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Revised Bottom Fishing Impact Assessment for Japanese bottom trawl fisheries in SIOFA convention area

Delegation of Japan

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Abstract

This document revises the Bottom Fishing Impact Assessment for Japanese bottom trawl fishery in the SIOFA convention area (CA) in accordance with CMM ~~2017/01 para. 14~~01 (2024) and SIOFA bottom fishery impact assessments (BFIAs) Standard (Annex I, SC2 Report). In SIOFA CA, in the past, three exploratory research fishing cruises were conducted by Japanese bottom trawl vessels in 1977, 1978, and 2012. Additionally, in 2024, Tomi-maru No. 58 conducted bottom trawl fishing operation targeting Orange roughy. Based on best available information, Japan conducted the impact assessment on Japan's bottom trawl fishing operations.

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Recommendations
It is recommended that the Science Committee: • Consider the revised Bottom Fishing Impact Assessment (BFIA) of Japanese bottom trawl fisheries in SIOFA Convention area • Provide relevant recommends and advices to the MoP

Revised Bottom Fishing Impact Assessment for Japanese bottom trawl fisheries in SIOFA convention area

Delegation of Japan

1) Description of the Proposed Fishing Activities

1-1) Details of the vessels to be used

1-1a) Exploratory fishery in 1977 and 1978

- Vessel name: Ryuyo-maru No.2
- Flag state: Japan
- Vessel owner: Hokkaido Fishery Corporation
- Port of registration: Tokyo, Japan
- IMO number: Unreported
- Radio call sign: JGYV
- Vessel type: Commercial trawl fishing vessel
- Fishing gear type: Stern bottom otter trawls (OTB-2 in ISSCFG, FAO)
- Vessel length overall: 99.50 m
- Beam length: 15.5 m
- Vessel gross registered tonnage: 2961.07 tonnes
- Power of main engine: 2419.79 KW (3290 PS)
- Processing capacity: 40 tonnes/day
- Storage capacity: Unreported
- Equipment used for determining position: Satellite navigation device

Although the other bottom trawl fishing vessel also operated within SIOFA CA in 1977 and 1978, it was not possible to have details about the previous information about vessels and fishing gears used in SIOFA CA.

1-1b) Exploratory fishery in 2012

- Vessel name: Gyokuryu-maru
- Flag state: Japan
- Vessel owner: Sato Fishery Co., Ltd.
- Port of registration: Shiogama, Japan
- IMO number: 130124
- Radio call sign: JKNU
- Vessel type: Commercial trawl fishing vessel
- Fishing gear type: Stern bottom otter trawls (OTB-2 in ISSCFG, FAO)
- Vessel length overall: 52.00 m
- Beam length: 10.2 m
- Vessel gross registered tonnage: 884 tonnes
- Power of main engine: 1912 KW

- Processing capacity: 34.56 tonnes/day
- Storage capacity: Frozen hold capacity 583.64 m^3
- Equipment used for determining position: Furuno GP-150, GP-70MK2

1-1c) Commercial fishery targeting Orange roughy since 2024

- Vessel name: Tomi-maru No.58
- Flag state: Japan
- Vessel owner: Taiyo A&F Co.,Ltd.
- Port of registration: Shiogama, Japan
- IMO number: 8613621
- Radio call sign: 7LGH
- Vessel type: Commercial trawl fishing vessel (Stern trawler)
- Fishing gear type: Stern bottom otter trawls (OTM and OTB in ISSCFG, FAO)
- Vessel length overall: 59.88 m
- Beam length: 11.0 m
- Vessel gross registered tonnage: 1204 tonnes
- Power of main engine: 2132 KW
- Storage capacity: Frozen hold capacity 650 m^3
- Equipment used for determining position: GPS GD × 2, SC-50, Furuno

Detailed information will be submitted as Scientific Observer Logbook in 31 May 2025.

1-2) Data Standards for vessel data

Tomi-maru No. 58 has operated within SIOFA CA as an authorized SIOFA vessel and collected information in each operation i.e., dates, locations, depth, catch/effort data and other relevant data. They are recorded in logbooks and submitted to Fisheries Agency of Japan. The SIOFA scientific observer program started in January 2017 to collect scientific information according to Annex B of the CMM, which specifies data collection for scientific observers (currently CMM 02 (2023)). Both fishing logbook and scientific observer data have been submitted to the SIOFA Secretariat in accordance with SIOFA data submission procedure specified in CMM 02 (2023).

1-3) Detailed description of fishing methods

1-3a) Exploratory fishery in 1977 and 1978

1-3a-1) Gear type I

- Trawl gear type: Stern bottom otter trawls (OTB-2 in ISSCFG, FAO)
- Head rope length: 46 m
- Ground rope length: 58.8 m
- Bobbin Diameter: 300 mm × 24, 366 mm × 24
- Otterboard to wing length: Unreported
- Horizontal net opening: 30 m
- Vertical net opening: 5 m

- Wing mesh size: Unreported
- Codend mesh size: 45 and 90 mm
- Codend circumference: Unreported
- Mesh type: Unreported
- Trawl net design: Single
- Trawl net material: Unreported
- Otterboard type: SF vertical type 4.5 m × 2.8 m
- Otterboard weight: 3300 kg (underwater weight)
- Range in fishing height off bottom: Contact with the seafloor during trawling

1-3a-2) Gear type II

- Trawl gear type: Stern bottom otter trawls (OTB-2 in ISSCFG, FAO)
- Head rope length: 66.6 m
- Ground rope length: 89.4 m
- Bobbin Diameter: 300 mm × 38, 360 mm × 20
- Otterboard to wing length: Unreported
- Horizontal net opening: 30 m
- Vertical net opening: 7 m
- Wing mesh size: Unreported
- Codend mesh size: 45 and 90 mm
- Codend circumference: Unreported
- Mesh type: Unreported
- Trawl net design: Single
- Trawl net material: Unreported
- Otterboard type: SF vertical type 4.5 m × 2.8 m
- Otterboard weight: 3,300 kg (underwater weight)
- Range in fishing height off bottom: Contact with the seafloor during trawling

1-3b) Exploratory fishery in 2012

- Trawl gear type: Stern bottom otter trawls (OTB-2 in ISSCFG, FAO)
- Head rope length: 14 m
- Ground rope length: 14 m
- Bobbin Diameter: Unreported
- Otterboard to wing length: Unreported
- Horizontal net opening: 7 m
- Vertical net opening: 11 m
- Wing mesh size: Unreported
- Codend mesh size: 120, 200, and 300 mm
- Codend circumference: Unreported
- Mesh type: Diamond
- Trawl net design: Single

- Trawl net material: Nylon multifilament
- Otterboard type: VFW 12.2 m^2
- Otterboard weight: Unreported
- Range in fishing height off bottom: Contact with the seafloor during trawling

1-3c) Commercial fishery targeting Orange roughy since 2024

1-3c-1) Gear type I

- Trawl gear type: Stern bottom otter trawls (OTB in ISSCFG, FAO)
- Head rope length: 38.5 m
- Ground rope length: 69.3 m
- Bobbin Diameter: 610 mm
- Otterboard to wing length: 150 m
- Horizontal net opening: 30 m
- Vertical net opening: 10 m
- Wing mesh size: 2286 mm
- Codend mesh size: 110 mm
- Codend circumference: 7.0 m
- Mesh type: Diamond
- Trawl net design: Single
- Trawl net material: Polyethylene
- Otterboard type: Vertical V type
- Otterboard weight: 3200 kg
- Range in fishing height off bottom: Contact with the seafloor during trawling

1-3c-2) Gear type II

- Trawl gear type: Stern bottom otter trawls (OTB in ISSCFG, FAO)
- Head rope length: 50 m
- Ground rope length: 60.4 m
- Bobbin Diameter: 610 mm
- Otterboard to wing length: 150 m
- Horizontal net opening: 30 m
- Vertical net opening: 10 m
- Wing mesh size: 229 mm
- Codend mesh size: 110 mm
- Codend circumference: 7.0 m
- Mesh type: Diamond
- Trawl net design: Single
- Trawl net material: Polyethylene
- Otterboard type: Vertical V type
- Otterboard weight: 3200 kg
- Range in fishing height off bottom: Contact with the seafloor during trawling

Detailed information will be submitted to the SIOFA Secretariat as Scientific Observer Logbook no later than 31 May 2025.

1-4) Seabed depth range to be fished

The seabed depth ranged from 72 to 266 m, from 80 to 230 m, and from 365 to 794 m in 1977, 1978, and 2012 exploratory bottom trawl fisheries, respectively. In 2024, the seabed depth ranged from 400 to 965 m.

1-5) Target species, and likely or potential by-catch species

1-5-1) Target species

In 1977 and 1978 exploratory bottom trawl fisheries, target species of this exploratory research fishing were as follows.

- Lizard fish (*Saurida undosquamis*)
- Bigeye scad (*Selar crumenophthalmus*)
- Scad (*Decapterus maruadsi*)
- Butterfly breem (*Nemipterus personii*)
- Porgies (*Dextex sp.*)
- Black cardinal fish (*Epigonus telescopus*)

In 2012 exploratory bottom trawl fishery, target species of this exploratory research fishing were as follows.

- Splendid alfonsino (*Beryx splendens*)
- Pelagic armourhead (*Pentaceros richardsoni*)
- Violet warehou (*Schedophilus velaini*)
- Bluenose warehou (*Hyperoglyphe antarctica*)

In 2024 commercial bottom trawl fishery, target species was as follows.

- Orange roughy (*Hoplostethus atlanticus*)

1-5-2) Likely or potential by-catch species

In 1977 and 1978 exploratory bottom trawl fisheries, major by-catch species were as follows.

- Sharks
- Barrocuda (*Sphyraena chrysotoenia*)
- Kingfish (*Carangoides* spp.)
- Sea basses (*Epinephelus* spp.)
- Snappers (*Pristipomoides* spp.)

In 2012 exploratory bottom trawl fishery, major by-catch species were as follows.

- Hapuku (*Polyprion oxygeneios*)
- Wreckfish (*Polyprion americanus*)
- Blackbelly rockfish (*Helicolenus dactylopterus*)

- Alfonsino (*Beryx decadactylus*)
- Silver scabbardfish (*Lepidopus caudatus*)
- Black cardinal fish (*Epigonus telescopus*)

In 2024 commercial bottom trawl fishery, major by-catch species species were as follows.

- Splendid alfonsino (*Beryx splendens*)
- Pelagic armourhead (*Pentaceros richardsoni*)
- Violet warehou (*Schedophilus velaini*)
- Bluenose warehou (*Hyperoglyphe antarctica*)
- Hapuku (*Polyprion oxygeneios*)
- Wreckfish (*Polyprion americanus*)
- Blackbelly rockfish (*Helicolenus dactylopterus*)
- Alfonsino (*Beryx decadactylus*)
- Silver scabbardfish (*Lepidopus caudatus*)
- Black cardinal fish (*Epigonus telescopus*)

1-6) Intended period and duration of fishing

The exploratory bottom trawl fisheries were operated 23 days (5–27 October) in 1977, 36 days (26 November–31 December) in1978, and 27 days (4–30 December) in 2012. The commercial bottom trawl fisheries were operated 21 days in total (6 and 24-30 September, 1-5 October, 4-6 November, and 10-12 and 15-16 December) in 2024.

1-7) Effort indices

Effort indices of exploratory bottom trawl fisheries are summarized in Table 1. In 2024, tow durations per haul ranged from 5-25 minutes.

Table 1 Effort indices in Japanese exploratory bottom trawl fisheries.

Year	Vessels	Tows	Cumulative tow durations (minutes)
1977	2	380	62,950
1978	2	240	39,450
2012	1	34	7,520
2024	1	93	1,490

1-8) Estimated total catch and discard quantities by target and bycatch species

In 1977 and 1978 exploratory bottom trawl fisheries, catch amount of main target species around Saya de Malha Bank were summarized in Table 2.

Table 2 Catch amount (kg) of main target species in Japanese exploratory bottom fishery around Saya de Malha Bank.

Species	Scientific name	1977	1978
Lizard fish	*Saurida undosquamis*	61,480	53,409
Bigeye scad	*Selar crumenophthalmus*	42,720	41,855
Scad	*Decapterus maruadsi*	45,340	188,298
Butterfly breem	*Nemipterus personii*	12,220	10,835
Porgies	*Dextex* sp.		32,813
Black cardinal fish	(*Epigonus telescopus*)		3,349

In 2012 exploratory bottom trawl fishery, total catch by each species was recorded as shown in Table 3. In the cruise report of exploratory bottom trawl fishery, there is no record about discard quantities.

Table 3 Annual catch (kg) of Japanese exploratory bottom fishery in the SIOFA area.

Species	Scientific name	2012
Splendid alfonsino	*Beryx splendens*	8,738
Pelagic armourhead	Pentaceros richardsoni	14,378
Violet warehou	Schedophilus velaini	1569
Bluenose warehou	*Hyperoglyphe antarctica*	52
Hapuku wreckfish	*Polyprion oxygeneio*s	906
Blackbelly rockfish	*Helicolenus dactylopterus*	153
Alfonsino	*Beryx decadactylus*	113
Silver scabbardfish	*Lepidopus caudatus*	26
Black cardinal fish	*Epigonus telescopus*	3,349

In 2024 commercial bottom trawl fishery, Scientific observer logbook recorded total catch and discard by each species as shown in Table 4.

Table 4 Annual catch and discard (kg) of Japanese commercial bottom fishery in 2024 within the SIOFA area.

Species	Scientific name	Retained catch (kg)	Discard (kg)
Splendid alfonsino	*Beryx splendens*	4,581	
Pelagic armourhead	Pentaceros richardsoni	65,134	
Violet warehou	Schedophilus velaini	25	
Bluenose warehou	*Hyperoglyphe antarctica*	242	
Hapuku wreckfish	*Polyprion oxygeneio*s	385	
Black cardinal fish	*Epigonus telescopus*		280

2) Mapping and Description of Proposed Fishing Areas

2-1) Maps of the intended fishing areas

Footprint of exploratory bottom fisheries are indicated in the Figure 1. The footprints in 1977 and 1978 (red squares) are represented as grid blocks of 30 minutes resolution according to spatial resolution of fishing logbook as data sources. The footprints in 2012 (yellow squares) are indicated as grid blocks of 20 minutes resolution as defined by CMM2017/01.

In the commercial bottom fishery since 2024, Japanese trawl vessel has conducted fishing operations ~~intended to operate~~ within the SIOFA bottom fishery footprint at SIOFA subarea 2 ~~and 3a~~ (Fig.2).

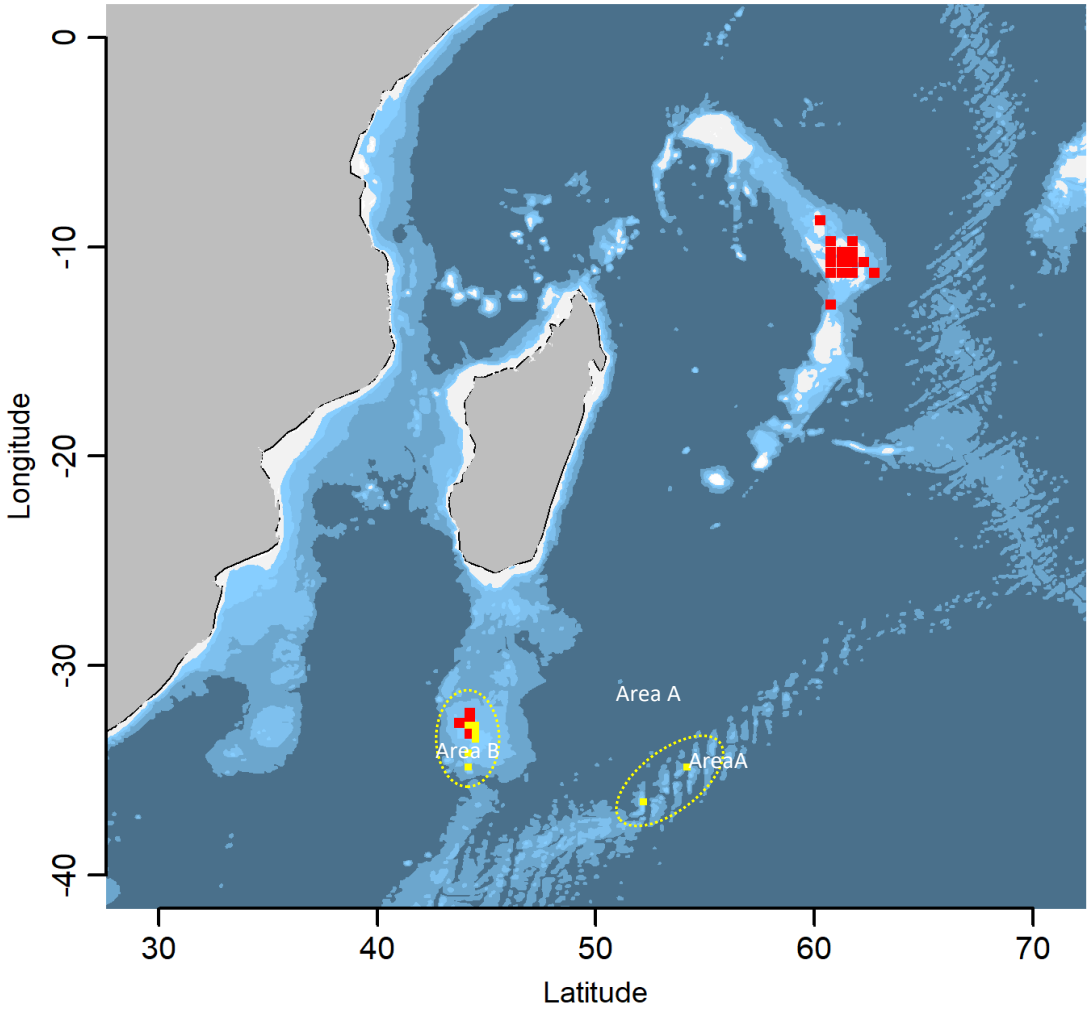

Fig. 1 The footprints of Japanese exploratory bottom trawl fisheries in 1977, 1978, and 2012. Red squares indicate the footprints in 1977 and 1978 which are described as grid blocks of 30 minutes resolution according to spatial resolution of fishing logbook as data sources. Yellow squares represent the footprints in 2012 which are described as grid blocks of 20 minutes resolution.

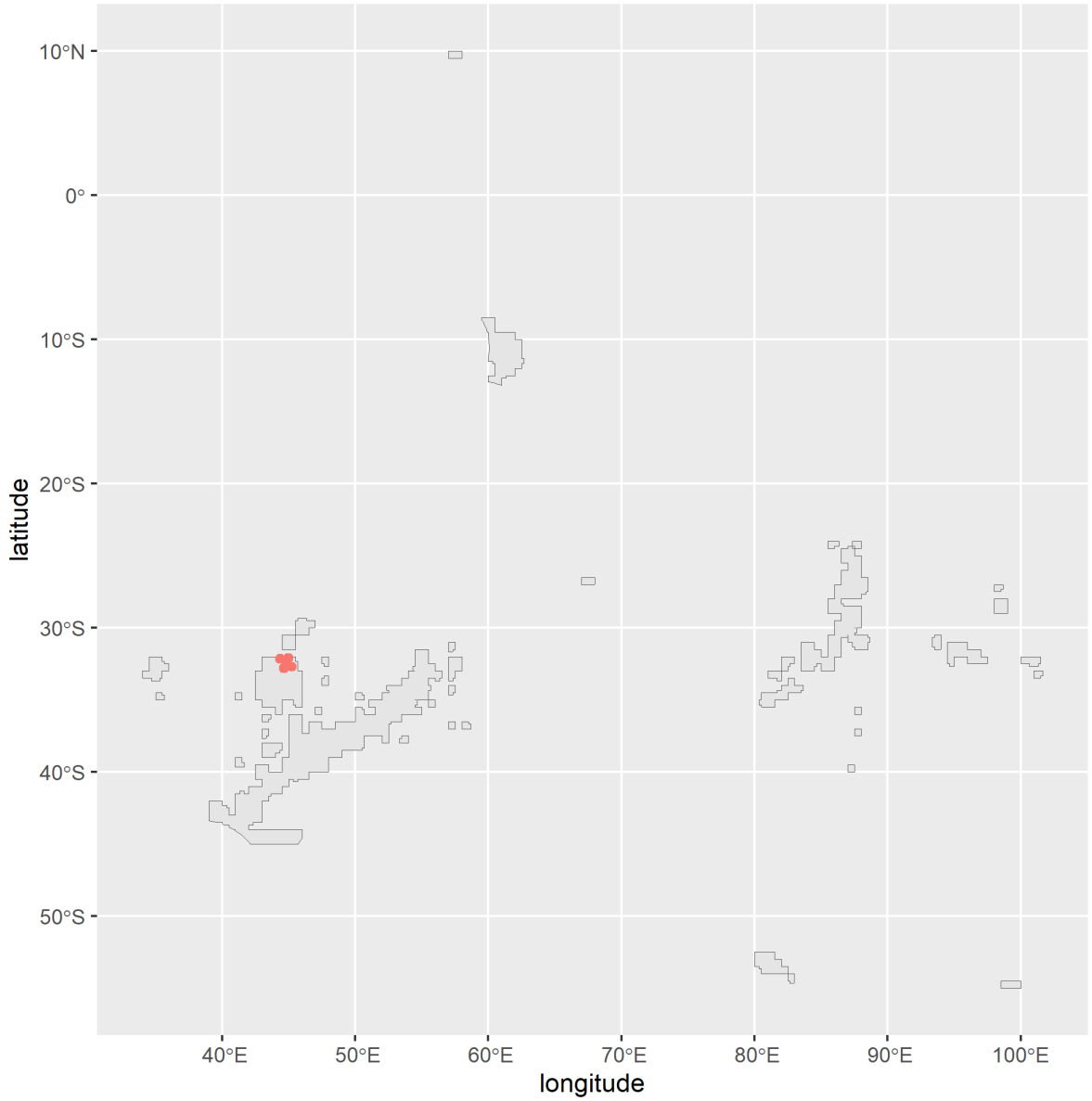

Fig. 2 Locations of bottom trawl fishing operations by Japanese trawl vessel in 2024. Gray lines indicate SIOFA bottom fishing footprint (hybrid 20'+30', 1977-2020) without midwater and handline gears (SIOFA MoP-10-12).

2-2) Area, or topographic features likely to support VMEs

The cruise report of Japanese bottom trawl fisheries did not record any detailed information which support any Vulnerable Marine Ecosystems (VMEs) management; e.g., detailed topography of the ocean floor to conducted habitat model analysis.

2-3) Mapping of all known VMEs, or evidence of VMEs, in the proposed fishing areas

In 2012 exploratory bottom trawl fishing cruise, eight hauls were conducted by-catch observation for taxon other than fishes. The by-catch of corals were observed in six hauls during these eight observations, but there is no by-catch of sponges. The coral by-catch weight range 0.01–1.68 kg (average 0.524 g). These corals were contained VME indicators in CCAMLR, *Gorgonacea* and *Antipatharia*. In 2024, scientific observer reported one haul bycatch of VME indicators (0.1 kg Gorgonians). There is not enough information to evaluate that these benthic invertebrates forming VMEs in accordance with SIOFA BFIA standard.

2-4) Mapping of the results of predictive habitat modelling for VMEs in the SIOFA area

There are no available data about benthic invertebrates caught by the Japanese bottom trawl fisheries to conduct habitat modelling for VMEs in the SIOFA area.

2-5) Baseline data and description of the proposed fishing areas

In the cruise report of exploratory bottom trawl fishery there are brief descriptions about the substrata environment in fishing grounds. Seamounts ridge extending from the southwest to the northeast around 50–60°E (Area A), which were operated twice in the exploratory bottom trawl fishing (Fig. 1), have many sharp sea-mountains and steep valleys. The ocean plateau located around 35°S 45°E (Area B) have many relatively flat bottom substrata.

3) Impact assessment

3-1) Scoping of Issues of Concern

In the cruise report of exploratory bottom trawl fishery there are brief descriptions about the substrata environment in fishing grounds. Seamounts ridge extending from the southwest to the northeast around 50–60°E (Area A), which were operated twice in the exploratory bottom trawl fishing (Fig. 1), have many sharp sea-mountains and steep valleys. The ocean plateau located around 35°S 45°E (Area B) have many relatively flat bottom substrata.

3-1-1) Fishing activity

For BFIA, the detailed description about bottom trawl fishing activities has been provided in earlier section “1) Description of the Proposed Fishing Activities”.

3-1-2) Loss of bottom fishing gear

For the BFIA of bottom trawl fishery, “loss of bottom fishing gear” is defined as a break in the wire or severe damage to the fishing net that leaves the otterboard, wing net, cod end, or ground/head rope in the water or on the seafloor. Minor damage, such as the breakage of a piece of bobbin or rope used as material for net, is excluded from the definition of “loss of bottom fishing gear” in this document. The description about risk from loss of bottom fishing gear including ghost fishing has been provided in section 3-3-6.

3-1-3) What may be affected and how

Expected impacts have been evaluated in the sections 3-2 “Risk assessment” and 3-3 “Interactions with VMEs”. These impacts assume bycatch and physical disturbance of benthic species, especially VME indicator species, due to physical contact between bottom fishing gear and the seafloor.

At this stage, no risk assessments have been conducted for species of concern other than benthos species (e.g., deep-sea sharks, seabirds, and mammals). For these species, bycatch and/or interaction with fishing activities has been reported by scientific observers.

As of the end of the 2024 fishing season, no interaction with seabirds or mammals has been reported in midwater trawl operations by Japanese vessels. It can be assumed that there is no important difference in impact on seabirds and mammals between midwater and bottom trawling operations on the same fishing vessel. Although no risk assessment for seabirds or mammals has been conducted at this time, but it can be assumed that the risk is very low given the lack of reported interactions in midwater trawl operations. Therefore, only the impact assessment for VME is described in Section 3-2. In the future, if concerns about impacts on these species arise, a risk assessment will be conducted based on the data collected by the

scientific observers.

3-2) Risk assessment

3-2-1) The level of risk posed by each activity

3-2-1-1) Intensity

Impacts on VME by the intensity of Japanese bottom trawl fishing in SIOFA CA are likely small because of only 3 years of exploratory fishing in the past. In the commercial bottom fishery in 2024, only one haul has reported bycatch of VME indicator species.

In some management bodies, bottom trawl fishing has been considered to make high intensity or severity of the impact on the seabed ecosystems (Chuenpagdee et al., 2003; Williams et al., 2011).

3-2-1-2) Duration

Impacts on VME by the duration of Japanese bottom trawl fishing in SIOFA CA are likely small because of only 3 years of exploratory fishing in the past. The commercial bottom fishery in 2024 shows shorter duration of towing than previous exploratory bottom fishery by Japanese vessel (Table 1).

Generally, the impact of bottom trawling is thought to extend over a long period of time taking account that the high longevity of deep-sea bamboo coral is an indication that recovery from disturbance or removal may take decades to a century (Andrews et al., 2009).

3-2-1-3) Spatial extent

Impacts on VME by the spatial extent of Japanese bottom trawl exploratory fishing in SIOFA CA are likely small because of only 3 years of exploratory fishing in the past. In the commercial bottom fishery in 2024, only one haul has reported bycatch of VME indicator species.

It is noted that the cruise report of exploratory bottom trawl fishery in 2012 has described that there are few topographies suitable for bottom trawl fishing operation and the bottom trawling by-catch amounts of VME indicators are not enormous on the seamount area in SIOFA CA.

3-2-1-4) Cumulative impact

Japanese bottom trawl fishing were conducted only during three cruises in 1977, 1978, and 2012 as exploratory fishery and two cruises in 2024 as commercial fishery, thus cumulative impacts is considered as minimal.

3-2-2) Overall risk (Low/Medium/High)

Low: Because Japanese bottom trawl fishing was conducted by limited operations only in 3 years on the exploratory basis and in one year on commercial basis.

3-3) Interactions with VMEs

3-3-1) What impacts are likely to results from the fishing gears to be used?

In 2012 Japanese exploratory bottom trawling fishery, density of corals was roughly estimated as less than 1.0 kg / km^2 except for 2 hauls (5.8 kg / km^2 and 2.8 kg / km^2) by calculating from by-catch amount of corals including VME indicators and trawling areas. In 2024, scientific observer reported one haul bycatch of VME indicators (0.1 kg Gorgonians), suggesting small

impact on the sea floor.

3-3-2) What will the probability, likely extent (% of habitat targeted) and intensity of the interaction between the proposed fishing gear/targeting practices on the VMEs

There are very low probability of interactions between Japanese bottom trawl fisheries and VME due to exploratory nature fishing by limited operations only in 3 years. The commercial bottom fishery in 2024 shows shorter duration of towing than previous exploratory bottom fishery by Japanese vessel (Table 1), suggesting small impact on the extent and intensity of the interaction between the fishing gear and sea floor.

3-3-3) What are the characteristics of the habitat and benthic communities which may be impacted?

There is no information collected by Japanese bottom trawl fisheries to evaluate what characteristics of habitat and benthic communities were impacted.

3-3-4) How diverse is the ecosystem in the proposed fishing areas, and will the fishing activity reduce this biodiversity?

There is no information collected by Japanese bottom trawl fisheries to evaluate diverse of the ecosystem and if reduction of fishing activity protected biodiversity.

3-3-5) What is the likely spatial scale and duration of the impacts?

Spatial scale and duration of the impacts are likely minimal because Japanese bottom trawl fishing was conducted as exploratory basis by limited operations only in 3 years. The commercial bottom fishery in 2024 shows shorter duration of towing than previous exploratory bottom fishery by Japanese vessel (Table 1).

3-3-6) Any other threats or issues: gear loss, ghost fishing, incidental bycatch discards, protected or endangered species mortalities, effects on ecosystem functioning.

Loss of bottom trawl fishing gear causing ghost fishing has been very rare because gears are expensive and the operation managers (e.g., fishing master) avoids the risk of lost fishing gear as much as possible. Thus, threats by gear loss and ghost fishing are very minor.

There is no information collected by bottom trawl fisheries to evaluate any actual threats raised by incidental bycatch discards, protected or endangered species mortalities, effects on ecosystem functioning.

4) Information on status of the deep-sea stocks to be fished

4-1) A list of the intended target and likely by-catch species

See 1-4-1) and 1-4-2).

4-2) Tables of historic catches and catch trends of these species in the intended fishing area

See table 2, 3 and 4 in 1-8).

4-3) Tables, figures of analyses of historic nominal and/or standardized CPUE trends in these species

Nominal CPUE (catch/trawling duration) of each species was shown in Table 5, 6 and 7. It is noted that fishing season/grounds and fish school forming patterns are differ among cruises, thus CPUE of trawl fisheries does not necessarily reflect actual stock status of target fishes.

For Japanese bottom trawl fisheries, there is not enough information and data to conduct standardizing CPUEs.

Table 5 Nominal CPUE (kg/trawling minutes) of Japanese exploratory bottom fishery in 1977 and 1978 within the SIOFA CA.

Species	Scientific name	1977	1978
Lizard fish	*Saurida undosquamis*	2.89	1.42
Bigeye scad	*Selar crumenophthalmus*	2.01	1.12
Scad	*Decapterus maruadsi*	2.13	5.02
Butterfly breem	*Nemipterus personii*	0.58	0.29
Porgies	*Dextex* sp.		0.87
Black cardinal fish	(*Epigonus telescopus*)		0.09

Table 6 Nominal CPUE (kg/trawling minutes) of Japanese exploratory bottom fishery in 2012 within the SIOFA CA.

Species	Scientific name	2012
Splendid alfonsino	*Beryx splendens*	1.16
Pelagic armourhead	Pentaceros richardsoni	1.91
Violet warehou	Schedophilus velaini	0.21
Bluenose warehou	*Hyperoglyphe antarctica*	0.01
Hapuku wreckfish	*Polyprion oxygeneio*s	0.12
Blackbelly rockfish	*Helicolenus dactylopterus*	0.02
Alfonsino	*Beryx decadactylus*	0.02
Silver scabbardfish	*Lepidopus caudatus*	0.00
Black cardinal fish	*Epigonus telescopus*	0.45

Table 7 Nominal CPUE (kg/trawling minutes) of Japanese commercial bottom fishery in 2024 within the SIOFA CA.

Species	Scientific name	2024
Splendid alfonsino	*Beryx splendens*	3.074
Pelagic armourhead	Pentaceros richardsoni	43.714
Violet warehou	Schedophilus velaini	0.017
Bluenose warehou	*Hyperoglyphe antarctica*	0.162
Hapuku wreckfish	*Polyprion oxygeneio*s	0.258

4-4) Results of any surveys conducted on the stocks to be fished

There are no resource surveys by Japanese bottom trawl fisheries.

4-5) Results of the most recent stock assessments that have been conducted for the stocks to be fished

For Orange roughy, the most recent stock assessment (Roa-Ureta et al. 2022) was conducted

using the Integrated stock assessment model; CASAL software (Bull et al. 2012).For alfonsino, an age structured production model fitted to catch histories and standardised CPUE time series was completed in 2020 (Brandão et al. 2020, 2021).

4-6) Any other information

There is no other specific information on status of the deep-sea stocks.

5) Monitoring, Management and Mitigation Measures

5-1) VMS positional information

Fisheries Agency of Japan verifies locations of vessels through the Vessel Monitoring System (VMS).

5-2) Details of catch and effort data collection systems

All fishing vessels for both commercial and exploratory fisheries have been collecting fisheries data for each operation including dates, locations, depth, catch/effort data and other relevant information. This information is recorded in logbooks and submitted to Fisheries Agency of Japan.

The bottom trawl fishing vessel also collects scientific data such as detail information of operations (haul-by-haul fishing effort, catch/bycatch by species) and biological information including size data.

5-3) Details of any scientific observer coverage

The SIOFA scientific observer program started in January 2017 and both trawl and bottom longline fishing vessels have collected scientific information according to Annex B of the CMM, which specifies data collection for scientific observers (currently CMM 02(2023)).

5-4) Description of the data that will be provided to the SIOFA secretariat for the fishing activity

Japan has provided the fishing log and scientific observer data according to the conservation measure for Data Standards (currently CMM 02(2023)).

References

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