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JOINT ICES/EBCD/IUCN/CEM FEG WORKSHOP ON ASSESSING MANAGEMENT EFFECTIVENESS OF OTHER EFFECTIVE AREA-BASED CONSERVATION MEASURES (OECMS) IN MARINE CAPTURE FISHERIES (WKAMO)

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ICES International Council for the Exploration of the Sea
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i Executive summary

Other effective area-based conservation measures (OECMs) are a key component of the Convention on Biological Diversity (CBD) Kunming-Montreal Global Biodiversity Framework Target 3 on spatial conservation. Experiences in the identification of OECMs in the context of marine capture fisheries has been expanding, with the first set of fisheries OECMs in areas beyond national jurisdiction being reported in 2025 by the North-East Atlantic Fisheries Commission (NEAFC) and the Northwest Atlantic Fisheries Organization (NAFO) following robust scientific assessments. Experiences show that harmonized guidance to continually assess the effectiveness of fisheries conservation and management measures in providing marine biodiversity benefits would be beneficial to competent authorities.

In this context, a Joint ICES/EBCD/IUCN/CEM-FEG Workshop on Assessing Management Effectiveness of Other Effective Area-based Conservation measures (OECMs) in marine capture fisheries (WKAMO) was held at ICES Headquarters, 5-7 May 2026, chaired by Francis Neat (SE, WMU/IMO/UN) and Daniela Diz (UK, IUCN-CEM-FEG). Participants brought a range of relevant expertise and included regional fisheries management organisations (RFMOs) secretariats and scientists, government experts, academic experts, and non-governmental organisations (NGOs) with experience in science, management and policy. This workshop builds on work done in 2021 at the ICES/ IUCN-CEM FEG Workshop on Testing OECM Practices and Strategies (WKTOPS).

WKAMO concluded that ongoing effectiveness can be characterized as multi-dimensional and context-dependent and a function of both ecological and socio-economic factors. Ongoing management effectiveness will be dependent on clear links between management measures and observed or reasonably expected positive outcomes. This requires clear objectives, indicators, and baselines derived from multidisciplinary direct or indirect evidence (scientific data, expert opinion, local and indigenous knowledge). Ideally, evidence of the causal relationship between measures taken and outcomes would also be demonstrated, whenever possible. Effectiveness is dynamic over time and space and is influenced by environmental variability and external pressures.

Ongoing effectiveness may need to be appraised at different scales, for instance, at site level, in relation to the fishery, in relation to the conserved area network, the country, or the region. The outcomes may be obtained and measured inside the OECM, but also outside if there is significant movement of the biodiversity elements of concern. It is of importance that net benefits are considered (i.e., the biodiversity benefits arising from the management that would not otherwise be gained (if no management measure had been in place). Beyond measuring outcomes in the OECMs before and after their recognition, this may warrant considering also effects inside and outside OECMs. Several factors can be expected to influence management effectiveness, including site characteristics (size, location, connectivity and biodiversity traits e.g., resilience, recovery time), governance quality, stakeholder equity, and enforcement capacity. Finally, the socioeconomic conditions and incentives to conserve biodiversity will also be relevant. All this should be captured and reported to strengthen the recognition and performance assessment of the OECM.

In view of the above, WKAMO developed a template based on the framework provided by WKTOPS and those criteria defined in Annex III (B) and (C) of the CBD COP decision 14/8 that are deemed relevant to reporting on the OECM management effectiveness. The template offers guidance on how States or competent authorities may record and report on OECM management effectiveness in a standardized but somewhat flexible way.

ii Expert group information

Expert group name	Joint ICES/EBCD/IUCN/CEM FEG Workshop on Assessing Management Effectiveness of Other Effective area-based Conservation measures (OECMs) in marine capture fisheries (WKAMO)
Expert group cycle	workshop
Year cycle started	2026
Reporting year in cycle	1/1
Chairs	Daniela Diz (UK, IUCN-CEM-FEG)
	Francis Neat (SE, WMU/IMO/UN)
Meeting venue and dates	5-7 May 2026; ICES HQ, Copenhagen, Denmark (26 participants)

1 Background

Other Effective Area Based Conservation Measures (OECMs) are a key element of the Convention on Biological Diversity's (CBD) **Kunming–Montreal Global Biodiversity Framework** (CBD, 2024), particularly Target 3 ("30 by 30"), which recognizes both Protected Areas and OECMs as complementary tools for area-based conservation. The CBD defines an OECM as:

'A geographically defined area other than a Protected Area, which is governed and managed in ways that achieve positive and sustained long-term outcomes for the in situ conservation of biodiversity, with associated ecosystem functions and services and where applicable, cultural, spiritual, socio-economic, and other locally relevant values' (CBD, 2018: Decision 14/8, §2).

This definition contains the key properties of the area regarding (i) the geographical definition, (ii) legal status, (iii) governance and management, and (iv) achievements, accounting for other locally relevant values (e.g., of a socioeconomic or cultural nature). The OECMs need not have biodiversity conservation as a primary objective, as long as they are governed and managed in ways that achieve positive and sustained long-term *in situ* biodiversity conservation outcomes. However, a careful process of selection and evaluation of OECMs is required to ensure consistency in reporting and ensuring submissions of robust OECMs that meet the CBD criteria, which set the bar high. This is necessary to avoid the use of superficial area-based management measures without a robust identification process as an easy way to reach the 30x30 target. Simply relabelling existing area-based fisheries management measures as OECMs without the documentation of appropriate evidence, and that do not sufficiently contribute to sustained and long-term in situ biodiversity conservation, will defeat the purpose of the target. That said, the identification and reporting of OECMs must have some degree of flexibility that acknowledges that the level of knowledge and capacity to collect data will differ markedly in different regions and countries and that this should not be an impediment to the process. Building on the work done by WKTOPS (ICES, 2021) and by FAO (FAO, 2022), further clarification on how to evaluate management effectiveness was identified by practitioners in applying the guidelines to area-based fisheries management.

There are several key points made in the CBD OECM framework. There should be flexibility in governance arrangements, including multi-authority and multi-sectoral governance There is a need to assess and account for threats from multiple sectors and consider impacts from them on biodiversity both within and beyond the OECM. There is a requirement that management delivers, or is reasonably expected to deliver, positive and sustained biodiversity outcomes in the long term. Management of the OECM is expected to be adaptive and ecosystem based, not only protecting particular fish species, but also safeguarding habitats such as seagrass beds or reefs, maintaining water quality, and ecosystem function. For an OECM to maintain CBD legitimacy and hence be accounted for in international conservation coverage targets, it is expected to continue to meet the definition and identification criteria adopted in Decision 14/8 regarding the biodiversity benefits and ecosystem properties in the long term. Hence, it is important that conservation outcomes are supported by best available evidence, and therefore, ideally, that adequate monitoring and evaluation frameworks are built into the design of area-based conservation and management measures. Monitoring is the primary tool for managers to determine overall management effectiveness. Information for monitoring is derived from multiple knowledge bases, including scientific, regulatory and organizational, industry, and local and Indigenous communities. Furthermore, credible compliance with relevant monitoring, control and surveillance (MCS) processes can also serve as a source of evidence of effectiveness of the OECM.

There are many different area-based management measures that may fit the criteria of an OECM. In the specific context of fisheries, Garcia *et al.* (2025) proposed a characterization of a fishery OECM –based on the CBD general definition-as:

"a geographically defined area other than a Protected Area, which is governed and managed by a mandated fisheries authority in ways that achieve positive and sustained long-term outcomes for the in situ conservation of biodiversity, with associated ecosystem functions and services and where applicable, cultural, spiritual, socioeconomic and other locally relevant values, along with any intended fishery outcomes."

To ensure effectiveness, where possible, fisheries OECMs should be monitored to systematically collect data and generate scientific and other sources of knowledge regarding the fisheries, the natural resources they use, the status of oceanographic and ecosystem drivers that could affect those natural resources, the impact of the fisheries on target species, their compliance with management measures and the outcomes of the actual management of the fishery. Scientific knowledge can be supported with local ecological knowledge and other empirical sources of information, including those considered "unconventional", with a view to expand the wealth of available information around some areas. For monitoring to be robust, it requires multidisciplinary competence because the outcomes will be biodiversity and socioeconomic-related. Scientific surveys, expert opinions, and local and traditional knowledge may be used (Agardy *et al.*, 2025)

A critical concept is that OECMs should evidence outcomes that are either demonstrated, or reasonably expected, allowing use of proxies, particularly in data-poor environments (Agardy *et al.*, 2025). The biodiversity benefits, particularly in remote, spatially dynamic or deep-sea ecosystems, may be inferred by proxies. For example, there is extensive published scientific evidence for the relationship between certain seafloor geomorphological features (e.g., seamounts, banks, ridges, steep slopes) and the occurrence of Vulnerable Marine Ecosystems (VMEs). Therefore, there is a higher likelihood that such features for which no information exists will also contain VMEs. Habitat suitability modelling can quantify the likelihood of species presence using environmental predictors and can be used to support the occurrence of VMEs. Scientifically validated studies are, of course, to be encouraged, but should not be considered essential to demonstrating biodiversity benefits. References to well-studied similar areas in comparable situations may provide sufficient evidence (Agardy *et al.*, 2026). It may be sufficient to know simply that there is good governance, management and compliance to be confident there is a high likelihood of the biodiversity feature has been conserved. Notwithstanding, when available, all opportunities to generate direct evidence should be used.

The identification and recognition of fisheries OECMs should be a participatory process with appropriate consultation and consent of all relevant rights and stakeholders. It should be noted that in some cases consultation has occurred earlier when a measure was established rather than when the identification of benefits as an OECM has been reported. Full transparency is encouraged at all stages, and any data from monitoring and assessments should be made publicly available in an accessible format. The WCMC database offers a platform for hosting such information but information may reside in national information systems. Clear public availability of all information pertinent to the OECM would strengthen the OECM recognition.

Aim, Scope and Focus of WKAMO

The main aim of WKAMO was to move beyond how to identify OECMs towards assessing ongoing management effectiveness and developing a means to report it. The scope of WKAMO was somewhat dependent upon the fisheries case studies submitted for review. These happened to be mainly large, offshore commercial fisheries under national or RFMO regulation. Although efforts were made to be generalizable to all types of area-based management in fisheries, the scope of the report is inevitable focused in this respect and may not capture all nuances of all fisheries, globally.

WKAMO worked from the premise that OECMs will only be CBD consistent if it can be demonstrated that they are effective and meet the OECM criteria, i.e., providing the expected biodiversity benefits and meeting the governance and other contextual standards (Garcia *et al.* 2025). Management effectiveness must be assessed through an integrated framework of linking design, governance, implementation and outcomes. Biodiversity outcomes are central and may be demonstrated through both empirical data and reasonable expectations (Agardy *et al.*, 2025). While robust, evidence-based approaches are essential to ensure credibility, it should also be recognized that developing states lack the resources of other regions to achieve this and therefore proxy-based and precautionary approaches may also be considered. OECMs should be understood as dynamic systems that require periodic reassessment and adaptation. As cross-sectoral pressures are a critical determinant of effectiveness, they must be explicitly considered and addressed. External pressures from activities outside the management remit (e.g. other sectors), can undermine the potential gains for biodiversity, even where fisheries management is strong.

Management effectiveness can be broken down into four main elements:

1. The aims and objectives of the management plan for the OECM, for example, how clear the objectives are, what the reference values are, the time scale of the measures and whether there are specific provisions for the protection of biodiversity.
2. The governance of the OECM in terms of the organisation, processes, transparency, inclusivity (rights and stakeholders) and integration into society. This will require dedicated institutions and policy frameworks that maintain management capacity and integrate with other actors to ensure social cohesion and local empowerment.
3. The implementation of the management plan in terms of monitoring, control and surveillance, and the means of assessing the status of the biodiversity attributes.
4. The actual outcomes for *in situ* biodiversity at the species, population, habitat and ecosystem level.

Ongoing effectiveness can be characterized as multi-dimensional and context-dependent and a function of both ecological and socio-economic factors. Ongoing management effectiveness will be dependent on clear links between management measures and observed or reasonably expected positive outcomes. This requires clear objectives, indicators, and baselines derived from multidisciplinary direct or indirect evidence (scientific data, expert opinion, local and indigenous knowledge). Ideally, evidence of the causal relationship between measures taken and outcomes would also be demonstrated, whenever possible. Effectiveness is dynamic over time and space and is influenced by environmental variability and external pressures.

Ongoing effectiveness may need to be appraised at different scales, for instance, at site level, in relation to the fishery, in relation to the conserved area network, the country, or the region. The outcomes may be obtained and measured inside the OECM, but also outside if there is significant movement of the biodiversity elements of concern. It is of importance that net benefits are considered (i.e., the biodiversity benefits arising from the management that would not otherwise be gained (if no management measure had been in place). Beyond measuring outcomes in the OECMs before and after their recognition, this may warrant considering also effects inside and

outside OECMs. Several factors can be expected to influence management effectiveness, including site characteristics (size, location, connectivity and biodiversity traits e.g., resilience, recovery time), governance quality, stakeholder equity, and enforcement capacity. Finally, the socioeconomic conditions and incentives to conserve biodiversity will also be relevant. All this should to be captured and reported to strengthen the recognition and performance assessment of the OECM.

The World Database on Other Effective area-based Conservation Measures (WD-OECMs) managed by the UN Environment Programme World Conservation Monitoring Centre (UNEP-WCMC) provides a platform for openly reporting on management effectiveness for OECMs. However, no harmonized guidance on how to report on the ongoing effectiveness of the OECM is available in decision 14/8 or through UNEP-WCMC, including with respect to monitoring of governance and management systems that contribute to the sustained long-term biodiversity benefits. It was this gap that WKAMO seeks to fill. **The workshop aimed to review how fisheries OECMs have reported their management effectiveness and to provide a means of harmonization.** To this end, WKAMO was tasked with developing a ready-to-use generic template specifically tailored to fisheries OECMs to help Parties and competent authorities report on ongoing management effectiveness of their OECMs to the CBD.

As part of the process for organizing WKAMO, a call for nominations of marine fisheries case studies to evaluate OECMs for examples of effectiveness was made. For each case study WKAMO sought to document how management effectiveness has been approached in relation to the conservation objectives, targets and reference values, the performance of the management measure and the extent of biodiversity benefits generated.

2 Case studies of existing and potential Other Effective Area-based Conservation Measures presented at WKAMO

ToR (a) Describe and review the key attributes of a subset of Other Effective Area-Based Conservation Measures (OECMs) already identified, and examples known to be in the process of identification by fisheries bodies, in accordance with CBD decision 14/8 (2018), which, inter alia, defines and establishes criteria for the identification of OECMs. These fisheries OECMs will be both i) for purposes other than in situ conservation of biodiversity, and/or ii) in cases where in situ conservation of biodiversity is recognized as a management objective.

Two case studies, both in ABNJ, were offered from the NEAFC and NAFO regions of the North Atlantic that have already been submitted as OECMs to the CBD Secretariat and the UNEP-WCMC WD-OECMs. A further two examples (not yet proposed or submitted to the CBD or to UNEP-WCMC) within EEZ and in ABNJ were discussed to illustrate how management effectiveness could be meaningfully assessed in different contexts. These were in Svalbard, Norway; and the Pacific Community (SPC). WKAMO also considered the Mediterranean region where the GFCM is in the process of evaluating area-based fisheries management measures and whether they can be classified as OECMs.

2.1 Existing OECMs (submitted to CBD and the WD-OECM)

Northeast Atlantic (NEAFC)

Protection of Vulnerable Marine Ecosystems (VMEs)

The North-East Atlantic Fisheries Commission (NEAFC) is the RFMO that regulates bottom fisheries and non-tuna pelagic fisheries in the in the high seas of the northeast Atlantic. In the early 2000s, NEAFC began to develop measures addressing the effects of bottom fisheries on other components of the marine ecosystem, in particular to prevent significant adverse impacts on VMEs from bottom fishing gears. The basis of the approach was scientific advice from the International Council for the Exploration of the Sea (ICES) to NEAFC on probable and actual locations of VMEs. From 2005 to 2014, the stated purpose of the NEAFC bottom closures to protect benthic habitats was the protection of VMEs. Depending on the wording in the regulation, the closures applied to either: (1) bottom trawling and fishing with static gear, including bottom gillnets and longlines, or (2) fishing with gear that is likely to contact the seafloor during the normal course of fishing operations. The current measure (Recommendation 19:2014) uses the latter definition, referring to them as "bottom fishing activities". NEAFC, with the advice of ICES, has regularly reviewed the boundaries of its closed areas and has modified them as appropriate to protect newly identified VMEs. The first set of closures in 2005 were precautionary, with very little biological information available to support the decision. Indeed, some of the closures were not based on the identification of VMEs but rather on the likelihood of VMEs being in a specific area (e.g., the Altair and Anti Altair seamounts on the Mid-Atlantic Ridge (MAR)). Since then, further information has been collected by Contracting Parties, mainly through surveys, and provided to ICES for evaluation. The ICES working group on deepwater ecology (WGDEC) reviews this

information annually, and ICES provides advice to NEAFC. WGDEC maintains a central portal for data on the distribution and abundance of VMEs across the North Atlantic and contains observations of VME indicators and habitats.

Area closures have been seen as a primary tool to protect VMEs, but also as an integrated element of a more comprehensive approach. This approach includes: 1) defining 'existing' bottom fishing areas (i.e., areas that have been relatively recently fished (during a reference period) and where fisheries could continue relatively unrestricted), and 2) ensuring that bottom fishing outside these areas (i.e., in 'restricted' bottom fishing areas) are only exploratory fisheries subject to various restrictive conditions. These conditions now include a pre-assessment of any newly proposed activities. Exploratory bottom fisheries can commence only after having been assessed by the Permanent Committee on Management and Science (PECMAS) and approved by the Commission. NEAFC has now closed the areas where it has concluded, based on the best available scientific information, that VMEs occur or are likely to occur. No bottom fisheries should therefore be taking place in the Regulatory Area that will result in significant adverse impacts on VMEs. Furthermore, the provisions on 'restricted' bottom fishing areas ensure that bottom fisheries only expand into previously unfished areas on the basis of exploratory fisheries that are subject to various conditions, including pre-assessments, and that can only commence after having been assessed by PECMAS and approved by the Commission. NEAFC continues to develop its management in this context and has a recurring request for scientific advice from ICES regarding any new information on the occurrence of VMEs in the Regulatory Area.

OECMs

NEAFC Parties set up a working group on OECMs in 2021 to explore which management measures applied by the Commission could potentially be identified as OECMs. The identification process used an OECM template based on CBD OECM criteria developed during a 2021 ICES/ IUCNCEM FEG Workshop on Testing OECM Practices and Strategies (WKTOPS); (see ICES report on Testing OECM Practices and Strategies).

The NEAFC OECM working group identified NEAFC's VME closures as the best fit to the OECM criteria. It noted that the VME closures were practical and enforced measures, some of which have been in place since 2004, purely with the conservation objective to protect biodiversity from fisheries impacts, the biodiversity in question being VME. ICES also provided advice to NEAFC regarding the identification of the OECM, including whether the CBD OECM biodiversity attributes existed within the closures and whether long-term protection was in place. This advice is available at: ICES advice to NEAFC on OECM closed areas 2023. On the basis of this information, the NEAFC Contracting Parties agreed to identify and report to the CBD the NEAFC VME closed areas as an OECM. This made NEAFC the first RFMO to report to the CBD the identification of an OECM in areas beyond national jurisdiction.

Further detail on the OECM location, geographic and biological context, anthropogenic pressures, NEAFC competence, VME measures, and biodiversity attributes and long-term outcomes are set out in the Template for Scientific and Other Information to Evaluate NEAFC VME Closed Areas. All details of the OECM and its related documents and shapefiles can be also found in the UNEP-WCMC WD-OECM at https://www.protectedplanet.net/555790284.

The NEAFC OECM based on the areas closed to bottom fishing to protect VME add up to approximately 7% of the areas beyond national jurisdiction (ABNJ) in the North-East Atlantic (see map below). These areas are however largely overlapped by OSPAR MPA designations. According to the CBD criteria OECM and MPA cannot overlap, this is to avoid double counting for the purpose of area coverage targets under the CBD. This means that the NEAFC OECM identified from the closed areas, appears much smaller than the VME measure itself. Thus, while the

OECM areas (red hatched in the map below) may appear somewhat disjointed, they are in fact part of larger VME closures which are hidden where they coincide with OSPAR MPAs (in pink in Figure 2.1.1 below). This is because the CBD criteria only allow for assessment of the area covered by measures in two dimensions, however, management of ocean activities, including fisheries, also considers their depth. So, when assessing the biodiversity benefits of measures used by relevant sectors, the third dimension, that is, the depth to which they are applied, is also relevant. In the case of the NEAFC measures reported as OECMS and OSPAR MPAs, there are differences in where they apply across this 3-dimensional space. Nevertheless, NEAFC and OSPAR Contracting Parties see this overlap of the two organisations' measures as a strength of 3-dimensional protection of the marine environment in these areas (see the joint narrative).

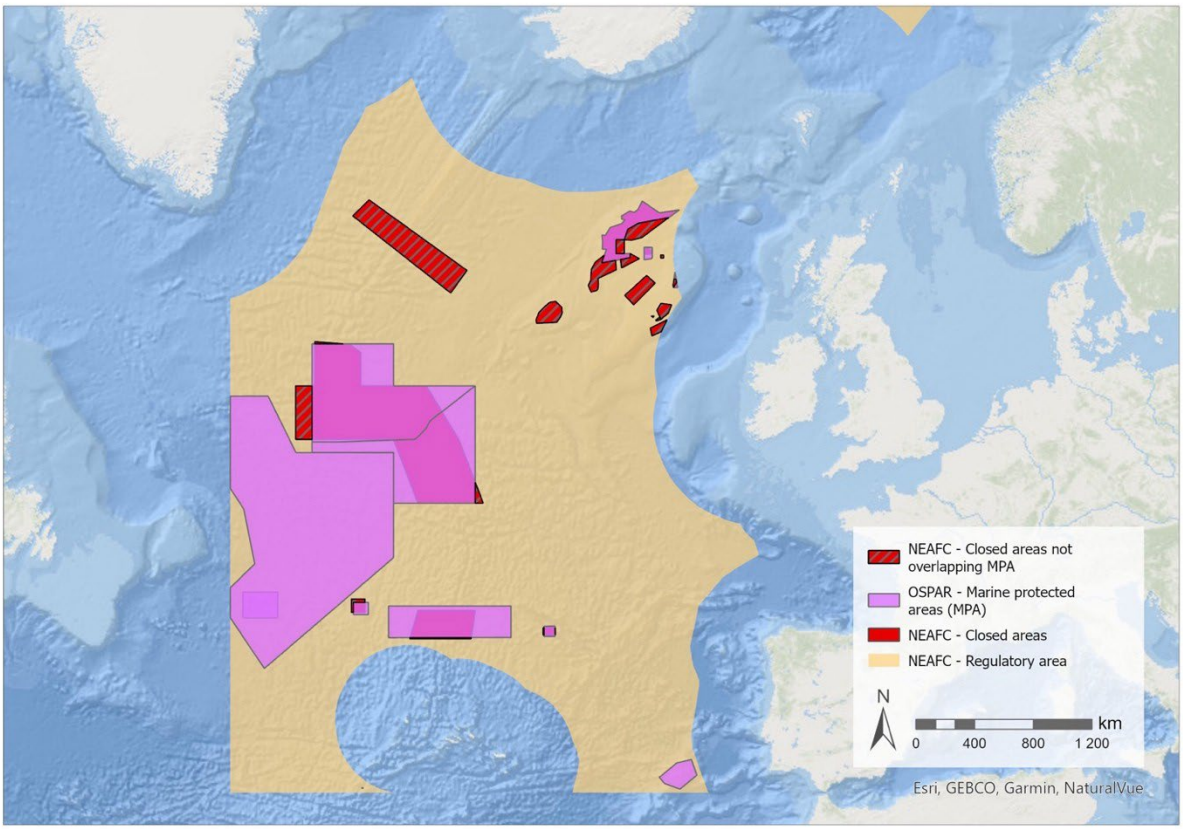


Figure 2.1.1. NEAFC areas closed for the protection of VMEs showing overlap with OSPAR.

Northwest Atlantic (NAFO)

The Northwest Atlantic Fisheries Organization (NAFO) is an intergovernmental fisheries science and management body or Regional Fisheries Management Organisation (RFMO) founded in 1979. The NAFO Convention on Cooperation in the Northwest Atlantic Fisheries applies to most fishery resources of the northwest Atlantic except salmon, tunas/marlins, whales, and sedentary species (e.g. shellfish). Currently, NAFO has 13 Contracting Parties, with Denmark acting in respect of the Faroe Islands and Greenland.

The Convention Area (see map 3 below) is larger than the Regulatory Area as it includes parts of the exclusive economic zones (EEZs) of the USA, Canada, France (with respect to St. Pierre et Miquelon) and Greenland. Within the Convention area, the Regulatory Area lies in the high seas

areas above extended continental shelves in areas beyond national jurisdiction (ABNJ); (see Figure 2.1.2 below, dark blue area).

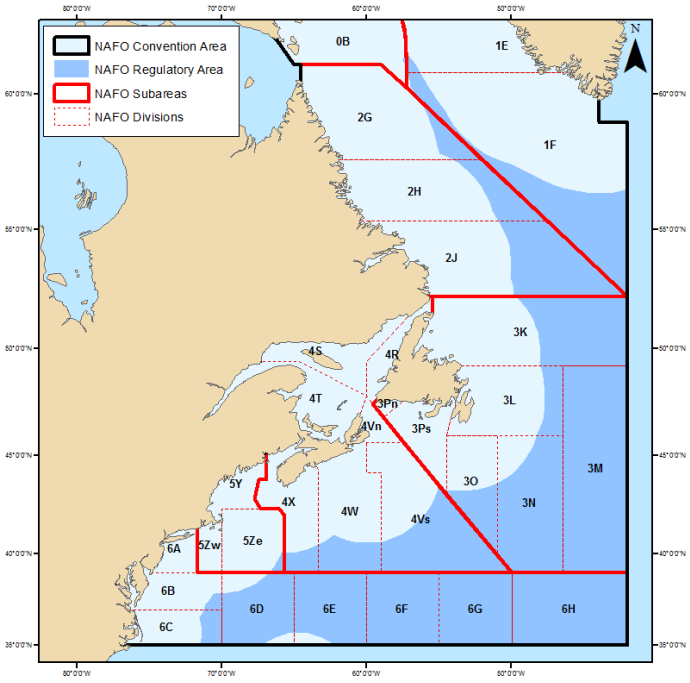


Figure 2.1.2. NAFO's Convention Area with its Regulatory Area (in dark blue), management Divisions and Subareas. Source: https://www.nafo.int/About-us/Maps

Within the NAFO Regulatory Area (NRA) there are two distinct management regimes each with its own measures: Existing Bottom Fishing Areas (Fishing Footprint), and Exploratory Bottom Fisheries (outside the fishing footprint); (see Figure 2.1.3 below). The fishing footprint encompasses the Flemish Cap and the Nose and Tail of Grand Bank in ABNJ.

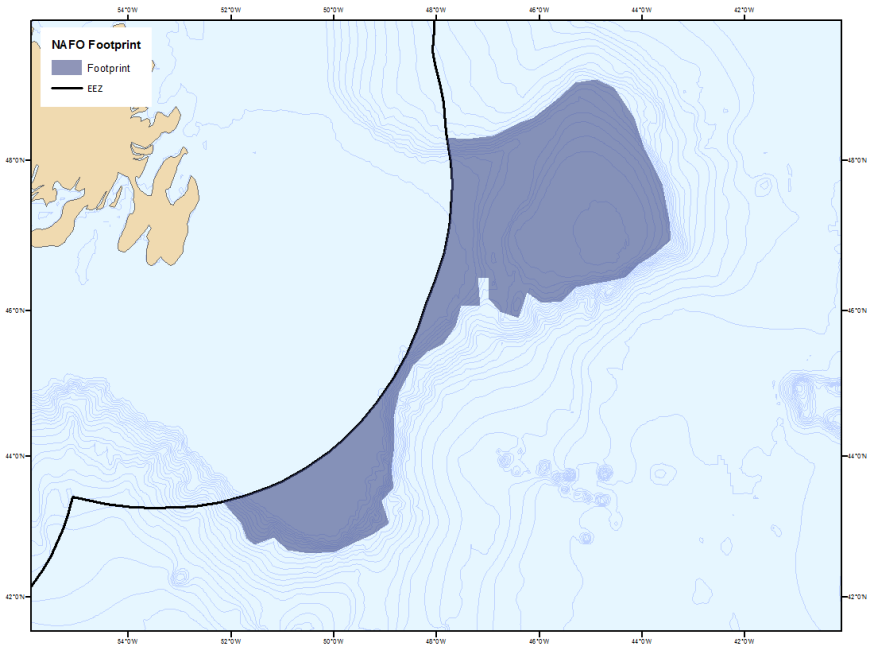


Figure 2.1.3. NAFO bottom fishing footprint (in dark blue) regulated under Existing Bottom Fishing Areas. Source: https://www.nafo.int/Fisheries/Conservation/FootprintBottomFishing

NAFO Conservation and Enforcement Measures[1] (NCEM) are regularly updated after the NAFO Annual Meeting. Measures come into force 1 January of the following year. All the coordinates for the bottom fishing closures, a list of the VME indicator taxa and other measures can be found in the NCEM, and they are all on the website dating back to 1993, along with fisheries quota tables. Areas closed to bottom-contact fishing are shown in Figure 2.1.4 below. One of the areas, called the 3O closure, was agreed with Canada and straddles jurisdictions.

NAFO enforces its fishing regulations and conservation measures through a comprehensive, multi-layered system. This system combines at-sea monitoring, real-time vessel tracking, and strict port controls to ensure that all member nations and fleets abide by catch limits and protect vulnerable marine ecosystems. Authorized inspectors from Contracting Parties patrol the NAFO Regulatory Area using inspection vessels and aircraft. They have the authority to board fishing vessels, verify catches, check gear types, and review logbooks. Independent observers are deployed aboard fishing vessels to collect catch data, record fishing operations, and monitor compliance in real-time.

[1] NAFO Conservation and Enforcement Measures: https://www.nafo.int/Fisheries/Conservation (accessed on 27 June 2026).

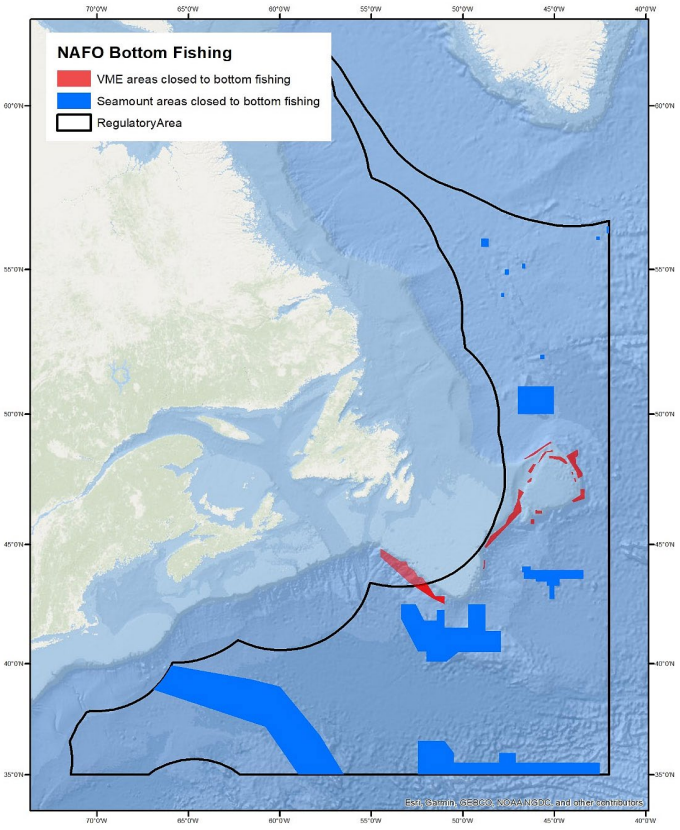


Figure 2.1.4. Areas closed to protect VME in the NAFO Regulatory Area (in blue: Seamount closures; in red: corals and sponge closures). One of the red closures straddles between the Canadian EEZ and the NAFO Regulatory Area. Source: https://www.nafo.int/Fisheries/VME

There are 12 fisheries operating in NAFO, each fished in different Management Divisions. Several fisheries in the NAFO Regulatory Area are currently under moratorium (no directed fishing allowed) to allow for stock rebuilding. Bottom contact gears include both trawls and longlines, but most of the effort and spatial coverage are from the trawls.

OECMs

Six VME closures to protect sponges (see Figure 2.1.5 below) and 12 seamount areas (see Figure 2.1.6 below) were closed to bottom fishing and were identified as OECMs. These were prepared as two separate submissions to WD-OECM and the CBD Secretariat by NAFO and submitted in 2025. A third submission for the coral closures is being developed for submission in 2026.

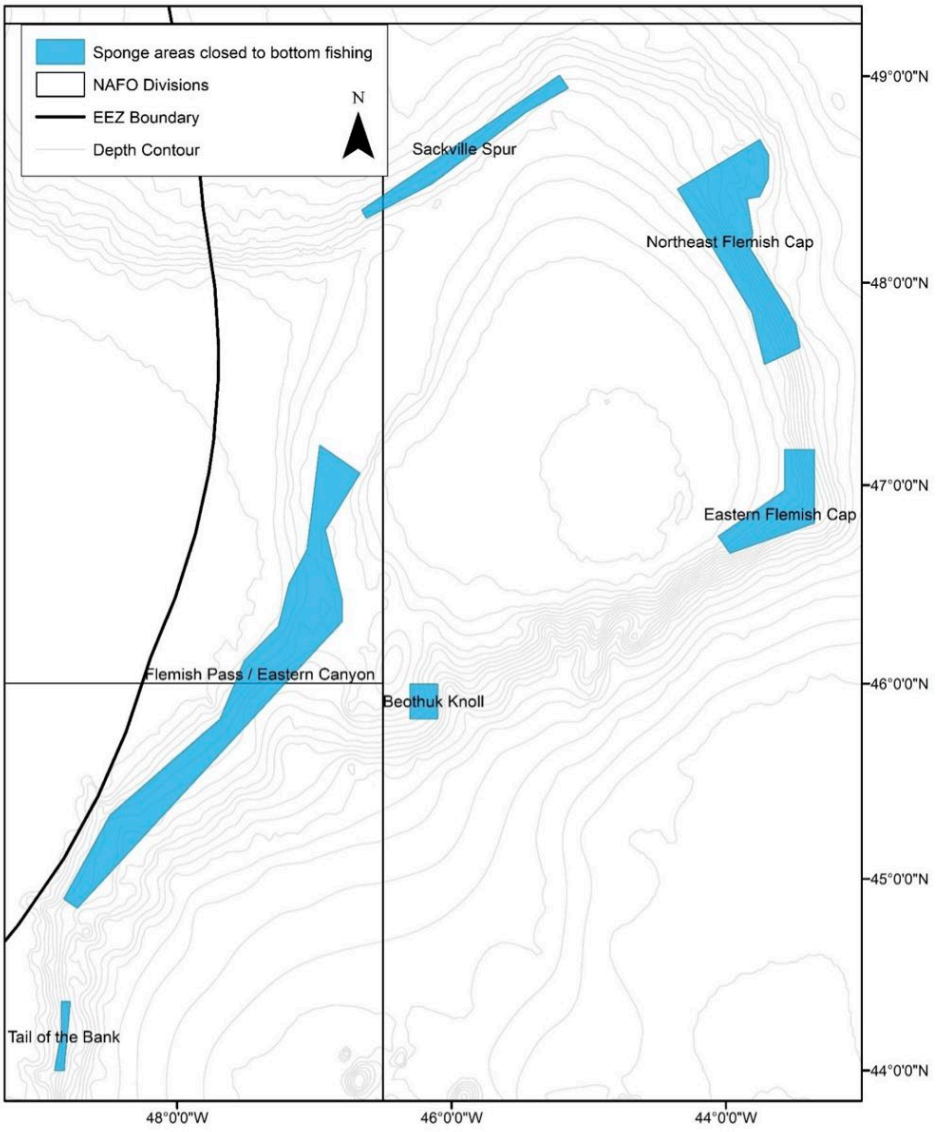


Figure 2.1.5. NAFO VME area closures 1-6 to protect sponges identified as OECMs. Source: https://www.nafo.int/Portals/0/PDFs/Fisheries/nafo25-045REV%20NAFO_OECM_Sponge_Apr2025-web.pdf

OECMs protecting large-sized sponges and the biodiversity they contain

In relation to the sponge OECMs, a large volume of scientific evidence was accrued as supporting evidence for their OECM status. For example, species distributions have been mapped, areas of significant concentrations of sponges identified, and connectivity networks are determined. This has been possible because of the data available for this region, including thirty years of catch data from random stratified research vessel trawl survey tows conducted annually by contracting parties, and from the physical oceanographers in the NAFO Standing Committee on Fisheries Environment (STACFEN). These sponge-dominated communities were shown to host hundreds of distinct taxa/morphotypes (e.g., in one survey area, 527 taxa were recorded, including many unidentified morphotypes). A significant statistical relationship has been shown between sponge abundance and the community megafaunal abundance and richness (Beazley *et al.*, 2013; Beazley *et al.*, 2015).

Recent research under the EU-funded SponGES project has looked at the role of sponges in benthic-pelagic coupling. In this regard, the sponges have significant filtration capacity that may have ecosystem-level effects considering their densities and distribution (Pham *et al.*, 2019). For example, several RV catches equating to over 100 mt of sponge per km in the NAFO area have been observed, and sponge grounds extend all long the Labrador slope to the eastern Arctic. The first broadscale maps of benthic-pelagic coupling have been produced already for the NAFO area. In terms of ecosystem functions and services, it is known that some sponges can filter up to 1000 litres to 20 000 litres of water per kilogram of tissue each day and can remove up to 95% of bacteria and particles from the water and 90% of dissolved organic carbon (Bart *et al.*, 2020). Epibenthic functional diversity has been mapped, and the sponge grounds emerge as key areas for nutrient cycling and habitat provision (Murillo *et al.*, 2020). The sponges are also important for sustaining food webs with the above examples showing species that are lost if the *Geodia* sponges are removed (Stratmann *et al.*, 2024). Connectivity has also been evaluated using 3D Lagrangian particle-tracking models, allowing elucidation of connectivity networks (Wang *et al.*, 2020). In the Wang *et al.* (2024) study, particle tracking simulations were performed to determine the impacts of the removal of each significant sponge concentration iteratively on the connectivity models, leading towards a prioritisation of areas for protection. Fish use of VME habitat has also been documented using data from the NRA and elsewhere, such as evidenced through the SponGES project (Meyer *et al.*, 2019).

The extensive scientific information available to support the nomination of the areas closed to protect sponge grounds as OECMs was first prepared and reviewed within the NAFO Scientific Council and then reviewed by the NAFO Joint Commission-Scientific Council Working Group on Ecosystem Approach Framework to Fisheries Management (WGEAFFM). This consists of a group of scientists and managers who make recommendations for management actions to the Commission (NAFO's decision-making body). This group excluded one of the closures to protect sponges because of its overlap with oil and gas exploratory leases in the Flemish Pass (NAFO/COM-SC Doc. 23-04).

The OECM submission addressed all CBD OECM criteria, and in sum, it noted, among other things, that the NAFO sponge VME bottom fishing closures identified in the assessment (Areas 1-6) are not reported as MPAs, and that those closures consist of six separate areas which are ecologically connected, and each closure has well-defined spatial boundaries and coordinates (NAFO, Sponge OECMs submission). It noted NAFO's mandate for regulating bottom fishing in the NRA and how the area geographically overlaps with other RFMOs responsible for regulating pelagic fisheries of tuna and tuna like specie - in this case, ICCAT, and Atlantic salmon – in this case, NASCO, which prohibits fishing for salmon in ABNJ. The submission also identified other anthropogenic activities, highlighting oil and gas as the main activity in the area (regulated by

Canada), but with relatively low impacts. It also noted that NAFO receives regular updates from the Canadian authorities on these activities taking place in the NRA.

The Scientific Council assesses on a regular basis (on average every five years) potential significant adverse impacts to VMEs and provides advice to the Commission on means to avoid such impacts. In this context, over the years the Scientific Council has advised the Commission to close these sponge areas to bottom fishing to protect VMEs from potential significant adverse impacts. Furthermore, the Scientific Council has emphasised that bottom fishing closures are the most effective measures to protect VMEs from bottom fishing in the NRA. The Commission has closed these areas through regulations, including corresponding enforcement measures, as set out in the NCEM referred to above. Furthermore, management of these VME closures is consistent and integrated into NAFO's Ecosystem Approach to Fisheries roadmap.

OECMs protecting seamounts and the biodiversity they contain

The same process was followed with respect to the seamount OECMs (see Figure 2.1.6 below). NAFO has closed all seamounts with summits shallower than 4000 m in the NRA. Supporting data was largely from the New England and Corner Rise seamount chains which have been explored using the US NOAA Ship *Okeanos Explorer* and its ROV systems (see Beckmann *et al.*, 2026 for the latest deep-sea research on VME indicator taxa in the Corner Rise Seamounts (CRS)). Six habitats down to 2495 m depth met VME density thresholds on CRS, indicating significant concentrations of VME indicators, and VMEs are present down to 4000 m (Waller *et al.*, 2021). Canada has conducted similar research on Orphan Knoll, and there is limited data from the Fogo and Newfoundland seamount chains. All other areas were closed under the Precautionary Approach, assuming that the seamounts likely contain VMEs.

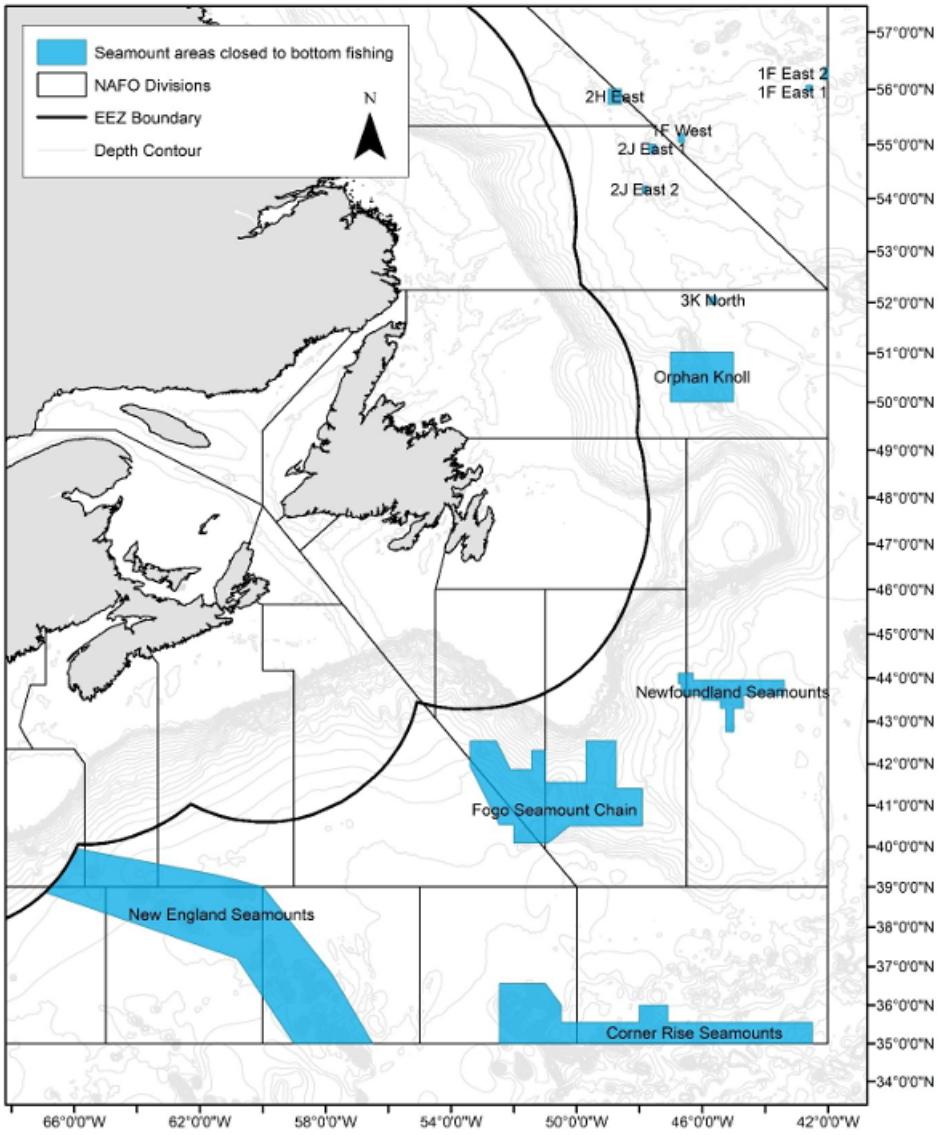


Figure 2.1.6. NAFO Seamount closures identified as OECMs. Source: https://www.nafo.int/Portals/0/PDFs/Fisheries/nafo25-046%20NAFO_OECM_Seamount_Feb2025-web.pdf

2.2 Other ongoing work on potential OECMs & case studies of area-based fisheries managed measures that may fit the criteria of OECM, but not yet identified as OECMs

Other ongoing work on area-based fisheries management measures and potential OECMs

Mediterranean Fisheries Restricted Areas (GFCM)

The work of the General Fisheries Commission for the Mediterranean (GFCM) on OECMs was presented at WKAMO, highlighting its experience with fisheries-related area-based management tools. The GFCM, as the regional fisheries management organization for the Mediterranean

and the Black Sea, had long applied spatial measures such as Fisheries Restricted Areas (FRAs) and national fisheries closures. Several of these measures demonstrated positive biodiversity outcomes, making them potential candidates for recognition as OECMs under the Convention on Biological Diversity (CBD) framework. Since 2019, the GFCM Secretariat has actively engaged in international discussions on OECMs and contributed to relevant expert processes. In 2022, a regional process was initiated in collaboration with the FAO Fisheries and Aquaculture Division, including a webinar and an expert meeting that led to the screening of existing FRAs against simplified CBD criteria. This exercise identified several FRAs as promising candidates for further in-depth assessment. Subsequent discussions within GFCM bodies focused on procedural aspects, with key questions raised by the Scientific Advisory Committee on Fisheries in 2023 and addressed through a comprehensive document on OECMs presented to the Commission in 2024.

In parallel, the GFCM strengthened the scientific basis for assessing the effectiveness of FRAs through the development of monitoring frameworks. Evidence from long-term monitoring, including results presented in the State of Mediterranean and Black Sea Fisheries 2025, showed that some FRAs contributed to the recovery of demersal stocks and delivered measurable ecological outcomes. These findings underscored the relevance of robust monitoring systems in demonstrating sustained biodiversity benefits, a key requirement for OECM recognition.

In 2026, the Secretariat further supported contracting parties through targeted guidance, including the development of a dedicated information leaflet and bilateral exchanges to clarify the OECM reporting process. Overall, the experience of the GFCM indicated that, while technical aspects were largely in place, the main challenges to reporting fisheries OECMs remained related to governance, geographical considerations and national coordination across sectors, particularly in coastal areas. For this reason, this example has not been developed further for the purposes of WKAMO.

Western Central Pacific (SPC)

In the Pacific region, the 22 Pacific Island Countries and Territories (PICTs) which are members of the Pacific Community (SPC) have, for the most part, committed to the GBF 30x30 initiative (Target 3). Requests to SPC for technical assistance and advice have increased as members seek to fulfil their commitment using the best data and science available.

PICTs are facing great challenges in offshore waters to identify the areas within their respective EEZs to account for 30% of the marine environment to protect. The prevalent concern is that, depending on the form of protection, their tuna-sourced revenues and food security could be compromised. Most PICTs already have strict regulations prohibiting bottom-contact extractive activities, which are combined with complete and effective management of tuna fisheries by the WCPFC. From this perspective, PICTs struggle to clearly identify what additional spatial measures they could implement to further protect offshore biodiversity.

For this reason, OECMs and vertical zonation have become an increasing topic of discussion over the past years, as PICTs show a growing interest in developing OECMs rather than strict no-take MPAs as a means of fulfilling both their environmental objectives as part of GBF Target 3, while still maintaining socio-economic development. No offshore OECMs have been implemented yet in the Western Central Pacific Ocean (WCPO) as of today, but it is very likely that we will observe a considerable number of attempts to define and develop OECMs in the forthcoming years withing as we approach the 2030 deadline. This OECM approach is also examined at the WCPO level, as discussions are ongoing regarding the management of some high-seas pockets.

Finally, for coastal waters, most of the traditional community and customary management systems in the Pacific region already serve as spatial management measures, which could be

considered as OECMs. Although not yet reported by PICTs, they may contribute to reaching the 30X30 target.

Barents Sea/Svalbard (Norway)

The Barents Sea is situated on the margin of the Arctic Ocean, to the north of Norway and Northwest Russia at 70–83°N. Transboundary fish stocks in the Barents Sea are managed by a Joint Norway-Russia Fisheries Commission established in 1975. Area-based management measures have been a staple of fisheries management in Norway for several decades. Bottom-contact fishing gears, in particular trawl, are considered the most widespread anthropogenic source of direct disturbance to the seabed and its associated biota.

Multiple locations shallower than 1000 m around Svalbard, including the Yermak plateau, have complex habitats with high species diversity, high biomass and abundances and are inhabited by emergent, large bodied species, with no or low mobility, and therefore easily damaged by a bottom trawl. Some areas show a high degree of naturalness. Species encompass both VME indicator species and other vulnerable species. Every four years, a comprehensive assessment of the ecosystems through Norway's integrated ocean management plans is undertaken. It is based on a comprehensive assessment of Norwegian seas, including annual monitoring of the status and changes in environmental values, such as phytoplankton and zooplankton, benthic communities, fish, seabirds and marine mammals, as well as human activity such as fisheries and pollution. The area is therefore well monitored and reported. MCS of all fishing activities are a continuous operation that secures compliance at a high level. There are no Indigenous Peoples and Local Communities (IPLCs) in the area covered by the regulation.

In this region, in 2019, Norway created a protection zone and banned trawling in all waters deeper than 800 m and in some areas shallower than 800 m around the Yermak Plateau and Svalbard (green areas in Figure 2.2.1). The green areas 1, 2, 3 and 4 cover a total of 442 022 km2, currently closed to all fishing. If parts of these areas are to be opened for fishing, a comprehensive mapping of the sea-bed biota will be required to identify VMEs. There are also further closures (red areas in Figure 2.2.1) out-with the green areas where evidence shows presence of VMEs. Candidate OECMs include the green and red areas.

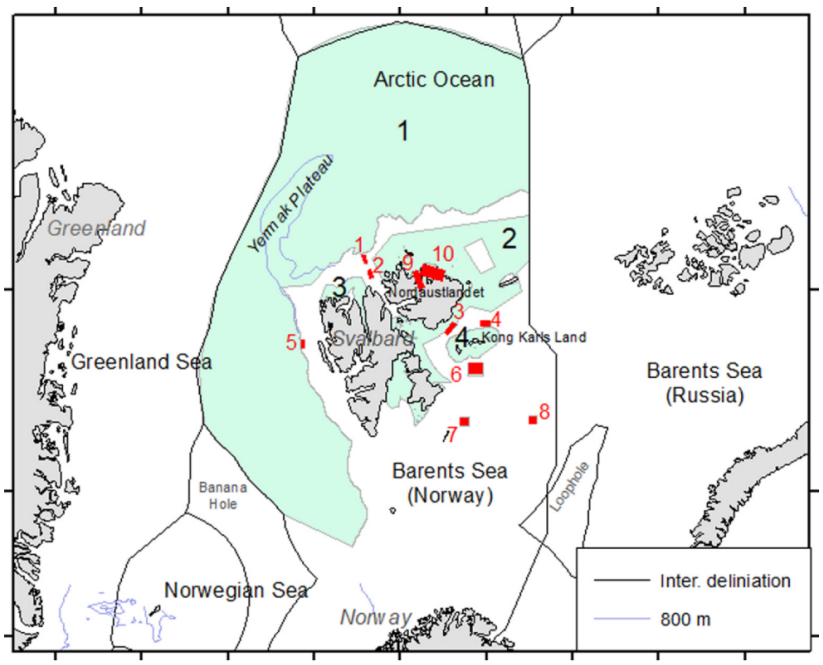


Fig. 2. The Fisheries Protection Zone around Svalbard with the closed areas within existing fishing areas (red areas 1–10 covering 3260 km^2) and new fishing areas (green areas 1–4 covering 442,022 km^2) areas. The black lines are the boundaries between different jurisdictions. The water column above the seabed in the Banana- and the Loop holes beyond national jurisdiction are international waters. The map is adapted from the map created by the Directorate of Fishery and available on: https://kart.fiskeridir.no/fiskeinrd. (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article.)

Figure 2.2.1. From Jorgensen *et al.*, 2020.

3 Ability of currently identified OECMs to demonstrate their management effectiveness

ToR (b) Document and review how the demonstration of management effectiveness has been approached in the examples described in (a):
i. Describe the conservation objectives and measures taken in -and eventually around- the fisheries OECMs described in (a), including enforcement and monitoring.
ii. Describe the observed or expected outcomes of these measures for populations or habitats.
iii. Review the factors that affect or may affect management effectiveness.

Conservation objectives

Candidate OECMs that are area-based bottom fishery closures established to protect VMEs by default have conservation/biodiversity objectives built in (the area is closed to protect the VME). However, OECMs do not have to have biodiversity conservation as the main objective, as long as there are co-benefits for biodiversity (CBD, 2018, para. 2). In such cases, it is important to integrate those co-benefits into objectives at the moment of recognizing the OECM so that assessment can be done in relation to those objectives. This does not necessarily imply the regulation itself needs to be changed in any way, only the way in which the reporting is done. In some cases, showing that enforcement and compliance alone will be used to demonstrate effectiveness, rather than that the biodiversity itself has been maintained or improved in status, where it is deemed sufficient based on scientific evidence of the measure to deliver protection, or where cost of biodiversity monitoring is prohibitive. Demonstrative effective regulation, compliance and enforcement is however much more realistic to achieve and essential to demonstrating management effectiveness (see also Garcia *et al.*, 2025; Agardy *et al.*, 2025).

Enforcement and compliance

In terms of enforcement and monitoring, the objectives should be clearly reflected in the RFMO regulations. In the case of NEAFC, its Recommendation 19:2014 includes binding regulations on the closure of areas to bottom fishing, move-on rules, definition of existing and restricted bottom fisheries areas, exploratory fishing protocols and lists of VME indicator species. NEAFC has a comprehensive Scheme of Control and Enforcement (the Scheme). The Scheme includes reporting requirements (catch and VMS) for Contracting Parties regarding any activities, including bottom fishing in the Regulatory Area. This includes measures to ensure all fishing vessels are notified and authorised to fish in the Regulatory Area. The fishing vessels must have suitable vessel position reporting equipment and report catches of regulated species while in the Regulatory Area. Through inspections at sea as well as in Ports NEAFC regulations can be enforced using the monitoring and catch information generated under the Scheme.

The Scheme is updated and improved each year, with the Permanent Committee on Monitoring and Compliance (PECMAC) as its guardian. Since 2020, the process of continual improvement includes two important milestones. One is on transparency in that the annual NEAFC compliance reports are now made publicly available. These show how well the vessels of Contracting Parties are complying with NEAFC regulation, including those on bottom fisheries and VMEs. Additional transparency has also been achieved by the publication of NEAFC authorised fishing vessel lists, which started in 2020, and the inclusion of observers to the compliance committee from mid-2026. The second improvement in Monitoring Control and Surveillance is a move from

an older system of simple electronic messages for fish catch reporting to an electronic reporting system based on electronic logbooks kept onboard by the vessels.

Compliance reports from the NEAFC Compliance Committee suggest very few infractions, and no significant adverse impacts are occurring to VMEs where they are known or are likely to exist. Therefore, the VMEs are expected to be present and in at least as good a condition as when the closures were first enacted. Cumulating evidence of VME presence, together with no evidence of VME absence, indicates that current bottom-fishing closure areas remain appropriate to protect VMEs. ICES advises that all current NEAFC RA bottom-fishing closures should remain closed to protect VMEs. The reopening of such closures to bottom fishing, in particular as evidenced by mobile bottom-contacting gear, would present a significant risk of adverse impacts to VMEs.

In the case of NAFO, Monitoring, Control and Survaillance[2] (MCS) measures are detailed in the NCEM and include at-sea inspection and surveillance, port state control, and an observer scheme. As part of this, vessel requirements include, inter alia: notification, authorisation, International Maritime Organization (IMO) number, markings, capacity plans, and reporting requirements. Vessel Monitoring System[3] (VMS) is an important requirement under the NCEM, which allows for monitoring of fishing in the closed areas and also provides data for the assessment of significant adverse impacts on VMEs (see NAFO SCS Doc. 24/20, 2024). VMS data is reported every hour, and daily catch information is transmitted directly to the flag State's Fisheries Monitoring Centres. NAFO Contracting Parties must ensure that this information is transmitted to the Secretariat. A compliance committee, entitled Standing Committee on International Control[4] (STACTIC) advises the Commission (NAFO's decision-making body) on NAFO's Conservation and Enforcement Measures, MCS activities, as well as compliance monitoring and reporting. STACTIC reports are posted on NAFO's website. The latest NAFO Annual Fisheries Compliance Review (2025) with respect to Compliance Report for Fishing Year 2024 (NAFO/COM Doc. 25-17, 2025) stated that no reports of vessels fishing with the VME closures were received (NAFO/COM Doc. 25-17, 2025, section 4.1.1.5).

In the case of Norway there is continuous VMS and AIS monitoring of bottom fishing activity. Compliance is reported in the publicly available annual reports of the Directorate of Fisheries and the Norwegian Coast Guard.

Observed or expected benefits

Direct evidence of benefits

In regions with good research capacity, direct observation and validation of biodiversity benefits can be expected, for example, the presence, status and condition of a VME. For example, in the case of Norway, there are national ecosystem surveys around Svalbard providing information about continued presence of VMEs. In the case of the northeast Atlantic NEAFC's 19/2014 Recommendation sets out a process of annual advice from ICES on the evidence for VMEs, including the possibility of revision of the closed areas. The VME Recommendation also requires renewing the closed areas every five years. The last time this review and renewal occurred was in 2022, with all closures renewed until 31 December 2027. The effectiveness of the Recommendation is also reviewed every five years.

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[2] NAFO MCS. https://www.nafo.int/MCS (accessed on 26 June 2026).

[3] NAFO VMS. https://www.nafo.int/Fisheries/ReportingRequirements/VMS (accessed on 26 June 2026).

[4] NAFO The Commission. https://www.nafo.int/About-us/Commission (accessed on 26 June 2026).

In the NAFO case, reassessment of potential significant adverse impacts from bottom fishing activities on VMEs, including a risk assessment, in accordance with the FAO Deep-sea Fisheries Guidelines (FAO, 2009) are conducted every five years (NCEM, Art. 23). New scientific information on VMEs can be considered by the Scientific Council and its Working Group on Ecosystem Science and Assessment (WGESA) in their annual meetings, and respective advice can be provided to the Commission for decision. As part of the Reassessment of bottom fishing activities, the Scientific Council is also requested by the Commission to, inter alia: identify VMEs on the basis of best available scientific information, and map the sites where the VMEs are known to occur or are likely to occur (NCEM, Art. 23). The Commission then reassess the bottom fishing activities every five years "or when there is new scientific information indicating a VME in a given area, other new scientific information becomes available, or there is significant change in the fishery, in collaboration with the Scientific Council and the Joint Commission-Scientific Council Working Group on Ecosystem Approach Framework to Fisheries Management" and "take the necessary actions to protect VMEs, including potential adjustment of closed areas" (NCEM, Art. 23). A range of scientific evidence is used in the reviews, from scientific surveys, habitat suitability models, kernel density models, VMS data, among others.

Benefits inferred by proxy

In other regions or circumstances, there may not be up-to-date or direct evidence of the biodiversity features (Agardy *et al.*, 2025). There is a need to consider that some VMEs closures were made on a precautionary basis and on the basis of very little hard scientific information. It is not reasonable to expect to do more monitoring than the one which provided data that were used to designate in the first place, given there is no baseline for reference. In such situations, biodiversity benefits may be inferred by proxy based on generalisable scientific evidence. In the case of Norway, regulation is established and is being followed and therefore can be assumed to be effective since there is a good compliance and no indication of regulations not being followed. On the other hand, if we know little about biodiversity attributes, there will always be uncertainty regarding biodiversity benefits. Regular monitoring might not be feasible, but one-off studies aimed at ground-truthing the presence of the biodiversity attributes (e.g., presence of VME), should be strongly encouraged and would serve to validate the biodiversity benefits. Fisheries institutes should be encouraged to adapt their existing surveys to collect more information on biodiversity attributes, bycatch recording, habitat surveys, etc. This, together with evidence of strong compliance with the measures is key to the demonstration of biodiversity benefits.

In the NAFO case we find both situations, while the biodiversity attributes are well-documented for the coral and sponge closures, only three seamount area closures have well-documented biodiversity attributes (namely, Corner Rise Seamounts, New England Seamounts, and Orphan Knoll – all of which have also been described as CBD ecologically or biologically significant marine areas (EBSAs); (CBD, 2014)). The other seamount areas were closed as a precautionary measure in light of the UN General Assembly resolutions on VMEs that called for measures to protect VME areas known or likely to occur (UNGA, 2006 and posterior resolutions on sustainable fisheries). Therefore, considering that seamounts usually provide habitat for significant concentrations of VME-indicator species, these areas have been closed and benefits are inferred by proxy.

It is important to consider that the biodiversity benefit is the difference between what the status of the diversity is with the area-based management measure in place, versus what it would be without it. If the net benefit is positive, the area-based management measure may be considered an OECM (Agardy *et al.*, 2025). On the other hand, an area based management measure may not result in any net benefit because it does not change the status quo. This is why some depth-related management measures may struggle to qualify as OECMs. For example, in the debate

around 1000m restriction to bottom trawling in the Mediterranean (FAO, 2023): does that closure bring an additional benefit to biodiversity since no fishing occurs at this depth, or is unlikely to do so in the future? No net benefit from fisheries regulations may be expected, even if biodiversity is de facto conserved. On the other hand, must a net benefit be demonstrated through a reduction in an activity that leads to ecosystem recovery, through the protection of an undisturbed area, or, in the latter case, how likely must it be that the activity or impact would actually occur? The considerations may be different when considering other sectors' potential impact.

Factors that may affect management effectiveness

Uncertainty is inherent in ocean processes, living resource and fishery dynamics. It is important to account for the variable state of the environment in terms of its oscillations and trends as these will have an overarching effect on the species and habitats and their health, distribution, status and recovery whenever possible. Multiannual (e.g. ENSO in the Pacific) and multidecadal (NAMO in the Atlantic) ocean-atmosphere cycles that influence environmental factors such as currents, sea-surface temperature (SST), salinity and upwelling that in turn affect species and habitats both negatively and positively (Edwards *et al.*, 2013). Such oscillations are important when evaluating biodiversity outcomes. Biodiversity benefits may be curtailed under certain conditions and enhanced under other conditions (in both cases, this is independent of the management – unless the management is adaptive to such oscillations). Accounting for such oscillations requires long-term (multidecadal) data series which will more often than not be unavailable (Edwards *et al.*, 2013).

The particular site characteristics will impact the management's effectiveness, in terms of the size, shape, location, connections to other areas, and proximity to land and surrounding human density. Large marine protected areas tend to show more positive biodiversity benefits than small ones (O'Leary *et al.*, 2016) and this might equally be expected in OECMs. However, small areas aimed to protect important vulnerable life-cycle stages of key species or essential habitats may be extremely important (see also Rojo *et al.*, 2019, in relation to enforcement of such smaller areas).

The characteristics of the biodiversity features of concern being conserved will influence the management effectiveness. The more varied and complex the biodiversity, the more difficult it will be to demonstrate that management has been effective. This depends much on whether the biodiversity features are static (e.g., corals, mangroves or seagrass) or mobile and dynamic (e.g., seabirds, fish, marine mammals, etc). For mobile species, the degree of residency and migration will be important to understand because if a species moves outside of the managed area, then it is at risk of other threats and the net benefit may be affected. As for MPAs, the degree of connectivity to other similar areas may be important for recolonisation and recovery, and so the position of the OECM relative to the network of closed areas, including MPAs may be critical for highly migratory species. Finally, the life-history of the species, or the time it takes for a habitat to develop from individual colonies, will determine the recovery rate and hence the time over which management effectiveness may be appreciably measured. Furthermore, monitoring is important to ensure the suitability of the placement of the identified OECM in protecting that species during a particular life history period to account for species distribution shifts (i.e. verifying that species are actually using the area as evidence that it is indeed providing a benefit).

Local economics and cultural specificities may be important to the effectiveness of OECMs; influential factors may include the distance of the OECM from markets, the market value of the biodiversity elements identified, communities acceptance, and the cost-benefit ratio of the OECM for the local and non-local users (see e.g. Seary *et al.*, 2022). Equitable governance and stakeholders and right holders' representation will be a crucial factor in perceived legitimacy of the governance and management measures (Jonas *et al.*, 2024; Garcia *et al.*, 2025). Factors affecting

legitimacy of the governance model will include whether it has equitable and inclusive representation, processes, and distribution of costs and benefits (Himes-Cornell *et al.*, 2026a). Additionally, the clarity of management rules of the level of participation, the deterrence of penalties, the timeliness of threat detection, and the management reactive capacity are important. If communities hold shared concerns over fishery state, this can facilitate management effectiveness; stakeholder involvement to align priorities is therefore key (Himes-Cornell *et al.*, 2026a).

It has been shown many times that when funding stops, the effectiveness of management measures tends to decrease (Bohorquez *et al.*, 2023). Socio-economic indicators would be useful tools to monitor the management effectiveness of OECMs against socio-economic and cultural objectives for local economies and communities (Himes-Cornell *et al.*, 2026b).

Finally, there may be interaction between the OECM and conventional (non-spatial) fisheries management measures. There are often multiple measures in a fisheries management plan, and it can be difficult to evaluate each separately for effectiveness because their effectiveness is confounded with that of other concomitant spatial and non-spatial measures. This can be both positive and negative.

4 Assessment of the OECMs outcomes

ToR (c) In the context of fisheries specific management for these OECMs, identify:
i. Approaches to monitoring of governance, stakeholder involvement and management systems that contribute to the biodiversity outcomes;
ii. Types of information for assessment of management effectiveness especially with regards to compliance and monitoring threats, pressures and related impacts;
iii. Expected timescales over which biodiversity benefits could be expected to be detected for different ecosystem components and management measures.

Social context, stakeholder engagement and management system

Reporting on management effectiveness of an OECM requires an evaluation of the effectiveness of fisheries management in obtaining the expected benefits to biodiversity in addition to the expected fisheries management outcomes. An important element of management effectiveness[5] relates to the different actors and stakeholders, and the extent to which they are represented and satisfied with management outcomes. Aspects related to equity and inclusion are not commonly considered in offshore, large-scale fisheries management, but may be highly relevant in coastal fisheries. In offshore industrial fisheries such as the case studies presented here, this is often limited to dialogue with RFMO members, fishing industry representatives, and eNGOs. For coastal areas, usually, a broader set of stakeholders needs to be considered, including fishers (commercial, recreational and subsistence), other aquatic industries (e.g., aquaculture, tourism, anglers, etc.) and users, as well as Indigenous Peoples and Local Communities and civil society.

In the case of the northeast Atlantic case study, the fishery has important socio-economic value and this is taken into account, especially during the annual fishery quota negotiations at the NEAFC Annual Meetings (and related Coastal States negotiations). NEAFC Contracting Parties will have different socioeconomic objectives depending on, amongst other things, the value of fisheries to national income and to specific coastal communities, food security, etc. Being an offshore fishery, spiritual and cultural values are not as obvious as they may be in coastal fisheries, but nevertheless, it is known that long-term cultural traditions associated with the fisheries operating in this region, are especially important to the families and communities that depend on them. NEAFC's governance model is implicitly inclusive (through national delegations). Relevant stakeholders are identified by contracting parties and involved in decision-making processes, including through attendance at the annual meetings. Note, in this case, given deep-sea fisheries are very limited in the NEAFC regulatory area, the stakeholders are a subset of those in the much larger NEAFC pelagic fisheries.

In terms of wider stakeholder engagement. It is important to note that NEAFC receives scientific advice from ICES with which it has a long-term arrangement and cooperation. Stakeholder engagement via participation in ICES working groups and processes (including NGOs) is possible and encouraged. In 2014, NEAFC formed a 'Collective Arrangement" with the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR). The essential aim of the Collective Arrangement was to become a collective and multilateral forum composed of all competent entities addressing the management of human activities in the ABNJ of the north-east Atlantic. The foremost objective of the Collective Arrangement was to facilitate cooperation

[5] Management effectiveness in the context of this report refers to the evaluation of the effectiveness of fisheries management in obtaining the expected benefits to biodiversity in addition to the expected fisheries management outcomes.

and coordination on area-based management between legally competent authorities, promoting the exchange of information on each other's activities and achievements and taking into consideration all conservation and management measures taken in relation to the North-East Atlantic. In addition to keeping under review a joint record of areas subject to specific measures and informing each other of any modifications to existing measures, new measures or decisions. Through this collective arrangement, the competent authorities have an opportunity to discuss subjects of common interest and concern.

Types of information

There will be a wide spectrum of information that can be used in evaluating management's effectiveness, depending on the capacity and resources available for example, secondary data from NGOs, university research and local ecological knowledge. Some criteria of effectiveness will be simply binary. For example: is there binding legislation in place to protect biodiversity attributes (yes or no). In other cases, it may be possible to have more quantitative or scalar metrics and to evaluate how effective the governance is. For example, if there is vessel tracking data, and information can be provided on infraction frequency, or if information on habitat coverage or species abundance is collected. When assessing management effectiveness in Countries that have limited capacity and resources, binary criteria are easier to use and should be sufficient, even though the robustness of the assessment may be lower.

The types of information informing the overall OECMs data framework will mainly be in two forms: 1) the biodiversity attributes of concern themselves and/or proxies for biodiversity such as ecosystem services; and 2) that relating to the regulations, management and activities. This includes qualitative documentation of the management measures and processes (regulations) and compliance.

In terms of the biodiversity attributes of concern, most often information on presence and status will be scientific or based on local or indigenous knowledge. In the case of the Northeast Atlantic, this is scientific knowledge collected by ICES who maintain a VME database that is updated on an annual basis with information from scientific surveys carried out by its Member States. Typically, this is information on VME indicator species that can be used to assess the likelihood of VME presence. The data can be used to model VME indicator species distributions, allowing some inference to be made of how much VME is currently protected (ICES, 2024). However, such models are not generally sufficiently well resolved to be able to confirm if the status of the VME has significantly changed on a year-by-year basis. But in the longer term, for monitoring of the effectiveness of measures with respect to biodiversity, including the health of ecosystems, NEAFC requests ICES to provide advice, from the scientific perspective, on the effectiveness of the Recommendation in protecting on VMEs in all the NEAFC regulatory area every five years.

NAFO has a similar process.

Expected time scales

Demonstrating that the management authority is in a long-term governance process is a requirement for the recognition as an OECM (e.g. referring to the fisheries or conservation acts and regulations, or to traditional or customary systems which are not enforced into regulations but applied within Indigenous communities).

Many VMEs are long-lived species and habitats such as cold-water coral reefs and deep-sea sponge grounds. They take decades to grow at the individual level and centuries to form at the habitat level. Thus, if the VME was intact when the closure was enacted, we should not expect the biodiversity to be measurably impacted by fishing over time scales less than decades, unless there is environmental change (such as climate change or pollution) affecting their survival. If

the VME is in a state of recovery when the area is closed , then we should expect individual corals or sponges to reestablish on a multi-decadal time frame, albeit the regeneration of the coral reef or sponge ground habitat will take centuries to become fully structured and functional. Other marine species' life-span will vary.

OECMs are expected to be in place for the long term, hence regulations are expected to be in place for the long term. For example, In Norway multiple fisheries regulations are established indefinitely without an end date, including the case around Svalbard. The history of fisheries management shows that area-based measures are rarely terminated and can be as permanent as MPAs. In modern adaptive management contexts, closures are usually established for a given time (even if the intention is permanent) and assessed for performance before renewal. For example, NAFO's conservation and enforcement measures to protect VMEs are re-assessed for renewal on average every five years based on scientific assessments. In the past, before the OECM process, there has been a case of a VME closure not being renewed (NAFO/COM Doc. 18-28, 2018) in order to collect more data supporting the boundary delineations, but in most cases the closures have been renewed or expanded to include larger areas (e.g. some of the seamount closures).

Most fisheries area-based management measures are time-limited to allow for review, although in reality likely to be renewed regularly, making them in practice much more long-term if not permanent. Regular review ensures they remain effective with respect of changing environmental conditions, changes to the fishery and the status of the biodiversity. The 5-yearly review cycle in NEAFC and NAFO also reflects a 5-yearly review cycle on the deep-sea fisheries and VME resolutions made under the UN General Assembly. In the context of OECMs, if the original measure is amended, it would constitute good practice to submit such amendment to the WD-OECM and to the CBD Secretariat for, among other things, ensuring transparency with regard to GBF Target 3 and for keeping the database up-to-date. Similarly, if the evidence suggests that the biodiversity benefits of the OECM are no longer present, the OECM should be removed.

5 Accounting for non-fishing human pressures in OECMs

ToR (d) Provide examples on how impacts and management measures from non-fisheries Anthropogenic activities in the marine environment can be combined with the assessments identified in ToR b

Accounting for non-fishing human pressures in OECMs requires evaluating and mitigating external threats—such as shipping, military activity, coastal development, aggregate extraction and other non-living marine resources exploitation (e.g., oil and gas and deep-sea mining), pollution and climate change—to ensure the long-term biodiversity outcomes are not compromised. An assessment of such threats to biodiversity should be made for areas identified as OECMs. Regardless of how effective a management measure may be in controlling threats from the fishery sector, how other threats are managed (or not) must be considered. Even when a fishery OECM has clear management objectives to protect biodiversity features, very good MCS, harmonized fishery measures in and out of the OECM and a high level of compliance from the fisheries sector, it may fail to provide the expected conservation benefits if other human activities arise, causing significant adverse impacts and countering the benefits expected from fisheries management measures. Thus, it is an essential requirement for an OECM to demonstrate that other human activities in or outside the closed area do not significantly reduce or cancel the OECM expected benefit. Therefore, there is value in noting other management measures that are in place even by other competent authorities to reduce the impact of those other anthropogenic activities (e.g., voluntary speed reduction zones for shipping, best practice standards for aquaculture, etc). The cumulative impact of threats should be considered in all cases and threats need to be considered on a case-by-case basis depending on the proposed OECM location, biodiversity attributes, regulatory measures and cross-sectoral cooperation arrangements.

In the case of the NEAFC areas, the level of human activity in the Regulatory Area is generally low. The main pressures on the ABNJ of the North-east Atlantic as identified by ICES in its ecosystem overview include the selective extraction of marine species, including non-target species, abrasion from bottom fishing, marine litter, the introduction of contaminants through marine and atmospheric currents, and underwater noise.

Some threats that can be directly addressed through cooperation, for example with tuna RFMOs, the IMO, the International Seabed Authority or a contracting party undertaking an activity on its continental shelf. These will in principle be relatively easy to accomplish through international meetings, MOUs, communication, horizon scanning etc. Other threats will be more challenging, including climate change impacts, pollution that while also requiring dialogue and cooperation have legacy effects that are long lasting.

New or increasing activities, such as mineral and hydrocarbon extraction, mesopelagic fisheries or offshore renewable energy, could bring additional pressures to this region in the future. Added stress from climate change including ocean acidification will aggravate the impacts of these activities and pressures and may further weaken ecosystem resilience. Less significant, but nevertheless noteworthy threats related to undersea cabling for electronic communication, research activities, and exploration of marine genetic resources.

NAFO is somewhat similar but has a current active threat from oil and gas exploration. For this reason, one of the sponge closures was not identified as an OECM by NAFO Contracting Parties during the OECM identification assessment. For many cases, threats from oil and gas installations present a risk of impact rather than a direct impact. The risk would be severe in the case of

a spill, but negligible otherwise. Fishing near oil and gas installations is heavily restricted primarily for safety and infrastructure protection, and there are often strict safety zones in place that prohibit unauthorized access. In some situations, these regulations and structures may confer biodiversity co-benefits (Gass and Roberts, 2006). However, given the potential for catastrophic loss of biodiversity, particularly to benthic species as seen in the Deepwater Horizon oil spill in 2010, there is a high risk of long-lasting destruction due to toxic oil and chemical dispersants smothering the seafloor, leading to severe tissue loss, breakage, and mortality (Girard and Fisher, 2018). Documenting the number of spills or other incidents attributed to the installations may help to quantify the degree of risk involved. Furthermore, for megafauna, the impacts of hydrocarbon activities can be significant (Boisseau *et al.*, 2026).

Through the Norway's integrated ocean management plans, monitoring of the state and development of all human activities and their impact on biodiversity at a general level has been established. Frameworks for human activity are determined based on, among other things, these works. New threats can thus be identified and handled. This is in addition to other monitoring that takes place in the individual sectors. Out to one nautical mile seaward of the baseline, the Planning and Building Act applies, under which environmental considerations must be addressed in all spatial planning. In both processes, information on nature and environmental impacts is collected and used as a basis for decision-making and measures.

In the Mediterranean, oil and gas activities threaten the semi-enclosed Mediterranean through seismic noise, chronic toxic pollution, and severe spill risks. These hazards directly impact endangered marine species, local fisheries, and multibillion-dollar coastal tourism economies. Key threats identified by (Boisseau *et al.*, 2026) include: 1) severe acoustic disruption derived from deep-water seismic surveys utilize air guns that generate low-frequency blasts traveling up to 4000 kilometers under water, leading to the disorientation, habitat displacement, and mass strandings of vulnerable species like sperm whales and beaked whales in biodiversity hotspots. 2) Habitat Destruction & Operational Pollution: Routine drilling discharges, infrastructure installation, and toxic chemical dumping degrade sensitive benthic ecosystems and impact food chains, which are already strained by overfishing and climate change. 3) Oil Spills: Because the Mediterranean is a vital global shipping lane and an enclosed basin, accidental spills or rig blowout cause long-term environmental devastation to marine life and coastal communities. 4) Climate Change: Rising sea temperatures and acidifying waters impact the distribution and optimal habitat of key pelagic and benthic species. OECMs need to build ecosystem resilience through spatial adaptability and temperature refuge protection. 5) Marine Traffic and Noise: High volumes of commercial and recreational shipping cause severe acoustic disturbance to marine mammals and increase the risk of vessel strikes. Speed reductions and transit rerouting are vital management components. 6) Coastal Urbanization and Pollution: Nutrient runoff, microplastics, and physical habitat destruction threaten nursery grounds (like *Posidonia oceanica* meadows). Spatial measures must coordinate with regional land-use regulations. 7) Invasive Species: The influx of Lessepsian species from the Suez Canal alters native food webs. OECM managers need to monitor biodiversity shifts continuously.

6 Template for fisheries managers to report on their management effectiveness of their OECMs

ToR (e) Provide a practical and actionable framework based on the above for managers of capture fisheries OECM to report their ongoing management effectiveness to the CBD.

Preamble

The template was created based on the framework provided by WKTOPS and those criteria defined in Annex III (B), (C) and (D) of the CBD COP decision 14/8 that are deemed relevant to reporting on the OECM management effectiveness. The template offers guidance on how States or competent authorities may record and report on OECM management effectiveness in a standardized but somewhat flexible way. While the guidance is developed to be fully in line with the CBD Decision 14/8 (2018) as the only global policy reference document, only States and other legitimate authorities can decide effectiveness. The template aims to be sufficiently generic to be applicable at different governance scales, levels of assessment and information available, management capacity, and in different cultural contexts. The template serves to demonstrate that the management of the OECM continues to be effective over time, and to produce its expected outcomes. In some instances, it may indicate areas for improvement of the OECM measure and the management system. In considering management effectiveness, the templates consider both the biological/ecological and governance/socioeconomic dimensions of the OECM.

Importantly, not all fields in the template need completion for management effectiveness to be demonstrated, and the narrative field can further elaborate on why certain fields are not applicable. The template is not prescriptive about the type of data used to evidence effectiveness; it allows for evidence from various types of data sources to be described. There is an acceptance that depending on the amount and type of data or information, the robustness and confidence of the assessment will vary and that this may influence the follow-up action, applying the precautionary approach. This is especially relevant to areas identified as likely to contain biodiversity attributes based on geomorphic or water column features.

In considering the long-term commitment of the competent authority to the conservation measures, legally binding instruments and historical performance may be the best evidence base, given an uncertain future. If at any time the conservation objectives of the OECMs are no longer met, the OECM may be improved (e.g., in size, technical measures, enforcement) or withdrawn from the WCMC database, and the changes should be communicated to the CBD Secretariat by the competent authority that identified the OECM in the first place.

Case studies

The template was then populated with information from the two case studies comprising existing OECMs (NEAFC's and NAFO's) and hypothetical ones from Norway and the Pacific to illustrate the type of information that could be presented to inform ongoing effectiveness assessments of fisheries OECMs. These examples illustrate the broad range of information that could be used in both data-rich and data-poor situations. Based on these mock templates, a final template was developed for use by any interested competent authority, as appropriate.

CBD criterion C.3 Achieves sustained and effective contribution to in situ conservation of biodiversity **CBD criterion D.1 Ecosystem functions and services**	**Recognition of other effective area-based conservation measures is expected to include the identification of the range of biodiversity attributes for which the site is considered important (e.g., communities of rare, threatened or endangered species, representative natural ecosystems, range restricted species, key biodiversity areas, areas providing critical ecosystem functions and services, areas for ecological connectivity).** **Ecosystem functions and services are supported, including those of importance to indigenous peoples and local communities, for other effective area-based conservation measures concerning their territories, taking into account interactions and trade-offs among ecosystem functions and services, with a view to ensuring positive biodiversity outcomes and equity.** **Management to enhance one particular ecosystem function or service does not impact negatively on the sites overall biological diversity**

Guidance

- **Describe the information available to infer the continued presence of the biodiversity features, ecosystem functions and services for which the OECM was established.**
- **Describe the biodiversity feature(s) being protected (habitats, emblematic species, Protected or Endangered Species).**
- **Describe the ecosystem functions and services, if known**
- **Provide links to the sources of information when available**
- **Describe the scientific/ information advisory process**
- **Provide estimation of the appropriate time scale for collating such information. This may relate to the life cycle of biodiversity, for long lived species, decadal scale data may be appropriate, for short lived species this should annual**
- **Describe any enabling arrangements between management authority and scientific or related bodies.**

	Requirement	**Measures**	**Timescale when applicable**	**Knowledge-base**
Example: NEAFC	*Assess biodiversity outcomes*	Commitment for receiving continued scientific advice on VMEs (e.g. new scientific evidence that triggers new VMEs being identified)	Annually	NEAFC's formal request for advice (MoU between NEAFC and ICES). All ICES advice is published on its website

Explanation/ Narrative	Unlike most other RFMO/As, NEAFC has not established an internal scientific body but, in line with its Convention, seeks information and advice from the International Council for the Exploration of the Seas (ICES), with which NEAFC has a Memorandum of Understanding (MoU). The MoU states "NEAFC and ICES will work together to arrange for any relevant consolidated data for scientific analysis to be provided to ICES, while ensuring the NEAFC's confidentiality obligations." The Permanent Committee on Management and Science (PECMAS) liaises with ICES and proposes and reviews measures, informs the Commission of new relevant advances in science, and advises the Commission on measures related to area management, including the closing of areas to fishing. The ICES Advisory Committee provides scientific advice to NEAFC based on assessments carried out by expert working groups and an internal peer-review and drafting process. The assessments most relevant to VME issues are undertaken by the ICES–NAFO (Northwest Atlantic Fisheries Organization) Joint Working Group on Deep Water Ecology (WGDEC).

Example: NAFO	*Assess biodiversity outcomes*	Multispecies ecosystem surveys conducted in the NAFO fishing footprint	Annually	Biodiversity data from the surveys are reviewed annually by the NAFO Scientific Council
Explanation/ Narrative:				
CBD criterion B.3 **Area is governed and managed**	**Managed in ways that achieve positive and sustained outcomes for the conservation of biological diversity**			

Guidance

- **Describe the management measure(s) for the biodiversity features that are being protected. This can include the regulations, availability of baseline data and information.**
- **Describe how the information is acquired (e.g. surveys, scientific research, traditional and local knowledge, expert views, etc.).**
- **Describe regulations/enabling arrangements in place related to the management measure**.

	Requirement	**Measures**	**Timescale when applicable**	**Knowledge-base**
Example: NEAFC	*The clarity of the conservation or management objectives and reference values and targets*	Protection of VMEs		Baseline information (from ICES VME databases)
Example: NEAFC	*Describe the observed or expected outcomes of these measures*	VMEs present	Once presence of VME established, decadal monitoring sufficient (as VME long lived and not expected to change quickly).	New studies/surveys (reported via ICES)
Example: NEAFC	*Management measure*	Areas closed to bottom fishing	Ongoing annual advice, 5 yearly reviews. The Scheme of Control and Enforcement is updated as needed.	Recommendation 19:2014 (as amended) and the The NEAFC Scheme of Control and Enforcement
Explanation/ Narrative	In the early 2000s, NEAFC started to implement measures to address the possible adverse impacts of bottom fisheries on deep-sea species and vulnerable marine ecosystems (VMEs). The basis of the approach was scientific advice to NEAFC on probable and actual locations of VMEs provided by the International Council for Exploration of the Sea (ICES). The Commission adopted from 2005 onwards the necessary measures (area closures) to ensure protection of VMEs from any possible significant adverse impacts caused by fishing with bottom gears. An extensive review of NEAFC's actions concerning protection of			

	VMEs was carried out in 2012. This led to the adoption of a new comprehensive measure in 2014 (Recommendation 19:2014), which replaced previous measures to protect VMEs. Apart from the annual ICES advice process, the VME Recommendation also includes a requirement to review the closure of VME areas every 5 years, with the intention of extending the period that the article is in force unless otherwise indicated.			
Example: NAFO	*The clarity of the conservation or management objectives and, if applicable, reference values and targets*	Protection of VMEs from significant adverse impacts of bottom fishing gears		Annual multispecies ecosystem surveys; commercial bycatch; scientific research; published literature
Example: NAFO	*Describe the observed or expected outcomes of these measures*	Protection of VMEs and the biodiversity they contain	Areas closed to bottom-contact fishing are expected to prevent significant adverse impacts on VMEs; annual monitoring of adherence to Conservation and Enforcement Measures (CEMs) and of other threats (e.g., environment) can forewarn of changes to expected outcomes	Multispecies ecosystem surveys, annual STACFEN Standing Committee on the Environment) reviews of environmental conditions in the Convention Area; annual reviews of fishing activity and compliance in the fishing footprint; scientific research
Example: NAFO	*Management measure*	Areas closed to bottom fishing; protocols for exploratory bottom fishing activities; VME encounter protocols for corals and sponges	Annually updated CEMs; review of closed areas approximately every 5 years or when there is new scientific information indicating a VME in a given area, other new scientific information becomes available, or there is significant change in the fishery; in-year review of exploratory fishing activities	Chapter II CEMs
Explanation/ Narrative				

CBD criterion C.3 Achieves sustained and effective contribution to in situ conservation of biodiversity **CBD criterion D.1 Ecosystem functions and services**	**Recognition of other effective area-based conservation measures is expected to include the identification of the range of biodiversity attributes for which the site is considered important (e.g., communities of rare, threatened or endangered species, representative natural ecosystems, range restricted species, key biodiversity areas, areas providing critical ecosystem functions and services, areas for ecological connectivity).** **Ecosystem functions and services are supported and management to enhance one particular ecosystem function does not impact negatively on the sites overall biological diversity**

Guidance

- **Describe the information available to infer the continued presence of the biodiversity features, ecosystem functions and services, for which the OECM was established.**
- **Describe the biodiversity feature(s) being protected (habitats, emblematic species, Protected or Endangered Species).**
- **Describe the ecosystem functions and services, if known**
- **Provide links to the sources of information when available**
- **Describe the scientific/ information advisory process**
- **Provide estimation of the appropriate time scale for collating such information. This may relate to the life cycle of biodiversity, for long lived species, decadal scale data may be appropriate, for short lived species this should annual**
- **Describe any enabling arrangements between management authority and scientific or related bodies.**

	Requirement	**Measures**	**Timescale when applicable**	**Knowledge-base**
Example: Pacific	*Assess biodiversity outcomes*	MCS planning and reporting guarantying the effectiveness of the regulation Stock assessments of pelagic species (commercial species and sharks) Country assessments of coastal biodiversity Local scale or community assessment of coastal biodiversity Marine science international or regional expeditions	Annually or longer-term depending on biodiversity feature targeted and country/region capacity	Onboard observer program data for by-catch available in annual reports WCPFC stock assessments of pelagic resources SPC and/or SPREP scientific and technical advice if required Community-based and/or traditional decision-making processes from indigenous peoples
Explanation/ **Narrative**	Measurements of sustained and effective contribution to *in situ* conservation of biodiversity by OECMs measures may include scientific methods when data and capacity (infrastructure, technical, financial, and staffing) allow it, but also include indirect assessments such as precautionary approach, compliance to conservative regulation, inclusion of traditional knowledge, etc. when former scientifically elaborated elements are not available.			

Example: Norway	*Assess biodiversity outcomes*	Ecosystem surveys in collaboration with PINRO Mareano Seabed Mapping Programme	Annually	Data collected and delivered to the Sea2Data program is stored in Norway at the Norwegian Marine Data Center. There are several publications that build on these datasets.
Explanation/ **Narrative:**	Multiple locations shallower than 1000 m around Svalbard, including the Yermak plateau, have complex habitats with high species diversity, high biomass and abundances and are inhabited by upraised, large bodied species, with no or low mobility, and therefore easily damaged by a bottom trawl. Some areas show high degree of naturalness. Species encompass both VME indicator species and other vulnerable species. The data is in demand, and is routinely submitted and used in quota council, in connection with the Management Plan for Lofoten and the Barents Sea and the Norwegian-Russian bilateral environmental protection commission, various ICES working groups and many projects within the IMR (Institute of Marine research). The entirety of the restricted areas is not covered by the ecosystem surveys, mainly the deep areas west of Svalbard and Bjørnøya. Therefore, we know less about the biodiversity outcomes in these areas compared to the areas covered by the ecosystem surveys. Particularly vulnerable areas (PVAs) have been identified in a scientific process led by Institute of Marine research, based on the EBSA criteria. A report on environmental values and boundaries in existing SVO and proposals for new areas provide some information about environmental values in the restricted areas (Særlig verdifulle og sårbare områder (SVO) i norske havområder - Miljøverdi | Havforskningsinstituttet).			
CBD criterion B.3 **Area is governed and managed**	**Managed in ways that achieve positive and sustained outcomes for the conservation of biological diversity**			
Guidance • **Describe the management measure(s) for the biodiversity features that are being protected. This can include the regulations, availability of baseline data and information.** • **Describe how the information is acquired (e.g. surveys, scientific research, traditional and local knowledge, expert views, etc).** • **Describe regulations/enabling arrangements in place related to the management measure**.				
	Requirement	**Measures**	**Timescale when applicable**	**Knowledge-base**
Example: Pacific	*The clarity of the conservation or management objectives, and if applicable, reference values and targets*	To be defined according to targeted feature with competent national or regional authorities and scientific providers		To be defined according to targeted feature with competent national or regional authorities and scientific providers (SPC/SPREP/WCPFC

		(SPC/SPREP/WCPFC, etc.)		, etc.)
Example: Pacific	*Describe the observed or expected outcomes of these measures*	Depending on the current status of marine biodiversity, it is either preserved (*statu quo*) or improved/restored		
Example: Pacific	*Management measure*	Regional or national protective regulations targeting identified or estimated VMEs and seamounts (closure of bottom-contact activities, etc.) WCPFC regulation (Conservation and Management Measures – CMMs) Additional bycatch avoidance & reduction plan to the WCPFC CMMs in high encounter areas Community-led and customary management measures in favour of biodiversity conservation	Annually or longer-term depending on biodiversity feature targeted and country/region capacity	Public or private information on bathymetry and benthic biodiversity MCS planning and reporting guaranteying the effectiveness of the regulation Countries' annual report to the WCPFC (Part 1 : Information on Fisheries, Research and Statistics) Traditional knowledge from indigenous peoples and community-based fisheries management
Explanation/ Narrative	Potential OECMs implementation in the Pacific could build on existing measures from the WCPFC and national regulations for the offshore area, or for national regulations and community/customary management measures (LMMAs). Offshore OECMs could cover VMEs and seamounts (or any other benthic key biodiversity habitat), bycatch from fishing activities, emblematic and/or endangered species (whale migration routes), and spawning grounds. Coastal OECMs could cover any local or national spatio-temporal measure (enforced or customary) related to biodiversity conservation and stock management, such as no-take or restricted fishing areas, restoration grounds, spawning grounds (for shells, sea cucumbers, crabs, urchins, algaes, etc.), fragile habitats, emblematic and/or endangered species (hump head wrasse, bumphead parrotfish, giant clam, etc.).			

Example: Norway	*The clarity of the conservation or management objectives and reference values and targets*	The protection of vulnerable marine ecosystems is the main objective of the regulation.	No time limit	Based on knowledge derived from more than 10 years of scientific surveys of the seabed ecology and the presence of vulnerable marine ecosystems, ref data sources specified above for criterion C3.
Example: Norway	*Describe the observed or expected outcomes of these measures*	Protection of vulnerable marine ecosystems	Into the foreseeable future	Annual ecosystems surveys
Example: Norway	*Management measure*	Closed areas where fishing is forbidden for all gears that may come in contact with the seabed during fishing operations, or restricted areas where a special permit from the Directorate of Fisheries to be allowed to fish with bottom gear is required. There have not been any such applications to this day. Permits may not be granted in areas where vulnerable marine ecosystems may be present.	No time limit	Regulation on the management of fisheries to protect vulnerable marine ecosystems
Explanation/ **Narrative**				

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Annex 1: List of participants

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Annex 2: Resolutions

2025/WK/HAPISG13 A **Joint ICES/EBCD/IUCN/CEM-FEG Workshop on Assessing Management Effectiveness of Other Effective area-based Conservation measures (OECMs) in marine capture fisheries (WKAMO),** chaired by Daniela Diz (UK, IUCN-CEM-FEG); and Francis Neat (SE, WMU/IMO/UN), will work on ToRs and generate deliverables as listed in the Table below.

	Meeting dates	Venue	Reporting details
Year 2026	5-7 May	ICES HQ, Copenhagen, Denmark and online	Report by 26 June to SCICOM

ToR descriptors

ToR	Description	Background	Science Plan Codes	Year	Expected Deliverables
a	Describe and review the key attributes of a subset of Other Effective Area-Based Conservation Measures (OECMs) already identified, and examples known to be in the process of identification by fisheries bodies, in accordance with CBD decision 14/8 (2018), which, inter alia, defines and establishes criteria for the identification of OECMs. These fisheries OECMs will be both i) for purposes other than *in situ* conservation of biodiversity, and/or ii) in cases where *in situ* conservation of biodiversity is recognized as a management objective.	Fisheries OECMs inherit the broader requirements for general OECMs, including the need to sustain their governance and effective management, and deliver long-term measurable positive biodiversity conservation outcomes. WKAMO will identify a representative subset of fisheries-related OECMs for more detailed examination, as outlined in the other Terms of Reference.	2.2, 6.2, 6.4	2026	Section in the report probably as a tabulated description of the subset of OECMs to be considered.
b	Document and review how the demonstration of management effectiveness has been approached in the examples described in (a): i. Describe the conservation objectives and measures taken in -and eventually around- the fisheries OECMs described in (a), including	OECMs must be effective in the long term. OECMs management effectiveness relates to: i. The clarity of the conservation objectives and related reference values and targets; ii. The quality of the measures taken, their enforcement, and related compliance;	2.2, 6.2, 6.4	2026	Section in the report containing a provisional assessment of the ability of the currently identified fisheries OECMs to demonstrate their effectiveness (achievement of their objectives over the longer term).

	enforcement and monitoring. ii. Describe the observed or expected outcomes of these measures for populations or habitats.. iii. Review the factors that affect or may affect management effectiveness. WKAMO may also look at potential differences when dealing with populations versus habitats and benthic versus pelagic systems.	iii. The extent to which the long-term biodiversity benefits are achieved. In case of recent measures, the extent to which these benefits may be reasonably expected within an acceptable timeframe. Factors of effectiveness ore important in guiding adaptive management in uncertain or changing contexts. WKAMO will review the effectiveness of these measures beyond enforcement and under different scenarios (e.g. exploratory fishing and other permitted activities).			
c	In the context of fisheries-specific management for these OECMs, identify: i. approaches to **monitoring of governance**, **stakeholder involvement** and management systems that contribute to the biodiversity outcomes; ii. **Types of information** for assessment of management effectiveness especially with regards to compliance and monitoring threats, pressures and related impacts; iii. **Expected time-scales** over which biodiversity benefits could be expected to be detected for different ecosystem components and management measures.	Following the review of management measures on a subset of OECMS in ToR b), WKAMO will discuss and agree on what constitutes a reasonable, pragmatic and measurable way of assessing the biodiversity outcomes. Assuming that fisheries management organizations acknowledge that further improvements are possible and are willing to enhance their contributions, WKAMO will explore opportunities for strengthened monitoring using existing programmes (e.g. scientific surveys, (ICES) VME database, national surveys (Scotland (Rockall), Norway (Mid Atlantic Ridge), Spain (Hatton Bank), case studies). WKAMO will also propose new initiatives for management organizations including options for industry-based information and involvement and the development of joint monitoring programmes.	2.2, 6.2, 6.4	2026	Section in the report

d	Provide examples on how impacts and management measures from **non-fisheries anthropogenic activities** in the marine environment can be combined with the assessments identified in ToR b.	WKAMO aims at collating information on anthro-pogenic activities other than fishing that overlap in space and time with (fisheries) OECMs and can help monitor the management effectiveness of OECMs, and identify non-fisheries impacts that may interfere with fisheries management effectiveness in the achievement of biodiversity conservation outcomes. WKAMO will make use of existing sources (e.g. ICES ecosystem overviews, NAFO,…) and evaluate examples of these activities (e.g. offshore renewable energy, shipping, deep sea mining military, litter) and their potential use. Future environmental threats impacting OECMs like ocean acidification or climate change will also be discussed.	6.2, 6.4	2026	Section in the report
e	Provide a practical and actionable framework based on the above for managers of capture fisheries OECM to report their ongoing management effectiveness to the CBD.	Despite the requirement to report on management effectiveness for OECMs, there is currently no harmonised approach that is well understood by fisheries bodies, and the existing MPA reporting template is not suitable for fisheries-related OECMs. WKAMO will therefore develop a ready-to-use template specifically tailored to fisheries OECMs, providing practical guidance to help fisheries managers meet their obligations to report on ongoing management effectiveness to the CBD.	6.2, 6.4	2026	Section in the report

Supporting information

Priority	There is a need to report to the WCMC WD OECM on management effectiveness evaluations for OECMs created through fisheries management plans and regulations. Guidance on reporting on the monitoring of governance, stakeholder involvement and management systems that contribute to the biodiversity outcomes, as highlighted by the CBD COP, has not previously been addressed and has been identified as a knowledge gap by Regional Fisheries Management Organizations preparing submissions to the World Database on OECMs. This workshop is considered a high priority as there is need to develop a harmonised approach to assessment that is well understood by the fisheries bodies.
Resource requirements	Standard support
Linkages to ICES committees or groups	ACOM, SCICOM, HAPISG, WGDEC, WGMPAS.
Linkages to other organizations	Links to NEAFC, NAFO, OSPAR, FAO and ICCAT.

Annex 3: List of abbreviations and acronyms commonly used in this report

ABFM	Area-based fisheries management measures
ABMT	Area-based management tool
ABNJ	Area beyond national jurisdiction
CBD	Convention on Biological Diversity
EBSA	Ecologically or biologically significant marine areas
ENGO	Environmental non-governmental organization
FAO	Food and Agriculture Organization of the United Nations
GBF	Kunming-Montreal Global Biodiversity Framework
GFCM	General Fisheries Commission for the Mediterranean
ICES	International Council for the Exploration of the Seas
IMO	International Maritime Organization
IPLC	Indigenous Peoples and Local Communities
ISA	International Seabed Authority
IUCN-CEM-FEG	International Union for Conservation of Nature (IUCN), Commission of Ecosystem Management (CEM), Fisheries Expert Group (FEG)
MCS	Monitoring, Control, and Surveillance
MPA	Marine protected area
NAFO	Northwest Atlantic Fisheries Organization
NCEM	NAFO Conservation and Enforcement measures
NEAFC	North-East Atlantic Fisheries Commission
OECM	Other effective area-based conservation measure
OSPAR	Convention for the Protection of the Marine Environment of the North-East Atlantic
RFMO	Regional Fisheries Management Organisation

SPC	The Pacific Community
UNEP-WCMC	United Nations Environment Programme – World Conservation Monitoring Centre
UNGA	United Nations General Assembly
VME	Vulnerable marine ecosystem
VMS	Vessel Monitoring System
WD-OECM	World Database on OECMs
WKTOPS	ICES/IUCN-CEM FEG Workshop on Testing OECM Practices and Strategies