

SUBMISSION TO THE UN SECRETARY GENERAL ON THE ACTIONS TO ADDRESS THE IMPACTS OF DEEP SEA FISHING ON VULNERABLE MARINE ECOSYSTEMS (VMES) MARCH 15, 2022 Canada has actively participated in the United Nations (UN) discussions leading to the adoption of commitments for the identification and protection of vulnerable marine ecosystems (VMEs) in Resolution 61/105 in 2006 and subsequent discussions contained in Resolution 64/72 (2009) and 66/68 (2011) to strengthen these commitments. Canada continues to support the process by which these Resolutions were negotiated and the application and implementation of these commitments at both regional and global levels. While the scope of these commitments in both Resolutions applies to areas beyond national jurisdiction, Canada has also undertaken domestic efforts to identify and protect VMEs.

Canada attaches great value to the implementation of the International Guidelines for the Management of Deep-sea Fisheries in the High Seas from the Food and Agriculture Organization of the UN (FAO), as they provide tangible direction regarding the protection of VMEs to scientists, fisheries managers and the fishing industry. The FAO Guidelines further elaborate key concepts found in Resolution 61/105, such as the definitions of VMEs and significant adverse impacts, the components of an assessment, and examples of mitigation measures. The FAO Guidelines also provide examples of species groups, communities and habitat-forming species that are documented or considered sensitive and potentially vulnerable to fishing activities in the high-seas. Canada's guiding policy-making principles, including the use of the precautionary and ecosystem approaches, are in line with those underlying the FAO Guidelines and relevant UN Resolutions.

Since 2011, Canada has undertaken a variety of measures to maintain and strengthen the implementation of the relevant sections of these Resolutions to ensure the conservation of VMEs in areas beyond national jurisdiction through participation in international fora, such as the FAO, Convention on Biological Diversity (CBD) and regional fisheries management organizations (RFMOs), and nationally through domestic policy developments and targeted enforcement.

# The Canadian Perspective

At the domestic level, Canada's approach to VME protection considers all ocean activities that may have an impact on VMEs, and is not limited to only commercial fisheries. The management and protection of fisheries resources and the responsibility for Canada's Ocean Strategy falls under the mandate of Fisheries and Oceans Canada (DFO). DFO works with all stakeholders and interested parties, including provinces and territories, Indigenous groups/communities, industry, and environmental non-governmental organizations to achieve its mandate.

Canada is committed to sustainable development and safe use of Canadian waters and, as such, works towards the integration of environmental, economic, scientific, and social perspectives to ensure that Canada's oceans and freshwater resources benefit this generation and those to come. More specifically, the *Fisheries Act*, *Oceans Act* and the *Species at Risk Act* all contain measures that can be used for the protection of VMEs.

Internationally, Canada has demonstrated leadership in meeting its international commitments on protection and conservation under the UN Convention on Biological

Diversity (CBD). By the end of 2021, Canada conserved almost 14 % of its marine territory. and is committed to conserve 25% of lands & oceans by 2025 and 30% by 2030. Working towards the adoption of the post-2020 Global Biodiversity Framework and, Canada strongly supports setting a global target to conserve 30% of oceans by 2030, thus ensuring that areas which require protection are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures (OECMs).

### A Responsible Fishing Nation

Canada is a coastal fishing nation and does not operate a significant distant water fleet. Canadian-flagged vessel activity outside of Canada's exclusive economic zone occurs almost exclusively in RFMO/As regulatory waters. All high seas fishing in regulated or unregulated areas as well as activities occurring in another State's waters are subject to domestic licensing requirements, which require compliance with Canadian domestic laws in all areas of the high seas areas, including areas where no RFMO exists, creating additional obligations for Canadian fishers outside Canadian Fishery Waters

## Canada's Supporting Policies and Tools

### Sustainable Fisheries Framework (SSF) and the Precautionary Approach

Since its last report in 2016, Canada has continued to implement its Sustainable Fisheries Framework in the fisheries it manages and has published new national policies under the Framework. The Sustainable Fisheries Framework and associated policies provide the basis to ensure that Canada's fisheries are conducted in a manner that supports conservation and sustainable use. While applying the policies and tools of the Sustainable Fisheries Framework into the decision-making process for each fishery, Canada ensures that the biological and socio-economic consequences of all proposed management measures are considered. The policies and tools are also linked to broader integrated management processes, such as the planning forums for managing sections of Canada's oceans known as Large Ocean Management Areas.

A key policy under the Sustainable Fisheries Framework is the "Precautionary Approach", which is about being cautious when scientific knowledge is uncertain, and not using the absence of adequate scientific information as a reason to postpone action or failure to take action to avoid serious harm to fish stocks or their ecosystem. This approach is widely accepted internationally as an essential part of sustainable fisheries management.

A key component of the Precautionary Approach requires that when a stock has declined to a critical zone, a rebuilding plan must be in place with the aim of having a high probability of the stock growing out of the critical within a reasonable timeframe.

Under the Sustainable Fisheries Framework, Canada has also continued to implement the *Policy for Managing the Impacts of Fishing on Sensitive Benthic Areas (2009)*. This policy provides a systematic, transparent, and consistent approach to addressing sensitive benthic area issues in Canadian fisheries as it applies to all commercial, recreational, and

Indigenous marine fishing activities that are licensed and managed by Canada in areas under Canadian jurisdiction and those fishing activities licensed and enforced beyond national jurisdiction. The policy requires greater precaution when fishing activities are being considered in frontier areas. It also gives special consideration to historically fished areas that have not been exposed to bottom-contact fishing. In particular, proposals for new bottom-contact fishing in historically fished areas require risk assessments prior to any activity proceeding. Ongoing fishing activities and proposals to expand fishing activities in historically fished areas are processed through existing management planning processes, including regional advisory processes for harvesting management plans and IFMPs. Where such planning processes do not exist, new mechanisms to engage resource users and others with an interest in the resource have are being developed.

In 2019, Canada launched the *Fisheries Monitoring Policy* that sets out objectives and methods to ensure robust fishery monitoring in Canada's federally-managed wild capture fisheries. The goal of the policy is to establish dependable, timely and accessible fishery information that is essential for the sustainable management of fisheries. Fishery monitoring is conducted using a wide range of data collection methods, including independent observers at-sea as well as at the docks.

### Ecological Risk Assessment Framework (ERAF)

In 2013, Canada published the *Ecological Risk Assessment Framework (ERAF)*, which outlines a process for identifying the level of ecological risk of a fishing activity and its impacts on sensitive benthic areas in the marine environment. This framework was developed specifically in consideration of cold-water corals and sponge-dominated communities. Since its publication, the ERAF has been applied in a number of fisheries and areas. It is designed to help managers determine the level of risk posed by specific fishing activities on benthic environments, such as cold-water corals and sponge-dominated communities, and develop appropriate management and mitigation actions where necessary.

#### The Fisheries Act

In 2019, Canada amended its *Fisheries Act* was in order to create legal requirements for managing fish stocks to levels necessary to maintain their sustainability or to develop and implement a rebuilding plan for stocks which are depleted. This aligns with the requirements of the Precautionary Approach Policy. These provisions only apply to key stocks prescribed under regulations. Canada's Department of Fisheries and Oceans (DFO) is working on amendments to the Fishery (General) Regulations which will launch the Fish Stocks provisions and set out the required contents of rebuilding plans, prescribing the first batch of 30 major fish stocks to which the Fish Stocks provisions will apply.

## The Oceans Act

In 2019, Canada amended its *Oceans Act*, as part of its efforts to meet ambitious conservation targets. The amendments to the Act provide the Minister of Fisheries and Oceans and Governor in Council with additional authorities to establish and determine the

boundaries of Marine Protected Areas, all while improving the Minister's ability to implement the precautionary principle when designating new MPAs under the Act. This means that a lack of scientific certainty regarding the risks posed by activities would not be used as a reason to postpone the decision regarding the designation of an MPA. The amendments to the Act also strengthen its enforcement provisions, including enforcement officer's powers, compliance orders; offences and punishment (e.g., fines); proceedings against ships; and, increasing the limitation period to five years.

To complement the proposed amendments to the *Oceans Act*, Canada also updated its *Petroleum Resources Act* prohibiting oil and gas activities, mining, dumping, and bottom trawling for all newly established federal MPAs. The only exceptions to these prescribed standards are the use of bottom trawling for Indigenous food, social, and ceremonial purposes, as well as for scientific research purposes, where the activities within the MPA do not pose a significant risk to the conservation objectives of the MPA. Through the prohibition of bottom trawling in newly established MPAs corals, sponges, hydrothermal vents, and other sensitive benthic features are protected.

## The role of science in decision-making

Canada funds and supports scientific research and international collaboration to inform policy and decision-making functions, as well as deliver on UN commitments to manage fisheries in a sustainable manner and to protect VMEs and biodiversity in the high seas from significant adverse impacts. Canada's International Governance Strategy (IGS) seeks to enable greater international consensus and capacity building (e.g., improved knowledge, management, standards, and agreements) in order to advance the implementation of sustainable practices worldwide, which includes the VME commitments found in Resolutions 61/105, 64/72 and 66/68. Areas of focus include:

- Identification, characterization and mapping of VMEs;
- Assessment of significant adverse impacts and recoverability;
- support the establishment and management of protected areas; and
- Research and advice for the development of science-based encounter protocols.

## Identification of VMEs

In 2011, Canada participated in a review of over 500 invertebrate taxa caught in research vessel surveys in the Northwest Atlantic Fisheries Organization (NAFO) Regulatory Area against the FAO Guidelines for identifying VMEs. In addition to the coral and sponge taxa that were previously recognized, three new groups emerged as potential indicators of VMEs: crinoids, erect bryozoans and large sea squirts. In addition, seamounts, canyon heads, spawning areas and knolls which are listed in the FAO Guidelines and are included as VME elements were identified. In particular, the SE Shoal on Grand Bank was identified as a VME element containing unique spawning grounds for capelin, marine mammal feeding grounds, and long-lived and relict bivalve populations in sandy shoal habitats. Similarly, Beothuk Knoll was highlighted as having large gorgonian corals and an area where very large sponge catches (> 1000 kg) have been reported. All of the new VME indicators and elements were mapped, and Canada produced a new identification guide

that updated the previous guide for identification of corals and sponges and added the newly identified VME indicator species. The new guide was produced to improve reporting relating to the implementation of the ecosystem approach in support of resolution 61/105. NAFO is preparing for a review of its bottom fisheries, including its management measures for VMEs, to be presented at its annual meeting this September.

Canada has undertaken annual stock surveys in the NAFO area and contributed to the stock assessments underpinning the science advice to the Fisheries Commission. Canada and Spain led a multidisciplinary international program, NEREIDA, to identify VMEs on Flemish Cap and the Nose and Tail of Grand Bank. This project conducted field work from 2009 to 2010 and data analysis is ongoing. In 2015 Canada led a 17 day mission onboard the Canadian Coast Guard ship Hudson to collect underwater imagery and other data in support of the identification of sea pen, erect bryozoan and stalked tunicate VMEs on the Tail of Grand Bank, and the collection of baseline data for monitoring the effectiveness of areas closed to protect sea pens on Flemish Cap.

#### Conducting assessments for significant adverse impacts

As previously noted, in 2013, Canada published an Ecological Risk Assessment Framework (ERAF) to help identify the level of ecological risk of fishing activity and its impacts on sensitive benthic areas in the marine environment. The ERAF was designed to apply to cold-water corals and sponges. Where the fishing activity presents a low risk to the corals and sponges, no additional management options are generally required. Where risk levels are determined to be moderate, additional management options may be required based on the specific circumstances of the fishery and benthic habitat being investigated. Examples may include changes to the fishing methods. Where the risk has been determined to be high, additional management options will usually be required. Examples include fisheries closures or gear modifications and/or restrictions.

Under the Sustainable Fisheries Framework Canada reports on the results of two fishery performance indicators each year: *the status of key fish stocks* and the *harvest level of key fish stocks*. Of the 180 key stocks assessed in 2020, 56 stocks (31%) were classified as *healthy*, 23 stocks (13%) as *cautious*, 23 stocks (13%) as *critical*, while 78 stocks (43%) could not be classified and have an uncertain status. Of the 180 key stocks assessed in 2020, 177 (98%) were harvested at or below approved levels, while only three stocks (2%) were harvested above approved levels. More details on this indicator can be found <u>here</u>

#### Implementing management measures (including closures) based on best available science and precautionary principle

Canada has published Cold-Water Coral and Sponge Conservation Strategies for both the Pacific coast (2010) and Eastern Canada (2015) and continues to take steps to implement its Policy on Managing Fishery Impacts on Sensitive Benthic Areas, using the best available scientific advice.

Since 2011, Canada has continued to apply its Sustainable Fisheries Framework in commercial, recreational and Indigenous fisheries. To date, Canada has introduced limit

reference points in 112 of 180 key fish stocks and associated harvest control rules in 116 of 180 major fish stocks (data from DFO's 2020 <u>sustainability survey for fisheries data).</u>

In addition, Canada has introduced *Rebuilding Plan Guidelines* to guide the development of rebuilding plans for severely depleted fish stocks (e.g. in the critical zone). The guidelines ensure that rebuilding plans are developed in a nationally coherent manner that is consistent with the conditions set out in Canada's Precautionary Approach Policy.

## Research and advice to support protected areas

The Canadian Science Advisory Secretariat (CSAS) has provided science advice concerning the occurrence, sensitivity, and ecological function of corals, sponges, and hydrothermal vents in Canadian waters. Many processes provided advice on the extent of corals, sponges, and hydrothermal vents in Pacific, Arctic, and Atlantic waters. For example, a 2017 process delineated coral and sponge areas in Canada's Atlantic and eastern Arctic waters, and their overlap with fishing activity (SAR 2017/007). This advice was used in the creation of protected areas with benthic conservation features.

CSAS has also provided advice on the management of these sensitive areas in relation to human activities. For example the 2006 report titled *Impacts of Trawl Gears and Scallop Dredges on Benthic Habitats, Populations and Communities* (SAR 2006/025), discussed the impact of bottom contact gears on the benthos, and provided mitigations and management recommendations. Advice released in 2021 suggested an avoidance mitigation framework for exploratory drilling to eliminate or minimize impacts on corals and sponges (SAR 2021/028). Another process in 2021 recommended a national monitoring framework for protected areas with coral, sponge, or hydrothermal vents as the conservation focus (2021/048).

## <u>Canada's participation in Regional Fisheries Management Organizations</u> (RFMOs)

The convention text of all RFMOs established since UNFSA include a reference to the ecosystem-based approach to fisheries management, meaning that they are mandated to take into account the environmental impacts of the fisheries under their respective mandates. As such, fishing activities are only authorized if they are in accordance with the conservation and management measures of the relevant RFMO. For the RFMOs to which Canada is a member that do not contain references to the ecosystem-approach in their convention text, processes are underway to include the principle.

## Northwest Atlantic Fisheries Organization (NAFO)

As the primary coastal state in the NAFO, and in light of the ecological importance of Canada's eastern continental shelf, Canada has played a leadership role in the adoption of key measures to protect VMEs in NAFO. NAFO has taken a number of measures to implement the Guidelines, including, inter alia, defining and continuing to update a list of habitat forming VME indicator species found in the NAFO Regulatory Area, implementing encounter thresholds and move-on rules, and prohibiting bottom fishing activities through

the implementation of a growing network of seamount and VME closures in areas where these species are known or predicted to form significant concentrations.

In support of UNGA resolution 66/68 article 182, Canada has promoted continued marine research into the identification and protection of VMEs in the NAFO Regulatory Area, which is being advanced through two working groups: 1) the Working Group on Ecosystems Science Assessment (WG-ESA) conducts assessments of VME habitats and the significant adverse impacts of bottom fishing in the NAFO Regulatory Area; and, 2) the Working Group on the Ecosystem Approach Framework to Fisheries Management (WG-EAFFM), a joint management – science group to review the advice of the Scientific Council (based on WG-ESA's work) and provide management recommendations to the Commission. The Scientific Council conducted a reassessment of NAFO bottom fisheries in 2021 and will continue to do so in five year intervals.

Canada has played a leading role and has worked with other Contracting Parties in NAFO to identify and close bottom fishing in areas where fishing activities would cause significant adverse impacts on VMEs. In 2022, based on a joint Canadian/US proposal, NAFO has expanded and refined the boundaries of its existing seamount area closures, added six new seamount closures, and extended the duration of the all seamount closures for another five years. As a result, all seamount areas in the NAFO Regulatory Area at fishable depth (i.e. shallower than 4000 metres) are now closed to bottom contacting fishing gears until December 2026.

In 2021, Canada contributed to NAFO's review of the boundaries of its VME closures on the basis of new analysis by the Scientific Council. As a result, in 2022 all of the existing closures were extended for another five years, and five of these closed areas were increased in size. A further four new VME closures were established for an interim period of two years pending further analysis by the Scientific Council. In all, the areas closed to bottom fishing total 372,201 km<sup>2</sup>, representing 14 per cent of the NAFO Regulatory Area. The expansion and extension of the area closures on seamounts and VMEs were based on the Significant Adverse Impact (SAI) analysis, to which Canada made significant contributions.

Thresholds for significant encounters have also been established, on the basis of scientific assessments inside the fishing footprint and on adjacent continental slopes, at 7 kg for sea pens, 60 kg for other live coral and 300 kg for sponges. Catches in excess of these amounts trigger a "move-on rule", requiring a vessel to move two nautical miles before recommencing fishing operations, and to inform their national administrations of the encounter, who then pass the information to the Secretariat, which informs the Scientific Council.

Since the implementation of NAFO's first measures for the protection of VMEs in 2008, NAFO has established a process for reviewing these measures, allowing for refinement on the basis of the most up to date scientific information. This ongoing review forms one component of NAFO's ecosystem approach framework (EAF) for fisheries management, ensuring that assessments are undertaken on a regular basis, and that all reports and documents are publicly available.

North Pacific Fisheries Commission (NPFC)

With an expansive Pacific coast, Canada is one of the founding Members of the NPFC, which was established in 2015 with the *Convention on the Conservation and Management of High Seas Fisheries Resources in the North Pacific Ocean*. Its principal objective is to ensure the long-term conservation and sustainable use of fisheries resources in the North Pacific Ocean while protecting the marine ecosystems in which these resources occur. In furtherance of this objective, one of the NPFC's areas of focus is the protection of biodiversity, which includes preventing significant adverse impacts on VMEs. This is done in accordance with international standards and guidelines, such as the *International Guidelines for the Management of Deep-Sea Fisheries in the High Seas*.

Canada plays an active and leading role in achieving these objectives, providing scientific expertise and developing binding conservation and management measures in with the ecosystems approach to fisheries management. In 2011, Canada was among the Commission Members that adopted interim protective and sustainable management objectives (in line with relevant UNGA Resolutions) for the North Eastern Pacific Ocean. Since then, the NPFC has adopted two binding measures to manage bottom fisheries and protect vulnerable marine ecosystems. These measures include provisions limiting fishing effort in bottom fisheries, prohibitions on fishing a particular indicator species, and the closure of certain seamount areas for precautionary reasons.

In 2021, Commission Members concluded surveys and studies on the Emperor Seamounts, and, with significant input from Canadian officials, continued to develop a quantitative definition for VMEs. The NPFC indicated that its scientific bodies, as part of their efforts to implement an ecosystems approach, will aim to build consensus on identification criteria for region-specific VMEs, analyze existing VMEs in the North Pacific Ocean, and identify data collection needs to support areas of research.

#### Other international efforts

#### Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean

On October 3, 2018, Canada entered into the international *Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean* (CAO Fisheries Agreement) with the four other Arctic coastal states (Denmark, on behalf of the Faroe Islands and Greenland, the Kingdom of Norway, the Russia Federation, and the United States of America) and five additional parties with an interest and potential capacity to fish in the region (China, Japan, South Korea, Iceland, and the European Union). The Government of Canada is the depositary for the Agreement. Following ratification by the tenth and final signatory, the CAO Fisheries Agreement entered into force on May 26, 2021.

This legally binding agreement is the first international agreement of this magnitude to be reached before commercial fishing takes place in a high seas area. The entry into force of the Agreement prevents commercial fishing from taking place in the central Arctic Ocean, for an initial period of 16 years, until the parties have a greater scientific understanding of the area and ecosystem-based measures are in place to regulate commercial fisheries. To this end, Canada and the other parties are committed to establishing, by June 2023, a program of joint scientific research and monitoring to gain a better understanding of the Arctic Ocean ecosystems and the potential for sustainable fisheries in this area in the

future. The CAO Fisheries Agreement also contains provisions for the participation and inclusion of Arctic Indigenous Peoples and Northern communities throughout its implementation. Their knowledge, in conjunction with scientific research, will be important in considering an ecosystem-based approach to the development of effective conservation and management measures for the area going forward.

## Exchanging and developing best practices across fisheries and regions

Between 2012 and 2018, Canada provided expert technical advisors to 6 FAO Regional Workshops on VMEs which discussed approaches for the implementation of the Guidelines and shared experiences in identifying and protecting VMEs. Canada has taken a lead role in preparing the NAFO contribution to the FAO Technical Publication on "Process and Practices for the Management of Vulnerable Marine Ecosystems in the High Seas" and has provided technical expertise to the development of the FAO Global VME Database, which is a global inventory of the fisheries measures to protect VMEs in areas beyond national jurisdiction. Canada also provided expert advisors to the 2011 United Nations General Assembly Division for Ocean Affairs and the Law of the Sea (DOALOS) Impacts of Bottom Fisheries on VMEs and the Long-term Sustainability of Deep Sea Fish Stocks Workshop and to the 2012 NEAFC Symposium on Bottom Fisheries.

Canada supports a comprehensive and practical approach to protecting high seas biodiversity, and is active in the Convention on Biological Diversity (CBD) processes to identify and protect EBSAs and to develop networks of marine protected areas and other effective area-based conservation measures (OECMs). Canada hosted and participated in a CBD Expert Workshop on Marine Protected Areas and Other Effective Area-based Conservation Measures for achieving Aichi Biodiversity Target 11 in Marine and Coastal Areas in Montreal (February 6-9, 2018) and participated in a CBD Expert Workshop to Identify Options for Modifying the Description of Ecologically or Biologically Significant Marine Areas and Describing New Areas in Brussels (February 3-5, 2020). The CBD has, through regional workshops, described areas that meet the criteria for EBSAs in most of the world's ocean areas beyond national jurisdiction, as well as areas located in some domestic waters. In accordance with CBD guidance, Canada have also developed national processes to describe EBSAs.

## Monitoring, Control and Surveillance (MCS) and Enforcement

Canada has a robust and diversified Monitoring, Control and Surveillance regime in place for monitoring compliance with the fisheries policy, regulations and conditions of licence, in domestic waters and in relevant RFMOs, such as NAFO. Monitoring takes place in ports and at points of landing, at sea from patrol vessels and from the air using surveillance aircrafts fully equipped with the latest technologies. Monitoring is also supported through electronic tracking methodologies such as VMS, through the deployment of at sea observers and dockside monitors, and through interdepartmental, intergovernmental and international cooperation.

Canada is an active member and leader in the International Monitoring Control and Surveillance (IMCS) Network . This network was developed on the recommendations of the Ministerially-led High Seas Task Force (of which Canada was a part) in the mid-2000s and

its intention was to provide a forum to facilitate the sharing of information and best practices amongst MCS practitioners. Article 54 of the 2009 FAO International Guidelines for the Management of Deep-Sea Fisheries in the High Seas encourages states to participate in the IMCS Network. The issue of "stopping IUU fishing" is front and centre for the members and participants. Canada continues to work actively with the IMCS and is extensively involved with planning upcoming virtual seminars on MCS topics linked to combatting IUU fishing and plans to co-host the 7th Global Fisheries Enforcement Training Workshop in Canada in July 2023.