



A TECHNICAL REVIEW OF CANADA'S OTHER EFFECTIVE AREA- BASED CONSERVATION MEASURES:

Alignment with DFO Guidance, IUCN-
WCPA Guidance and CBD SBSTTA
Guidance

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PREAMBLE

In April 2018, new oil and gas leases were announced by the Canada-Newfoundland and Labrador Offshore Petroleum Board (CNLOPB) within the Northeast Newfoundland Shelf Closure. In May 2018, the Canada-Nova Scotia Offshore Petroleum Board (CNSOPB) delayed announcement of 2018 bids in order to further engage with Fisheries and Oceans Canada on overlap of oil and gas bid areas and fisheries closures in place currently, as well as overlap with future protections in the draft MPA network plan for Maritimes Region. In October 2018, the National Advisory Panel on Marine Protected Area Standards recommended that oil and gas be prohibited in MPAs, but not OECMs. On November 7, 2018 the CNLOPB awarded exploratory leases within the Northeast Newfoundland Shelf Conservation Area. These situations underscore the importance of protecting areas fully under protected area legislation and significantly weakens the federal government's efforts to protect areas under the *Fisheries Act*. Rectifying this situation is critical to Canada's international reputation and declared leadership on marine protection.



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SEABLUE CANADA

SeaBlue Canada is an alliance of Environmental Non-Governmental Organizations (ENGOS) that are cooperating in advocating for a better protected ocean. Specifically, SeaBlue advocates for stronger protection standards for our existing marine protected areas and an expansion of the area protected to meet Canada's goal of 10% protection by 2020. SeaBlue Canada is: Canadian Parks and Wilderness Society, David Suzuki Foundation, Ecology Action Centre, Oceans North, West Coast Environmental Law, and WWF-Canada.

ACRONYM LIST

CBD	Convention on Biological Diversity
CCEA	Canadian Council on Ecological Areas
CNLOPB	Canada – Newfoundland and Labrador Offshore Petroleum Board
CNSOPB	Canada – Nova Scotia Offshore Petroleum Board
DFO	Fisheries and Oceans Canada
EBSA	Ecologically and Biologically Significant Area
ECCC	Environment and Climate Change Canada
IUCN	International Union for Conservation of Nature
OECM	Other Effective Area-Based Conservation Measure
MPA	Marine Protected Area
NMCA	National Marine Conservation Area
SBA	Sensitive Benthic Area
SBSTTA	The Subsidiary Body on Scientific, Technical and Technological Advice
UNGA	United Nations General Assembly
UNDRIP	United Nations Declaration on the Rights of Indigenous Peoples
WCPA	World Commission on Protected Areas

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EXECUTIVE SUMMARY

Since 2015, Canada has made significant strides in meeting its international commitments on marine protection and conservation under United Nations Convention on Biological Diversity (CBD) Aichi Target 11. Achievements as of June 2018 include the establishment of the St. Anns Bank, Hecate Strait and Queen Charlotte Sound Glass Sponge Reefs, and Anguniaqvia Niqiyuam marine protected areas (MPAs) under the *Oceans Act*; as well an agreement on a final boundary for the Tallurutiup Imanga National Marine Conservation Area (NMCA). However, much of Canada's progress on reaching Aichi Target 11 has been achieved through Other Effective Area-Based Conservation Measures (OECMs)¹ - with the focus of these measures solely on fisheries area closures. As of June 2018, 4.78% (277,712.3 km²) of the 7.75% announced as protected has been achieved through *Fisheries Act* closures. Measures under the *Fisheries Act* can only be used to protect areas from the impacts of fishing and may prohibit activities which are deemed to negatively impact fish habitat, but do not provide for full protection of biodiversity. These sites have been designated OECMs prior to agreed international guidance regarding what constitutes an effective OECM, resulting in some controversy and concern about the precedent these sites may set on the international stage.

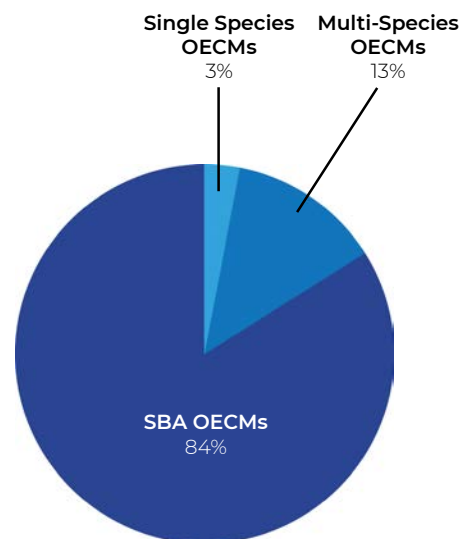
To determine if Canada's OECMs effectively contribute towards Aichi Target 11 we used a novel scoring approach to evaluate all of Canada's OECMs (54 sites) against guidance developed by three different entities - Fisheries and Oceans Canada (DFO), the International Union for Conservation of Nature's World Commission on Protected Areas (IUCN-WCPA), and the Convention on Biological Diversity's Subsidiary Body on Scientific, Technical and Technological Advice (CBD SBSTTA). We also categorized three types of OECMs - those protected under DFO's Sensitive Benthic Areas Policy (SBA), those considered to protect multiple species and those designated through a single species measure.



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¹ We have used the internationally accepted acronym for other effective area-based conservation measures "OECMs" - rather than the terms used by DFO - "OEABCM" or "marine refuges" - to align with international standards and terminology.

FIGURE 2. Proportion of total area protected by Canadian OECMs, by category



Of the 233,498 km² of ocean protected within OECMs, the majority (84% by area) are protected as SBA closures, multi-species closures protect an additional 13% and single species closures protect the remaining 3% of the total area. Using our scoring methodology, we found that 73% of the area protected within OECMs either fully or likely met DFO criteria, while 27% were unlikely to meet DFO criteria. While 61% of the area protected within OECMs was either fully or likely to meet the IUCN-WCPA criteria, 36% was unlikely to meet the criteria and 3% did not meet IUCN-WCPA criteria. Finally, 40% of the area protected

within OECMs are likely to meet CBD SBSTTA criteria, 40% are unlikely to meet the criteria and 20% did not meet CBD SBSTTA criteria.

The majority of Canada's OECMs do not have a management and monitoring plan outside of fisheries management and as such their effectiveness over time may not be adequately assessed. Consequently, this means that in-situ biodiversity conservation is not being achieved or may not be achieved. We recognize that Canada has used the *Fisheries Act* as a means to protect areas largely due to the timeframe in which progress needs to be made and because other legislative mechanisms including Canada's *Oceans Act* and the *Canada National Marine Conservation Areas Act* require extensive consultation and multi-stakeholder processes as well as comprehensive regulatory changes.

Based on the results of our analysis, we provide general recommendations to improve Canada's OECMs, to provide for greater biodiversity conservation and to ensure Canada accomplishes its international targets. We also provide recommendations for improvements to individual OECMs that, if addressed, could improve protections within these areas. Finally, we explore other forms of OECMs that Canada could pursue to contribute towards its progress on achieving 10% marine protection by 2020.



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FIGURE 1

Canadian Other Effective Area-based Conservation Measures

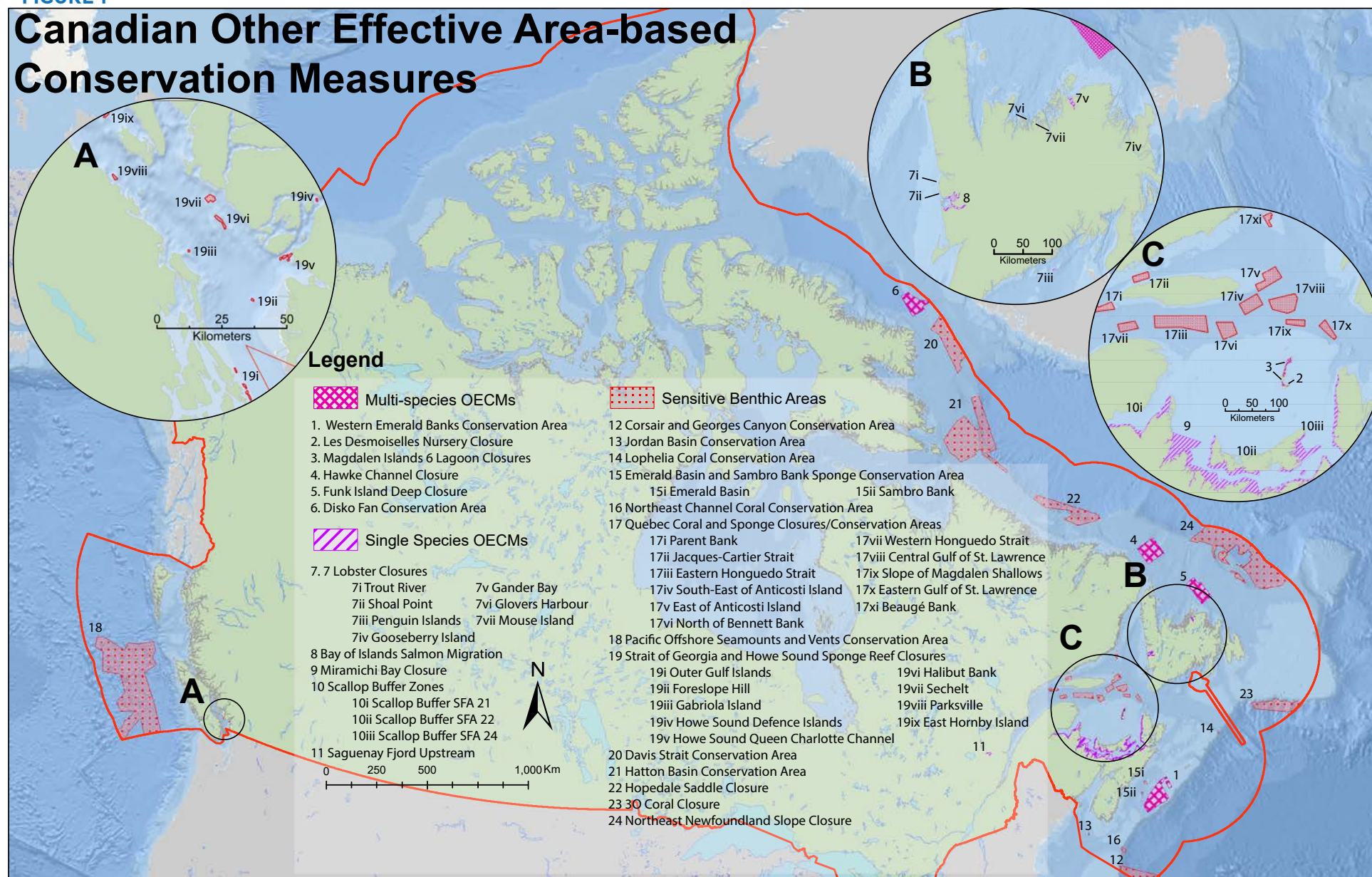


TABLE 1. RECOMMENDATIONS TO IMPROVE PROTECTION FOR CANADA'S OECMs

RECOMMENDATION 1	The Parliament of Canada should adopt the proposed changes to the <i>Fisheries Act</i> as included in Bill C-68 to make OECMs permanent, rather than the current 25-year time frame.
RECOMMENDATION 2	DFO should ensure that OECMs protected under the Policy to Manage the Impacts of Bottom Fishing on Sensitive Benthic Areas are following, at minimum, DFO Newfoundland and Labrador's science guidance of 70% protection for coral and sponge areas and ideally protect 100% of areas identified as significant benthic areas. In doing so, long term in-situ biodiversity conservation is more likely to be achieved and 'size' criterion is more likely to be satisfied.
RECOMMENDATION 3	Use the ecological components identified as part of the Ecologically and Biologically Significant Area (EBSA) process as the basis for the conservation objective(s) for an OECM where there are overlaps between an EBSA and an OECM. This is especially true in OECMs where it appears that only a single species is being managed in an area in which there are other ecologically or biologically significant species and habitats that could be conserved within the same boundary.
RECOMMENDATION 4	When designing new OECMs, ensure that an ecosystem-based approach, rather than a single species approach, is being pursued. This is necessary to guarantee that in-situ biodiversity conservation is being achieved and aides in determining if the closure aligns with Aichi Target 11, or more closely aligns with targets such as Aichi Target 6 (E.g. Gulf of St. Lawrence Scallop Buffer Zones).
RECOMMENDATION 5	The Government of Canada, as a matter of urgency, should complete a review of the Offshore Accord Agreements for Nova Scotia and Newfoundland and Labrador with the intention of ensuring oil and gas is prohibited in all OECMs in Atlantic Canada. While changes to the <i>Canada Petroleum Resources Act</i> included in Bill C-55 allow for cancellation of existing leases in marine protected areas, this does not currently apply to Atlantic Canada, and will not apply at all for OECMs.
RECOMMENDATION 6	Ensure that ecological monitoring and surveillance is taking place within all OECMs and that any monitoring is not causing further ecological damage to the area under protection. This includes prohibiting annual trawl surveys in OECMs protected under the Sensitive Benthic Areas policy. Additionally, this research and monitoring data should be made public.
RECOMMENDATION 7	Assess potential for other managed, closed or protected areas outside the jurisdiction of the Fisheries and Oceans Canada that may lead to in-situ biodiversity conservation and may be considered as a potential OECM, as per IUCN-WCPA guidance. Examples include: Indigenous Protected/Conserved Areas, ship wrecks, war graves, munitions dumps, National Historic Sites, etc
RECOMMENDATION 8	DFO should develop a process to transition OECMs established under the <i>Fisheries Act</i> to full MPAs under the <i>Oceans Act</i> , where appropriate. Candidate sites should include OECMs such as the Western/Emerald Banks Conservation Area and Strait of Georgia Glass Sponge Reef closures, where the objectives and conservation measures effectively target biodiversity conservation, but where activities outside the jurisdiction of DFO have the potential to negatively impact the ecosystem.

TABLE 2. RECOMMENDATIONS FOR IMPROVEMENT TO SPECIFIC OECMs TO ACHIEVE ALIGNMENT WITH DFO, IUCN-WCPA AND CBD SBSTTA GUIDANCE

REGULATORY IMPROVEMENTS	OECMs
Prohibit oil and gas activities*	Corsair & Georges Canyon Conservation Area Lophelia Coral Closure Emerald Basin and Sambro Bank Sponge Conservation Area Hatton Basin Conservation Area Hopedale Saddle Conservation Area Western and Emerald Bank Conservation Area Hawke Channel Closure Funk Island Deep Closure
Prohibit oil and gas and increase protection of known SBAs	Jordan Basin Conservation Area Division 30 Coral Closure Northeast Newfoundland Slope Closure
Prohibit oil and gas, increase protection of known SBAs, and implement marine mammal protections	Quebec Coral and Sponge Closures**
Restrict recreational boating and anchoring	Strait of Georgia and Howe Sound Sponge Reef Closures
Broaden conservation objectives to align with overlapping EBSAs, ensure effective regulation of non-fisheries, assess size of these areas to ensure tangible outcomes	7 Lobster Closures Bay of Islands Salmon Migration Area Miramichi Bay Closure Scallop Buffer Zone Closures Les Demoiselles Nursery Closure
Restrict land based activities that pose a threat to marine mammals, further regulate marine activities	Saguenay Fjord Upstream Closure*
Designate planned <i>Oceans Act</i> Protected Areas	Northeast Channel Coral Conservation Area Pacific Offshore Seamounts Conservation Area

*Because there are currently no nearshore oil and gas activities, we focused this recommendation on areas that are either currently within a leasing block by one of the Offshore Petroleum Boards or expected to be within a leasing area in the foreseeable future. The west coast has a moratorium on oil and gas drilling.

** 2018 North Atlantic right whale conservation measures and 2018 Marine Mammal measures contribute to improved conservation outcomes in these areas.

01 INTRODUCTION

In response to a commitment in the 2015 Mandate Letter to the Minister of Fisheries, Oceans and Canadian Coast Guard (DFO) (Government of Canada, 2016), Canada has increased its efforts to protect coastal and marine areas through spatial measures such as marine protected areas (MPAs) and Other Effective Area-based Conservation Measures (OECMs). More specifically, the Canadian Government, through DFO, Parks Canada, and Environment and Climate Change Canada (ECCC), has increased capacity and resources towards achieving the Convention on Biological Diversity (CBD) Aichi Target 11 (CBD, 2018a) and the United Nations' Sustainable Development Goal 14, Target 5 (United Nations, 2015). These targets call on Parties to the Convention on Biological Diversity to protect 10% of their marine and coastal waters by 2020 (Lazaruk and Elliott, 2017). In his mandate letter to the Minister of Fisheries, Oceans and the Canadian Coast Guard, the Prime Minister reaffirmed the target of protecting 10% of the ocean by 2020 and set a new interim goal of 5% protection by 2017. When the Ministerial Mandate Letter was released, Canada had only protected roughly 1% of its three oceans (Jessen et al 2017).

In order to achieve these goals, DFO developed a five-point plan in which they committed to: **1)** finish what was started (finalize the designation of proposed MPAs in progress); **2)** protect large offshore areas; **3)** protect areas under pressure through coastal MPA network planning in three regions; **4)** advance OECMs; and, **5)** protect areas faster through legislative reform (Fisheries and Oceans Canada, 2017a). As of June 27, 2018, the majority of progress towards this five-point plan has been made by designating MPAs that have been under development and creating OECMs through the *Fisheries Act* (Fisheries and Oceans Canada, 2018a).

During the negotiation of the Aichi Biodiversity Targets in 2010, specifically Aichi Target 11, the term 'other effective area-based conservation measures' (OECMs) was agreed among CBD Parties due to the fact that some areas outside the recognised protected area networks also contribute to the in-situ conservation of biodiversity. However, there was no agreement on exactly what was meant by this term. In 2012 the International Union for Conservation of Nature (IUCN)'s World Commission on Protected Areas (WCPA), amongst others, was invited to provide technical guidance on defining OECMs.

The current IUCN-WCPA accepted definition of an OECM is:

"A geographically defined space, not recognised as a protected area, which is governed and managed over the long-term in ways that deliver the effective in-situ conservation of biodiversity, with associated ecosystem services and cultural and spiritual values (IUCN WCPA, 2018)."



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In July 2018, the Convention on Biological Diversity's Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) agreed on an OECM definition to be adopted at the Conference of the Parties (COP) in November, 2018:

“Other effective area-based conservation measure” means “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,[1] with associated ecosystem functions and services and, where applicable, cultural, spiritual, socioeconomic, and other locally relevant values.”
(See Appendix III excerpt from SBSTTA Report).

In short, OECMs are considered to be areas where conservation may not be the primary objective, but conservation outcomes are achieved.

In 2015, the WCPA set up a Task Force to develop international guidance on the matter. At the same time, because Canada had set an interim ocean protection target of 5% by 2017, DFO moved forward in advance of the international processes to establish its own operational guidance on this issue. DFO began with a science advisory process on the topic (Fisheries and Oceans Canada, 2016). As

part of this process, DFO inventoried ~1000 existing area-based closures enacted under the *Fisheries Act*, reviewed these under its criteria, and either included them or recommended improvements. New areas were identified in between 2016-2017 totalling 54 sites considered suitable to be designated as OECMs and count towards Canada's ocean protection targets.² As of June 2018, the Canadian Government has declared that it has protected roughly 7.75% of Canadian marine and coastal areas (Fisheries and Oceans Canada, 2018b). The majority of these protections are OECMs – the 54 identified OECMs comprise 4.78% of the 7.75% - designated using the Canadian DFO-developed OECM guidance through new and existing *Fisheries Act* and *Species At Risk Act* closures.

In 2017, the CBD Secretariat began to draw from the guidance provided by the IUCN-WCPA, DFO, the Canadian Council on Ecological Areas (CCEA)³ and others to create guidance that would be ratified by the parties to the CBD. In July 2018, the CBD's Twenty-second meeting of the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA 22) agreed on guidance to be submitted to and adopted at the Fourteenth

² Notably, Canada's guidance and site inventory for marine OECMs only considers areas closed using mechanism such as the *Fisheries Act* or *Species at Risk Act* and does not consider any areas such as wreck sites, militarized zones, Indigenous conservation areas or cable lines.

³ The CCEA has also developed their own OECM screening criteria. This can be viewed at: <https://link.springer.com/article/10.1007/s10531-015-1018-1>.

meeting of the CBD Conference of Parties in November 2018 (Appendix III).

Recent studies have shown that strongly protected or conserved marine areas that are well governed, financed, resourced and actively managed are more likely to provide benefits to biodiversity than those that are not (Gill et al., 2017). As such, understanding how areas not safeguarded by formal protected area legislation will be recognized and supported to reduce biodiversity threats is necessary to ensure that Canada's use of OECMs to deliver on quantity does not compromise or weaken the quality of biodiversity being conserved. It is our goal to ensure that Canada's ocean protection and conservation choices contribute to biodiversity conservation and encourage other nations to do the same.



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To assess Canada's OECMs, we reviewed the areas identified by DFO and compared them against all three sets of criteria: DFO's OECM guidance (Fisheries and Oceans Canada, 2017b), the draft IUCN-WCPA guidance (IUCN-WCPA, 2018), and the CBD SBSTTA guidance (SBSTTA, 2018). Based on our analysis and results, we offer recommendations on how specific OECMs could be improved including through permanent protection under the *Fisheries Act*, prohibitions on non-fishing industrial activities, and wherever appropriate and possible, converting OECMs to MPAs under the *Oceans Act*, the *Canada National Marine Conservation Areas Act*, or the *Canada Wildlife Act*.

02 REVIEW OF OECM GUIDANCE

DFO OECM Guidance

DFO developed operational guidance for marine OECMs based on advice generated through the Canadian Science Advisory Secretariat, while also considering advice from the IUCN-WCPA and the Canadian Council on Ecological Areas (CCEA) (for a comprehensive review of DFO guidance see Appendix I). DFO identifies OECMs using five primary criteria, with a recommendation that each OECM meet all five criteria to be considered an OECM (Fisheries and Oceans Canada, 2018).

The five criteria are:

1. Has a clearly defined geographic location;
2. There are conservation or stock management objectives;
3. The presence of ecological components of interest;
4. Long-term duration of implementation;
5. The ecological components of interest are effectively conserved.

DFO's operational guidance does not fully align with that of either the CBD SBSTTA or the IUCN-WCPA but does incorporate elements of both.

IUCN-WCPA OECM Guidance

At the Twentieth meeting of the CBD SBSTTA and the Thirteenth Conference of the Parties to the CBD, Parties called on the Secretariat of the CBD to provide scientific and technical advice on their definition, identification, management approaches and contribution to Aichi Biodiversity Target 11 for OECMs. As previously mentioned, the World Commission on Protected Areas (WCPA) Task Force was delegated to provide advice on international guidelines and has published multiple drafts throughout the process (IUCN WCPA, 2018). The guidelines are still in draft form and at the time of publishing this document were not finalized. (IUCN-WCPA, 2018). As of January 2018, the WCPA Task Force screening tool for

OECMs has identified multiple criteria for what constitutes an OECM (see Appendix II).

Succinctly, the criteria are:

1. Ensure that the area is not already recorded as a protected area.
2. Ensure that Aichi Target 11, as opposed to other Aichi Targets, is the right focus.
3. Ensure that the area has the essential conservation characteristics of an OECM:
 - a. Location
 - b. Governed, Managed and Long-term
 - c. Effective In-situ conservation of biodiversity
4. Ensure the conservation outcome can be sustained.

One notable difference to DFO's operational guidance is that the WCPA Task Force places a greater emphasis on ensuring achievement of long-term in-situ conservation of biodiversity.



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CBD SBSTTA OECM Guidance

In addition, and aforementioned to the draft IUCN-WCPA and DFO guidance for identifying OECMs, the CBD, through SBSTTA, has developed their own guidance for OECMs that was adopted at the Conference of the Parties in November 2018 (SBSTTA, 2018). SBSTTA has created a criteria identification chart for OECMs which can be found in detail in Appendix III. SBSTTA has identified four criteria for OECM identification with different sub-sections within. Briefly, the screening criteria are:

CRITERION A: Area is not currently recognized as a protected area.

1. **Not a protected area:** the area is not currently recognized or reported as a protected area.

CRITERION B: Area is governed and managed.

1. **Geographically defined space:** Size and area are described and boundaries are geographically delineated.
2. **Legitimate governing authorities:** Governance has legitimate authority and is appropriate for achieving in situ conservation of biodiversity and reflects the equity considerations adopted in the Convention on Biological Diversity.

CRITERION C: Achieves sustained and effective contribution to in situ conservation of biodiversity.

1. **Effective:** Area achieves or is expected to achieve in situ conservation of biodiversity and is capable of adequately reducing, eliminating or responding to new threats to biodiversity.
2. **Sustained over long term:** The measures are in place for the long term.
3. **In situ conservation of biological diversity:** Recognition of OECMs is expected to include the identification of the range of biodiversity attributes for which a site is considered important.
4. **Information and monitoring:** The OECM has effective monitoring systems, the documentation of the known biodiversity attributes as well as cultural and/or spiritual values and processes to evaluate the effectiveness of governance and management, including equity.

CRITERION D: Associated ecosystem functions and services and cultural, spiritual, socio-economic and other locally relevant values.

1. **Ecosystem functions and services:** Ecosystem functions and services are supported, including those of importance to indigenous peoples and local communities, taking into account interactions and trade-offs among ecosystem functions and services, with a view to ensuring positive biodiversity outcomes and equity.
2. **Cultural, spiritual, socio-economic and other locally relevant values:** Governance and management measures identify, respect, and uphold cultural, spiritual, socio-economic, and other locally relevant values, with the end goal of providing in situ conservation of biodiversity.



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In comparison to IUCN-WCPA and DFO guidance, CBD SBSTTA guidance places a much stronger emphasis on incorporating social aspects into the management and governance of OECMs. For example, CBD SBSTTA guidance indicates that it is the responsibility of the governing authority to take into account interactions and trade-offs among ecosystem functions and services, with a view towards ensuring not only positive biodiversity outcomes but additionally positive equity outcomes. Furthermore, emphasis is placed on cultural, spiritual, socio-economic and other locally relevant values in comparison to the other guidance, in particular through Indigenous groups and local communities. Several CBD SBSTTA criteria highlight the importance of OECM governance and management by Indigenous peoples and local communities through respecting and upholding Indigenous and local traditions, values, and knowledge. This heavy focus on Indigenous and local community consultations stems from the establishment of OECMs at the CBD as a way to include Indigenous and locally protected/conserved areas as areas that can contribute to Sustainable Development Goal 14. Lastly, CBD SBSTTA guidance includes greater detail on information and monitoring of OECMs to ensure effective management and that general data of an OECM or area, such as boundaries, aim and governance, are publicly available information (SBSTTA, 2018).

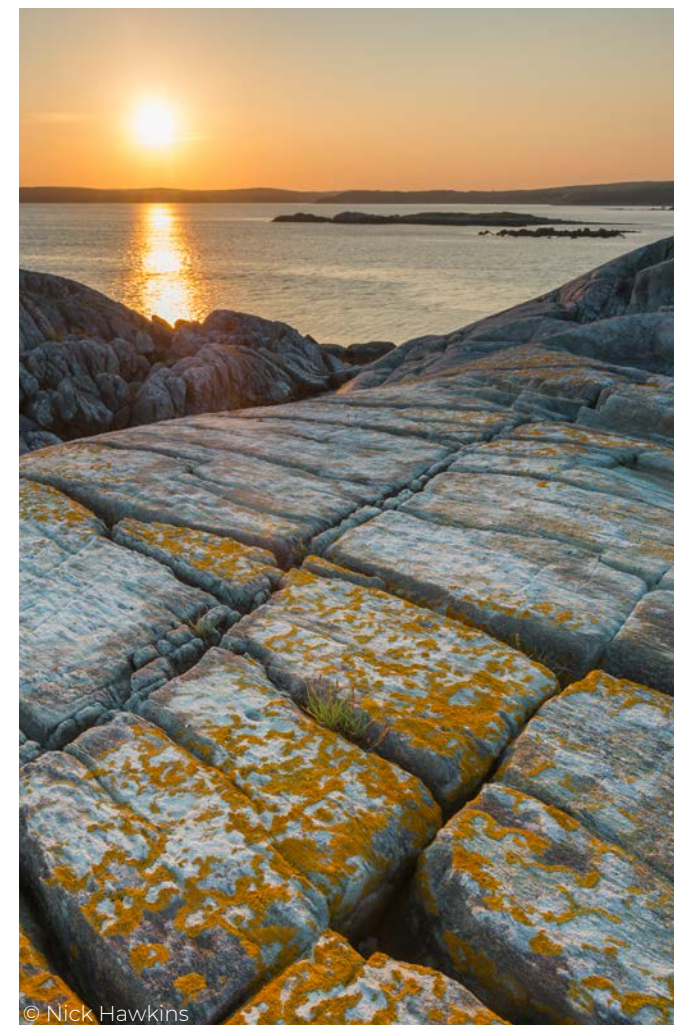
03 ASSESSMENT METHODOLOGY

We evaluated all sites Canada is currently counting as OECMs against DFO guidance, IUCN-WCPA guidance and CBD SBSTTA guidance to determine whether they would qualify as OECMs under one, two, or all three sources of guidance. The following methodology was used:

I. Categorization:

To simplify the evaluation, we first divided Canada's 54 OECMs into three broad categories⁴: sensitive benthic area (SBA) OECMs, multi-species OECMs and single-species OECMs (Table 4). SBA OECMs have conservation objectives that focus specifically on protecting sensitive benthic habitats such as areas of high concentrations of corals and sponges. Multi-species OECMs are a range of OECMs with conservation objectives that attempt to protect multiple species and in some cases habitats. Lastly, single-species OECMs focus on the protection of one species or restrict only one type of fishing gear targeting a single species and are thus a single species management measure as their primary conservation objective.

⁴ Some OECMs include more than one area, but separately these areas amount to 54.



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II. Establishing Evaluation Criteria:

Ten criteria were selected to determine the effectiveness of an OECM across all three guidance types. Due to discrepancies between the individual criteria of each set of guidance, we divided some of the DFO and the CBD SBSTTA criteria into different categories to better align with IUCN-WCPA guidance, thus ensuring consistent and effective evaluation across all criteria. We then created a comparison matrix to provide a basis for the site by site analysis across all three sets of criteria (Appendix IV).



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The ten criteria include:

1. Whether area was previously ***recognized as a protected area***,
2. If area is a ***geographically defined space***,
3. If area is of adequate ***size*** for the in-situ conservation of biodiversity,
4. If area is ***governed*** by a specific authority,
5. If governance and creation of the area is ***equitable***⁵,
6. If area is ***managed*** in a manner that will allow for effective biodiversity conservation,
7. Cases where in-situ biodiversity is not the primary objective for the area but is ***secondary or ancillary***,
8. If area allows for the ***effective means*** of control of activities that could impact biodiversity,
9. If area is intended for the ***long term***; and,
10. If area demonstrates to be ***effective and enduring*** at providing in-situ biodiversity conservation.

⁵ Canada has a constitutional duty to consult with First Nations and Section 35 of the Constitution upholds their rights, Canada is also a signatory to UNDRIP. However, in some cases it is not clear as to whether or not there was consent provided for spatial protection, particularly for areas protected prior to 2015.

III. Comparisons of the Guidance:

The DFO and CBD SBSTTA guidance documents do not align completely with the IUCN-WCPA's guidance. For example, DFO guidance only applies to the marine environment while IUCN-WCPA and CBD SBSTTA guidance are designed to apply to both terrestrial and marine environments as well as to a range of human activities (Fisheries and Oceans Canada, 2017b; IUCN WCPA, 2018; SBSTTA, 2018). The different guidance documents do not fully align with respect to the three following criteria⁶: (6) 'managed', (7) 'secondary or ancillary' and (10) 'effective and enduring.' The CBD SBSTTA criterion for (6) 'managed' places a strong value on management that will lead to in situ biodiversity conservation through the ecosystem approach, management abilities to adequately address new threats and the involvement of relevant stakeholders, while IUCN-WCPA and DFO guidance provides less detail on how management can or will result in the in-situ conservation of biodiversity. All three guidance documents differ on the (7) 'secondary or ancillary' criterion. DFO identifies that a closure must include two ecological components of interest (species and habitat), IUCN-WCPA highlights that an OECM does not necessarily require a predominant conservation

⁶ Note there are minor differences between other various criteria; however, they are not as significant as the three mentioned above.

objective, but there must be a direct causal link between the area's overall objective and the in situ conservation of biodiversity, and CBD SBSTTA guidance describes that an OECM is expected to include the identification of a range of biodiversity attributes for which the site is considered important (e.g. threatened or endangered species, key biodiversity areas, areas for ecological connectivity, etc.). Lastly, the (10) 'effective and enduring' criterion differs between the three guidance. Unlike IUCN-WCPA and DFO, CBD SBSTTA assesses a much larger variety of components to determine if an OECM will be 'effective and enduring' and achieve in situ biodiversity conservation, usually resulting in a lower score than the other guidance for this criterion. Some of these components include: size, effective monitoring, evaluation of governance and management, documentation of known biodiversity attributes, and equity concerns. IUCN-WCPA and DFO guidance are similar as they both call for the in situ conservation of biodiversity but do not include as much detail as to how this will be achieved, typically resulting in a higher score.

IV. Information Gathering:

We reviewed specific prohibitions and site descriptions for each individual OECM, based on publicly available information on the DFO website. We assessed whether or not the OECM was located within a site previously identified as an Ecologically or Biologically

Significant Area (EBSA) and identified biological features of the OECM that may not have been included in the DFO description. We also identified threats of potentially harmful activities not currently occurring in the OECM but that may occur in the future and that are not managed by DFO and therefore cannot be averted by an OECM.

V. Analysis and Scoring:

We then evaluated each OECM individually using the ten identified criteria, across the three sets of guidance (Appendix V). We developed a colour-coded scoring scheme to demonstrate whether, and to what extent, a criterion was fulfilled. We provide a more detailed description for each specific site so that our assessment could be repeated by others (Appendix V for the results for each OECM). Using the matrices created for each OECM site, we developed a scoring system out of 100 to determine how sites meet each of the three guidance documents.

As all three guidance have a differing number of criteria, to determine if a site met the specific guidance, we calculated the highest score possible for each site (DFO Guidance = 24 points, IUCN-WCPA Guidance = 30 points, CBD SBSTTA Guidance = 30 points) and converted that to a score out of 100 (Table 3).

TABLE 3. Scoring ranges for OECMs against DFO, IUCN-WCPA and CBD SBSTTA Guidance

Score	Range		Description
3	90-100	Yes	OECM meets the guidance
2	80-90	Likely	OECM likely meets the guidance but minor improvements needed
1	65-80	Unlikely	OECM unlikely to meet guidance, significant improvements are needed to protect biodiversity
0	<65	No	OECM does not meet guidance, major improvements required

After a score out of 100 was calculated for each site, we established ranges for what constitutes if a site satisfies the guidance. If a site scored: 90 and up the OECM met the guidance, between 80-89 the OECM likely met the guidance, between 65-79 it was unlikely the OECM met the guidance and less than 65 the site did not meet the guidance.

04 RESULTS & KEY OBSERVATIONS

04.1 Assessment of Individual OECMs Against Guidance

Of the 277,712 km² protected under the *Fisheries Act* as OECMs, 233,498 km² or 84% by area are categorized as Sensitive Benthic Areas, 36,407 km² or 13% by area are categorized as multi-species OECMs and 7,806 km² or 3% by area are categorized as single species OECMs (Table 4). Of the 54 areas, 30 are SBAs, 11 are multi-species closures and 13 are considered single species closures, with single species OECMs typically smaller than the other closures.

TABLE 4. OECMs by Category (Sensitive Benthic Areas, Multi-Species and Single Species) and total area of individual and grouped sites

OECMs by Category	Total Area (km ²)	OECMs by Category	Total Area (km ²)
Sensitive Benthic Area OECMs		Multi-Species OECMs	
Corsair & Georges Canyon Conservation Area	9,075	Western Emerald Banks Conservation Area	12,786
Jordan Basin Conservation Area	49	Les Desmoiselles Nursery Closure	0.3
Lophelia Coral Conservation Area	15	Magdalen Islands 6 Lagoon Closures	136
Emerald Basin and Sambro Bank Sponge Conservation Area (2 closures)	259	Hawke Channel Closure	8,800
Northeast Channel Coral Conservation Area	424	Funk Island Deep Closure	7,200
Quebec Coral and Sponge Closures/Conservation Areas (11 closures)	8,572	Disko Fan Conservation Area	7,485
Pacific Offshore Seamounts and Vents Conservation Area	82,689	Total Multispecies OECMS	36,407
Strait of Georgia and Howe Sound Sponge Reef Closures (7 closures)	29	Percent of Total	13
Davis Strait Conservation Area	17,286	Single Species	
Hatton Basin Conservation Area	42,459	7 Lobster Closures	94
Hopedale Saddle Closure	15,412	Bay of Islands Salmon Migration	218
30 Coral Closure	10,396	Miramichi Bay Closure	1,553
Northeast Newfoundland Slope Closure	46,833	Scallop Buffer Zones (3 Closures)	5,833
Total SBA OECMS	233,498	Saguenay Fjord Upstream	109
Percent of Total	84	Total Single Species OECMS	7,807
		Percent of Total	3
		Total Area Protected as OECMs	277,712

In our scoring of whether a particular site met the criteria to be counted as an OECM for each set of guidance, we found that no site resulted in a score of less than 60 points out of 100 (Table 5). Since many of the criteria, such as the area *not being previously recognized as a protected area*, the area being a *geographically defined space*, the area being *governed by a specific authority*, and the governance and creation of the area is *equitable*, are all criteria that are easily fulfilled, most OECMs received points in these categories. That said, it is an important reminder that sites scoring below 65 points did not meet the criteria to be counted as an OECM, in our view.

We found that the majority by of OECMs by area scored more than 80 points in the assessment and are either fully or are likely to satisfy DFO guidance (196,146 km² or 72%) and IUCN Guidance (164,295 km² or 60%) where as a smaller area (109,050 km² or 40%) scored 80 points or more under the CBD SBSTTA guidance (Table 5, Table 6). This difference is largely because of strengthened criteria for management effectiveness, equity and monitoring requirements and these results are largely driven by the Pacific Offshore Seamounts and Vents Conservation Area.

TABLE 5. Scores out of 100 for individual OECMs by DFO, IUCN-WCPA and CBD SBSTTA Guidance

OECM	Total Area (km ²)	DFO Guidance	IUCN-WCPA Guidance	CBD SBSTTA Guidance
Sensitive Benthic Area OECMs				
Corsair & Georges Canyon Conservation Area	9,075	Likely - 88	Likely - 87	Likely - 80
Jordan Basin Conservation Area	49	Unlikely - 79	Unlikely - 73	Unlikely - 70
Lophelia Coral Conservation Area	15	Likely - 83	Unlikely - 73	Unlikely - 70
Emerald Basin and Sambro Bank Sponge Conservation Area (2)	259	Likely - 83	Unlikely - 73	Unlikely - 70
Northeast Channel Coral Conservation Area	424	Unlikely - 79	Unlikely - 73	Unlikely - 70
Quebec Coral and Sponge Closures/Conservation Areas (11)	8,572	Unlikely - 75	Unlikely - 73	Unlikely - 67
Pacific Offshore Seamounts and Vents Conservation Area	82,689	Likely - 88	Likely - 80	Likely - 80
Strait of Georgia and Howe Sound Sponge Reef Closures (9)	29	Likely - 83	Unlikely - 77	Unlikely - 73
Davis Strait Conservation Area	17,286	Yes - 96	Yes - 93	Likely - 83
Hatton Basin Conservation Area	42,459	Likely - 88	Likely - 80	Unlikely - 73
Hopedale Saddle Closure	15,412	Likely - 88	Unlikely - 77	Unlikely - 73
3O Coral Closure	10,396	Unlikely - 75	Unlikely - 73	Unlikely - 70
Northeast Newfoundland Slope Closure	46,833	Unlikely - 67	Unlikely - 70	No- 63

TABLE 5 (continued). Scores out of 100 for individual OECMs by DFO, IUCN-WCPA and CBD SBSTTA Guidance

OECM	Total Area (km ²)	DFO Guidance	IUCN-WCPA Guidance	CBD SBSTTA Guidance
Multi-Species OECMs				
Western Emerald Banks Conservation Area	12,786	Yes - 96	Likely - 80	Unlikely - 73
Les Desmoiselles Nursery Closure	0.3	Unlikely - 71	No - 63	No - 63
Magdalen Islands 6 Lagoon Closures	136	Likely - 83	Unlikely - 70	Unlikely - 67
Hawke Channel Closure	8,800	Likely - 88	Unlikely - 77	Unlikely - 73
Funk Island Deep Closure	7,200	Likely - 88	Unlikely - 77	Unlikely - 73
Single Species				
7 Lobster Closures	94	Unlikely - 79	Unlikely - 67	No - 63
Bay of Islands Salmon Migration	218	Unlikely - 75	No - 60	No - 63
Miramichi Bay Closure	1,553	Unlikely - 75	No - 63	No - 63
Scallop Buffer Zones (3 Closures)	5,833	Unlikely - 75	No - 60	No - 63
Saguenay Fjord Upstream	109	Unlikely - 75	Unlikely - 67	No - 63

Across all OECMs, only 30,072 km², or 11% by area, fully met DFO guidance, based on our assessment of how these areas fulfilled the criteria. An additional 166,074 km², or 62% by area, are likely to meet the criteria, but 74,081 km², or 27% by area, are unlikely to meet the criteria. OECMs analyzed using IUCN-WCPA guidance showed similar patterns, with 17,286 km², or 6% by area, fully meeting the IUCN-WCPA criteria, and 147,009 km², or 55% by area, likely to meet criteria. An additional 98,328 km², or 36% by area, are unlikely to meet IUCN-WCPA guidance, while the remaining 7,604 km², or 3% by area, does not meet the criteria. No OECMs fully met the CBD criteria, while 109,050 km², or 40% by area, were likely to meet the criteria, 106,537 km², or 40% by area, were unlikely to meet the criteria and 54,640 km², or 20% by area, did not meet the criteria (Table 6).

TABLE 6. Analysis by area assessed as meeting DFO, IUCN-WCPA and CBD SBSTTA guidance for OECMs

Fisheries and Oceans Canada OECM Guidance				
	Yes (km ²)	Likely (km ²)	Unlikely (km ²)	No (km ²)
Sensitive Benthic Areas	17,286	149,938	66,274	0
Multi-Species	12,786	16,136	0.3	0
Single Species	0	0	7,807	0
Total	30,072	166,074	74,081	0
%	11.1	61.5	27.4	0
IUCN Guidance				
	Yes (km ²)	Likely (km ²)	Unlikely (km ²)	No (km ²)
Sensitive Benthic Areas	17,286	134,223	81,989	0
Multi-Species	0	12,786	16,136	0
Single Species	0	0	203	7,604
Total	17,286	147,009	98,328	7,604
%	6.4	54.4	36.4	2.8
Draft CBD OECM Guidance				
	Yes (km ²)	Likely (km ²)	Unlikely (km ²)	No (km ²)
Sensitive Benthic Areas	0	109,050	77,615	46,833
Multi-Species	0		28,922	0.3
Single Species	0	0	0	7,807
Total	0	109,050	106,537	54,640
%	0	40.35	39.43	19.68

FIGURE 3. Spectrum of OECMs satisfying DFO Guidance

Placing individual OECMs on a spectrum of likeliness of meeting each set of guidance, quick assessments can be made as to the improvements required to improve conservation outcomes (Figures 3-5).

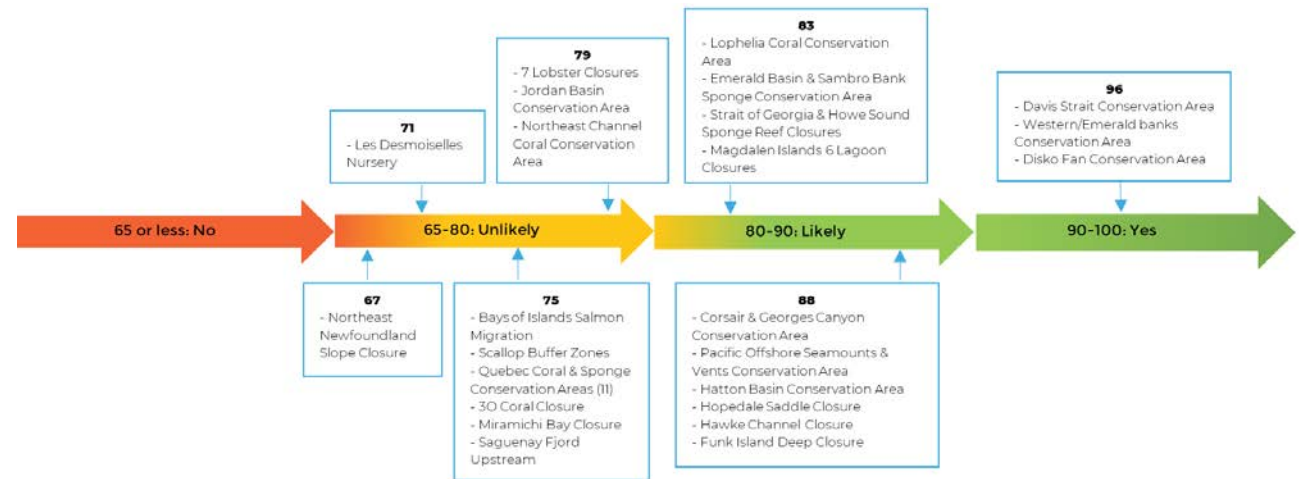
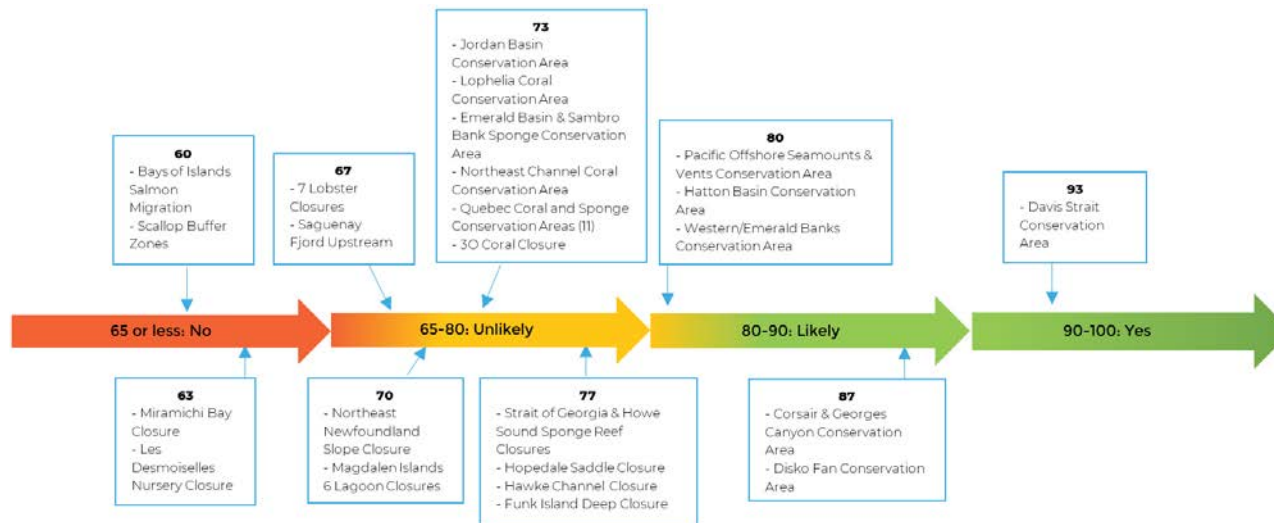
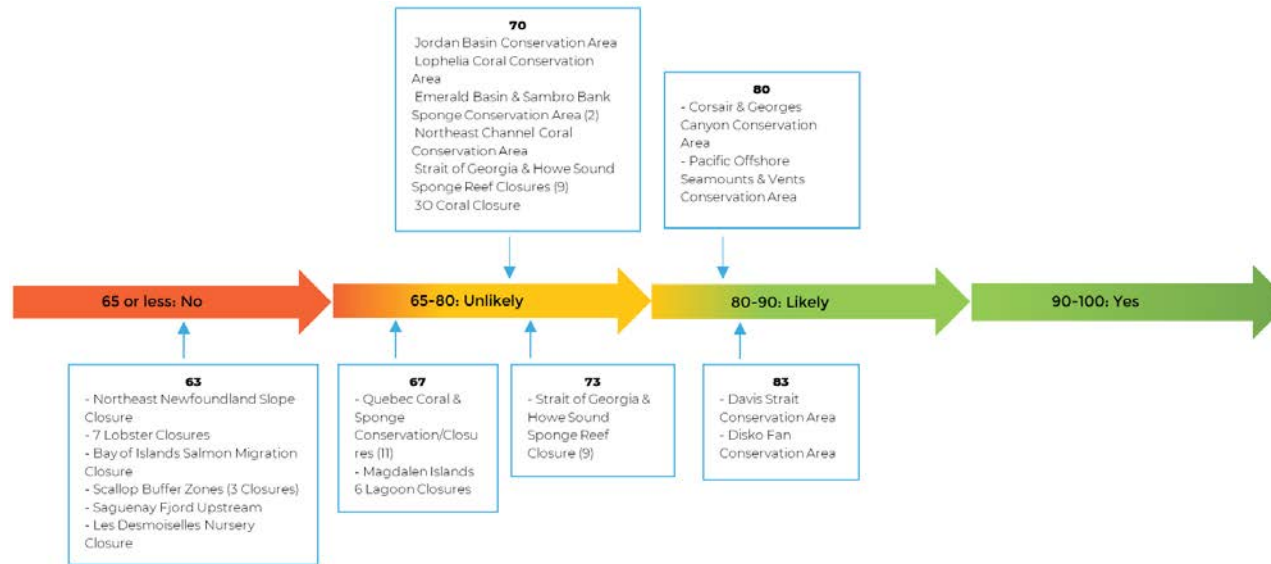
**FIGURE 4. Spectrum of OECMs satisfying IUCN-WCPA Guidance**

FIGURE 5. Spectrum of OECMs satisfying CBD SBSTTA Guidance

04.2 Assessment of OECMs by Category

To better understand what specific improvements need to be made to ensure that the OECMs in the three categories we have determined (SBA, multi-species and single species) either completely or more fully meet the three sets of guidance, we explored which of the ten criteria were or were not satisfied (Table 7).

Sensitive Benthic Area OECMs

Generally, SBA OECMs are closer than the other two types of OECMs to satisfying the three sets of guidance to be counted as an OECM. The Davis Strait Conservation Area is the only OECM that completely satisfies DFO and IUCN-WCPA guidance (Table 5). Others, such as Corsair and Georges Canyon Conservation Area and the Hatton Basin Conservation Area are likely to satisfy DFO and IUCN-WCPA guidance. No SBA OECM fully satisfies CBD SBSTTA guidance; however, the Davis Strait Conservation Area, Corsair and Georges Canyon Conservation Area and Pacific

Offshore Vents-Seamounts Conservation Area are likely to satisfy the guidance. Others require additional management measures, particularly to protect them from oil and gas activity, to fully meet the all three sets of guidance. While SBA OECMs are closer to meeting the various criteria, there are specific elements that require improvements:

1. **Size:** If an SBA OECM is to meet the 'size' criterion then, at a minimum, it should follow the SBA science guidelines developed by DFO Newfoundland and Labrador Region that states that 70% of coral or sponge areas need to be protected for effective long-term biodiversity conservation (CSAS, 2017). If it was observed that 70% of the coral and sponges were not protected, then the OECM likely did not meet the 'size' criteria. We do note that ideally, 100% of the SBA should be protected; however, we used the published Canadian science advice as a minimum standard.
2. **Effective means:** Apart from the eastern Arctic closures, none of the SBA OECMs fully met the IUCN-WCPA or CBD SBSTTA 'effective means' criteria as DFO cannot unilaterally control all activities within SBA closures under the *Fisheries Act*, unless all activities cause harm to fish habitat and in that case all activities could be prohibited. However, from a jurisdictional

perspective, the Canada-Nova Scotia and Canada-Newfoundland and Labrador Offshore Petroleum Boards have the regulatory authority to permit oil and gas development/exploitation on the Atlantic Coast but have no legal obligation to respect areas protected under the *Fisheries Act*. The inability of the Canadian government to manage the Petroleum Boards with regards to OECMs⁷ indicates a failure to effectively integrate management inside and outside of OECMs. Additionally, while DFO has the authority to manage fishing activities, to date there is no formal restriction on annual bottom trawl research surveys within these areas, although avoidance of these areas by trawl surveys is done by some DFO regions. Finally, no areas protected under the Sensitive Benthic Areas policy allow bottom fishing, but not all fishing is prohibited and as such there is no guarantee of protection of in-situ biodiversity. It should be noted however, that most *Oceans Act* MPAs allow fishing within their boundaries, which in some cases includes bottom fishing with traps and longlines. In such cases, SBA OECM closures may actually be providing more protection for benthic biodiversity than MPAs.

⁷ As indicated by the recent open Call for Bids in the Northeast Newfoundland Slope Closure (CNLOPB, 2018).

TABLE 7. Overview summaries for OECM categories against the criteria

Criterion	SBA OECMs	Multi-species OECMs	Single Species OECMs
Not recognized as a protected area	Criterion is met across all sets of guidance.	Criterion is met across all sets of guidance.	Criterion is met across all sets of guidance.
Geographically defined space	Criterion is met across all sets of guidance.	Criterion is met across all sets of guidance.	Criterion is met across all sets of guidance.
Size	Criterion is not met across all sets of guidance. Not all closures appear to be sufficient in size to achieve the long term in-situ conservation of biodiversity. The closures could be doing more to ensure that DFO Newfoundland and Labrador Region SBA science which advises protection of 70% of the SBA concentration is adhered to.	Criterion is nearly met across all sets of guidance. However, not all closures appear to be sufficient in size to achieve the long term in-situ conservation of biodiversity. Where Significant Benthic Areas are part of the OECM objective, ensure that DFO Newfoundland and Labrador Region SBA science which advises protection of 70% of the SBA concentration is adhered to.	Criterion is not met across all sets of guidance. Not all closures appear to be sufficient in size to achieve the long term in-situ conservation of biodiversity. The closures could more strictly follow current EBSA boundaries or use the ecological components of the EBSAs as the conservation objective(s) for an OECM.
Governed	Criterion is met across all sets of guidance.	Criterion is met across all sets of guidance.	Criterion is met across all sets of guidance.
Equitable	Criterion is mostly met across all sets of guidance, in certain circumstances the level of consultation with indigenous peoples and local communities is unknown.	Criterion is mostly met across all sets of guidance, in certain circumstances the level of consultation with indigenous peoples and local communities is unknown.	Criterion is mostly met across all sets of guidance, in certain circumstances the level of consultation with indigenous peoples and local communities is unknown.
Managed	Criterion is met across all sets of guidance except for CBD SBSTTA guidance as the management of OECMs is unable to unilaterally and adequately address new and arising threats (e.g. oil and gas development)	Criterion is met across all sets of guidance except for CBD SBSTTA guidance as the management is unable to unilaterally and adequately address new and arising threats and management is not always consistent with the ecosystem approach.	DFO criterion is met but not IUCN-WCPA or CBD SBSTTA criteria. Rather, IUCN-WCPA and CBD SBSTTA criteria are either likely or potentially met but additional work could be completed to lead to more positive biodiversity benefits. The focus on single species for these closures limits the ability for the ecosystem approach to be applied.
Secondary/Ancillary	Criterion is met across all sets of guidance.	Criterion is met across all sets of guidance except for Les Desmoiselles Nursery Closure and the Magdalen Islands 6 Lagoon Closures under CBD SBSTTA Guidance due to little recognition of the identification of the range of biodiversity attributes regarding why a site is important.	Criterion is met across all sets of guidance except for CBD SBSTTA guidance as there is little recognition of the identification of the range of biodiversity attributes for why a site is important due to focusing on a single species or habitat.

TABLE 7. Overview summaries for OECM categories against the criteria

Criterion	SBA OECMs	Multi-species OECMs	Single Species OECMs
Effective Means	Criterion is rarely met across all sets of guidance. Either DFO does not have control over all activities that could have a negative impact on the in-situ conservation of biodiversity or certain activities that are not prohibited within the closures can still occur and have a negative impact on the in-situ conservation of biodiversity. Additionally, noted are the negative impacts of annual trawl surveys conducted by DFO and management is not integrated inside and outside the OECM.	Criterion is rarely met across all sets of guidance. Either DFO does not have control over all activities that could have a negative impact on the in-situ conservation of biodiversity or certain activities that are not prohibited within the closures can still occur and impact the biodiversity of the area. Additionally, an ecosystem-based approach should be pursued, and management is not integrated inside and outside the OECM.	Criterion is rarely met across all sets of guidance. Either DFO does not have control over all activities that could have a negative impact on the in-situ conservation of biodiversity or certain activities that are not prohibited within the closures can still occur and have a negative impact on the in-situ conservation of biodiversity. Additionally, an ecosystem-based approach should be pursued, and management is not integrated inside and outside the OECM.
Long Term	Criterion is met through DFO guidance and is likely met for IUCN-WCPA and CBD SBSTTA guidance due to the proposed amendments to the <i>Fisheries Act</i> .	Criterion is met through DFO guidance and is likely met for IUCN-WCPA and CBD SBSTTA guidance due to the proposed amendments to the <i>Fisheries Act</i> .	Criterion is met through DFO guidance and is likely met for IUCN-WCPA and CBD SBSTTA guidance due to the proposed amendments to the <i>Fisheries Act</i> .
Effective and Enduring	Uncertainty if DFO guidance is met surrounding ecological monitoring and surveillance. IUCN-WCPA criterion is not satisfied as it is uncertain if all the closures will provide effective in-situ conservation of biodiversity, resulting from a combination of multiple factors such as size of the closure, prohibitions and length of the closure. CBD SBSTTA criterion is rarely satisfied due to Accord Agreements and the failure of OECMs to follow NLFD SBA science guidelines (70%).	Uncertainty if DFO guidance is met surrounding ecological monitoring and surveillance. IUCN-WCPA guidance is not satisfied as it is uncertain if all the closures will provide effective in-situ conservation of biodiversity, resulting from a combination of multiple factors such as size of the closure, prohibitions and length of the closure. CBD SBSTTA guidance is never satisfied (except for the Disko Fan Conservation Area) because the OECMs may not provide in situ biodiversity conservation due to threats from oil and gas, size of the closures, and/or the governance abilities to adequately address threats to biodiversity within the OECM.	Uncertainty if DFO guidance is met surrounding ecological monitoring and surveillance. IUCN-WCPA guidance is not satisfied as it is uncertain if all the closures will provide effective in-situ conservation of biodiversity, resulting from a combination of multiple factors such as size of the closure, prohibitions and length of the closure. CBD SBSTTA guidance is never satisfied because it is unlikely the site will provide in situ biodiversity conservation due to their size, failure to document known biodiversity attributes within the OECM and/or the governance abilities to adequately address threats to biodiversity within the OECM.

3. Effective and enduring: For the 'effective and enduring' criterion, 13 out of 23⁸ of the SBA OECMs do not satisfy any of the three guidance documents as they do not demonstrate that they will allow for effective and enduring in-situ biodiversity conservation. This is either because of the size of the OECM, level of benthic protection, failure to manage activities that are currently occurring or may potentially take place within the OECM, uncertainty surrounding ecological monitoring and surveillance, and/or the fact that the closures can be currently reversed through Ministerial discretion under the *Fisheries Act*. Many sites lack the permanence required by the IUCN-WCPA guidance. If the recently proposed amendments to Canada's *Fisheries Act* under Bill C-68 (Section 43.3[1] – 43.3[2]) are implemented, the 'long-term' criteria for IUCN-WCPA guidance will likely be satisfied as the Minister will be able to designate closures over the long-term and can supersede inconsistencies between regulations made by the Governor in Council⁹ (Parliament of Canada, 2018).

⁸ This includes the eleven Quebec Coral and Sponge Closures.

⁹ Gives the Minister the power to preclude any regional director general about undoing a closure and gives ministerial powers to declare permanency.

To be consistent with international guidance and commitments to protect seafloor species and habitats, we recommend that regulations and management for SBA OECMs be consistent with United Nations General Assembly (UNGA) resolutions 61/105 and 64/72. The UNGA resolutions call on the competent bodies to do more to protect bottom habitat and species from adverse impacts to ensure that in-situ biodiversity is conserved (Rogers & Gianni, 2010). Given the connectivity between SBAs within and outside of national jurisdiction, compatibility in measures should be sought. It is important to also note that areas closed to bottom trawling outside of national jurisdiction but within the extended continental shelf are also open to and in some cases experiencing active oil and gas drilling and exploration. These activities have been authorized by Canada despite its support for closing these areas to all bottom fisheries under the jurisdiction of the Northwest Atlantic Fisheries Organization (NAFO, 2016; Statoil, 2016).

Multi-Species OECMs

With the exception of the Les Desmoiselles Nursery, our results show that while all multi-species OECMs either fully or likely satisfy DFO guidance to be counted as an OECM, none fully satisfy IUCN-WCPA or CBD SBSTTA guidance (Table 5). The Disko Fan Conservation Area is the only area close to satisfying IUCN-WCPA and CBD SBSTTA guidance if minor

improvements are made. The Hawke Channel Closure and the Funk Island Deep Closure are close to fully satisfying DFO guidance and likely satisfy IUCN-WCPA guidance. Like SBA OECMs the primary shortcomings for multi-species OECMs arise for the following criteria:

1. **Size:** Some of the multi-species OECMs are extremely small and it is questionable if the sites will provide in-situ biodiversity conservation.
2. **Effective Means:** There is potential for oil and gas activities to be permitted within multi-species OECMs such as the Hawke Channel and Funk Island Deep Closure, as this activity is not expressly prohibited due to the jurisdictional issues relating to oil and gas. Therefore, the governing authority does not have the ability to limit or control all activities that could negatively impact in-situ biodiversity conservation.
3. **Effective and enduring:** There are issues with whether certain OECMs will actually provide in situ conservation of biodiversity because of jurisdictional issues relating to oil and gas, the Minister's ability to reverse an OECM through ministerial discretion and the potential for the closures to enacted for the "long-term".

However, and as noted above, there are opportunities for increasing protection of the multi-species OECMs through making amendments to these closures. For example, prior to its announcement as an OECM the Western/Emerald Banks Conservation Area (previously known as the Haddock Box) was improved through government response to recommendations from stakeholders, including the authors of this report (Fisheries and Oceans Canada, 2017b). Because of the changes made to the Western/Emerald Banks Conservation Area, including the removal of areas that remained open to bottom fisheries, the current closure satisfies all DFO criteria and is close to satisfying IUCN-WCPA and CBD SBSTTA guidance.¹⁰

¹⁰ As indicated by the CNSOPB, it is possible for the Western/Emerald Banks Conservation Area to become open to oil gas in 2018 (CNSOPB, 2018). If this is the case, the conservation area will not meet any of the three sets of guidance.



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Single Species OECMs

None of the single species OECMs fully satisfy DFO, IUCN-WCPA or CBD SBSTTA guidance (see Table 5). This serves to illustrate the shortcomings of these areas and suggests that they should not be considered OECMs and included in efforts to achieve Aichi Target 11. These sites may be more suited to reporting on Aichi Target 6 which focuses on sustainable fisheries and ecosystem-based management¹¹ (IUCN WCPA, 2018). Analysis of single species OECMs highlights issues with the following criteria:

1. **Size:** Many single species OECMs are smaller than 218 km²; coupled with the focus on conserving a single species, it is unlikely that in-situ biodiversity conservation can be achieved given such a small area is protected.
2. **Managed:** The focus of single species OECMs is narrow by design and therefore additional measures are needed for the management of the OECM to be successful in ensuring the protection of in-situ biodiversity and that the ecosystem approach is being applied. This is evident with the Gulf of St. Lawrence Scallop Buffer

Zone OECMs. The Scallop Buffer Zone closures overlap with several EBSAs but do not focus on the multiple ecological components identified as part of the overlapping EBSAs – such as eelgrass beds or habitat for depleted species (CSAS, 2007). Rather, the Scallop Buffer Zone closures focus solely on juvenile lobster and lobster habitat and not in-situ biodiversity conservation. Broadening the objectives of the single-species OECMs would help satisfy this criterion and help ensure the ecosystem approach is being applied.

3. **Effective Means:** Most of the single species closures are closer to the coast in comparison to other OECMs and are subjected to increased coastal pressures. The governing authority (DFO) does not have an effective means of control over all activities that could impact in-situ biodiversity conservation. For example, DFO cannot effectively control shipping activities that impact beluga habitat in the Saguenay Fjord Upstream Closure.
4. **Effective and Enduring:** As the closures focus on a single species and generally prohibit only one gear type, it is uncertain if the OECM will lead to 'effective and enduring' in-situ biodiversity conservation.

Our analysis demonstrates that improvements are required for the majority of sites in order to count towards Canada's contribution to Aichi Target 11. These improvements include: making sites permanent under the *Fisheries Act*; protecting all known SBA elements within a closure; including more elements of biodiversity in single species closures; expanding conservation objectives; and developing mechanisms and monitoring to better assess their effectiveness, with corresponding management measures in place to address potential future impacts.



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¹¹ Target 6: By 2020, all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem-based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits (CBD, 2018).

05 TOWARDS IMPROVING CONSERVATION OUTCOMES

We recognize efforts by DFO to expand marine conservation in Canada through the designation of OECMs. However, improvements are still needed with regards to how we designate, govern and manage OECMs to provide effective biodiversity conservation. DFO's operational guidance document recognizes that ecological monitoring, surveillance, and enforcement are important elements of adaptive management that support effective conservation, and that these elements must be present for area-based measures to satisfy national and international guidance as OECMs. As such, DFO should consider developing management and/or monitoring plans for their proposed OECMs. Implementing management and/or monitoring plans would help satisfy CBD SBSTTA and IUCN-WCPA "effective and enduring" criteria, and thus help ensure that Canada's OECMs meet international guidance, but could also help achieve the conservation objectives of the OECM.

Furthermore, DFO should clearly identify and transition specific OECMs into MPAs. *Oceans Act* MPAs have several advantages over OECMs, including ability for DFO to work with other departments to restrict a

range of activities beyond fishing, such as oil and gas, seabed mining, shipping, research, or tourism depending on the threat to the conservation objectives. For example, DFO recently designated the Offshore Pacific Seamounts and Vents Closure as an OECM, which it intends to roll into an *Oceans Act* MPA by 2020. Providing some certainty as to the future of specific areas – moving from fisheries closures to MPAs – would help to ensure that protection standards from all harmful activities are both implemented and adhered to during the protection process. A significant aspect of building trust with all ocean users and particularly fish harvesters and the fishing industry more broadly, is that the fishing sector is given some assurance that the areas set aside from their industry are also set aside from other industrial activities.

Finally, Canada is missing out on a key opportunity to expand its marine conservation efforts while at the same time meeting its international targets. The draft IUCN-WCPA guidance highlights multiple types of sites that could, depending on the conservation objectives and outcomes, be considered as OECMs and count towards international targets.

A few examples include:

- Indigenous protected or conserved areas;
- Locally managed conserved areas;
- Some natural areas managed by universities for biological research;
- Military waters that are primarily managed for defence, but with specific secondary objectives focused on the conservation of biodiversity;
- Heritage or historical areas (eg. ship wrecks, war graves); and
- Areas closed for under water cables.

The IUCN-WCPA provides a much more extensive list of potential OECMs; however, the above list identifies potential options that the Canadian government could pursue through departments other than DFO. Recognition of other types of OECMs would help to ensure that a greater number and variety of contributions are considered as long-term, area-based conservation measures and would help safeguard these conservation measures and the biodiversity that they protect.



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06 RECOMMENDATIONS

There are several key recommendations that, if taken into consideration and implemented, may greatly improve the effectiveness of Canada's ocean conservation and ensure the recognition of all areas that appropriately contribute to Aichi Target 11 and Sustainable Development Goal 14.

RECOMMENDATION 1: The Parliament of Canada adopts the proposed changes to the *Fisheries Act* to make OECMs permanent, rather than the current 25-year period, to ensure the long-term conservation of biodiversity.

RECOMMENDATION 2: DFO should ensure that the SBA OECMs follow DFO Newfoundland and Labrador's science guidance of 70% protection for coral and sponge areas at a minimum, and ideally protect 100% of areas identified as significant benthic areas within or adjacent to the OECM. In doing so, long term in-situ biodiversity conservation is more likely to be achieved as the 'size' of the OECMs better matches the ecosystem needs.

RECOMMENDATION 3: Use the ecological components identified as part of the EBSA process as the basis for the conservation objective(s) for OECMs where there are overlaps between EBSAs and OECMs. This is

especially true in OECMs where it appears that only a single species is being managed in an area in which there are other ecologically or biologically significant species and habitats that could be conserved within the same boundary.

RECOMMENDATION 4: When designing new OECMs, ensure that an ecosystem-based approach, rather than a single species approach, is being pursued. This is necessary to guarantee that in-situ biodiversity conservation is being achieved and aides in determining if the closure aligns with Aichi Target 11, or more closely aligns with targets such as Aichi Target 6 (E.g. Gulf of St. Lawrence Scallop Buffer Zones).

RECOMMENDATION 5: The Government of Canada, as a matter of urgency, complete a review of the Offshore Accord Agreements for Nova Scotia and Newfoundland and Labrador with a view towards ensuring oil and gas is prohibited in all OECMs in Atlantic Canada. While changes to the *Canada Petroleum Resources Act* included in Bill C-55 allow for cancellation of existing leases in marine protected areas, this does not currently apply to Atlantic Canada, and will not apply at all for OECMs.

RECOMMENDATION 6: Ensure that ecological monitoring and surveillance is taking place within all OECMs and that any monitoring is not causing further ecological damage to the area under protection. This includes prohibiting annual trawl surveys in OECMs protected under the Sensitive Benthic Areas policy. Additionally, this research and monitoring data should be made public.

RECOMMENDATION 7: Assess potential for other managed, closed or protected areas outside the jurisdiction of Fisheries and Oceans Canada that lead to in-situ biodiversity conservation to be considered as a potential OECMs, as per IUCN-WCPA guidance. Examples include: Indigenous Protected/Conserved Areas, historic ship wrecks, war graves, etc.

RECOMMENDATION 8: DFO should develop a process to transition OECMs established under the *Fisheries Act* to full MPAs under the *Oceans Act*, where appropriate. Candidate sites should include the Western/Emerald Banks Conservation Area and the Strait of Georgia and Howe Sound Glass Sponge Reef closures, where the objectives and conservation measures effectively target biodiversity conservation, but where activities outside the jurisdiction of DFO have the potential to negatively impact the ecosystem.

07 CONCLUSION

As Canada continues its pursuit to protect at least 10% of its coastal and marine environment by 2020, it is crucial to examine whether these protections provide effective and long-term in-situ biodiversity conservation. Using the existing operational guidance from DFO, the IUCN-WCPA, and the CBD SBSTTA as a screening tool to evaluate Canada's existing OECMs, it is clear that Canada's OECM regime does not fully meet either national or international standards. As a result, Canada's OECMs may not be eligible to count towards Aichi Target 11 or Sustainable Development Goal 14. This is especially true for single species OECMs, as it is explicitly stated in IUCN-WCPA guidance that sites with a single-species focus are unlikely to count towards Aichi Target 11. The recommendations provided offer ways to improve on current and future OECMs to increase protection within Canada's marine ecosystems. While there are shortcomings, we also have seen unprecedented focus on marine protection in Canada with more coastal and marine areas protected under national legislation in the past two years than any time in the past 150 years. This indicates a significant improvement over past initiatives and if the government mandate continues to invest and focus on oceans protection, Canada could indeed become an oceans leader.¹²

¹² See Annex 1 that discusses DFO's perspectives on elements flagged by this technical report.

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BIBLIOGRAPHY

- Canadian Science Advisory Secretariat. (2007). Ecologically and Biologically Significant Areas (EBSA) in the Estuary and Gulf of St. Lawrence: Identification and Characterization." Fisheries and Oceans Canada: Science. Retrieved from: <http://waves-vagues.dfo-mpo.gc.ca/Library/328383.pdf>
- Canadian Science Advisory Secretariat. (2016). Guidance on Identifying Other Effective Area-Based Conservation Measures in Canadian Coastal and Marine Waters. Fisheries and Oceans Canada National Capital Region. Retrieved from: <http://waves-vagues.dfo-mpo.gc.ca/Library/365364.pdf>.
- Canadian Science Advisory Secretariat. (2017). Guidance on the level of protection of significant areas of cold-water corals and sponge-dominated communities in Newfoundland and Labrador waters. Fisheries and Oceans Canada: Newfoundland and Labrador Region. Retrieved from: http://publications.gc.ca/collections/collection_2017/mpo-dfo/Fs70-7-2017-030-eng.pdf.
- CNSOPB. (2018). Notice of Six Fundamental Decisions Respecting Calls for Bids NS18-1 and NS18-2. Canadian-Nova Scotia Offshore Petroleum Board. Retrieved from: <https://www.cnsopb.ns.ca/news/notice-six-fundamental-decisions-respecting-calls-bids-ns18-1-and-ns18-2>.
- Convention on Biological Diversity. (2018b). Aichi Target 11. Convention on Biological Diversity. Retrieved from: <https://www.cbd.int/aichi-targets/target/11>.
- Convention on Biological Diversity. (2018b). Target 6 – Technical Rationale extended (provided in document COP/10/INF/12/Rev.1). Convention on Biological Diversity. Retrieved from: <https://www.cbd.int/sp/targets/rationale/target-6/>.
- Convention on Biological Diversity. (2018c). Protected Areas and Other Effective Area Based Conservation Measures (provided in document (CBD CBD/SBSTTA/22/6) Convention on Biological Diversity. Retrieved from: <https://www.cbd.int/meetings/SBSTTA-22>
- Day J., Dudley N., Hockings M., Holmes G., Laffoley D., Stolton S. & S. Wells. (2012). Guidelines for applying the IUCN Protected Area Management Categories to Marine Protected Areas. Gland, Switzerland: IUCN. Retrieved from: https://cmsdata.iucn.org/downloads/iucn_categoriesamp_eng.pdf
- Dagg, Jennifer et al. (2011). Comparing the Offshore Regulatory Regimes of the Canadian Arctic, the U.S., the U.K., Greenland and Norway. Pembina Institute. Retrieved from: <http://www.pembina.org/pub/comparing-offshore-drilling-regulatory-regimes-of-canadian-arctic-u-s-u-k-greenland-and-norway>.
- Fisheries and Oceans Canada. (2016). CSAS science advice on OECMS http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2016/2016_002-eng.html
- Fisheries and Oceans Canada. (2017a). DFO five point plan <http://www.dfo-mpo.gc.ca/oceans/publications/OECM-amcepz/index-eng.html>
- Fisheries and Oceans Canada. (2017b). Operational Guidance for Identifying 'Other Effective Area-Based Conservation Measures' in Canada's Marine Environment. Retrieved from: http://www.dfo-mpo.gc.ca/oceans/documents/publications/OECM-amcepz/OECM_operational_guidance_EN.pdf.
- Fisheries and Oceans Canada. (Dec. 2017). Western/Emerald Banks Conservation Area (restricted fisheries zone). Retrieved from: <http://www.dfo-mpo.gc.ca/oceans/OECM-amcepz/refuges/westernemerald-emeraudewestern-eng.html>.

- Fisheries and Oceans Canada. (2018a). Current progress towards marine conservation targets. Retrieved from: <http://www.dfo-mpo.gc.ca/oceans/conservation/achievement-reussite-eng.html>.
- Fisheries and Oceans Canada. (2018b). Canada ends 2017 with 7.75% of protected ocean territory with the addition of 7 new marine refuges. Retrieved from: <http://www.dfo-mpo.gc.ca/oceans/conservation/2017-eng.html>.
- Gill, D.A., Mascia, M.B., Ahmadi, G.N., Glew, L., Lester, S.E., Barnes, M., Craigie, I., Darling, E.S., Free, C.M., Geldmann, J. and Holst, S., 2017. Capacity shortfalls hinder the performance of marine protected areas globally. *Nature*, 543(7647), p.665.
- Government of Canada. (November 2015). Prime Minister of Canada makes ministerial mandate letters public. Retrieved from: <https://pm.gc.ca/eng/news/2015/11/13/prime-minister-canada-makes-ministerial-mandate-letters-public>.
- Government of Canada. (August 2016). Minister of Fisheries, Oceans and the Canadian Coast Guard Mandate Letter. Retrieved from: <https://pm.gc.ca/eng/minister-fisheries-oceans-and-canadian-coast-guard-mandate-letter>.
- IUCN-WCPA. (2018). (Draft) Guidelines for Recognising and Reporting Other Effective Area-based Conservation Measures. IUCN, Switzerland. Version 1.
- Lazaruk, Heather and Jessica Elliott. (2017). Science-based Guidance for Reporting Target 11: Other Effective Area-Based Conservation Measures [PowerPoint Slides]. CCEA. Retrieved from: http://www.ccea.org/wp-content/uploads/2016/03/OECMs_CCEA_2017BanffConf_03-15-2017-updated-June6-20171.pdf.
- Jessen, S., Morgan, L.E., Bezaury-Creel, J.E., Barron, A., Govender, R., Pike, E.P., Saccomanno, V.R. and Moffitt, R.A., 2017. Measuring MPAs in Continental North America: How Well Protected Are the Ocean Estates of Canada, Mexico, and the USA? *Frontiers in Marine Science*, 4, p.279.
- NAFO. Vulnerable Marine Ecosystem (VME) Closures. Last modified May 2017. <https://www.nafo.int/Fisheries/VME>.
- Parliament of Canada. (Feb. 6th 2018: First Reading). Bill c-68: An Act to amend the Fisheries Act and other Acts in consequence. House of Commons: First Session, Forty-Second Parliament. Retrieved from: <http://www.parl.ca/DocumentViewer/en/42-1/bill/C-68/first-reading>.
- Rogers, A.D., Gianni, M. (2010). The Implementation of UNGA Resolutions 61/105 and 64/72 in the Management of Deep-Sea Fisheries on the High Seas. International Programme on the State of the Ocean. Retrieved from: <http://www.savethehighseas.org/publicdocs/61105-Implemention-finalreport.pdf>
- Subsidiary Body on Scientific, Technical and Technological Advice. (July 2018). "Recommendation adopted by the subsidiary body on scientific, technical and technological advice: protected areas and other effective area-based conservation measures." CBD/SBSTTA/REC/22/5, Convention on Biological Diversity. Retrieved from: <https://www.cbd.int/doc/recommendations/sbstta-22/sbstta-22-rec-05-en.pdf>.
- Statoil Canada. Statoil Canada Ltd. - East Coast Operations Newfoundland and Labrador Offshore Area Environmental Assessment Update 2016 Drilling Operations. Statoil Canada Ltd (2015): 1-24. Retrieved from: <http://www.cnlopb.ca/pdfs/nhdrill/2015eaupdate.pdf>.
- United Nations. (2015). Sustainable Development Goal 14 - Conserve and sustainably use the oceans, seas and marine resources for sustainable development. United Nations Sustainable Development Goals. Retrieved from: <https://sustainabledevelopment.un.org/sdg14>.

APPENDIX I: DFO OPERATIONAL GUIDANCE FOR IDENTIFYING MARINE OECMS

The operational guidance for identifying marine OECMs includes five broad criteria and recommends that each measure must all five criteria to be identified as a marine OECM (Fisheries and Oceans Canada, 2017b).

1. Clearly defined geographic location
 - i. The measure must be in a spatially-defined area. This criterion reflects IUCN definitions related to a clearly defined geographic location.
2. Conservation or stock management objectives
 - i. The measure must have a conservation or stock management objective AND the objective must directly reference at least one species of regional importance or habitat that is important to biodiversity conservation.
 - ii. Conservation and stock management objectives both have a biological or ecological basis. Directly referencing an important habitat or species in the objective ensures that management decisions are closely linked to that ecological component.
 - iii. Habitats that are important to biodiversity conservation may:
 - be unique and/or rare;
 - have special importance for the life-cycle of a species;
 - have importance for threatened, endangered or declining species and/or habitat;
 - be vulnerable, fragile or slow to recover;
 - have comparatively higher biological productivity;
 - have comparatively higher biological diversity; or
 - be pristine.

Regionally important species include:

- ecologically significant species;
 - depleted or rare species;
 - species that are targeted in commercial, recreational, or Aboriginal fisheries; or
 - species that are listed in Integrated Oceans Management objectives or MPA network objectives.
3. Presence of ecological components of interest
 - i. Ecological components of interest are the species and habitat(s) that are conserved in a measure.
 - ii. In order for a measure to meet this criterion, the measure must contain at least two ecological components of interest: a habitat that is important to biodiversity conservation AND a species of regional importance that uses the habitat.
 - iii. This requirement is already met in cases where the conservation or stock management objective refers to a habitat that is important to biodiversity conservation AND a species of regional importance that uses the habitat. Where this is not the case, it will be necessary to identify one additional ecological component of interest. The following examples help to illustrate this point:
 - Example 1 – The ecological component of interest identified in the measure's objective is a habitat that is important to biodiversity conservation: There must be a species of regional importance that uses the important habitat in the area covered by the measure. The species must be identified as an additional ecological component of interest for the purposes of assessing the measure against the criteria.

- Example 2 – The ecological component of interest identified in the measure's objective is a species of regional importance: There must be a habitat that is important to biodiversity conservation (and that is used by the important species) in the area covered by the measure. The habitat must be identified as an additional ecological component of interest for the purposes of assessing the measure against the criteria.
4. Long-term duration of implementation
 - i. The measure must either:
 - be entrenched via legislation or regulation; or,
 - not entrenched via legislation or regulation but there must be clear evidence that the management measure is intended for the long-term (minimum 25 years).
 - ii. Measures identified as OECMs will be managed using a long-term adaptive management approach and are expected to be in place year-round for a minimum of 25 years to support long-term biodiversity conservation benefits. This criterion should not be considered an expiry date for OECMs. The underlying aim is for all reported OECMs to be in place indefinitely and ideally in perpetuity.
 - iii. As licence conditions or variation provisions under the Fisheries Act have provisions that can simplify removal of a management measure, all fishery closures established via those means are not considered to be entrenched via legislation or regulation, and therefore require clear evidence that they are intended for the long-term. This evidence is in the form of a clearly stated long-term management objective in an official publication from the responsible authority.
 5. The ecological components of interest are effectively conserved
 - i. No human activities that are incompatible with conservation of the ecological components of interest (the species and habitat(s) identified through criterion #2 and #3) may occur or be foreseeable within the defined geographic location.
 - ii. Foreseeable activities generally include activities for which a business plan is in place and there is evidence that the proponent is going to conduct the activity (for example applications for leases or permits).
 - iii. Existing risk-based tools can be used as appropriate, in conjunction with expert opinion, to assess whether existing or foreseeable activities and their impacts are incompatible with the conservation of the ecological components of interest.
 - iv. Ecological monitoring, surveillance, and enforcement are important elements of adaptive management that support effective conservation. Where these management elements are not already in place for an OECM, the intention is to introduce these management elements over time.



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APPENDIX II: DRAFT IUCN-WCPA OECM SCREENING TOOL

The IUCN-WCPA has crafted draft guidance to help states determine if they have sites that can count as OECMs (IUCN-WCPA, 2018), similar to the criteria they have to assist states in determine if sites count as MPAs (Day et al., 2012).

CRITERION 1. Ensure that the area is not already recorded as a protected area

The area is neither already recognised or proposed as a marine, freshwater or terrestrial protected area, nor does it lie within one.

CRITERION 2. Ensure that Aichi Target 11, as opposed to other Aichi Targets, is the right focus.

Within the context of reporting to the CBD, ensure Target 11 is the most relevant Aichi Biodiversity Target. There are 20 Aichi Biodiversity Targets, many encompassing area-based approaches. Some area-based approaches will better contribute to other Targets (e.g., Target 6 on sustainable management of fisheries, Target 7 on sustainable agriculture and forestry) and may therefore not be OECMs.

CRITERION 3. Ensure that the area has the essential conservation characteristics of an OECM.

1. **Location:** The area must be a geographically defined space. Wider measures for species and/or environment that are not 'area-based' fail this test. For example species-specific national or regional hunting bans, whale-watching rules, or temporary fishing closures are regional species-specific measures and not in-situ area-based conservation.

2. **Governed, Managed and Long-term:** The area is governed and managed over the long-term and such arrangements are expected to be ongoing. There should be a direct causal link between: a) the area's overall objective and management and b) the in-situ conservation of biodiversity over the long-term. Areas where there is neither a governance authority nor conscious management are not OECMs. Accordingly, an area currently in a natural or near-natural state is not automatically an OECM.
3. **Effective In-Situ Conservation of Biodiversity:** The area delivers the effective in-situ conservation of biodiversity, with associated ecosystem services. There should be a clear understanding that the area is effectively conserving native biodiversity and the ecosystem processes that support biodiversity. This may be achieved through a variety of management practices, including those associated with cultural and spiritual values. Areas that deliver conservation outcomes only over the short-term or areas that are intended or offer potential to conserve nature but do not yet deliver conservation outcomes do not qualify as OECMs.

CRITERION 4. Ensure that the conservation outcome can be sustained

This refers to the probability of the conservation outcome being sustained through legal or other effective means (such as customary laws or formal agreements with landowners). This test emphasises the difference between current conservation efforts that can be reversed easily and an OECM that can sustain conservation outcomes over the long-term.

Areas that pass ALL four criteria can be considered to be candidate OECMs, subject to more detailed review involving empirical evidence to support the preliminary assessment and agreement with the governance authority.

APPENDIX III: OECM DEFINITION AND SCREENING TOOL AS AGREED AT CBD SBSTTA JULY 2018

On OECMs the definitions are:

1. *Adopts* the following definition of “other effective area-based conservation measures”:

“Other effective area-based conservation measure” means “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, socioeconomic, and other locally relevant values”;
2. *Welcomes* the scientific and technical advice on guiding principles management approaches and identification of other effective area-based conservation measures and their role in achieving Aichi Biodiversity Target 11 contained in annex III to the present draft recommendation, to be applied in a flexible way and on a case-by-case basis;
3. *Takes note of* the considerations in achieving Aichi Biodiversity Target 11 in marine and coastal areas, contained in annex IV to the present draft recommendation;
4. *Further invites* the International Union for Conservation of Nature, the Food and Agriculture Organization of the United Nations, and other expert bodies to continue to assist Parties to identify other effective area-based conservation measures and to apply the guidance.

CRITERIA FOR IDENTIFICATION

CRITERION A: Area is not currently recognized as a protected area

- | | |
|-----------------------------|--|
| Not a protected area | <ul style="list-style-type: none"> The area is not currently recognized or reported as a protected area or part of a protected area; it may have been established for another function. |
|-----------------------------|--|

CRITERION B: Area is governed and managed

- | | |
|-------------------------------------|--|
| Geographically defined space | <ul style="list-style-type: none"> Size and area are described, including in three dimensions where necessary. Boundaries are geographically delineated. |
|-------------------------------------|--|

Legitimate governance authorities

- Governance has legitimate authority and is appropriate for achieving *in situ* conservation of biodiversity within the area;
- Governance by indigenous peoples and local communities is self-identified in accordance with national legislation;
- Governance reflects the equity considerations adopted in the Convention.
- Governance may be by a single authority and/or organization or through collaboration among relevant authorities and provides the ability to address threats collectively.

Managed

- Managed in ways that achieve positive and sustained outcomes for the conservation of biological diversity.
- Relevant authorities and stakeholders are identified and involved in management.
- A management system is in place that contributes to sustaining their *in situ* conservation of biodiversity.
- Management is consistent with the ecosystem approach with the ability to adapt to achieve expected biodiversity conservation outcomes, including long-term outcomes, and including the ability to manage a new threat.

CRITERION C: Achieves sustained and effective contribution to in situ conservation of biodiversity

Effective

- The area achieves, or is expected to achieve, positive and sustained outcomes for the *in situ* conservation of biodiversity.
- Threats, existing or reasonably anticipated ones are addressed effectively by preventing, significantly reducing or eliminating them, and by restoring degraded ecosystems.
- Mechanisms, such as policy frameworks and regulations, are in place to recognize and respond to new threats.
- To the extent relevant and possible, management inside and outside the OECM is integrated.

Sustained over long term

- The other effective area-based conservation measure is in place for the long term or is likely to be.
- “Sustained” pertains to the continuity of governance and management and “long term” pertains to the biodiversity outcome.

CRITERIA FOR IDENTIFICATION (continued)

CRITERION C (continued): Achieves sustained and effective contribution to in situ conservation of biodiversity

In-situ conservation of biological diversity

- Recognition of other effective conservation area 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).

Information and monitoring

- Identification of an OECM should, to the extent possible, document the known biodiversity attributes, as well as, where relevant, cultural and/or spiritual values, of the area and the governance and management in place as a baseline for assessing effectiveness.
- A monitoring system informs management on the effectiveness of measures with respect to biodiversity, including the health of ecosystems.
- Processes should be in place to evaluate the effectiveness of governance and management, including with respect to equity.
- General data of the area such as boundaries, aim and governance are available information.

CRITERION D: Associated ecosystem functions and services and cultural, spiritual, socio-economic and other locally relevant values

Ecosystem functions and services

- 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 and service does not impact negatively on the sites overall biological diversity.

Cultural, spiritual, socio-economic and other locally relevant values

- Governance and management measures identify, respect and uphold the cultural, spiritual, socioeconomic, and other locally relevant values of the area, where such values exist.
- Governance and management measures respect and uphold the knowledge, practices and institutions that are fundamental for the in situ conservation of biodiversity.

APPENDIX IV: COMPARISON TABLE OF DFO, DRAFT IUCN-WCPA AND CBD SBSTTA OPERATIONAL GUIDELINES FOR OECMS

DFO		Draft IUCN-WCPA OECM Guidance	CBD - SBSTTA Guidance
Not recognized as a protected area		Areas that are already designated as protected areas or lie within protected areas should not also be counted as OECMs. While protected areas and OECMs are mutually exclusive at any point in time, both protected areas and OECMs have value for biodiversity conservation and some OECMs may be recognized as protected areas over time.	The area is not currently recognized or reported as a protected area or part of a protected area; it may have been established for another function.
Geographically defined space	The measure must be in a spatially-defined area. This criterion reflects IUCN definitions related to a clearly defined geographic location.	Geographically defined space implies a spatially defined area with agreed and demarcated borders, and includes land, inland waters, marine and coastal areas or a combination of two or more of these. These borders can sometimes be defined by physical features that move over time, such as a river banks or sea ice.	Boundaries are geographically delineated.
Size	<p>According to the CSAS Science Advice, when determining whether an area is likely to provide biodiversity conservation benefits include:</p> <ul style="list-style-type: none"> • an area's management objective, size, and level of protection; • how the waters surrounding an area are managed; • the degree to which important and diverse habitats are protected within an area; and, • the degree to which areas are "connected" to one another (e.g., protecting a species' feeding habitat in one area, and protecting that same species' breeding habitat in a different area). <p>In addition, the likelihood that an area will provide biodiversity conservation benefits further increases as the number of species or habitats receiving direct or indirect benefits increases.</p>	While the size of OECMs varies, they should be large enough to achieve the "in-situ conservation of biodiversity", as defined by the CBD.	The size of the area is described, including in three dimensions where necessary.

	DFO	Draft IUCN-WCPA OECM Guidance	CBD - SBSTTA Guidance
Governed	<p>The measure must either:</p> <ul style="list-style-type: none"> • be entrenched via legislation or regulation; or, • not entrenched via legislation or regulation but there must be clear evidence that the management measure is intended for the long-term (minimum 25 years) <p>For voluntary area-based management measures, where activities are technically allowed from a legal standpoint but are self-regulated by the industry, there must be evidence of compliance for the measure to be considered</p>	<p>Governed implies that the area is under the authority of a specified entity. OECMs can be governed under the same range of governance types as protected areas, namely: governance by governments (at various levels); shared governance (i.e. governance by various rights-holders and stakeholders together); governance by private individuals, organizations or companies; and governance by indigenous peoples and/or local communities.</p>	<ul style="list-style-type: none"> • Governance has legitimate authority and is appropriate for achieving in situ conservation of biodiversity within the area; • Governance by indigenous peoples and local communities is self-identified in accordance with national legislation; • Governance reflects the equity considerations adopted in the Convention; • Governance may be by a single authority and/or organization or through collaboration among relevant authorities and provides the ability to address threats collectively.
Equitable	Not mentioned	<p>As with protected areas, the governance of OECMs should strive to be 'equitable' and reflect human rights norms recognized in international and regional human rights instruments and in national legislation. Any recognition of OECMs should require the free, prior and informed consent of the relevant governing bodies.</p>	<ul style="list-style-type: none"> • Governance and management measures identify, respect and uphold the cultural, spiritual, socioeconomic, and other locally relevant values of the area, where such values exist.
Managed	<p>The measure must have a conservation or stock management objective AND the objective must directly reference at least one species of regional importance or habitat that is important to biodiversity conservation. Conservation and stock management objectives both have a biological or ecological basis. Directly referencing an important habitat or species in the objective ensures that management decisions are closely linked to that ecological component.</p> <p>Ecological components of interest are the species and habitat(s) that are conserved in a measure.</p>	<p>Managed specifies that the area is being managed in a way that leads to positive biodiversity conservation results. This means that: a) an area where there is no management regime is not an OECM. This means that areas of open ocean under no management or control and areas currently in a natural or near-natural state should not be considered as OECMs unless subject to an active management regime that is sustaining its biodiversity value. 'Managed' can include a decision to leave the area untouched.</p>	<ul style="list-style-type: none"> • Managed in ways that achieve positive and sustained outcomes for the conservation of biological diversity. • Management is consistent with the ecosystem approach with the ability to adapt to achieve expected biodiversity conservation outcomes, including long-term outcomes, and including the ability to manage a new threat. • Relevant authorities and stakeholders are identified and involved in management. ~ A management system is in place that contributes to sustaining the in situ conservation of biodiversity. • General data of the area such as boundaries, aim and governance are available information.
Secondary or Ancillary	<p>The measure must contain at least two ecological components of interest: a habitat that is important to biodiversity conservation AND a species of regional importance that uses the habitat.</p> <p>This requirement is already met in cases where the conservation or stock management objective refers to a habitat that is important to biodiversity conservation AND a species of regional importance that uses the habitat. Where this is not the case, it will be necessary to identify one additional ecological component of interest.</p>	<p>Unlike protected areas, OECMs do not necessarily require a predominant conservation objective, but there must be a direct causal link between a) the area's overall objective and management and b) the in-situ conservation of biodiversity over the long-term.</p>	<ul style="list-style-type: none"> • 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).

	DFO	Draft IUCN-WCPA OECM Guidance	CBD - SBSTTA Guidance
Effective Means	<p>No human activities that are incompatible with conservation of the ecological components of interest (the species and habitat(s) identified through criterion #2 and #3) may occur or be foreseeable within the defined geographic location.</p> <p>Foreseeable activities generally include activities for which a business plan is in place and there is evidence that the proponent is going to conduct the activity (for example applications for leases or permits)</p> <p>Existing risk-based tools can be used as appropriate, in conjunction with expert opinion, to assess whether existing or foreseeable activities and their impacts are incompatible with the conservation of the ecological components of interest.</p>	<p>The management of OECMs should include 'effective means' of control of activities that could impact biodiversity, whether through legal measures or other means (such as customary laws and sanctions) or a combination of these, which should apply to at least 75% of the OECM (following the '75% rule' for protected areas.</p>	<ul style="list-style-type: none"> Threats, existing or reasonably anticipated ones are addressed effectively by preventing, significantly reducing or eliminating them, and by restoring degraded ecosystems. Mechanism, such as policy frameworks and regulations, are in place to recognize and respond to new threats. To the extent relevant and possible, management inside and outside the other effective area-based conservation measure is integrated. Management to enhance one particular ecosystem function and service does not impact negatively on the sites overall biological diversity 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.
Long-term	<p>Measures identified as OEABCMs will be managed using a long-term adaptive management approach and are expected to be in place year-round for a minimum of 25 years to support long-term biodiversity conservation benefits</p> <p>This criterion should not be considered an expiry date for OEABCMs. The underlying aim is for all reported OEABCMs to be in place indefinitely and ideally in perpetuity.</p> <p>As license conditions or variation provisions under the Fisheries Act have provisions that can simplify removal of a management measure, all fishery closures established via those means are not considered to be entrenched via legislation or regulation, and therefore require clear evidence that they are intended for the long-term. This evidence is in the form of a clearly stated long-term management objective in an official publication from the responsible authority</p>	<p>OECMs are expected to be governed and managed over the long-term (i.e., in perpetuity) in ways that deliver the in-situ conservation of biodiversity. OECMs do not result from short-term or temporary management strategies. For example, a fishing closure which stays in place only until an overfished area recovers, is not a long-term measure. Seasonal arrangements (e.g. sites for migratory bird species) may qualify as OECMs if they are managed long-term and contribute to year-round in-situ conservation of biodiversity.</p>	<p>The other effective area-based conservation measures are in place for the long term or is likely to be. "Sustained" pertains to the continuity of governance and management and "long term" pertains to the biodiversity outcome.</p>

DFO	Draft IUCN-WCPA OECM Guidance	CBD - SBSTTA Guidance
<p>Effective and enduring</p> <p>Ecological monitoring, surveillance, and enforcement are important elements of adaptive management that support effective conservation. Where these management elements are not already in place for an OEABCM, the intention is to introduce these management elements over time.</p>	<p>OECMs should be demonstrated to be effective at delivering enduring in-situ conservation of biodiversity. This may include strict protection or certain forms of sustainable management consistent with the CBD definitions of “in-situ conservation” and “biodiversity”. Practical steps must to be in place for monitoring and reporting on OECMs.</p>	<ul style="list-style-type: none"> • The area achieves, or is expected to achieve, positive and sustained outcomes for the in situ conservation of biodiversity. • A monitoring system informs management of the effectiveness of measures with respect to biodiversity, including health ecosystems. • Processes should be in place to evaluate the effectiveness of governance and management, including with respect to equity. • Governance and management measures respect and uphold the knowledge practices and institutions that are fundamental for the in situ conservation of biodiversity. • Identification of an other effective area-based conservation measure should, to the extent possible, document the known biodiversity attributes, as well as, where relevant, cultural and/or spiritual values, of the area and the governance and management in place as a baseline for assessing effectiveness.



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APPENDIX V: ANALYSIS OF CANADIAN OECMS

Sensitive Benthic Area OECMs

NAME: Corsair & Georges Canyon Conservation Area		SIZE: 8,797 km ²	CONSERVATION OBJECTIVE: Protect cold-water corals	PROHIBITIONS: All commercial bottom-contact fishing gear
		DFO Criteria	Draft IUCN-WCPA Criteria	CBD SBSTTA Criteria
Not recognized as a protected area		NA	Yes	Yes
Geographically defined space		Yes	Yes	Yes
Size		Yes - already following Newfoundland and Labrador SBA science guidelines (70%)	Yes - already following Newfoundland and Labrador SBA science guidelines (70%)	Yes
Governed		Yes	Yes	Yes
Equitable		NA	Yes - FSC fishing still allowed, but low impact	Yes - First Nations offered opportunity for input
Managed		Yes	Yes - prohibits all bottom contact gear and has restricted fishing zones	Likely - management will likely achieve in situ biodiversity conservation
Secondary or Ancilliary		Yes - protecting cold water corals - which is a species a habitat so meet DFO criteria	Yes - protecting corals means protecting a variety of other species who depend on them for habitat, etc.	Yes
Effective Means		Unlikely - Georges Bank Prohibition Area is only until 2022 under CNSOPB	Unlikely - oil gas potential come 2022?	No - oil and gas potential come 2022 and management is not integrated inside and outside the OECM
Long-term		Yes - 25 years	Likely - New Fisheries Act amendments	Likely - New Fisheries Act amendments
Effective and enduring		Likely - In-situ research occurring as funded	Likely - In-situ research occurring as funded. Still potential for oil and gas come 2022.	Likely - In situ research occurring as funded (concern come 2022 when Georges Bank Prohibition Area will be expired)

NAME: Jordan Basin Conservation Area	SIZE: 49 km ²	CONSERVATION OBJECTIVE: Protect cold-water corals	PROHIBITIONS: All commercial bottom-contact fishing gear
DFO Criteria		Draft IUCN-WCPA Criteria	CBD SBSTTA Criteria
Not recognized as a protected area	NA	Yes	Yes
Geographically defined space	Yes	Yes	Yes
Size	Unlikely - The closure could be following Newfoundland and Labrador SBA science guidelines (70%), but currently is not. Could overlap with the EBSA more	Unlikely - overlaps with Jordan Basin EBSA. The closure could be following Newfoundland and Labrador SBA science guidelines (70%), but currently is not.	Yes
Governed	Yes	Yes	Yes
Equitable	NA	Yes	Yes - First Nations offered opportunity for input
Managed	Yes	Yes	Unlikely- management cannot adequately adapt to arising threats
Secondary or Ancilliary	Yes - protecting species and habitat	Yes	Yes
Effective Means	Unlikely - still potential for oil and gas	No - Currently no oil and gas leases, but not explicitly prohibited (CNSOPB)	No - Federal government does not have unilateral power to control activities that could have negative impacts on the conservation objective. Management is not integrated inside and outside the OECM
Long-term	Yes - 25 years	Likely - New Fisheries Act amendments	Likely - New Fisheries Act amendments
Effective and enduring	Likely - In-situ research occurring as funded	Unlikely- potential for oil and gas development	No - closure may not provide in situ biodiversity conservation due to oil and gas threats and failure to include key ecosystem functions and services by not following NLFD SBA science guidelines

NAME: Lophelia Coral Conservation Area		SIZE: 15 km ²	CONSERVATION OBJECTIVE: Protect <i>Lophelia pertusa</i> coral reef	PROHIBITIONS: All bottom-contact fisheries
		DFO Criteria	Draft IUCN-WCPA Criteria	CBD SBSTTA Criteria
Not recognized as a protected area		NA	Yes	Yes
Geographically defined space		Yes	Yes	Yes
Size		Likely - protecting the only known <i>Pertusa</i> coral, h/w may not provide strong in situ biodiversity conservation	Unlikely - May not provide in situ biodiversity conservation	Yes
Governed		Yes	Yes	Yes
Equitable		NA	Yes	Yes - First Nations offered opportunity for input
Managed		Yes	Yes	Unlikely- management cannot adequately adapt to arising threats
Secondary or Ancilliary		Yes - protecting a specific species and habitat	Yes	Yes
Effective Means		Unlikely - still potential for oil and gas	No - Currently no oil and gas leases, but not explicitly prohibited (CNSOPB)	No - Federal government does not have unilateral power to control activities that could have negative impacts on the conservation objective. Management is not integrated inside and outside the OEEM
Long-term		Yes - 25 years	Likely - New Fisheries Act amendments	Likely - New Fisheries Act amendments
Effective and enduring		Likely - In-situ research occurring as funded	Unlikely - Potential for oil and gas development	No - closure may not provide in situ biodiversity conservation due to oil and gas threats and size of the OEEM

NAME: Emerald Basin and Sambro Bank Sponge Conservation Areas		SIZE: 260 km ²	CONSERVATION OBJECTIVE: Protect <i>Vazella pourtalesi</i> glass sponges	PROHIBITIONS: All bottom-contact fisheries
		DFO Criteria	Draft IUCN-WCPA Criteria	CBD SBSTTA Criteria
Not recognized as a protected area		NA	Yes	Yes
Geographically defined space		Yes	Yes	Yes
Size		Likely - protecting <i>Vazella pourtalesi</i> glass sponges, h/w may not provide strong in situ biodiversity conservation	Unlikely - May not provide in-situ biodiversity conservation Unsure if the closure overlaps with Emerald Basin and the Scotian Gulf EBSA.	Yes
Governed		Yes	Yes	Yes
Equitable		NA	Yes	Yes - First Nations offered opportunity for input
Managed		Yes	Yes	Unlikely- management cannot adequately adapt to arising threats
Secondary or Ancillary		Yes - protecting a specific species and habitat	Yes	Yes
Effective Means		Unlikely - still potential for oil and gas	No - Currently no oil and gas leases, but not explicitly prohibited (CNSOPB)	No - Federal government does not have unilateral power to control activities that could have negative impacts on the conservation objective. Management is not integrated inside and outside the OECM
Long-term		Yes - 25 years	Likely - New Fisheries Act amendments	Likely - New Fisheries Act amendments
Effective and enduring		Likely - In-situ research occurring as funded	Unlikely - Potential for oil and gas development	No - closure may not provide in situ biodiversity conservation due to oil and gas threats and failure to include key ecosystem functions and services by not following NLFD SBA science guidelines

NAME: Northeast Channel Coral Conservation Area	SIZE: 391 km ²	CONSERVATION OBJECTIVE: Protect cold-water corals	PROHIBITIONS: All bottom-contact fisheries
DFO Criteria		Draft IUCN-WCPA Criteria	CBD SBSTTA Criteria
Not recognized as a protected area	NA	Yes	Yes
Geographically defined space	Yes	Yes	Yes
Size	Unlikely - The closure could be following Newfoundland and Labrador SBA science guidelines (70%), but currently is not. Unsure if the closure overlaps with an EBSA	Unlikely - The closure could be following Newfoundland and Labrador SBA science guidelines (70%), but currently is not. Unsure if the closure overlaps with an EBSA.	Yes
Governed	Yes	Yes	Yes
Equitable	NA	Yes	Yes - First Nations offered opportunity for input
Managed	Yes	Yes	Unlikely- management cannot adequately adapt to arising threats
Secondary or Ancillary	Yes - protecting a specific species and habitat	Yes	Yes
Effective Means	Unlikely - still potential for oil and gas	No - Currently no oil and gas leases, but not explicitly prohibited (CNSOPB)	No - Federal government does not have unilateral power to control activities that could have negative impacts on the conservation objective. Management is not integrated inside and outside the OECM
Long-term	Yes - 25 years	Likely - New Fisheries Act amendments	Likely - New Fisheries Act amendments
Effective and enduring	Likely - In-situ research occurring as funded	Unlikely - Potential for oil and gas development	No - closure may not provide in situ biodiversity conservation due to oil and gas threats and failure to include key ecosystem functions and services by not following NLFD SBA science guidelines

NAME: Quebec Coral and Sponge Closures (11)	SIZE: 8,572 km ² (total for 11 closures)	CONSERVATION OBJECTIVE: Cold-water coral protection & cold-water sponge protection	PROHIBITIONS: All fishing that uses bottom-contact gear, such as bottom trawls, dredges, bottom seining, traps, gillnets, and bottom longlines.
DFO Criteria		Draft IUCN-WCPA Criteria	CBD SBSTTA Criteria
Not recognized as a protected area	NA	Yes	Yes
Geographically defined space	Yes	Yes	Yes
Size	Unlikely - not fully following 70% protection guidelines	Unlikely - The closure could be following Newfoundland and Labrador SBA science guidelines (70%), but currently is not. Closures that appear to follow 70% guidelines are: Anticosti South-East and Anticosti East	Yes
Governed	Yes	Yes	Yes
Equitable	NA	Yes - can see consultation process on website (http://www.qc.dfo-mpo.gc.ca/golfe-gulf/coraux-eng.html)	Likely - were First Nations properly consulted
Managed	Yes	Yes	Unlikely- management cannot adequately adapt to arising threats
Secondary or Ancillary	Yes	Yes	Yes
Effective Means	Unlikely- Other fishing activities?	No - at a minimum oil and gas activities can still be allowed. Unlikely about other fishing activities?	No - Federal government does not have unilateral power to control activities that could have negative impacts on the conservation objective. Management is not integrated inside and outside the OECM
Long-term	Yes - 25 years	Likely - New Fisheries Act amendments	Likely - New Fisheries Act amendments
Effective and enduring	Unlikely- Will in situ biodiversity conservation be achieved? Impacts on marine mammals will likely not be mitigated.	Unlikely-if there is ecological monitoring and surveillance. Unsure of other fishing activities in the area and how they may impact in situ biodiversity conservation within the closures (impacts on marine mammals?) Closures are not following the Newfoundland and Labrador SBA Policy guidelines of 70% protection	No- closure may not provide in situ biodiversity conservation due to oil and gas threats and failure to include key ecosystem functions and services by not following NLFD SBA science guidelines

NAME: Pacific Offshore Vents-Seamounts Conservation Area		SIZE: 82,692 km ²	CONSERVATION OBJECTIVE: Protect seamounts, hydrothermal vents and the ecosystems they support	PROHIBITIONS: Prohibits all bottom-contact commercial and recreational fisheries
		DFO Criteria	Draft IUCN-WCPA Criteria	CCEA Criteria
Not recognized as a protected area		NA	Yes	Yes
Geographically defined space		Yes	Yes	Yes
Size		Yes - following Newfoundland and Labrador SBA science guidelines (70%)	Yes- following Newfoundland and Labrador SBA science guidelines (70%). The Closure encompasses all of Hydrothermal vents EBSA and the majority of Seamounts EBSA.	Yes
Governed		Yes	Yes	Yes
Equitable		NA	Unlikely - were First Nations consulted?	Yes
Managed		Yes	Yes - the area is being managed that will lead to positive biodiversity outcomes	Likely - management cannot address all arising threats; however, there are no accord agreements in this area
Secondary or Ancillary		Yes - by protecting corals, hydrothermal vents and other habitat structures the Closure will protect a variety of species	Yes	Yes
Effective Means		Unlikely - still catching other fish using gear that is not bottom contact (e.g. Albacore Tuna). Could impact other species	Unlikely - still catching other fish using gear that is not bottom contact (e.g. Albacore Tuna). Could impact other species. Note: Current oil and gas moratorium.	Unlikely - cannot address all arising threats
Long-term		Yes - 25 years	Likely - New Fisheries Act amendments	Likely - New Fisheries Act amendments
Effective and enduring		Likely - In-situ research occurring as funded	Unlikely- What about the impacts from other fisheries.	Unlikely - unsure if the area will achieve positive in situ biodiversity outcomes (e.g. due to impacts from various other permitted fisheries)

NAME: Strait of Georgia and Howe Sound Sponge Reef Closures	SIZE: 29 km ²	CONSERVATION OBJECTIVE: Protect glass sponge reefs	PROHIBITIONS: All bottom contact commercial, recreational, and Food, Social, and Ceremonial fishing activities.
	DFO Criteria	Draft IUCN-WCPA Criteria	CCEA Criteria
Not recognized as a protected area	NA	Yes	Yes
Geographically defined space	Yes	Yes	Yes
Size	Likely - will meet conservation objectives but size could be increased to provide greater in-situ biodiversity conservation	Unlikely - Size may not provide in situ biodiversity conservation	Yes
Governed	Yes	Yes	Yes
Equitable	NA	Yes	Yes
Managed	Yes	Yes	Likely - management cannot address all arising threats; however, there are no accord agreements in this area
Secondary or Ancillary	Yes - protecting a specific species and habitat	Yes	Yes
Effective Means	Unlikely - shipping impacts? Other recreational impacts?	Unlikely - Shipping impacts? Other recreational impacts?	No - cannot address all arising threats and ecosystem services and functions are not supported due to size
Long-term	Yes - 25 years	Likely - New Fisheries Act amendments	Likely - New Fisheries Act amendments
Effective and enduring	Likely - In-situ research occurring as funded	Unlikely - What are the impacts from other ocean users? Size may not lead to long term in-situ biodiversity conservation	No - unsure if the area will achieve positive in situ biodiversity outcomes (e.g. due to impacts from shipping or other recreational impacts and size of the closures)

NAME: Davis Strait Conservation Area		SIZE: 17,298 km²	CONSERVATION OBJECTIVE: To conserve sensitive benthic areas	PROHIBITIONS: All bottom-contact fisheries
DFO Criteria			Draft IUCN-WCPA Criteria	CBD SBSTTA Critiera
Not recognized as a protected area	NA		Yes	Yes
Geographically defined space	Yes		Yes	Yes
Size	Yes - closure appears to be following Newfoundland and Labrador SBA science guidelines of 70% protection		Yes - closure appears to be following Newfoundland and Labrador SBA science guidelines of 70% protection	Yes
Governed	yes		Yes	Yes
Equitable	NA		Yes - full consultation occurred with the proper Indigenous governing structures	Yes
Managed	Yes		Yes	Likley - management cannot address all arising threats; however, there are no accord agreements in this area
Secondary or Ancilliary	Yes - protecting coral, sponges and seapens		Yes	Yes
Effective Means	Yes - no other types of fishing taking place, no oil and gas either		Likely - cannot control all activities that could impact in situ biodiversity but it is unlikely that oil and gas will occur in the closure	Unlikley - cannot address all arising threats
Long-term	Yes - 25 years		Likely - New Fisheries Act amendments	Likely - New Fisheries Act amendments
Effective and enduring	Likely - In-situ research occuring as funded		Likely - is there ecological monitoring and surveillance?	Likely

NAME: Hatton Basin Conservation Area	SIZE: 42,259 km²	CONSERVATION OBJECTIVE: To conserve sensitive benthic areas	PROHIBITIONS: All bottom-contact fisheries
DFO Criteria		Draft IUCN-WCPA Criteria	CBD SBSTTA Criteria
Not recognized as a protected area	NA	Yes	Yes
Geographically defined space	Yes	Yes	Yes
Size	Yes - appears to be following Newfoundland and Labrador SBA science guidelines with 70% protection	Yes - appears to be following Newfoundland and Labrador SBA science guidelines with 70% protection	Yes
Governed	Yes	Yes	Yes
Equitable	NA	Yes	Yes - First Nations offered opportunity for input , and considered within Imappivut process
Managed	Yes	Yes	Unlikely - management cannot adequately adapt to arising threats
Secondary or Ancilliary	Yes - by protecting coral and sponges from bottom trawling they will be protecting a diversity of other species	Yes	Yes
Effective Means	Unlikely - Currently no oil and gas leases, but not explicitly prohibited in the southern region of the closure (CNLOPB)	No - Currently no oil and gas leases, but not explicitly prohibited (CNLOPB)	No - Federal government does not have unilateral power to control activities that could have negative impacts on the conservation objective. Management is not integrated inside and outside the OECM
Long-term	Yes - at least 25 years	Likely - New Fisheries Act amendments	Likely - New Fisheries Act amendments
Effective and enduring	Likely - In-situ research occuring as funded	Unlikely - potential for oil and gas developments	Unlikely - closure may not provide in situ biodiversity conservation due to oil and gas threats

NAME: Hopedale Saddle Closure		SIZE: 15,412 km ²	CONSERVATION OBJECTIVE: Protect corals and sponges and contribute to the long-term conservation of biodiversity.	PROHIBITIONS: All bottom-contact fisheries
		DFO Criteria	Draft IUCN-WCPA Criteria	CBD SBSTTA Criteria
Not recognized as a protected area		NA	Yes	Yes
Geographically defined space		Yes	Yes	Yes
Size		Yes - appears to be following Newfoundland and Labrador SBA science guidelines with 70% protection	Yes - appears to be following Newfoundland and Labrador SBA science guidelines with 70% protection. Overlaps with 3 different EBSAs: Outer Shelf Nain Bank, Labrador Slope, and Hopedale Saddle	Yes
Governed		Yes	Yes	Yes
Equitable		NA	Yes	Yes - First Nations offered opportunity for input , and considered within Imappivut process
Managed		Yes	Yes	Unlikely- management cannot adequately adapt to arising threats
Secondary or Ancillary		Yes - by protecting coral and sponges from bottom trawling they will be protecting a diversity of other species	Yes	Yes
Effective Means		Unlikely - Currently no oil and gas leases, but not explicitly prohibited	No - Currently no oil and gas leases, but not explicitly prohibited	No - Federal government does not have unilateral power to control activities that could have negative impacts on the conservation objective. Management is not integrated inside and outside the OECM
Long-term		Yes - at least 25 years	Likely - New Fisheries Act amendments	Likely - New Fisheries Act amendments
Effective and enduring		Likely - In-situ research occurring as funded. Protecting beluga habitat as well.	No - Oil and gas issue	Unlikely - closure may not provide in situ biodiversity conservation due to oil and gas threats

NAME: Division 3O Coral Closure	SIZE: 10,422 km²	CONSERVATION OBJECTIVE: Protect Coral and Sponges	PROHIBITIONS: Prohibit all bottom-contact fisheries
DFO Criteria		Draft IUCN-WCPA Criteria	CBD SBSTTA Criteria
Not recognized as a protected area	NA	Yes	Yes
Geographically defined space	Yes	Yes	Yes
Size	Unlikely - Not fully following Newfoundland and Labrador SBA science guidelines of 70% protection.	Unlikely - could be larger and follow the Southwest Shelf Edge and Slope EBSA. The area is missing some key seapen, sponge and high concentration coral areas	Yes
Governed	Yes - fisheries act closure	Yes	Yes
Equitable	NA	Yes	Yes - First Nations offered opportunity for input
Managed	Yes	Yes	Unlikely- management cannot adequately adapt to arising threats
Secondary or Ancillary	Yes - protecting coral and sponge habitat and in return will protect other species	Yes	Yes
Effective Means	Unlikely - potential for oil and gas in the area through the CNLOPB	No - Currently no oil and gas leases, but not explicitly prohibited (CNLOPB)	No - Federal government does not have unilateral power to control activities that could have negative impacts on the conservation objective. Management is not integrated inside and outside the OECM
Long-term	Yes - 25 years	Likely - New Fisheries Act amendments	Likely - New Fisheries Act amendments
Effective and enduring	Unlikely - How effective has the closure been at reaching its conservation objectives? Not fully following Newfoundland and Labrador SBA science guidelines of 70% protection	Unlikely - has the 3O closure been demonstrated to provide effective and enduring in situ biodiversity conservation? Is the SBA closure following the 70% protection guidelines laid out by DFO Newfoundland and Labrador?	No - closure may not provide in situ biodiversity conservation due to oil and gas threats and failure to include key ecosystem functions and services by not following NLFD SBA science guidelines

NAME: Northeast Newfoundland Slope Closure		SIZE: 46, 833 km ²	CONSERVATION OBJECTIVE: Protect corals and sponges and contribute to the long term conservation of biodiversity.	PROHIBITIONS: Prohibit all bottom-contact fisheries
		DFO Criteria	Draft IUCN-WCPA Criteria	CBD SBSTTA Criteria
Not recognized as a protected area		NA	Yes	Yes
Geographically defined space		Yes	Yes	Yes
Size		Unlikely - Unsure if closure is following Newfoundland and Labrador SBA science guidelines (70%)	Unlikely - Overlaps 32% with the Oprhan Spur EBSA - could overlap more. Unsure if closure is following Newfoundland and Labrador SBA science guidelines	Yes
Governed		Yes - fisheries act closure	Yes	Yes
Equitable		NA	Yes	Yes - First Nations offered opportunity for input
Managed		Yes	Yes	No - cannot adequately control all arising threats as oil and gas leaseas have been permitted within the closure and therefore management is not consistent with the ecosystem approach
Secondary or Ancilliary		Yes - protecting coral and sponge habitat and in return will protect other species	Yes	Yes
Effective Means		No - The CNLOPB has a "call for bids" for oil and gas development within the protected area	No - The CNLOPB has a "call for bids" for oil and gas development within the protected area	No - oil and gas leases are open within the closure
Long-term		Yes - 25 years	Likely - New Fisheries Act amendments	Unlikely - Closure has a call for bids for oil and gas development
Effective and enduring		No - potential for oil and gas development	No - high potential for oil and gas development	No - high potential for oil and gas development

Multi-Species OECMs

NAME: Western/ Emerald Banks Conservation Area		SIZE: 10,234 km ²	CONSERVATION OBJECTIVE: 1) Support productivity objectives for groundfish species of Aboriginal, commercial, and/or recreational importance, particularly NAFO Division 4VW haddock. 2) Manage the disturbance of benthic habitat that supports juvenile and adult haddock and other groundfish species	PROHIBITIONS: All commercial and recreational fisheries using bottom-contact gear and/or gear known to interact with groundfish.
		DFO Criteria	Draft IUCN-WCPA Criteria	CBD SBSTTA Criteria
Not recognized as a protected area		NA	Yes	Yes
Geographically defined space		Yes	Yes	Yes
Size		Yes	Yes	Yes
Governed		Yes	Yes	Yes
Equitable		NA	Yes	Yes
Managed		Yes - updated and is included in IFMP	Yes - new and updated conservation objectives	Likely - management cannot adequately address all arising threats
Secondary or Ancillary		Yes - ground fish species and shelf habitat	Yes - no longer species - specific	Yes
Effective Means		Likely - there is still potential for oil and gas	No - Currently no oil and gas leases, but not explicitly prohibited (CNSOPB)	No - Federal government does not have unilateral power to control activities that could have negative impacts on the conservation objective. Management is not integrated inside and outside the OECM
Long-term		Yes - 25 years	Likely - New Fisheries Act amendments	Likely - New Fisheries Act amendments
Effective and enduring		Yes - have already been monitoring the area since 1987. The closure has improved ground fish populations. Review needed to observe impacts of pelagic long line	Unlikely - Scallop zone is not counted towards Aichi Targets but need to be wary of impacts from pelagic long lining and its impacts on in-situ biodiversity conservation	No - closure may not provide in situ biodiversity conservation due to oil and gas threats

NAME: Les Demoiselles Nursery Closure		SIZE: 0.3 km²	CONSERVATION OBJECTIVE: Protect habitat used as a nursery ground for juvenile lobster	PROHIBITIONS: Hydraulic dredge for the Atlantic surf clam and Atlantic razor clam, otter trawl and Danish and Scottish seine for the winter flounder, witch flounder, yellowtail flounder and American plaice
DFO Criteria		Draft IUCN-WCPA Criteria		CBD SBSTTA Criteria
Not recognized as a protected area	NA	Yes	Yes	
Geographically defined space	Yes	Yes	Yes	
Size	Unlikely - Size is not big enough to achieve in-situ biodiversity conservation	Unlikely - Size is not big enough to achieve in-situ biodiversity conservation	Yes	
Governed	Yes	Yes	Yes	
Equitable	NA	Yes	Yes - First Nations offered opportunity for input	
Managed	Yes	Likely - could be doing more for protecting biodiversity	Unlikely- management cannot address all arising threats	
Secondary or Ancilliary	Yes - lobster and lobster nursey habitat	Yes	Unlikely - little recongition of the identification of the range of biodiversity attributes for why a site is considered important due to focusing on one species or habitat	
Effective Means	Unlikely - is lobster fishing still taking place within the area?	No - cannot "effectively" control all activities that could have negative impacts on the conservation objective Appears to not protect in-situ biodiversity as a whole	No - Federal government does not have unilateral power to control activities that could have negative impacts on the conservation objective. Management is not integrated inside and outside the OECM	
Long-term	Yes - 25 years	Likely - New Fisheries Act amendments	Likely - New Fisheries Act amendments	
Effective and enduring	Unlikely - is there ecological monitoring and surveillance? Will the closure provide in-situ biodiversity conservation?	No - is there effective monitoring and surveillance? Unsure if closures have demonstrated in-situ biodiversity conservation (size is an issue). A much better fit for Target 6	No- closure may not provide in situ biodiversity conservation due to the size of the closures and the governance abilities to mitigate threats are limited	

NAME: Magdalen Islands 6 lagoon closures		SIZE: 136 km²	CONSERVATION OBJECTIVE: Protect lobster habitat and conserve herring spawning grounds	PROHIBITIONS: Hydraulic dredge for the Atlantic razor clam and Atlantic surf clam, Gill net and square net fishing for winter flounder, Gill net fishing for Atlantic herring, Pelagic trawl, Danish and Scottish seine for the yellowtail and the winter flounder, and American lobster trap		
DFO Criteria			Draft IUCN-WCPA Criteria		CBD SBSTTA Criteria	
Not recognized as a protected area	NA		Yes		Yes	
Geographically defined space	Yes		Yes		Yes	
Size	Yes (However, there are no EBSAs indicated around the Islands)		Unlikely - will they achieve in-situ conservation (limited data on herring spawning grounds)		Yes	
Governed	Yes		Yes		Yes	
Equitable	NA		Yes		Yes - First Nations offered opportunity for input	
Managed	Yes		Yes		Unlikely- management cannot address all arising threats	
Secondary or Ancilliary	Yes - trying to protect lobster and herring and their habitat and spawning grounds		Yes - protecting species and habitat		Likely - could have more recognition of the biodiversity attritubutes that makes this site important	
Effective Means	Unlikely- what about scallop fishing? (Scallop Fishing Area 20)		No - cannot “effectively” control activities that can impact the closure		No - Federal government does not have unilateral power to control activities that could have negative impacts on the conservation objective. Management is not integrated inside and outside the OECM	
Long-term	Yes		Likely - New Fisheries Act amendments		Likely - New Fisheries Act amendments	
Effective and enduring	Unlikely - is there ecological monitoring and surveillance? Will the closure provide in-situ biodiversity conservation?		No - is there ecological monitoring and surveillance. Unsure of other fishing activities in the area and how they may impact in-situ biodiversity conservation (I.e. scallop fishing) . A much better fit for Target 6		No- closure may not provide in situ biodiversity conservation due to the size of the closures and the governance abilities to mitigate threats are limited	

NAME: Hawke Channel Closure		SIZE: 8,837 km ²	CONSERVATION OBJECTIVE: Conserve benthic habitat and Atlantic Cod	PROHIBITIONS: Bottom trawl, gillnet, longline
		DFO Criteria	Draft IUCN-WCPA Criteria	CBD SBSTTA Criteria
Not recognized as a protected area		NA	Yes	Yes
Geographically defined space		Yes	Yes	Yes
Size		Yes	Likely - overlaps somewhat with the Labrador Marginal Trough EBSA	Yes
Governed		yes	Yes	Yes
Equitable		NA	Unlikely	Yes - First Nations offered opportunity for input
Managed		Yes	Yes	Likely - management cannot address all arising threats
Secondary or Ancilliary		Yes - protecting atlantic cod and bottom habitat	Yes	Yes
Effective Means		Unlikely - Currently no oil and gas leases, but not explicitly prohibited	No - Currently no oil and gas leases, but not explicitly prohibited	No - Federal government does not have unilateral power to control activities that could have negative impacts on the conservation objective. Management is not integrated inside and outside the OEEM
Long-term		Yes - 25 years	Likely - New Fisheries Act amendments	Likely - New Fisheries Act amendments
Effective and enduring		Likely - In-situ research occurring as funded	Unlikely - Oil and gas can occur	No- closure may not provide in situ biodiversity conservation due to oil and gas threats

NAME: Funk Island Deep Closure		SIZE: 7,274 km²	CONSERVATION OBJECTIVE: Conserve benthic habitat and Atlantic cod	PROHIBITIONS: Bottom trawl, gillnet and longline
DFO Criteria			Draft IUCN-WCPA Criteria	CBD SBSTTA Criteria
Not recognized as a protected area	NA		Yes	Yes
Geographically defined space	Yes		Yes	Yes
Size	Yes		Likely - overlaps somewhat with the Fogo Shelf EBSA	Yes
Governed	yes		Yes	Yes
Equitable	NA		Unlikely	Yes - First Nations offered opportunity for input
Managed	Yes		Yes	Likley - management cannot address all arising threats
Secondary or Ancilliary	Yes - protecting atlantic cod and bottom habitat		Yes	Yes
Effective Means	Unlikely - Currently no oil and gas leases, but not explicitly prohibited		No -Currently no oil and gas leases, but not explicitly prohibited	No - Federal government does not have unilateral power to control activities that could have negative impacts on the conservation objective. Management is not integrated inside and outside the OECM
Long-term	Yes - 25 years		Likely - New Fisheries Act amendments	Likely - New Fisheries Act amendments
Effective and enduring	Likely - In-situ research occuring as funded		Unlikely - Oil and gas can occur	No - closure may not provide in situ biodiversity conservation due to oil and gas threats

NAME: Disko Fan Conservation Area		SIZE: 7,485 km ²	CONSERVATION OBJECTIVE: 1) Minimize impacts on winter food sources and overwintering habitat for narwhal 2) Conserve coral concentrations	PROHIBITIONS: All bottom-contact fisheries
		DFO Criteria	Draft IUCN-WCPA Criteria	CBD SBSTTA Criteria
Not recognized as a protected area		NA	Yes	Yes
Geographically defined space		Yes	Yes	Yes
Size		Yes - appears to be following Newfoundland and Labrador SBA science guidelines with 70% protection	Yes - appears to be following Newfoundland and Labrador SBA science guidelines with 70% protection.	Yes
Governed		Yes	Yes	Yes
Equitable		NA	Yes	Yes
Managed		Yes	Yes	Yes
Secondary or Ancillary		Yes - by protecting coral and sponges from bottom trawling they will be protecting a diversity of other species	Yes	Yes
Effective Means		Yes	Likely - cannot control all activities that could impact in situ biodiversity but it is unlikely that oil and gas will occur in the closure	No - Federal government does not have unilateral power to control activities that could have negative impacts on the conservation objective. Management is not integrated inside and outside the OECM
Long-term		Yes - at least 25 years	Likely - New Fisheries Act amendments	Likely - New Fisheries Act amendments
Effective and enduring		Likely - In-situ research occurring as funded	Unlikely - could be doing more to protect marine mammal (narwhal) food sources	Likely

Single Species OECMs

NAME: 7 lobster closures		SIZE: 94 km ² (total)		CONSERVATION OBJECTIVE: Increase lobster spawning and egg production	PROHIBITIONS: All lobster fishing
DFO Criteria		Draft IUCN-WCPA Criteria		CBD SBSTTA Criteria	
Not recognized as a protected area	NA		Yes		Yes
Geographically defined space	Yes		Yes		Yes
Size	Likely - size Unlikely big enough to protect lobster eggs but perhaps not in-situ biodiversity conservation. Additionally, there appears to be no connectivity between the 7 closures.		Unlikely - is the size of the closures big enough to achieve in-situ biodiversity conservation?		Yes
Governed	Yes		Yes		Yes
Equitable	NA		Unlikely - were First Nations consulted?		Yes - First Nations offered opportunity for input
Managed	Yes		Likely - could be doing more for protecting biodiversity		Unlikely - management is inconsistent with the ecosystem approach and inability to adequately manage arising threats
Secondary or Ancillary	Yes - lobster and lobster spawning habitat		Yes		Unlikely - little recognition of the identification of the range of biodiversity attributes for why a site is considered important due to focusing on one species or habitat
Effective Means	Unlikely - there are shellfish aquaculture operations in close proximity to 2 of the closures. Are there existing fisheries that would impact lobster and their spawning habitat?		No - cannot "effectively" control all activities that could have negative impacts on the conservation objective		No - Federal government does not have unilateral power to control activities that could have negative impacts on the conservation objective. Management is not integrated inside and outside the OECM
Long-term	Yes - 25 years		Likely - New Fisheries Act amendments		Likely - New Fisheries Act amendments
Effective and enduring	Unlikely - is there ecological monitoring and surveillance? Will the closure provide in-situ biodiversity conservation?		No - is there effective monitoring and surveillance? Unlikely if closures have demonstrated in-situ biodiversity conservation. A much better fit for Target 6		No - closure may not provide in situ biodiversity conservation due to the size of the closures and the governance abilities to mitigate threats are limited

NAME: Bay of Islands Salmon Migration		SIZE: 218 km²	CONSERVATION OBJECTIVE: Protect salmon migration area	PROHIBITIONS: All pelagic fixed gear
DFO Criteria		Draft IUCN-WCPA Criteria		CBD SBSTTA Criteria
Not recognized as a protected area	NA	Yes	Yes	
Geographically defined space	Yes	Yes	Yes	
Size	Unlikely - may protect salmon populations but will it protect in-situ biodiversity conservation?	Unlikely - no info if size of OECM will impact the in-situ conservation of biodiversity	Yes	
Governed	Yes - Fisheries Act Closure	Yes	Yes	
Equitable	NA	Unlikely - were First Nations groups consulted?	Yes - First Nations offered opportunity for input	
Managed	Yes	Likely - protecting salmon and other species from catch and bycatch. H/w not sure how it will protect salmon food sources	Unlikely - management is inconsistent with the ecosystem approach and inability to adequately management arising threats. Could be doing more to maintain biodiversity.	
Secondary or Ancillary	Yes - Atlantic Salmon and their migration route	Yes - protecting other species by prohibiting the use of recreational and commercial fixed gear	Unlikely - little recongition of the identification of the range of biodiversity attributes for why a site is considered important due to focusing on one species or habitat	
Effective Means	Unlikely - need more research. What other activities take place in the area? Recreational boating? Impacts from hydroelectric dams?? (no aquaculture in the area). Are they protecting salmon food (cod, herring etc)?	No - cannot “effectively” control activities that can impact the closure. I.e. Aquaculture, nutrient run-off, hyrdoelectric dams, impacts from boating and wharf buidling	No - Federal government does not have unilateral power to control activities that could have negative impacts on the conservation objective. Management is not integrated inside and outside the OECM	
Long-term	Yes - 25 years	Likely - New Fisheries Act amendments	Likely - New Fisheries Act amendments	
Effective and enduring	Unlikely - is there monitoring and surveillance? Will the closure provide in-situ biodiversity conservation (is it big enough)?	No - is there ecological monitoring and surveillance? Unlikely if closures have demonstrated in-situ biodiversity conservation? A much better fit for Target 6	No - closure may not provide in situ biodiversity conservation due to the size of the closures and the governance abilities to mitigate threats are limited	

NAME: Miramichi Bay Closure		SIZE: 1,553 km²	CONSERVATION OBJECTIVE: Protect adult Atlantic salmon and an important migration corridor	PROHIBITIONS: The use of gillnets is prohibited for all commercial groundfish fisheries
DFO Criteria			Draft IUCN-WCPA Criteria	CBD SBSTTA Criteria
Not recognized as a protected area	NA		Yes	Yes
Geographically defined space	Yes		Yes	Yes
Size	Unlikely- will the size of the salmon migration closure achieve in-situ biodiversity conservation		Unlikely - will the size of the salmon migration closure achieve in-situ biodiversity conservation ?	Yes
Governed	Yes		Yes	Yes
Equitable	NA		Unlikely	Yes - First Nations offered opportunity for input
Managed	Yes		Yes	Unlikely - management is inconsistent with the ecosystem approach and inability to adequately management arising threats. Could be doing more to maintain biodiversity (e.g. other prohibitions/regulations be put in place to protect salmon)
Secondary or Ancillary	Yes - threatened salmon populations and their habitat		Yes - protecting other species from bottom contact gillnetting	Unlikely - little recongition of the identification of the range of biodiversity attributes for why a site is considered important due to focusing on one species or habitat
Effective Means	Unlikely - what are the impacts of lobster fishing, rock crab and snow crab fishing, scallop fishing and mollusk aquaculture ?		No - cannot “effectively” control activities that can impact the closure. Mutliple other impacts on wild salmon populations than just gillnets	No - Federal government does not have unilateral power to control activities that could have negative impacts on the conservation objective. Management is not integrated inside and outside the OECM
Long-term	Yes		Likely - New Fisheries Act amendments	Likely - New Fisheries Act amendments
Effective and enduring	Unlikely - Is there ecological monitoring and surveillance? Closure will benefit some pelagic speices but the Closure assumes that the only impact on salmon populations is from the use of gillnets.		No- Is there ecological monitoring and surveillance? Unsure of other fishing activities in the area and how they may impact in-situ biodiversity conservation within closure. How much “biodiversity “will be protected by just stopping gillnetting? (does scallop dredging still take place?). A much better fit for Target 6	No - closure may not provide in situ biodiversity conservation due to governance abilities to adequately address current and arising threats

NAME: Scallop Buffer Zone Closures		SIZE: 5,835 km² (total for 3 closures)	CONSERVATION OBJECTIVE: Protect juvenile lobster habitat	PROHIBITIONS: Scallop dragging
DFO Criteria			Draft IUCN-WCPA Criteria	CBD SBSTTA Criteria
Not recognized as a protected area	NA	Yes - are not within a previously protected area	Yes	
Geographically defined space	Yes	Yes	Yes	
Size	Unlikely- follows CSAS Science Advice using EBSA document but will the closures provide in-situ biodiversity conservation?	Unlikely - will the size of the buffer zones achieve in-situ conservation? (Most likley)	Yes	
Governed	Yes	Yes	Yes	
Equitable	NA	Unlikely - was there consultation with First Nations on the buffer zones?	Yes - First Nations offered opportunity for input	
Managed	Yes	Likley- could be doing more for biodiversity	Unlikely - management is inconsistent with the ecosystem approach and inability to adequately management arising threats. Could be doing more to maintain biodiversity (e.g. other prohibitions/regulations be put in place to protect salmon).	
Secondary or Ancillary	Yes - lobster and lobster nursing habitat	Yes - protecting other species by stopping scallop dragging (skates, lady crab, rock crab)	Unlikely - little recongition of the identification of the range of biodiversity attributes for why a site is considered important due to focusing on one species or habitat.	
Effective Means	Unlikely - Are there other activities that may impact lobster habitat?	Unlikely - the governing mechanism can likley control the activities that could have negative impacts on the in-situ conservation of the OECM (unlikley that oil and gas development will occur in buffer zones). Any activities incompatible with the objectives?	No - Federal government does not have unilateral power to control activities that could have negative impacts on the conservation objective. Management is not integrated inside and outside the OECM	
Long-term	Yes - at least 25 years	Likely - New Fisheries Act amendments	Likely - New Fisheries Act amendments	
Effective and enduring	Unlikely - will there be ecological monitoring, surveillance and enforcement? Will the closure provide in-situ biodiversity conservation?	Unlikely-if there is effective monitoring and surveillance. Unsure of other fishing activities in the area and how they may impact biodiversity conservation within the buffer zones How much in-situ biodiversity will be protected by just stopping scallop dragging? What about protection for eel grass beds? A much better fit for Target 6.	No - closure may not provide in situ biodiversity conservation due to governance abilities to adequately address current and arising threats and failure to identify and document known biodiversity attributes within the closure	

NAME: Saguenay Fjord Upstream Closure		SIZE: 109 km²	CONSERVATION OBJECTIVE: Protect habitat for the beluga whale and avoid stirring up contaminants contained in the river's sediments	PROHIBITIONS: Otter trawl
DFO Criteria		Draft IUCN-WCPA Criteria		CBD SBSTTA Criteria
Not recognized as a protected area	NA	Yes	Yes	
Geographically defined space	Yes	Yes	Yes	
Size	Yes - adjacent to the Saguenay-St. Lawrence Marine Park Size: 109km2	Unlikely - protecting belugas from some threats but not top priority threats previously indicated by DFO. Will size achieve in-situ biodiversity conservation?	Yes	
Governed	Yes	Yes	Yes	
Equitable	NA	Yes - no visible objections from First Nations	Yes - First Nations offered opportunity for input	
Managed	Yes	Likely - could be doing more to lead to positive biodiversity conservation results	Unlikely - management is inconsistent with the ecosystem approach and inability to adequately management arising threats. Could be doing more to maintain biodiversity (e.g. other prohibitions/regulations to better protect the entire ecosystem)	
Secondary or Ancillary	Likely - belugas and their habitat, but not sure how fully the closure is protecting beluga habitat	Yes	Unlikely - little recongition of the identification of the range of biodiversity attributes for why a site is considered important due to focusing on one species or habitat	
Effective Means	No - there are human activities that are incompatible with the conservation objective and have been proven to negatively impact belugas (contimanents from agriculture, habitat degradation through construction activities such as dams, abundance of prey, algal blooms, fishing gear entanglements, anthropogenic disturbances such as whale watching, etc.)	No - Cannot "effectively" control activities that can impact beluga population and their habitat (fed vs. provincial jurisdiction.	No - Federal government does not have unilateral power to control activities that could have negative impacts on the conservation objective. Management is not integrated inside and outside the OECM	
Long-term	Yes - 25 years	Likely - New Fisheries Act amendments	Likely - New Fisheries Act amendments	
Effective and enduring	Unlikely - is there ecological monitoring and surveillance taking place? Will the closure provide in-situ biodiversity conservation?	No - there are human activities that are incompatible with the conservation objective and have been proven to negatively impact belugas (contimanents from agriculture, habitat degradation through construction activities such as dams, abundance of prey, algal blooms, fishing gear entanglements, anthropogenic disturbances such as whale watching, etc.)	No - closure may not provide in situ biodiversity conservation due to the size of the closures and the governance abilities to mitigate threats are limited	

ANNEX 1: DFO PERSPECTIVES ON ELEMENTS OF THE TECHNICAL REPORT

OIL AND GAS

Areas without existing oil and gas leases or licences are not considered to have any foreseeable activities with respect to oil and gas activity. Each marine refuge will be evaluated regularly to ensure compliance with this criterion. If a new activity in the area is incompatible with biodiversity conservation and the impacts of this activity are not mitigated, the fisheries area closures will no longer count toward the marine conservation targets.

For example, if an oil and gas lease or licence is established in a marine refuge and impacts to the ecological components of interest cannot be mitigated (e.g., through a Memorandum of Understanding with industry that prevents impacts), any overlap between the lease or licence and the marine refuge will not count as contributing towards the marine conservation target. Through the processes of integrated oceans management and MPA network development, DFO is working with partners and stakeholders to ensure that oceans activities, including oil and gas activities, are conducted in a sustainable manner that respects ecological and socio-economic goals in Canada's oceans. Approaches for managing activities besides fishing within marine refuges are expected to evolve over time as part of these processes, and partners and stakeholders will continue to be engaged in the Department's marine management efforts.

RESEARCH TRAWLS

The Canadian Science Advisory Secretariat recently completed a national peer review on a framework to support decisions under which scientific research surveys with bottom contact gears may be authorized for sampling in protected areas with defined benthic conservation objectives. The results from this national peer review will inform discussions on monitoring within marine refuges, moving forward.

SIZE

Smaller marine refuges may still generate biodiversity conservation benefits, especially if the area protected is of particular ecological importance (e.g. seamounts, hydrothermal vents, coral and sponge aggregations, etc.), or if developed in a broader network/supported by wider spatial planning initiatives (CSAS, 2016).



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