

Bottom Trawling: International Commitments

SIOFA Scientific Committee
17 July 2020

DSCC

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World Ocean Assessment Chapter 51

- The documented widespread extent of deep-water trawl fisheries has led to pervasive concern for the conservation of fragile benthic habitats.
- We can extrapolate that fishing, and in particular deep-water trawling, has caused severe, widespread, long-term destruction of these environments globally.
- The time scale for recovery of deep-water reef habitats is unknown but has been estimated to be in the order of centuries to millennia.
- Deep-sea ecosystems associated with seamounts, ridges, and other topographic features are now and will increasingly be subjected to multiple stressors from habitat disturbance, pollutants, climate change, acidification and deoxygenation...
- The widespread destruction of deep-water benthic communities due to trawling has presumably reduced their ecological and evolutionary resilience as a result of reduced reproductive potential and loss of genetic diversity and ecological connectivity. The synergistic influence of these factors is unknown at present.
- Although it is heartening that some seamounts, ridges and other sensitive marine habitats are being protected by **fishing closures**...little scientific understanding of the efficacy of actions implemented to date and few studies to assess this exist. The connectivity between these habitats remains largely unknown, as are the factors that influence colonization, species succession, resilience and variability."



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UN GA Resolution 61/105

**83: Calls upon regional fisheries management organizations
or arrangements with the competence to regulate
bottom fisheries to
adopt and implement measures
in accordance with the precautionary approach,
ecosystem approaches and international law...
not later than December 31st 2008**

UN GA Resolution 61/105

adopt and implement measures:

- a) Conduct **impact assessments** of individual bottom fishing activities and establish measures to prevent significant adverse impacts or else prohibit (not authorize to proceed) high seas bottom fishing
- b) ensure the long-term sustainability of **deep-sea fish** stocks

UN GA Resolution 61/105

adopt and implement measures:

- c) Close areas where vulnerable marine ecosystems (VMEs) are **known or likely to occur** unless measures are in place to prevent significant adverse impacts
- d) establish a **'move-on'** rule to ensure that bottom fishing vessels move out of an area where 'accidental' encounters with VMEs occur

UNGA resolution [64/72](#) (2009)

119 (c) Establish and implement appropriate protocols for the implementation of paragraph 83 (d) of its [resolution 61/105](#), including **definitions of what constitutes evidence of an encounter with a vulnerable marine ecosystem**, in particular threshold levels and indicator species, based on the best available scientific information and consistent with the Guidelines, and taking into account any other conservation and management measures to prevent significant adverse impacts on vulnerable marine ecosystems, including those based on the results of assessments carried out pursuant to paragraph 83 (a) of its resolution 61/105 and paragraph 119 (a) of the present resolution;

UNGA resolution [72/72](#) (2017)

Called upon RFMOs etc

184.(a) To use, as applicable, the full set of criteria in the Guidelines to identify where vulnerable marine ecosystems occur or are likely to occur as well as for assessing significant adverse impacts;

(b) To ensure that impact assessments, including for cumulative impacts of activities covered by the assessment, are conducted consistent with the Guidelines, particularly paragraph 47 thereof, are reviewed periodically and are revised thereafter whenever a substantial change in the fishery has occurred or there is relevant new information, and that, where such impact assessments have not been undertaken, they are carried out as a priority before authorizing bottom fishing activities;

(c) To ensure that conservation and management measures adopted by States and regional fisheries organizations and arrangements are based on and updated on the basis of the best available scientific information, **noting in particular the need to improve effective implementation of thresholds and move-on rules;**

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UNGA resolution 64/72 (2009)

para 120

“Calls upon flag States, members of regional fisheries management organizations or arrangements with the competence to regulate bottom fisheries and States participating in negotiations to establish such organizations or arrangements to adopt and implement measures in accordance with paragraphs 83, 85 and 86 of its resolution 61/105, paragraph 119 of the present resolution, and international law, and consistent with the Guidelines, and not to authorize bottom fishing activities until such measures have been adopted and implemented;

FAO Deep Sea Guidelines

66. In areas where VMEs have been designated, or are known or likely to occur, based on seabed surveys and mapping or other best available information, States and RFMO/As should close such areas to DSFs until appropriate conservation and management measures have been established to prevent significant adverse impacts on VMEs and ensure long-term conservation and sustainable use of deep-sea fish stocks, in accordance with paragraphs 42 to 53.

67. States and RFMO/As should have an appropriate protocol identified in advance for how fishing vessels in DSFs should respond to encounters in the course of fishing operations with a VME, including defining what constitutes evidence of an encounter. Such protocol should ensure that States require vessels flying their flag to cease DSFs fishing activities at the site and report the encounter, including the location and any available information on the type of ecosystem encountered, to the relevant RFMO/A and flag State.

68. In designing such protocols and defining what constitutes an encounter, States and RFMO/As should take into account best available information from detailed seabed surveys and mapping, other relevant information available for the site or area, and other conservation and management measures that have been adopted to protect VMEs pursuant to paragraphs 70 and 71.

The Importance of Deep-Sea Sponges

- Sponge water filtration and organic carbon consumption estimated at twice the value of the deep-sea fisheries (1)
- Sponges also play a critical role in the silica cycling of the deep ocean(2), and their role in carbon sequestration is significant.
- Sponges provide structure for a range of benthic species and their spicule mats create structure in soft sediment ecosystems.
- EU [SponGES](#) project – including 6 FAO [fact sheets](#)

References

(1) C.K. Pham *et al*, Removal of deep-sea sponges by bottom trawling in the Flemish Cap area: conservation, ecology and economic assessment. Scientific Reports volume 9, Article number: 15843 (2019)

(2) M. Maldonado *et al*, Sponge skeletons as an important sink of silicon in the global ocean Nature Geoscience volume 12, pages 815–822 (2019)

(3) Lene Buhl-Mortensen *et al*. Biological structures as a source of habitat heterogeneity and biodiversity on the deep ocean margins. Marine Ecology (2010)

Conclusions

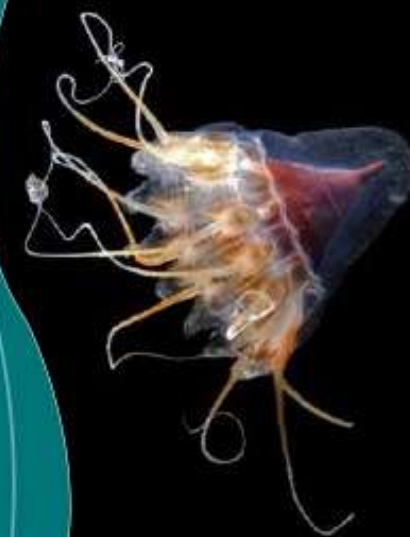
- Obligations set out by UNGA to identify and protect VMEs. Fishing not to take place until they have been implemented. So this needs be accorded similar priority as interests in fishing.
- The thresholds need to be at level that protects the species rather than protecting fishing.
- SIOFA has accepted many of the CCAMLR indicator species. If we accept these in light of the data limitations, and that would be the precautionary approach, we should not arbitrarily change the thresholds, for instance for sponges.
- Sponges: included in FAO DS Guidelines Annex as sensitive, vulnerable

Closures: How other RFMOs have responded

RFMO/RSO	Comments	% closed/ provisionally closed*
NAFO	Last remaining seamount trawl fishery (alfonsino) closed in 2019	100%
NEAFC	Only remaining seamount fishery is for orange roughy - NEAFC SC (ICES) has recommended closure of fishery	>90%
SEAFO	No bottom trawl fishing currently taking place in RA	App. 75%
NPFC	Bottom trawling confined to a portion of the NW Hawaiian Ridge and Emperor Seamount Chain in NW Pacific	App 88%
CCAMLR	Bottom trawling prohibited	100%
SPRFMO	According to NZ submission to 2019 SPRFMO, over 70% of areas where VMEs are likely to occur in SW Pacific & Tasman Sea are outside existing/permissible bottom trawl fishing areas (COMM 7 – Prop 03.1 Table 2)	70-85%
SIOFA	SIOFA has not yet designated footprint/existing fishing areas	3% ? (for 5 areas)

Source: preliminary analysis from upcoming (draft) DSCC review of the implementation of UNGA resolutions 61/105, 64/72, 66/68, 71/123. DSCC 2020

* percentages apply to seamounts & ridge systems where the peaks reside within fishable depths



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