1 **Title:** Securing Minimum Protection Standards for Canada’s Marine Protected Areas

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7 **Abstract:**

8 In 2015, the Government of Canada committed to protecting 5% of marine and coastal
9 areas by 2017, and 10% by 2020. While admirable progress towards this target has been
10 made, less attention has been given to improving the quality of protection afforded to
11 marine areas. Extensive scientific study supports that several factors are critical to the
12 success of Marine Protected Areas (MPAs) for marine biodiversity conservation and
13 management objectives, including no-take areas and prohibitions on extractive and
14 industrial activities. However, the majority of Canada's MPAs allow extractive uses
15 within their boundaries. As Canada works toward international and national commitments
16 to marine protection targets, it is critical to consider the degree of protection afforded by
17 the legal designations used to create these areas. This paper reviews the current
18 inconsistent standards of protection across marine protected areas (MPAs) designated
19 under the *Oceans Act*, Canada's flagship legislation for marine protection. Recommended
20 amendments to the law include standards of protection that would exclude all extractive
21 industrial activities from MPAs in order to better guide the designation and decision-
22 making processes for marine protection.

1. Introduction

Marine protected areas (MPAs) are a powerful tool for the conservation and management of marine biodiversity [1]. MPAs can conserve biodiversity, improve fisheries, mitigate climate change, reduce disaster risk, and restore ecosystems, among other benefits [2]. Based on the evidence of these benefits, the Conference of the Parties to the *Convention on Biological Diversity* (CBD) established marine conservation targets in 2011 aimed at protecting ten percent of state marine and coastal waters. In 2015, Canada's federal government made a public commitment to reach the CBD's Aichi Target 11 by protecting 5% of Canada's marine and coastal areas by 2017, and 10% by 2020 [3]. The Canadian federal government has made great progress in achieving this quantity target for MPAs over the past two years. This article examines how a uniform legal prohibition against damaging human activities in MPAs through amended federal marine laws would more effectively protect marine biodiversity in Canada by focusing on both quantity *and* quality of protection.

For MPAs to provide the benefits listed above, they require effective protection from human influence [4]. Currently, the levels of protection afforded to MPAs varies greatly, from full protection, often 'no-take' or even 'no-entry' areas, to strong protection, where all commercial activity is prohibited but some recreational and subsistence fishing is allowed, and finally to light or partial protection, which may include certain prohibitions, but permit significant extractive activities [5].

The effectiveness of implementing full protection to MPAs is well-established. Though several factors may influence the trajectory and speed at which protection

benefits accrue [6,7],¹ fully-protected, and well-enforced areas have been shown to achieve significant ecological gains, including increased biomass, abundance and species biodiversity than unprotected areas [8–10]. Fully protected MPAs have also been shown to provide support to coastal communities and local fisheries, by improving fish populations, creating new jobs, and supporting ecotourism [11].

Despite the clear benefits of designating strongly protected MPAs, only a fraction of the oceans globally receive such protection. The World Database on Protected Areas quantifies global coverage of MPAs at 7.26% from government reports. However, a recent initiative of the MPAtlas found that, as of February 2018, 3.7% of the world's oceans are strongly protected,² only 2% of which are protected as no-take marine reserves [11]. The reason for this discrepancy appears to arise from the stricter standards used by the MPAtlas analysis. MPAtlas excludes the following: MPAs that are proposed but not yet designated; MPAs that are designated but whose management measures are not yet implemented; MPAs that allow damaging activities such as certain types of fishing and oil and gas development; and temporary spatial protections such as fisheries closures.³ This discrepancy between reports of global protection highlights the gap between conservation goals and implementation of meaningful protection measures.

Similar inconsistencies between conservation objectives and actual protection exist for MPAs in Canada. Canada's legal regime for marine protection lacks consistent binding standards to protect MPAs from harmful human activities. The vast majority of

¹ These factors include the size of the MPA, life histories of protected species, time since designation, historical level of exploitation prior to establishment, management and enforcement resources, and availability of monitoring resources etc.)

² In MPAtlas, 'strong' protection includes no-take MPAs as well as large, isolated MPAs.

³ For more information, see MPAtlas, "Our Data," available online: <http://www.mpatlas.org/about/data/>.

Canada's MPAs allow extractive uses within their boundaries, including oil and gas and fishing activities [12–14].

One way to establish strong protections within all of Canada's MPAs is to create and enforce a baseline prohibition on all industrial activities within MPAs. We refer to this baseline as protection standards. While some activities may be found, with scientific study, to be consistent with ecosystem protection goals for an MPA, there are a number of industrial and commercial human activities which are known to consistently negatively impact and pose serious risks to marine ecological integrity, including commercial bottom trawl fishing, and oil and gas exploration and development. Consistent with the best available science on this issue, prohibitions on extractive activities should be included within MPA legislation as protection standards, thus creating a baseline for protection across all MPAs.

2. Inconsistent protections in Canada's MPAs

Canada's flagship legal tool for creating federal MPAs is the *Oceans Act*, administered by Fisheries and Oceans Canada (DFO).⁴ DFO has designated eleven MPAs under the *Act* since its introduction in 1997 (Table 1). However, the *Oceans Act* has been referred to as 'skeletal' because it lacks specific statutory requirements for selecting new MPAs and for determining appropriate restrictions within a protected area [15]. This is

⁴ *Oceans Act*, SC 1996, c 31. Three different federal bodies can create MPAs in Canada. The *Oceans Act* gives authority to Fisheries and Oceans Canada (DFO) to designate marine areas as MPAs; the *Canada National Marine Conservation Areas Act* and the *Canada National Parks Act* gives Parks Canada responsibility for creating National Marine Conservation Areas and national parks, respectively; and the *Canada Wildlife Act* and the *Migratory Birds Sanctuary Act* allows the Environment and Climate Change Canada to protect habitat for a variety of wildlife, including migratory birds and species at risk. Provincial and Indigenous governments also have authority to create MPAs.

problematic because, by itself, designation of an MPA does not prohibit specific activities within the boundaries of the area.

Instead, the level of protection varies and is laid out in each MPA's specific regulation. There are common features in all of these regulations: each defines the geographical boundaries of the MPA and prohibits activities which disturb, damage or destroy living marine organisms, any habitat, and the seabed. Each regulation then lists exceptions for activities that would otherwise be prohibited, such as fishing. Exceptions are determined at the Minister's discretion on a case-by-case basis. Common exceptions include commercial fishing and recreational fishing, if they are carried out in accordance with relevant federal legislation.

This process of determining prohibited and allowable activities in an MPA on a site-by-site basis has failed to provide a baseline level of protection across Canadian MPAs [16]. In theory, by allowing regulatory prohibitions to be created for each individual MPA, the *Oceans Act* allows for the creation of unique regulatory regimes to match the specific conservation objectives of each area. In practice, however, the current process entails lengthy negotiations with representatives from extractive industries and other stakeholders. This can result in DFO granting weaker protection by allowing extractive industrial activities within MPAs, and contributes to the time it takes to establish an MPA, which is on average 7 years [17]. The current designation process also creates uncertainty over the level of protection that will be provided in an MPA, which negatively affects all stakeholders, including coastal communities, First Nations, commercial fishermen, and the general public.

3. Two Examples of Insufficient MPA Standards

Two *Oceans Act* MPAs in Canada from the west and east coasts of the country, SGaan Kinghlas (Bowie Seamount) and the proposed Laurentian Channel MPA, highlight the diverse and inconsistent protections that arise from the lack of statutory standards.

SGaan Kinghlas

SGaan Kinghlas (Bowie Seamount) is an MPA located in the Pacific Ocean, off the coast of British Columbia. In 1997, the Council of the Haida Nation designated the offshore seamount near Haida Gwaii known as SGaan Kinghlas (Bowie Seamount) as a Haida marine protected area. A year later, DFO followed suit by proposing to create an MPA around the seamount. SGaan Kinghlas-Bowie Seamount was officially designated as an MPA in 2008. Since 2007, the Council of the Haida Nation and Canada have worked together on a management board tasked with finalizing a management plan for SGaan Kinghlas by 2010. This management plan is still in progress and is now expected to be completed in 2018 [18].

The northern seamount sablefish trap-fishery, which uses weighted traps dropped onto the seafloor, was the only active commercial fishery within the boundaries of SGaan Kinghlas at the time of designation. Following negotiations with the sablefish industry, DFO controversially allowed this activity to continue after MPA designation, and made it the subject of further scientific research [19].

In the years following the MPA's designation, scientific monitoring showed that the traps were damaging ecologically important sessile organisms (corals and sponges).

As a result, in 2018 DFO and the Council of the Haida Nation jointly decided to close all bottom-contact fishing at SGaan Kinghlas while the governments finalize the MPA's management plan, which is expected to include longer-term measures to protect seafloor habitat [20]. This closure shows an adaptive management approach, with protection standards that finally meet the MPA's conservation objectives. However, the fact that the commercial sablefish fishery was allowed to continue at all over the past decade points to a lack of precaution, and demonstrates the uncertainty created in negotiation processes from the lack of protection standards in the legislation.

Laurentian Channel

The proposed Laurentian Channel MPA, an area in the Atlantic Ocean near Newfoundland and Labrador, further illustrates the problems created by the absence of statutory protection standards in the *Oceans Act*. Concessions made to the fishing and oil and gas industries during negotiations over the Laurentian Channel MPA's boundaries significantly reduced the conservation benefits of the reserve [21].

Most notably, DFO adjusted the protection measures within the proposed MPA after "representatives from the oil and gas industry raised concerns with respect to limitations on potential future activities" [22]. Consultations with the industry representatives also resulted in an allowance for seismic testing, an activity with known serious negative consequences for marine life [23], to occur within the proposed MPA "at any time within an eight-month window" of the year [22]. As a result, oil and gas exploration and drilling would be permitted within 88% of the proposed MPA. Important habitat areas for delicate soft coral will be off limits to drilling equipment, but directional

drilling from just outside that inner boundary will still allow the oil and gas industry to extract fossil fuels from 98% of the MPA [24].

In response to concerns from the fishing industry, DFO renegotiated the boundaries of the MPA [22]. Commercial fishing will not be allowed within the MPA, but fishing areas originally included in the proposed area were removed from the MPA boundaries in the finalized plan.

Effects of Insufficient MPA Standards

The processes for the designation of the SGaan Kinghlas (Bowie Seamount) MPA, and the (not yet finalized) Laurentian Channel MPA demonstrate how negotiations and discretionary decisions, made possible by the lack of statutory protection standards, scaled back the conservation benefits that each MPA was meant to achieve. This issue is not unique to these two MPAs, but is a feature of many *Oceans Act* MPAs. Taken together, the inconsistency of protections may result in Canadian MPAs failing to have the positive effects that the federal government and the Canadian public expects [25].

4. Calls for Protection Standards for MPAs

Recognition of the need for protection standards for MPAs has been growing. The IUCN has recently stated that “[a]ny environmentally damaging industrial activities and infrastructural developments, with the associated ecological impacts and effects, are not compatible with MPAs” [2]. These activities include large-scale extractive activities such as mining and industrial fishing, as well as the dumping of waste or toxic substances [26].

In 2016, the IUCN called on governments to prohibit environmentally damaging industrial activities and infrastructure development within all protected areas [27].

These international requirements can and should be adopted into Canadian law as protection standards for MPAs. In June 2017, fifteen Canadian scientists signed an open letter to the federal Ministers responsible for MPA designation, urging that “Canada’s *Oceans Act* be amended to include minimum protection levels for marine protected areas, similar to terrestrial parks, such that activities known to impact marine ecosystems are excluded” [28]. Legislating protection standards would create a clearer and more prescriptive legal framework to guide MPA planning and management [29].

The Canadian government has indicated interest in establishing protection standards. In September 2017, the Canadian Minister of Fisheries and Oceans said in the House of Commons that the federal government intends to establish “a floor of basic protections” to apply to all MPAs [30]. To this end, the Minister has established a National Advisory Panel on Marine Protected Area Standards. Protection standards also received support from the House of Commons Standing Committee on Environment and Sustainable Development, which unanimously recommended that the government “confirm minimum conservation standards of protection for each category of federal protected area to meet accepted international standards” [31].

5. Recommended Protection Standards for MPAs

No-take Zones

Recommendations for consistent protection standards from fishing activities include the designation of highly protected, no-take zones within MPAs where all large-scale habitat disturbances by industrial activity and commercial resource extraction are

prohibited, including fishing activities [26,32]. The benefits of fully-protected areas, also known as marine reserves, have been shown to be significantly greater than in areas with only partial protection [8,33].

International area-based targets have been used as a tool to motivate action on marine protection. Many countries have committed to the current CBD target of protecting 10% of oceans and coasts by 2020. However, analyses of protection and spatial targets have resulted in recommendations that protection of at least 30% of the oceans is needed to achieve conservation goals [34]; in 2016 the IUCN World Conservation Congress passed a motion recognizing the need for protection goals exceeding the CBD target and recommending that by 2030 at least 30% of each marine habitat be designated in “a network of highly protected MPAs” with no extractive activities permitted [35].

Science-based guidelines for designing networks of MPAs (a collection of individual MPAs designed to interact, and act more effectively than individual MPA sites alone) also recommend that proportions of these networks be designated as no-take areas [36,37]. Recognition of insufficient protection for marine biodiversity resulted in significant increases in areas designated as no-take marine reserves in Australia’s Great Barrier Reef Marine Park and in California’s state-wide MPA network [38,39]. The successful increase in no-take zones for both the Great Barrier Reef and the California MPA network has been attributed in large part to extensive and early engagement of stakeholders and the public [32,38,40], highlighting the importance of building public support to implement strong protection standards.

218 *Industrial fishing activity*

219 Protection standards should include prohibitions on industrial fishing activity
220 within the MPA. Industrial fishing impacts much of the world's oceans [41]. Fishing
221 activities can impede marine conservation objectives within MPAs both through the
222 direct depletion of target and non-target (bycatch) fish populations, and also through
223 indirect impacts of fishing gear on marine habitats [42,43]. The term 'industrial fishing'
224 has not yet been defined by the IUCN and a definition would greatly assist with the
225 application of protected area guidelines. Suggested definitions include any commercial
226 fishing that has not been determined as 'artisanal' (i.e. small-scale, low-technology, low
227 intensity undertaken by individuals) [44].

228 Bottom trawl fishing gears in particular have been shown to cause large-scale and
229 long-lasting damage to seabed habitats and habitat-forming species, and have lower
230 selectivity toward target species [e.g. 33,30]. Prohibiting all bottom trawling within
231 MPAs would create a protection standard that would safeguard marine habitats. This type
232 of ban is found in MPAs internationally, including MPAs in Scotland, Australia, and
233 New Zealand.⁵ In Canadian MPAs, bottom trawl fishing is not specifically prohibited and
234 thus could occur in any *Oceans Act* MPAs that allows commercial fishing, including
235 Basin Head (Prince Edward Island), Gilbert Bay (Labrador) and Tarium Niryutait (NWT)
236 MPAs.

237 *Large-Scale Resource Extraction*

⁵ The South Arran Marine Conservation Order 2015, Scot SI 2015/ 437; The Inner Dowsing, Race Bank and North Ridge European Marine Site (Specified Areas) Bottom Towed Fishing Gear Byelaw (UK) 2013, s 2; South-East Commonwealth Marine Reserves Network Management Plan 2013–23 (Cth), s 5.5.4; Government of New Zealand, "Type 2 Marine Protected Areas," online: <http://www.doc.govt.nz/nature/habitats/marine/type-2-marine-protected-areas/>.

Finally, MPAs should be protected from all large-scale resource extraction activities, particularly oil and gas and undersea mining. Documented impacts of activities associated with offshore exploration and extraction of oil and gas on marine life include noise pollution from seismic surveys, threats from platform infrastructures, and the risk of oil spills [46–48]. Mexico has banned oil and gas exploration and extraction activities within all MPAs in recognition of their incompatibility with protecting marine ecosystems, and Belize has banned oil and gas activities from its oceans entirely [13,49,50].

For some *Oceans Act* MPAs, oil and gas exploration has been explicitly permitted; the regulations for Tairium Niryutait MPA include exceptions that specifically permit exploratory drilling, production, and construction and maintenance of pipelines for oil and gas. The management plan for The Gully MPA states that oil and gas exploration may be possible, as long as it does not disturb, damage, destroy or remove marine animals or their habitat.

Other MPAs lack outright prohibitions on oil and gas, leaving open the possibility of exploitation. For some, the seabed and subsoil are protected to specified depths of two metres (Musquash Estuary, Gilbert Bay, Eastport, Basin Head), 5m (St. Anns Bank, Anguniaqvia niqiqyuam), or 20m (the Gully, Hecate Strait Glass Sponge Reefs). This limitation could conceivably allow directional drilling into the seabed of an MPA. The regulations for Endeavor Hydrothermal Vents MPA implicitly prohibit oil and gas production through a prohibition on disturbing, damaging, destroying or removing any part of the seabed or subsoil, however the lack of express prohibition leads to ambiguity and the potential for exploitation in the future.

Undersea mining has not yet been addressed in Canadian legislation; however mining is developing internationally - the United Nation's International Seabed Authority (ISA) has just released draft regulations for exploiting minerals within the areas of seabed beyond national jurisdiction, and has already issued several exploitation permits for undersea minerals [51]. As with oil and gas activities, the absence of express prohibitions on undersea mining within MPA legislation leads to the potential for these activities to be permitted within MPAs in the future.

6. Legislative Options for MPA Protection Standards

A number of legislative options exist to achieve these standards. The following is not an absolute list.

Legislating for Protection Standards

Perhaps the strongest option available to protect MPAs is an amendment to the *Oceans Act* that prohibits all industrial activities within MPAs, including harmful industrial fishing, oil and gas and undersea mining. A similar prohibition already exists in a related federal law, the *National Marine Conservation Areas Act*, which reads: "No persons shall explore for or exploit hydrocarbons, minerals, aggregates or any other inorganic matter within a marine conservation area."⁶

Alternatively, the government could introduce a regulation under the *Oceans Act* outlining the prohibited activities that applies to all MPAs. Though this would be weaker and more easily reversed than a statutory amendment, it would still provide consistent and certain protection across all MPAs.

⁶ *National Marine Conservation Areas Act*, SC 2002, c 18, s 13.

282 *Ecological Integrity*

283 Another option is the introduction of protection standards against which to
284 evaluate permitted activities, such as the principle of ecological integrity. International
285 environmental bodies, such as the CBD and the IUCN, have used the term ecological
286 integrity in guidance documents and directives on protected areas [52], though the term is
287 not currently defined in international law. Since 2000, the principle of ecological integrity
288 has appeared domestically in federal protected area legislation, namely the *Canada*
289 *National Parks Act*, which is primarily used to designate terrestrial protected areas.⁷

290 The principle of ecological integrity also appears in the proposed amendments to
291 the *Oceans Act* in Bill C-55.⁸ However, the role of the principle in the *Oceans Act* is quite
292 limited as compared to its importance in the *Canada National Parks Act*. Ecological
293 integrity is the first priority for the management of national parks under section 8(2) of
294 the *Canada National Parks Act*.⁹ However, under Bill C-55, the role ecological integrity
295 is currently limited to one of the purposes for which the Minister may designate an MPA,

⁷ *Canada National Parks Act*, SC 2000, c 32, s 2(1): “ecological integrity means, with respect to a park, a condition that is determined to be characteristic of its natural region and likely to persist, including abiotic components and the composition and abundance of native species and biological communities, rates of change and supporting processes.”

The principle of ecological integrity first appeared in Parks Canada’s Guiding Principles and Operational Policies in 1979. In 1998, the then Minister of Canadian Heritage Sheila Copps convened a Panel on the Ecological Integrity of Canada’s National Parks. The Panel recommended that the principle of ecological integrity be adopted into law as the first priority for national parks. See Parks Canada, *Conserving ecological integrity with Canada’s national parks, Volume II: Setting a new direction for Canada’s national parks*, (Ottawa: The Panel, c 2000).

⁸ *Bill C-55, An Act to amend the Oceans Act and the Canada Petroleum Resources Act*, 1st Sess, 42nd Parl, 2018 [*Bill C-55*], cl 4(1):

ecological integrity means a condition in which

- (a) the structure, composition and function of ecosystems are undisturbed by any human activity;
- (b) natural ecological processes are intact and self-sustaining;
- (c) ecosystems evolve naturally; and
- (d) an ecosystem’s capacity for self-renewal and its biodiversity are maintained.

⁹ *Canada National Parks Act*, *supra* note 7, s 8(2): “Maintenance or restoration of ecological integrity, through the protection of natural resources and natural processes, shall be the first priority of the Minister when considering all aspects of the management of parks.”

but neither the current *Oceans Act* nor the Bill provide a requirement equivalent to section 8(2) of the *Canada National Parks Act*.¹⁰

This is despite a 2017 report on federal protected areas from the Canadian Parliamentary Standing Committee on Environment and Sustainable Development, which recommended that the Government of Canada amend the *National Marine Conservation Areas Act* and the *Oceans Act* to “[e]nshrine the restoration and maintenance of ecological integrity as the overriding priority for Canada’s marine conservation areas in parallel with the *Canada National Parks Act*” [31].

Though the current amendment is welcome, it may not be enough to ensure that MPAs are fully protected from damaging activities. Including maintenance of ecological integrity as the top priority in the designing and management of MPAs under the *Oceans Act*, similar to the *Canada National Parks Act*, would set a standard to guide decision-making on allowable activities beyond the baseline protection prohibitions.

Precautionary Principle

Canada’s *Oceans Act* currently includes the precautionary approach as a basis for decisions on marine conservation and management.¹¹ Further, one of the proposed amendments to the *Oceans Act* in Bill C-55 uses the definition of the precautionary approach for MPA designation without directly referencing the principle.¹² This welcome addition to the Act could be used to strengthen the level of protection afforded

¹⁰ *Bill C-55*, *supra* note 8, cl 4(1), amending s. 35(1) of the *Oceans Act*.

¹¹ *Oceans Act*, *supra* note 4, includes the precautionary approach at section 30: “The national strategy will be based on the principles of ... (c) the precautionary approach, that is, erring on the side of caution. The “national strategy” is described at section 29 as a strategy for the “management of estuarine, coastal and marine ecosystems” in Canada’s waters.

¹² *Bill C-55*, *supra* note 8, cl 5: “35.2. The Governor in Council and the Minister shall not use lack of scientific certainty regarding the risks posed by an activity that may be carried out in certain areas of the sea as a reason to postpone or refrain from exercising their powers or performing their duties and functions under subsection 35(3) or 35.1(2).”

to MPAs upon designation. For example, had this provision existed when SGaan Kinghlas MPA was designated, the uncertainty over the impacts of the sablefish trap-fishery would not have been a reason to allow the fishery to continue, and the MPA could have been afforded full protection immediately.

Including a clear definition of precaution in the Oceans Act would clarify the principle's importance in both designating and managing MPAs and would clearly link the proposed and existing provisions mentioned. It could also be used to protect MPAs from all potentially damaging activities upon designation, as is evident in the example from the SGaan Kinghlas MPA, above. This principle has been defined in international law, including the *Rio Declaration on Environment and Development*, and the *Convention on Biological Diversity*.¹³

Obstacles to Protection

The political obstacles facing protection standards are largely based on resistance from industry and other levels of government, who wish to maintain resource exploitation and development throughout the ocean. This controversy has manifested in a decision by the Offshore Petroleum Boards of both Nova Scotia and Newfoundland and Labrador to accept bids for oil and gas leases within areas that DFO has designated as fisheries closures and counted towards its marine conservation target [53]. Similarly, provincial

¹³ The 1992 United Nations Rio Declaration on Environment and Development defines the precautionary approach in Principle 15: "In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation." The *Rio Declaration* definition has been adopted into federal legislation in the *Federal Sustainable Development Act*, SC 2008, c 38, s 2.

The preamble to the Convention on Biological Diversity states that "where there is a threat of significant reduction or loss of biological diversity, lack of full scientific certainty should not be used as a reason for postponing measures to avoid or minimize such a threat."

leadership in the Atlantic provinces has not been supportive of restricting oil and gas drilling within marine conservation areas [54]. Perhaps the most significant political obstacle of all is the influence and access of the fishing and oil and gas industries to government, which outweigh the political influence and access of environmental groups, academics, and even the public [55].

7. Conclusion

Canada's ocean laws and policy have lagged in their alignment with ocean science [42], and implementation of the *Oceans Act* has not yet lived up to its goals [43]. Incorporating protection standards into law can enhance Canada's revived leadership in oceans management, evident from the rapid expansion of federal MPAs in the past two years from less than 1% to 7.75% [56]. Clear, legally binding standards of protection covering no-take areas, industrial fishing and large-scale resource extraction can ensure that MPAs achieve conservation objectives as well as spatial targets. In other words, legal amendments can ensure both quantity and quality for MPAs. To truly thrive, Canada's oceans need strong legal protection.

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Table 1. Canada's *Oceans Act* Marine Protected Areas (as of January 2018)

Marine Protected Area	Region – Province/Territory	Year Designated	Size (km²)
Anguniaqvia niqiqyuam	Arctic - NWT	2016	2361
Basin Head	Atlantic - PEI	2005	9.23
Eastport	Atlantic - NL	2005	2.1
Endeavour Hydrothermal Vents	Pacific - BC	2003	98.5
Gilbert Bay	Atlantic - NL	2005	60
Gully	Atlantic - NS	2004	2364
Hecate Strait and Queen Charlotte Sound Glass Sponge Reefs	Pacific - BC	2017	2410
Musquash Estuary	Atlantic - NB	2006	7.4
SGaan Kinghlas-Bowie Seamount	Pacific - BC	2008	6000
St. Anns Bank	Atlantic - NS	2017	4364
Tarium Niryutait	Arctic - NWT	2010	1800

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