

**3rd Meeting of the Finance and Administration Committee
Valdivia, Chile, 25 to 29 January 2016**

FAC-03-05

Possible options for revising the SPRFMO budget contribution formula

In 2015, the Finance and Administration Committee (FAC) agreed that the contribution formula in the Financial Regulations should be reviewed at its 2016 meeting and recommended that “the Commission task the Secretariat with developing options for a revised contribution formula for the pelagic catch component of the formula, and consider the respective allocations between jumbo squid and other pelagic species”. The FAC also requested that options be developed with the support of Members and be circulated well in advance of the meeting so that Members will be able to take into account the possible budgetary implications before the fourth meeting of the Commission.

The attached information paper has been developed by the Secretariat and includes responses received from China and Australia. Please note that the paper, as requested, only considers options for the pelagic catch component part of the contributions formula. Also the Secretariat wishes to highlight that the options presented are not a list from which Members will be asked to choose. Instead, it is our intention to start the discussion without presupposing any particular outcome.

Possible options for revising the SPRFMO budget contribution formula

Information Paper prepared by the SPRFMO Secretariat (revised in November 2015)

1. Background

In 2015 the SPRFMO Finance and Administration Committee (FAC) noted that the contribution formula in the Financial Regulations may not adequately take into account recent changes in pelagic fisheries catch composition and has resulted in a marked change in the pattern of annual contributions amongst Members¹.

The current Financial Regulations were drafted by the Preparatory Conference (2010-2012) and adopted by the first Commission Meeting in 2013. Regulation 4.7(c) stipulates that 45% of the budget shall be based on pelagic catches and divided among the Members of the Commission fishing for pelagic fishery resources. Furthermore, Regulation 4.7(d) provides for a time-limited (until June 2014) division of the 45% pelagic-catch-based contribution whereby squid catches accounted for 5% of the budget and pelagic finfish catches (mainly Jack mackerel) for 40% of the budget. Financial Regulation 4.7(d) was last applied for the 2014/15 budget.

The FAC agreed that the contribution formula in the Financial Regulations should be reviewed at its 2016 meeting and recommended that *“the Commission task the Secretariat with developing options for a revised contribution formula for the pelagic catch component of the formula, and consider the respective allocations between jumbo squid and other pelagic species. It was noted that a revision of the catch component of the contribution formula could alter the negotiated compromise reached upon adoption of the Financial Regulation at the Commission meeting in Auckland in 2013.”*

The FAC requested that the options be developed with the support of Members and be circulated well in advance of the meeting so that Members will be able to take into account the possible budgetary implications before the fourth meeting of the Commission.

To assist the Members in their revision of the financial contribution formula, this paper presents information that the Secretariat has compiled and considers relevant in this context. We wish to highlight that the Commission requested the Secretariat to consider only the pelagic component of the formula and that this has resulted in the presentation of a limited suite of options. There may be other options, or combinations of options, which are not covered by this paper but which Members might wish to bring up in their discussions before and during the Annual Meeting.

Finally, it is important to note that the paper does not constitute a list of options from which Members will be asked to choose. Instead, it is just intended to start the discussion without presupposing any particular outcome.

2. Introductory remarks

During the negotiations leading to the establishment of the SPRFMO, the main pelagic fishery resource in the high seas of the South Pacific was Chilean Jack mackerel and this is reflected in the effort that the Commission has given to the management of this resource. Both the Commission and the Scientific Committee (SC), to date, have spent much time discussing, analysing and developing measures in support of the Jack mackerel fisheries². The predominance of Chilean Jack mackerel fisheries in the work of the SPRFMO is also evident in the most recent SC Roadmap but it is noted that the Commission has - for the first time - specifically referred to a need for squid assessment data.

With regard to conservation and management measures, there are general regulations applying to all fisheries, e.g. vessel authorisations, catch reporting requirements and IUU-related measures. In addition, the Chilean Jack mackerel fishery has to follow a number of particular regulations, including annual catch limits (TAC), limits on

¹ 2nd FAC report, paragraph 8

² They also spent time on deep-water fisheries and other matters which are not considered in this paper

fishing capacities, 10% observer coverage and monthly catch reporting (including transshipments). Also, as mentioned above, the scientific advice for pelagic species has mainly focused on Chilean Jack mackerel with surveys and assessments for jumbo flying squid not yet considered. Thus, on top of their SPRFMO contributions, Members (and CNCPs) fishing for pelagic finfish are allocating significant costs and effort to scientific surveys and assessments, monitoring, and enforcement of the Chilean Jack mackerel fisheries in the SPRFMO Area.

The Secretariat notes that its administration related to catch data reporting and correspondence is currently more time-consuming for SPRFMO finfish fisheries than for SPRFMO squid fisheries. On the other hand, there are currently about a third more squid vessels¹ authorised to fish in the SPRFMO Area than Jack mackerel vessels. These require proportionally more staff time and attention related to the administration of the record of authorised vessels and, in the future, for the administration of the SPRFMO VMS.

3. Catch composition of the SPRFMO pelagic fisheries since 2007

There are two distinct pelagic fisheries in the SPRFMO Convention Area: the finfish fishery, which is mainly composed of Chilean Jack mackerel² (*Trachurus murphyi*, CJM), and the squid fisheries, which comprises jumbo flying squid (*Dosidicus gigas*, GIS). While since 2007 many SPRFMO Members participated in the finfish fishery, only three have fished for squid in the Convention Area (China, Korea and Chinese Taipei)³. The SPRFMO holds detailed catch data from the Convention Area since 2007 and the following review is based on these SPRFMO data (unless explicitly stated otherwise).

Since 2007, the pelagic fisheries in the SPRFMO Area have experienced remarkable variations. As Figure 1 shows, from 2007 to 2013 the Chilean Jack mackerel pelagic catches in the SPRFMO Area dropped dramatically and giant flying squid catches increased so that it became the dominant pelagic fishery in 2011. During the same time, Members' fishing patterns altered considerably and Chile was superseded by China as the largest pelagic catcher in the SPRFMO Area (see Figures 2 and 3).

Figure 1. Chilean Jack mackerel (CJM) and jumbo flying squid (GIS) catches in the South Pacific

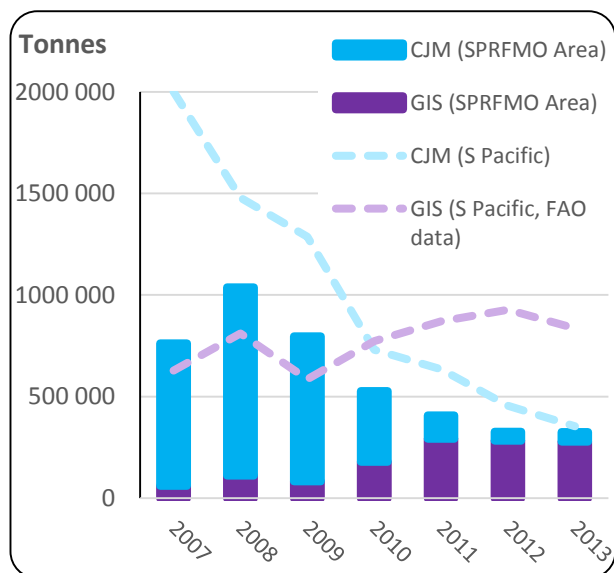
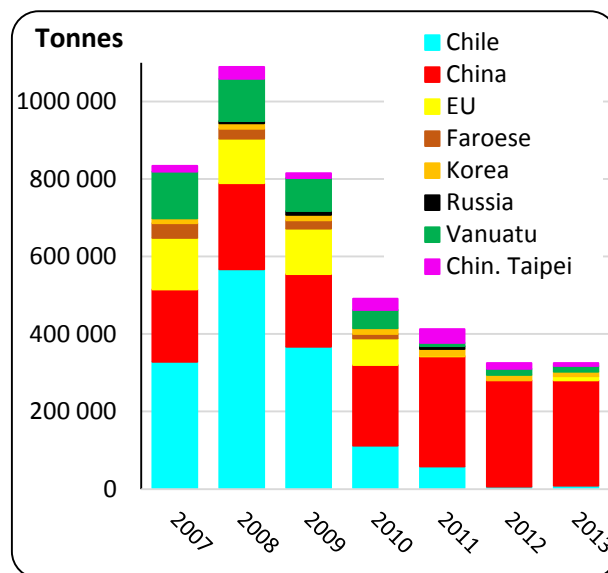


Figure 2. Pelagic catches by SPRFMO Members in the Convention Area



¹ Vessels equipped with fishing gear typically used for squid-fishing, in particular liners.

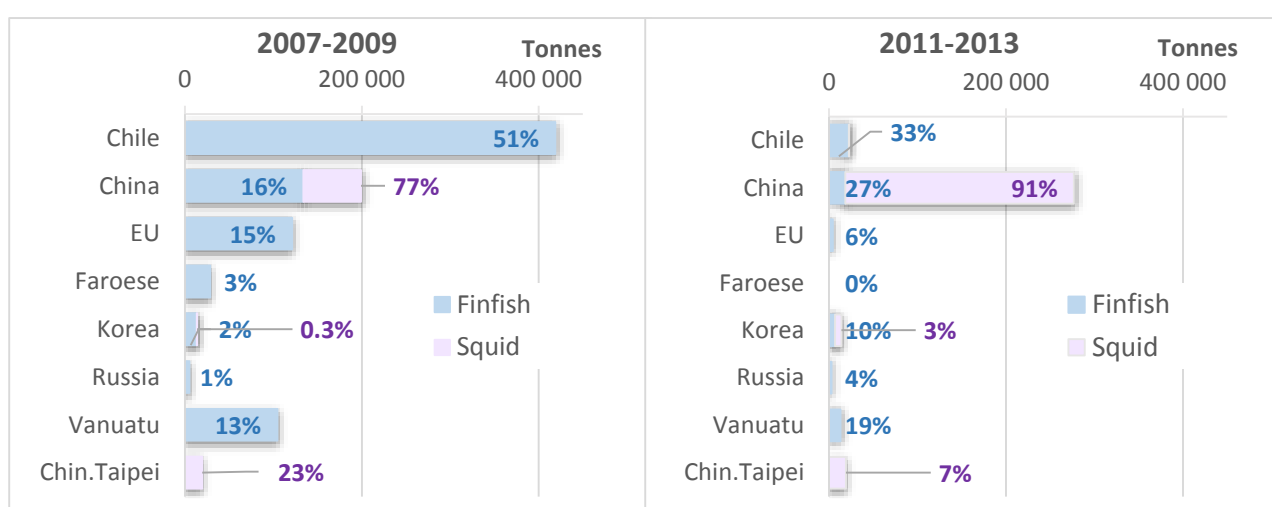
² Pelagic by-catch species in these fisheries, in particular chub mackerel, on average only account for less than 10% of pelagic catches (since 2011 even less than 5%). By-catch species are included in this paper (grouped with Jack mackerel as "finfish") except when specified otherwise.

³ Chile also reported minor amounts of less than 50 tonnes per year of squid catches in the Convention Area.

Figure 2 shows SPRFMO Members' annual catches for all pelagic resources in the SPRFMO Area¹. It reflects changes in pelagic fishery catches in the region caused by a steep reduction of catches from Members fishing for Chilean Jack mackerel (in particular Chile, China, the European Union and Vanuatu) and an increase of catches by some Members fishing for jumbo flying squid (in particular China).

The Commission has decided to base the financial contributions on a three-year-average. When the Financial Regulations were developed, the three-year period used as a reference was from 2007 to 2009, years that were all characterised by a dominance of finfish catches (mainly Chilean Jack mackerel with some chub mackerel) in the SPRFMO Area with Chile as the largest catcher. The most recent three-year-period used to calculate the budget for 2015/16 is comprised of the years 2011-2013. These years are characterised by a dominance of squid catches in the SPRFMO Area with China as the largest catcher. The average pelagic catches by Members during these two contrasting periods are shown in Figure 3².

Figure 1. Average annual pelagic catches in the SPRFMO Area by Member during two 3-year-periods. Percentages refer to catch proportions within each of the two fisheries.



The relative distribution of catches by SPRFMO Members within each of the two pelagic fisheries changed from the early to the most recent period. During 2007-2009 Chile caught half of the finfish in the pelagic SPRFMO Convention Area, and in 2011-2013 this dropped to one third. The proportion caught by most other Members also changed, with increased shares from China, Korea and Vanuatu while the portion of the European Union decreased. In the squid fisheries, China's catch proportion greatly increased whereas Chinese Taipei's share dropped considerably.

4. Alternative scenarios for the pelagic catch component

To assist Members in their determination of the best apportionment of the pelagic catches for the purpose of their financial contributions³, the Secretariat has prepared five scenarios that divide pelagic catches in different ways. Four of those differentiate between finfish and squid catches and apportion a separate percentage contribution to each (from a minimum of 5% to a maximum of 22.5 % for squid catches). The fifth alternative consists in the currently valid formula of the Financial Regulations, i.e no additional rules are applied and finfish and squid catches are treated as one group without sub-division.

¹ In 2007, the Cook Islands caught 7 tonnes and in 2011 Cuba caught 8 tonnes of pelagic SPRFMO species. These minor amounts are not included in figures 2 and 3.

² These 2 contrasting periods have been selected to illustrate the effects of the various alternative contribution formula scenarios under different pelagic catch conditions and fishing patterns of Members.

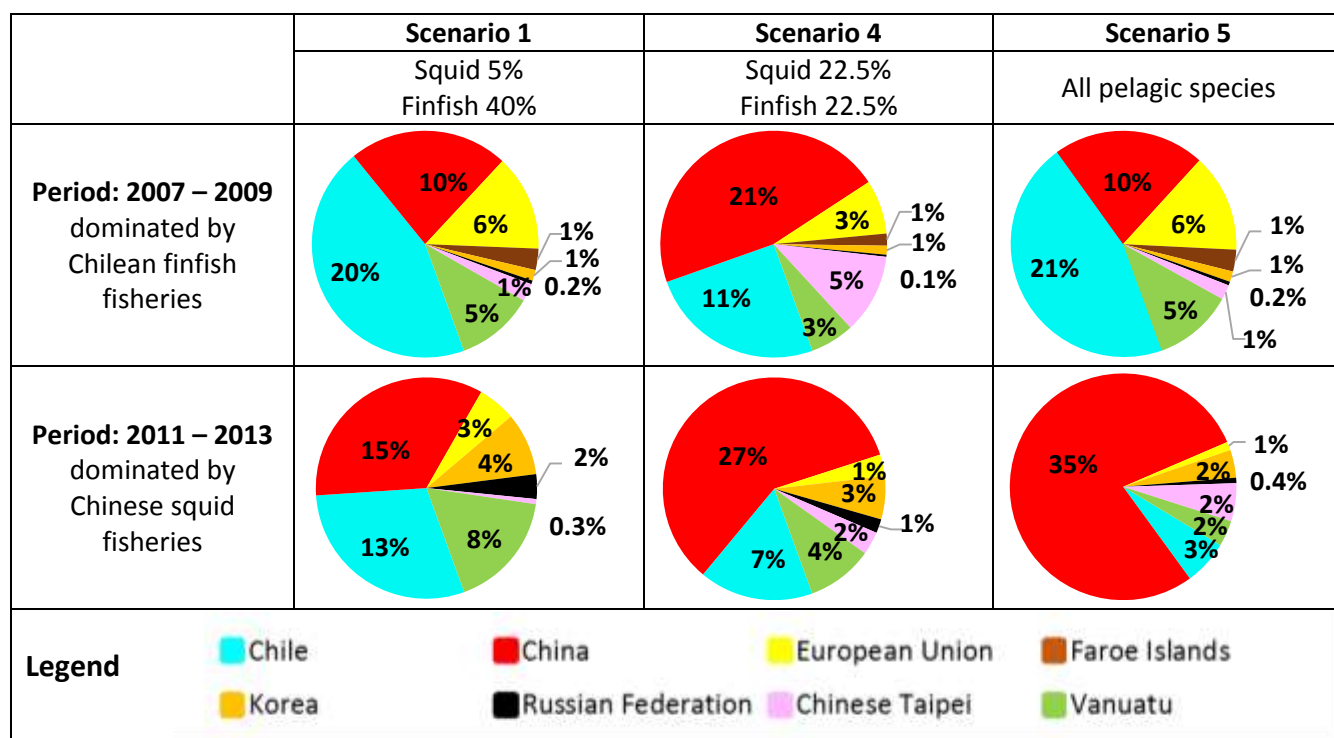
³ I.e. the 45% of the financial contributions based on pelagic catches

Table 1 and Figure 4 show the effects of each alternative scenario on the pelagic component of the financial contributions for the three-year-period 2007 to 2009, (dominated by the Chilean finfish fisheries and serving as reference when the budget formula was developed), and the most recent three-year-period 2011 to 2013, (dominated by the Chinese squid fisheries).

Table 1. The effect of alternative scenarios on the pelagic component (45%) of the Members’ financial contributions. The early finfish-dominated catch period 2007 to 2009 is contrasted with the recent squid-dominated catch period 2011-2013.

Pelagic component (45%) of the contribution formula	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5
	Squid 5% Finfish 40%	Squid 10% Finfish 35%	Squid 15% Finfish 30%	Squid 22.5% Finfish 22.5%	Pelagic species all combined
Based on average annual catches during the period from 2007 to 2009 (finfish-dominated)					
Chile	20.1%	17.6%	15.1%	11.3%	20.5%
China	10.2%	13.3%	16.3%	20.8%	9.8%
European Union	6.2%	5.4%	4.6%	3.5%	6.3%
Faroe Islands	1.4%	1.2%	1.0%	0.8%	1.4%
Korea	0.7%	0.7%	0.6%	0.6%	0.7%
Russian Federation	0.2%	0.2%	0.2%	0.1%	
Chinese Taipei	1.1%	2.3%	3.4%	5.1%	1.0%
Vanuatu	5.0%	4.4%	3.8%	2.8%	5.1%
Total	45%	45%	45%	45%	45%
Based on average annual catches during the period from 2011 to 2013 (squid-dominated)					
Chile	13.3%	11.6%	10.0%	7.5%	2.9%
China	15.4%	18.6%	21.8%	26.6%	35.4%
European Union	2.5%	2.2%	1.9%	1.4%	0.5%
Faroe Islands	0.0%	0.0%	0.0%	0.0%	0.0%
Korea	4.1%	3.8%	3.4%	2.8%	1.8%
Russian Federation	1.6%	1.4%	1.2%	0.9%	0.4%
Chinese Taipei	0.3%	0.7%	1.0%	1.5%	2.4%
Vanuatu	7.7%	6.7%	5.8%	4.3%	1.7%
Total	45%	45%	45%	45%	45%

Figure 4. Visualisation of changes in the pelagic component (45%) of the Members’ financial contributions resulting from scenarios 1, 4 and 5. Scenarios 2 and 3 will result in intermediary situations.



There appear to be three main factors influencing the outcomes of the five scenarios:

- The first factor consists of the temporal and spatial fluctuations of fishery resources and their associated catches in the SPRFMO Convention Area. In the few years since 2007, both pelagic SPRFMO fisheries have shown a pronounced instability in catch history (with finfish severely declining and squid steeply increasing). Large fluctuations of an individual fishery have a noticeable impact under scenario 5.
- The second factor can be seen in the marked changes of fishing effort by some flags, which has impacted the relative distribution of catches among the SPRFMO Members. Since 2007, this is particularly evident by Chile's (and the EU's) comparatively more severe reduction of pelagic finfish catches in the Convention Area, and China's increased catches in the squid fisheries. While such changes might become less pronounced or at least more predictable in the future, the underlying causes are diverse; in some cases they can be influenced by resource availability (e.g. as a result of spatial fluctuations as experienced by Chilean Jack mackerel), in other cases they might be the result of socio-economic or political circumstances.
- Finally, the third factor is the different level of participation by SPRFMO Members in the two pelagic fisheries. The greater number of Members in the finfish fishery serves as a "buffer" by helping to balance the effects from changing fishing efforts. This is not the case in the current SPRFMO squid fishery with only three participants catching at very different levels.

Considering these three factors, it is not surprising that the alternative scenarios result in quite different outcomes. Scenarios 1 to 4 are sensitive to changes in fishing patterns by the Members within each of the two pelagic fisheries; they are, however, not affected by changes in the relative magnitude of the two main fisheries. In contrast, scenario 5 is also sensitive to the scale of each fishery and, as reflected in Figure 4, shows the largest fluctuations in Members' pelagic contributions for the two contrasting periods.

5. Comparison of alternative future financial contributions

Table 2 allows the comparison of the total (not just the pelagic component) amount in NZD that each Member¹ would contribute towards the proposed 2016/17² SPRFMO budget of 853 000 NZD under each scenario.

Table 2. Members' financial contributions (in NZD) in 2016-17 under different scenarios and calculated using current Members and 2012/14 catch figures (estimated)

Members \ Scenarios	1	2	3	4	5
	Squid 5% Finfish 40%	Squid 10% Finfish 35%	Squid 15% Finfish 30%	Squid 22.5% Finfish 22.5%	Pelagic species all combined
Australia	\$62 413	\$62 413	\$62 413	\$62 413	\$62 413
Chile	\$45 437	\$41 509	\$37 581	\$31 690	\$19 393
China	\$182 161	\$211 659	\$241 157	\$285 404	\$377 758
Cook Islands	\$11 487	\$11 487	\$11 487	\$11 487	\$11 487
Cuba	\$7 891	\$7 891	\$7 891	\$7 891	\$7 891
Ecuador	\$7 616	\$7 616	\$7 616	\$7 616	\$7 616
European Union	\$163 052	\$154 553	\$146 053	\$133 305	\$106 695
Faroe Islands	\$24 564	\$24 564	\$24 564	\$24 564	\$24 564
Korea	\$56 418	\$53 451	\$50 483	\$46 032	\$36 741
New Zealand	\$127 773	\$127 773	\$127 773	\$127 773	\$127 773
Peru	\$32 826	\$30 050	\$27 274	\$23 110	\$14 418
Russian Federation	\$19 601	\$19 601	\$19 601	\$19 601	\$19 601
Chinese Taipei	\$19 926	\$21 208	\$22 490	\$24 413	\$28 427
Vanuatu	\$108 834	\$96 225	\$83 615	\$64 701	\$25 223
Total	\$870 000	\$870 000	\$870 000	\$870 000	\$870 000

¹ Belize has recently withdrawn from the Convention and hence has been excluded from this example.

² There is a two-year-lag between a budget year and its related catch reference years (eg. the 2016/17 budget year calculation will be based on average catches from 2012, 2013 and 2014).

6. Additional information

6.1. Value of the SPRFMO pelagic fisheries

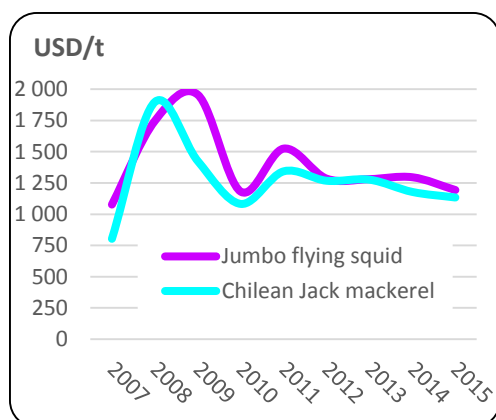


Figure 5. Average annual export value of frozen Chilean Jack mackerel and jumbo flying squid reported by Chile (FAO Statistics)

Some Members have inquired about the value of the SPRFMO pelagic fishery resources. This is a difficult and complex question as authoritative information is lacking and sources for such information are scarce and diverse. Some of the difficulties associated with sourcing this information are that: species names do not always follow international standards, products are often grouped by larger taxonomic categories, prices fluctuate by region and season and prices can greatly differ for processed and non-processed products.

Nonetheless, FAO holds data for the two main SPRFMO pelagic species (as reported by Chile) and these are given in Figure 5. The information shown in this figure is supported by other sources accessible to the Secretariat (including information received from Members) showing that prices for unprocessed (frozen) Chilean Jack mackerel and jumbo flying squid during recent years have been relatively similar. However, variations exist and prices in recent years sourced by the Secretariat range between US\$ 600 and US\$ 1 600 for jumbo flying squid and between US\$ 500 and US\$ 1 500 for Chilean Jack mackerel.

Annex 1

Table showing the actual financial contributions by SPRFMO Members by financial year (July to June)

Financial contributions (NZD)	2012/13 (Partial ¹)	2013/14	2014/15	2015/16 ²	2016/17 (proposed) ⁴
Australia	\$8 314	\$49 692	\$48 914	\$47 703	\$62 413
Belize ³	\$2 021	\$12 079	\$8 295	\$5 428	n/a
Chile	\$43 134	\$257 811	\$133 123	\$77 986	\$19 393
China ³	n/a	\$148 514	\$152 481	\$181 114	\$377 758
Cook Islands	\$1 963	\$11 733	\$11 078	\$8 879	\$11 487
Cuba	\$2 041	\$12 200	\$7 869	\$6 168	\$7 891
Ecuador ³	n/a	n/a	n/a	\$5 781	\$7 616
European Union	\$46 297	\$276 721	\$153 619	\$83 879	\$106 695
Faroe Islands	\$8 638	\$51 630	\$39 429	\$22 610	\$24 564
Korea	\$8 159	\$48 768	\$38 497	\$40 892	\$36 741
New Zealand	\$17 183	\$102 706	\$124 466	\$102 813	\$127 773
Peru ⁵	n/a	n/a	n/a	n/a	\$14 418
Russian Federation	\$5 452	\$32 588	\$24 317	\$24 540	\$19 601
Chinese Taipei	\$10 397	\$62 141	\$22 724	\$20 837	\$28 427
Vanuatu ³	n/a	\$26 315	\$57 434	\$45 152	\$25 223
Total Contribution's	\$163 599	\$1 092 898	\$822 246	\$673 782	\$870 000

Notes:

¹Contributions for the first (2012/13) financial period were calculated for 5 months rather than a full financial year.

²The formula used for calculating contributions until 2014/15 used a 5% squid to 40% finfish ratio for the pelagic component. The contributions towards the budget of 2015/16 contributions were determined otherwise (as an exception) and were reduced by NZD 150 000 derived from the accumulated surplus fund.

³China and Vanuatu joined the SPRFMO during the 2013/14 financial period and (following Article 15.8 of the SPRFMO Convention) were billed for 11 and 6 months respectively. Belize withdrew from the Convention during 2015, and Ecuador's first contribution was for the 2015/16 period.

⁴The financial contributions for this period listed are calculated using the current Financial Regulations in which the pelagic component of the financial formula is not subdivided (corresponding to scenario 5).

⁵The Secretariat expects that Peru will most likely will become a Member before the 2016-17 financial year.

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To : Ms Johanne Fischer
Executive Secretary of SPRFMO

22nd July 2015

SUBJECT: Re: China's Comments with regard to the SPRFMO Contribution Formula

Dear Ms Johanne Fischer,

I am much appreciated for the secretariat providing this comprehensive and detailed information paper in relation to the revision to the SPRFMO financial contribution formula in such timely manner, as it is highly pertinent issue to China, we attach a great importance to this information paper and input a lot of study and research. This information paper took a thoroughly review of the structural change in catch composition of the SPRFMO pelagic fisheries since 2007, and introduce Alternative scenarios for the pelagic catch component for the purpose of contribution formula. We believe this information paper could be good start point for members' future discussion before and in the next years annul meeting. Here on behalf of China I would like to give the comments as follows:

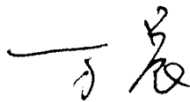
The first point is that we agree that the squid catches should be taking account and give due weight in the pelagic catch in Contribution formula. Squid fisheries in the convention area is managed by this commission, we already have some general conservation measures in place also applied to squid fisheries such as vessel registration, catch reporting requirements and IUU-related measures, the secretariat spent energy and manpower in squid fisheries, hence, squid catches should be included in the Contribution formula to make their contributions, but the weight of the squid fisheries should be commensurate with the cost and energy input in respect of squid fisheries management of commission. As the information paper indicated, "Both the Commission and the Scientific Committee to date have spent much time discussing, analyzing and developing measures in support of the Jack mackerel fisheries. The predominance of Chilean Jack mackerel fisheries in the work of the SPRFMO is also evident in the most recent SC Roadmap. In this sense, we prefer Scenario 1, in which squid catches account for 5% of the budget and pelagic fish catches (mainly Jack mackerel) for 40% of the budget. Of course, we also noted that our commission commences to shift more working resources to squid fisheries, and in the recent SC Roadmap - for the first time - specifically referred to a need for squid

assessment data. With more and more working resources input into squid fisheries, we believe the weight allocated to this catch component should be increased accordingly.

The second point conveyed is that we should take consideration of continuity and relatively stability in the course of revision of contribution formula, in order to avoid sharp increase in some member's contribution, take China for the case, our financial authority could not rectify budget of 10% increase and above due to the recent pessimistic financial situation. Therefore, if we decided to revise the contribution formula and result in significant increase for some members, we should have mechanism such as transition period to ease this kind of fluctuation.

Contribution Formula is core issue in our financial regulation and also utmost importance to make our commission function well and healthy, as for stake holder of this organization, China is and will be obliged to fulfill its financial obligations and support this organization's work with an aim of conservation and sustainable use of the fisheries resources in South Pacific Ocean.

With warm regards,

A handwritten signature in black ink, consisting of a horizontal line followed by a vertical line and a stylized character, likely representing the name 'Wan Chen'.

Wan Chen

Deputy Director
Division of Distant Water Fishing
Bureau of Fisheries, Ministry of Agriculture
People's Republic of China



Australian Government
Department of Agriculture

Dr Johanne Fischer
Executive Secretary
South Pacific Regional Fisheries Management Organisation

Dear Dr Fischer

Thank you for the opportunity to comment on Circular 75-2015 '*Possible options for revising the SPRFMO budget contribution formula.*'

Australia supports sub-dividing the pelagic catch component to take specific account for finfish and squid; and further supports retaining the 45% weighting for pelagic catch.

We consider that the Commission's effort has, to date, been largely and appropriately directed towards the Chilean jack mackerel (CJM) fishery. This focus has been critical for rebuilding and regulating the stocks; and Australia is pleased to see that this fishery is now on a more sustainable path.

However, as the CJM fishery starts to stabilise, and as SPRFMO starts to mature more generally as an RFMO, our expectation is that the Commission will turn its attention to other priorities within its remit. This will include increasing the MCS capacity of the organisation (through, for example, a VMS system), new conservation and management measures and stock assessments for other SPRFMO species. The inclusion of a squid stock assessment on the 2015 Scientific Committee agenda is a positive step towards more actively managing this fishery, particularly given the rapid rate at which squid fishing has increased in recent years.

In this regard, the Commission's time and the secretariat's regulatory effort is likely to continue to shift and refocus over the next 5 years. In revising the SPRFMO budget formula, we share China's view that the weighted allocation to the squid catch component be increased accordingly.

On this basis, Australia supports in principle Option 3 of the Secretariat's paper –15% squid / 30% finfish.

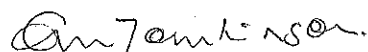
Recognising all members are limited in their ability to agree to increased budget contributions, we propose that the pelagic component be sub-divided into 'finfish' and 'squid.' We further propose that the squid component be incrementally increased by 2% each year for 5 years (with finfish to have a corresponding decrease over that 5 year period). In this regard we suggest:

- Year 1 – (2016-17) =Squid 7% / finfish 38%
- Year 2 – (2017-18) =Squid 9% / finfish 36%
- Year 3 – (2018-19) =Squid 11% / finfish 34%
- Year 4 – (2019-20) =Squid 13% / finfish 32%
- Year 5 – (2020-21) =Squid 15% / finfish 30%

Australia makes this proposal with some hesitation given our budget contribution is not affected by the allocation between squid and pelagic finfish. We suggest this approach as a way of ensuring that the budget reflects the work of the Commission, while offering fairness and predictability to Members. The formula could then be reassessed in five years to ensure this approach remains an accurate reflection of the Commission's work.

Australia puts forward this proposal in the hope of being constructive. However, this matter should be resolved between those Members directly impacted by the different approaches.

Yours sincerely



Erin Tomkinson
A/g Director
Regional Fisheries and Treaties section, Department of Agriculture
4 September 2015