

Ref.: 2021-11-03-1/SIOFA- SCC

La Reunion, Wednesday 3rd November 2021

## SC- CIRCULAR n° 2021-10

**SUBJECT: Updates to the 2021/22 Scientific Committee work plan**

Dear Heads of Delegation of the Scientific Committee,  
Dear Colleagues

The SIOFA Scientific Committee has several responsibilities that are prescribed by SIOFA CMMs and requests by the MoP to provide specific scientific advice. In addition to the Scientific Committee workplan, MoP8 tasked the Scientific Committee with items to review or prepare advice for the MoP and the Compliance Committee (CC5) also requested specific advice from the Scientific Committee at its last meeting.

The updated Scientific Committee Workplan with the requests from MoP, the Compliance Committee, and requirements under the SIOFA CMMs are summarised below (Table 1). I thank the vice-Chair of the Scientific Committee, the Chairs of the science working groups, and the Secretariat for their work in putting together this summary.

I note that there a large body of work that we have undertaken to deliver and considered at the Scientific Committee and its working group meetings in March 2022. A timetable of schedules workshops and meetings up to March 2022 is given below (Table 2). I hope that this circular will assist in your planning and preparation for the upcoming scientific meetings.

A Project Code has been assigned to each project to help track the work. These follow the schema of a three-letter code (e.g., SEC=Secretariat, PAE=PAEWG, and SER=SERAWG), the start year of the project, and a two-digit number for each project. For example, SEC2021-02 was the Secretariat project, initiated in 2021, that was allocated to the contracting of the Scientific Committee Chair.

Sincerely yours,



Alistair DUNN

Chairperson of the Scientific Committee  
SIOFA/APSOI

## Requests and requirements for the Scientific Committee

### 1. Requests to Scientific Committee from the Meeting of Parties

Recommendations from MoP8 are given in MoP (2021), and the relevant paragraphs are given below.

Para 92. The Meeting of the Parties endorsed the recommendation in paragraph 71 of the SC6 report to commission an independent audit of SIOFA's data security systems and protocols in relation to the databases and agreed to include the audit as an item in the SIOFA budget (Annex O).

*Addressed in the updated SC work plan under Projects SEC2021-05 and SEC2021-06.*

Para 93. The Meeting of the Parties adopted the Terms of Reference for the independent audit of data security (MOP-08-24; Annex J).

*Addressed in the updated SC work plan under Project SEC2021-06*

Para 95. Concerning paragraphs 72 and 162 of the SC6 report, the Meeting of the Parties requested the Secretariat, in consultation with the CCAMLR Secretariat, to develop a toothfish tagging protocol for the SIOFA Area that is consistent with that of CCAMLR, agreed to adopt the use of CCAMLR tags and tagging protocols in the interim, and requested the Secretariat to provide information on the SIOFA website regarding how CCPs can obtain CCAMLR tags and tagging equipment.

*Addressed in the updated SC work plan under Project SEC2021-08.*

Para 97. The Meeting of the Parties endorsed the recommendation in paragraph 89 of the SC6 report that the draft VME taxa list (PAEWG3 Report, Annex D) be distributed to the fishing authorities and on-board bottom fishing vessels for improving VME taxa identification and requested that the Scientific Committee work with CCPs to update and revise the VME taxa list in CMM 2020/01 (interim management of bottom fishing) and submit the proposed amendments to the ninth Meeting of the Parties.

*Addressed in the updated SC work plan under Projects PAE2021-01 and PAE2021-03.*

Para 98. The Meeting of the Parties noted that the PAEWG will work intersessionally to conduct a review of the thresholds, or the processes to agree thresholds, adopted by other RFMOs, such as those described in SPRFMO-SC6-DW09 (Methods for deriving thresholds for VME encounter protocols for SPRFMO bottom fisheries), noted the other ongoing VME-related work in the Scientific Committee work plan, and requested that the Scientific Committee submit a proposal to the ninth Meeting of the Parties on how to conduct a review on how to develop better thresholds for VMEs.

*Addressed in the updated SC work plan under Projects PAE2021-01 and PAE2021-03.*

Para 99. The Meeting of the Parties endorsed the recommendations in paragraph 92 of the SC6 report regarding the ongoing trawl and longline cumulative bottom fishing impact assessment consultancy.

*Completed under Project PAE2020-01 with the final report to be presented at PAEWG4 and SC7.*

Para 108. The Meeting of the Parties requested that the Scientific Committee and the Secretariat prepares and evaluates the usefulness of a hybrid footprint map using set level information (start and end of haul); 20-minute resolution; and 30-minute resolution data for management purposes and in accordance with paragraph 7 of CMM 2020/01.

*Addressed in the updated SC work plan under Project PAE2021-04.*

Para 112. The Meeting of the Parties endorsed the recommendations in paragraph 133 of the SC6 report concerning seabird data collection, bycatch mitigation measures, and ecological risk assessment.

*Addressed in the updated SC work plan under Project PAE2021-02.*

Para 113. The Meeting of the Parties endorsed the recommendations in paragraphs 142-146 of the SC6 report and requested that the Scientific Committee develop a standard annual report (or reports) for consideration by the Meeting of the Parties, that gives an overview of SIOFA fisheries and can be made available publicly. The annual report(s) should be developed to provide a summary of SIOFA fisheries, a summary of associated catch and effort data, and outcomes of stock assessments.

*Addressed in the updated SC work plan under Project SEC2021-07.*

Para 133. The Meeting of the Parties requested the Scientific Committee to develop a roadmap for developing harvest strategies at the seventh Scientific Committee meeting and as recommended in paragraph 126 of the SC6 report, consider analyses to determine the applicability and trade-offs between the three proposed harvest approaches for orange roughy, alfonsino, and toothfish.

*Addressed in the updated SC work plan under Projects SER2021-05.*

Para 145. The Meeting of the Parties requested the Scientific Committee to conduct further studies of the ecology of the Saya de Malha Bank and the potential impact of bottom trawling fisheries on its ecosystem, as part of the planned study of the Saya de Malha Bank in the Scientific Committee work plan.

*Addressed in the updated SC work plan under Project SER2021-03.*

Para 153. The Meeting of the Parties requested the Scientific Committee to hold further discussions on the effectiveness of the data collection provisions in the CMM [2021/02] and present any additional advice to the ninth Meeting of the Parties.

*Addressed in the updated SC work plan under Project SEC2021-09.*

Para 192. The Meeting of the Parties requested the Secretariat to prepare a long-term plan for the structured development of the Secretariat's capabilities, which would cover the subsequent two to five years and would be updated each year, for the annual discussions of the budget by the Meeting of the Parties. The plan should also include additional resourcing options from potential funding partners such as FAO.

*The medium-term Scientific Committee research plan and associated draft budgets is intended to be presented at SC7 and MoP9 under Project SEC2021-11.*

Para 98. The Meeting of the Parties endorsed the information paper (MoP-08-INFO-17) provided by Australia on arrangements for holding a joint SIOFA-CCAMLR workshop on toothfish data exchange.

Para 199. The Meeting of the Parties requested the Scientific Committee Chair and the Secretariat to write to the CCAMLR Scientific Committee Chair to invite CCAMLR Members to hold a joint workshop on the data exchange of toothfish data between SIOFA and CCAMLR, preferably in the week beginning on 29 November 2021, and to invite the CCAMLR Scientific Committee Chair to co-Chair the meeting with the SIOFA Scientific Committee Chair.

Para 200. The Meeting of the Parties invited the CCPs interested in this workshop to work with the SIOFA Scientific Committee Chair and Secretariat to develop a workshop agenda and participate. Further, the Meeting of the Parties recommended that the workshop be co-chaired by the respective SC chairs of SIOFA and CCAMLR and be held in the week beginning on Monday 29 November 2021.

Para 231. Subject to the agreement of CCAMLR, the Meeting of the Parties AGREED to hold the proposed SIOFA-CCAMLR workshop on toothfish data exchange in the week beginning 29 November 2021.

*A workshop in the week starting 29 November 2021 is currently being discussed with the CCAMLR SC Chair, under Project SEC2021-03.*

## **2. Requests to Scientific Committee from the Compliance Committee**

The Compliance Committee requested that the Scientific Committee review the level of mortality of deep-water sharks and provide advice on potential sustainability risks and management options, as well as to review the effectiveness of the European Union's move-on rules (Compliance Committee of the Southern Ocean Fisheries Agreement (SIOFA) 2021).

Para 17. Several CCPs expressed concern over the large amount of deep-water shark bycatch [...]. The Compliance Committee requested that the Scientific Committee review the level of mortality of deep-water sharks and provide advice on potential sustainability risks and management options, as well as to review the effectiveness of the European Union's move-on rules.

*Noted in the revised SC work plan. An item for this will be proposed for the agendas of the Scientific Committee meetings to be held in March 2022. Papers from SC delegations to address this issue are encouraged.*

### **3. Summary of decisions by SC6**

At SC6 (2021), a number of recommendations were made are may be relevant for intersessional work by the Scientific Committee or may be discussed at SC7 or the scientific working groups. A summary of these paragraphs, excluding those covered by the MoP8 report (Meeting of Parties of the Southern Ocean Fisheries Agreement (SIOFA) 2021) or the Compliance Committee report (Compliance Committee of the Southern Ocean Fisheries Agreement (SIOFA) 2021) is given below.

Para 36. The SC RECOMMENDS that the overview of SIOFA fisheries, incorporating any SC6 input, also be provided to future meetings of its working groups.

*Addressed in the revised SC work plan under Project SEC2021-07.*

Para 65. The SC REQUESTS that CCPs distinguish between missing observations and zero observations when submitting data to the Secretariat.

*Noted in the revised SC work plan under Project SEC2021-09.*

Para 66. The SC AGREED to hold further discussions on the introduction of e-monitoring schemes via an intersessional working group.

*Addressed in the revised SC work plan under Project SEC2021-04.*

Para 70. The SC AGREED to create an intersessional working group to discuss harmonisation of observer programmes by CCPs and the evaluation process to improve data quality.

*Addressed in the revised SC work plan under Project SEC2021-01.*

Para 89. The SC RECOMMENDS that the MoP adopt the draft VME taxa list (PAEWG3 Report, Annex D) for distribution to the fishing authorities and on-board bottom fishing vessels for improving VME taxa identification. The SC NOTED that the list has been adapted from that of CCAMLR and AGREED on the need to investigate other taxa that do not occur in the CCAMLR Area, including possible VME indicators in fishing grounds in the SIOFA Area north of 45° south. The SC AGREED to update the list, if required, each year, and noted the possibility of including VME taxa from the lists of other RFMOs.

*Noted in the revised SC work plan. An item for this will be proposed for the agendas of the Scientific Committee meetings to be held in March 2022. Papers from SC delegations to address this issue are encouraged.*

Para 90. Regarding VME encounter thresholds, the SC NOTED that it would be worthwhile to consider the thresholds, or the processes to agree thresholds, adopted by other RFMOs, such as those described in SPRFMO-SC6-DW06 (Methods development for spatially explicit bottom fishing impact evaluation within SPRFMO). The SC REQUESTS the PAEWG to work intersessionally to conduct such a review and RECOMMENDS that the MoP consider a consultant to assist with this work.

*Noted in the revised SC work plan under Projects PAE2021-03a-b.*

Para 105. Regarding alfoncino growth, length and maturity estimates, the SC RECOMMENDS that:

- in addition to the current sampling procedure, stratified otolith sampling protocols should be conducted to ensure that otoliths get collected across the full size-range of fish.

- future assessments use the updated maturity schedule and the revised growth curve, then consider estimating a size/age specific natural mortality.
- observers continue collecting biological data including otoliths, length and maturity information, and SIOFA consider standardising data collection protocols between fleets, including length measurement units and gonad staging.
- CCPs' historical data be provided to the Secretariat according to the specifications of CMM 2019/02 (Data Standards).

*Noted in the revised SC work plan under Project SEC2021-09.*

Para 106. The SC REQUESTS CCPs to present proposals for random length and stratified otolith sampling protocols and develop a standardised data collection protocol at SERAWG4.

*Noted in the revised SC work plan under Project SEC2021-09. An item for this will be proposed for the agendas of the Scientific Committee meetings to be held in March 2022. Papers from SC delegations to address this issue are encouraged.*

Para 107. The SC REQUESTS SERAWG4 to revise alfonsino maturity staging classifications, replacing GSI as a means to allocate a maturity stage to a gonad, for use in all SIOFA fleets.

*Noted in the revised SC work plan under Project SEC2021-09. An item for this will be proposed for the agendas of the Scientific Committee meetings to be held in March 2022. Papers from SC delegations to address this issue are encouraged.*

Para 116. The agenda item "Other species" was not addressed at this year's SERAWG meeting due to the reduced format and was postponed to 2022.

*Addressed in the revised SC work plan under Projects SEC2021-07 and SEC2021-09. An item for this will be proposed for the agendas of the Scientific Committee meetings to be held in March 2022. Papers from SC delegations to address this issue are encouraged.*

Para 129. The SC recalled the discussion at SC5 on the merits and demerits of wire snoods versus nylon snoods (SC5 Report, paras 86-87) [with respect to capture of deepwater chondrichthyan species] and encouraged CCPs to share any research that would provide further clarity on this matter.

*Noted in the revised SC work plan. An item for this will be proposed for the agendas of the Scientific Committee meetings to be held in March 2022. Papers from SC delegations to address this issue are encouraged.*

Para 131. Regarding deepwater chondrichthyans, the SC:

- NOTED the lack of discussion at this year's SERAWG meeting.
- REQUESTS that SERAWG4 include deepwater chondrichthyans in its agenda and note any additional work towards reviewing progress against CMM 2019/12 (Sharks) and potentially the development of precautionary bycatch limits.

*Noted in the revised SC work plan. An item for this will be proposed for the agendas of the Scientific Committee meetings to be held in March 2022. Papers from SC delegations to address this issue are encouraged.*

Para 133. The SC RECOMMENDS that:

- The MoP task the SC with reviewing, by SC7, the seabird data collection and bycatch mitigation measures stipulated in CMM 2019/02 (Data Standards) and CMM 2019/13 (Mitigation of Seabirds Bycatch) against Agreement on the Conservation of Albatrosses and Petrels (ACAP) best practices, while taking into consideration SC-03-06.2 (05) (Vessel Seabird Management Plan, Cook Islands) to ensure that SIOFA's measures are effective and efficient.
- The MoP, taking the distribution of all life-history stages of albatrosses and petrels into account, task the SC with conducting:
  - i. an ERA based on overlap analysis.
  - ii. a combined ERA or a joint future iteration of the global ERA by the tuna RFMOs.

*Noted in the revised SC work plan as Project PAE2021-05. An item for this will be proposed for the agendas of the Scientific Committee meetings to be held in March 2022. Papers from SC delegations to address this issue are encouraged.*

Para 140. The SC NOTED that the development of a project on the stock structure of alfonsino, toothfish and orange roughy would need to be discussed intersessionally with members of the SERAWG before terms of reference are developed.

*Addressed in the revised SC work plan under Project SER2022-01.*

Para 143. The SC REQUESTS the Secretariat to compile an annual paper summarising catch and effort trends in the SIOFA Area, covering overall catch by main species and effort by gear for the most recent year and historically. The paper should also contain some coarse scale mapping or area-based summaries of catch and effort.

Para 144. The SC RECOMMENDS that all target species, and bycatch species (or species groups) that comprise more than at least 5% (by weight or number, as appropriate, within each target species fishery) be considered 'main' species for the purposes of the analyses, but NOTED that the Secretariat should consult with the SC & WG Chairs to refine the criteria for 'main species' and for target fishery areas for consideration by SERAWG and SC in 2022.

Para 145. The SC NOTED that the analyses should briefly summarise the species that would fall outside the definition of 5% (by weight or number, as appropriate).

Para 146. The SC NOTED that similar analyses of other species of concern (e.g. elasmobranchs) in the SIOFA Area should also be undertaken in the future.

*Addressed in the revised SC work plan under Project SEC2021-07.*

Para 147. The SC NOTED the MoP's request to continue the work to develop a draft CMM on fishing research and exploratory fisheries. Due to time constraints, no related papers were presented at the meeting and the SC AGREED to progress this work intersessionally.

*Noted in the revised SC work plan. An item for this will be proposed for the agendas of the Scientific Committee meetings to be held in March 2022. Papers from SC delegations to address this issue are encouraged.*

Para 167. The SC AGREED to the project priorities for each of the Five General Objectives as described in SC-06-INFO-06 rev 1.

*Noted in the revised SC work plan.*

Para 168. The SC AGREED in general to the timetable for each of the Five General Objectives as described in SC-06-INFO-06 rev 1, while NOTING that, due to the timing of the SC6 meeting, the start of the process has been delayed by a few months.

*Noted in the revised SC work plan.*

The Scientific Committee noted that due to the reduced format and time available for the virtual meetings, that some agenda items were postponed to 2022 (Annex B: SC6 Agenda, Scientific Committee of the Southern Ocean Fisheries Agreement (SIOFA) 2021). These items were:

Item 6.3 Protocols for interim Protected Areas and review the protected areas proposal in SIOFA.

Item 6.4 Advice on management and/or research plans in the proposed and/or validated protected zones

Item 7.4 Other species

7.4.1 Update on the fisheries

7.4.2 Consideration of advice from SERAWG3

Item 8. Proposals to bottom fish in the Agreement Area in a manner at variance with established measures

Item 9. Scientific impact assessments

Item 10.1 CMM 2019/01 Interim Management of Bottom Fishing

Item 10.2 CMM 2016/03 Data Confidentiality

*These items will be proposed for the agendas of the scientific meetings in March 2022. Papers from SC delegations to address these issues are*

**Table 1: SIOFA Scientific Committee workplan**

Year	Project code	Lead	Summary Title	Provider	WG/SC meeting	Funding source	Reference
2021/22	SEC2021-01	SC/SEC	Harmonisation of Scientific Observer programmes	Intersessional WG	SERAWG4; PAEWG4	-	SC6 para 70
2020/21	PAE2020-01	PAEWG	BFIA trawl & longline	Consultant	PAEWG4	MoP; Australia contribution	MoP5
2020/21	SER2020-01	SERAWG	Harvest strategies Part 1	Consultant	SERAWG3	MoP6	MoP6
2020/21	SCM2021-01	SC/SEC	Science Manager for EU projects	Consultant	SC7; SC8	EU Grant (GO5)	EUG 2020 GO5
2021/22	SER2021-01	SERAWG	ORY acoustics	Consultant	SERAWG4	MoP7	SC6 Annex G
2021/22	SER2021-02	SERAWG	ORY ageing + growth	Consultant	SERAWG4	EU Grant (GO1.3)	SC6 Annex G
2021/22	SEC2021-10	SC/SEC	SIOFA Science Officer Recruitment	Secretariat	N/A	MoP8	MoP8 para 192
2021/22	SER2021-03	SERAWG	Saya de Maya Bank Fisheries	Consultant	SERAWG4	EU Grant (G01.4)	MoP8 para 145
2021/22	SER2021-04	SERAWG	ORY assessment	Consultant	SERAWG4	MoP7	SC6 Annex G
2021/22	SER2021-06	SERAWG	Alfonsino acoustics feasibility	Consultant	SERAWG4	MoP7	SC6 Annex G
2021/22	SER2021-05	SERAWG	Development of T+L Harvest strategies Part 2 & Roadmap	Consultant	SERAWG4	MoP5; MoP6 (remaining budgeted funds)	MoP5 para 53 & 133
2021/22	PAE2021-02	PAEWG	Updates to the ERA work - Considering seabirds & mammals	Consultant	PAEWG4	EU Grant (GO3)	SC6 Annex G
2021/22	PAE2021-01a	PAEWG	Bioregionalisation for smaller spatial entities within a larger area using a range of environmental information	Consultant	PAEWG4	MoP8	SC6 Annex G



Year	Project code	Lead	Summary Title	Provider	WG/SC meeting	Funding source	Reference
2021/22	PAE2021-01b	PAEWG	Representative protected areas (ToR1)	Consultant	PAEWG4 (Draft report); PAEWG5 (Final report)	EU Grant (GO2)	SC6 Annex G
2021/22	PAE2021-01c	PAEWG	Representative protected areas (ToR2)	Consultant	PAEWG4 (Draft report); PAEWG5 (Final report)	EU Grant (GO2)	SC6 Annex G
2021/22	PAE2021-01d	PAEWG	Holistic framework for VMEs (ToR4)	Consultant	PAEWG4 (Draft report); PAEWG5 (Final report)	EU Grant (GO2)	SC6 Annex G
2021/22	PAE2021-01e	PAEWG	Holistic framework for VMEs (ToR5)	Consultant	PAEWG4 (Draft report); PAEWG5 (Final report)	EU Grant (GO2)	SC6 Annex G
2021/22	PAE2021-01f	PAEWG	Support work on benthic bioregionalization (underway) and (future) investigate possible habitat suitability modelling	Consultant	PAEWG4 (Draft report); PAEWG5 (Final report)	EU Grant (GO2)	SC6 Annex G
2021/22	SEC2021-05	SC/SEC	Data & information systems	Consultant	SC7	MoP7 (Reserve fund)	MoP8 para 94-95
2021/22	SEC2021-06	SC/SEC	Security audit: Physical security	Consultant	SC7	MoP7 (Reserve fund)	MoP8 para 94-95; MoP8 Annex O
2020/21	PAE2020-02a	PAEWG	VME mapping (year 1)	Consultant	PAEWG3	MoP	MoP5
2021/22	PAE2020-02b	PAEWG	VME mapping (year 2)	Consultant	PAEWG4	EU Grant (GO2); MoP6; MoP7	MoP5
2020/21	-	PAEWG	VME indicator species	Secretariat	PAEWG3	MoP	SC5 Annex I
2020/21	-	PAEWG	SIOFA Fishing Footprint	Secretariat	SC6	MoP	MoP5
2021/22	-	PAEWG	VME indicator species	SC Delegations	PAEWG4	-	MoP8 para 99; SC6 para 89
2021/22	PAE2021-03a	PAEWG	VME indicator species threshold development plan	Intersessional WG	PAEWG4	-	MoP8 para 100
2021/22	PAE2021-04	PAEWG	SIOFA Fishing Footprint (update)	Secretariat	SC7	-	MoP8 para 110

Year	Project code	Lead	Summary Title	Provider	WG/SC meeting	Funding source	Reference
2021/22	PAE2021-05	PAEWG	Review seabird bycatch mitigation (CMM2021/02, 2019/13, ACAP)	SC Delegations	PAEWG4	-	MoP8 para 114; SC6 para 133
2021/22	SEC2021-02	SC/SEC	SC Chair position	Consultant	MoP9	MoP8 Item 9.2	MoP8 para 122
2021/22	SEC2021-03	SC/SEC	Joint SIOFA-CCAMLR SC meeting of toothfish data exchange	SC Chairs committee	SC7	-	MoP8 para 201-203; SC6 para 156
2021/22	SEC2021-07	SC/SEC	Fisheries summaries	Secretariat	SC7	-	MoP8 para 115; SC6 para 142-146
2021/22	SEC2021-08	SC/SEC	Toothfish tagging programme	Secretariat	SERAWG4	-	MoP8 para 97
2021/22	SEC2021-09	SC/SEC	Review of CMM 2021/02	Secretariat	SC7	-	MoP8 para 155
2021/22	SEC2021-11	SC/SEC	Development of 3-5 yr. Scientific Committee budget	SC Chairs committee	SEAWG4; PAEWG4; SC7	-	MoP8 para 194
2021/22	SEC2021-12	SC/SEC	Annual review of VME encounters	Secretariat	PAEWG4	-	CMM 2020/01 para 16
2021/22	-	SERAWG	Review of CMM 2019/12 (Shark)	SC Delegations	SERAWG4	-	MoP8 para 53; CC5 para 17
2021/22	-	SERAWG	Alfonsino growth curve	SC Delegations	SERAWG4	-	SC6 para 105
2021/22	-	SERAWG	Standardised data collection protocols for BYS	SC Delegations	SERAWG4	-	SC6 para 106
2021/22	-	SERAWG	Update BYS maturity staging classification	SC Delegations	SERAWG4	-	SC6 para 107
2021/22	-	SERAWG	Review progress under CMM 2019/12 (Sharks)	SC Delegations	SERAWG4	-	SC6 para 131
2021/22	-	SERAWG	Review deepwater sharks and advise on management	SC Delegations	SERAWG4	-	CC6 para 17
2021/22	SER2021-07	SERAWG	ERA Teleosts	SC Delegations	SERAWG5	EU Grant (GO2.4)	SC5 Annex I

Year	Project code	Lead	Summary Title	Provider	WG/SC meeting	Funding source	Reference
2022/23	-	SERAWG	Review toothfish data collection requirements	SC Delegations	SERAWG5	-	CMM2021/15 para 31
2021/22	PAE2021-03b	PAEWG	VME indicator species thresholds	Intersessional WG	PAEWG4	-	MoP8 para 100; SC6 para 90
2021/22	SEC2021-04	SC/SEC	E-monitoring schemes	Intersessional WG	SERAWG4; PAEWG4	-	SC6 para 66
2022/23	SEC2022-01	SC/SEC	Develop Data Base system and analyses	Consultant	SC8	EU Grant (GO4)	EUG 2020 GO4
2022/23	PAE2022-01	PAEWG	Development of research and monitoring plans for protected areas	TBD	PAEWG5		CMM2020/01 para 6
2022/23	PAE2022-02	PAEWG	Annual review of VME encounters	Secretariat	PAEWG5	-	CMM2020/01 para 16
2022/23	SER2022-01	SERAWG	Development of stock structure ToRs (ORH, BYS, TOT)	Intersessional WG	SERAWG4	-	SC6 Annex G; SC6 para 140
2022/23	SER2022-02	SERAWG	Stock structure (ORH)	Consultant	SERAWG5	EU Grant (GO1.2)	SC6 Annex G
2022/23	SER2022-03	SERAWG	Stock structure (BYS)	Consultant	SERAWG5	EU Grant (GO1.2)	SC6 Annex G
2022/23	SER2022-04	SERAWG	Stock structure (TOT)	Consultant	SERAWG5	EU Grant (GO1.2)	SC6 Annex G
2022/23	SER2022-05	SERAWG	Alfonsino acoustic abundance index	Consultant	SERAWG5	MoP8	SC6 Annex G
2022/23	SER2022-06	SERAWG	Alfonsino stock assessment	Consultant	SERAWG5	EU Grant (GO1.1)	SC6 Annex G
2022/23	SER2022-07	SERAWG	Alfonsino age validation	Consultant	SERAWG5	EU Grant (G01.3)	SC6 Annex G
2022/23	SER2022-08	SERAWG	Toothfish growth curve	Consultant	SERAWG5	EU Grant (G01.3)	SC6 Annex G

**Table 2: 2021/22 SIOFA Scientific Committee workplan working group and workshop schedule**

	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M							
September 2021			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30				
October 2021					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
November 2021	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30						
December 2021			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
January 2022					1	2		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
February 2022		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28							
March 2022		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	30	31					

Scientific Observers  
Programmes &  
E-monitoring WG

Toothfish  
Workshop

VME Indicator  
Species  
Thresholds  
WG

Harvest  
Strategies  
WG

SERAWG

PAEWG

SC8

#### 4. Requirements for the Scientific Committee under SIOFA CMMs

CMM	Paragraph	Summary of requirements	Period	Last reviewed	Date due	SC work plan	Project
CMM 2000/01 (Interim Management of Bottom Fishing)	Para 5	a. Update BFIAS	Following a “substantial change in fisheries”	2017		2022	PAE2020-01
		b. Update VME map			2022	PAE2020-02b	
		c. Develop guidelines for electronic observer data			2022	SEC2021-04	
		d. Develop standard protocol for protected areas		2017	2023	PAE2021-01b-c	
	Para 6	a. Update stock assessments	Following a “substantial change in fisheries”			-	Various
		b. Define an encounter with a VME			2022	PAE2021-03a-b	
		c. Update the SIOFA Standard Protocol for Future Protected Areas Designation			2022	PAE2021-01b-c	
	Para 7	d. Develop research and monitoring plans for protected areas		2023	-	-	
Para 8	a. Update BFIA	Following a “substantial change in fisheries”	-	-	2022	PAE2020-01	
Para 16	Review all benthic taxa bycatch data to inform location of VMEs	Periodically			2022	PAE2020-02b	
Para 30	Review VME encounters	Annually	2021	2022	2022	PAE2021-07	
Para 48	Review proposals for bottom fishing at variance with CMM2020/01 para 10	As required	-	-			
		Review CMM 2020/01		2020	Not specified		
CMM 2021/02 (Data standards)	Para 17	Develop a template for the observer reports, and a template for an observer data collection form				2023	2023
	Para 18	Develop a SIOFA framework for scientific observation clarifying all the aspects related to the role.				2023	
	Para 22	Review CMM 2021/02	Periodically	2021		2022	SEC2021-09
CMM2020/09 (Control)	Para 11	Ensure that the scientific observers are qualified and authorised, and record requested data.				2022	SEC2021-01
CMM 2019/12 (Sharks)	Para 2	Define appropriate fishing mortality and harvest levels					
	Para 4	Advise on the need to adopt any appropriate by-catch limits for relevant SIOFA deep sea shark species and fleets, including on scientific and data needs for underpinning the elaboration of such advice.					SERAWG4 SERAWG4
	Para 7	Review CMM 2019/12	Every 2 <sup>nd</sup> year	2021	2023		SERAWG4/ SERAWG5
CMM 2019/13 (Mitigation of Seabirds Bycatch)	Para 3	Advise on the most appropriate response to mitigate and minimise incidental bycatch of seabirds by demersal fishing gears				2022	PAE2021-05

CMM	Paragraph	Summary of requirements	Period	Last reviewed	Date due	SC work plan	Project
	Para 6	Review CMM 2019/13	Every 4 years	2019		2022	PAEWG4
CMM2020/15 (Management of Demersal Stocks)	Para 3	Provide annual reports on the status of the demersal fisheries relative to reference points, including projections of stock status over a period no less than 20 years.; provide management advice relative to reference points					Various
	Para 5	Stock assessment of orange roughy	Every 3–5 years	2018	2022		SER2021-04
	Para 6	Provide a summary of future data needs to improve assessment accuracy for orange roughy					SERAWG4
	Para 9-10	Advise on appropriate catch limit for <i>D. eleginoides</i> occurring in the SIOFA portion of Williams Ridge and Del Cano Rise, including bycatch mitigation measures (including benthic bycatch and seabirds); and take account of relevant CCMLR scientific material					SERAWG5
	Para 28	Make recommendations in order to build an area wide habitat model, a spatial and temporal CPUE analysis, an estimate and map of local abundancies and a local population assessment	By 2020				
	Para 29	Address the issues related to depredation At its ordinary meeting in 2020 the Scientific Committee will advise on the appropriate limits for relevant species caught as bycatch in <i>Dissostichus</i> spp. fisheries.	By 2020				
	Para 31	Reviewed toothfish requirements annually until a collaborative approach involving SIOFA and CCAMLR is established; including sharing of relevant data, undertaking collaboratively the stock assessments and agreeing in coherent, fair and scientifically sound conservation and management measures for the <i>Dissostichus</i> spp. that are shared by the two organisations.		2021	2022		SERAWG4/SERAWG5
	Para 55	Assess the <i>Beryx splendens</i> stocks in 2022 at the ordinary meeting of the Scientific Committee (if the SC, in 2021, determines that suitable data exist to undertake that assessment); provide advice on a regular assessment schedule for future years	By 2022	2020			SER2022-07
	Para 56	Provide advice on changes to data collection in order to reduce future assessment uncertainty for Alfonsino.		2020			SERAWG5

## 5. References

Compliance Committee of the Southern Ocean Fisheries Agreement (SIOFA) (2021). Report of the Fifth Meeting of the Compliance Committee to the Southern Indian Ocean Fisheries Agreement (SIOFA). CC5. Southern Indian Ocean Fisheries Agreement (SIOFA), Online Forum and Zoom Videoconferences, 121 p.

Meeting of Parties of the Southern Ocean Fisheries Agreement (SIOFA) (2021). Report of the Eighth Meeting of Parties to the Southern Indian Ocean Fisheries Agreement (SIOFA). MoP8. Southern Indian Ocean Fisheries Agreement (SIOFA), Online Forum and Zoom Videoconferences, 31 p.

Scientific Committee of the Southern Ocean Fisheries Agreement (SIOFA) (2021). Report of the Sixth Meeting of the Scientific Committee of the Southern Indian Ocean Fisheries Agreement (SIOFA). SC6. Southern Indian Ocean Fisheries Agreement (SIOFA), Online Forum and Zoom Videoconferences, 86 p.

## **6. Appendix A: Summary of relevant paragraphs from the SIOFA CMMs**

### **6.1 CMM 2020/01: Conservation and Management Measure for the Interim Management of Bottom Fishing in the Agreement Area (Interim Management of Bottom Fishing)**

5. The Scientific Committee shall, by no later than the close of the ordinary meeting of the Scientific Committee in 2020, and thereafter whenever a substantial change to the fishery has occurred or new data has otherwise been provided to the Scientific Committee warranting changes, develop and provide advice and recommendations to the Meeting of the Parties on:

- a. a SIOFA Bottom Fishing Impact Assessment Standard (BFIAS) which takes account of the latest scientific information available;
- b. maps of where VMEs are known to occur, or likely to occur, in the Agreement Area;
- c. guidelines for evaluating and approving electronic observer programs for scientific data collection for consideration by the Meeting of the Parties; and
- d. a standard protocol for future protected areas designation (areas in which special management rules apply, that may include, inter alia, fishing closures for specific gears or all gears).

6. The Scientific Committee shall, by no later than the close of the ordinary meeting of the Scientific Committee in 2020, and thereafter whenever a substantial change to the fishery has occurred or new data has otherwise been provided to the Scientific Committee warranting changes, develop and provide advice and recommendations to the Meeting of the Parties on:

- a. the status of stocks of principal deep-sea fishery resources targeted, and, to the extent possible, taken as bycatch and caught incidentally in these deep-sea fisheries, including straddling fishery resources;
- b. criteria for what constitutes evidence of an encounter with a VME, in particular threshold levels and indicator species for all gears;
- c. the most appropriate response to a VME encounter, including inter alia closing particular areas to a particular gear type or types;
- d. the interim SIOFA Standard Protocol for Future Protected Areas Designation adopted by the Meeting of the Parties in 2018; and
- e. research and management plans, to be adopted at MoP6, for each of the protected areas listed in Annex 3. Such plans shall include, inter alia, conservation and management objectives taking socio-economic considerations into account where possible, appropriate measures to implement these objectives and timeframes for evaluation and review.

7. The Scientific Committee shall, by no later than the close of the ordinary meeting of the Scientific Committee in 2020, and thereafter whenever a substantial change to the fishery has occurred or new data has otherwise been provided to the Scientific Committee warranting changes, develop and provide advice and recommendations to the Meeting of the Parties on:

- a. an appropriate SIOFA bottom fishing footprint based on the data provided by CCPs to the Secretariat under paragraph 20; and
- b. a SIOFA Bottom Fishing Impact Assessment (SIOFA BFIA). The SIOFA BFIA shall take into account the activities of all fishing vessels to which this CMM applies that, at the time the SIOFA BFIA is prepared, are engaged in, or intending to engage in, bottom fishing within the agreed SIOFA bottom fishing footprint;

8. The Scientific Committee shall also periodically review all benthic taxa bycatch data to inform its consideration of the location of potential VMEs and potential impacts thereon.

16. As an encounter may be considered evidence of a potential presence of a VME, the Scientific Committee shall, at each ordinary meeting, review any encounter reported pursuant to paragraph 13



and any other benthic bycatch data it considers relevant and provide advice to the Meeting of the Parties thereon.

30. On receipt of any proposal developed pursuant to paragraph 29, the Scientific Committee shall, at its next ordinary meeting:

- a. assess, on the basis of the best available scientific information, whether the proposed bottom fishing would have significant adverse impacts on VMEs;
- b. if it is assessed that these activities would have significant adverse impacts, consider what measures should be taken to prevent such impacts, or, if those impacts cannot be appropriately mitigated, whether the proposed bottom fishing should proceed or not;
- c. assess, taking into account, inter alia: the cumulative impacts of other fishing occurring in that area, where such information is available; whether the proposed activities are compatible with the sustainable management of bottom fisheries, including target fish stocks and non-target species; and the protection of the marine environment, including inter alia, the prevention of significant adverse impacts on vulnerable marine ecosystems; and
- d. provide recommendations and advice to the Meeting of the Parties in its meeting report on each of these matters, as applicable.

**6.2 CMM 2021/02<sup>1</sup>: Conservation and Management Measure for the Collection, Reporting, Verification and Exchange of Data relating to fishing activities in the Agreement Area (Data Standards)**

17. By 2023, the Scientific Committee shall develop and adopt a template for the observer reports, and a template for an observer data collection form that may be used by observers in subsequent years.

18. By 2023, the Meeting of the Parties, based on recommendations from the Scientific Committee and the Compliance Committee shall adopt a SIOFA framework for scientific observation clarifying all the aspects related to the role.

21. This CMM should be reviewed periodically by the Scientific Committee and the Meeting of the Parties, taking into account new information or data requirements as may be decided.

**6.3 CMM 2016/03<sup>1</sup>: Conservation and Management Measure for Data Confidentiality and Procedures for access and use of data (Data Confidentiality)**

*No specific requirements specified for the Scientific Committee*

**6.4 CMM 2016/04: Conservation and Management Measure on Vessels without Nationality (Vessels without Nationality)**

*No specific requirements specified for the Scientific Committee*

**6.5 CMM 2016/05: Conservation and Management Measure regarding the use of large-scale pelagic driftnets and deepwater gillnets in the Southern Indian Ocean Fisheries Agreement Area (Pelagic Driftnets and Deepwater Gillnets)**

*No specific requirements specified for the Scientific Committee*

**6.6 CMM 2018/06<sup>1</sup>: Conservation and Management Measure on the Listing of IUU Vessels (IUU Vessel List)**

*No specific requirements specified for the Scientific Committee*

**6.7 CMM 2019/07<sup>1</sup>: Conservation and Management Measure for Vessel Authorisation and Notification to Fish (Vessel Authorisation)**

*No specific requirements specified for the Scientific Committee*

**6.8 CMM 2020/08: Conservation and Management Measure establishing a Port Inspection Scheme (Port Inspection)**

*No specific requirements specified for the Scientific Committee*

**6.9 CMM 2018/09<sup>1</sup>: Conservation and Management Measure for Control of fishing activities in the Agreement Area (Control)**

**Scientific observer programme**

11. Without prejudice to other requirements in specific CMMs, each Contracting Party, CNCP and PFE shall ensure that the scientific observers carried by vessels flying its flag operating in the Agreement Area are qualified and authorised to perform their tasks and record any requested data.

**6.10 CMM 2019/10<sup>1</sup>: Conservation and Management Measure for the Monitoring of Fisheries in the Agreement Area (Monitoring)**

*No specific requirements specified for the Scientific Committee*

**6.11 CMM 2020/11: Conservation and Management Measure for the Establishment of a Southern Indian Ocean Fisheries Agreement (SIOFA) Compliance Monitoring Scheme (Compliance Monitoring Scheme)**

*No specific requirements specified for the Scientific Committee*

**6.12 CMM 2019/12: Conservation and Management Measure for Sharks<sup>1</sup> (Sharks)**

2. CCPs shall ensure that fishing vessels flying their flag do not target any deep-sea shark species listed in Annex 1 within the Agreement Area, until the Scientific Committee defines and the Meeting of the Parties agrees on possible appropriate fishing mortality and harvest levels for any of these species.

4. By 2020 the Scientific Committee shall advise the Meeting of the Parties on the need to adopt any appropriate by-catch limits for relevant SIOFA deep sea shark species and fleets, including on scientific and data needs for underpinning the elaboration of such advice.

7. This CMM shall be reviewed every second year by the Scientific Committee and the Compliance Committee, unless the Meeting of the Parties decides otherwise.

**6.13 CMM 2019/13: Conservation and Management Measure on mitigation of seabirds bycatch in demersal longlines and other demersal fishing gears fisheries (Mitigation of Seabirds Bycatch)**

3. Until such time that the SIOFA Scientific Committee has developed advice for the Meeting of the Parties on the most appropriate response to mitigate and minimise incidental bycatch of seabirds by demersal fishing gears deployed in the Agreement Area, CCPs shall require any demersal longliners flying their flag and operating in this area to apply the following mitigation measures:

- a. any vessel catching a total of three (3) seabirds in a single season shall immediately change to night setting only (i.e. setting only during the hours of darkness between the times of nautical twilight);
- b. vessels are encouraged to use white colour lines, to increase visibility which decreases the bycatches of birds;
- c. at least one bird scaring line (in accordance with Annex 1) shall be deployed when setting longlines and at least one bird exclusion device (BED, in accordance with Annex 2) shall be used to prevent birds entering the hauling area, to the extent allowed by prevailing weather;
- d. there shall be no discharging of offal or discards immediately prior to and during the deployment or retrieval of fishing gear;
- e. fishing vessels using autoline systems shall add weights to the hookline or use integrated weight (IW) hooklines while deploying longlines. IW longlines of a minimum of 50 g/m or attachment to non-IW longlines of 5 kg weights at 50 to 60 m intervals are recommended;
- f. fishing vessels using the Spanish method of longline fishing shall release weights before line tension occurs; traditional weights (made of rocks or concrete) of at least 8.5 kg mass shall be used, spaced at intervals of no more than 40 m, or traditional weights of at least 6 kg mass shall be used, spaced at intervals of no more than 20 m, or solid steel weights of at least 5 kg mass shall be used, spaced at intervals of no more than 40 m;
- g. fishing vessels using the trotline system exclusively (not a mix of trotlines and the Spanish system within the same longline) shall deploy weights only at the distal end of the droppers in the trotline. Weights shall be traditional weights of at least 6 kg or solid steel weights of at least 5 kg; and
- h. fishing vessels alternating between the use of the Spanish system and trotline method shall use:
  - (i) for the Spanish system: line weighting shall conform to the provisions in paragraph 3 f; (ii) for the trotline method: line weighting shall be either 8.5 kg traditional weights or 5 kg steel weights attached on the hook-end of all droppers in the trotline at no more than 80 m intervals.

6. The Scientific Committee and the Compliance Committee will review this CMM every four years, unless the Meeting of the Parties decides otherwise.

**6.14 CMM 2021/14: Conservation and Management Measure for High Seas Boarding and Inspection Procedures for the Southern Indian Ocean Fisheries Agreement (High Seas Boarding and Inspection Procedures)**

*No specific requirements specified for the Scientific Committee*

**6.15 CMM 2021/15: Conservation and Management Measure for the Management of Demersal Stocks in the Agreement Area (Management of Demersal Stocks)**

**Status of Stocks**

3. The Scientific Committee shall provide annual reports, based on the best available science, on the status of the demersal fisheries resources targeted in the Agreement Area, relative to available and/or relevant reference points. The reports shall include, where possible, projections of stock status over a period no less than 20 years, with 5 years steps, relative to a range of fishing mortality. In addition to the annual report on stock status, the Scientific Committee will provide management advice relative to available and/or relevant reference points.

**Orange Roughy**

5. Stock assessment: The orange roughy stocks shall be the subject of a full stock assessment to be assessed every three to five years. In the interim period available information on ORY stocks shall be presented annually.

6. The SC shall provide a summary of future data needs to improve assessment accuracy, as well as provide a summary to MoP-7 on progress against the ORY work plan.

### **Toothfish**

9. The Scientific Committee shall, by no later than the close of its 7th ordinary meeting in 2022, provide advice and recommendations on:

- a. a biologically appropriate catch limit for the populations of *D. eiginoides* occurring in the SIOFA portion of Williams Ridge and Del Cano Rise;
- b. appropriate bycatch mitigation measures, including for benthic bycatch and seabirds; and
- c. any other matter that the Scientific Committee determines as relevant or necessary for the sustainable management of the *D. eiginoides* populations.

10. In formulating its advice and recommendations to the Meeting of the Parties in respect of this CMM, the SIOFA Scientific Committee shall take full account of relevant CCAMLR Scientific Committee material.

11. CCPs with an interest in this stock shall cooperate to ensure scientific collaboration between CCAMLR and SIOFA to ensure long-term sustainable management for *D. eiginoides* stocks which takes due account of relevant rights and responsibilities under international law, and which does not undermine the conservation status of the stock.

27. In 2020 the SC shall make recommendations in order to build an area wide habitat model, a spatial and temporal CPUE analysis, an estimate and map of local abundancies and a local population assessment. It shall further advise on any necessary improvements to data collection in order to reduce future assessment uncertainty.

28. The SC shall also address the issues related to depredation

29. At its ordinary meeting in 2020 the Scientific Committee will advise on the appropriate limits for relevant species caught as bycatch in *Dissostichus* spp. fisheries.

30. The provisions above shall be reviewed annually until a collaborative approach involving SIOFA and CCAMLR is established. This shall include sharing of relevant data, undertaking collaboratively the stock assessments and agreeing in coherent, fair and scientifically sound conservation and management measures for the *Dissostichus* spp that are shared by the two organisations.

### **Alfonsino**

52. The MoP requests that the SC assess the *Beryx splendens* stocks in 2022 at the ordinary meeting of the Scientific Committee (if the SC, in 2021, determines that suitable data exist to undertake that assessment). In addition, the SC is requested to provide advice on a regular assessment schedule for future years

53. The Scientific Committee shall provide clear advice and guidance on any necessary changes to data collection in order to reduce future assessment uncertainty.