9th Meeting of the Compliance Committee (CC9) and 12th Meeting of the Parties (MoP12)

Ebene, Mauritius, 25–27 June 2025 and 30 June – 04 July 2025

MOP-12-16

SIOFA Fisheries Summary: common mora (*Mora moro*) 2025

The SIOFA Secretariat

Meeting	Compliance Committee ☐ Meeting of the Parties ✔
Document type	Working paper ✔ Information paper ☐
Distribution	Public ✔ Restricted [1] ☐ Closed session document [2] ☐
Abstract	

This paper presents the SIOFA Fisheries Summary: common mora (*Mora moro*) 2025.
The creation of this summary was recommended by the SC8, and a first draft was considered at SC9. This Summary was first published in 2024.
The 2025 version of the SIOFA Fisheries Summary: common mora includes updated figures using data up to 2023.

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[1] Restricted documents may contain confidential information. Please do not distribute restricted documents in any form without the explicit permission of the SIOFA Secretariat and the data owner(s)/provider(s).
[2] Documents available only to members invited to closed sessions.

Recommendations
The SIOFA Scientific Committee recommended that the MoP: • **endorse** the SIOFA Fisheries Summary: common mora (*Mora moro*) 2025 and **task** the Secretariat to make a public version of it, with confidential information removed, available on the SIOFA website.

SIOFA Fisheries Summary: common mora (*Mora moro*) 2025

Version 1.0 Date 31.01.2025 | Revised by the SIOFA SC| Endorsed by SIOFA SC10

Next review date: 2028

Prepared by the SIOFA Secretariat

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Contents

Summary of updates in this version:

- Data is presented for the last 10 years in the data series (2014–2023), previous data (2013) will remain available in older reports but is not showcased here.
- Includes additional historical data, deriving from a review of the activities of the Spanish fleet in 2001–2017.
- Figures have been updated to be color-blind friendly, where possible, mostly using the Okabe-Ito color scale (Okabe & Ito 2008, "Color Universal Design (CUD): How to Make Figures and Presentations That Are Friendly to Colorblind People." http://jfly.iam.u-tokyo.ac.jp/color/) or other high-contrast color scales.
- Flextables used to create auto-updating nested tables
- Added an analysis of discards in the fishery (see Section 10.3)

1. Purpose of this document

The SIOFA Fisheries Summaries describe specific SIOFA fisheries in the SIOFA Area (Figure 1) and summarize the available information for each species, and their biology and ecology. This document is targeted at the general public and institutions and countries wanting to better understand SIOFA fisheries. It also describes SIOFA data available on SIOFA individual fisheries that could be used by scientists and consultants for scientific research.

The SIOFA Ecosystem Summary provides more detailed information on effects of SIOFA fisheries on ecosystems and species in the SIOFA Area. The SIOFA Fisheries Overview integrates these documents and describes general trends for the main fisheries in the SIOFA Area.
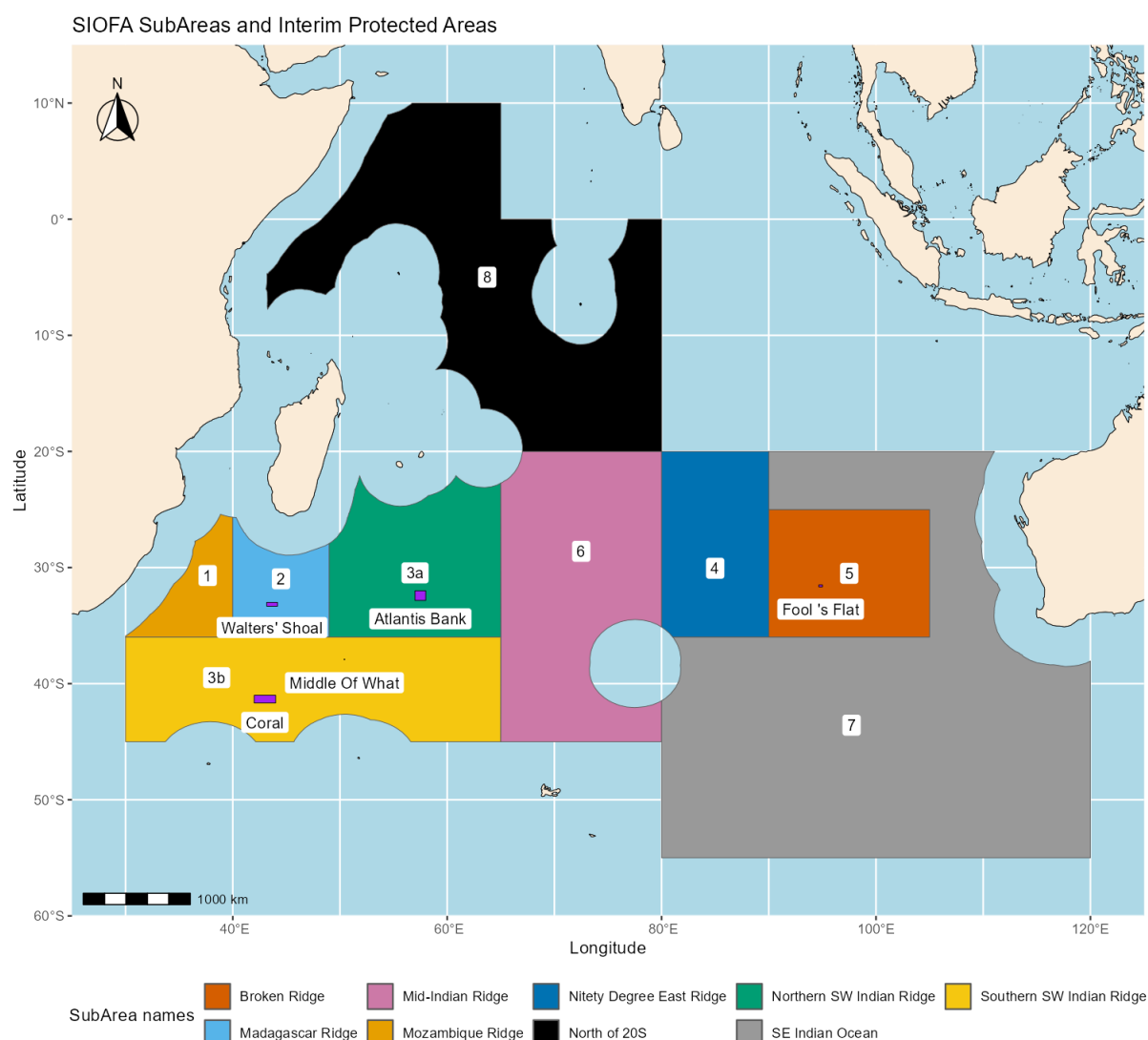

Figure 1 – The SIOFA Area and Subareas (source: SIOFA Spatial database). The Subarea numbers and colour codes are used consistently throughout this summary to identify Subareas. The map highlights SIOFA Interim Protection Areas (in magenta) as defined in CMM 01(2024) (Annex 3). All the interim protection areas have been labelled by name for easier recognition.

2. Data sources and analysis code

2.1 Data availability

There are thirteen CCPs that are members of SIOFA. The SIOFA Secretariat receives data from CCPs pertaining to their fishing activities, biological sampling, and Scientific Observer reports as per CMM 02(2023) (Data Standards). The SIOFA Secretariat acts as custodian for these data on behalf of its members. Request to release or publish these data (e.g., for scientific purposes) are regulated under CMM 03(2016) (Data Confidentiality). Data requests can be made through the SIOFA Secretariat (secretariat@siofa.org).

The main SIOFA databases are:

- AggregatedCatchEffort, which contains catch (and sometimes effort) aggregated at different spatial resolutions, varying from the whole SIOFA Area to 20' squares, from 2000 to 2019.
- HBHCatchEffort, which contains haul-by-haul catch and effort at a spatial accuracy varying from degrees to seconds, from 1998 to 2022.
- Observer, which contains Scientific Observer collected biological sampling, observer reported catches, and observed operations data, from 2012 to 2022.

The SIOFA databases are supported by other data assets such as:

- Spatial layers, which contains all the GIS spatial layers available to the Secretariat (e.g., boundaries of SIOFA Subareas, Assessment Areas). These have been collected at https://github.com/SIOFASecretariat/SIOFA_SC_Spatial_layers
- Codes, including gear and species codes etc. Some of these have been collected at https://github.com/SIOFASecretariat/FAO-unfied-codes

The main SIOFA databases have been described in the outputs of project SEC2021-05 (see SC-07-08, restricted access), where it was noted that the data was repeated (i.e., overlaps) across the first two databases. A suggestion has been made to further develop the three databases as three 'subject areas' that form part of a single SIOFA Fisheries Database in the future.

Further data (e.g., on active vessels) is available from Annual National Reports (2015–2025) that SIOFA CCPs submit to the Scientific Committee every year, which are made publicly available on the SIOFA website (https://siofa.org/meetings/groups/Scientific%20Committee%20Meeting).

2.2 Missing/incomplete/problematic data for the purposes of this report

2024 Catch, Effort and Scientific Observer data are scheduled to be submitted to the Secretariat at the end of May in 2025. Any data more recent than 2023 should be thus considered as draft, potentially incomplete and subject to further revisions, and has therefore been excluded from this report.

Inconsistencies between tows times and positions have been detected in the 2021 and 2022 data from the orange roughy fishery. Similarly, catch weights in the 2023 data from the orange roughy fishery likely contained some errors. Furthermore, small inconsistencies have been identified in the reported trap effort from 2021.

These data were included in this report, but caution should be exercised when interpreting positional data at a fine scale or catches for the most recent year.

While these reports are based on best available data, there might be other data issues that have not been detected and caution is advised when interpreting the results presented.

2.3   Data used in this report

A SIOFA database extract was delivered on 17 September 2024 and used in this report.

The information presented in this report was extracted from different sources, depending on the type of data required. To minimize the confusion that can arise from having to interpret multiple data sources, explicit references to data sources have been made in each table/figure caption in the report.

The report is intended to cover the last five years of available data (at a minimum) but note that the data used covers the 2014–2023 period (10 years of data), and that the period covered varies across the different sections as detailed below.

i.   Active fleet composition (2014–2023): SIOFA HBHCatchEffort and SIOFA AggregatedCatchEffort databases
ii.   Main fisheries (2000–2023): Annex 1 of CMM 17(2024).
iii.   Total catches per CCP (2014–2023): SIOFA AggregatedCatchEffort database, combined with SIOFA HBHCatchEffort database.
iv.   Catch, Effort (including per Subarea) and discards (2014–2023): SIOFA HBHCatchEffort database, SIOFA AggregatedCatchEffort database and spatial layers (this does not include non-fish catch, see Section 10 for definitions of target catch).
v.   VMEs (2004–2023): SIOFA Observer and HBHCatchEffort databases.
vi.   Fishing in Interim Protected Areas (2014–2023): SIOFA HBHCatchEffort and Spatial databases
vii.   Biological sampling (2014-2023): SIOFA Observer database.
viii.   Observer-reported catches (2014-2023): SIOFA Observer database.
ix.   Observer coverage (2014-2023): SIOFA Observer database.

2.4   Analysis code

The code that produces all analyses presented in this report is publicly available at https://github.com/SIOFASecretariat/SIOFA_SC_Reports_code

3. Species Summary

Common name	Common mora
Scientific name	*Mora moro*
Scientific synonyms	*Gadus moro, Mora mora*
FAO species code	RIB
Year of this report	2025
Assessment Areas/ Management Units	Not defined
Assessment method	None
Most recent assessment	None
Year of next assessment	Not specified
Harvest strategy	Not defined
Summary of current stock status	Unknown

This report describes the common mora fisheries in the SIOFA Area and available biological parameters for the species.

No management advice has been agreed for common mora in the SIOFA area.

The SIOFA Scientific Committee has provided interim advice, endorsed by the SIOFA MoP, to put in place an interim catch limit for common mora corresponding to the average annual catch in the last 5 years (see paragraph 79, MoP10 Report). However, no further management advice has been agreed for common mora in the SIOFA area.

A harvest strategy for the common mora stocks in the SIOFA area has not yet been developed.

No stock assessment is available for common mora stocks in the SIOFA area.

4. Biological Summary

Common mora (*Mora moro*) is a large-eyed, generally grey, species of deep-sea fish, the only species in its genus. Other common names in English include goodly-eyed cod, googly-eyed cod, and ribaldo.

It distributed worldwide in temperate oceans at depths of 300-2500 m (Cohen 1986), into the upper continental slope, and grows up to a length of about 80 cm but average lengths recorded in the SIOFA Area are around 57 cm, for an average weight of about 5.6 kg (source: SIOFA Observer database 2004-2022).

Not much is known about its reproductive biology, but it has been noted that it might be a winter and early spring spawner in the northern Atlantic (Cohen 1986).
It has been reported that this species feeds on fishes, crustaceans, molluscs and other invertebrates (Cohen 1986).

5. Description of the fishery

5.1 Fleet and gear

As defined by the SIOFA Scientific Committee at its 8th meeting, common mora is a target species of the bottom longline fishery in SIOFA. Primary targets in this fishery are toothfish (*Dissostichus* spp.) and hapuka (*Polyprion* spp.).

Before 2016, the species was reported in gillnet fisheries, which were discontinued after the entry into force of CMM 05(2016) (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)). The CCPs participating in the fishery of common mora are the EU (Spain) and Australia, see Table 1 in Section 7.

In the 2019-2023 period, participation in the common mora fishery has involved on average 2 vessels per year.

5.2 Fishing areas

Catch of common mora have been reported in bottom longline fisheries, targeting either toothfish or hapuka when a target was reported, mostly in Subareas 1, 2, 3a and 3b (Figure 2). The highest catches of common mora have been recorded from the western edge of the SIOFA area, primarily in SIOFA subarea 2.

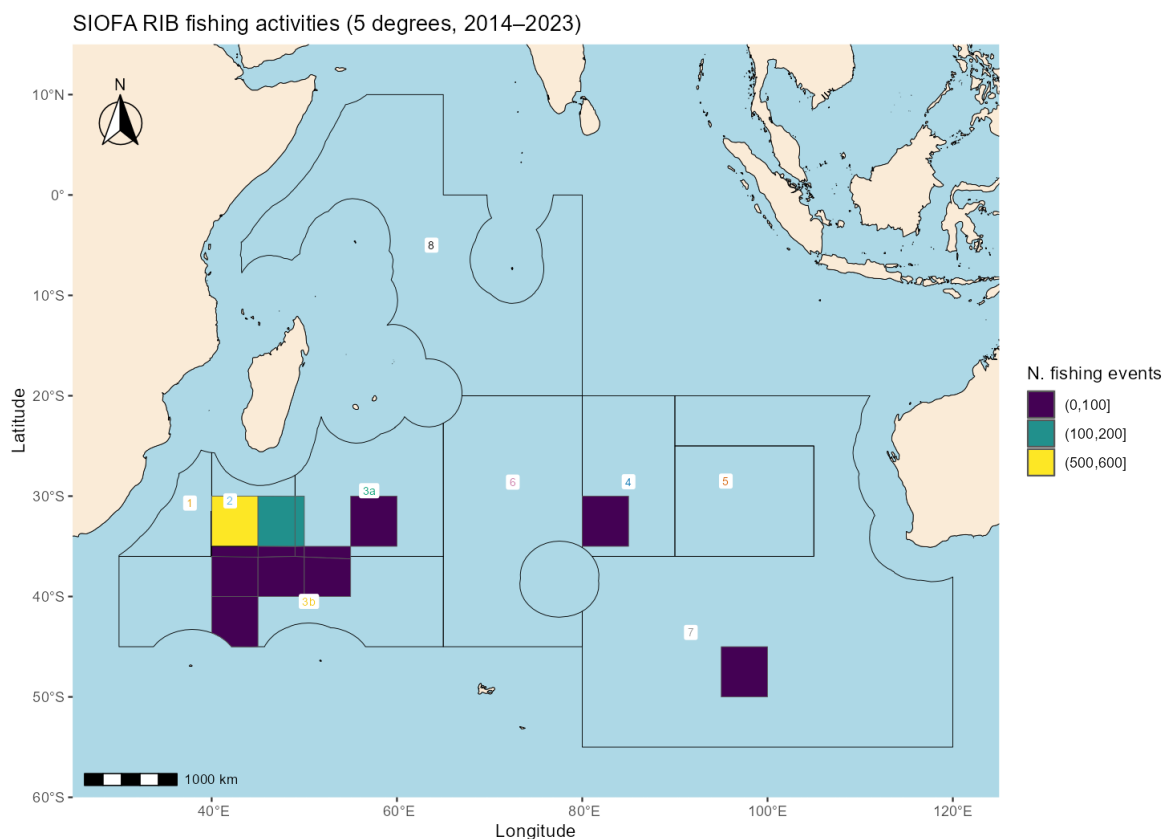SIOFA RIB fishing activities (5 degrees, 2014–2023)

Figure 2 – Spatial distribution of fishing events that caught common in the SIOFA Area, derived from haul-by-haul level fishing data, aggregated at a 5x5 degrees resolution (source: SIOFA HBHCatchEffort databases 2014–2023). This map represents all fishing events that caught any RIB, irrespective of declared target species.

5.3   Assessment Areas

No management units or stock assessment areas have been defined for common mora.

5.4   Catch and effort

Note that fishing effort and catches reported in this section are intended to represent total catch of RIB as reported in the CatchEffort database, irrespective of whether each specific fishing event had targeted this species or not. There were no fishing events in the CatchEffort database where common mora was declared as a target species, and very few instances of targeted fishing operations reported in the Observer database (see Section 11).

Catches of common mora in the SIOFA area were first reported in 2013 from deepwater gillnets, and at levels much higher than the most recent years (Figure 3a). Effort and catches decreased between 2015 and 2019 as the fishery switched from gillnets to longlines (Figure 3a). The average annual catch of common mora during the recent (2018–2022) period was 44.7 t.

Effort levels have been increasing in recent years, from 2020 onwards (Figure 3a). Note that the effort figures in Figure 3a include also fishing events that targeted species other than common mora, as long as that fishing event also caught common mora, but exclude all effort for which the common mora catch was zero. Consequently, CPUE represents the CPUE of all operations that caught common mora even as bycatch, and are likely to depend on the targets of each operation (when declared). In this context CPUE as depicted here cannot be considered a reliable index of abundance.

11

Common mora are mainly caught in the western edge of the SIOFA area, particularly in subarea 2 (Figure 3b).

Figure 3a and b — Yearly catch of common mora (t) and effort (10 thousand hooks) in the SIOFA area (upper panel, a) and in different SIOFA subareas (lower panel, b) (source: SIOFA AggregatedCatchEffort and HBHCatchEffort databases 2014–2023). Figure 2a displays only longline effort, but note that prior to 2016 the species was also caught with gillnets (for which fishing effort cannot be calculated due to a lack in data reporting details).

Effort has been rising back to 2015 levels from a low point around 2019 (Figure 3), but unstandardised catches per units of effort (CPUE) have remained stable throughout the time series (Figure 4).

Figure 4 – Unstandardised catch per unit effort (CPUE) of common mora in the SIOFA area (t/10 thousand hooks) (source: SIOFA AggregatedCatchEffort and HBHCatchEffort databases 2014–2023).

5.5   Catch limits

There are currently no catch limits for common mora in the SIOFA area.

5.6   Illegal Unreported and Unregulated (IUU) catch

No claims of Illegal Unreported and Unregulated (IUU) catches of common mora have been reported to SIOFA.

5.7   Other sources of fishing mortality

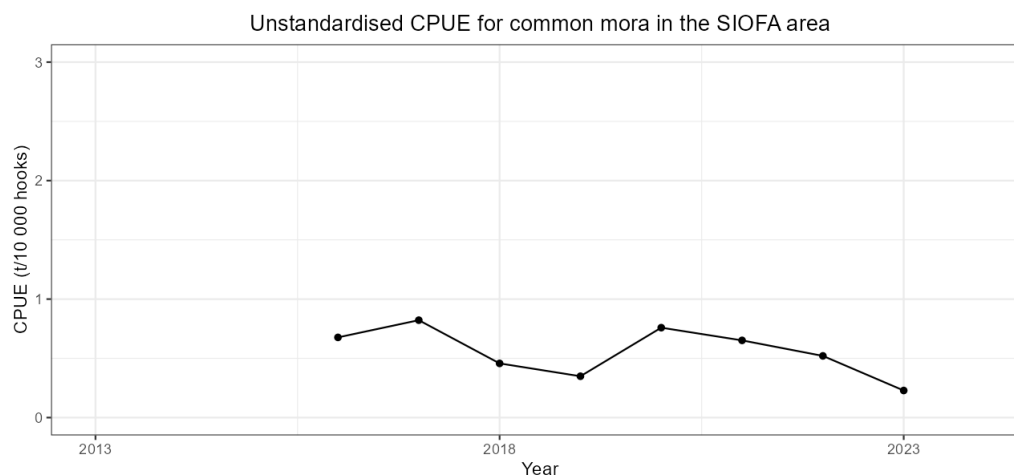Some unaccounted mortality may be expected to occur arising from whale depredation, whereby killer whales and/or sperm whales are known to remove fish from longlines during hauling (Gasco et al. 2021). Whale depredation is mostly associated with toothfish fisheries; the extent to which whale depredation also affects longline fisheries catching common mora is unknown.

6. Stock assessment and status

No stock assessment has been completed for common mora in the SIOFA area. Fundamental biological parameters remain unanalysed and poorly known.

6.1   Harvest strategy and reference points

Harvest strategies for common mora have not been decided upon within SIOFA.

The SIOFA Scientific Committee has provided interim advice, endorsed by the SIOFA MoP, to put in place Harvest Control Rules for interim management, notably to maintain catches at present levels (unless there is evidence of a marked downward trend in the resource) until sufficient further informative data becomes available for meaningful improvements to the existing assessments. Where not previously defined for specific stocks, the SC recommended the present level be defined as the

average (mean) of the 5 year period 2018–2022 for common mora (see paragraph 79, MoP10 Report). However, no further management advice has been agreed for common mora in the SIOFA area.

For a range of species, Butterworth et al. (2021) discusses the relative merits and drawbacks of adopting a harvest strategy based on either i) a constant catch consistent with recent 'status quo' catch levels; or ii) a simple harvest strategy based on an estimate of B_{msy} and thus F_{msy}, or iii) a constant fisheries mortality (F) consistent with recent 'status quo' F values.

No specific assessments have been made for common mora. A general approach, recommended by Butterworth et al. (2021) for data poor species in the SIOFA area, was to set a TAC based on recent average catch levels as first viable approach, augmented by one or more precautionary provisions (e.g. applying the SAFE methodology; see Zhou et al. 2016).

7. Data collection

Catch and effort fishery data are collected under CMM 02(2023) and were submitted by the CCPs listed in Table 1. Note that this list includes countries that were identified as fishing for common mora using the criterion in Section 10, or that declared common mora as a target of their operations, and this excludes countries and years where common mora was caught while targeting other species.

Table 1 – Common mora catch and effort data submitted by different SIOFA CCPs, by year (source: SIOFA HBHCatchEffort database 2014–2023). HBH= haul-by-haul level data.

Common mora catch and effort data submitted by different SIOFA CCPs		
Year	Country	Database
2014	ESP	HBH
2015	ESP	HBH
2016	ESP	HBH
2017	ESP	HBH
2018	AUS	HBH
2018	ESP	HBH
2019	AUS	HBH
2019	ESP	HBH

Biological data (i.e., measures and biological samples of common mora) are collected by Scientific Observers as a requirement of CMM 02(2023), and were submitted by the CCPs listed in Table 2.

Table 2 – Common mora Scientific Observer biological data collected by different SIOFA CCPs, by year (source: SIOFA Observer database 2004–2023).

Common mora observer data submitted by different SIOFA CCPs	
Year	Country
2004	AUS
2010	AUS
2012	AUS
2014	AUS
2017	FR-OT
2018	AUS
2019	ESP
2020	ESP
2021	AUS
2021	ESP
2022	ESP
2023	ESP

7.1   Biological data summaries

A summary of biological data collected by Scientific Observers, and counts of records by year for selected data fields, are shown in Table 3.

Table 3 – Common mora biological data collection by Scientific Observers, by year. Numbers of records per year are summarised for the following: length, weight, otoliths collected, sex determination, and gonad maturity stage, gonad weight, and stomachs sampled (source: SIOFA Observer database 2014–2023).

Common mora observer data measurements							
Year	Length (n)	Weight (n)	Otoliths collected (n)	Sex (n)	Maturity (n)	Gonad weight (n)	Stomachs sampled (n)
2014	51	51	51	51	51	0	51
2017	20	0	0	20	0	0	0
2018	8	8	8	8	8	0	0
2019	687	687	0	0	0	0	0
2020	701	701	0	0	0	0	0
2021	907	907	200	10	0	0	0
2022	668	668	668	0	0	0	0
2023	442	442	392	392	345	0	0
Total	3 484	3 464	1 319	481	404	0	51

7.2   Tag data

SIOFA does not require or conduct any tagging of common mora.

8. Summaries of abundance indices and other observational data

8.1   Scaled length frequencies

Scaled length frequency data are not available for common mora.

8.2   Scaled age frequencies

Scaled age frequency data are not available for common mora.

8.3   CPUE indices

Effort has been rising back to 2015 levels from a low point around 2019 (Figure 2), but unstandardised catches per units of effort (CPUE) have remained stable throughout the time series (Figure 4).

Unstandardised CPUE cannot be considered a reliable index of abundance. However, standardised CPUE have not been produced for these species.

8.4   Acoustic biomass indices

It is considered unfeasible to utilise acoustic survey methods to assess common mora in the SIOFA area.

8.5   Trawl survey indices

It is considered unfeasible to utilise trawl survey methods to assess common mora in the SIOFA area.

8.6   Tag based abundance estimates

SIOFA does not require or conduct tagging of common mora and no common mora tagging experiments in the SIOFA Area have been reported to SIOFA.

9. Biological parameters

Biological parameters have not been estimated for common mora from data collected specifically from SIOFA fisheries. Globally, very little is known about their growth and reproductive biology.

Santos et al. (2021) proposed different parameters based on fisheries in the Azores (see Table 4), but it is unclear how these could be applicable to the SIOFA Area.

Table 4 – Available biological parameters for common mora (Mora moro).

Relationship	Parameter (units)	Area	Value			References
			Both	Male	Female	
Natural mortality	M (y^{-1})	Azores	0.16			Santos et al. (2021)
Von Bertalanffy growth coefficient	t_0 (y)	Azores	0.52			Santos et al. (2021)
	k (y^{-1})	Azores	0.07			Santos et al. (2021)
	L_∞ (cm)	Azores	77.68			Santos et al. (2021)
	c.v.					
Length-weight	a (t.cm^{-1})					
	b					
Maturity	a_{50} ($\pm a_{to95}$)					
Stock recruitment relationship						
Stock recruitment steepness	h					
Recruitment variability	σ_R					
Ageing error type	Normal					
Ageing error parameters	c.v.					

9.1 Natural mortality

Natural mortality has not been estimated specifically for common mora in the SIOFA Area.

9.2 Growth parameters

Growth parameters have not been estimated specifically for common mora in the SIOFA Area.

9.3 Length/age relationship

No length-age relationship is available for common mora sampled specifically in the SIOFA area.

9.4 Maturity and spawning

No maturity analysis is available derived from common mora sampled specifically in the SIOFA area.

9.5 Stock recruitment relationship

The stock-recruitment relationship for common mora has not yet been investigated in the SIOFA area.

9.6 Tag parameters

SIOFA does not require or conduct any tagging for common mora.

10. Target catch/bycatch and ecosystem impacts

Bycatch commonly refers to the capture of all fish species that were not intended as a target in a given fishing event.

Bycatch was defined by the SIOFA SC as "*Fishery resources that are not target nor targeted typically in the taxonomic classes Chondrichthyes and Actinopterygii and infraphylum Agnatha and class Cephalopoda and Crustacea, that are part of the catch which is not the target*" (paragraph 207c of the SC8 report).

The ratio of target catch and bycatch in the common mora fisheries suffers from a lack of reported target species for fishing events that caught common mora. Hence, it was not possible to determine catch/bycatch ratios in these events based on declared targets. Common mora has never been declared as the target species of any fishing activity in the SIOFA CatchEffort database. Therefore, it is only possible to express the fraction of common mora in fishing operations that caught it, irrespective of their declared target (if any). Roughly 3/4 of fishing operations that caught common mora did not declare a specific target and were restricted to prior to 2020 (mostly using gillnets), the remaining operations, from 2020 onwards, that caught common mora declared another target species and are thus excluded from this analysis.

As a practical mean of estimating the catch/bycatch ratio in fishing events where targets were not declared, the Workshop on the development of ecosystem and fisheries summaries (WS2022-SUM1) suggested using a catch threshold whereby hauls in which at least a certain percentage of the catch was common mora, to be designated as common mora target hauls. This section uses a 20% target catch threshold, but since common mora was never a declared target of fishing events this threshold is arbitrary and might not reflect catch rates in true target operations.

10.1 Common mora target catch/bycatch

Target catch/bycatch is depicted in Figure 5. Note that the 20% catch threshold rule to define common mora target hauls was applied only to fishing effort for which targets were not declared, and that the ratios might not be strictly comparable to the data where targets were declared in this figure. Future work should consider harmonizing this time series and catch thresholds.
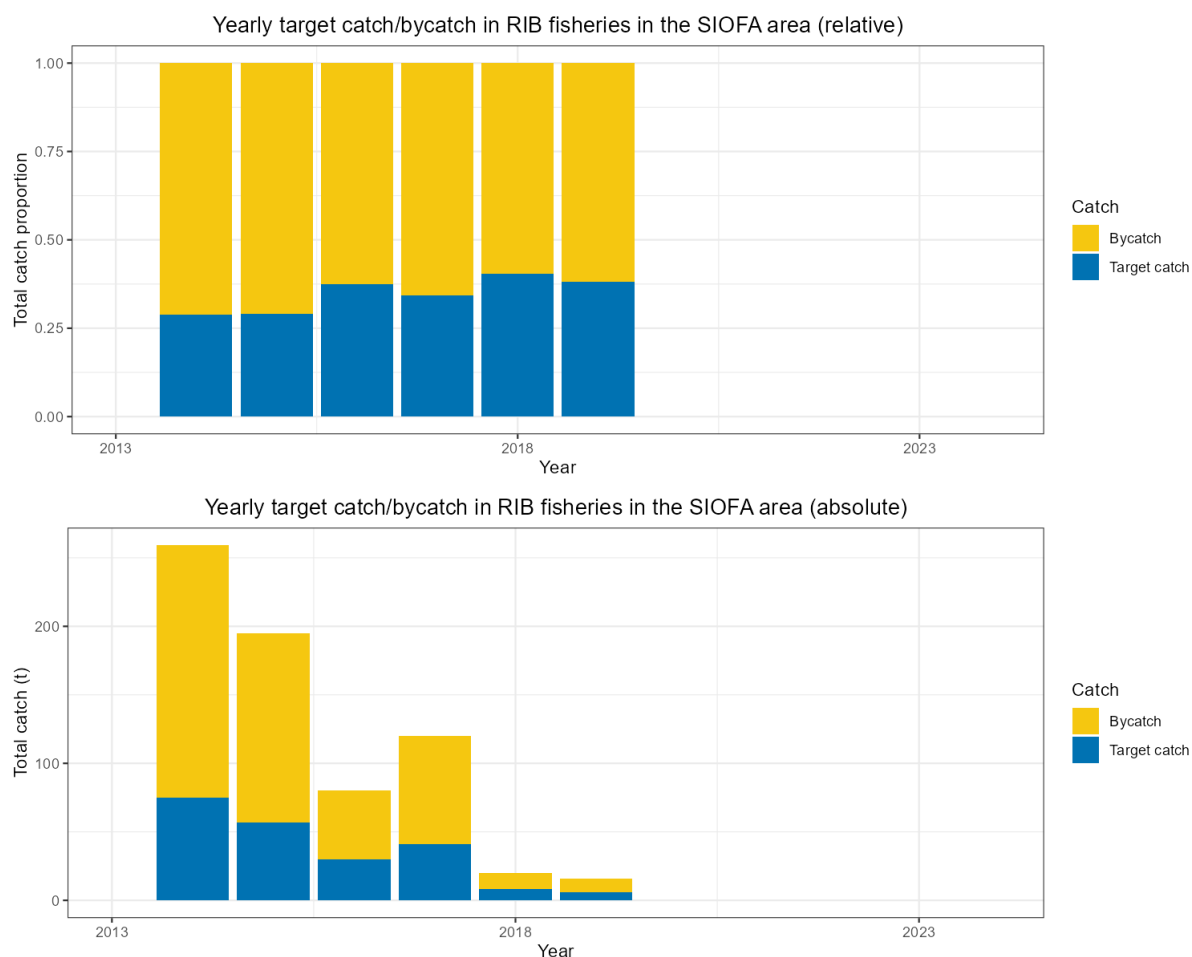
Figure 5a and b – Total catch of common mora and other bycatch species in SIOFA fisheries that targeted common mora, shown as relative values (upper panel, a) and absolute values (lower panel, b) (source: SIOFA AggregatedCatchEffort and HBHCatchEffort databases 2014–2023). Catches reported without location information are not included.

Different species were caught in fishing operations that targeted common mora (Figure 6). Portuguese dogfish (*Centroscymnus coelolepis*, CYO) was the species caught in largest amounts (especially before 2017), with relatively smaller contributions from birdbeak dogfish (*Deania calceus*, DCA), and kitefin shark (*Dalatias licha*, SCK).
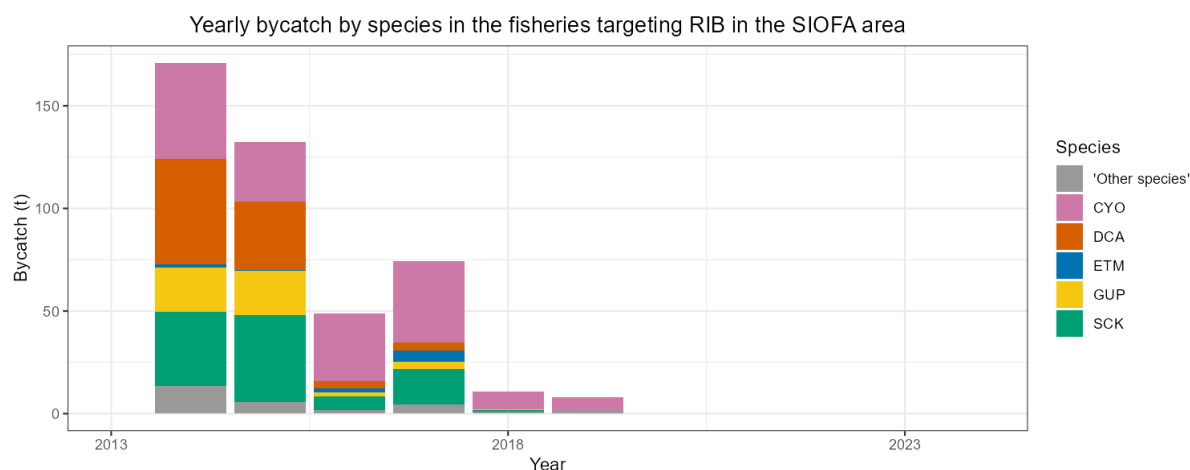
Figure 6 – *Yearly bycatch in fishing operations that targeted common mora in the SIOFA area, by species (source: SIOFA AggregatedCatchEffort and HBHCatchEffort databases 2013–2021). Only the top 5 species by weight across the whole time series are represented in full, with the rest being grouped under the 'other species' category. Species are identified by their 3-letter FAO code. Catches reported without location information are not included.*

Sharks is used in this report as a broad term to include all Chondrichthyans (see Appendix B of the Overview of SIOFA Fisheries for a full list of taxa), unless otherwise specified.

Catches of sharks in the common mora fishery were large in the early years of the time series (Figure 7). Portuguese dogfish (*Centroscymnus coelolepis*, CYO) was the species caught in largest amounts (especially before 2017), with relatively smaller contributions from birdbeak dogfish (*Deania calceus*, DCA), and kitefin shark (*Dalatias licha*, SCK).
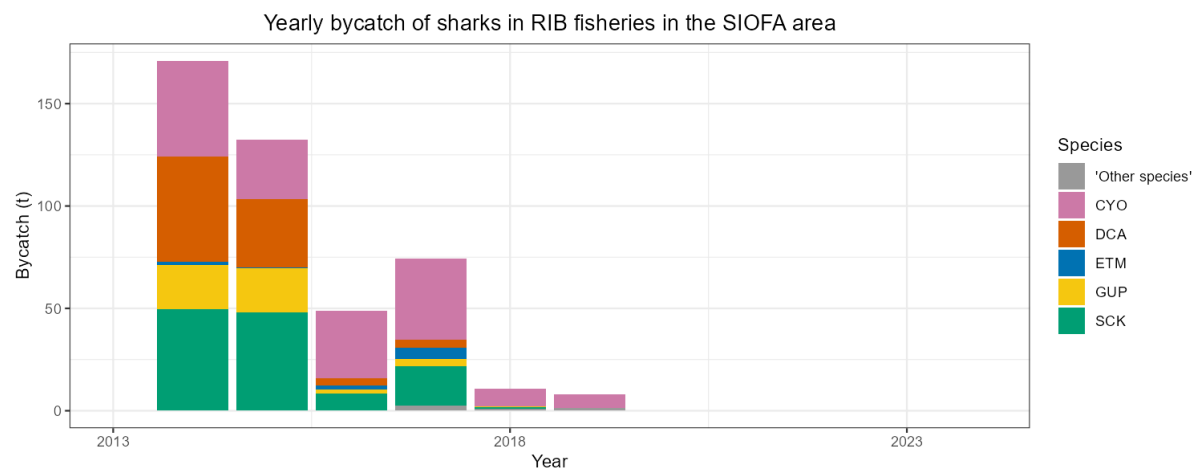
Figure 7 – Reported bycatch of shark species in fisheries targeting common mora (source: SIOFA AggregatedCatchEffort and HBHCatchEffort databases 2014–2023). Catches reported without location information are not included.

10.2 Target catch/bycatch by SIOFA subarea

Catches and bycatches in fisheries targeting common mora in the SIOFA Area were largely concentrated in Subarea 2, the proportion of catch and bycatch was negligible in all other Subareas (Figure 8Figure 8).

Yearly target catch in RIB fisheries by SIOFA subareas (relative)

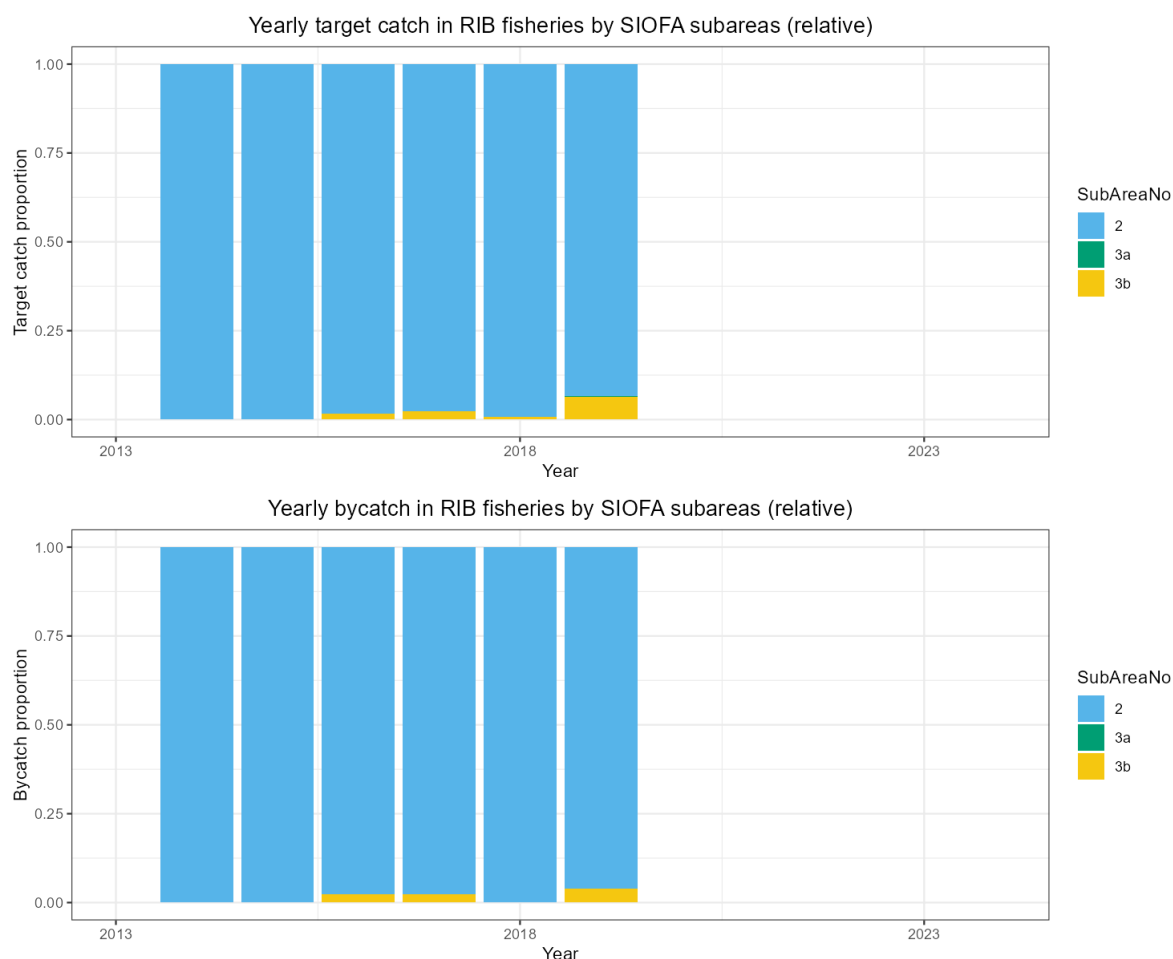**Yearly bycatch in RIB fisheries by SIOFA subareas (relative)**

Figure 8a and b – Distribution of target catch (a) and bycatch (b) in fisheries targeting common mora in different SIOFA Subareas (source: SIOFA AggregatedCatchEffort and HBHCatchEffort databases 2014–2023). Catches reported without location information are not included.

10.3 Discards

A specific field is included in SIOFA CatchEffort databases to indicate the fate of the catch, including retained, discarded and "other" categories.

Discard rates of fisheries targeting common mora in the SIOFA Area are presented in Figure 9.
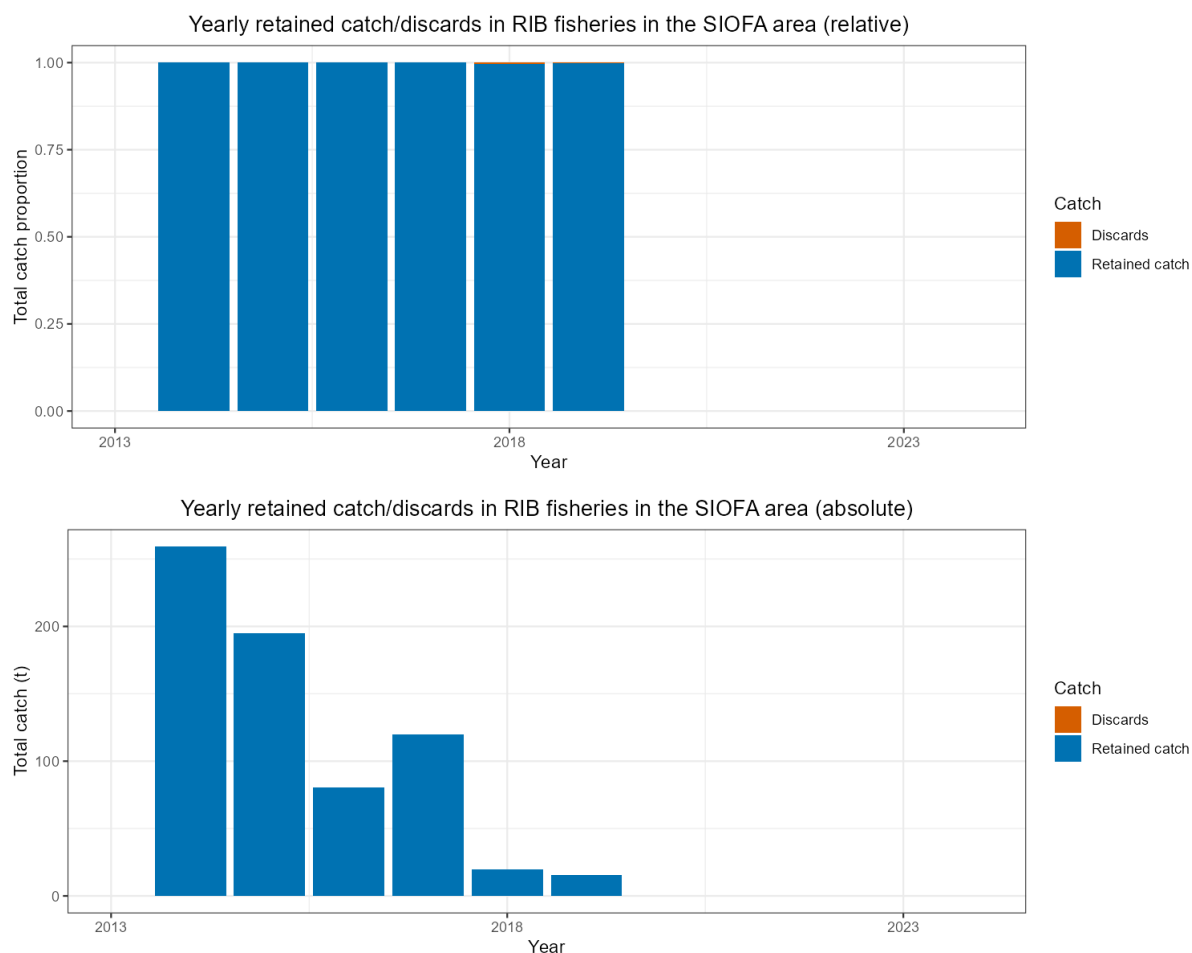
Figure 9a and b – Total retained and discarded catch in SIOFA fisheries that targeted common mora, shown as relative values (upper panel, a) and absolute values (lower panel, b) (source: SIOFA AggregatedCatchEffort and HBHCatchEffort databases 2014–2023). Catches reported without location information are not included.

Discards composition by species in fisheries targeting common mora in the SIOFA Area is presented in Figure 10. Some of the most represented species in discards are the rabbit fish (*Chimaera monstrosa*, CMO), rays and skates nei (Rajidae, RAJ) and the black scabbardfish (*Aphanopus carbo*, BSF).
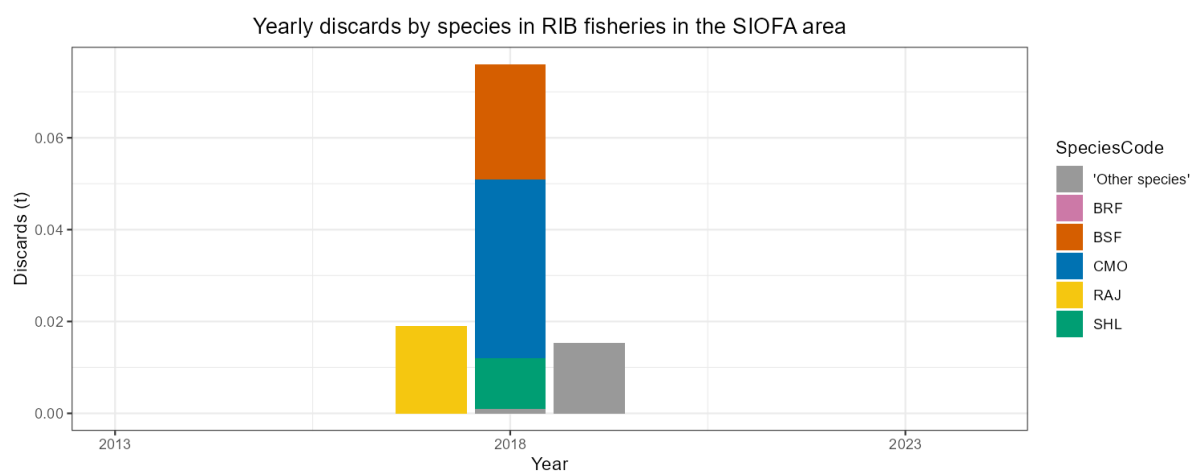

Figure 10 – Reported discards of fish species in fisheries targeting common mora (source: SIOFA AggregatedCatchEffort and HBHCatchEffort databases 2014–2023). Only the top five species (by weight) are fully represented, while the other species have been grouped in a single category.

10.4 Target catch/bycatch in management units

No management units or stock assessment areas have been defined for common mora.

10.5 Incidental catch of VME indicator taxa and other invertebrates

Common mora is targeted using a variety of gears but mainly set longlines. However, a single fishing event using trawls (nei) was reported by Scientific Observers as targeting common mora in 2019 (Figure 11).
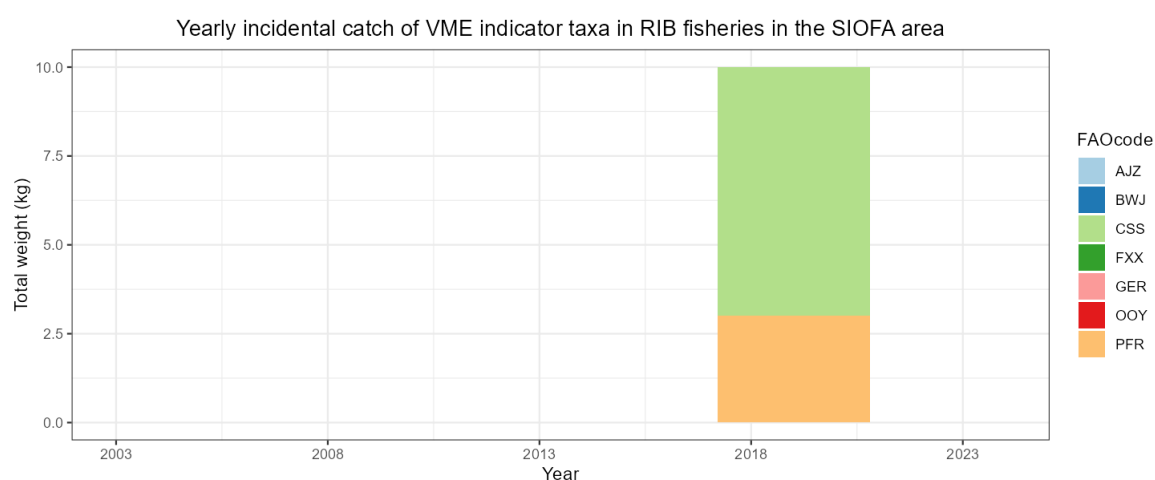

Figure 11 – Yearly incidental catch of VME indicator taxa in fisheries targeting common mora within the SIOFA Area, by taxa group (source: SIOFA Observer and HBHCatchEffort databases 2003–2022). Taxa are indicated by their 3-letter FAO code (see Appendix C of the Overview of SIOFA Fisheries).

11. Interactions with seabirds, mammals, turtles, sharks and other species of concern

Only incidental captures of seabirds, marine mammals, turtles, and sharks considered to be at high risk and/or concern are reported in the SIOFA Scientific Observer database, and the following sections have drawn from this database to explore the number and locations of these interactions.

Incidental captures of other species (e.g., of sharks) are also recorded in the SIOFA CatchEffort database but are not reported here (see Section 10.1 instead).

Captures were recorded by SIOFA Scientific Observers for a single common mora mixed (with ORY and BOE) trawl fishing operation in 2022.

Observations of seabirds and mammals around a vessel were recorded by SIOFA Scientific Observers for 13 common mora target operations in 2020 and 2022.

Figure 12 shows the reported locations of incidental captures (Figure 12a) and observations (Figure 12b) of seabirds, mammals, and sharks considered to be at high risk and/or concern (i.e., included in SIOFA CMM 12) captured in fishing operations targeting common mora in the SIOFA Area, as recorded by Scientific Observers.

SIOFA incidental captures of seabirds, marine mammals, turtles and sharks considered to be at high risk and/or of concern in RIB target operations (2014-2023)

SIOFA observations of seabirds and marine mammals in RIB target operations (2014-2023)
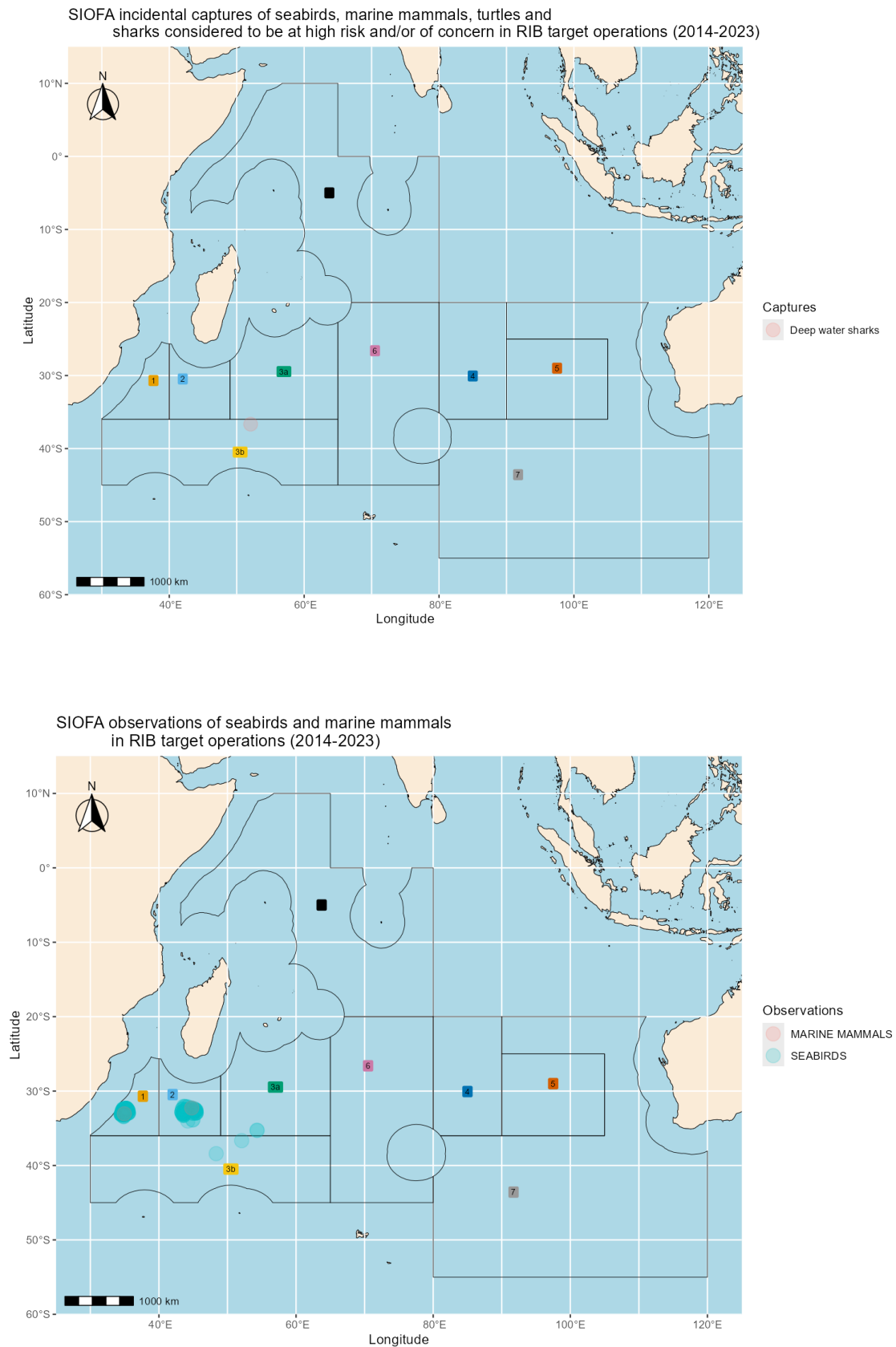
Figure 12a and b – Reported locations of incidental captures (a, upper) and observations (b, lower) of seabirds, cetaceans, and sharks considered to be "at high risk" and/or "of concern", as defined in Annex 1 of CMM

[12(2024)](#), captured in fishing operations targeting common mora in the SIOFA Area, as recorded by SIOFA Scientific Observers (source: SIOFA Observer database 2012–2022).

11.1 Seabirds

Provisions for the mitigation of accidental capture of seabirds in common mora fisheries are in [CMM-13(2022)](#) (Conservation and Management Measure on mitigation of seabird's bycatch in demersal longlines and other demersal fishing gears fisheries (Mitigation of Seabirds Bycatch)).

11.1.1 Captures

No captures of seabirds have been reported in common mora fisheries at this time.

11.1.2 Observations

The presence of several different seabirds was recorded by Scientific Observers around fishing operations that targeted common mora in the SIOFA Area (Table 5).

Table 5 – Number of seabirds observed around fishing operations that targeted common mora (source: SIOFA Observer database 2004–2023).

Observed seabirds around SIOFA common mora fishing operations				
Year	Common name	Scientific name	Fishing gear	Abundance
2020	Seabirds nei		Trawls (nei)	90
2022	Cape petrel	*Daption capense*	Set longlines	9
2022	Indian yellow-nosed albatross	*Thalassarche carteri*	Set longlines	1
2022	Seabirds nei		Trawls (nei)	57
2022	Southern royal albatross	*Diomedea epomophora*	Set longlines	8
2022	White-chinned petrel	*Procellaria aequinoctialis*	Set longlines	44
2023	Antarctic giant petrel	*Macronectes giganteus*	Set longlines	21
2023	Cape petrel	*Daption capense*	Set longlines	219
2023	Great-winged petrel	*Pterodroma macroptera*	Set longlines	492
2023	Indian yellow-nosed albatross	*Thalassarche carteri*	Set longlines	86
2023	Southern royal albatross	*Diomedea epomophora*	Set longlines	302
2023	Sperm whale	*Physeter macrocephalus*	Set longlines	5
2023	Wandering albatross	*Diomedea exulans*	Set longlines	27
2023	White-chinned petrel	*Procellaria aequinoctialis*	Set longlines	1 707

11.2 Marine mammals

Marine mammal interactions have not been recorded in fishing operations that caught common mora.

Some interaction may be expected to occur between common mora fisheries and killer whales engaged in longline depredation. Whale depredation is mostly associated with toothfish fisheries (Gasco et al. 2021); the extent to which whale depredation also affects longline fisheries catching common mora is unknown.

11.2.1 Captures

No captures of mammals have been reported in common mora fisheries at this time.

11.2.2 Observations

No observations of mammals were reported in common mora fisheries at this time.

11.3 Turtles

No turtle interactions have been reported in common mora fisheries at this time.

11.4 Sharks at 'high risk' and 'of concern'

Captures of deep-sea shark taxa considered to be at "high risk" and/or "of concern" , as listed in Annex 1 of SIOFA CMM 12(2024) (Conservation and Management Measure for Sharks (Sharks)) were reported in the SIOFA Observer database for fisheries that targeted common mora in 2022 (Table 6).

Table 6 – Number of sharks considered to be at "high risk" and/or "of concern" , as listed in Annex 1 of SIOFA CMM 12(2024) (Conservation and Management Measure for Sharks), captured in fisheries that targeted common mora (source: SIOFA Observer database 2004–2023).

Observed captures of sharks at 'high risk' and 'of concern' in SIOFA common mora fisheries				
Year	Common name	Scientific name	Fishing gear	Captures (n)
2022	Southern lanternshark(Lucifer)	*Etmopterus granulosus*	Trawls (nei)	16

12. Effects of the fishery on the ecosystem

The effects of this fishery on the ecosystems have not yet been investigated.

13. References

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Gasco, N., Tixier, P., and Guinet, C (2021). Protocol for documenting marine mammals interaction in deep sea demersal longline fisheries. 3rd Meeting of the Stock and Ecological Risk Assessment Working Group (SERAWG3). SERAWG-03-06, 10pp.

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