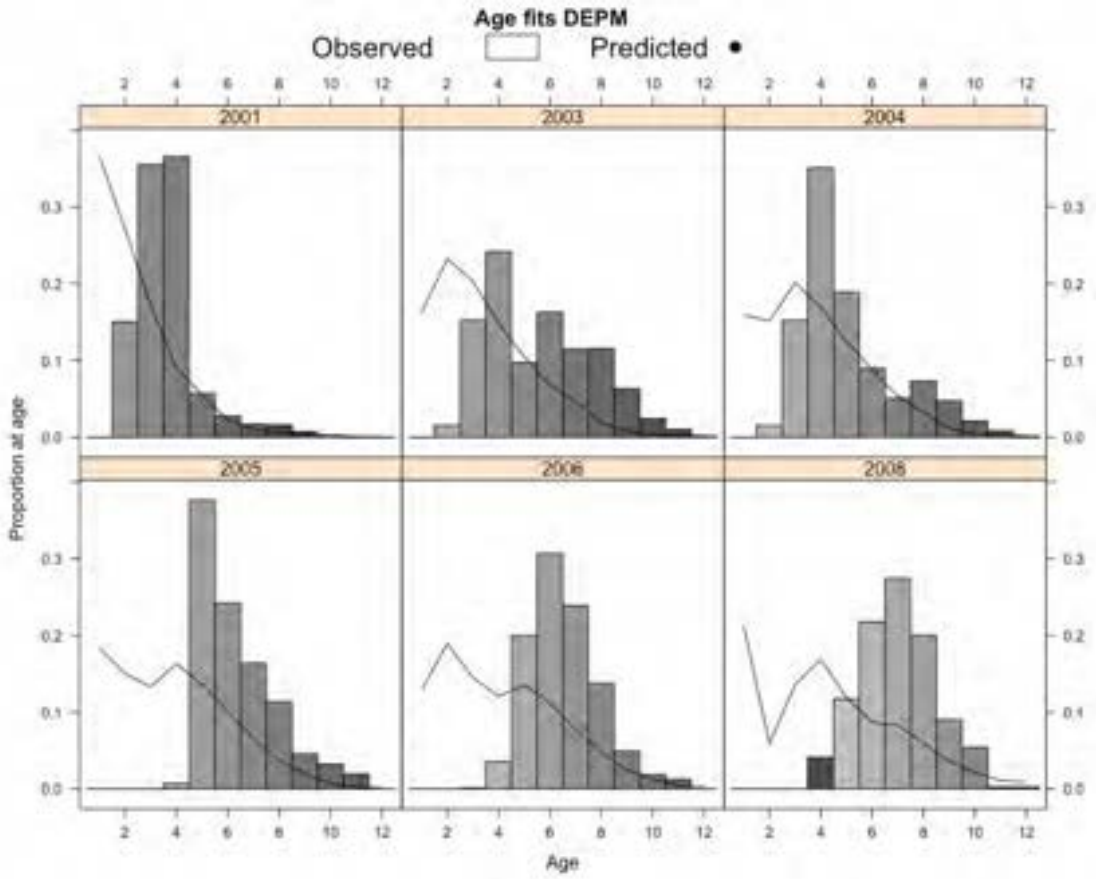


Figure A10.23: Model h1_1.02 (single-stock hypothesis) fit to the age compositions for the Daily Egg Production Method (DEPM) survey. Bars represent the observed data and lines represent the model predictions.

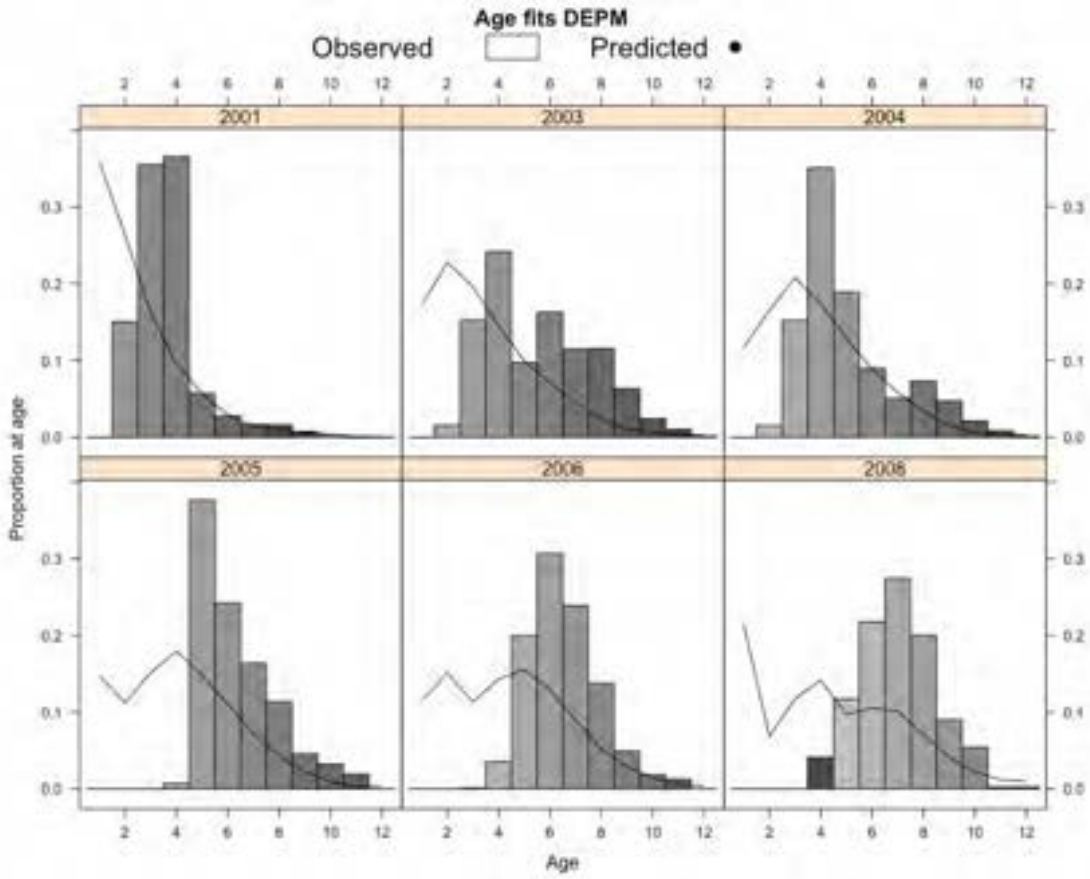


Figure A10.24: Model h2_1.02 (two-stock hypothesis) fit to the age compositions for the Daily Egg Production Method (DEPM) survey. Bars represent the observed data and lines represent the model predictions.

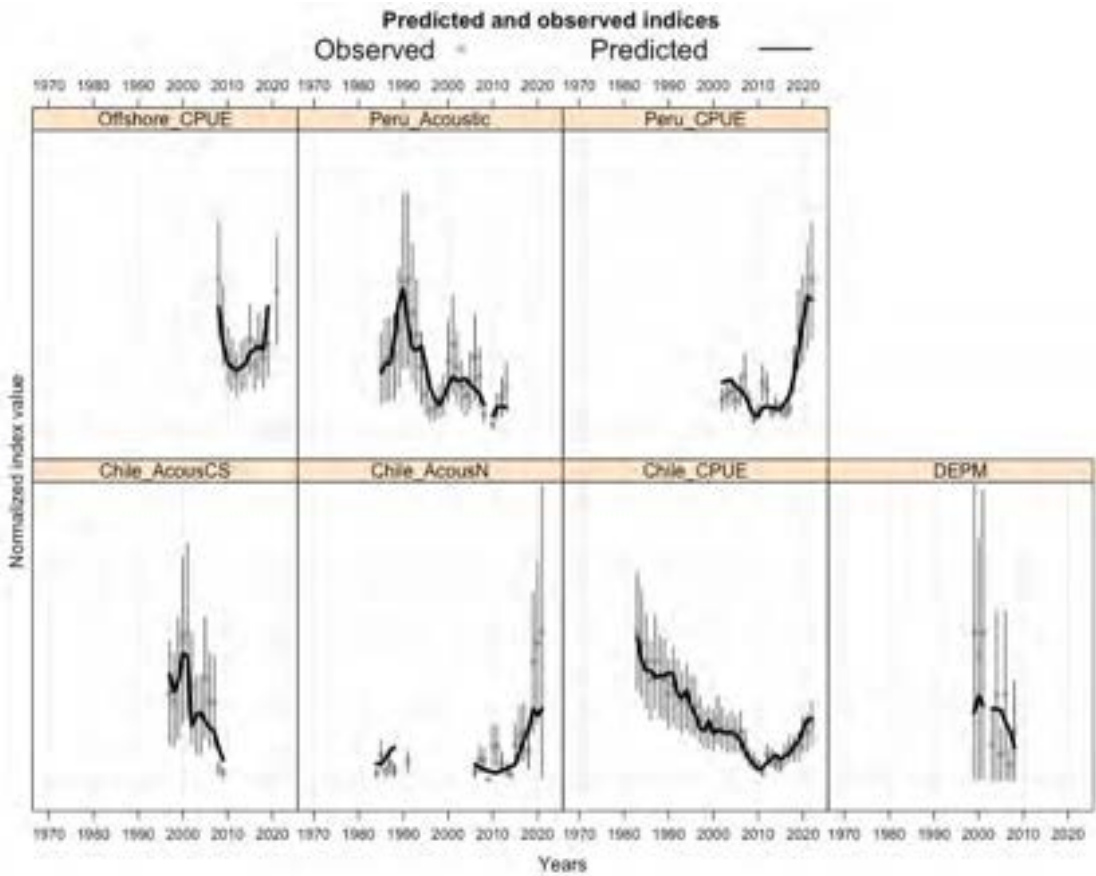


Figure A10.25: Model h1_1.02 (single-stock hypothesis) fit to different indices. Vertical bars represent 2 standard deviations around the observations.

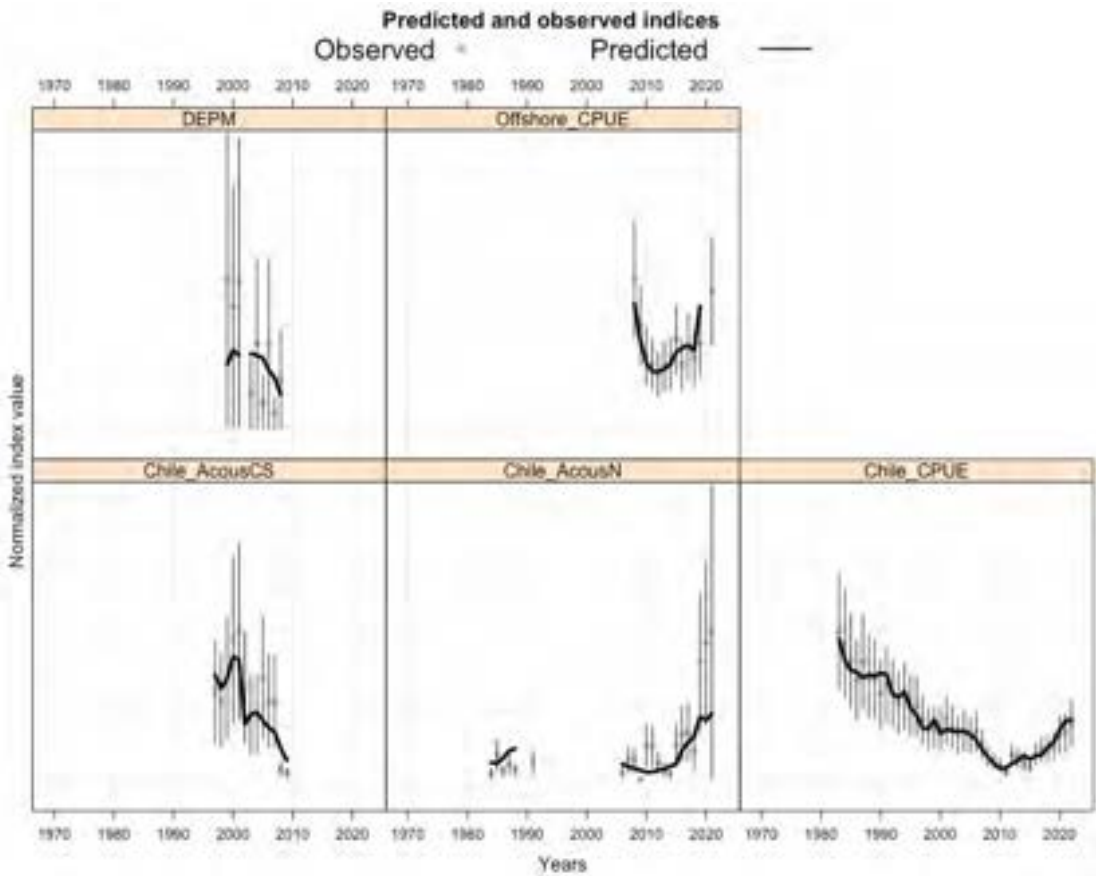


Figure A10.26: Model h2_1.02 (two-stock hypothesis) fit to indices for the south stock. Vertical bars represent 2 standard deviations around the observations.

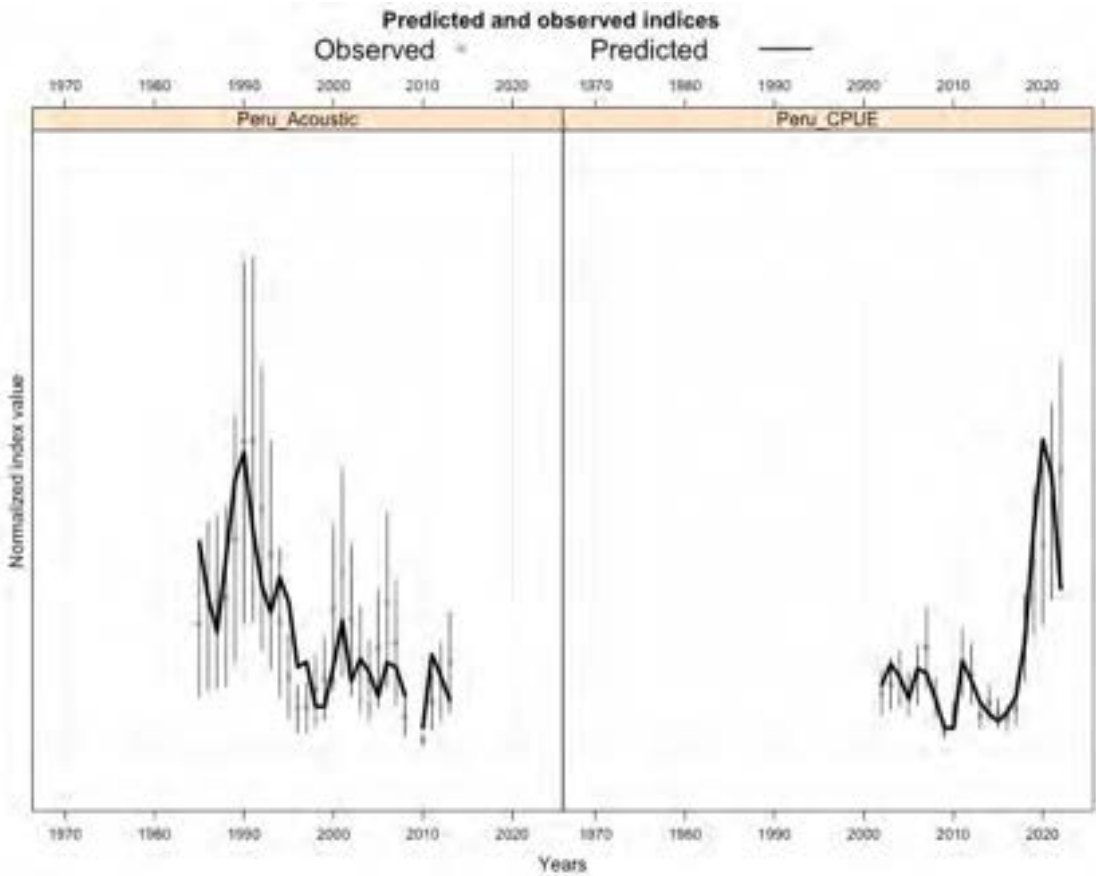


Figure A10.27: Model h2_1.02 (two-stock hypothesis) fit to indices for the north stock. Vertical bars represent 2 standard deviations around the observations.

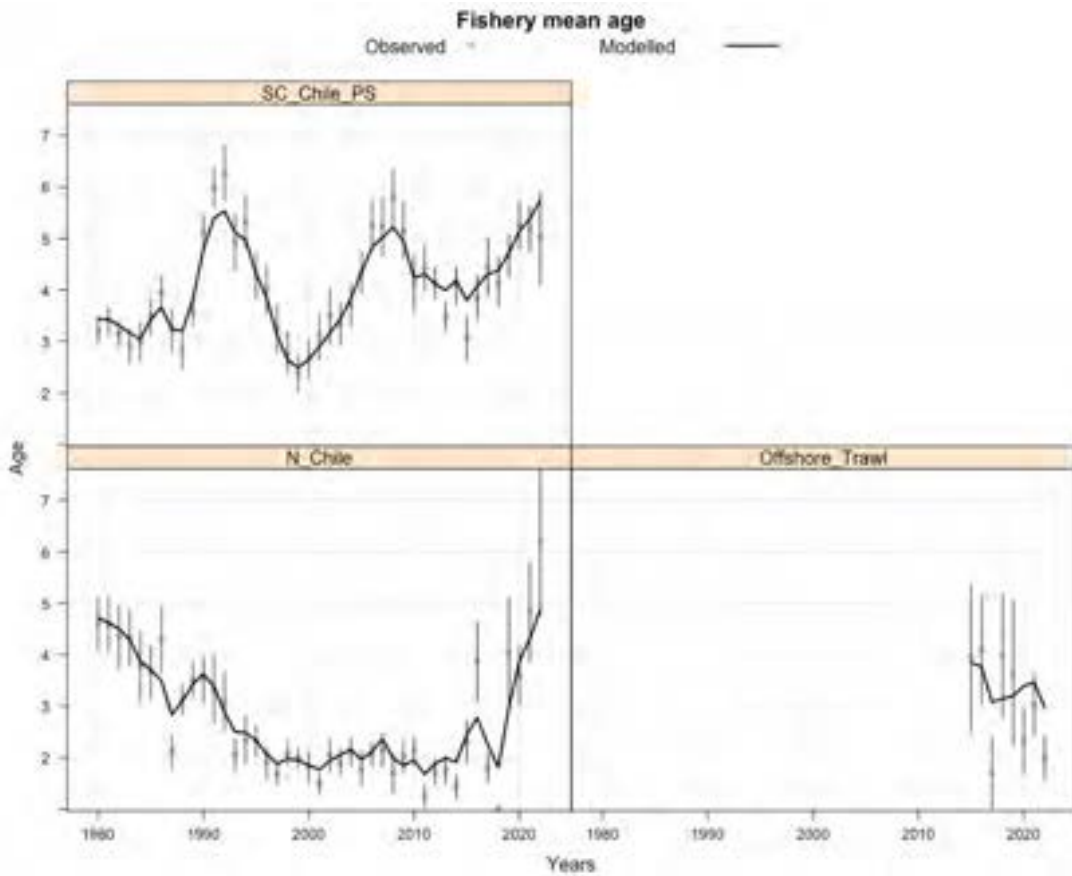


Figure A10.28: Mean age by year and fishery. Line represents the Model h1_1.02 (single-stock hypothesis) predictions and dots observed values with implied input error bars.

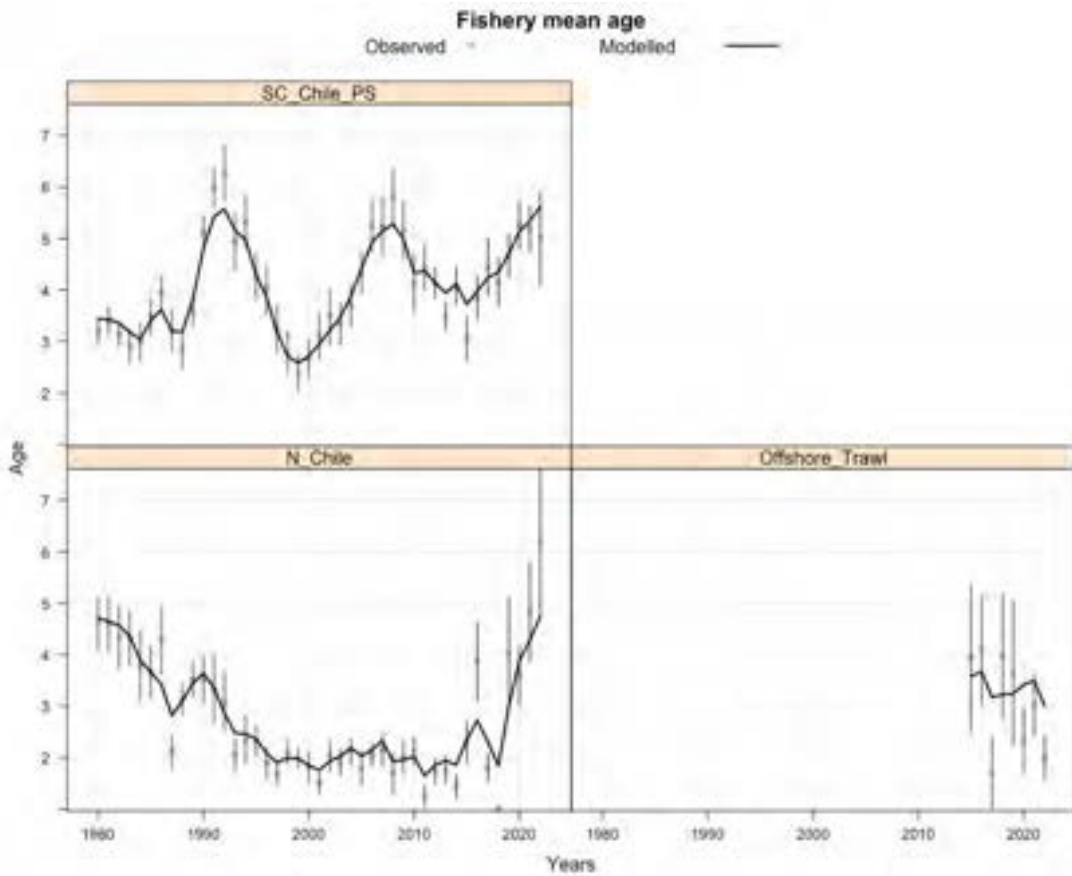


Figure A10.29: Mean age by year and fishery. Line represents the Model h2_1.02 (two-stock hypothesis) predictions and dots observed values with implied input error bars.

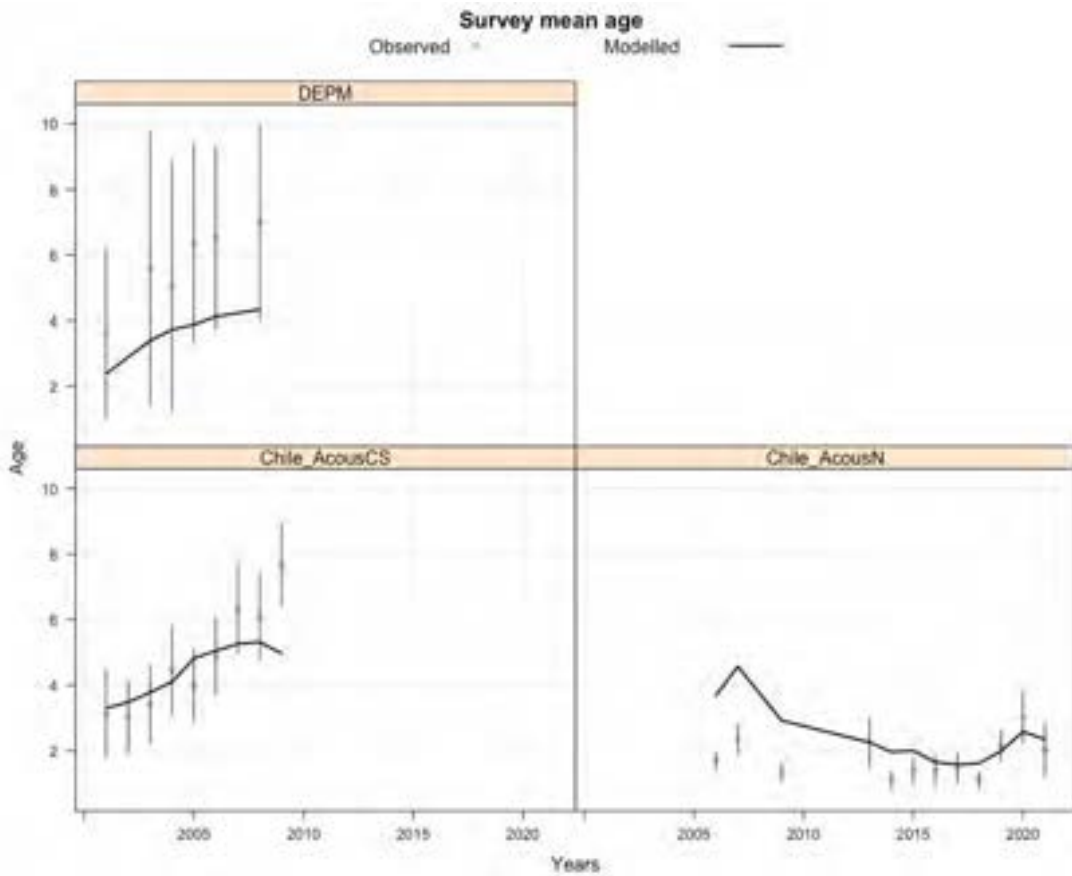


Figure A10.30: Mean age by year and survey. Line represents the Model h1_1.02 (single-stock hypothesis) predictions and dots observed values with implied input error bars.

Figure A10.31: Mean age by year and survey. Line represents the Model h2_1.02 (two-stock hypothesis) predictions and dots observed values with implied input error bars.

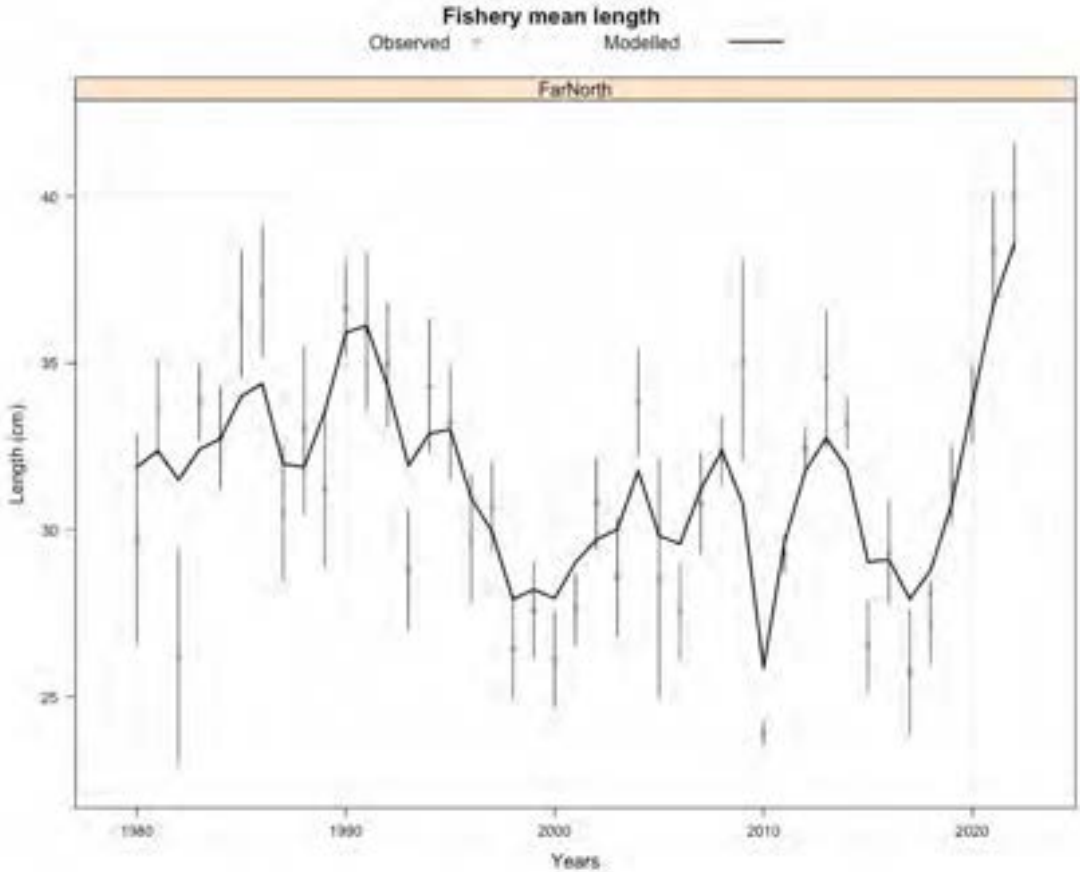


Figure A10.32: Mean length by year in Fleet 3 (Far North). Line represents the Model h1_1.02 (single-stock hypothesis) predictions and dots observed values with implied input error bars.

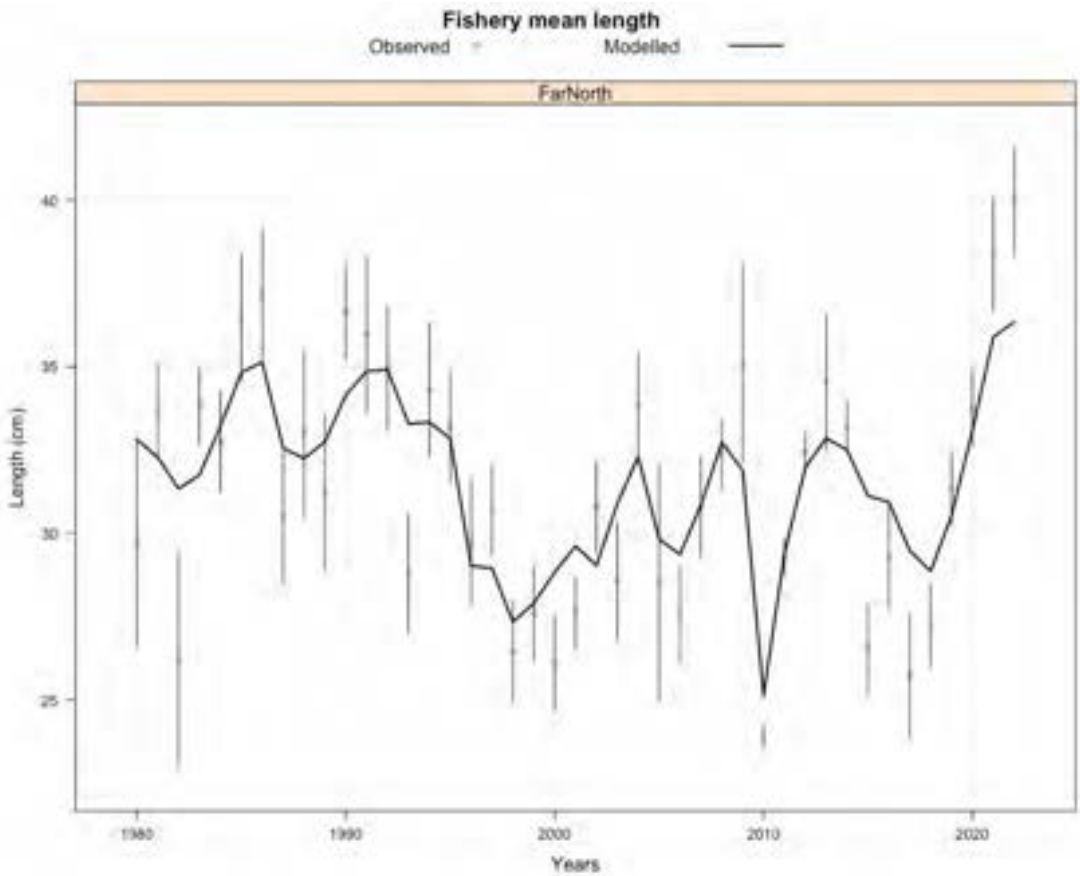


Figure A10.33: Mean length by year in Fleet 3 (Far North). Line represents the Model h2_1.02 (two-stock hypothesis) predictions and dots observed values with implied input error bars.

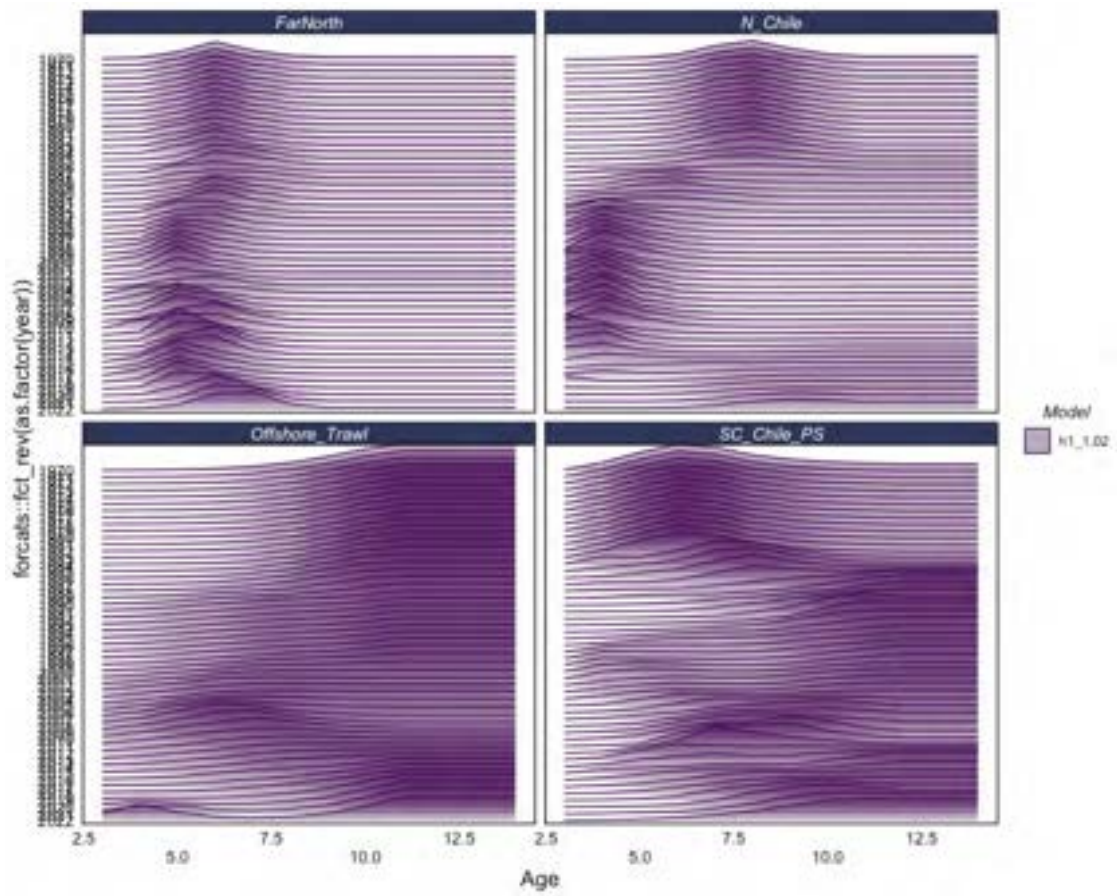


Figure A10.34: Estimates of selectivity by fishery over time for Model h1_1.02 (single-stock hypothesis).

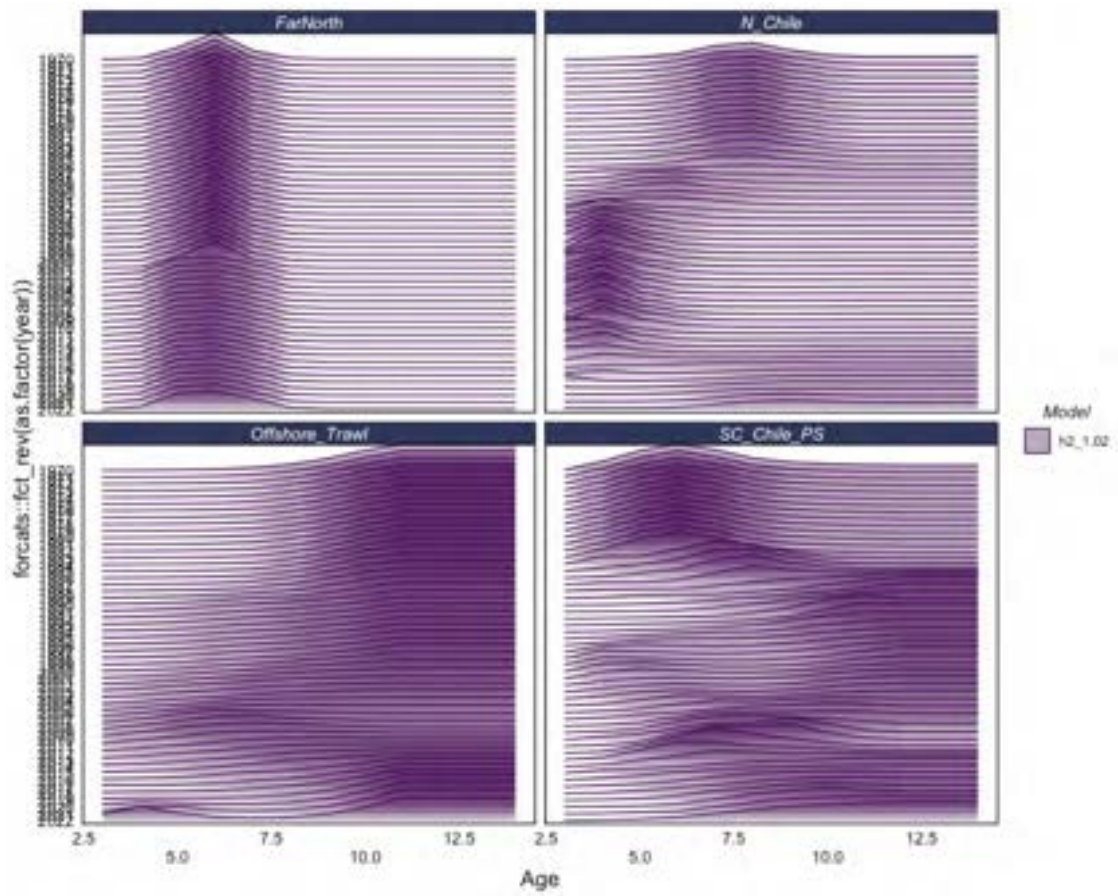


Figure A10.35: Estimates of selectivity by fishery over time for Model h2_1.02 (two-stock hypothesis).

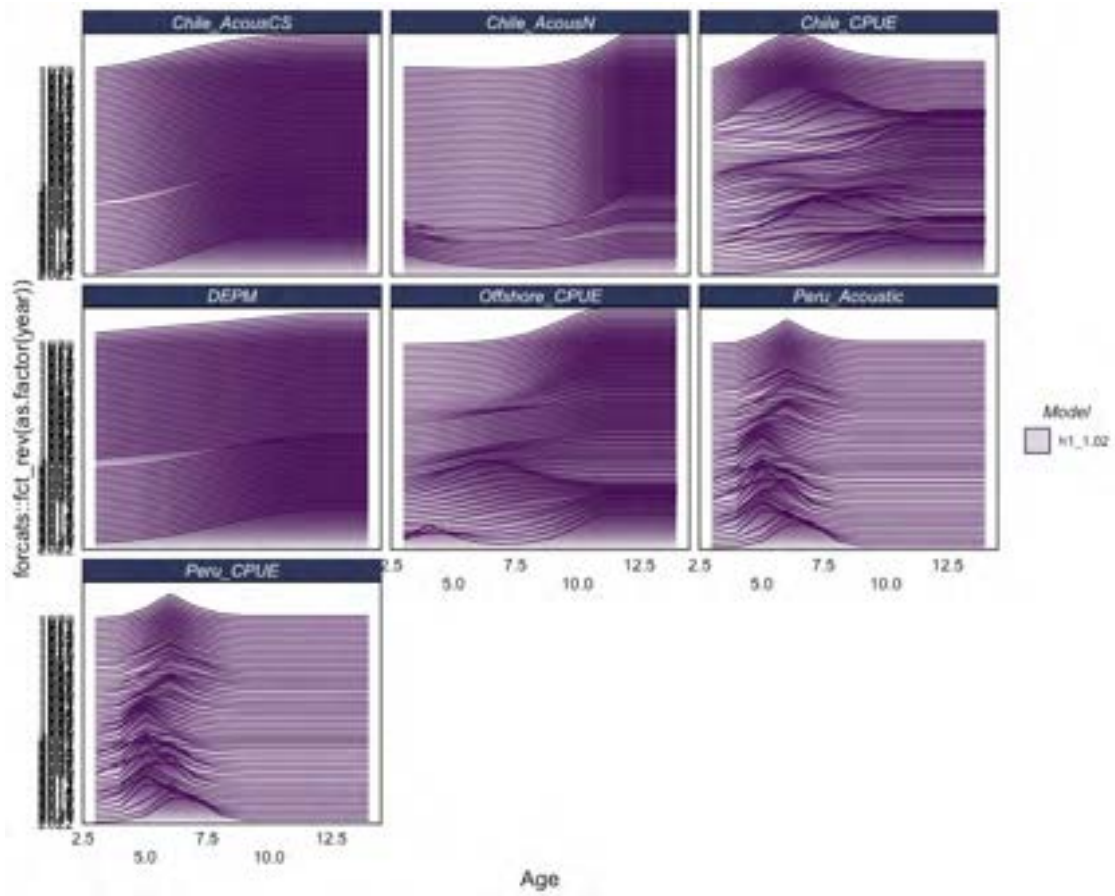


Figure A10.36: Estimates of selectivity by survey over time for Model h1_1.02 (single-stock hypothesis).

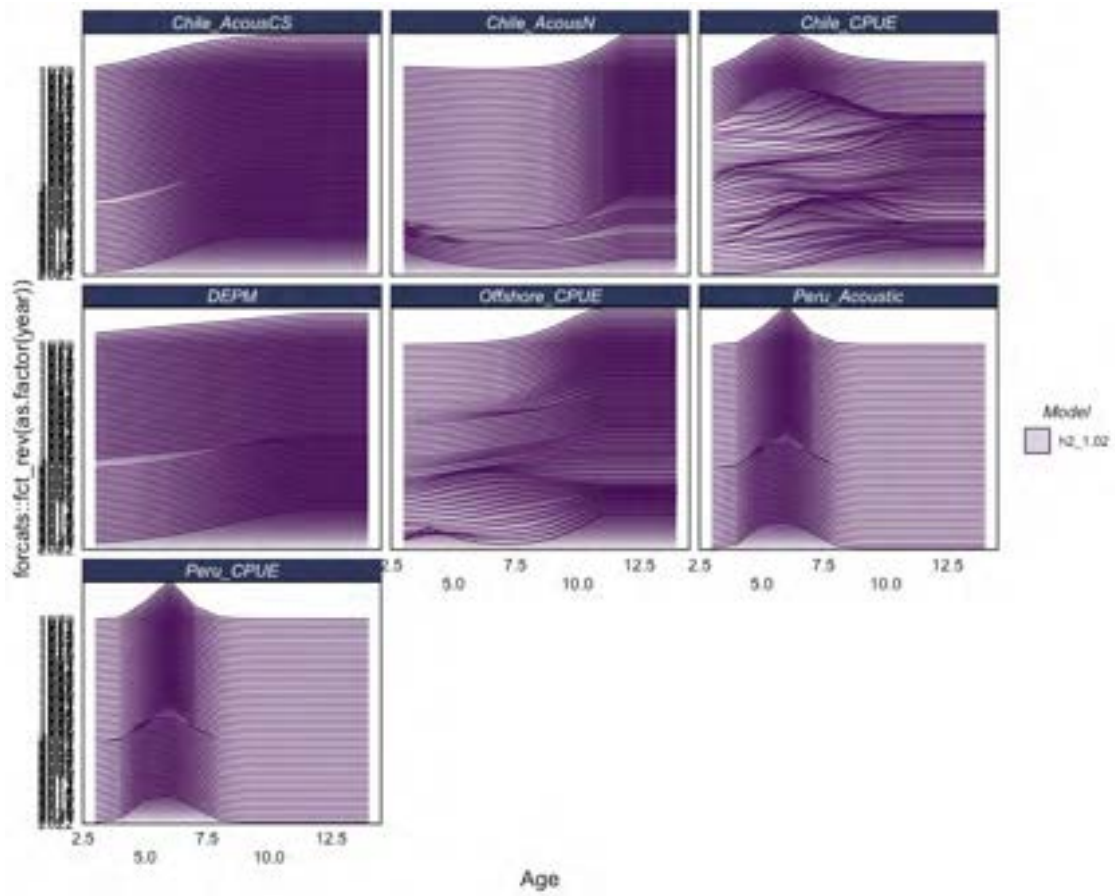


Figure A10.37: Estimates of selectivity by survey over time for Model h2_1.02 (two-stock hypothesis).

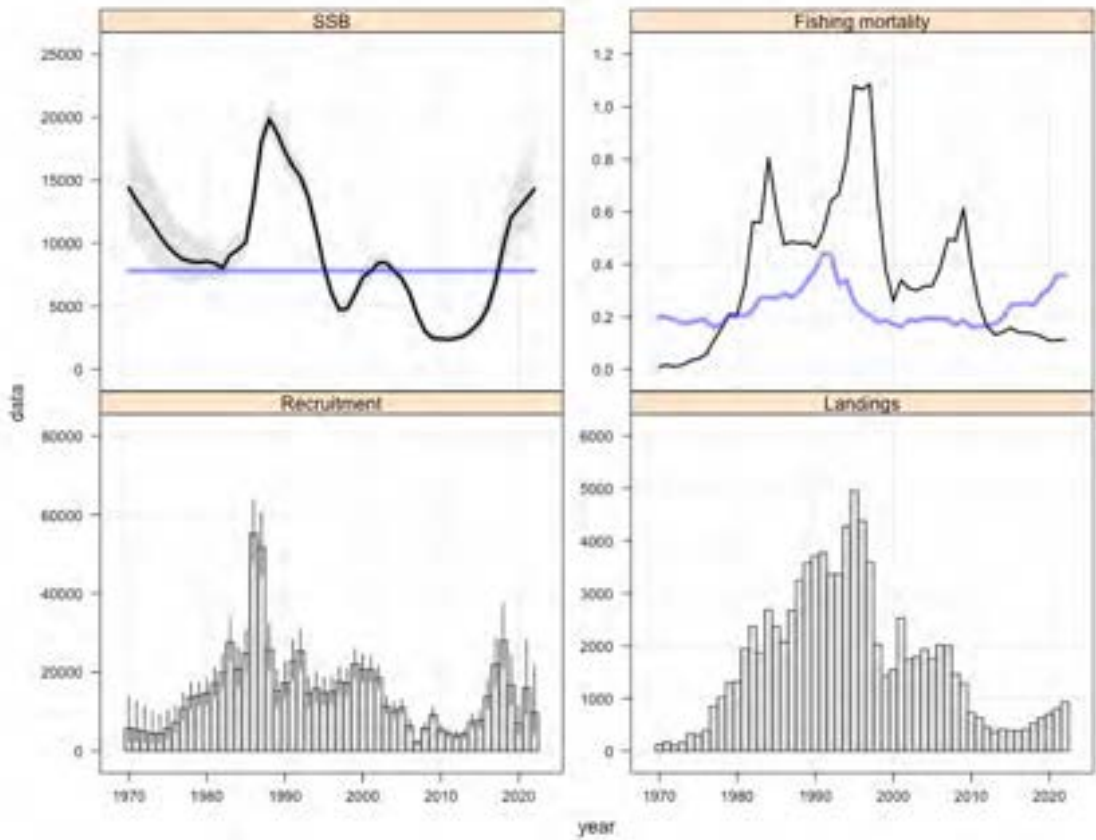


Figure A10.38: Model h1_1.02 (single-stock hypothesis) summary estimates over time showing spawning biomass (kt; top left), recruitment at age 1 (millions; lower left), total fishing mortality (top right), and total catch (kt; bottom right). Blue lines represent the average B_{MSY} over the most recent ten years (upper left) and dynamic estimates of F_{MSY} (upper right).

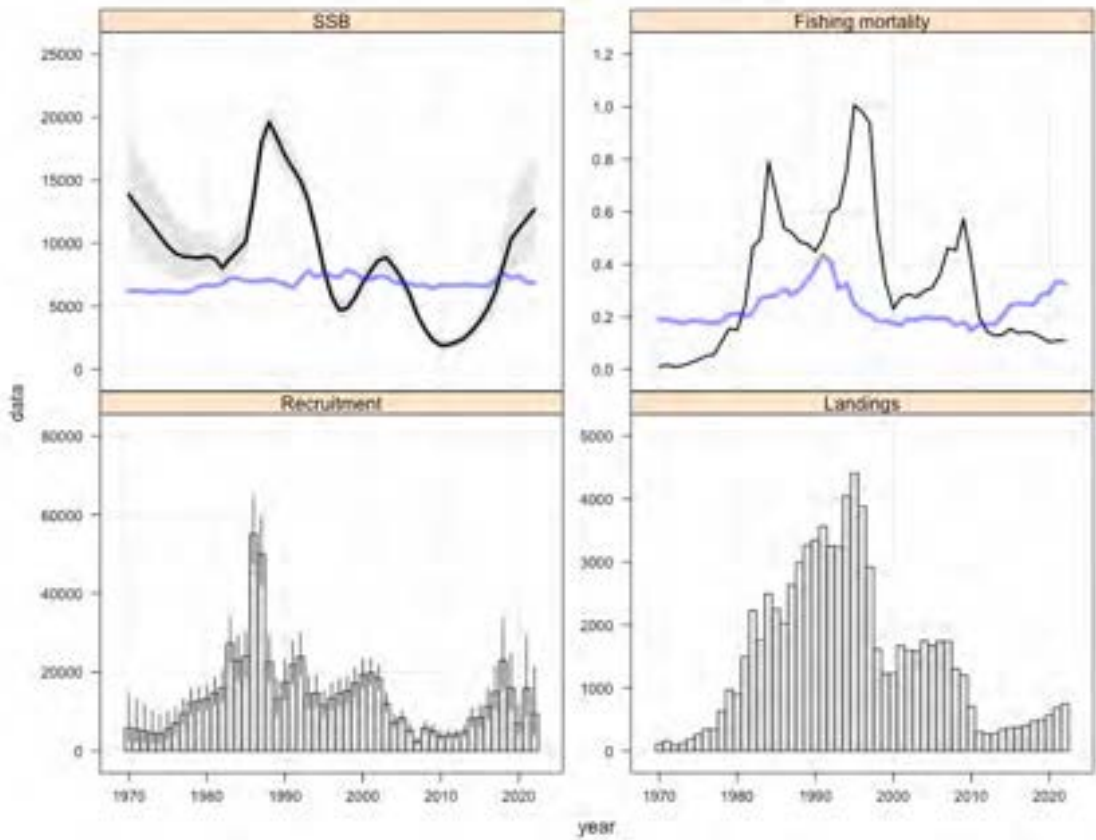


Figure A10.39: Model h2_1.02 (two-stock hypothesis) summary estimates over time showing spawning biomass (kt; top left), recruitment at age 1 (millions; lower left), total fishing mortality (top right), and total catch (kt; bottom right) for the south stock. Blue lines represent dynamic estimates of B_{MSY} (upper left) and of F_{MSY} (upper right).

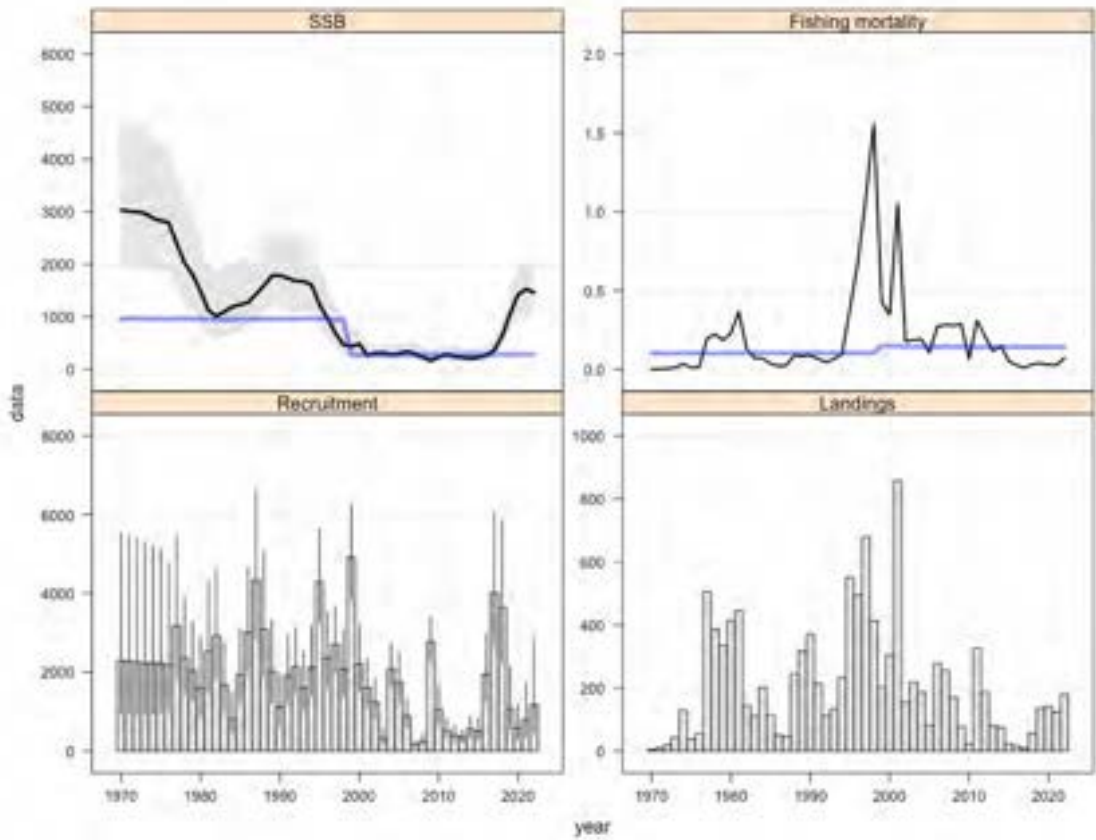


Figure A10.40: Model h2_1.02 (two-stock hypothesis) summary estimates over time showing spawning biomass (kt; top left), recruitment at age 1 (millions; lower left), total fishing mortality (top right), and total catch (kt; bottom right) for the far north stock. Blue lines represent dynamic estimates of B_{MSY} (upper left) and of F_{MSY} (upper right).

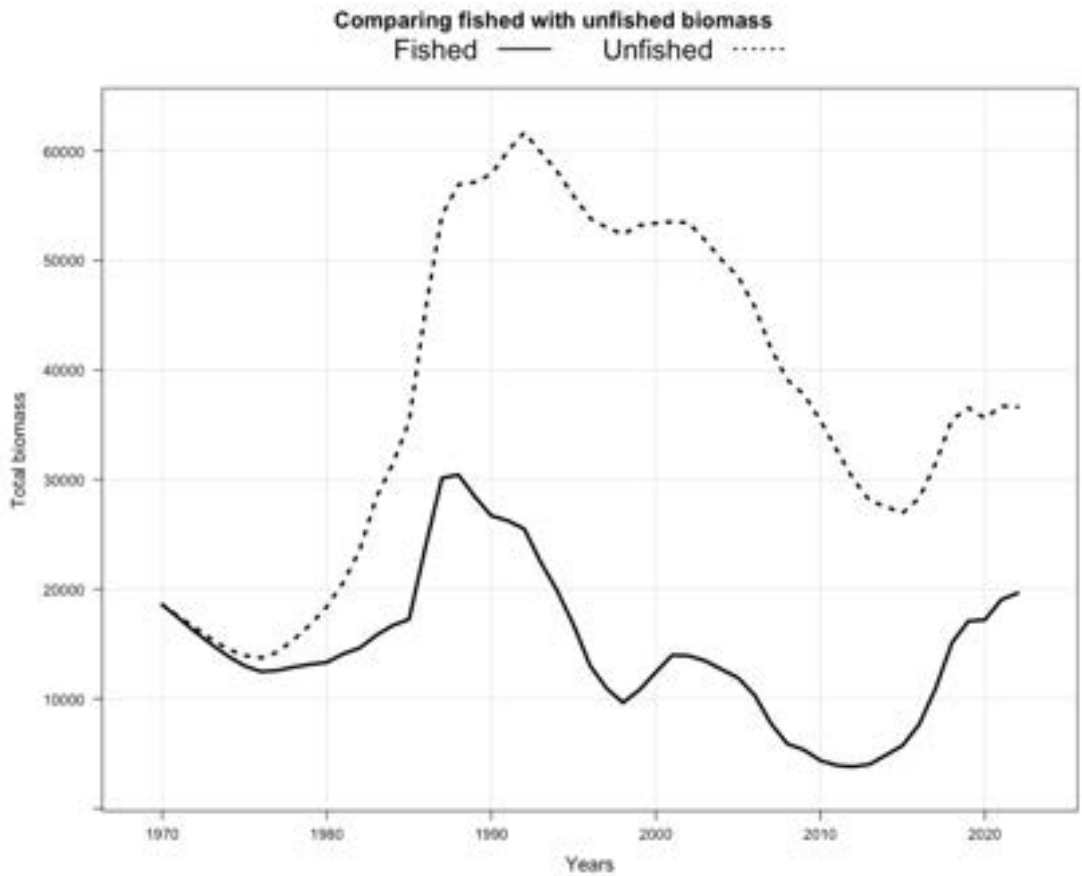


Figure A10.41: Model h1_1.02 (single-stock hypothesis) results for the estimated total biomass (solid line) and the estimated total biomass that would have occurred if no fishing had taken place (dotted line), beginning in 1970.

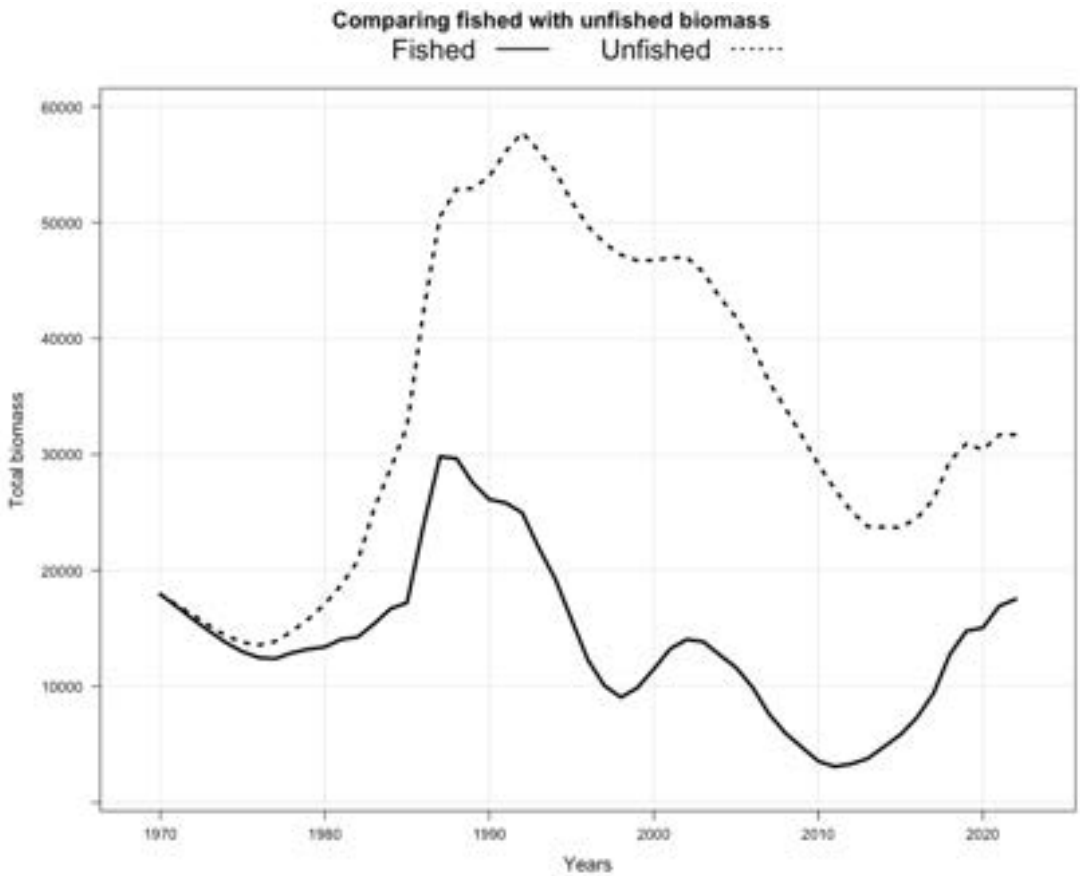


Figure A10.42: Model h2_1.02 (two-stock hypothesis) results for the estimated total biomass (solid line) and the estimated total biomass that would have occurred if no fishing had taken place (dotted line) for the south stock, beginning in 1970.

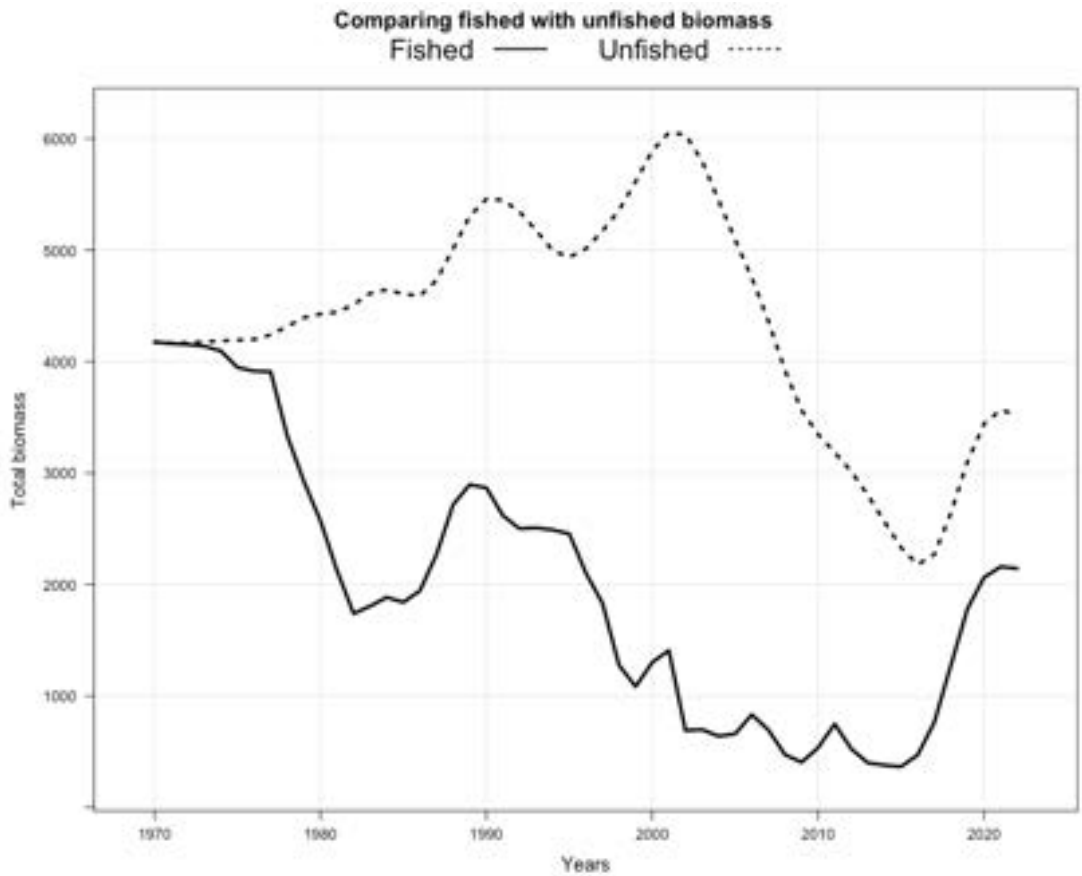


Figure A10.43: Model h2_1.02 (two-stock hypothesis) results for the estimated total biomass (solid line) and the estimated total biomass that would have occurred if no fishing had taken place (dotted line) for the far north stock, beginning in 1970.

SM8

August 2022

SC10-JM01_rev1-Annex1
CJM-catch-history-data

Participant	Chile	Chile	Cook Islands	Cuba	Ecuador	Peru	USSR
FAO Area	87	87	Unk	87	87	87	87
High Seas/In-Zone	HS+EEZ	HS+EEZ	HS	HS	National Waters (Ecuador)	National Waters (Peru)	HS
Species reported	CJM	CJM	JAX	CJM	CJM	CJM	CJM
Assigned Fleet	Fleet 1	Fleet 2	Fleet 3 (Far North)	Fleet 3 (Far North)	Fleet 3 (Far North)	Fleet 3 (Far North)	Fleet 3 (Far North)
Year	N Chile	Chile CS	Cook Islands	Cuba (2)	Ecuador (ANJ)	Peru (ANJ)	USSR
1970	101,685	10,309				4,711	
1971	143,454	14,988				9,189	
1972	64,457	22,546				18,782	
1973	83,204	38,391				42,781	
1974	164,762	28,750				129,211	
1975	207,327	53,878				37,899	
1976	257,698	84,571				54,154	
1977	226,234	114,572				504,992	
1978	398,414	188,267				386,793	0
1979	344,051	253,460		6,281		151,591	175,938
1980	288,809	273,453		38,841		123,380	252,078
1981	474,817	586,092		35,783		37,875	371,981
1982	789,912	704,771		9,589		50,013	84,122
1983	301,934	563,338		2,096		76,825	31,769
1984	727,000	699,301		560		184,333	15,781
1985	511,150	945,839		1,067		87,466	26,089
1986	55,210	1,129,107		66		49,863	1,100
1987	313,310	1,456,727		0		46,304	0
1988	325,462	1,812,793		5,676		118,076	120,476
1989	338,600	2,051,517		3,386	0	140,720	137,033
1990	323,089	2,148,786		6,904	4,144	191,139	168,636
1991	346,245	2,674,267		1,703	45,313	136,337	30,094
1992	304,243	2,907,817		0	15,022	96,660	0
1993	379,467	2,856,777			2,673	130,681	
1994	222,254	3,819,193			36,575	196,771	
1995	230,177	4,174,016			174,393	376,600	
1996	278,439	3,604,887			56,782	438,736	
1997	104,198	2,812,866			30,302	649,751	
1998	30,273	1,582,639			25,900	386,946	
1999	55,654	1,164,035			19,072	184,679	
2000	118,734	1,115,565			7,122	296,579	
2001	248,097	1,401,836			133,969	723,733	
2002	108,727	1,410,266			604	154,219	
2003	143,277	1,278,019			0	217,734	
2004	158,656	1,292,943			0	187,369	
2005	165,626	1,264,808			0	80,663	
2006	155,256	1,224,685			0	277,568	
2007	172,701	1,130,083	7		927	254,426	
2008	167,258	728,850	0		0	169,537	
2009	134,022	700,905	0		1,934	74,694	

2010	169,012	295,796	0	4,613	17,559
2011	30,825	216,470	0	69,373	<u>256,566</u>
2012	13,256	214,204	0	77	<u>187,292</u>
<u>2020</u>	44,155	517,665		0	<u>158,880</u>
<u>2021</u>	<u>61,359</u>	<u>567,267</u>		<u>8</u>	<u>123,628</u>
<u>2022</u>	<u>83,000</u>	<u>601,000</u>		<u>8</u>	<u>180,069</u>

Notes: Current as at 25 Aug 2022

JAX = *Trachurus spp.*

CJM = *Trachurus murphyi*

Underlined figures have been updated since last assessment

Provisional figure (ie. not an official annual catch figure. Either based on monthly catches for 2021 or, from previous years, 2022 data are only estimated from part year results (taken from monthly catches)

Peru's and Chile's catch figures pre 1970 are not currently used in the assessment

Figures for Chile (Fleets 1 and 2) are by Chile (the Secretariat only holds HS vs EEZ figures).

Catch data for a single vessel has been excluded pending receipt of operational fishing data

Total includes small amounts of MAS

This catch was reported for Area 87 (ie unknown if EEZ or HS)

USSR catch has been split into separate fleets using a ratio provided at SWG -10 (This same ratio has been applied to Ukraine catch for years prior to dissolution of the USSR (~1990/1991) will have been included in the Russian Federation)

	Belize	China	Cuba	European Union	Faroe Islands	Japan
	87	87	87	Unk	87	87
	HS	HS	HS	HS	HS	HS+EEZ
	CJM	CJM	CJM	CJM	CJM	CJM
Fleet 3 (Far North)	Fleet 4 (Offshore Trawl)	Fleet 4 (Offshore Trawl)	Fleet 4 (Offshore Trawl)	Fleet 4 (Offshore Trawl)	Fleet 4 (Offshore Trawl)	Fleet 4 (Offshore Trawl)
Subtotal	Belize	China	Cuba	European Union	Faroe Islands	Japan
4,711						
9,189						
18,782						
42,781						
129,211						
37,899						
54,154						35
504,992						2,273
386,793						1,667
333,810			12,719	1,180		120
414,299			45,130	1,780		
445,638			38,444			29
143,724			74,292	7,136		
110,690			52,779	39,943		1,694
200,674			33,448	80,129		3,871
114,622			31,191			5,229
51,029			46,767			6,835
46,304			35,980			8,815
244,229			38,533			6,871
281,139			21,100			701
370,823			34,293			157
213,447			29,125			
111,682			3,196			
133,354						
233,346						
550,993						
495,518						
680,053						
412,846						
203,751						7
303,701		2,318				
857,702		20,090				
154,823		76,261				
217,734		94,690				
187,369		131,020				
80,663	867	143,000		6,187		
277,568	481	160,000		62,137		
255,360	12,585	140,582		123,523	38,700	
169,537	15,245	143,182		108,174	22,919	
76,628	5,681	117,963		111,921	20,213	0

22,172	2,240	63,606		67,497	11,643	0
325,939	0	32,862	8	2,248	0	0
187,369		13,012	0	0	0	0

158,880	0	0	0
<u>123,636</u>		<u>43,111</u>	
<u>180,077</u>		<u>45,095</u>	

ear's CJM stock assessment or all Chile figures)

the Cuban catch record)
in data

Korea	Peru	Russian Federation	Ukraine	Vanuatu		
87	87	87	87	87		
HS	HS	HS	HS	HS		
CJM	CJM	CJM	CJM	CJM		
Fleet 4 (Offshore Trawl) Korea	Fleet 4 (Offshore Trawl) Peru	Fleet 4 (Offshore Trawl) Russia/USSR	Fleet 4 (Offshore Trawl) Ukraine	Fleet 4 (Offshore Trawl) Vanuatu	Fleet 4 (Offshore Trawl) Subtotal	Grand Total
					0	116,705
					0	167,631
		5,500			5,500	111,285
					0	164,376
					0	322,723
					0	299,104
					35	396,458
					2,273	848,071
		49,220			51,290	1,024,764
		356,271			370,290	1,301,611
		292,892			339,802	1,316,363
		399,649			438,123	1,944,670
		651,776			733,204	2,371,611
		799,884			894,300	1,870,262
		942,479			1,059,927	2,686,902
		762,903			799,323	2,370,934
		783,900			837,502	2,072,848
		818,628			863,423	2,679,764
		817,812			863,215	3,245,699
		854,020			875,821	3,547,077
		837,609			872,059	3,714,757
		514,534			543,659	3,777,618
		32,000	2,736		37,932	3,361,674
					0	3,369,598
					0	4,274,793
					0	4,955,186
					0	4,378,844
					0	3,597,117
					0	2,025,758
					7	1,423,447
					2,318	1,540,318
					20,090	2,527,725
					76,261	1,750,077
2,010		7,540		53,959	158,199	1,797,229
7,438		62,300		94,685	295,443	1,934,411
9,126		7,040		77,356	243,576	1,754,673
10,474		0		129,535	362,627	2,020,136
10,940		0		112,501	438,831	1,996,975
12,600		4,800		100,066	406,986	1,472,631
13,759	13,326	9,113		79,942	371,918	1,283,473

8,183	40,516		45,908	239,593	726,573
9,253	674	8,229	7,617	60,891	<u>634,125</u>
5,492	5,346	0	16,068	39,917	<u>454,746</u>
0	0	5,245	0	5,245	<u>725,945</u>
		<u>12,193</u>		<u>55,304</u>	<u>807,566</u>
		<u>19,680</u>		<u>64,775</u>	<u>928,852</u>

SM9

August 2022

SC10-Doc23

Chile Annual Report Jack Mackerel

10th MEETING OF THE SCIENTIFIC COMMITTEE

26 to 30 September 2022, Seoul, Korea

SC10-Doc23
Chile Annual Report - Jack Mackerel

Chile



CHILE ANNUAL REPORT

SPRFMO-SCIENTIFIC COMMITTEE

Jack mackerel (*Trachurus murphyi*)

August, 2022

SUMMARY

Since 2020, the fishing operation on jack mackerel has been carried out exclusively within the Chilean EEZ. During the first half of 2022, the industrial fleet targeting this resource was made up of 50 fishing vessels using purse seines.

A progressive increase in the jack mackerel catches has been observed in the 2013 - 2022 period, with a maximum reached in 2021. This trend is explained by the increase of the quota allocated to Chile and the completeness of its extraction, plus transferences of quota from other SPRFMO members to Chile. The catches have been concentrated during the first half of each year (80% in average of the annual catches), consequently, during the first half of 2022, 540,020 metric tons of jack mackerel were caught in the Chilean EEZ, which corresponds to 93% of the national TAC.

As of 2016, the size-structure of the catches of jack mackerel have shown a wide range, from 7 to 67 cm FL, with specimens concentrated mainly from 26 to 52 cm FL. According to the new criteria for assigning age groups, ages II, III and IV, stand out as the main groups in the age structure for the 2016-2018 period and towards the end of the series (2019-2021), ages III, IV, V and VI concentrated the main modes. This is explained, in part, by the availability of schools of jack mackerel near the coast, composed mostly by adult individuals.

Finally, it is important to reiterate that, as of January 2020, Image recording devices (DRI) have been implemented to monitor compliance with Bycatch Reduction Plans and Fishery regulation in the entire fleet. In addition, during 2020, the mandatory use of Electronic Logbooks Systems (SIBE) has also been implemented in the industrial fleet to report in a set-by-set basis and in real time, total catches, bycatch and discards, the locations of sets and other operational information according to legal requirements. To this date, the implementation of these Electronic Monitoring Systems (DRI and SIBE) in the Chilean industrial fleets have been focused on monitoring compliance with regulations applying to catches, discards and incidental bycatch of seabirds, marine mammals, sea turtles and chondrichthyes. However, the extension of the use of these tools beyond control, such as the scientific monitoring of fishing activities to gather fisheries dependent data, has begun to be explored recently with the aim complementing it with traditional human observation programs, in a near future.

1. DESCRIPTION OF THE FISHERY

1.1 Composition of the Fleet

During the period 2016-2022 it is observed that the industrial purse seine fleet operating in the jack mackerel fishery has been deployed in both, the SPRFMO area and in the Chilean EEZ. In the first half of 2022 operated 50 fishing vessels, which represents a decrease of around 31% of the fleet compared with 2019 (Table I). This composition is mainly explained by a lower participation of vessels with a hold capacity below 600m³ from 2019 onwards. On the other hand, the number of vessels larger than 900 m³ has been stable during the same period of time.

The total number of industrial fishing vessels that operated within the SPRFMO area during the 2016-2022 period has shown a significant reduction. Thus, the number of vessels in this area during 2019 was reduced by 60% compared to 2016, and since 2020 the operations on jack mackerel have been concentrated exclusively within the Chilean EEZ (Table I, Table II).

Table I. Number of industrial purse seine vessels catching jack mackerel in the Chilean EEZ and the SPRFMO area (combined), between 2016 and June 2022. Information is provided by year and hold capacity (2022* preliminary data).

Hold capacity (m ³)	2016	2017	2018	2019	2020	2021	2022*
0 ≤ 300	3	0	0	0	0	0	0
300 ≤ 600	57	57	46	42	42	27	23
600 ≤ 900	7	5	5	7	6	5	4
900 ≤ 1,200	1	2	1	1	1	1	1
1,200 ≤ 1,500	6	8	7	8	8	8	8
1,500 ≤ 1,800	9	9	9	10	10	10	10
1,800 ≤ 2,100	4	4	4	4	4	4	4
TOTAL	87	85	72	72	71	55	50

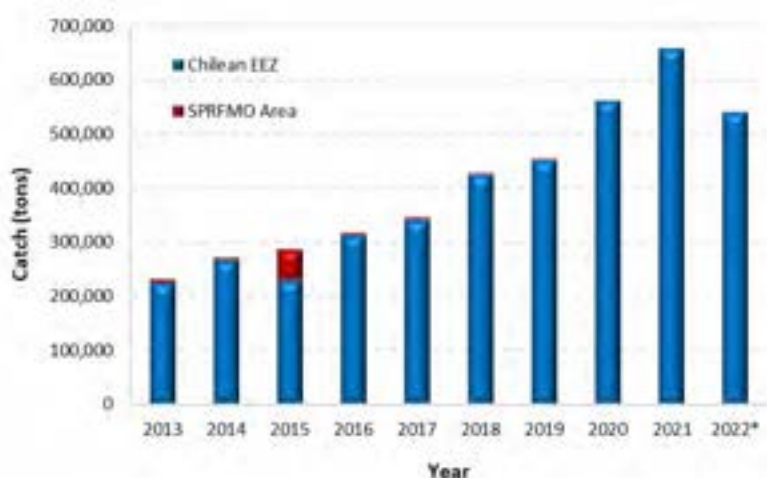
Table II. Number of industrial purse seine vessels catching jack mackerel in the SPRFMO area between 2016 and June 2022. Information is provided by year and hold capacity. (2022* are preliminary data).

Hold capacity (m ³)	2016	2017	2018	2019	2020	2021	2022*
0 ≤ 300	0	0	0	0	0	0	0
300 ≤ 600	0	0	0	0	0	0	0
600 ≤ 900	1	0	0	0	0	0	0
900 ≤ 1,200	0	1	0	0	0	0	0
1,200 ≤ 1,500	0	0	1	0	0	0	0
1,500 ≤ 1,800	2	2	0	2	0	0	0
1,800 ≤ 2,100	2	0	1	0	0	0	0
TOTAL	5	3	2	2	0	0	0

1.2 Catches, Seasonality of Catches, Fishing Grounds and Bycatch

a) Catches

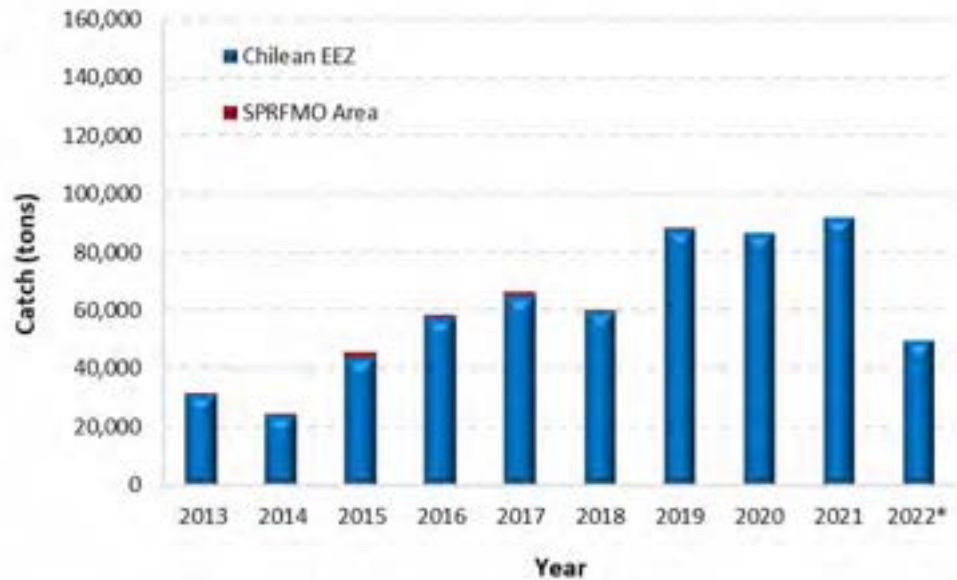
During the 2013-2022 period, it has been observed an increase in jack mackerel catches, with a maximum reached in 2021 (Figure 1 and Table III). This trend is explained by the increase of the quota allocated to Chile and the completeness of its extraction, plus transferences of quota from other SPRFMO members to Chile. During the first half of 2022, 540,020 metric tons of jack mackerel have been caught in the Chilean EEZ, which corresponds to 93% of the national TAC. It is highlighted that as of 2020 the catches of jack mackerel come entirely from the Chilean EEZ.



Year	Jack Mackerel landings by Chile (tons)		
	Chilean EEZ	SPRFMO Area	Total
2013	225,443	5,917	231,360
2014	267,615	3,983	271,598
2015	228,409	56,805	285,214
2016	313,403	3,159	316,562
2017	341,572	3,173	344,745
2018	425,426	975	426,401
2019	451,287	2,283	453,570
2020	561,824	0	561,824
2021	658,726	0	658,726
2022*	540,020	0	540,020

Figure 1 and **Table III**. Total annual jack mackerel catch within the Chilean EEZ and the SPRFMO area for the period 2013 – June 2022 (*) preliminary.

The Chilean fleet targeting jack mackerel also registered chub mackerel catches, which by June of 2022 totaled 49,569 metric tons. This value corresponds to 81% of the average catches for this resource registered for the period 2013-2021 (61 thousand tons). The catches of chub mackerel within the SPRFMO area (Figure 2 and Table IV) have been low, not exceeding 1% of the total, with the exception of 2017, when accounted for 2.2% of the total catches.



Year	Chub Mackerel landings by Chile (tons)		
	Chilean EEZ	SPRFMO Area	Total
2013	31,226	431	31,657
2014	24,127	31	24,158
2015	43,867	1,820	45,687
2016	57,769	814	58,583
2017	64,915	1,492	66,407
2018	59,774	61	59,835
2019	87,994	249	88,243
2020	86,455	0	86,455
2021	91,791	0	91,791
2022*	49,569	0	49,569

Figure 2 and Table IV. Total annual chub mackerel catches in the Chilean EEZ and SPRFMO area with purse seine nets for the period 2013 - June 2022 (*) preliminary.

b) Seasonality of Catches

The largest catches for the 2018-2022 period have been recorded in the first half of each year (80% in average). Thus, during the first half of 2022, the jack mackerel catches reached 540,020 tons.

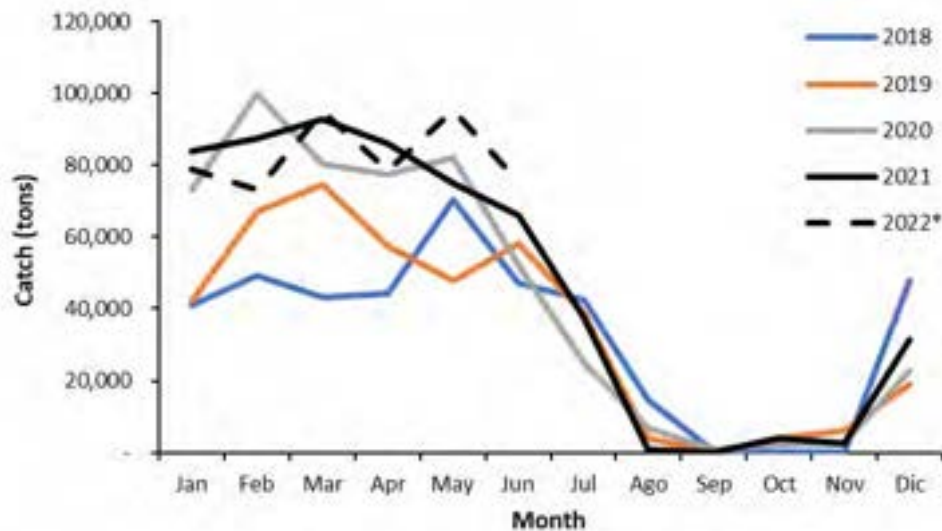


Figure 3: Seasonality of the jack mackerel catches by the purse-seine fleet for the period 2018 - June 2022. Source: SERNAPESCA.

c) Spatial Distribution of Catches

Since 2019, the spatial distribution of the jack mackerel catches in the center-south zone of Chile have been concentrated near the coast, within 100 nm. On the other hand, in the north zone of the country the catches have also been concentrated near the coast, but within the first 50 nm, on average. This last condition is associated with the operation of the fleet targeting anchovy (Figure 4).

d) Bycatch

Chub mackerel has been the main bycatch species for the jack mackerel target fishery. Other species caught as bycatch showed a negligible amounts.

On the other hand, as reported in previous years, in the northern area of the country, jack mackerel has been mostly caught as bycatch while targeting anchovy.

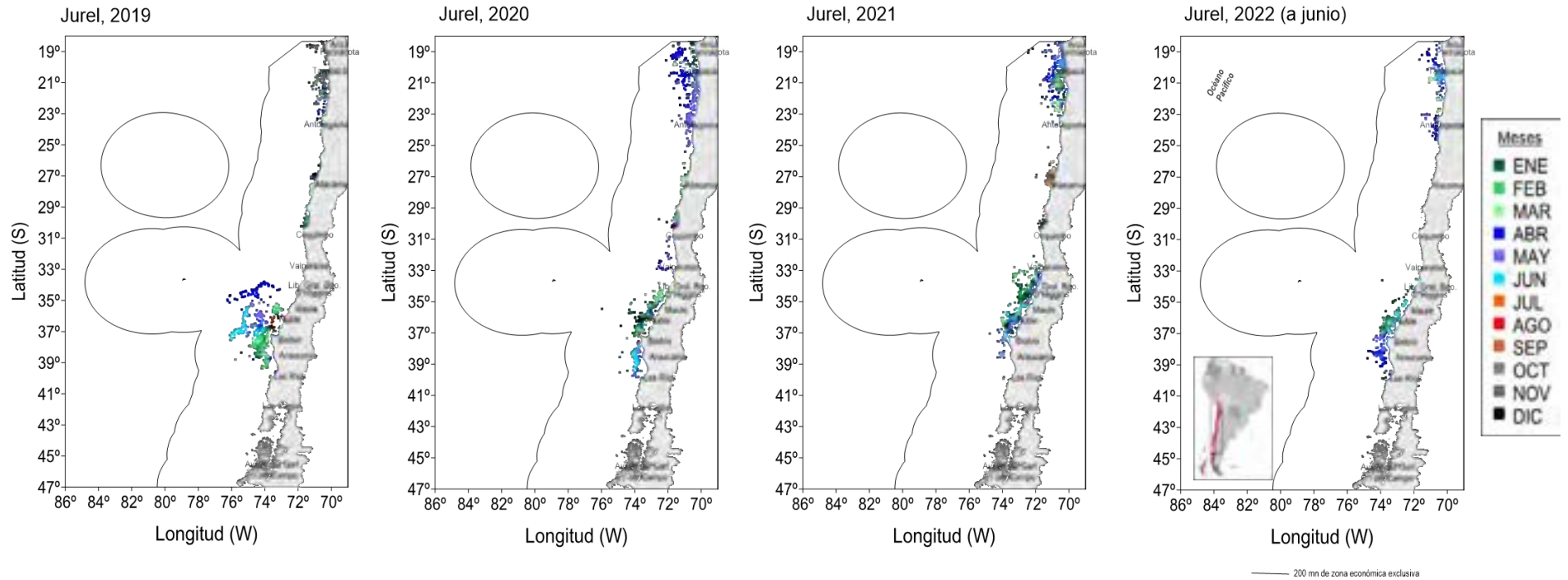


Figure 4: Spatial-temporal distribution of the industrial jack mackerel purse seine fleet in 2019, 2020, 2021 and Jun 2022. In the central-southern zone, is shown the objective fishery for jack mackerel is observed, while in the northern zone, the area where jack mackerel is captured as bycatch. Source: IFOP.

2. EFFORT AND CPUE FOR JACK MACKEREL FISHERY

The information in this chapter is referred to the fleet targeting jack mackerel that operates in the center-south zone of the country. Catches, effort and CPUE were calculated for each trip where jack mackerel represented over 50% of the total catch's species composition.

Until 2010, an increasing trend in the average length of the fishing trips has been observed (Figure 5), which is explained by the distances of the jack mackerel's fishing grounds from the coast. Later, during 2012 and 2013, the catches were concentrated within the Chilean EEZ, condition that reduced considerably the average length of the fishing trips by 50%. In 2015, the catches were again obtained outside the Chilean EEZ, increasing the average length of the fishing trips to around 7 days. For the period 2016-2022, the total number of fishing trips shows a relative stability, while their average length, shows a downward trend and relative stability towards the end of the series, due to the catches have been concentrated close to the coast, within the first 150 nm.

Regarding the standardized CPUE, measured as the rate of use of the fleet's carrying capacity (catch / (hold capacity displaced x length of fishing trip)), has shown a decreasing trend between 2001 and 2011. Subsequently, in 2012, this indicator changed this trend, increasing over time, condition explained by a decrease in the average length of the fishing trips, as a result of changes in the spatial distribution of the resource (Figure 6a). This trend is maintained (Figure 6b), and become more evident in recent years, when a reduction in the number of vessels operating is associated to an increase in both fishing yields and total landings.

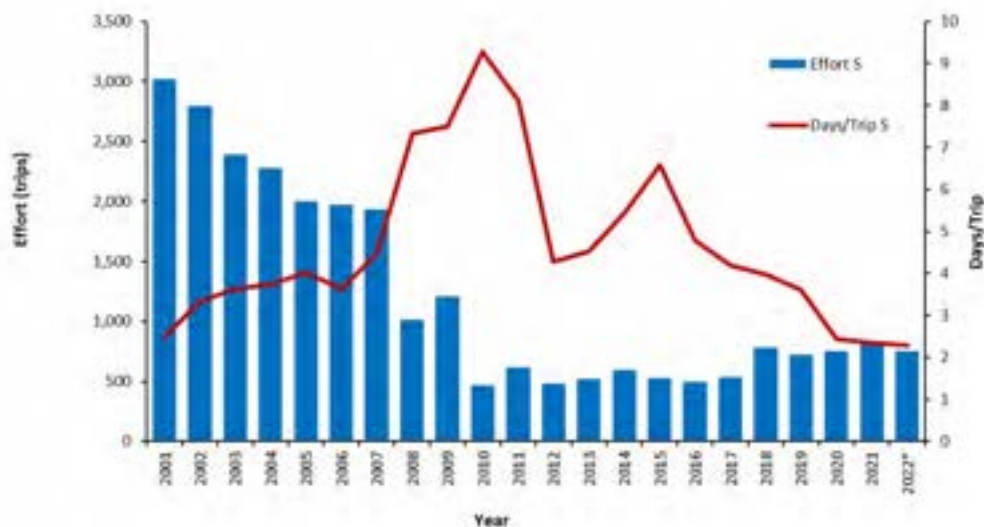


Figure 5: Effort in number of trips with catch (blue), and length of fishing trips in days (red) for the purse seine fleet in the center-southern zone, period 2002-2022 (preliminary). Source: IFOP, based in data from SERNAPESCA.

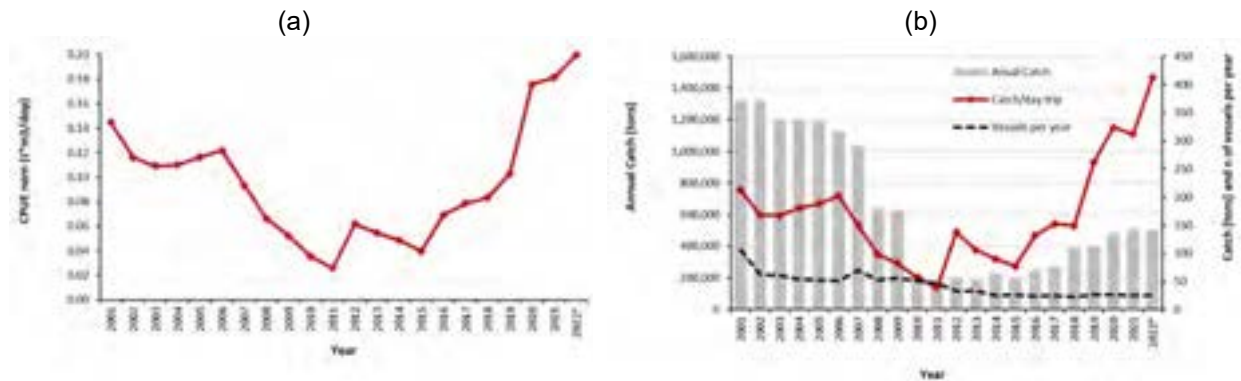


Figure 6: a) Nominal CPUE for the purse seine fleet in the center-southern zone and, b) Total catch per year (grey bars), catch per day of fishing trips (red line) and number of vessels with catch of jack mackerel for the purse seine fleet in the center-southern zone, period 2001-2022* (preliminary). Source: IFOP-SERNAPESCA.

3. RESEARCH PROGRAMS

The research programs performed for the Jack mackerel fishery include usual projects carried out annually by IFOP (Fisheries Research Institute) along with complementary projects.

Projects performed by IFOP during 2021-2022 include:

- **Fishery monitoring**

This study allows obtaining information on the evolution of the main biological and fishery's indicators associated to the jack mackerel fishery. The monitoring is conducted between the northern boundary of Chile and 47°00' SL and included information collected at sea and at landing points by Scientific observers for both industrial and small-scale fleets.

- **Bycatch research and Monitoring Program for jack mackerel fishery**

Since 2015, this study monitors, with scientific observers onboard, the levels of bycatch and interactions of the fishery with seabirds, marine mammals and sea turtles, the associated species caught, and other ecosystem information used for management. The information collected by this project has been used to establish bycatch mitigation plans and measures as well to certify the fishery under MSC standard.



- **Assessment of the total allowable catch**

Similarly, as done by the SPRFMO SWG, this study used the Joint Jack Mackerel (JJM) model. This project is aimed to set up the status of the resource, and to assess the biologically sustainable exploitation rates. The results are used by the Fishing Authority to improve the stock assessment, simulating different exploitation scenarios and conducting additional analyses.

Projects financed by the Fisheries and Aquaculture Research Fund (FIPA) during 2021-2022 include:

- **Research project FIPA 2021-08 "Population genetics of Chilean jack mackerel (*Trachurus murphyi*) in the South Pacific Ocean"**

This project is aimed to reduce the uncertainty in the management of the Chilean jack mackerel (*Trachurus murphyi*) fishery by examining the genetic signatures of connectivity and the mixing ratios of this species, and also developing the reference genome. These topics are essential to understand the population dynamics of this resource.

- **Research project FIPA 2021-21 "Updating information associated with age and growth of jack mackerel, in the context of the SPRFMO"**

The aim of this project is to improve the accuracy of age and the precision of otolith reading for jack mackerel, among SPRFMO scientists. Within its objectives are the homologation of methods and ageing criteria by means of an age protocol based on an otolith reference collection.

4. BIOLOGICAL SAMPLING, LENGTH AND AGE COMPOSITION OF THE CATCH

4.1 Biological sampling.

The biological information for jack mackerel and its associated species is obtained on a regular basis from samples collected along the Chilean coast. Sampling is conducted on a daily basis, mainly at landing sites and processing plants and is also complemented with information gathered by scientific observers onboard fishing vessels. Information collected includes fork length measurements, otolith collection, total weight, gutted weight, gonad weight, and sex and maturity stages.

In 2021, a total of 42,873 specimens of jack mackerel were sampled of which 12,274 were used to collect biological samples. For the industrial fleet, samples included at-sea sampling as well as port sampling, covering the entire range of activities reported for this fishery in Chile. The main landing ports were Caldera and Coquimbo in the northern area and, Talcahuano, Valdivia and San Antonio in the center-south area of the fishery. In relation to chub mackerel, during 2021 a total of 8,411 specimens were sampled of which 1,230 were used to collect biological samples (Table V).

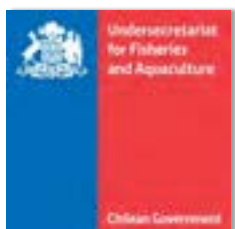


Table V. Number of jack mackerel and chub mackerel specimens collected in 2021 for biological and length samples.

Landing Port	Jack Mackerel		Chub Mackerel	
	Lenght Sampling	Biological Sampling	Lenght Sampling	Biological Sampling
Arica y Parinacota	410	67	68	0
Iquique	2,339	360	6,153	498
Antofagasta	2,884	336	933	0
Caldera	354	140	196	99
Coquimbo	2,671	1,596	692	519
San Antonio	1,058	480	0	0
Talcahuano	30,481	8,665	369	114
Valdivia	2,676	630	0	0
Chil�e	0	0	0	0
Guaticas	0	0	0	0
TOTAL	42,873	12,274	8,411	1,230

4.2 Length and age composition of the catches

Jack Mackerel

Since 2016, the size-structured catches of jack mackerel have shown a wide range of sizes, between 7 and 67 cm FL, with catches being concentrated mainly between 26 and 52 cm FL. The main modes tend to larger sizes towards the end of each year of the series 2016-2022. Less relevant modes (according to the order of importance in the years 2018, 2017 and 2021) of immature individuals of 17-18 cm FL have also been observed. These come from catches from the fleet that operates in the northern zone of the country (Figure 7).

During the first half of 2022, the size-structured catch has ranged between 29 and 52 cm in FL. The main mode was 41 cm in FL and was also observed a secondary mode of 35 cm in FL. A low participation of immature individuals in jack mackerel catches has been registered in 2022, since the catches in the north zone of the country have been centered on individuals between 31 to 50 cm FL.

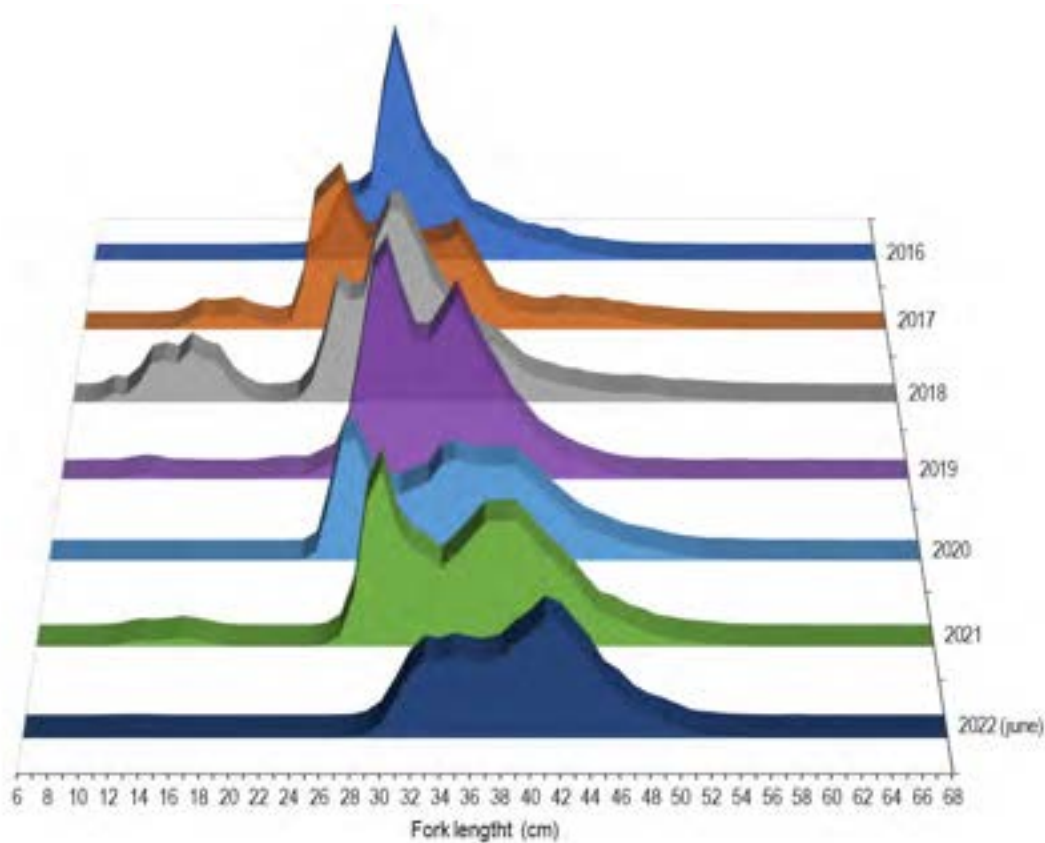


Figure 7. Length structure of jack mackerel, total catch in number for the period 2016 - June 2022. Source: IFOP.

According to the new criteria to assign age groups, ages II and III stand out as the main trends in the age structure for 2011-2017, concentrating between 54% and 23% of catches with an average value around 39%, coming mainly from catches in the north zone of the country. Towards the end of the series, ages IV, V and VI concentrated the main capture modes, grouping between 35% and 60% of the catches with an average value of around 49% (Figure 8).

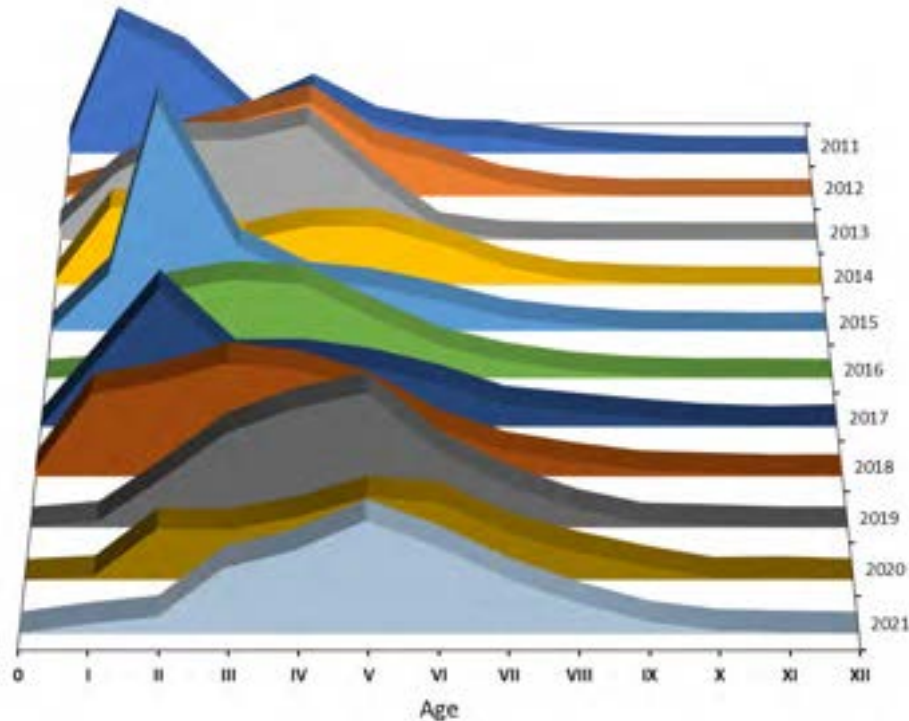


Figure 8: Catch age-structured in number of jack mackerel (with the new age assignment criteria), period 2011 to 2021. Source: IFOP.

5. Ecosystem approach considerations in the jack mackerel fishery

Background

There is a growing concern that the levels of fishing mortality as a result of bycatch and discards, threaten the long-term sustainability of many fisheries worldwide and the maintenance of biodiversity in different areas, compromising the food security and affecting the livelihood of people and countries that depend on fishing resources. However, the use and definition of these terms varies widely. Thus, in some countries the term bycatch is referred to the part of the catch that is retained and sold, but is not the target species for the fishery. In others, bycatch consider species/sizes/sexes of fish that are discarded or returned to sea (dead or alive). On the other hand, the OECD defines bycatch as “the total fishing mortality, excluding that accounted directly by the retained catch of target species”. This last definition thus includes fish that dies as a result of the interactions with the fishing gears, even if they do not leave the water, and could include mortalities resulting from “ghost-fishing”. As a reference, FAO defines bycatch as “any catches conducted



during the fishing process beyond species and sizes of the marine organisms targeted by the fishery, from sponges, corals, commercial or not commercial fish, seabirds, marine mammals and marine reptiles”.

In this regard, Chile has amended its General Law for Fisheries and Aquaculture in 2012 (through Law N° 20.625, known as “discard law”) incorporating the terms **discards** known as “the action of returning to sea hydro biological species caught (target and non-target)” and **incidental catch** as “marine mammals, seabirds and turtles caught during fishing operations”. The law N° 20.625 also incorporated penalties and modern tools to monitor at sea, those engaged in these practices during fishing operations.

Consequently, the Chilean approach to understand, regulate and mitigate discards and incidental catch is broad in scope, encompassing the following groups of species: target and non-target fish, accompanying fauna (bony fishes, chondrichthyes, invertebrates, etc.), seabirds, marine mammals and sea turtles. However, in a stepwise approach to solve the problem, the Law N° 20.625 considered exceptions to the discard ban, conditional on a minimum of two years fishery-based research monitoring programs by observers on board in order to quantify and identify the causes of discards and incidental catch. These antecedents would allow to develop, at a later stage, mandatory reduction plans for these practices, tailored for each fishery, that will be finally monitored and recorded at sea through the incorporation of new technological tools such as EMS (Image Recording Devices (DRI) and Electronic Logbook System (SIBE)).

In this context, from 2014 onward, information onboard commercial fleets, for a Nationwide Research Program on discards and incidental catch in small pelagic purse seine fisheries has been collected, in order to establish reduction plans for these practices, according to the new law (N° 20.625) requirements. For these purposes a team of trained observers from the National Observer Program has been used. At the same time, similar programs have also been developed in demersal fisheries.

In January 2015, a specific program for the jack mackerel industrial purse seine fishery was initiated, which was concluded in April 2019 with the enactment of a mandatory reduction plan for the entire fleet, along with the stakeholders at the Management Committee of the fishery. Among other aspects, the reduction plan includes:

- Ban of discard for jack mackerel and its accompanying fauna.
- Mandatory release of all the incidental catch and chondrichthyes caught during fishing operations, using handling protocols (some under current development)
- Management measures and technological means to eliminate discards of accompanying fauna and reduce incidental catch.
- A scientific and compliance monitoring program to evaluate the effectiveness of the measures adopted by the reduction plan.
- A training program for fishermen.
- A code of good fishing practices.
- Incentives for innovation in systems aimed at reducing discards and incidental catch.

It should be noted that the Chilean observer programs were extended with the Law N° 20.625, but with the sole objective of collecting biological and fisheries data to be used in scientific advice for management, without any jurisdiction in compliance. Therefore, the compliance with measures of reduction plan and



handling protocols are being monitored remotely by electronic monitoring systems EMS (Image Recording Devices (DRI) and Electronic Logbook System (SIBE)) onboard all vessels of the industrial fleet, while artisanal boats longer than 15 m (total length) will be required to carry EMS in a later stage (2024). DRI specific regulations have been enacted and the system has been fully implemented in the entire industrial fleet as of January 2020. Also as of 2020, industrial vessel owners have the obligation to report, in real time an in a set-by-set basis, all catches, discards and incidental catch through the Electronic Logbook System (SIBE) which has been recently been implemented by the National Fisheries and Aquaculture Service, according to Law. The information content that must be reported in the electronic logbooks includes:

- Geographic Location of the set.
- Time (beginning and end) of the set.
- Amount (weight) or number of specimens by species or species groups.
- Incidental catch by species or species groups.
- Additional information (notes).

In Chile EMS are considered to be both; Image Recording Devices (DRI) and Electronic Logbooks Systems (SIBE). These monitoring and recording tools have been implemented to improve control of compliance with fishing regulations and fisheries sustainability. It should be noted that to this date, the EMS implementation has focused on monitoring compliance with regulations applying to catches, discards and incidental bycatch of seabirds, marine mammals, sea turtles and chondrichthyes. However, the extension of the use of these tools beyond control, such as the scientific monitoring of fishing activities to gather fisheries dependent data, has begun to be explored recently with the aim complementing it with traditional human observation programs, in a near future. For more detail review Cocas *et al.*, 2022.

It should also be highlighted that at its 8th Annual Meeting, the SPRFMO Commission selected MRAG as the SPRFMO Observer Program Accreditation Evaluator (see Paragraph 59 of the COMM8-Report). In 2020 the Observer Programs of 3 Members; Chile, New Zealand and Australia were evaluated and granted accreditation (CTC8-Doc10_Rev2 SPRFMO Observer Program Implementation Report) in accordance with CMM 16-2021, which recognizes the high standard of work of the Chilean Program.

Results

In order to characterize the incidental catch and mortality of seabirds, marine mammals and sea turtles occurred in the industrial purse-seine fishery for jack mackerel, a total of 2,657 fishing sets were monitored by scientific observers onboard during 2015-2021. The results are presented for the entire period (combined) with the aim of showing better estimates and trends of both catch and mortality rates, which in this case also correspond to the average incidental catch and the average mortality per set.

As mentioned in previous reports, in the jack mackerel fishery both, the incidental catch and resulting mortality for these groups of species are low, mainly due to the fact that the fishing operations are rather oceanic (compared to artisanal fleets) and also because the crews are making efforts to release specimens alive whenever possible through the use of handling protocols and the compliance with good fishing practices according to the mandatory reduction plans previously mentioned.



The species affected by incidental catch (% in relation to the total numbers of incidental specimens caught) are mainly marine mammals (70.4%), followed by Procellariiform seabirds including albatrosses, petrels and shearwaters (15.8%), and coastal seabirds such as seagulls, pelicans and penguins (13.8%). In addition, the capture of one specimen of Leatherback turtle was recorded in 2018, which was released alive by the crew. The only species of marine mammal affected is the South American sea lion (*Otaria byronia*), while the main species of seabirds caught incidentally were the Dominican gull (*Larus dominicanus*) and the Black-browed albatross (*Thalassarche melanophris*), both species altogether represented 58.4% of the total number of seabirds incidentally caught (Table VI).

It must be clarified that with regard to Chilean regulations, the term incidental catch does not necessarily refer to incidental mortality since it relates to specimens caught in the fishing gears that in certain cases can be released alive by the crew, using appropriate handling protocols. Considering these conditions, fisheries observers onboard are required to differentiate and register both, incidental catch and mortality as a result. Consequently, in the Table VI the distinction is clearly made between N° of individuals incidentally caught v/s N° individuals dead as a result of incidental catch, to prevent confusions. In fact, incidental mortality resulting from interactions with this fleet is low, totaling 41 specimens out of 2,657 caught for the entire period (2015-2021), where the Pink-footed shearwater (*Ardenna creatopus*) and the South American sea lion represented 39% and 31.7%, respectively in relation to the total number of dead specimens as a result of incidental catch.

Regarding the spatial and temporal variability of the incidental catch and mortality of both, marine mammals and seabirds, its occurrence is mainly explained by the distance of the fishing operations from the coast in relation with the seasons of the year. During warm seasons (spring-summer) the fleet operates near the coast (39 nm in average), compared with cold seasons (autumn-winter) when operations become more oceanic with an average of 86 nm from the coast. It has been seen that this pattern of spatial-temporal operation has a great effect on the intensity of interactions of the fleet, especially with foraging species restricted to terrestrial colonies or those of coastal distribution, such as the South American sea lion and coastal seabirds (Sabarros et al., 2014; Ainley et al., 2009; Baylis et al., 2008). For these last two groups, the average incidental bycatch during the cold seasons decreased by 127% and 135% respectively, compared to warm seasons. The opposite occurred with albatrosses whose interaction with the fishery increased by 183% during the cold seasons (autumn-winter). Records of incidental bycatch for albatrosses were mainly obtained at 100 or more nm from the coast (82% of the events), condition which coincides with Spear & Ainley (2008) who reported, for the south-central zone of Chile, that albatrosses are much more abundant in oceanic than neritic waters during winter (Figure 9).

Table VI. Incidental catch and resulting mortality by species in the jack mackerel purse-seine industrial fishery operating between Valparaíso and Los Lagos Chilean administrative regions, (32°10'23" - 43°44'17" SL) and in the international waters of the SPRFMO. Source: data collected by scientific observers onboard from 2,657 fishing sets between January 2015 and December 2021 Source: Vega *et al.*, (2022) Preliminary data, final annual report under evaluation).

Common name	Scientific name	N° of individuals incidentally caught	N° individuals dead as a result of incidental catch	Mort (%)	AIC	CV _{AIC}	AIM	CV _{AIM}
South american sea lion	<i>Otaria byronia</i>	1,870	13	0.7	0.8	542	0.005	1,639
Dominican gull	<i>Larus dominicanus</i>	244	1	0.4	0.1	1,426	0.0004	4,897
Black-browed albatross	<i>Thalassarche melanophris</i>	215	1	0.5	0.09	1,214	0.0004	4,897
Peruvian pelican	<i>Pelecanus thagus</i>	109	3	2.8	0.05	1,911	0.001	4,897
Unidentified albatross	<i>Thalassarche</i> spp.	61	0	0	0.03	2,049	0	-
Sooty shearwater	<i>Ardenna grisea</i>	47	2	4.3	0.02	2,531	0.0008	3,462
Grey-headed albatross	<i>Thalassarche chrysostoma</i>	36	0	0	0.02	2,105	0	-
Wilson's storm petrel	<i>Oceanites oceanicus</i>	18	1	5.6	0.008	2,175	0.0004	4,897
Pink-footed shearwater	<i>Ardenna creatopus</i>	16	16	100	0.007	2,329	0.0067	2,329
Humboldt penguin	<i>Spheniscus humboldti</i>	13	1	7.7	0.005	4,536	0.0004	4,897
Cape petrel	<i>Daption capense</i>	8	0	0	0.003	3,569	0	-
White-chinned petrel	<i>Procellaria aequinoctialis</i>	8	1	12.5	0.003	4,328	0.0004	4,897
Southern giant-petrel	<i>Macronectes giganteus</i>	8	0	0	0.003	3,569	0	-
Unidentified storm-petrel	Hydrobatidae	1	1	100	0.0004	4,897	0.0004	4,897
Unidentified penguin	<i>Spheniscus</i> spp.	1	1	100	0.0004	4,897	0.0004	4,897
Wandering albatross	<i>Diomedea exulans</i>	1	0	0	0.0004	4,897	0	-
Leatherback sea turtle	<i>Dermochelys coriacea</i>	1	0	0	0.0004	4,897	0	-

Mort (%) = Mortality: Number of dead animals / Number of animals of the same species captured

AIC = Average Incidental Catch: Number of animals caught / Number of sets observed

CV_{AIC} = AIC Coefficient of variation

AIM = Average Incidental Mortality: Number of dead animals / Number of sets observed

CV_{AIM} = AIM Coefficient of variation

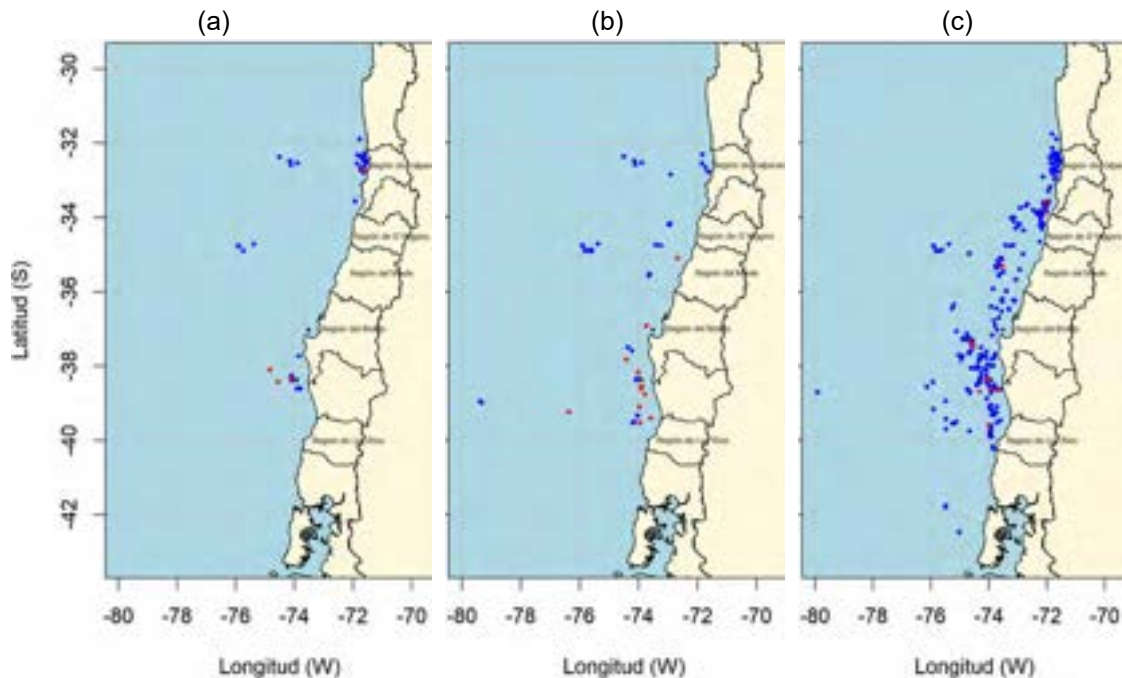


Figure 9. Geographic distribution of sets with incidental bycatch (blue) and mortality (red) reported in the jack mackerel purse-seine fishery that operated in the south-central zone off Chile during January 2015 - December 2021: a). coastal seabirds; b) Procellariiform seabirds; c) South American sea lion. Source: Vega *et al.*, (2022) Preliminary data, final annual report under evaluation).

Another aspect related to the ecosystem considerations of the jack mackerel fishery is the monitoring of garbage management on the fishing fleet. In this regard, the observer program has been monitoring the handling of garbage generated on board the fishing vessels through the assessment of the level implementation of the Annex V of the International Convention MARPOL, whose main rule prohibits the dumping of plastics into the sea. The program has evaluated the improvement in the degree of knowledge of Annex V and behavior of the crews, and also the implementation of the regulations in the vessels between 2015 and 2021. Some aspects studied were: 1) the existence of written management plans, 2) the presence of informative material or posters in suitable and visible places on the prohibitions, 3) use of garbage record books and 4) presence of containers. The information was collected by observers using a specific form designed for such purposes, which was applied at sea during the fishing trip with a fixed frequency of time between trips of three months in order to allow a period of time to observe changes in behavior in the crew regarding the application of the regulations. To improve knowledge of the regulations, observers were tasked by giving talks to the crew about the main rules. A standard guide for observers was developed called "Dissemination of" Annex V-MARPOL 73/78 ": How and what to communicate to the crew on board purse-seine vessels". In addition, flyers, posters, calendars and ecological bags with allusive messages were designed and distributed. Once the results were analyzed, recommendations for prevention or mitigation measures were made to improve the deficiencies observed.



6. Observer Implementation Report

At-Sea and Port Sampling Program

In order to evaluate the sampling coverage within the SPRFMO Area, only fishing trips targeting jack mackerel were considered for this report (i.e., trips with a jack mackerel composition of more than 50% of the total catch per fishing trip). This report includes coverage data from fisheries observers onboard and/or at-port sampling.

During 2021 there was not fishing activity of Chilean vessels in the SPRFMO Area, therefore the sampling and monitoring were focused exclusively on the Chilean EEZ. Within this area, the sampling coverage conducted by scientific observers onboard fishing vessels was 8.9%, and at-port sampling coverage was 8.4%, with a total combined sampling coverage of 17.3% (Table VII).

Due to restricted conditions derived from the COVID-19 pandemic, the optimum sampling coverage of the fleet with observers on board has been difficult to maintain during 2021, with 146 trips monitored by scientific observers on board and 137 trips sampled in port. This condition is also explained in part by the smaller number of vessels that carry out the fishing effort, on more coastal schools than in previous years. However, total coverage, as mentioned before, still reaches 17.3% of the total fishing trips (onboard plus at landing sites).

Table VII. Sampling coverage by scientific observers at port and onboard for the Chilean jack mackerel fishery 2021.

	At-Port	On Board	Total
Chilean EEZ	8.4	8.9	17.3
SPRFMO area*	-	-	-
TOTAL	8.4	8.9	17.3

(*) There was no activity of the Chilean fleet in the SPRFMO area.



7. ADMINISTRATIVE MEASURES

Total catch quota

In December each year, the Undersecretariat for Fisheries and Aquaculture establishes the catch quotas for each resource in full exploitation regimes to be implemented the following year. The jack mackerel quota for 2022 established by the Undersecretariat for Fisheries and Aquaculture in December 2021 was 581,074 tons (Electronic Exempt Decree, Invoice DEXE202100240) of which 93% was extracted in the first half of 2022.

Bycatch Reduction Plan

Mandatory sets of measures to avoid bycatch and discards in the jack mackerel fishery established through Exempt Resolution N° 16; it can be found at http://www.subpesca.cl/portal/615/articles-104138_documento.pdf26/2019.

Implementation of EMS in the entire industrial fleet

- **Image Recording Devices (DRI)**

As of January 2020, mandatory Image Recording Devices (DRI) to monitor compliance with Bycatch Reduction Plans and Fishery regulation in general have been implemented.

- <http://www.subpesca.cl/portal/615/w3-article-96157.html>
- <http://www.subpesca.cl/portal/615/w3-article-106392.html>

- **Electronic Logbook System (SIBE)**

During 2020, the mandatory use of Electronic Logbook Systems (SIBE) in the entire industrial fleet to report in a set-by-set basis, total catches, bycatch and discards, locations of sets and other fishery information according to the requirements of the Law have also been implemented

- http://www.sernapesca.cl/sites/default/files/res.ex_267-2020_0.pdf



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SM10

27 August 2022

Letter from Chairperson of the
Commission to Members and
CNCPs

To: Heads of Delegations of SPRFMO Members and CNCPs

Subject: Invitation to a SPRFMO HoD meeting to discuss the 2023 Annual meeting in Manta, Ecuador

Dear colleagues,

I sincerely trust that you and your families across the world are healthy and in good spirits.

The Executive Secretary, subsidiary body Chairpersons, and I have been preparing for the upcoming meetings and have discussed the need for a Heads of Delegations (HoDs) meeting prior to the Annual Meeting, as has been the tradition in SPRFMO. Such a meeting will provide an indication of the expectations and timetable for the Annual Meeting and help identify any potential areas which may require additional meeting time and/or working group discussions.

For this purpose, I would like to propose holding a Heads of Delegation meeting on **14 September 2022** (NZDT). In consultation with the Executive Secretary, I have developed a draft agenda for this meeting, which is attached to this letter as Annex 1.

- [SPRFMO HoD meeting link](#)

The HoD meeting will be virtual using Microsoft Teams following the attached table showing local timing (Annex 2). This is a different timing to our previous HoD meetings, in order to accommodate the varying time zones of SPRFMO Members and Chairpersons and share the burden of less convenient times as it also was requested by several participants.

The main purpose of the meeting will be to present and discuss the tentative timetable and working arrangements for the upcoming meeting of the Commission and its Subsidiary Bodies (see draft agenda in Annex 3), so that Ecuador as the host country, in coordination with the Secretariat, can start planning accordingly. In accordance with our decision last year, I will be proposing that the meetings take place in person with appropriate measures for social distancing. These measures will be presented at the Heads of Delegation meeting.

Subject to the agreement of the Members, I am also proposing a change to the previously agreed meeting dates. After discussions with Ecuador and, considering their constraints regarding the logistics for the meeting, my proposal is to begin and finish the meeting one day later and align those dates with the weekend. This proposal would also support Ecuador's plans for the formal opening of the Commission and associated meeting events and provide a clear break between the meetings of the subsidiary bodies and the Commission.

The tentative timetable goes along the established practice. Together with the fixed agenda items and the discussion of the proposals, there is a degree of flexibility factored into the agenda of COMM11, to allow for the establishment of working groups to progress discussion on complex topics if needed. I am already anticipating a Working Group on Jack Mackerel allocation, but I do not exclude other working groups should the need arise. The HoD meeting will be an opportunity to hear your views in all these matters.

Concerning the Subsidiary Bodies, the tentative timetable is also based on our traditional arrangements. The only exception is that I would propose to convene the FAC ahead of the Commission meeting instead of concurrently as it was the case at last year's Annual Meeting. Results of this arrangement were positive, there was more predictability of the agenda, and the use of time was more efficient amongst delegations.

I look forward to our upcoming meeting.

Sincerely yours,

Luis Molledo
SPRFMO Commission Chairperson



Annex 1: Draft Agenda for the SPRFMO HoD meeting to discuss the 2023 Annual meeting to be held in Manta, Ecuador.

Link: [Click here to join the meeting](#)

1. Opening of meeting
2. Tentative planning of the SPRFMO annual meeting and its subsidiary bodies (Annex 3)
3. Potential working groups
4. Any other business

Annex 2: Local timing for the SPRFMO HoD meeting to discuss the 2023 Annual meeting to be held in Manta, Ecuador.

Location	Local time	Time Zone
Rarotonga, Cook Islands	Tue 13 September, 7:00 pm	CKT
Guayaquil, Republic of Ecuador	Wed 14 September, 12:00 am (midn)	ECT
Lima, Republic of Peru	Wed 14 September, 12:00 am (midn)	PET
Panama, Republic of Panama	Wed 14 September, 12:00 am (midn)	EST
Havana, Republic of Cuba	Wed 14 September, 1:00 am	CDT
Washington DC, United States of America	Wed 14 September, 1:00 am	EDT
Santiago, Republic of Chile	Wed 14 September, 2:00 am	CLST
Tórshavn, Kingdom of Denmark in respect of the Faroe Islands	Wed 14 September, 6:00 am	WEST
Brussels, Belgium, European Union	Wed 14 September, 7:00 am	CEST
Moscow, Russian Federation	Wed 14 September, 8:00 am	MSK
Beijing, People's Republic of China	Wed 14 September, 1:00 pm	CST
Taipei, Chinese Taipei	Wed 14 September, 1:00 pm	CST
Seoul, Republic of Korea	Wed 14 September, 2:00 pm	KST
Canberra, Australia	Wed 14 September, 3:00 pm	AEST
Port Vila, Republic of Vanuatu	Wed 14 September, 4:00 pm	VUT
Wellington, New Zealand	Wed 14 September, 5:00 pm	NZST



Annex 3: Proposed Schedule for the 11th Annual Meeting of the SPRFMO

7 to 17 February 2023 in Manta, Ecuador

Meetings of the Subsidiary Bodies	Session 1 09:00 – 10:30	Session 2 11:00 – 12:30	Session 3 13:30 – 15:30	Session 4 16:00 – 18:00
Tuesday: 7 February 2022	CTC	CTC	CTC	CTC
Wednesday: 8 February 2022	CTC	CTC	CTC	CTC
Thursday: 9 February 2022	CTC	CTC	CTC	FAC
Friday: 10 February 2022	FAC	FAC	FAC	CTC Report/ CMS/IUU adoption
Commission meeting	Session 1 09:00 – 10:30	Session 2 11:00 – 12:30	Session 3 13:30 – 15:30	Session 4 16:00 – 18:00
Monday: 13 February 2022	COMM opening ceremony, Agenda.	Administration, Convention status SC report/workplan	CTC report Adoption of IUU List, CMS, CNCPs. Proposal updates	FAC report adoption
Tuesday: 14 February 2022	Proposals/WG planning	Working Group (To be determined)	Proposals (discussion)	Working Group (To be determined)
Wednesday: 15 February 2022	Proposals (discussion)	Working Group (To be determined)	Proposals (adoption)	Working Group (To be determined)
Thursday: 16 February 2022	Proposals (adoption)	SC workplan adoption, FAC report presentation. Adoption of Budget/ Contributions	Cooperation, Officers, Future meetings, AOB	Proposals (adoption)
Friday: 17 February 2022	Open items	Open session/ Report preparation	COMM report adoption	COMM report adoption and meeting close

Coffee breaks are proposed to be 30 minutes with 1 hr for lunch.

The pre-COMM HoD meeting is proposed to be held at 8am on Monday, 13 February.

SM11

February 2023

COMM11-Inf01_rev2-

Data submitted to the Secretariat

11TH MEETING OF THE SPRFMO COMMISSION

Manta, Ecuador 7 to 17 February 2023

COMM 11 – Inf 01 [rev2](#)

(rev2 - 01 Feb 2023)

Catch Data Submitted to the SPRFMO Secretariat

Secretariat



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1. Introduction

This paper summarises Annual Catch Totals (for key species) received by the South Pacific Regional Fisheries Organisation (SPRFMO) Secretariat as of 04 January 2023 and for the last 40+ years¹ and updates [COMM10-Inf01](#).

1.1 Annual catches by fishery

The SPRFMO Convention applies to the high seas of the South Pacific, covering about a fourth of the Earth's high seas areas. Currently, the main commercial resources fished in the SPRFMO Area are jack mackerel and jumbo flying squid in the Southeast Pacific and, to a much lesser degree, various deep-water species often associated with seamounts in the Southwest Pacific.

It should be noted that during the 10th Scientific Committee meeting (2022), there were discussions around the need to clearly define what is meant by 'fisheries' within SPRFMO. Two papers were presented related to this topic: one to evaluate catch composition while targeting jack mackerel, alfonsino, and redbait ([SC10-Doc13](#)) and the second to explore the characteristics of fishing activities within SPRFMO, relative to extant CMMs ([SC10-Doc12_rev1](#)). For this paper, catches are grouped by 'fishery' in Figure 1.1, which is a general classification based on flag, gear type, and species encountered. For example, the catches of alfonsinos and redbait, which have been the focus of much discussion over the past year, are grouped under the jack mackerel fishery in this figure.

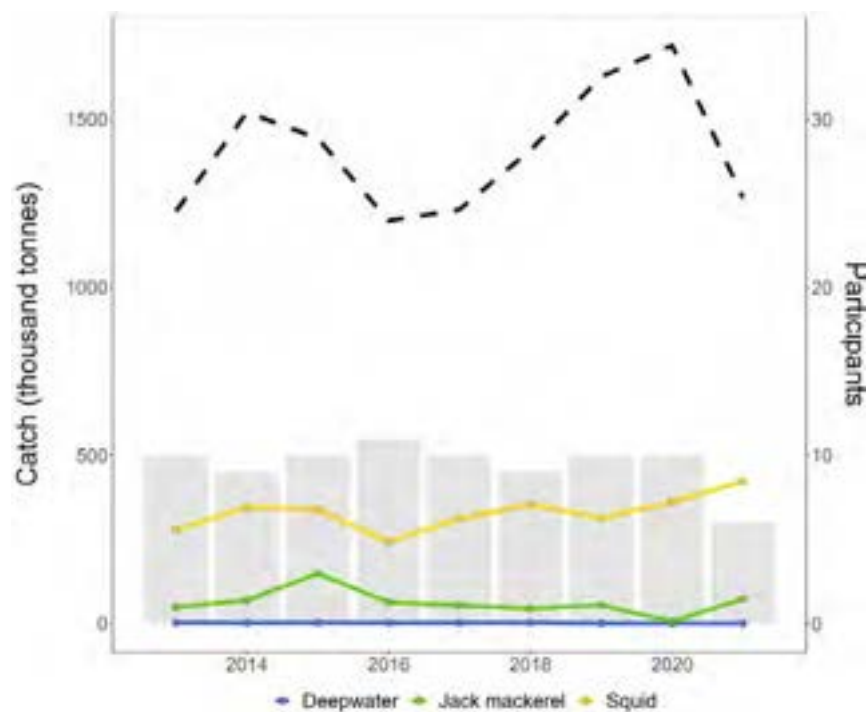


Figure 1.1: Annual catches (thousand t) reported by SPRFMO Members and CNCPs (2013–2021) and active participants (secondary y-axis; bars). The annual catch figures for the SPRFMO Area by 'fishery', including deepwater, jack mackerel, and squid are represented by the coloured lines, while the total reported annual catch (including catches in areas of national jurisdiction) of all species and fisheries is represented by the dashed black line.

Figure 1.1 above shows the total catch record held by the Secretariat for the three main fisheries in the region: jack mackerel (green), jumbo flying squid (yellow), and deepwater (blue). Fisheries are broadly defined by area

¹ The annual catch records held by the SPRFMO Secretariat begin in 1939 (one Member). However, most the records for most Member participants begin in the late 1970's.



fished, fishing method, and species caught. Catch data from these three fisheries are illustrated for the SPRFMO Area only, excluding catches from exclusive economic zones (EEZs) and areas of national jurisdiction (ANJs). The black dashed line represents all catches reported to SPRFMO (e.g., including jack mackerel/squid catches from neighbouring ANJs), combined across all fishery categories. The secondary y-axis is associated with the number of participants (i.e., Member/CNCP) in each year, across all fisheries combined, and is represented by the grey bars.

There was a steep decline in the jack mackerel fishery until 2012 in the area managed by SPRFMO (and also across the total area including jack mackerel inside Chile’s EEZ; i.e., included in the black line trend) after which a recovery occurred and since 2015 catches for this fishery have been relatively stable (noting reduced effort, largely during 2020 due to the COVID-19 pandemic). The high seas South-east Pacific squid fishery has experienced rapid growth and catches in the SPRFMO Area have been increasing over the last 5 years. The catches for the deepwater demersal fishery are virtually imperceptible on this scale. Figure 1.1 also shows that participation in SPRFMO fisheries by Members (and CNCPs) has remained relatively constant throughout this period, but with a notable decrease in 2021; however, the number of vessels operating in each fishery varies considerably (Figure 1.2).

1.2 Fishery characteristics

Figure 1.2 shows the different characteristics of each of the SPRFMO fisheries during 2021. The demersal fishery was the smallest by catch volume (~198 tonnes), had the highest species diversity (~127 species caught in 2021; secondary axis), and was carried out by 8 vessels. The jack mackerel fishery catches in the SPRFMO Area totalled approximately 73,895 tonnes, with 15 species encountered and participation from four vessels. The monospecific squid fishery continues to expand, producing an estimated 422,640 tonnes from the SPRFMO Area in 2021 with participation from 519 vessels (including carrier vessels).

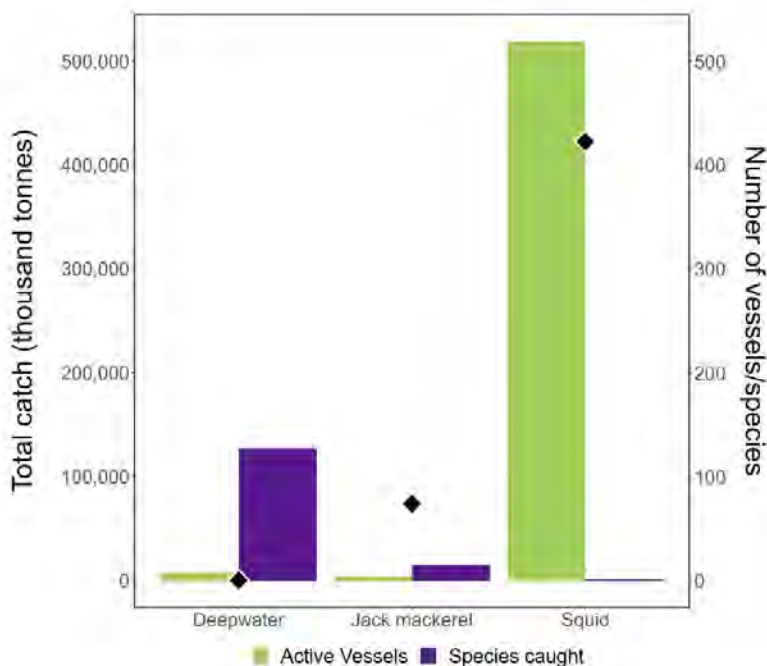


Figure 1.2: Annual catches (thousand t; black diamonds), number of active fishing vessels (green bars), and number of species reported (purple bars) for SPRFMO fisheries in 2021.



There are over 339 individual species which have been recorded as being caught in the SPRFMO Area during the most recent 10 years and this paper provides a summary for 26 major species or groups. Species have generally been grouped in order to:

- a) accommodate the use of similar (but different) species codes by different participants; and
- b) to highlight important taxonomic groups which otherwise might be lost due to numerous small catches of individual species².

Annex 1 lists the major species (groups) and contains details about the specific species that make up each grouping. Note that the SPRFMO Scientific Committee is working on an assessment framework for deepwater species and the Secretariat's intention is to align the lists of major species with the SC identified Tier 1 and Tier 2 species as the work progresses (refer to [SC7-Report](#), paragraph 69).

² For the purposes of this paper the major species groups were the same as previously defined in COMM10-Inf01.



2. Annual reported catches in the South Pacific for *Trachurus* spp (Jack/Horse mackerels)

Table 2.1: Annual catch data – *Trachurus* spp (t)

Participant	Australia	Belize	Chile ³		China	Cook Islands	Cuba	Ecuador
FAO Area	Unknown	87	87	87	87	87	87	87
High seas vs In-zone	EEZ (AUS)	HS	EEZ (CHL)	HS	HS	HS	HS	EEZ (ECU)
Species	<i>Trachurus</i> spp.	<i>T. murphyi</i>	<i>T. murphyi</i>	<i>T. murphyi</i>	<i>T. murphyi</i>	<i>Trachurus</i> spp.	<i>T. murphyi</i>	<i>T. murphyi</i>
2021			626 391	0				
2020			556 497	0	0	0	0	0
2019			442 038	2 283	22 699			0
2018			425 426	975	24 366			23
2017			341 572	3 173	16 802			54
2016			313 403	3 159	20 208			0
2015			228 409	56 805	29 180			289
2014			267 615	3 983	21 155			9
2013			226 006	5 917	8 329	0		3 563
2012			223 322	4 138	13 012	0	0	77
2011		0	193 722	53 573	32 862	0	8	69 373
2010		2 240	355 510	109 298	63 606	0		4 613
2009		5 681	491 792	343 135	117 963	0		1 934
2008		15 245	376 370	519 738	143 182	0		0
2007	680	12 585	1 040 167	262 617	140 582	7		927
2006		481	1 251 499	128 442	160 000			0
2005		867	1 158 272	272 162	143 000			0
2004			1 154 890	296 709	131 020			0
2003			975 186	446 110	94 690			0
2002			1 465 912	53 081	76 261			604
2001			1 649 933	0	20 090			133 969
2000			1 233 938	361	2 318			7 122
1999			1 202 512	17 177				19 072
1998			1 594 144	18 768				25 900
1997			2 905 830	11 234				30 302
1996			3 883 326	0				56 782
1995			4 404 193	0				174 393
1994			4 041 447	0				36 575
1993			3 236 244	0				2 673
1992			3 212 060	0			3 196	15 022
1991			3 020 512	0			30 828	45 313
1990			2 471 875	0			41 197	4 144

³ Chile has submitted annual catch data for *T. murphyi* dating back to 1960.



Table 2.1: Continued

Participant	European Union ⁴				Faroe Islands	Japan	Korea
FAO Area	71/77/81	87	87	87	87	87	87
High seas vs In-zone	HS + EEZ	EEZ (PER)	HS	Unknown	HS	HS + EEZ	HS
Species	<i>Trachurus</i> spp.	<i>T. murphyi</i>	<i>T. murphyi</i>	<i>T. murphyi</i>	<i>T. murphyi</i>	<i>T. murphyi</i>	<i>T. murphyi</i>
2021			43 167				
2020	0	0	0	0	0	0	0
2019			11 870		0		7 444
2018			9 691		0		3 717
2017			27 887		0		1 235
2016			11 962		0		6 430
2015			27 955		0		5 749
2014			20 539		0		4 078
2013			10 101		0		5 267
2012			0		0	0	5 492
2011			2 248		0		9 253
2010			67 497		11 643	0	8 183
2009			111 921		20 213	0	13 759
2008			108 174		22 919		12 600
2007			123 523		38 700 ⁵		10 940
2006			62 137				10 474
2005			6 187				9 126
2004							7 438
2003							2 010
2002							
2001							
2000							
1999						7	
1998							
1997							
1996							
1995							
1994							
1993							
1992				7 842			
1991	12 752			109 292			
1990	6 160			80 874		157	

⁴ Lithuania catches are included within both European Union and Russian Federation annual catch data for years prior to the dissolution of the former Soviet Union.

⁵ The Faroe Islands 2007 Figure includes small quantities of unspecified mackerel.



Table 2.1: Continued

Participant	New Zealand ⁶			Peru ⁷		Russian Federation ^{6,8,9,10}		
	81	81	81	87	87	81	87	87
High seas vs In-zone	EEZ (NZL)	EEZ (NZL)	EEZ (NZL)	EEZ (PER)	HS	unknown	EEZ (PER)	HS
Species	<i>T. murphyi</i>	<i>T. declivis</i>	<i>T. novaezelandia</i>	<i>T. murphyi</i>	<i>T. murphyi</i>	<i>T. declivis</i>	<i>T. murphyi</i>	<i>T. murphyi</i>
2021				123 628	0			12 151
2020	0	0	0	158 880	0	0	0	5 245
2019				139 811	0			9 423
2018				58 356 57 140⁸	0			4 685
2017				10 094 8 813⁸	0			3 188
2016				15 121 15 087⁸	0			0
2015				23 036 22 158⁸	0			2 561
2014				79 191 74 528⁸	2 557			
2013				79 441 77 022⁸	2 670			0
2012				187 292 ⁸	5 346			0
2011				256 566 257 241⁸	674			8 229
2010	3 303	22 591	14 984	17 559	40 516			⁹
2009	3 964	21 820	14 390	74 694	13 326			9 113 ¹⁰
2008	6 500	26 231	14 664	169 537				4 800
2007	4 186	25 923	16 265	254 426		0		0
2006	5 253	16 873	14 226	277 568		0		0
2005	6 730	15 564	23 442	80 663		0		7 040
2004	6 184	21 335	15 650	187 369		0		62 300
2003	6 538	17 548	13 663	217 734		0		7 540
2002	7 486	14 831	9 986	154 219		0		0
2001	7 916	9 805	11 768	723 733		0		0
2000	8 677	10 033	3 844	296 579		0		0
1999	18 058	13 412	2 889	184 679		223		0
1998	20 993	6 229	8 796	386 946		52		0
1997	21 543	5 119	8 374	649 751		886		0
1996	26 386	6 212	10 133	438 736		2 280		0
1995	19 678	7 775	8 898	376 600		1 602		0
1994	22 434	14 917	4 934	196 771		1 804		0
1993	22 046	13 901	13 336	130 681		4 260		0
1992	12 664	12 447	12 576	96 660		2 892		32 000
1991	8 674	12 174	12 880	136 337		127 000	47 172	544 628

⁶ Catches of *Trachurus* spp made by Ukrainian vessels operating within the New Zealand EEZ are included within New Zealand, Russian Federation (years < 1992) and Ukrainian annual catch data.

⁷ Peru has submitted annual catch data for *T. murphyi* dating back to 1939, and in recent years, has not voluntarily submitted their catch data from their Area of National Jurisdiction. However, catch figures are obtained from Peru's national reports and from the monthly catch reports for the most recent year. In 2022, Peru provided corrections to the Secretariat-held catch records (2020 and earlier) for accuracy.

⁸ Preliminary figure derived from monthly catch returns; to be updated based on national catch reports after a minor database modification to enable these edits. The anticipated changes are not expected to deviate substantially from the figures reported here

⁹ 2010 Annual catch data was provided for a single vessel (the *Lafayette*) but not included here, pending receipt of operational fishing information.

¹⁰ The Russian Federation 2009 figure was taken by 5 of the 6 vessels that were present in the Area.



1990	4 698	11 650	10 859	191 139	67 518	116 052	1 006 245
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Table 2.1: Continued

Participant	Ukraine ⁶			Vanuatu
	81	81	87	87
High seas vs In-zone	EEZ (NZL)	HS	unknown	HS
Species	<i>Trachurus</i> spp.	<i>T. murphyi</i>	<i>T. murphyi</i>	<i>T. murphyi</i>
2021				
2020				0
2019				0
2018				0
2017				0
2016				15 563
2015				21 227
2014				15 324
2013				14 809
2012				16 068
2011				7 617
2010				45 908
2009				79 942
2008				100 066
2007	22 067			112 501
2006				129 535
2005				77 356
2004	22 600			94 685
2003	25 016			53 959
2002	5 667			
2001	7 577			
2000	12 213			
1999	15 306			
1998	9 309			
1997	9 740			
1996	13 093			
1995	8 990			
1994	4 192			
1993	7 937			
1992	2 878		2 736	
1991	319	7 838	65 126	
1990	214	3 574	115 049	



Table 2.2: Preliminary catches (tonnes) in the South- East Pacific for *Trachurus murphyi* (Monthly and 15-day catch returns; Jan – 15 Dec 2022)

Participant	FAO Area	High seas vs In-zone	2022
Chile	87	ANJ	689 158
Ecuador	87	ANJ	5
Peru	87	ANJ	156 558
Chile	87	HS	0
China	87	HS	0
Ecuador	87	HS	0
European Union	87	HS	44 425
Faroe Islands	87	HS	0
Korea	87	HS	0
Peru	87	HS	0
Russian Federation	87	HS	27 043
Vanuatu	87	HS	0
Total (t)			917 189

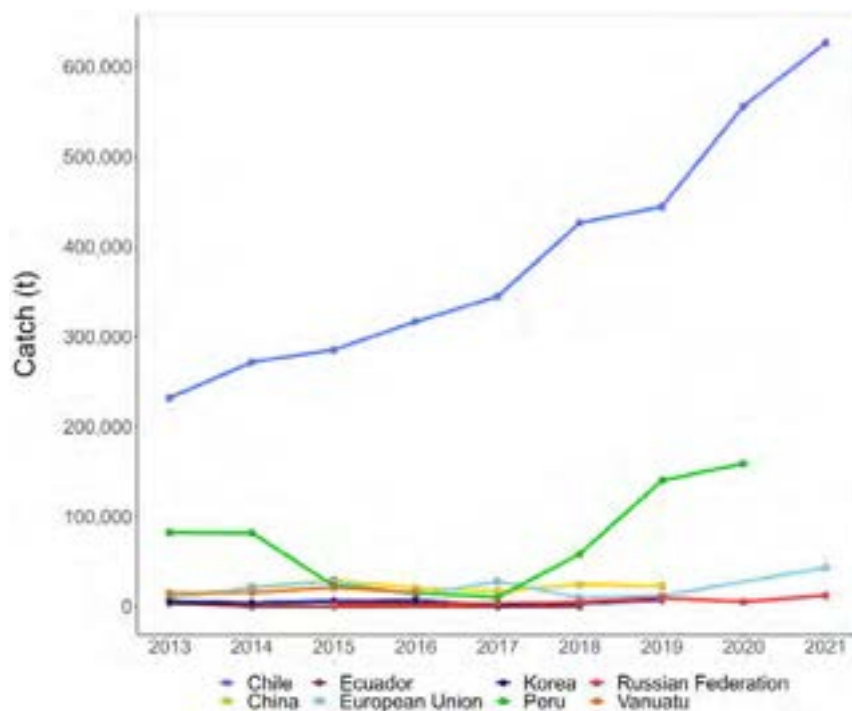


Figure 2.1: Annual reported jack mackerel catches in the South-East Pacific (total range)¹¹

¹¹ Figure 2.1 includes catches from Areas under National Jurisdiction (which were excluded from Figure 1.1)



3. Annual reported catches in the South Pacific for *Scomber* spp (Mackerels)

Table 3.1: Annual catch data – *Scomber* spp (t)

Participant	Belize	Chile		China	Ecuador	Faroe Islands	Japan	
FAO Area	87	87	87	87	87	87	87	
High seas vs In-zone	HS	EEZ (CHL)	HS	HS + EEZ	HS	EEZ (ECU)	HS	HS
Species	<i>S. japonicus</i>	<i>S. japonicus</i>	<i>S. japonicus</i>	<i>S. japonicus</i>	<i>S. japonicus</i>	<i>S. japonicus</i>	<i>S. japonicus</i>	<i>S. japonicus</i>
2021		86 287						
2020		86 045	0					
2019		87 887	250		135			
2018		59 774	61		311			
2017		64 705	251		604			
2016		88 900	790		1 615			
2015		43 835	1 820		705			
2014		24 135	31		608			
2013		31 193	431		173			
2012		24 120	199		226			
2011		23 077	2 979		666 ¹²			
2010	21	94 723	936		2 583 ¹²	52 751	104	
2009	295	136 516	21 936			36 679	906	
2008	1 104	87 316	45 702			21 758	3 036	
2007	966	233 697	63 492			43 171		
2006		345 491	23 295			37 664		
2005				280 756		115 406		
2004				577 336		51 806		
2003				572 052		33 272		
2002				343 371		17 074		
2001				365 031		85 248		
2000				95 789		83 923		
1999				120 123		28 307	1	
1998				71 769		44 716		
1997				211 649		192 181		
1996				146 649		79 484		
1995				110 210		63 577		
1994				27 171		38 991		
1993				96 023		50 980		
1992				72 364		25 651		
1991				191 723		55 023		
1990				192 948		78 639		

¹² Preliminary figures derived from monthly catch returns only.



Table 3.1: Continued

Participant	European Union						Korea	Vanuatu
FAO Area	71/77	87	87	87	87	Unknown	87	87
High seas vs In-zone	HS + EEZ	HS + EEZ	HS	HS	Unknown	HS	HS	HS
Species	<i>Scomber spp</i>	<i>S. japonicus</i>	<i>Scomber spp</i>	<i>S. japonicus</i>	<i>S. japonicus</i>	<i>S. japonicus</i>	<i>S. japonicus</i>	<i>S. japonicus</i>
2021				7 988				
2020								
2019				129			82	0
2018				112			246	0
2017				462			191	0
2016						680	486	1 145
2015				801			82	604
2014				718			21	484
2013				226			111	296
2012							0	193
2011						1	24	24
2010						679	84	676
2009						5 168	716	4 901
2008						5 879	968	8 945
2007						9 067	1 240	7 705
2006						5 989	1 460	3 352
2005						211	381	1 819
2004							708	3 137
2003							39	1 553
2002								
2001								
2000								
1999								
1998								
1997								
1996								
1995								
1994								
1993								
1992					36			
1991					1 644			
1990					1 938			



Table 3.1: Continued

Participant	Peru		Russian Federation			Ukraine		
FAO Area	87	87	81	87	87	81	81	87
High seas vs In-zone	EEZ (PER)	HS	Unknown	HS	Unknown	EEZ (NZL)	HS	Unknown
Species	S. <i>japonicus</i>	S. <i>japonicus</i>	S. <i>australasicus</i>	S. <i>japonicus</i>	S. <i>japonicus</i>	S. <i>australasicus</i>	S. <i>australasicus</i>	S. <i>japonicus</i>
2021				1 905				
2020				396				
2019		0		44				
2018		0		52				
2017		0		37				
2016		1 122		0				
2015				463				
2014								
2013		19						
2012								
2011								
2010								
2009				535				
2008	92 989			387				
2007	62 387		0		0			
2006	102 322		0		0			
2005	52 895		0		0			
2004	62 255		0		0	2 165		
2003	93 384		0		0	2 843		
2002	32 698		0		0	1 849		
2001	176 202		0		0	2 040		
2000	73 263		0		0	1 677		
1999	527 729		0		0	3 457		
1998	401 903		0		0	214		
1997	206 183		0		0	9		
1996	49 221		0		0	156		
1995	44 259		75		0			
1994	44 115		204		0	133		
1993	29 504		326		0	94		
1992	17 939		0		970	213		17
1991	17 304		828		18 257	224		1 063
1990	60 776		0		74 168	2		2 085

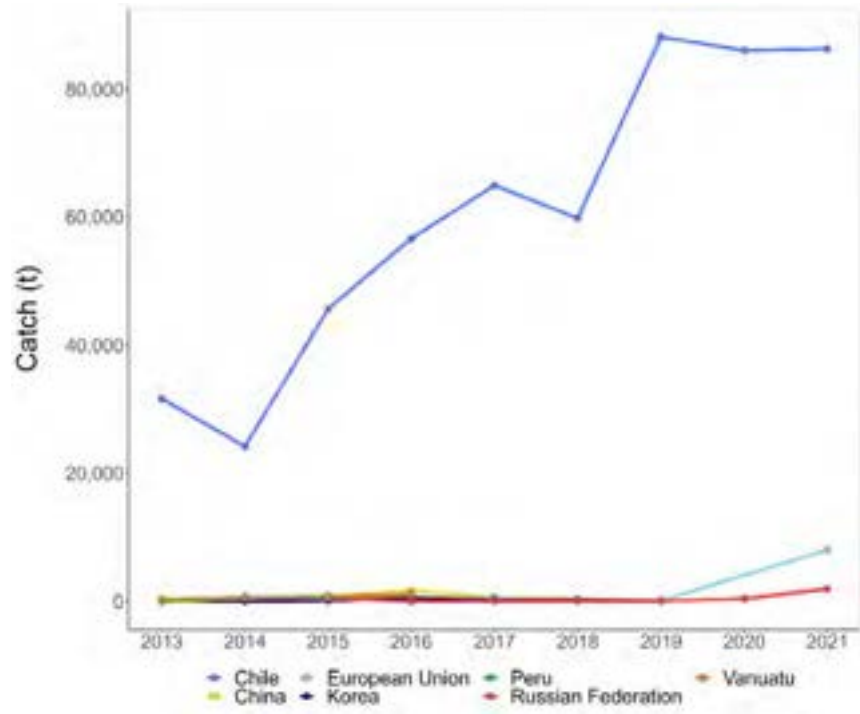


Figure 3.1: Annual reported chub mackerel catches in the South-East Pacific



4. Annual reported catches in the South-East Pacific for *Dosidicus gigas* (Jumbo flying squid)

Table 4.1: Annual catch data for *Dosidicus gigas* (t)

Participant	Peru		Chile			China	Ecuador
	87	87	87	87	87	87	87
High seas vs In-zone	EEZ (PER)	HS	EEZ (CHL)	HS + EEZ	HS	HS	EEZ (ECU)
Species	<i>D. gigas</i>	<i>D. gigas</i>	<i>D. gigas</i>	<i>D. gigas</i>	<i>D. gigas</i>	<i>D. gigas</i>	<i>D. gigas</i>
2021			55 330			421 971	
2020	492 363	0	56 432		0	358 038	157
2019	526 902	0	58 042		0	305 670	1 750
2018	317 000	288	145 927		0	346 200	
2017	290 933	5 068	155 389		0	296 100	
2016	322 338	999	183 123		17	223 300	
2015	513 492	304	143 716		0	323 636	1 500
2014	554 882	1 274	176 569		0	332 523	
2013	451 061		105 905		22	264 000	
2012	497 462		144 956		9	261 000	
2011	404 730		163 450		45	250 000	
2010	369 822		200 428			142 000	
2009	411 805		56 337			70 000	
2008	533 414		145 171			79 064	
2007	427 591		124 389			46 400	
2006	434 261			219 800		62 000	
2005	291 140			296 953		86 000	
2004	270 368			175 134		205 600	
2003	153 727			15 191		81 000	
2002	146 390			5 589		50 483	
2001	71 834			3 476		17 770	
2000	53 795			9			
1999	54 652			6			
1998	547			5			
1997	16 061						
1996	8 138			2			
1995	7 769						
1994	26 676			205			
1993	42 838			7 442			
1992	12 695			9 400			
1991	20 657			445			
1990	7 441						



Table 4.1: Continued

Participant	Japan			Korea			Panama	Chinese Taipei
FAO Area	87	87	87	87	87	87	87	87
High seas vs In-zone	HS	HS + EEZ	EEZ HS	EEZ (PER)	HS	HS + EEZ	HS	HS
Species	<i>D. gigas</i>	<i>D. gigas</i>	<i>D. gigas</i>	<i>D. gigas</i>	<i>D. gigas</i>	Unspecified	<i>D. gigas</i>	<i>D. gigas</i>
2021								665
2020					1 003			2 087
2019					5 578			2 085
2018					3 651			3 848
2017			289		3 460		289	7 338
2016			841		4 388		841	12 989
2015					4 263			10 072
2014					7 203			4 795
2013					6 034			7 759
2012					8 310			14 177
2011					7 410			35 418
2010	498			7 764	6 742			29 206
2009				7 221	0			12 319
2008				5 971	804			31 161
2007				0	0			14 750
2006	323			2 048	437			18 349
2005	1 633			2 519	0			15 976
2004	4 615		22 385	2 026	8 761			39 450
2003	4 510		22 549	1 681	3 041			23 009
2002	33 978		26 268	13 130	8 629			12 064
2001	1 132		71 069	5 797	0			0
2000	1 704		32 174			20 822		0
1999	40		6			19 728		0
1998	0	0	0					0
1997	297		12 924			3 359		0
1996	644		557			12 896		0
1995	37		36 478			35 719		0
1994	2 698		81 507			69 664		0
1993	3 579		52 221			62 887		0
1992	1 874		49 313			43 022		1 698
1991	50		2 173			24 015		
1990	1 605		0			3 465		



Table 4.1: Continued

Participant	Belize	European Union	Russian Federation	Ukraine
FAO Area	87	87	87	87
High seas vs In-zone	HS	Unknown	Unknown	Unknown
Species	Unspecified	Unspecified	Unspecified	<i>D. gigas</i>
2021		4		
2020				
2019				
2018				
2017				
2016		0.13		
2015				
2014				
2013				
2012				
2011				
2010				
2009				
2008				
2007				
2006				
2005				
2004				
2003	479			
2002	353			
2001	453			
2000				
1999				
1998				
1997				
1996				
1995				
1994				
1993				
1992				1
1991		1 075 ¹³	23 240 ¹³	398
1990			7 860	142

¹³ Lithuanian catches are included within both European Union and Russian Federation annual catch data for years prior to the dissolution of the former Soviet Union.

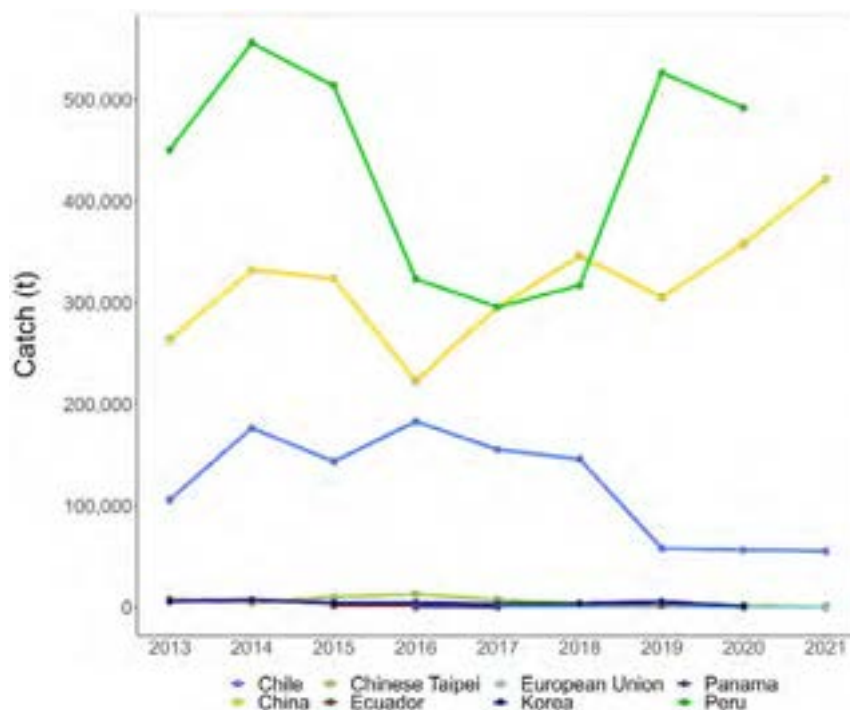


Figure 4.1: Annual reported jumbo flying squid catches in the South-East Pacific¹⁴

¹⁴ The Secretariat does not hold a catch figure for Peru's jumbo flying squid catches taken within its EEZ in 2021.



5. Annual reported catches for *Hoplostethus atlanticus* in the South Pacific (Orange roughy)

Table 5.1: Annual catch data – *Hoplostethus atlanticus* (t)

Participant	Australia	Belize		China	Korea	
FAO Area	Unknown	81	71	81	81	81
High seas vs In-zone	HS	HS	HS	Unknown	HS	HS + EEZ
Species	<i>H. atlanticus</i>	<i>H. atlanticus</i>	<i>H. atlanticus</i>	<i>H. atlanticus</i>	<i>H. atlanticus</i>	<i>H. atlanticus</i>
2021						
2020						
2019	44					
2018	0					
2017	93					
2016	83					
2015	20					
2014	102					
2013	49					
2012	56					
2011	2					
2010	0	0	0			
2009	0					
2008	0				0	
2007	148	332 ¹⁶		336	44	
2006	166	200		570	77	
2005	207	506		710	0	
2004	369	913	1	592	138	
2003	166	9		562	243	
2002	376			597	208	
2001	751			520	94	
2000	948					288
1999	2 514					7
1998	3 098					
1997	1 458					
1996	11 ¹⁵					
1995	11 ¹⁵					
1994	192					
1993	122 ¹⁵					
1992	122 ¹⁵					
1991	122 ¹⁵					

¹⁵ Reported catch figures were grouped; these catches have been split equally between years.

¹⁶ This catch was reported by both Belize and China as an annual total from the same vessel fishing in the same period. Therefore, this catch amount is represented twice in this table.



Table 5.1: Continued

Participant	European Union	New Zealand	Russian Federation		Ukraine
FAO Area	81	81	81	87	81
High seas vs In-zone	HS	HS	Unknown	Unknown	HS
Species	<i>H. atlanticus</i>	<i>H. atlanticus</i>	<i>H. atlanticus</i>	<i>H. atlanticus</i>	<i>H. atlanticus</i>
2021		20			
2020		301			
2019		460			
2018		1 164			
2017		969			
2016		832			
2015		1 203			
2014		1 047			
2013		1 243			
2012		721			
2011		1 079			
2010		1 474			
2009	257	928			
2008		837			
2007		866	0	0	
2006		1 415	0	0	
2005		1 597	0	0	
2004		1 697	0	0	49
2003		1 973	0	0	164
2002		2 578	0	0	
2001		2 499	0	0	
2000		1 574	0	0	53
1999		4 948	0	0	
1998		2 329	0	0	
1997		3 862	0	0	
1996		8 002	0	0	
1995		11 195	0	0	
1994		2 195	0	0	
1993		2 566	0	0	
1992		758	0	0	
1991		141	506	0	
1990		559	36	0	

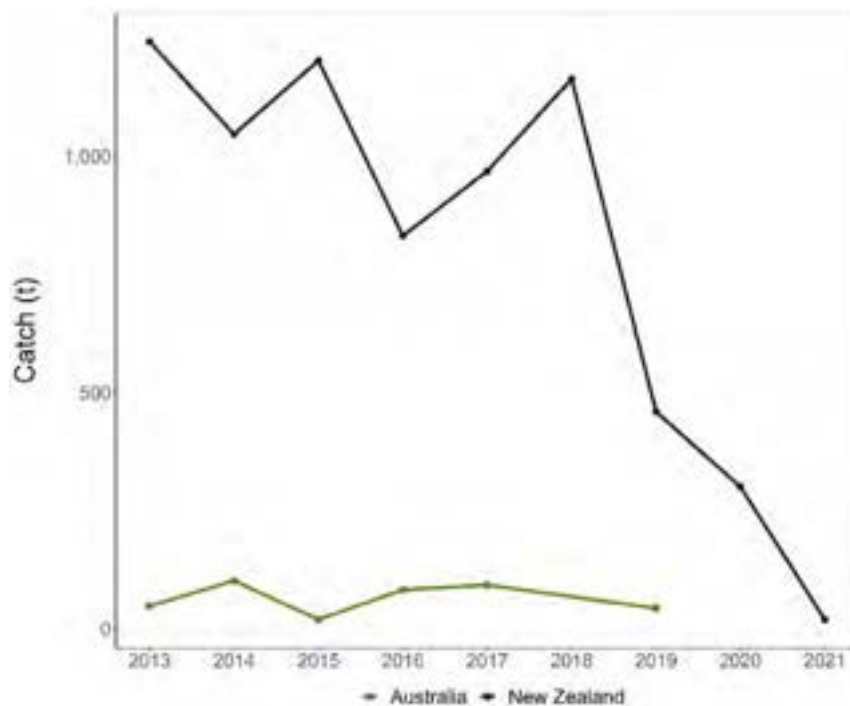


Figure 5.1: Annual reported orange roughy catches in the SPRFMO Area



6. Annual reported catches for other species

The following table summarises annual catch data received by the Secretariat for the remaining major species/species groups. Catches which were known to have been taken entirely within areas of national jurisdiction have been excluded. [Redbait was added to the list of major species groups as it was a target species in 2021.](#)

Table 6.1: Annual catch data – other species (t)

Participant	Australia																	
FAO Area	81																	
Zone	HS																	
Species	Amberjacks	Cardinalfish	Alfonsinos	Promfrets	Groupers	Bluenose Warehou	Dogfish sharks	Pelagic armour heads	Emperors	Snake mackerels	Hapuka	Moras	Morwongs	Cusk-eels	Oreo Dories	Scorpion fishes	Sharks, rays	Snappers
2021	11				4				38				10			2	1	9
2020	2		1			3							4			2		
2019	5		14		7	5			51	1		3	9			2	1	23
2018	27				3	2			18				23			2		22
2017	39				6	2			36	1	1	1	27	1	5	3	3	24
2016	33		1		5	5			70	1			14			2	1	21
2015	36		4		10	16			14	2	2	8	47	1	1	6	3	23
2014	26		1		1	21		1		2	5		31	1		9	1	
2013	23	2	74		3	42	1	7		1	5		39			8	2	9
2012	54		167			28		22		1	1		40		1	2		
2011	24		47			28		2		1	2		53			1		
2010	17					6							23					
2009	11					4							13					
2008	25					3							24					
2007	1	2	86			16							7		1			
2006	22		209			8							10					
2005			81			4							1		75			
2004			1			2									34			
2003	1		2			30							16		69			
2002	32		3			27							84		73			
2001	5		1			21							43		44			
2000	14	7	4			6							79		209			
1999	13	1	8			22							29		195			
1998	15	2	1			26							31		1 040			
1997		15	1			6							1		953			
1996		26 ¹⁷													11 ¹⁷			
1995		26 ¹⁷													11 ¹⁷			
1994		2													6			
1993															37 ¹⁷			
1992															37 ¹⁷			
1991															37 ¹⁷			
1990																		

¹⁷ Reported catch figures were grouped; these catches have been split equally between years.



Table 6.1: Continued

Participant	Belize			Chile	Cook Islands		European Union													
FAO Area	Various	81	81	87	Various		81						Various			57	87			
High seas vs In-zone	HS			HS	HS		HS						HS			HS	HS			
Species	Alfonsonos	Pelagic armour heads	Grenadiers	Alfonsonos	Rock Lobster	Chaceon spp	Cardinal fishes	Bluenose Warehou	Dogfish sharks	Hapuka	Moras	Cusk-eels	Scorpion fishes	Pomfrets	Pelagic Armour heads	Alfonsonos	Tooth fish	Drift fishes	Grenadiers	Redbait
2021														10		2 719	75	52		1 119
2020					1	14														
2019					150	8								138	3			46		
2018														260				196		
2017														88				82		
2016														30				154		
2015														140				51		
2014									144	9	4	1	2	69				87		
2013														63						
2012																				
2011														29						
2010																				
2009							4	3	2 283		91	334		478	2					
2008									900									1 497		
2007	61	28																743		
2006	101																			
2005	102			5																
2004	229		525																	
2003	73			11																
2002				2																
2001				1																
2000																				
1999																				
1998				144																
1997																				
1996																				
1995																				
1994																				
1993																				
1992																				10
1991																				
1990																				



Table 6.1: Continued

Participant	Japan				Ukraine ¹⁸				Russian Federation										
FAO Area	87				81, 87				81, 87										
High seas vs In-zone	HS + EEZ				HS + EEZ				HS + EEZ										
Species	Promfrets	Groupers	Morwongs	Sharks, rays	Alfonsinos	Pelagic Armor heads	Cardinal fishes	Oreo Dories	Amberjacks	Alfonsinos	Promfrets	Snake mackerels	Moras	Oreo dories	Grenadiers	Scorpion fishes	Sharks, rays	Pelagic Armor heads	Redbait
2021										1 193									3 555
2020										108									9
2019																			
2018																			
2017																			
2016																			
2015																			30
2014																			
2013																			
2012																			
2011																			
2010																			
2009																			
2008																			
2007																			
2006																			
2005																			
2004				409			4	3											
2003				289															
2002				795															
2001				648															
2000				438															
1999				441					209										
1998				1 167					206										
1997				526															
1996				857										5		5			
1995				671									138						
1994				1 415								91	130	18					
1993				996							2	1 963	34			2			29
1992				1 032										51	8	1			
1991				857								332	265	93					
1990	18		8	1 435										251					

¹⁸ Catches made by Ukrainian vessels operating within the New Zealand EEZ are also included within New Zealand annual catch data.



Table 6.1: Continued

Participant	New Zealand																		
FAO Area	81																		
High seas vs In-zone	HS																		
Species	Amberjacks	Cardinalfishes	Alfonsinos	Grouper s	Bluenose Warehou	Dogfish sharks	Pelagic Armorheads	Snake mackerel s	Hapuk a	Mora s	Morwong s	Cusk-eels	Oreodorie s	Grenadier s	Scorpio n fishes	Redbait	Shar ks, rays	Toothfis h	Slimehead s
2021			1		20	3			17		1		1	1	1			24	
2020		10	85		24	4	11		32	9	3		43		1		1		1
2019			56	5	61	11	43	3	50	8	3		15		1	<u>1</u>	6		
2018	1	6	272	16	47	19	61	8	30	31	5		62	23	2		14		4
2017		2	229		54	2	12	2	50	42	4		26	35	2		1	28	
2016	1	19	168		29	16	12		50	24	4	1	17	46	2		8	28	5
2015	1	48	49		60	37	1	1	73	12	5	5	26	16	2		10		6
2014	2	1	1		47	10	1		50	4	16		32	2	2		4		
2013	2	4	169		91	12	13	1	45	12	5		42	1	1	<u>1</u>	8		
2012		2	154		44	4	25		40	5	3		17	7					
2011		108	240		23	15	75		25	22	1		32	7					
2010		22	244		15	13			24	15	1		31	6					
2009		16	5		58	9			23	7	1		5		1				
2008	1		2		67	2			43	3	2		2		8				
2007	3		2		144	5		3	31	9	5		173	5	1				
2006	2	21	28		271	21		2	95	33	6		63	27	2				
2005		189	26		102	18		2	31	63	10		343	67	1				
2004	1	42	85		116	8		2	24	46	6		181	34					
2003		226	94		6	57			7	92	1		87	84					
2002		159	17			37				43			171	61					
2001		485	22		46				2				124						
2000		151	29		17				9				154						
1999		325	39		52				8				219						
1998		182	464		115				15				366						
1997		351	31		168				27				211						
1996		265	70		90				23				274						
1995		320	18		167				57				1 000						
1994		1 058	86		127				60				57						
1993		245	43		215				98				60						
1992		10	23		41				16				9						
1991					4				3				29						
1990									1										



Table 6.2: Annual catch data – mixed species (t)

Participant	Australia	Belize	China	Cook Islands	European Union	Japan	Korea	New Zealand	Peru	Russian Federation	Ukraine ²¹
FAO Area	81	81	81	Various	Various	81	81, 87	81	87	81, 87	81, 87
High seas vs In-zone	HS + EEZ	HS	HS + EEZ	HS	HS + EEZ	HS + EEZ	HS + EEZ	HS	HS	HS + EEZ	HS + EEZ
Species	Marine fishes nei										
2021	29				361 155			4		3 555	
2020								2		9	
2019	19			1	8		6	67			
2018	17							19			
2017	2							7			
2016	4				1		16	13			
2015	9							14		30	
2014	2							4			
2013	6							11	8		
2012	1							23			
2011	1						100	79			
2010	49				5			64			
2009	79				548		59				
2008	125				20 852			2			
2007	40		73 ²⁰		13		4	31			
2006	95		312				6	51			
2005	18	825	162				222	106			
2004	9	681	304				6	97			
2003	25	479	314			995	23	326			28
2002	41	588	147			615	17	114			
2001	56	453	60			771	8	115			
2000	20					385	20 822	82			58
1999	30					572	19 728	270		3 123	
1998	37					599		405		2 175	
1997	44					181	3 359	609		11 821	
1996	1 ¹⁹					211	12 896	747		17 158	
1995	1 ¹⁹					205	35 719	885		28 069	
1994	3					420	69 664	617		53 292	
1993	1 ¹⁹					291	62 887	468		42 129	
1992	1 ¹⁹					465	43 022	227		82 833	51
1991	1 ¹⁹				15 534	294	24 015	199		351 390	395
1990	2 ¹⁹				14 208	842	3 465	771		398 111	780

¹⁹ Reported catch figures were grouped; these catches have been split equally between years.

²⁰ This catch was reported by both Belize and China as an annual total from the same vessel fishing in the same period. Therefore, this catch amount is represented twice in these tables.

²¹ Catches made by Ukrainian vessels operating within the New Zealand EEZ are also included within New Zealand annual catch data.

Table 6.2 shows information for “mixed species” indicating that this information was either submitted in this manner (i.e., FAO species code MZZ; Marine fishes nei) or it has been grouped into this category by the Secretariat because the species reported did not fall under one of the major species groups detailed in Annex 1. [Catches which were known to have been taken entirely within areas of national jurisdiction have been excluded from Table 6.2.](#)



Annex 1. Major species groups

FAO code	FAO common name	Group code	Scientific group	Group name
AMB	Greater amberjack	AMX	<i>Seriola</i> spp	Amberjacks
AMX	Amberjacks nei			
RLH	Samson fish			
YTC	Yellowtail amberjack			
APO	Cardinalfishes, etc. nei	APO	Apogonidae	Cardinalfishes, etc.
CDL	Cardinal fishes nei			
EGR	Robust cardinalfish			
EPI	Black cardinal fish			
QLX	<i>Apogon</i> spp			
ALF	Alfonsinos nei	BRX	Berycidae	Alfonsinos, etc.
BXD	Alfonsino			
BYS	Splendid alfonsino			
CXF	Redfish			
CXZ	Bight redfish			
BLB	Blue butterflyfish	BRZ	Bramidae	Pomfrets, ocean breams
BPQ	Pacific pomfret			
BRA	<i>Brama</i> spp			
BRU	Southern rays bream			
BRZ	Pomfrets, ocean breams nei			
BUX	Butterfishes, pomfrets nei			
POA	Atlantic pomfret			
TAL	Big-scale pomfret			
BSX	Groupers, seabasses nei	BSX	Serranidae	Groupers, seabasses
MO	Bluespotted hind			
EEA	Blacktip grouper			
EEP	Comet grouper			
EFQ	Longfin grouper			
EFT	Tomato hind			
EIU	Wavy-lined grouper			
EMO	Plectropomus leopardus			
ENI	Orange-spotted grouper			
EPY	Speckled blue grouper			
EWL	Epinephelus tukula			
GPX	Groupers nei			
HHN	Redbanded perch			
IPL	Butterfly perch			
LDP	Orange perch			
PLM	Spotted coralgrouper			
RNL	Pink maomao			
VRA	White-edged lyretail			
VRL	Yellow-edged lyretail			
BWA	Bluenose warehou	BWA	<i>Hyperoglyphe antarctica</i>	Bluenose warehou
CJM	Chilean jack mackerel	CJM	<i>Trachurus murphyi</i>	Chilean jack mackerel
CEM	Smallfin gulper shark	DGX	Squalidae	Dogfish sharks
CYO	Portuguese dogfish			



FAO code	FAO common name	Group code	Scientific group	Group name
CYP	Longnose velvet dogfish			
CYU	Plunket shark			
CYW	Roughskin dogfish			
CZI	<i>Centroscymnus</i> spp			
DCA	Birdbeak dogfish			
DGS	Picked dogfish			
DGX	Dogfish sharks nei			
DGZ	Dogfishes nei			
DOP	Shortnose spurdog			
ETF	Blackbelly lanternshark			
EUP	Pygmy shark			
GUP	Gulper shark			
GUQ	Leafscale gulper shark			
QUK	Shortspine spurdog			
SCK	Kitefin shark			
SDH	Rough longnose dogfish			
SHL	Lanternsharks nei			
YSM	Largespine velvet dogfish			
BOR	Boarfishes nei			
EDR	Pelagic armourhead			
EDW	Pelagic armourheads nei			
EMV	Bigspined boarfish	EDW	<i>Pseudopentaceros</i> spp	Pelagic armourheads
SWH	Giant boarfish			
ZAL	Longfin boarfish			
GER	<i>Chaceon</i> spp	GER	Geryonidae	Chaceon crabs
JSX	<i>Jasus</i> spp			
VLO	Spiny lobsters nei	JSX	Palinuridae	Spiny/ rock lobsters
GMW	Blue-lined large-eye bream			
LBR	Largeeye breams			
LHB	Spotcheek emperor			
LHI	Trumpet emperor			
LHO	Longface emperor			
WTM	Mozambique large-eye bream			
EMM	Cape bonnetmouth			
EMT	Bonnetmouths, rubyfishes nei	EMT	Emmelichthyidae	Bonnetmouths, rubyfishes nei (redbait)
GEM	Silver gemfish			
GEP	Snake mackerels, escolars nei			
LEC	Escolar			
OIL	Oilfish			
RXX	<i>Rexea</i> spp			
SNK	Snoek			
GIS	Jumbo flying squid	GIS	<i>Dosidicus gigas</i>	Jumbo flying squid
HAU	Hapuka			
WHA	Hapuku wreckfish	HAU	<i>Polyprion</i> spp	Hapuka
WRF	Wreckfish			
MAS	Chub mackerel	MAS	<i>Scomber japonicus</i>	Chub mackerel
ANT	Blue antimora	MOR	Moridae	Moras



FAO code	FAO common name	Group code	Scientific group	Group name
LEV	Lepidion codlings nei			
LMF	Small-headed cod			
MHJ	Slender codling			
MOR	Moras nei			
NEC	Red codling			
PBR	Southern bastard codling			
PBV	Northern bastard codling			
PQO	<i>Physiculus</i> spp			
RIB	Common mora			
SAO	Tadpole codling			
CDD	Porae			
HAW	Peruvian morwong	MOW	<i>Nemadactylus</i> spp	Morwongs
MOW	Morwongs			
TAK	Tarakihi			
CUS	Pink cusk-eel			
CEX	Cusk-eels nei	OPH	Ophidiidae	Cusk-eels, brotulas
ALL	Warty dory	ORD	Oreosomatidae	Oreo dories
BOE	Black oreo			
ONV	Spiky oreo			
OOT	Ox-eyed oreo			
ORD	Oreo dories nei			
SSO	Smooth oreo dory			
ORY	Orange roughy	ORY	<i>Hoplostethus atlanticus</i>	Orange roughy
CKH	Abyssal grenadier	RTX	Macrouridae	Grenadiers, rattails
CKV	Hawknose grenadier			
GRV	Grenadiers nei			
LDE	Thorntooth grenadier			
MCH	Bigeye grenadier			
RTX	Grenadiers, rattails nei			
WGR	Whitson's grenadier			
BRF	Blackbelly rosefish	SCO	Scorpaenidae	Scorpionfishes
HBX	<i>Hoplichthys</i> spp			
HFR	Red gurnard perch			
ROK	Rosefishes nei			
SCO	Scorpionfishes nei			
SCS	Scorpionfishes, rockfishes nei			
XTY	Trachyscorpia spp			
ALV	Thresher	SKX	Elasmobranchii	Sharks, rays, skates, etc.
AML	Grey reef shark			
API	Deep-water catsharks			
ASK	Angelsharks, sand devils nei			
ASY	Australian spotted catshark			
BRO	Copper shark			
BSH	Blue shark			
BSK	Basking shark			
BYU	Longnose deep-sea skate			
CCE	Bull shark			



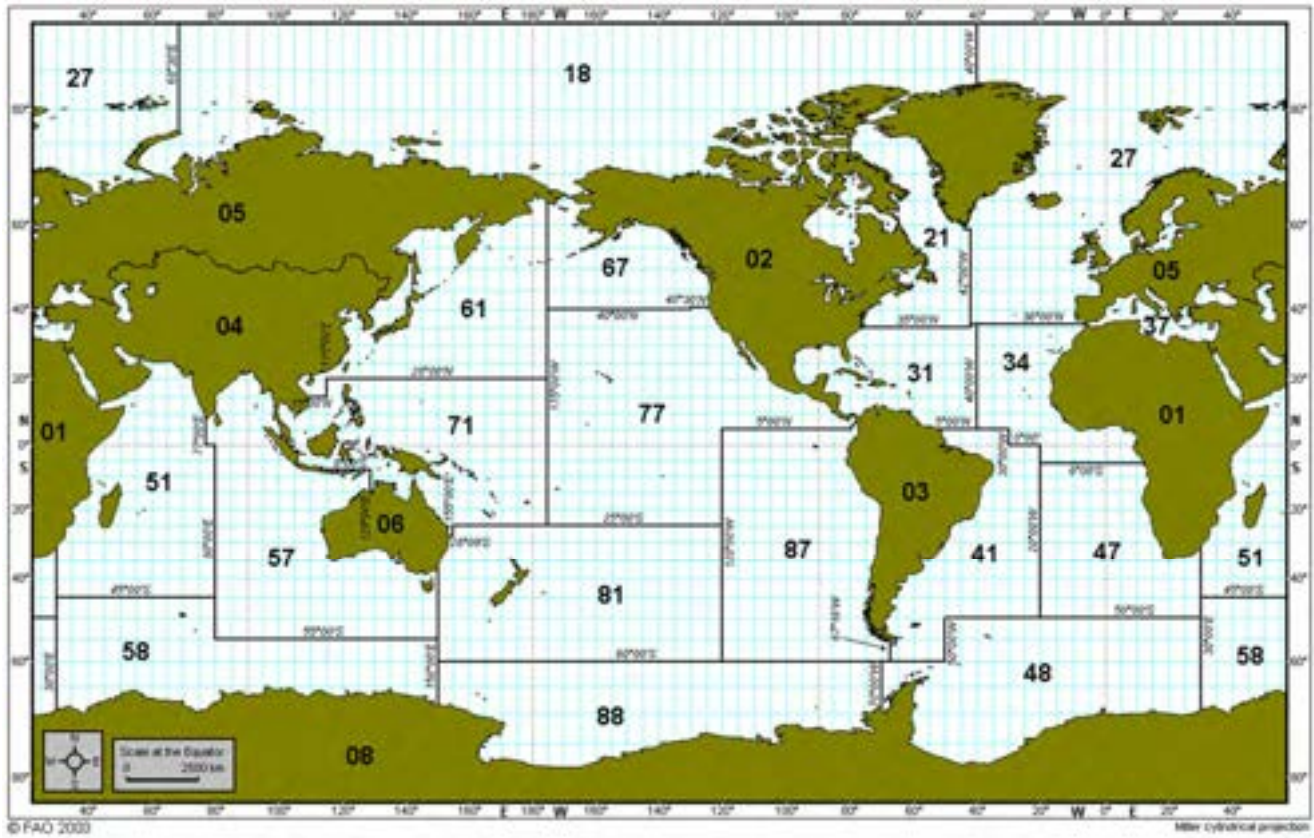
FAO code	FAO common name	Group code	Scientific group	Group name
CPG	Slender smooth-hound			
CPS	Draughtsboard shark			
CPT	Australian swellshark			
CTU	Gummy shark			
CVX	Ground sharks			
CWZ	<i>Carcharhinus</i> sharks nei			
DPQ	New Zealand smooth skate			
DWS	Deep-water sharks nei			
GAG	Tope shark			
HAO	New Zealand catshark			
JAT	Rough skate			
JDT	Thorntail stingray			
LMA	Longfin mako			
MTL	Spotted estuary smooth-hound			
NTC	Broadnose sevengill shark			
OXB	Prickly dogfish			
POR	Porbeagle			
PPC	Longnose sawshark			
PPU	Shortnose sawshark			
PTM	False catshark			
RAJ	Rays and skates nei			
RBM	Rhinobatos obtusus			
RJG	Arctic skate			
SHB	Bramble shark			
SKH	Various sharks nei			
SKX	Sharks, rays, skates, etc. nei			
SMA	Shortfin mako			
SPZ	Smooth hammerhead			
STT	Stingrays, butterfly rays nei			
SYX	Catsharks, etc. nei			
THR	Thresher sharks nei			
TIG	Tiger shark			
TRB	Whitetip reef shark			
TTF	New Zealand torpedo			
WSH	Great white shark			
ZRN	New Zealand rough skate			
ARQ	Rusty jobfish			
AVR	Green jobfish			
ETA	Deep-water red snapper			
ETC	Deepwater longtail red snapper			
LDW	Yellow-banded snapper			
LJB	Two-spot red snapper	SNX	Lutjanidae	Snappers, jobfishes
LJG	Humpback red snapper			
LJV	Blacktail snapper			
LRY	Ornate jobfish			
LUV	Blubberlip snapper			
LWZ	Oblique-banded snapper			



FAO code	FAO common name	Group code	Scientific group	Group name
MAL	Malabar blood snapper			
PFM	Crimson jobfish			
RES	Mangrove red snapper			
SNA	Snappers nei			
SNX	Snappers, jobfishes nei			
TOA	Antarctic toothfish	TOT	<i>Dissostichus</i> spp	Antarctic toothfishes
TOP	Patagonian toothfish			
HPR	Mediterranean slimehead	TRC	Trachichthyidae	Slimeheads
OVE	Slender roughy			
TPT	Sandpaper fish			
TRC	Slimeheads nei			
CUP	<i>Cubiceps</i> spp	VTX	Nomeidae	Driftfishes
UBA	Blue fathead			



Annex 2. FAO Fishing Areas of the world



SM12

February 2023

COMM11-Inf01_rev2-

Data submitted to the Secretariat



11TH ANNUAL MEETING OF THE SPRFMO COMMISSION

Manta, Ecuador, 13 to 17 February 2023

COMM 11 – Report ANNEX 9b

Chile's opening statement

[English version]

Thank you Chair. Since this is the first time Chile takes the floor at the Commission Meeting and after we have greeted all of its Members and CNCPs as well of the observers present in this meeting, The Government of Chile would like to start by thanking Ecuador, its authorities and all those who have made possible the 11th Meeting of the SPRFMO Commission. We have been able to observe, since last week, the impeccable organization and courtesy of our hosts. We are confident that with these optimal working conditions, the deliberations of this Commission will be facilitated, and effective resolutions will be achieved.

As you may have already noticed, Chile is present at this meeting with a robust and diverse representation. As the head of my delegation and highest governmental authority of the fisheries and aquaculture sector of my country, I am pleased to point out that we are accompanied this time not only by the main representatives of the national fishing industry, but also by a sector usually excluded from this type of meetings; I am referring to the representatives of the shipowners and crew members organizations of the artisanal vessels, who by their own means and accepting the invitation made by the Undersecretariat for Fisheries and Aquaculture, are present here with us today on behalf of the Artisanal Fishers of Chile.

We have also been accompanied by the Ministry of Foreign Affairs and prominent representatives of our scientific community and the institutions dedicated to fishery research, The Chilean Navy. This latter institution is responsible for ensuring the sovereignty of Chile in our territorial sea and Exclusive Economic Zone, and therefore the main agent in the fight against illegal, Unreported and Unregulated Fishing.

Why are we here with such a large delegation? Because this 11th Commission Meeting is of special importance to us. We are here with in this session because we would like to celebrate the recovery of one of the main fisheries of our country, the *Trachurus murphyi* or Chilean Jack Mackerel fishery.

As the public and private representatives of the Chilean fishing sector, we would like to highlight the success of the collaborative work developed by the SPRFMO; the commitment and discipline of its Members which has allowed us to show today an example in fisheries, of how hydrobiological resources, responsibly managed, can not only improve their condition, but also strengthen their exploitation with a precautionary approach, thus contributing to the goal of Food Security not only of our countries but for the population of the world.

We would like to make a special recognition to the exhaustive work of the national and international scientists grouped in the SPRFMO Scientific Committee, under whose leadership the remarkable recovery of this fishery has been achieved.

We would also like to highlight some data generated at the last meeting of the Scientific Committee held in Seoul, South Korea: the estimated spawning biomass for the jack mackerel resource is 14.3 million tons. With this result and under the Maximum Sustainable Yield approach the total allowed catch (TAC) estimations, in the case of the absence of the self-imposed catch limits, would exceed 3 million tons. However, our country believes that it is important to continue to be very careful with the management of this resource.

We would like to highlight that, for the fourth consecutive year, the global catch quota has grown 15%, which is the maximum percentage of expansion that was defined by this Commission. Chile has been particularly respectful in complying with this catch limit. We would like to emphasize that since the Adelaide Agreement, our country has caught 100% of its allocated jack mackerel quota. In addition, during these years, we have agreed important transfers from other members, which allows us to affirm that in the period 2013-2022 more than 78% of this fishery is extracted by Industrial and Artisanal vessels of Chile. These fishing operations are carried out almost entirely in the Exclusive Economic Zone of our country.



Therefore, Chile congratulates the SPRFMO for the remarkable results achieved thanks to the responsible management of one of the most important highly migratory fisheries in the region. And it is for this, and also for other reasons that we will be explaining in the coming days, that our country expresses its interest of increasing our percentage of allocation in the total allowed quota of jack mackerel (*Trachurus murphyi*) that will be defined during this 11th Commission meeting.

We also consider that, having noted the remarkable increase in the available biomass in successive periods, and in accordance with the indications of our scientists, it is reasonable to analyze and to propose to the Commission an upward adjustment in the catch control rule currently set at 15%; we believe that a moderate increase in this percentage will continue to satisfy the precautionary approach, while at the same time it will benefit all countries with an interest in this fishery.

We would like to point out that at a present time like this, it is evaluated not only the capacity of this organization to protect the marine ecosystems and their hydrobiological resources, but also its capacity to incorporate the human, economic and social dimension into the ecosystem approach. Therefore, it has been the industrial and artisanal fishers -and especially those from Chile- who have committed themselves to accomplish the global quota restrictions; those who have rigorously reported the information on their landings; those who have allowed and received scientific observers and incorporated technologies for a better monitoring of their catches.

Now, these same fishes are requesting to this organization to adopt decisions consistent with those who are effectively developing the fishing effort, and who have therefore been co-responsible for this remarkable recovery, allowing the jack mackerel to be abundant again in our coasts today.

We would like you to know that it is difficult to explain this in the small fishing coves along our country, that having great availability of this resource, both in size and quantity, we still have catches well below the Maximum Sustainable Yield. This is a factor that jeopardizes the confidence and therefore the adherence of the actors to follow the measures, especially those who develop small-scale fishing.

Finally, as the Undersecretary of Fisheries and Aquaculture, I would like to reiterate the confidence and adherence of the Government of Chile to the guidelines defined by SPRFMO and our willingness to advance in each of the fisheries of interest to this organization with a transparent and responsible regulation.

We reinforce our willingness to always follow the best available science, under an ecosystem and precautionary approach. In order to ensure the best conditions for the development of responsible fishing activities, not only with the food needs of the current generations, but also of future generations, which we are sure will value the efforts of management developed in these topics.

Thank you very much



[Spanish version]

Gracias Sr. Presidente, esta es la primera vez que Chile toma la palabra en la comisión y después de saludar a todos sus miembros, así como a los observadores presentes en esta reunión, el Gobierno de Chile quiere comenzar agradeciendo a las autoridades del Ecuador y a todos quienes han hecho posible la materialización de esta Undécima Comisión Meeting de OROP-Pacífico Sur. Desde la semana recién pasada hemos podido observar la impecable organización y la cortesía de nuestros anfitriones. Confiamos en que con estas óptimas condiciones de trabajo la deliberación de esta Comisión se verá facilitada y logrará resoluciones eficaces.

Como ustedes quizá ya han notado Chile se hace presente en esta reunión con una robusta y diversa representación. Como jefe de delegación y máxima autoridad gubernamental del sector Pesquero y Acuícola de mi país, tengo el agrado de señalar que no solo nos acompañan los principales representantes de la Industria Pesquera nacional, junto a ellos también está presente un subsector habitualmente excluido de este tipo de foros; me refiero a los representantes de los Gremios de armadores y de tripulantes de la embarcaciones artesanales, quienes por sus propios medios y acogiendo la invitación que le hiciera la Subsecretaría de Pesca y Acuicultura, hoy están presentes aquí con nosotros en representación de los Pescadores Artesanales de Chile.

También nos han acompañado destacados representantes de la comunidad científica y de instituciones dedicadas a la investigación pesquera; y por cierto, también representantes de Ministerio de Relaciones Exteriores y de la Armada de Chile. Esta última institución responsable velar por la soberanía de Chile en su mar territorial y en su Zona Económica Exclusiva, y por tanto principal agente en la lucha contra la Pesca ilegal, no declarada y no reglamentada.

¿Y por qué estamos aquí con una representación tan nutrida? Porque esta 11ª Comisión Meeting tiene una especial importancia para nosotros. Estamos presentes en esta sesión porque queremos celebrar la recuperación de una de las principales pesquerías de nuestro país, el *Trachurus murphyi* o Jurel Chileno.

Los representantes públicos y privados de sector pesquero de Chile queremos destacar el éxito del trabajo colaborativo desarrollado por la OROP Pacífico Sur; el compromiso y la disciplina de sus miembros, que ha sido lo que nos permite mostrar hoy, en pesquería, un ejemplo de cómo los recursos hidrobiológicos administrados con responsabilidad, no solo pueden mejorar su condición, sino que se puede fortalecer su explotación con un enfoque precautorio, para contribuir así al objetivo de Seguridad Alimentaria no solo de nuestros países sino de la población mundial.

Queremos realizar un especial reconocimiento al trabajo exhaustivo de los científicos nacionales e internacionales agrupados en el Comité Científico de OROP-PS, bajo cuyo liderazgo se ha logrado la notable recuperación de esta pesquería.

Por nos permitimos destacar algunos datos generados en la reciente reunión del Comité Científico realizada en Seoul, Korea: La biomasa desovante estimada para el recurso jurel es 14.3 millones de toneladas, con esta cifra y bajo el enfoque de Rendimiento Máximo Sostenible las estimaciones de cuota global en caso de no existir los límites que nos hemos autoimpuesto superarían los 3 millones de toneladas. Sin embargo, nuestro país cree que es importante seguir siendo muy cuidadosos con la administración de este recurso.

Destacamos que por cuarto año consecutivo la cuota de global de extracción ha crecido al 15%, que es el porcentaje máximo de expansión que fue definido por esta misma Comisión. Chile ha sido particularmente respetuoso en el cumplimiento de estos límites de captura. Queremos destacar que desde el Acuerdo de Adelaida nuestro país ha capturado el 100% de su cuota asignada de jurel. Además, durante estos años hemos acordado importantes transferencias desde terceros países, lo que nos permite afirmar que en el periodo 2013-2022 más del 78% esta pesquería es extraída por embarcaciones Industriales y Artesanales de Chile, en faenas de pesca que se realizan casi su totalidad en la Zona Económica Exclusiva de nuestro país.



Chile entonces congratula a OROP-Pacífico Sur, por los notables resultados alcanzados gracias a la gestión responsable de una de las pesquerías altamente migratorias más importantes de la región. Y es por las razones ya enunciadas, y también por otras que iremos exponiendo en los próximos días, que nuestro país manifiesta su interés en incrementar nuestro porcentaje de participación en la cuota global de extracción de *Trachurus murphyi* que definiremos en esta 11ª Comisión.

También consideramos que, habiéndose constatado en períodos sucesivos un notable incremento de la biomasa disponible, y conforme a lo señalado por nuestros científicos, es razonable analizar y proponer un ajuste al alza moderada en el regla de control de captura fijado hoy en el 15%; creemos que un incremento moderado este porcentaje, continuará satisfaciendo el enfoque precautorio, al tiempo que beneficiará, a todos los países con interés en esta pesquería.

Queremos hacer presente que en coyunturas como la actual, no solo se evalúa la capacidad de esta organización para el cuidado de los ecosistemas marinos y sus recursos hidrobiológicos, sino que también se evalúa su capacidad de incorporar en el enfoque ecosistémico la dimensión humana, económica y social. Porque finalmente han sido pescadores industriales y artesanales -y especialmente los de Chile- quienes se han comprometido con las restricciones de cuota global; los que han cumplido rigurosamente con la información de sus desembarcos; los que han recibido a observadores científicos e incorporado tecnologías para un mejor monitoreo de sus capturas.

Ahora son esos mismos pescadores, los que solicitan que esta instancia de administración pesquera adopte decisiones consistentes con quienes efectivamente están desarrollando el esfuerzo pesquero, y que por tanto han sido corresponsables en esta notable recuperación, permitiendo que el Jurel sea hoy abundante en nuestras costas.

Hacemos notar que es difícil explicar en las pequeñas caletas pesqueras a lo largo de nuestro país, que habiendo gran disponibilidad de este recurso, tanto en talla como en cantidad, veamos limitada la captura muy por debajo del Rendimiento Máximo Sostenible. Este es un factor que pone en riesgo la confianza y por ende la adhesión de los actores al cumplimiento de las restricciones, especialmente de quienes desarrollan pesca de menor escala.

Finalmente, como Subsecretario de Pesca y Acuicultura quiero reiterar la confianza y adhesión del Gobierno de Chile a las directrices definidas por OROP-Pacífico Sur y nuestra disposición a avanzar en cada una de las pesquerías que interesan a este foro con una regulación transparente y responsable.

Reforzamos nuestra voluntad de atender siempre a la mejor ciencia disponible, con un enfoque ecosistémico y con una mirada precautoria. Para asegurar así las mejores condiciones para el desarrollo de una actividad pesquera, la cual debe ser responsable no solo con las necesidades de alimentación de las actuales generaciones, sino también de las futuras, las que estamos seguros valoraran el esfuerzo de cuidado desarrollado en espacios como este.

Muchas gracias.

SM13

February 2023
COMM11-Report Annex 9c
Ecuador's statement



11TH ANNUAL MEETING OF THE SPRFMO COMMISSION

Manta, Ecuador, 13 to 17 February 2023

COMM 11 – Report ANNEX 9c

Ecuador's opening statement

[English version]

Greetings, welcome and thanks to the President, the Secretariat and all the staff of the organization, as well as to the authorities of the countries present and accompanying us virtually, to the civil society organizations and others interested in this meeting.

Ecuador's main objective in fisheries is sustainability. The Ecuadorian government and the private sector have been working to guarantee it. To this end, principles such as traceability and transparency are of vital importance.

We are especially interested in achieving consensus on the squid proposal, safeguarding the rights of developing coastal countries such as Ecuador, so that fishermen, especially artisanal fishermen, have the opportunity to develop the fishery.

For several years we have been promoting an increase in the production of fishing information, for which it is vital to resolve the increase in the percentage of observer coverage and the control of transshipment activities.

The state of the jack mackerel resource allows a review of the allocation of the quota increase for the countries. Ecuador seeks to reach the optimum level to operate a vessel.

There are urgent issues, addressed through proposals, whose quantity and quality anticipate in-depth discussions and we hope that success will characterize the outcome of this meeting; but there are also transcendental issues that we cannot ignore:

The effective participation of the Spanish-speaking countries is crucial for the success of this Commission, which involves not only the authorities but also each one of those who participate in the fishing activity, particularly the fishermen.

In this sense, we firmly believe in the need to ensure the use of the Spanish language in the official activities of the Commission. Effective participation is guaranteed and jealously protected by our Convention, and it is the obligation of the Commission to adopt the measures for implementation.

Although the rules of procedure identify English as an operational reference language, it admits that at the convenience of the Commission, other languages may be included with the same rigor and character.

The evidence that 95% of the most relevant fisheries of this Commission are carried out with impact in the coastal countries of Latin America is sufficient argument to adopt measures that allow the introduction, through interpretation and translation, This is why Ecuador did not hesitate to provide simultaneous interpretation for this meeting, nor did it hesitate to recognize the advantages of CALAMASUR's proposal that calls us to adopt the necessary administrative measures to integrate the Spanish language in the relevant information and decision making activities of the Commission.

We believe that the setting of this 11th meeting of the Commission is the ideal place to adopt such a decision and we respectfully ask the Parties for their consent for the necessary administrative decision to be adopted, as it does not require a Resolution per se.

We welcome you all once again to Manta, Ecuador. Thank you.



[Spanish version]

Un saludo, bienvenida y agradecimiento al Presidente, Secretaría y todo el personal de la organización, de igual forma a las autoridades de los países presentes y que nos acompañan virtualmente, a las organizaciones de la sociedad civil y demás interesados en esta reunión.

El principal objetivo de Ecuador en materia pesquera es la sostenibilidad. El gobierno ecuatoriano y el sector privado vienen trabajando para garantizarla. Para ello, principios como la trazabilidad y la transparencia son de vital importancia.

Tenemos especial interés en lograr consenso en la propuesta de calamar, precautelando el derecho de los países costeros en desarrollo como Ecuador, para que los pescadores, en especial los artesanales, tengan la oportunidad de desarrollar la pesquería.

Por varios años venimos impulsando incremento en la producción de información pesquera, para lo que es vital resolver sobre el incremento en el porcentaje de cobertura de observadores y el control de las actividades de trasbordo.

El estado del recurso jurel permite una revisión de la asignación del incremento de la cuota para los países. Ecuador busca llegar al nivel óptimo para operar una embarcación.

Existen temas urgentes, abordados mediante propuestas, cuya cantidad y calidad anticipan debates profundos y esperamos que el éxito caracterice el resultado de esta reunión; pero además existen temas trascendentes que no podemos obviar:

La participación efectiva de los países hispanoparlantes es crucial para el éxito de esta Comisión, lo que involucra no solo a las autoridades sino que igualmente a cada uno de quienes participan de la actividad pesquera, particularmente a los pescadores.

En este sentido, creemos firmemente en la necesidad de que se asegure el uso del idioma castellano en las actividades oficiales de la Comisión. La Participación efectiva se encuentra garantizada y celosamente protegida por nuestra Convención, y es obligación de la Comisión adoptar las medidas de implementación.

Si bien las reglas de procedimiento identifican al idioma inglés como una lengua de referencia operativa, admite que ante la conveniencia de la Comisión se incluyan otros idiomas con el mismo rigor y carácter.

La evidencia de que el 95% de las pesquerías más relevantes de esta Comisión se ejecutan con impacto en los países costeros de América Latina es el argumento suficiente para adoptar las medidas que permitan la introducción, vía interpretación y traducción, del uso del idioma castellano en similares condiciones que el Inglés en las actividades de SPRFMO y es por ello que Ecuador no dudó en proveer para esta reunión de la interpretación simultánea, como tampoco duda en reconocer las ventajas de la propuesta de CALAMASUR que nos llama a adoptar las medidas administrativas necesarias para integrar el idioma español en las actividades relevantes de información y toma de decisiones en la Comisión.

Creemos que el escenario de esta 11ª reunión de la Comisión es el idóneo para adoptar esa decisión y pedimos respetuosamente a las Partes su anuencia para que sea adoptada la decisión administrativa necesaria, pues no se requiere de una Resolución propiamente.

Sean todos nuevamente bienvenidos a Manta, Ecuador. Gracias.

SM14

February 2023
COMM11-Report Annex 9f
Vanuatu's statement



11TH ANNUAL MEETING OF THE SPRFMO COMMISSION

Manta, Ecuador, 13 to 17 February 2023

COMM 11 – Report ANNEX 9f

Vanuatu's statement on jack mackerel

Vanuatu supports the Chair's proposal because it is firmly based on the 2017 allocation that was agreed by all members and which was recognized as having taken into account all of the provisions of Article 21 of the Convention.

The Chair's proposal deviates from the 2017 quota allocation in two important ways. Firstly, it recognizes that the "existing level of fishing effort" referred to in Article 21 has become highly concentrated in the coastal waters of Chile, with the result that Chilean vessels now take around 78% of the total catch of jack mackerel.

Consequently, the Chair's proposal allocated an increased share of the TAC to Chile compared to its existing allocation.

The second deviation of the Chair's proposal from the 2017 allocation is to provide a quota allocation to three new entrants to the fishery, Cook Islands, Panama and Belize. The size of the quota allocation is the same at 1,100 tonnes, and is based on the precedents of new entrant allocations provided to Ecuador in 2015 and Cuba in 2017.

It is important to note that the effect of the increased quota allocation to Chile is distributed proportionally across all other members that currently hold quota. The effect of the allocations to new entrants is also distributed proportionally. By so doing, all members are treated fairly.

Vanuatu would therefore reiterate that the Chair's proposal is built upon the agreed 2017 quota allocation and that the two deviations from the current allocation are firmly based on the provisions of Article 21 of the Convention, which in Vanuatu's view has been appropriately complied with.

SM15

February 2023

COMM11-Report Annex 9g
Russian statement



11TH ANNUAL MEETING OF THE SPRFMO COMMISSION

Manta, Ecuador, 13 to 17 February 2023

COMM 11 – Report ANNEX 9g

Russian Federation’s statement on jack mackerel

We adhere to the position that the proposal provided by EU and than presented at the Commission on distribution of shares in the total allowable catch of *Trachurus murphyi* between the countries totally ignored relevant provisions of the Article 21 of the Convention.

When taking decisions regarding participation in fishing for any fishery resource, including the allocation of a total allowable catch or total allowable fishing effort, the Commission shall take into account the historic catch and past and present fishing patterns and practices throughout the relevant range of the fishery resource concerned and the criteria listed in paragraph 1(b) – (j) of the Article 21 of the Convention.

Instead, the EU has proposed a proportional reduction in the share of the catch of some countries without taking into account the relevant criteria.

This approach is based on the fact that *Trachurus murphyi* was caught as a result of the transfer of quotas between members, which, according to paragraph 9 of the CMM 01-2022, that could not be the basis for future agreements on the allocation of fishing opportunities. At the same time, the reduction in the *Trachurus murphyi* quota affects countries that were actively fishing since 2017 until current time and, according to most criteria in accordance with Article 21 of the Convention, could have increased their share in percentage.

Once again, it is important to emphasize that such an approach is inconsistent with paragraph 9 of the CMM 01-2022 and the provisions of Article 21 of the Convention.

Russia cannot agree with such an approach, and does not agree to a reduction in the share of its *Trachurus murphyi* quota.

Reduction of the percentage related to *Trachurus murphyi* quota of one member of the Commission without his consent and without taking in to consideration provisions of Article 21 of the Convention in favor of another member demonstrates unjustifiable discrimination in form and in fact, and is inconsistent with the provisions of the Convention.

SM16

February 2023
COMM11-Report Annex 9h
Peru's statement



11TH ANNUAL MEETING OF THE SPRFMO COMMISSION

Manta, Ecuador, 13 to 17 February 2023

COMM 11 – Report ANNEX 9h Peru's statement on jack mackerel

[English version]

The Republic of Peru considers it appropriate to point out the following:

Peru expresses its strong opposition to the decision adopted by the Commission, which has placed us in the situation of having to vote, together with other delegations, against it. This decision particularly affects Peru, as a State Party to the Convention for the Conservation and Management of High Seas Fishery Resources in the South Pacific Ocean (the SPRFMO Convention), which has not given its express consent to submit its jurisdictional waters to the competence of the Commission, a circumstance that has not been duly taken into consideration now and neither on previous occasions.

This measure generates an unfair and inequitable situation that is not based on the criteria of Article 21 of the SPRFMO Convention, instead basically takes into account the transfers of quotas that some members of the Commission have made in previous years, without this constituting a valid criteria for the allocation of quotas or for the change of the percentages of participation in the jack mackerel (*trachurus murphyi*) fishery.

The South Pacific Regional Fisheries Management Organization (SPRFMO) was established for the purpose of ensuring long-term conservation and sustainability in the use of fishery resources on the high seas, including stocks within the Convention Area. Therefore, with regard to jack mackerel stocks, the competence of the Commission to adopt conservation and management measures is limited to the high seas and the jurisdictional waters of those coastal States that have expressly declared their consent to submit them in accordance with Article 20(4)(a)(ii) of the Convention.

Peru is a developing coastal State which has not accepted to submit its jurisdictional waters to the competence of the Commission, but which, in the exercise of its sovereign rights, dictates in relation to the resources existing in such waters measures compatible with those adopted by the Commission. Such measures are also based on the best scientific information available, as well as on research carried out by the Peruvian Sea Institute (Instituto del Mar del Perú) at different times of the year. The results of these investigations are also provided to the Scientific Committee of the SPRFMO, in which Peru participates actively and consistently.

Based on the healthy state of the resource ascertained by the Scientific Committee and based on what was reported at this meeting by its chairman, we agree that an increase of 20% could be adopted as a temporary measure for this year only, to be distributed among all the members. However, we think that the establishment of percentages for such a wide time range as the one proposed for the next 10 years should be based on a previous evaluation by the Scientific Committee and on the analysis, with respect to each one of the participants in the fishery, of all the criteria contemplated in Article 21 of the SPRFMO Convention.

Peru is not able to support an approach that involves or implies a reduction in its participation in the jack mackerel fishery both in the Convention Area and in its jurisdictional waters. This fishery is of fundamental importance for our country in terms of guaranteeing food security for our population, because in Peru 100% of jack mackerel catches are for direct human consumption, and this resource is used to reduce the high rates of malnutrition in our child population. At the same time, it is a fishery that provides economic sustenance for our artisanal fishermen, in a particularly complex economic and social context.



In line with the above, Peru considers appropriate to emphasize that, as a coastal State, it exercises its sovereign rights in relation to the exploration, exploitation, conservation and management of fishery resources in its jurisdictional waters in a responsible and sustainable manner, as well as with due care for the protection of the marine ecosystem as a whole.

All this, as noted above, has been done by Peru in a manner consistent with the objectives of the SPRFMO Convention, and sharing the common interest of ensuring, through appropriate cooperation mechanisms, the compatibility of the conservation and management measures adopted for the Convention Area by the Commission and those established for areas under national jurisdiction by coastal States for straddling fish stocks such as jack mackerel. Therefore, it should be noted that the Commission defines the catch quota on the high seas, and in doing so must respect the exercise of sovereign rights that, based on the best scientific information available, coastal States carry out in their jurisdictional waters.

The fact that Article 4(2) of the SPRFMO Convention states that conservation and management measures adopted for the high seas and those established for areas under national jurisdiction should be compatible does not imply that they have to be identical, or that measures adopted for one area should prevail over the other. Measures may differ in form and scope, as long as they pursue essentially the same long-term conservation and sustainability objectives and can be applied without conflict and without diminishing the positive effects of each other.

In this sense, Peruvian fisheries management measures are based on management approaches and purposes such as those adopted by the SPRFMO, which aim to ensure the long-term sustainability of fishery resources and not to alter the balance of the marine ecosystem. It should be noted that these measures have never been observed or objected by the Scientific Committee with respect to their justification and technical support.

As has been pointed out on this occasion and in previous working sessions of the Organization, Peru contributes significantly to the scientific analysis and to the application of strict measures for conservation.

On the other hand, in relation to what is stated in paragraph 32 of the CMM, Peru would like to reiterate and refer to the content of what has been stated in this regard in its statements in recent years, which are annexed to the reports of the meetings of the Commission.

For the reasons explained above, Peru considers that the decision adopted represents a precedent that does not favor the future distribution of the resource for fishing by the Commission.

At the same time, Peru wishes to emphasize that it is firmly committed to the objectives and the important work of the SPRFMO, which it has been supporting during its 10 years of existence and which, greatly appreciating the framework of cooperation that the organization offers us, we will continue to support with a view to ensuring the sustainable management of the resources within the scope of action of the SPRFMO.

Finally, I would ask you, Mr. Chairman, that this statement be included as an annex to the Final Report of the meeting.

Manta (Ecuador), February 17, 2023.



[English version]

La República del Perú estima oportuno señalar lo siguiente:

El Perú expresa su fuerte oposición a la decisión adoptada por la Comisión, lo que nos ha colocado en la situación de tener que votar, junto con otras delegaciones, en contra de esta. Tal decisión afecta de manera particular al Perú, en su calidad de Estado parte de la Convención para la Conservación y Ordenación de los Recursos Pesqueros de Alta Mar en el Océano Pacífico Sur (la Convención de la OROP-PS) que no ha otorgado su consentimiento expreso para someter sus aguas jurisdiccionales a la competencia de la Comisión, circunstancia que no ha sido tomada debidamente en consideración ahora ni en anteriores oportunidades.

Se genera con esta medida una situación injusta e inequitativa que no está sustentada en los criterios del artículo 21 de la Convención de la OROP-PS, sino básicamente toma en cuenta las transferencias de cuotas que algunos miembros de la Comisión han hecho en los años previos, sin que ello constituya un criterio válido para la asignación de cuotas o para el cambio de los porcentajes de participación en la pesquería del jurel (*trachurus murphyi*).

La Organización Regional de Ordenamiento Pesquero del Pacífico Sur (OROP-PS) fue establecida con el propósito de asegurar la conservación y sostenibilidad de largo plazo en el uso de los recursos pesqueros en alta mar, incluyendo los *stocks* dentro del área de la Convención. Por lo tanto, con relación a los *stocks* del jurel, la competencia de la Comisión para adoptar medidas de conservación y manejo se limita al alta mar y a las aguas jurisdiccionales de aquellos Estados ribereños que han declarado expresamente su consentimiento para someterlas de conformidad con el artículo 20(4)(a)(ii) de la Convención.

El Perú es un Estado ribereño en desarrollo que no ha aceptado someter sus aguas jurisdiccionales a la competencia de la Comisión, pero que, en ejercicio de sus derechos soberanos, dicta en relación con los recursos existentes en tales aguas medidas compatibles con las adoptadas por la Comisión. Tales medidas están además sustentadas en la mejor información científica disponible, a partir de investigaciones que lleva a cabo el Instituto del Mar del Perú en distintos momentos de cada año. Los resultados de esas investigaciones son igualmente proporcionados al Comité Científico de la OROP-PS, donde, por cierto, el Perú participa de manera activa y consistente.

A partir del estado saludable del recurso que ha constatado el Comité Científico y con base en lo informado en esta reunión por su presidente, nosotros estamos de acuerdo en que pudiera adoptarse, como una medida temporal provisional para solamente este año, un incremento del 20% que pudiera repartirse entre todos los miembros. Sin embargo, pensamos que el establecimiento de porcentajes para un rango temporal tan amplio como el propuesto para los próximos 10 años debería estar sustentado en una evaluación previa del Comité Científico y en el análisis, respecto de cada uno de los participantes en la pesquería, de todos los criterios contemplados en el artículo 21 de la Convención de la OROP-PS.

El Perú no está en capacidad de acompañar un planteamiento que involucre o implique una reducción en su participación en la pesquería del jurel tanto en el área de la Convención como en sus aguas jurisdiccionales. Dicha pesquería tiene para nuestro país una importancia fundamental en términos de garantizar la seguridad alimentaria de nuestra población, dado que en el Perú el 100% de las capturas del jurel son para consumo humano directo, y tal recurso se utiliza para rebajar los elevados índices de desnutrición en nuestra población infantil. A su vez, se trata de una pesquería que sirve de sustento económico para nuestros pescadores artesanales, en un contexto económico y social especialmente complejo.



En la línea de lo señalado, el Perú considera oportuno recalcar que, como Estado ribereño, ejerce sus derechos soberanos en relación a la exploración, explotación, conservación y manejo de los recursos pesqueros en sus aguas jurisdiccionales de una manera responsable y sostenible, así como con el debido cuidado para la protección del ecosistema marino en su conjunto.

Todo ello, según se ha apuntado, lo ha venido haciendo en forma consistente con los objetivos de la Convención de la OROP-PS, y compartiendo el interés común de asegurar, a través de mecanismos de cooperación adecuados, la compatibilidad de las medidas de conservación y ordenación adoptadas para el área de la Convención por la Comisión y las establecidas para áreas bajo jurisdicción nacional por los Estados ribereños para las poblaciones de peces transzonales como el jurel. Así, corresponde destacar a partir de lo señalado que la Comisión define la cuota de captura en alta mar, y al hacerlo debe respetar el ejercicio de los derechos soberanos que, con sustento en la mejor información científica disponible, realizan los Estados ribereños en sus aguas jurisdiccionales.

El hecho de que el artículo 4(2) de la Convención de la OROP-PS establezca que las medidas de conservación y ordenación adoptadas para alta mar y las establecidas para áreas bajo jurisdicción nacional deben ser compatibles, no implica que tengan que ser idénticas, o que las medidas adoptadas para un área deban prevalecer sobre la otra. Las medidas pueden diferir en su forma y alcance, siempre que en esencia persigan los mismos objetivos de conservación y sostenibilidad a largo plazo y puedan aplicarse sin conflictos y sin que disminuyan los efectos positivos de las demás.

En ese sentido, las medidas de ordenación pesquera peruana se basan en enfoques y propósitos de gestión como los adoptados por la OROP-PS, que tienen como objetivo garantizar la sostenibilidad a largo plazo de los recursos pesqueros y no alterar el equilibrio del ecosistema marino. Debe destacarse que estas medidas no han sido en ningún momento observadas u objetadas respecto de su justificación y sustento técnico por el Comité Científico.

Como se ha señalado en esta oportunidad y en anteriores sesiones de trabajo de la Organización, el Perú contribuye significativamente al análisis científico y a la aplicación de medidas estrictas para la conservación.

Por otro lado, con relación a lo señalado en el párrafo 32 de la medida, el Perú se permite reiterar y remitir al contenido de lo planteado sobre el particular en sus declaraciones de los últimos años que figuran como anexos en los informes de las reuniones de la Comisión.

En razón a lo expuesto, el Perú considera que la decisión adoptada representa un precedente que no favorece la futura distribución del recurso para la pesca por parte de la Comisión.

Al mismo tiempo, el Perú desea resaltar que está firmemente comprometido con los objetivos y la importante labor de la OROP-PS, que viene apoyando en sus 10 años de existencia y que, ponderando grandemente el marco de cooperación que la organización nos ofrece, seguiremos respaldando con miras a asegurar el manejo sostenible de los recursos comprendidos en el ámbito de actuación de la OROP-PS.

Por último, ruego a usted señor presidente que la presente declaración sea incluida como anexo en el Informe Final de la reunión.

Manta (Ecuador), 17 de febrero de 2023.