

The background of the cover is a photograph of a deep-sea trawling operation. A white metal arm extends from the top right, with ropes and pulleys leading down to a trawl net. The net is partially visible, submerged in the dark blue, choppy ocean. The sky is a pale, clear blue.

DEEPWATER TRAWL

Benthic

OPERATIONAL PROCEDURES

VERSION 1.2

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PART 1: INTRODUCTION

The following Operational Procedures (OPs) stipulate the management measures for the identification, disposal and reporting of benthic organisms (benthos) incidentally captured during fishing operations. This includes protected corals as required by various regulations. These OPs are agreed by Deepwater Group Ltd (DWG) shareholders and administered by DWG.

Any references to “benthos” within these OPs refer specifically to sessile (non-mobile) organisms (e.g., corals, sponges, bryozoans) that are normally attached to the seabed and are required to be reported on catch returns. These OPs are not focussed on other invertebrates such as starfish, urchins etc. although guidance is provided on reporting these.

Disclaimer: *These OPs do not replace or override any fisheries legislation or other regulations including Health & Safety, Maritime Safety, Animal Welfare or Wildlife Acts. Vessel operators are required to ensure that both they and their crew understand all regulations that are relevant to the fisheries and environment that they are operating in, and that crew and vessel safety must always be considered.*

Background and rationale for these procedures

There is concern over the levels of impact on and the incidental capture of benthic organisms (benthos) caused by bottom trawling in particular. Many sessile species have by definition no means of escape from a trawl, low physical resilience to impacts from a trawl and for some species both rarity and slow growth rates.

Assemblages of these species create habitats for non-sessile organisms to a greater or lesser extent. New Zealand has a number of coral orders or families (groups of species) listed as **protected species** and deepwater fisheries interact with some of these. In addition, New Zealand has a responsibility to ensure sustainable management and conservation of the marine environment including the mitigation, remedy or avoidance of adverse effects on any aquatic species.

Avoiding or mitigating incidental interaction with the benthos is desirable and should be a part of the vessel operator’s and skipper’s considerations when planning fishing events.

Accurate reporting using correct codes is required to ensure that data are useful. The identification of orders, family groups or species can be difficult for reporting purposes.

Purpose of these procedures

The purpose of these OPs is to support mitigation of risks due to fishing on benthic species.

Objectives of these procedures

The objectives of these OPs are to:

- Ensure correct reporting of benthos, both protected and non-protected
- Enable avoidance or mitigation of catches of benthos

Application of these procedures

These OPs apply to all trawlers over 28 m targeting stocks represented by DWG.

Legislative framework

Key legislation that underpins the management of benthos and protected corals in New Zealand includes:

- Fisheries Act 1996 requires:
 - The maintenance of the potential of fisheries resources to meet the reasonably foreseeable needs of future generations; and the avoidance, remedy or mitigation of any adverse effects of fishing on the aquatic environment
 - All catch be accurately reported
- Wildlife Act 1953 states:
 - It is an offence to deliberately take, or attempt to take or retain all or any part of any protected species
 - Protected species captures must be accurately reported

Protected coral groups or families

Most coral species are protected under the Wildlife Act within one of the orders or family groups as indicated below. It is not possible, nor can it be expected that crew would be able to identify these corals to a species level so. It is proposed, for the avoidance of doubt, that vessels treat all and any coral or coral-like bycatch as protected and ensure they meet the straightforward requirements of the Wildlife Act as noted above.

Unless instructed otherwise by a Fisheries New Zealand Observer, all protected corals must be returned to the sea as carefully and as quickly as possible (after they have been recorded properly for reporting purposes).

Corals protected under the Wildlife Act

- Black corals – Order Antipatharia (Figure 1)
- Gorgonians – Order Gorgonacea (Figure 2)
- Stony Corals – Order Scleractinia (Figure 3)
- Hydrocorals – Family Stylasteridae (Figure 4)

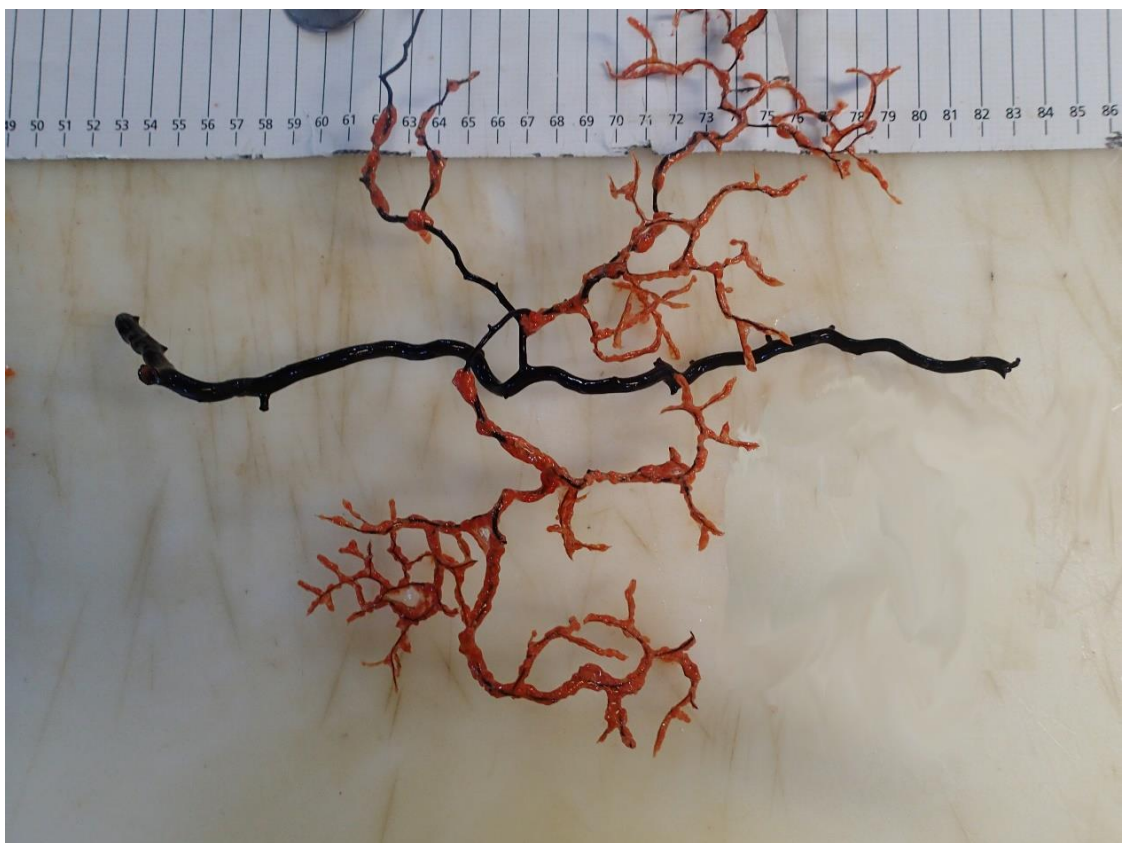


Figure 1: Black corals – Order Antipatharia



Figure 2: Gorgonians – Order Gorgonacea



Figure 3: Stony Corals – Order Scleractinia

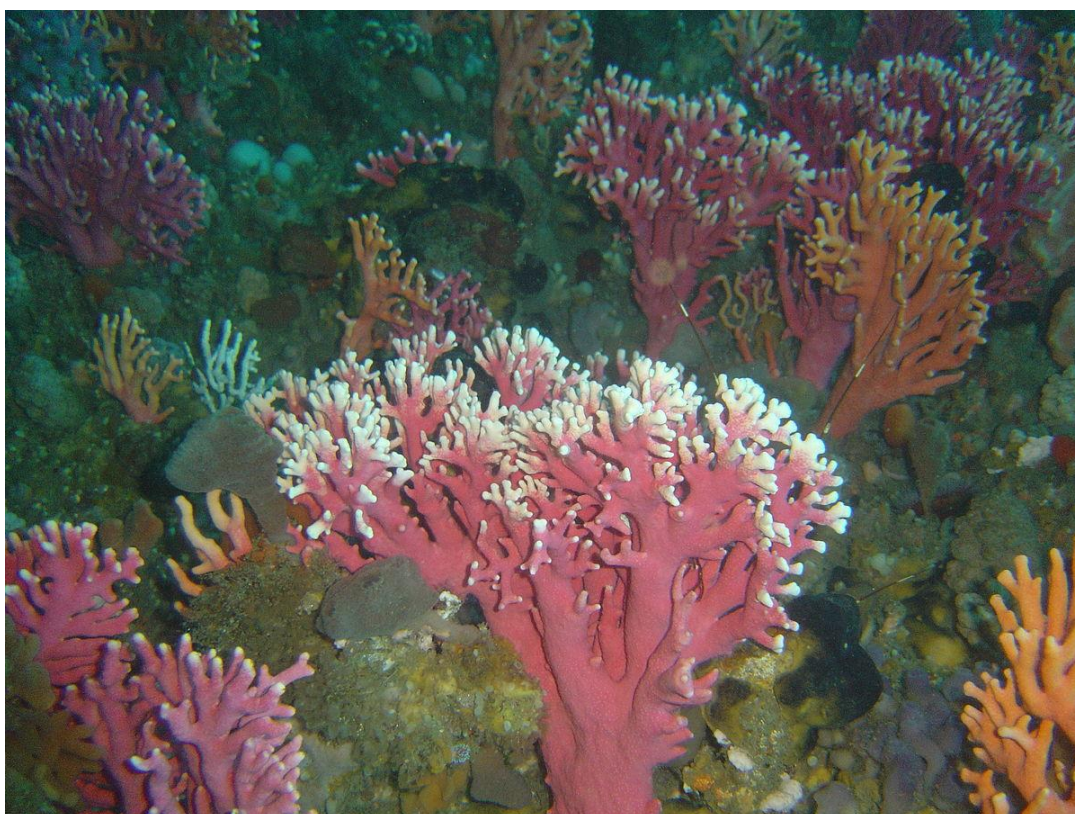


Figure 4: Hydrocorals – Family Stylasteridae

PART 2: AVOIDANCE AND RESPONSE

The following outlines how to implement these OPs and what is expected of you.

Vessels

All vessels will operate to a principle of avoidance from areas where it is known from prior experience that there may be significant catch of benthos.

This strategy includes consideration of effects of weather and tide on the vessel's operations and ability to maintain gear on targeted tow lines and not drift or be forced off into areas of significant benthos.

If a significant catch of benthos is encountered, scout the area with an echosounder, and consider how and where to undertake the next fishing event to mitigate the risk of a similar outcome.

Shore management

Will maintain oversight of any Non-fish/Protected Species Catch Return (NFPSCR) daily reports, review significant catches of benthos and make relevant operational decisions subsequently.

Responsibilities of vessel owner, operator or manager

All vessel owners, operators and managers must:

- Ensure the current OPs are on board and easily accessible
- Ensure key crew are briefed on these OPs and fully understand the actions required
- Ensure vessel has a copy of, and key crew understand latest Fisheries New Zealand Electronic Reporting System (ERS) Guidelines and Requirements
- Advise DWG of need for any Liaison Officer review, refresher or briefing of new captains or managers
- Ensure any handover to new or relief managers or captains includes a refresher on DWG OPs
- Have oversight of NFPS catch reports
- Respond to Observer audit reports via DWG.

Responsibilities of captain and crew

The vessel's captain and crew must:

- Ensure the current OPs are on board and easily accessible
- Be briefed on these OPs and fully understand the actions required
- Undertake to adhere to the requirements of these OPs
- Seek support from shore management or DWG when needed.

Steps to take when benthos capture occurs

- Ensure adequate time is taken to sort into groups (e.g., sponge, coral, bryozoans etc) See Figures 5 and 6 below for examples of sponges and bryozoans.
- Coral rubble – i.e., what was coral skeleton but is now dead should be separated for estimation (see picture Figure 7)
- Remove all non-biogenic material (i.e., items which are neither, nor ever have been alive such as rocks or sediment etc.) and return to the sea (**these do not need to be reported**)
- Ensure a crewmember is adequately prepared and trained to identify and carefully estimate the weight of each category (i.e., coral, sponge, bryozoans) to be reported, noting that fractions of a kilogram can and should be used for reporting quantities less than 1 kg. For fractions above 1 kg, reports can be rounded down to the nearest whole kilogram.
- **If a significant catch of benthos is encountered, consider how and where to undertake the next fishing event to mitigate the risk of a similar outcome.**

PART 3: REPORTING

Identification and reporting of benthic bycatch

Fisheries New Zealand mandatory reporting requirements

It is not illegal to accidentally capture protected species, but it is illegal to fail to report the capture. It is mandatory to report other Non-Fish catch as well.

Quote from Fisheries New Zealand Reporting Guidelines:

“It is important to note that only three types of benthic (bottom-dwelling) organisms are required to be reported on NFPS reports: corals, sponges and bryozoans. Any other types that are captured should be reported on Disposal reports. Fisheries New Zealand does not require recording of non-biogenic material such as rocks, wood or rubbish. However, we encourage the recording of unusual incidents via the “notes” field of Fish catch or Disposal reports.”

Report all captures as legally required in your ERS using the correct codes. Fisheries New Zealand provides guidance and information here: [Fisheries New Zealand Reporting Requirements and Guidelines¹](#) and vessel crews and managers should be aware of updates and ensure the latest information is available and understood.

- Report using correct codes (Table 1) in ERS - **AVOID** the use of the generic benthos code CSB as this may lead to overestimation or perception of actually protected coral catch.
- Only if unable to separate by group should you use the generic code CSB.
- Make use of the Notes section to report if coral rubble (dead coral calcified skeleton - see Figure 7 below) as opposed to live coral (or estimate proportions if both are captured in the same event).
- Note that fractions of a kilogram can and should be used for reporting quantities less than 1 kg. For fractions above 1 kg, reports can be rounded down to the nearest whole kilogram.
- Note vessels operating under SPRFMO High Seas Permits will have additional reporting requirements and will need to be aware of these (see link¹ or your High Seas Permit).

¹ <https://www.mpi.govt.nz/fishing-aquaculture/commercial-fishing/fisheries-change-programme/electronic-catch-and-position-reporting/>

Table 1: Primary important Fisheries New Zealand sessile benthic organisms NFPSCR reporting codes including protected coral orders and families. Note the catch-all code CSB is not recommended as it leads to lumping of protected and non-protected species under a single entry and bycatch weight.

GENERIC NAME	REPORTING CODE
Corals: Black corals – Order Antipatharia Gorgonians – Order Gorgonacea Stony Corals – Order Scleractinia Hydrocorals – Family Stylasteridae	COU
Sponges (Porifera)	ONG
Bryozoans	COZ
Mixed (coral, sponge, bryozoans)	CSB

Table 2: Some other invertebrate codes for generic groups which may be encountered and reported in Disposals

GENERIC NAME	REPORTING CODE
Starfish	SFI
Brittle or basket stars	OPH
Armless stars	BRG
Sea cucumber (other than QMS)	HTH
Urchin (non-QMS)	URO
Anemones	ANT
Sea pens	SPN



Figure 5: Sponge



Figure 6: Bryozoan



Figure 7: Coral rubble

APPENDIX 1: ORH FISHERY SPECIFIC BENTHIC MEASURES

Minimising catches of live corals in three ORH fisheries

Quota owners have agreed to implement further operational measures to minimise catches of live corals within the four orange roughy fisheries for MSC Certification purposes (see Figure 8) are:

- ORH 3B East and South Chatham Rise (ORH 3B ESCR)
- ORH 3B Northwest Chatham Rise (ORH 3B NWCR)
- ORH 7A Quota Management Area (ORH 7A QMA)

Please note: ORH 7A Westpac Bank (ORH 7A WB) is excluded from these ORH specific MPSA strategy measures within our EEZ. Any measures relating to the impact of fishing on benthic biodiversity in Westpac Bank is managed by SPRFMO, not DWG.

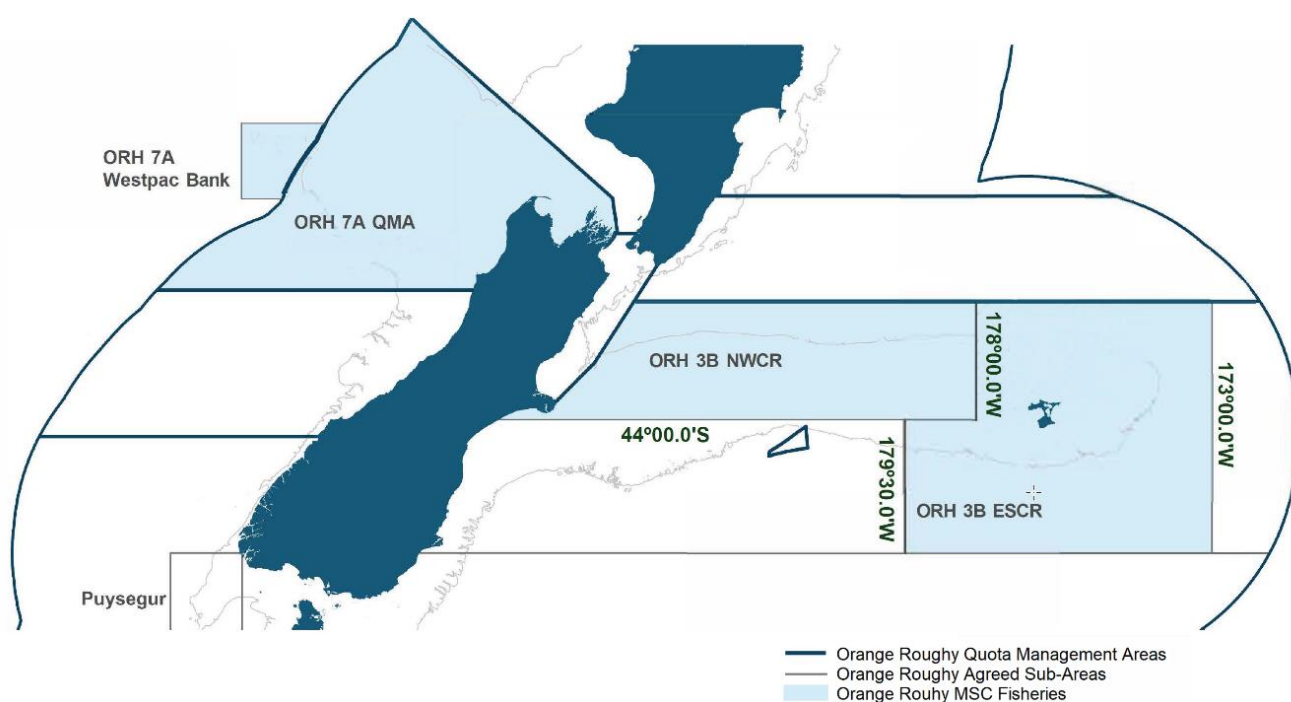


Figure 8: ORH fisheries currently being re-assessed for MSC certification

Meeting MSC requirements for ORH

The MSC Standards require us to:

- Identify Vulnerable Marine Ecosystems (VMEs) within each of these 3 ORH fisheries
- Demonstrate that each fishery is highly unlikely to reduce the structure and function of these VME habitats to a point where there would be serious or irreversible harm
- Have management measures in place to deliver the above requirements

DWG has established the following terminologies and criteria to manage our interactions with “VME” taxa, namely:

- **Benthic Management Areas (BMAs):** These are areas that contain extensive aggregations or communities of epi-benthic organisms to the extent that they conform to BMA criteria:
- **A management framework summarised as MPSA (Monitor, Pause, Survey and Assess):** This strategy outlines the process by which BMAs are identified, surveyed, assessed and managed, as might be necessary.

The MPSA management framework

The MPSA (Monitor, Pause, Survey and Assess) management framework, is based on a specific set of operational procedures that can be readily implemented using current information and infrastructures.

The MPSA procedure has the following four stages.

1. **Monitor:** Routine reporting of non-fish bycatch by observers and industry:
 - 1.1 Key crew members will be trained to identify key epi-benthic species, differentiate between live and dead coral, and improve the use of reporting codes
 - 1.2 Trigger point reporting to DWG if designated BMA indicator taxa reach the trigger-point threshold [$\geq 50\text{kg}$]
 - 1.3 Annual review of tows along each towline to assess if catches of designated BMA indicator taxa reach the trigger-point threshold [$\geq 50\text{kg}$]
2. **Pause:** Fishing on a towline is paused:
 - 2.1 When a trigger point is met in a single tow, or
 - 2.2 At the end of each year when the accumulated catch for any towline is assessed to have reached the trigger-point threshold.

DWG will notify the fleet when a trigger point is reported or a threshold is reached, with the coordinates of the towline (start and end positions) and a request that fishing ceases until the area can be surveyed.
3. **Survey:** Each ‘paused’ towline and the area adjacent to this will be prioritised for a benthic biodiversity survey.
4. **Assess:** Survey results will be assessed to determine any BMA characteristics (the nature and extent of any benthic biota potentially vulnerable to damage by bottom trawls) in the vicinity of the paused towline. These will be used to inform appropriate management measures (e.g., re-opening of the towline, or determination of the level of protection including designation as a BMA, should the area conform with the definition of a BMA).

What you are required to do

In addition to the above monitoring and reporting requirements, which apply to all deepwater fisheries, if you are fishing within any of these three ORH areas AND you catch orange roughy you are required to:

- Ensure that you have onboard an observer or some other designated person who is trained in identifying live coral, dead coral and the coral taxa,
- Report all captures as legally required in your ERS using the correct codes (as above),
- Make use of the Notes section to report coral rubble (dead coral calcified skeleton - see Figure 7) as opposed to live coral (or estimate proportions if both are captured in the same event).
- Notify DWG if your catch of live coral in any single tow is estimated to exceed the agreed trigger point of ≥ 50 kg along with the start and finish coordinates of that tow.
- DWG will notify all vessel operators of any tows that are 'paused' due to the trigger point being reached,
- If notified, do not fish along this tow line again until after this area has been surveyed and assessed and the towline has been opened.