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Accord relatif aux Pêches dans le Sud de l'Océan Indien

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SC-09-03

National Report – Cook Islands

Delegation of the Cook Islands

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Abstract	
<p>This paper provides an overview of the trawl fishing activities in the Southern Indian Ocean Fisheries Agreement area undertaken by Cook Island flagged vessels. It highlights activities during 2023 and takes the form of the Cook Islands National Report.</p>	

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² Documents available only to members invited to closed sessions.

Recommendations
The meeting is invited to consider the Cook Islands National Report

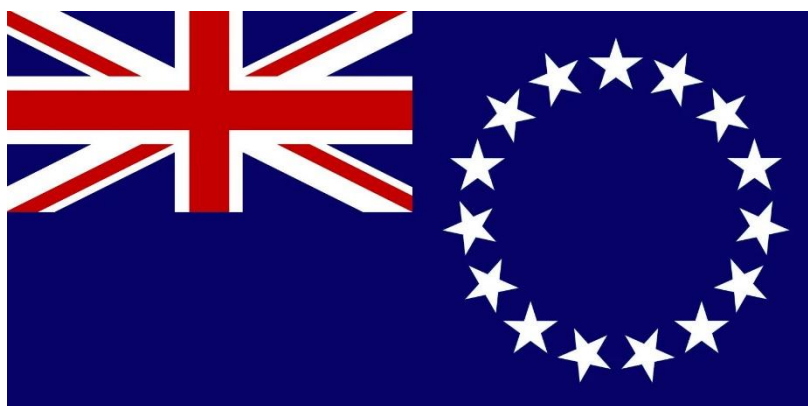


Ministry of Marine Resources
GOVERNMENT OF THE COOK ISLANDS

SOUTHERN INDIAN OCEAN FISHERIES AGREEMENT (SIOFA)

Cook Islands National Report

2024



**Prepared by the Ministry of Marine Resources, Offshore Fisheries
Division**

This comprehensive report offers a detailed overview of trawl fishing activities within the Southern Indian Ocean Fisheries Agreement (SIOFA) area conducted by a Cook Islands vessel during the 2023 fishing year.

In 2023, the Ministry of Marine Resources (MMR) issued high seas fishing authorizations for one Cook Islands vessel to operate in the SIOFA area, focusing on the capture of deep-water finfish species, with a primary emphasis on alfonsino (*Beryx splendens*) and orange roughy (*Hoplostethus atlanticus*) using both bottom and mid-water trawl fishing methods. A complete species list is provided in Appendix 1. Furthermore, to adhere to conservation efforts, the Cook Islands vessel strictly avoided fishing within the Benthic Protected Areas (BPA) listed in Appendix 2 of the National Report. The catch obtained from these operations was unloaded in Mauritius and South Africa. Subsequently, exports of alfonsino were primarily directed to Japan, while orange roughy was predominantly exported to China. Additionally, a portion of the catch was distributed and sold within the local markets of Mauritius and South Africa. The catch distribution extended to Thailand, New Zealand, Vietnam, Indonesia, and Australia, ensuring a global reach for the sourced catch.

1. DESCRIPTION OF FISHERIES

In 2023, only one trawl vessel from the Cook Islands was authorised to operate in the SIOFA area, marking a significant change from historical practices. Economic conditions precipitated the sale of the other vessel, rendering it inactive in the SIOFA fishery. Historically, three vessels were authorized to operate in various years prior to 2012. The Cook Islands has had no non-trawl gears operating in the Agreement area.

2. CATCH DATA

To maintain commercial confidentiality, fine-scale catch data for Cook Islands vessel operations in the SIOFA area are not disclosed due to the presence of only one vessel. Therefore, only species proportion data are provided in this National Report.

In 2023, the two primary species captured and reported by weight were alfonsino (87%) and orange roughy (7%) (Table 1). These species collectively accounted for over 90% of the total catch. The remaining catch consisted of other species such as cardinal fish, black butter fish and boarfish, among others.

Alfonsino has been the most frequently caught species in this fishery since 2006, with the exception of the 2018 fishing season. Orange roughy has consistently been the second highest catch in this fishery until 2023, when it experienced a significant 43% decrease from the 2022 catch levels.

The fishing effort reached its peak in 2009 (Figure 2), with three Cook Islands vessels spending a total of 900 days in the Agreement area. The overall fishing effort has remained relatively stable in recent years following a noticeable decline from 2018 to 2022. The decline was attributed to economic factors such as low value for orange roughy and mechanical issues with the vessel, leading to one vessel fishing less frequently, these issues were also compounded by the impacts of the COVID-19 pandemic.

It is important to note that the 2023 fishing effort levels remained consistent with those of 2022, despite the absence of one vessel during the 2023 fishing year.

Table 1: Summary table of provisional catch composition and fishing effort (days) from 2013 – 2023 and catch composition of main species caught by Cook Islands trawlers. See Appendix 1 for species code definitions

Year	Effort (days)	Catch of major species proportionate to total catch									
		BYS	BWA	BOE	SSO	ONV	ORY	EPI	SEY	EDR	OTHER
2013	524	0.61	0.01	0.00	0.00	0.01	0.23	0.04	0.04	0.04	0.00
2014	523	0.66	0.01	0.00	0.00	0.02	0.19	0.07	0.03	0.01	0.00
2015	501	0.62	0.00	0.00	0.00	0.00	0.23	0.07	0.03	0.02	0.03
2016	455	0.57	0.00	0.00	0.00	0.00	0.20	0.17	0.01	0.03	0.01
2017	495	0.57	0.00	0.00	0.00	0.03	0.29	0.07	0.00	0.01	0.02
2018	301	0.31	0.00	0.00	0.00	0.01	0.57	0.02	0.00	0.06	0.03
2019	343	0.46	0.00	0.00	0.01	0.02	0.33	0.11	0.00	0.06	0.00
2020	317	0.66	0.00	0.00	0.00	0.01	0.19	0.09	0.01	0.02	0.02
2021	282	0.61	0.08	0.01	0.02	0.08	0.16	0.11	0.04	0.07	0.01
2022	273	0.44	0.00	0.00	0.00	0.01	0.50	0.04	0.00	0.01	0.00
2023	239	0.87	0.00	0.00	0.00	0.00	0.07	0.02	0.02	0.02	0.01

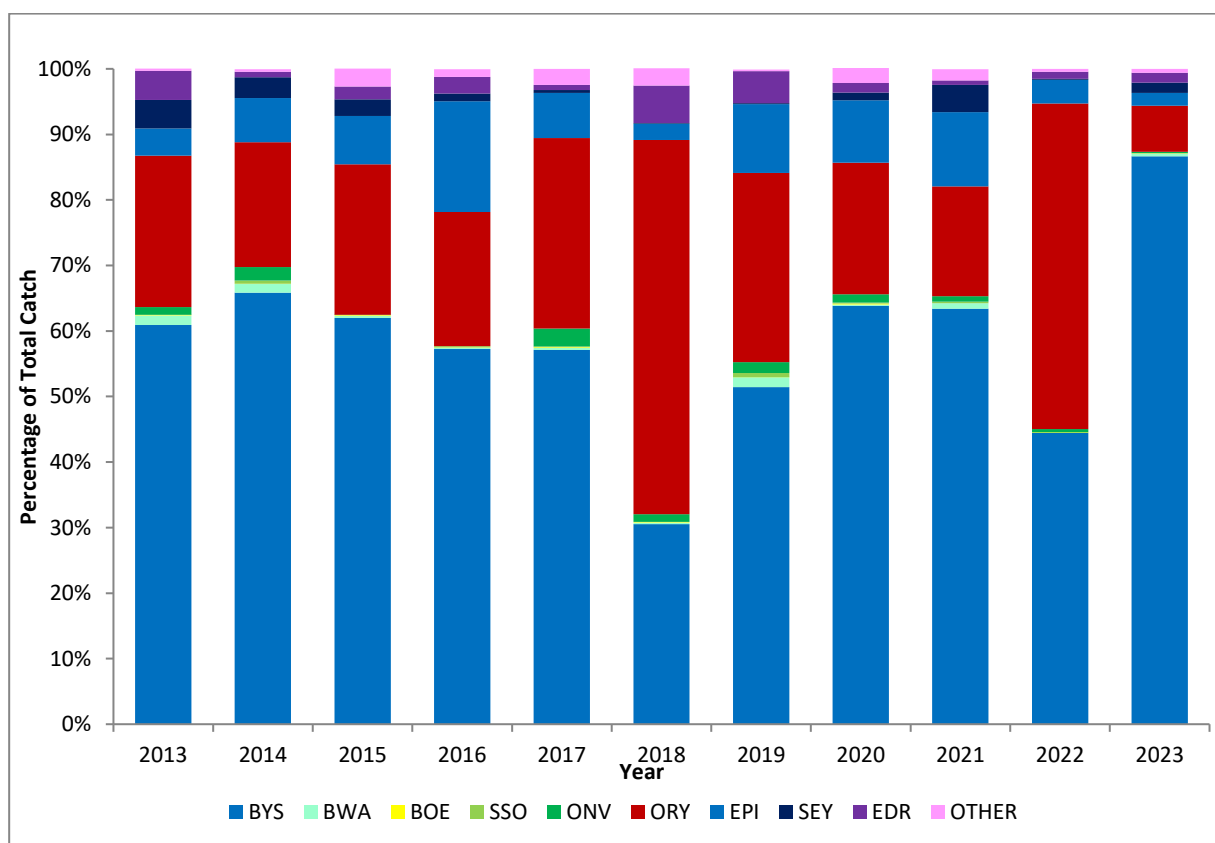


Figure 1: Proportion of catch by species in trawl catch by Cook Islands vessels in the SIOFA Area from 2013-2023

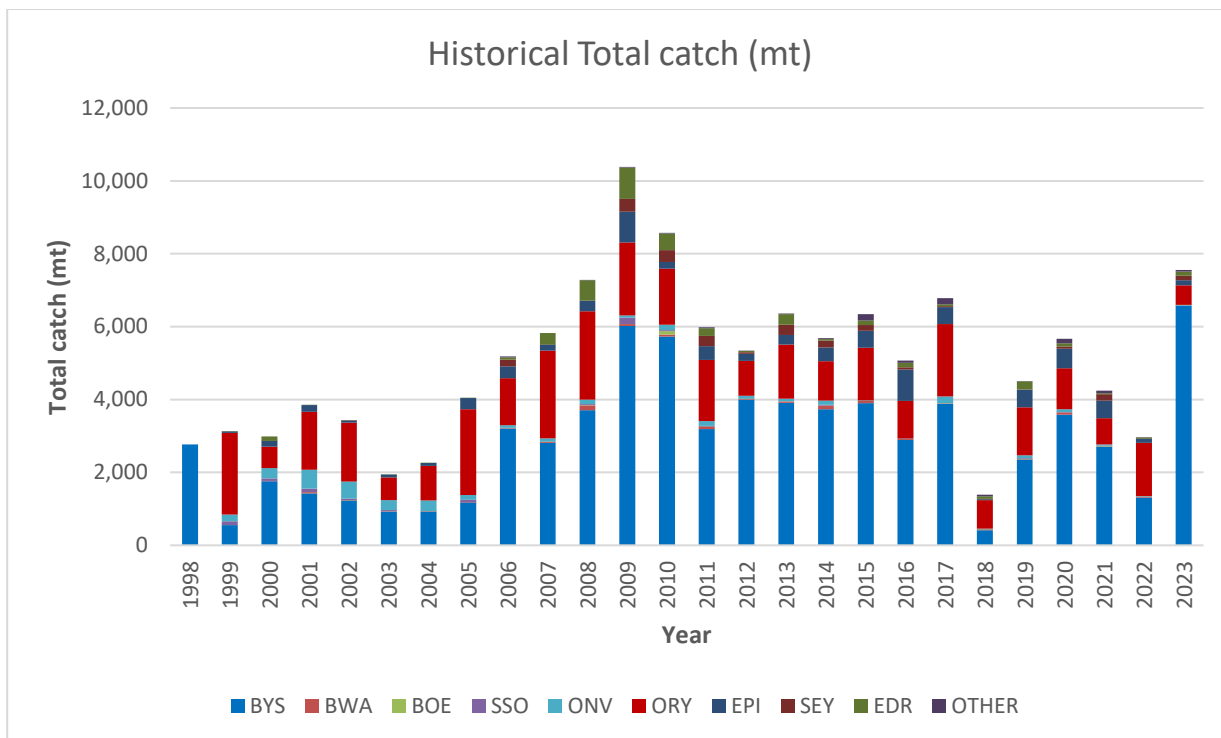


Figure 2: Historical catch using the best available data from 1997-2023

Catch per unit effort (CPUE) of major target species is no longer being reported in the National Report. CPUE itself is not considered a reliable index of abundance for orange roughy.

3. FISHING EFFORT DATA

The fishing effort data from 2013 to 2023 shows a consistent use of mid-water trawl gear. This method experienced a significant spike in 2016, indicating a shift in fishing practices during that year. However, in 2018, there was a noticeable decrease in mid-water trawling, contrasting with an increase in bottom trawling efforts during the same period.

The spike in bottom trawling in 2018 was a result of a shift in fishing practices but also coincides with a significant reduction on catch and fishing effort in that year.

In 2023, there was a noticeable decrease in the bottom trawling effort, resulting from shift in fishing practices once again. This fluctuation in fishing methods reflect adaptive responses to changes in fish populations, regulatory measures, and economic considerations within the fishery.

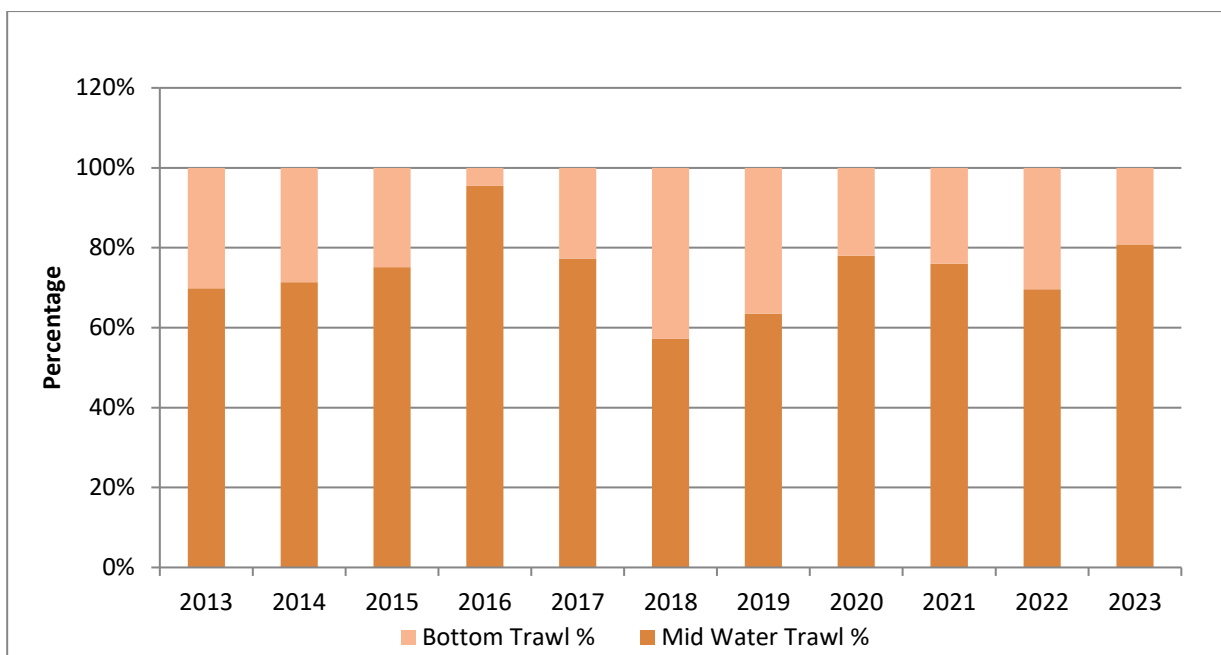


Figure 2: Composition of Cook Islands Bottom Trawl Effort 2013-2023

Table 2: Cook Islands vessel effort 2013-2023

Year	Total trawls	Mid-water	Bottom	Days Fished	Days at sea
2013	1601	1118	483	524	636
2014	1971	1406	565	523	645
2015	2729	2050	679	501	604
2016	1999	1409	590	455	544
2017	1985	1534	451	495	627
2018	1569	897	672	317	387
2019	1615	1026	589	348	515
2020	1922	1549	381	355	559
2021	1420	1084	336	282	399
2022	927	645	282	182	273
2023	1005	812	193	184	239

The peak in fishing effort occurred between 2013 (1601 trawls) and 2015 (2729 trawls). After 2015, there's a notable decrease in fishing effort, reaching a low of 927 in 2022 before slightly increasing to 1005 in 2023. The mid-water trawls follow a similar pattern to the total trawls, peaking in 2015 (2050 trawls) and then generally decreasing across the years to 812 in 2023. While bottom trawls also peak in 2015 (679 trawls), the subsequent decline is more consistent and steep, dropping to just 193 by 2023. The number of days fished does not follow the exact pattern of trawls, peaking instead in 2013 (524 days), decreasing after that year, and reaching its lowest at 184 days in 2023. Additionally, the data for days at sea peaks in the first observed year, 2013, with 636 days at sea and shows an overall declining trend through the period, hitting the lowest figure of 239 days at sea in 2023. Overall, the Cook Islands vessel effort has declined consistently since 2019.

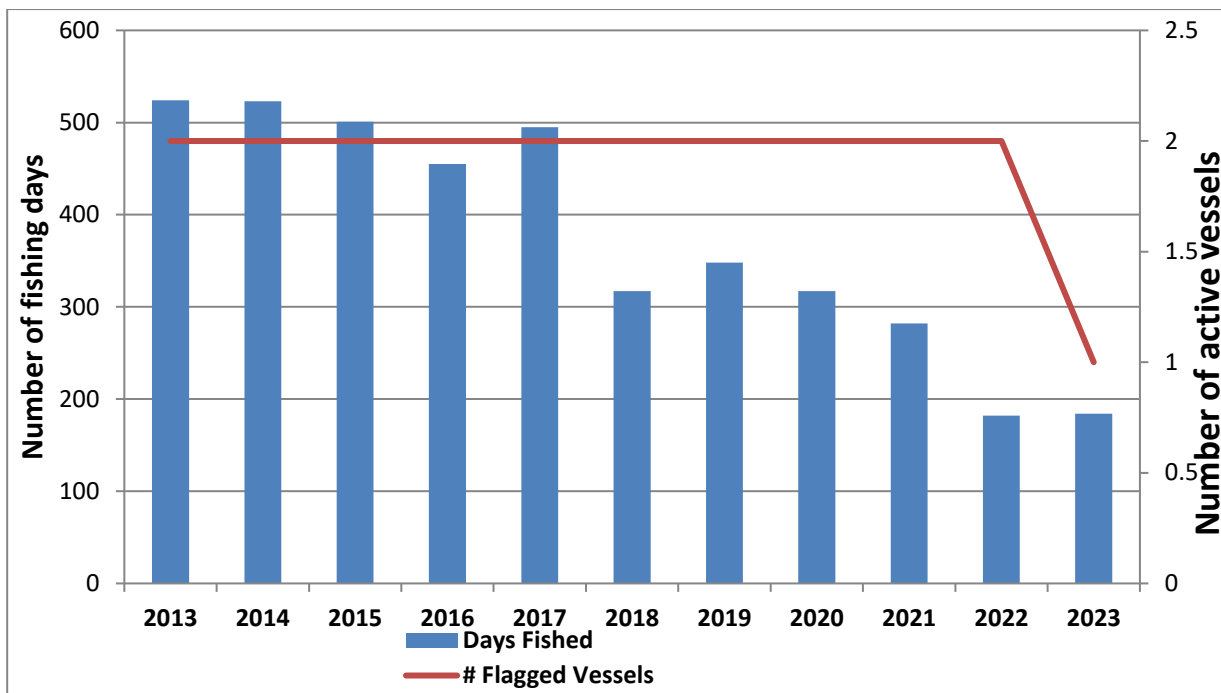


Figure 3: Trend in effort (fishing days) and number of Cook Islands flagged vessels from 2013-2023

4. FISHERIES DATA COLLECTION

Cook Islands vessels are issued high seas fishing authorisations, in accordance with Section 21 and Section 35 of the Marine Resources Act 2005. Cook Islands regulations require vessels carrying high seas authorisations to record daily information on catch and effort, including position information.

In April 2019, Cook Islands trawl vessels commenced the use of electronic logsheets (eLogs/eLog) as a trial to record catch and effort information during fishing trips. The use of an eLog streamlines the submission of catch and effort of a trip from the vessel to MMR's Offshore Division. The electronic format captures a range of catch and effort data in line with CMM 23-02 the Collection, Reporting, Verification and Exchange of Data relating to fishing activities in the Agreement Area (Data Standards). The timely transmissions and automated processes of the eLog has also resulted in less administrative overhead for MMR since the trial's commencement. During the trial paper log sheets were submitted to MMR for comparative purposes. A finalized eLog was updated in the beginning of 2020 and trials were ongoing throughout 2023. The two Cook Islands flagged trawl vessels have now been instructed to commence trips using the eLog version of daily logsheets. These are submitted electronically to MMR.

Cook Islands vessels unload in Mauritius and or South Africa. Unloadings are monitored periodically by Cook Islands authorised fisheries inspectors, usually during the annual Sanitary and compliance inspection, known as the competent authority. Product temperature is monitored regularly during every unloading. Samples of each species caught are collected by SGS Internationally accredited laboratory technicians during the unloading. Testing is conducted for various hazards to make sure product is fit for human consumption in line with international excepted limits. Unloadiong data, catch log sheets,

observer data and laboratory test results is sent to MMR in Rarotonga for oversight, verification and certification.

5. RESEARCH ACTIVITIES

All Cook Islands vessels follow the scientific data guidelines as described in 2006 FAO Fisheries Circular 1020, updated in 2012 (FAO 2012). The 2012 document includes sampling methods for alfonsino and recommendations on how to conduct acoustic surveys.

In 2019, the Cook Islands provided 908 otoliths to be read for the 2020 alfonsino stock assessment. Additionally, in 2020 to assist the stock assessment the Cook Islands undertook work to estimate growth using otoliths taken from alfonsino in the 'East' of the assessment area. In 2021, additional information on growth, length frequency and maturity were provided in SERAWG-03-09. The Cook Islands presented a fishery characterisation paper that was submitted to the scientific committee (SC) at SC8, 2023 (Brouwer et al. 2023). This analysis showed that the fishery is extensive covering a large portion of the SIOFA area mostly south of 25°S with two main areas of density one largely between 30°E and 60°E and the second East of 80°E. The paper describes the catch and effort as well as bycatch from these vessels. The bycatch information is described as well as a detailed discussion on shark bycatch and a summary of the interactions with benthic organism.

The analysis included CPUE standardisations of the alfonsino catch. This showed that an index based on all the alfonsino catch as well as separating the catch east and west of 80°E all showed similar trends. These trends were similar to those presented in the 2020 stock assessment, and the trajectory since the last year of that assessment is consistent with the trend over the previous 8 years.

6. VME THRESHOLDS FOR BOTTOM FISHING ACTIVITY

Cook Islands supports the protection of biodiversity, taking into account UNGA Resolution 61/105 and subsequent resolutions, which call on states to implement measures for the high seas in accordance with the precautionary principle and ecosystem approaches to fisheries management.

The Cook Islands notes that other RFMOs have progressed to spatial management as a standardised conservation and management measure to minimise bottom fishing impacts as being more effective than move-on rules, and supports the use of Benthic Protected Area (BPA) conservation closures to meet the requirements of Resolution 61/105.

Many areas in SIOFA are already identified and closed to Cook Islands vessels due to the potential for significant adverse impact on known VMEs by bottom trawling activity. Others are closed to Cook Islands vessels as a precautionary measure to maintain and protect biodiversity.

Observations by Cook Islands Fisheries Observers on board indicate that there have been low encounter rates with vulnerable marine benthic ecosystems (VME) by Cook Islands vessels.

MMR has developed an advanced encounter protocol with input from industry over a number of years to include holistic management approaches, either by moving off encounter areas, or more significantly by voluntary BPA fishing closures. Five BPA closures were implemented by the Meeting of the Parties (MOP) in 2018. The Cook Islands maintains that view and suggested further seven BPA areas should also be closed to fishing activities and these areas remain closed to Cook Islands vessels.

Table 3: Threshold levels for VME encounters and move-on protocols in areas other than BPAs for Cook Islands vessels

Gear/fishery	Thresholds	Move-on protocols
Trawl (CMM 2023-01)	More than 60 kg of live corals and/or 300 Kg of sponges in any tow.	For bottom or mid-water trawling, or fishing with any other net – two miles either side of a trawl track extended by two (2) nautical miles at each end;

In 2023 a total of 193 bottom trawl shots were carried out by Cook Islands vessels, and based on provisional data from limited observer reports, no shots breached the VME threshold.

7. BIOLOGICAL SAMPLING AND LENGTH/AGE COMPOSITION OF CATCHES

Biological data has been collected from Cook Islands vessels since 2004. Data has been collected by vessel crews, Cook Islands Observers, or scientists on specific voyages. Length frequency distributions of orange roughy vary significantly within the SIOFA area, as reported in 2016 (SC-01-INFO- 15). In total 50,369 orange roughy were sampled for length, weight, sex and maturity from 522 target trawls shots between 2004 and 2015. This database has now increased to an estimate 67,100 samples following a major increase in sampling during 2017. This was to provide data for age composition for the planned stock assessment. These fish were aged, and provide the first ever age composition data for a high seas orange roughy stock anywhere in the world.

8. OBSERVER PROGRAMME

In 2023, The Cook Islands National Observer Programme (CINOP) was able to maintain 100% observer trip coverage throughout the year.

An ongoing issue by MMR CINOP observers was the current visa restrictions to enter South Africa, making it impractical to easily deploy staff and observers that did not hold Seafarers Books onto vessels

berthed in South Africa. Therefore, the CINOP had signed an MOU with Capricorn Marine, observer provider, to contract observers of South African nationality to observe on behalf of CINOP.

Table 4: Observer coverage summary table from 2017-2023

Year	Trip coverage (%)	Total No. sets/hauls	No. sets/hauls observed	Within set/haul coverage	Incidental bycatch (bird, mammal) observation coverage
2017	100%	-	-	-	-
2018	100%	-	-	-	-
2019	100%	1468	1284	87%	87%
2020	50%	1922	996	52%	52%
2021	0%	-	-	-	-
2022	80%	927	646	69%	69%
2023	100%	1179	1179	100%	100%

9. PORT SAMPLING AND INSPECTION PROGRAMME

Cook Islands vessels unload in either Cape Town or Port Louis. Entry and unloading at port is governed by the relevant Port State authorities under their domestic legislation.

The Cook Islands does not have a port sampling programme as sampling is conducted onboard the vessel by the observer.

In 2022 Competent Authority inspection by MMR Fisheries Officers in conjunction with dockside boarding and inspections were not possible. No sanitary inspections were completed onboard flagged vessels in 2022.

To date, MMR are in continuous work to reestablish the Competent Authority component within the Offshore fisheries division.

10. VESSEL MONITORING SYSTEM (VMS)

Cook Islands vessels are required by law to carry and operate approved ALC/MTU units. The systems poll once an hour via Inmarsat-C systems to the service provider, with the vessels monitored at the MMR Oceans Monitoring Centre, in Rarotonga.

11. SHARKS

Trawl vessels are prohibited from targeting sharks, but where sharks are caught in the normal operations of the vessel they are required to be released and handled in a manner that affords them the best chance of survival.

12. REFERERCES

Brouwer, S. Nicholas, T.-R. and Heaphy, C. 2023. Cook Islands SIOFA fishery and data collection. SC-08-INFO-14. SIOFA Scientific Committee. Tenerife, Spain, 22-31 March

Appendix 1

List of common and scientific names for main species caught by Cook Islands vessels.

FAO Code	Common Name	Scientific Name
BYS	Alfonsino	<i>Beryx splendens</i>
BOE	Black Oreo	<i>Allocyttus niger</i>
SEY	Black Butter Fish	<i>Schedophilus velaini</i>
BWA	Blue nose	<i>Hyperoglyphe antarctica</i>
EDR	Boarfish	<i>Pentaceros richardsoni</i>
EPI	Cardinal Fish	Family Apogonidae
ORY	Roughy	<i>Hoplostethus atlanticus</i>
SSO	Smooth Oreo Dory	<i>Pseudocyttus maculatus</i>
ONV	Spiky Oreo Dory	<i>Neocyttus rhomboidalis</i>

Appendix 2

Benthic Protected Areas.

	Area	Coordinates			
		Position	Position	Position	Position
1	<i>Gulden Draak</i>	28° 00'S 98° 00'E	29° 00'S 98°00'E	28° 00'S 99°00'E	29° 00'S 99°00'E
2	<i>Rusky</i>	31° 20'S 94° 55'E	31° 30'S 94° 55'E	31° 20'S 95° 00'E	31° 30'S 95° 00'E
3	<i>Fools-Flat</i>	31° 30'S 94° 40'E	31 ° 40'S 94° 40'E	31 ° 30'S 95° 00'E	31 ° 40'S 95° 00'E
4	<i>East Broken Ridge</i>	32° 50'S 100° 50'E	33° 25'S 100° 50'E	32° 50'S 101° 40'E	33° 25'S 101° 40'E
5	<i>Mid-Indian Ridge</i>	13° 00'S 64° 00'E	15° 50'S 64° 00'E	13° 00'S 68° 00'E	15° 50'S 68° 00'E
7	<i>Bridle</i>	38° 03'S 49° 00'E	38° 45'S 49° 00'E	38° 03'S 50° 00'E	38° 45'S 50° 00'E
8	<i>Walters Shoal</i>	33° 00'S 43° 10'E	33° 20'S 43° 10'E	33° 00'S 44° 10'E	33° 20'S 44° 10'E
9	<i>Coral</i>	41° 00'S 42° 00'E	41° 40'S 42° 00'E	41° 00'S 44° 00'E	41° 40'S 44° 00'E
10	<i>South Indian Ridge (North/South) this region abuts the CCAMLR-managed zone to the south and lies between the South African EEZ around Prince Edward and Marion Islands to the west and the French EEZ surrounding Crozet Island to the east. The estimated points of contact with the EEZ areas are: 44° S; 40.878° E; 44° S; 46.544° E; 45° S; 42.124° E; 45° S, 45.711° E.</i>	44° 00'S 40°52'40.8E	45° 00'S 42°07'26.4E	44° 00'S 46°32'38.4E	45° 00'S 45°42'39.6E
11	<i>Banana</i>	30° 20'S 45° 40'E	30° 30'S 45° 40'E	30° 20'S 46° 00'E	30° 30'S 46° 00'E
12	<i>Middle of What (MoW)</i>	37° 54'S 50° 23'E	37° 56'S 50° 23'E	37° 54'S 50° 27'E	37° 56'S 50° 27'E

Appendix 3

Cook Islands footprint.

