A CALL TO PROTECT 30% OF CANADA'S OCEANS BY 2030

2019 Report on Protecting Canada's Ocean





hoto: Guille Pozz

Since 2012, CPAWS has been issuing reports challenging Canada to "Dare to be Deep" by protecting 10% of our ocean by 2020. Three years after our last report in 2016, with that goal nearly met, we challenge Canada to "Dare to be Deeper" by targeting 30% ocean protection by 2030.

At the IUCN Conservation Congress in Hawaii in 2016, the 1300 members of IUCN including States

and government agencies, NGOs, Indigenous Peoples' organizations, as well as scientific institutions and business organizations passed a resolution encouraging countries to protect at least 30% of their national waters as MPAs and other effective area-based conservation measures by 2030. Since that time a number of countries around the world, including France, UK, Seychelles, and Costa Rica have adopted this as a national goal.¹

The Canadian Parks and Wilderness Society (CPAWS) is Canada's only nationwide charity dedicated solely to the protection of our public land, ocean and freshwater, and ensuring our parks and protected areas are managed to protect the nature within them. In the past 56 years, we've played a leading role in protecting over half a million square kilometres — an area bigger than New Brunswick, Newfoundland and Labrador put together! Our vision is to protect at least half of our public land, ocean and freshwater so that future generations can experience Canada's irreplaceable wilderness.



Thanks to strong federal leadership in creating new marine protected areas and refuges, Canada has made more progress on ocean protection in the past three years than ever before in its history.²

At the start of 2017, just over 1% of Canada's ocean territory was designated as "protected."

By May 2019, the extent of Canada's ocean territory designated for conservation had reached 8.27% (Figure 1), putting us on track to meet the goal of protecting 10% by 2020 — a target that Canada signed on to in 2010 as a party to the UN Convention on Biological Diversity.

"By 2020, at least... 10% of coastal and marine areas, especially areas of importance of biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures..." - UN Convention on Biological Diversity Aichi Target 11



Figure 1: Canada has protected more marine territory in the last three years alone than in the last century, reaching a total of 8.27% protection by May 2019 through a combination of MPAs and marine refuges.

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MPAs provide economic benefits to coastal communities

Further, in 2019 Canada adopted new protection standards and policies for all future federal marine protected areas (MPAs) and marine refuges. These standards mean that industrial activities harmful to marine life, such as oil and gas development, mining and bottom trawling, will become prohibited in Canada's MPAs. To date, Canada's MPAs have not had minimum protection standards.

In May 2019, important amendments to the Oceans Act were passed that included new provisions for interim MPAs, freezing the footprint on human activities while consultation proceeded on proposed MPAs, a requirement for the Minister to apply the precautionary principle when deciding to establish MPAs, cancelling oil and gas interests in designated MPAs, and enhancing enforcement and offence provisions.

These are not just wins for ocean life but for all Canadians. Our oceans are an important source of economic activity. Over 100,000 Canadian jobs are directly related to fisheries and other aspects of the seafood industry, and nearly 60,000 in ocean ecotourism.³ Canada's recent advances in ocean conservation will move us forward in restoring the long term health of our ocean and the wildlife that depends on it, something that Canadians care deeply about. Public opinion surveys by Environics show that 98% of Canadians support conserving more of the ocean in marine protected areas.⁴





MPAs can protect seabird foraging areas

Canada has one of the largest ocean territories and the longest coastline of any nation in the world, bordering the Atlantic, Pacific, and Arctic oceans. Canada's ocean estate, including the territorial sea (to 12 km from shore) and the Exclusive Economic Zone, which extends to 370 kilometres (200 nautical miles) off the coast, covering more than 5.8 million square kilometres.

While the past three years of progress on marine protection inspires hope, evidence is mounting that in the face of a global ecological crisis, much more will need to be done to ensure that ocean ecosystems survive in the long term.⁵

CPAWS is calling on Canada to protect 30% of our ocean territory by 2030, and 50% by 2050 – goals that the latest science show are essential over the long term to ensure resilience of the planet.⁶ Recently published public opinion polls show that Canadians overwhelmingly agree (93%) that protected areas are necessary. On average, Canadians believe that half of the oceans need to be protected.⁷

This protection is provided through a variety of ocean conservation designations which enable species to recover from exploitation. As a result, protected ocean areas provide long-term economic benefits by supporting healthy, sustainable fisheries, ecotourism and recreation activities.⁸ Healthy oceans also increase coastal resilience to climate change by providing natural shoreline protection and carbon storage.⁹ By providing areas of refuge, conservation measures such as MPAs allow species greater ability to move from parts of the ocean that are no longer hospitable to them due to climate change and other pressures such as noise pollution.

MPAs can support ecotourism and recreational opportunities



The Scott Islands off the BC coast are internationally recognized as a globally significant bird area and are the most important breeding ground for seabirds in BC. They are home to about half of the world's Cassin's Auklets, 90% of Canada's tufted puffins, and 95% of Pacific Canada's common murres. A marine National Wildlife Area (mNWA), a type of Canadian MPA, was established in 2018 to protect the ocean habitat around the islands, where the birds spend most of their lives foraging. However, the birds are still at risk from nearby commercial fishing and heavy shipping traffic.



MPAs are most effective when they are large, have clear geographic boundaries, are fully protected, well enforced, and provide long-term protection.¹⁰ MPAs that meet these five conditions have shown marked increases in biomass and an abundance of commercial fish species compared to those that are less stringently regulated.¹¹ Canada still has work to do to more strictly regulate its existing MPAs, in order to ensure protection of the full range of marine life found within them.

The benefits of MPAs are magnified when they exist as part of a larger network that represent all types of marine habitat and allow mobile species to move between areas of refuge. However, to date, Canada does not have any designated ocean conservation networks, although five are in various stages of consultation and planning.

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Humpbacks and other whale species are threatened by noise pollution and ship strikes. Climate change is creating new challenges for our oceans. It is also increasing the importance of protected areas to enable species to adapt to a warming world. And as the climate warms, the role of healthy oceans as carbon sinks is essential.

"Nature is declining globally at rates unprecedented in human history – and the rate of species extinctions is accelerating, with grave impacts on people around the world now likely..." warned the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) at its May 2019 meeting in Paris.¹²

Around one million species are facing extinction globally.¹³ Half of monitored vertebrate species in Canada are in decline, and their populations fell on average by 83% between 1970 and 2014.¹⁴ Climate change, pollution (including noise, industrial effluent and plastic), and unsustainable harvesting are the leading causes of biodiversity loss for marine species.

Decades of harmful human practices have damaged our ocean environments. These include overfishing, pollution (including noise, chemicals, and plastics), and physical disturbance such as ship strikes and bottom trawling.



Well designed MPAs can protect species and their habitats

A BLUEPRINT FOR FURTHER FEDERAL ACTION ON OCEAN PROTECTION

The goals of 30% marine protection by 2030 and 50% by 2050 may sound ambitious, but in fact, the groundwork has been laid to get us there. With continued federal investment in MPA establishment, management and research, it can be accomplished.

The critical next steps include:

- Designating current candidate MPA sites;
- Creating networks of protected sites to ensure that those with high ecological and biological significance¹⁵ in Canada's ocean territory are protected for the long-term;
- Including more fully protected zones within ocean conservation networks; and
- Bringing Canada's existing MPAs up to the new protection standards announced by the government; and
- Improve protection of marine refuges.



Southern Strait of Georgia is a longstanding NMCA proposal that should be legally designated

Canada's glass sponge reefs are protected with both MPAs and marine refuges



The International Union for Conservation of Nature (IUCN) states that an MPA is "a clearly defined geographical space, recognised, dedicated and managed, through legal or effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values."¹⁶

Canada has two primary federal measures in place to protect marine areas:

- MPAs, including Oceans Act MPAs administered by Fisheries and Oceans Canada, National Marine Conservation Areas (NMCAs) administered by Parks Canada, and marine National Wildlife Areas (NWAs) administered by Environment and Climate Change Canada; and
- Marine refuges, which are fisheries closures established by Fisheries and Oceans Canada that support Canada's contributions to 10% ocean protection as Other Effective Area-Based Conservation Measures (OECMs).¹⁷

All of these legal tools for protecting our ocean territory have different rules and regulations. Until now, many did not have stringent enough rules to prevent continued human activities that harm marine life from occurring within their boundaries.

In April 2019, the Government of Canada announced protection standards for new MPAs that will prohibit exploration and development of oil, gas, and mineral projects, as well as dumping and bottom trawling. This important step will greatly improve the likelihood that Canada's federal MPAs will effectively preserve biodiversity. These will apply to all three types of new federal MPAs.

Laurentian Channel MPA, off the coast of Newfoundland and Labrador designated in April 2019, is Canada's largest fully-protected MPA at 11,580 km². It is Canada's first MPA to apply minimum protection standards to protect a critical migration route for 20 species of whales, including endangered North Atlantic right whales and blue whales. This MPA also protects important habitat for species such as Atlantic cod, redfish and smooth skate, porbeagle sharks, leatherback sea turtles and Northern wolffish.



The new Laurentian Channel MPA protects a large seapen concentration

For existing MPAs, the government states that it intends "to determine the compatibility of bottom trawling with each marine protected area's conservation objectives."¹⁸ Given IUCN guidance that industrial uses, including large-scale fishing, should not be allowed within MPAs, CPAWS strongly recommends that the federal government upgrade the rules for existing MPAs to meet the same standards as new MPAs in Canada.

According to the federal government, activities in marine refuges will be determined on a case-by-case basis, with the Minister of Fisheries and Oceans determining whether risks to conservation objectives have been effectively avoided or mitigated.¹⁹ Unfortunately, in areas off Newfoundland and Labrador and Nova Scotia governed by Offshore Accord Agreements, that legislation has supremacy over other federal and provincial legislation. As a result, the protection standards for marine refuges in those areas do not preclude exploration for oil and gas.

This is a serious concern given the well-known harmful effects of seismic and other exploration activities on marine life.²⁰ The federal government has decided that if oil and gas extraction is allowed in a marine refuge, that part of the refuge area will no longer be counted towards the protection targets. However, this does not address the more fundamental problem of human harm to marine life caused by these activities.

What areas have been protected to date?

Since early 2017, Canada has created new MPAs and marine refuges that have taken national ocean protection from just over 1% to 8.27%. The new MPAs are highlighted in Table 1 and Figure 2, and the marine refuges in Table 2 and Figure 2. Additional information is provided in Appendix 1 and 2.

Name	Location	Size (km²)	% of ocean estate	Year Process Began	Year Designated
Anguniaqvia Niqiqyuam	NWT	2358	0.04	2008	2016
St Anns Bank	NS	4364	0.08	2009	2017
Hecate Strait Glass Sponge Reefs	BC	2410	0.04	2010	2017
Scott Islands	BC	11,546	0.20	1995, 2003	2018
American Bank	QC	1000	0.02	2011	2019
Laurentian Channel	NL	11,580	0.20	2010	2019

Table 1: Canadian MPAs designated since 2016.



Sea anemones in the Gulf of St. Lawrence

Photo: Nick Hawkins



The populations of Southern resident killer whales in the Salish Sea and Beluga whales in the St. Lawrence estuary are threatened by many human activities.

Photo: Susanne Davies



Figure 2: Canadian MPAs, marine refuges and proposed MPAs







Table 2: Canadian marine refuges by bioregion.²¹

Bioregion	Size km ²
Eastern Arctic	58,750
Estuary and Gulf of St Lawrence	16,450
Newfoundland and Labrador Shelves	97,336
Offshore Pacific	82,530
Scotian Shelf	19,746
Strait of Georgia	33
Total	274,845

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Where is far greater marine protection required?

This year, Canada has shown leadership by becoming one of the first countries in the world to adopt protection standards for marine protected areas. If these standards are applied to both existing and new Canadian marine conservation areas, we will have made a giant leap forward in ensuring that they will actually protect biodiversity.

However, with nearly 92% of Canada's marine territory still unprotected, more action on this front is needed. Despite plans that have been under development since 2011,²² Canada has yet to designate spatially-connected networks of MPAs and marine refuges. These large-scale, connected, protected areas are desperately needed to safeguard biodiversity, bolster sustainable fisheries and promote climate resilience along our coastlines.

In comparison to Canada's 8.27%, other countries are making great strides in setting aside large marine areas for conservation (Figure 3). While the quality of marine protection varies significantly among protected areas, Canada still lags behind its international partners on overall spatial conservation and in establishing areas closed to all commercial extractive uses (Figure 3).



Figure 3: Global marine conservation progress among countries with the largest EEZs²³



Canada has over five million square kilometres of ocean territory. Protecting an additional 22% is not only achievable, but most of Canada's new marine protected areas can be made up of sites that have already been proposed.

Here's a blueprint for how Canada can get to 30% marine protection by 2030:

1 - Designate all candidate sites and areas of interest as federal MPAs

A number of well-researched candidate MPAs are currently being considered by Fisheries and Oceans Canada and Parks Canada. Completing the required consultation process on these sites and legally designating them would add almost five percent to Canada's total protected marine area. (Table 3 and Table 4)

Additionally, the Governments of Canada and Nunavut and the Qikiqtani Inuit Association recently announced a Memorandum of Understanding to explore protection of areas in the High Arctic Basin (Tuvaijuittuq). Canada's Arctic is experiencing climate change at a rate three times greater than the global average.²⁴ Therefore protecting this area, also dubbed "the Last Ice", is critical, and could potentially contribute an additional estimated five percent to Canada's ocean protection targets.



Canada's Arctic is experiencing climate change at three times the rate of the global average

In total, implementing all proposed MPAs would take Canada more than halfway to 30% (16.86%) protection of our ocean territory.

Additional marine refuges could also make contributions to ocean protection on each of Canada's coasts. Specific sites for new refuges have not yet been identified, although Rockfish Conservation Areas (RCAs) on the Pacific coast are being assessed as potential future marine refuges.

Table 3: Proposed MPAs (Not	e: Sizes of	^F proposed	MPAs a	re approximate	and subject t	o change
throughout the consultation	process.)					

	Size (km²)	% of Canada's Ocean Territory
Fisheries and Oceans Canada Area of Interest		
St. Lawrence Estuary, Quebec	6,000	0.10
Eastern Shore Islands, Nova Scotia	2,000	0.03
Race Rocks, British Columbia	2	0.00
Offshore Pacific, British Columbia	50,434	0.86
Fundian Channel-Browns Bank, Nova Scotia	7,200	0.12
Shediac Valley, New Brunswick	1,530	0.03
Total Proposed Areas	67,166	1.14
Parks Canada Candidate NMCAs		
Southern Strait of Georgia, British Columbia	1,167	0.02
Western Hudson Bay, Manitoba	81,113	1.39
Labrador Coast, Newfoundland and Labrador	15,756	0.27
Eastern James Bay, Quebec	28,010	0.48
Les lles de la Madeleine, Quebec	16,923	0.29
Total NMCA Candidate Sites	142,968	2.45
High Arctic Basin - Combined MPA/NMCA		~5.00
Total Proposed MPAs		8.59

Table 4: Proposed MPAs in Canada

St. La Estua	awrence ary, Quebec	Fisheries and Oceans Canada identified St. Lawrence Estuary as an Area of Interest, the first step to creating an MPA, to completely protect beluga habitat. The proposed area surrounds the Saguenay-St. Lawrence Marine Park and has undergone consultation with communities and First Nations, but no progress has been made on implementing the MPA in over a decade.
Easte Island Scoti	ern Shore ds, Nova a	The Eastern Shore Islands were identified as an Area of Interest by Fisheries and Oceans Canada in 2018. The site contains a rich diversity of habitat types that support important seabird colonies and several species at risk, including Atlantic salmon. The proposed MPA would protect wild fish populations from potential future development in the area.
Race Britis	Rocks, sh Columbia	Race Rocks, an Area of Interest since 1998, is home to strong tidal currents and rocky reefs that support an abundance of ocean life. No consultation has progressed on this proposed MPA in the last decade.
Offsh Britis	nore Pacific, sh Columbia	The Offshore Pacific area is home to multiple ecologically and biologically significant areas, including seamounts and hydrothermal vents, highly productive marine ecosystems which harbour unique species and have far-reaching influences on the surrounding ocean. This deep-sea oasis has been identified as an Area of Interest by Fisheries and Oceans Canada, the first step in the creation of an MPA. More than half of the Offshore Pacific MPA is currently protected from fishing in the Offshore Pacific seamounts and vents closure marine refuge, but designating the MPA will expand and strengthen these protections.
Fund Brow Nova	ian Channel- ns Bank, Scotia	Fundian Channel-Browns Bank, located off Yarmouth, Nova Scotia, includes a diversity of marine habitats important to several species of depleted commercial fish, as well as deep-sea corals, sponges, and migrating whales and basking sharks.
Shed New	iac Valley, Brunswick	The Shediac Valley is the site of circular currents that provide key habitat for many species of commercial fish and has been the centre of most of the North Atlantic right whale sightings over the past two years. Previously an Area of Interest for an MPA, it is now being evaluated as part of an MPA network in the Gulf of St. Lawrence.
South Georg Colur	hern Strait of gia, British mbia	The Southern Strait of Georgia is a biologically rich area home to a diversity of marine species, most notably the Southern Resident Killer Whale. The area was identified as a candidate NMCA in 2001 but has yet to receive legal protection.
West Bay, I	ern Hudson Manitoba	Western Hudson Bay is home to some of the largest concentrations of beluga whales and polar bears in the world. It also hosts ancient Inuit and Indigenous sites and is currently a Parks Canada NMCA candidate site.
Labra Newf and L	ador Coast, foundland _abrador	The marine environment along the Labrador Coast is a designated Important Bird Area for congregating and threatened species, such as the Harlequin duck. The area is adjacent to the Torngat Mountains National Park and is currently free of industrial activity but could be threatened by oil and gas exploration if the marine habitat does not receive protection as an NMCA.



Discussion are underway between the Labrador Inuit and the federal government for a possible MPA on the Labrador coast

Eastern James Bay, Quebec	Eastern James Bay is noted for a remarkable biodiversity associated with the transition from subarctic to arctic ecosystems. This includes the most southern population of polar bears in the world as well as a distinct sub-population of beluga whales. The Eastern James Bay National Marine Conservation Area (NMCA) was first proposed in 2009.
Les Iles de la Madeleine, Quebec	The Magdalen Islands are located in the southern Gulf of St. Lawrence in a shallow basin with the warmest marine waters in Canada. The islands offer a stunning diversity of coastal and marine ecosystems.
High Arctic Basin, Nunavut	The High Arctic basin, also known as Tuvaijuittuq, is the site of Canada's thickest multi-year Arctic ice. With the Arctic warming rapidly, the High Arctic Basin is expected to be the last refuge for Canada's summer sea ice. It provides important habitat for ice-dependent species including polar bears, narwhals and seals and is being evaluated for a series of MPAs by Qikiqtani Inuit Association, Fisheries and Oceans Canada and Parks Canada.

Photo: Peter Lloyd Bay of Fundy

Bay of Fundy is an iconic ocean area that remains unprotected

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2 - Create Networks of Protected Areas

Establishing ocean conservation networks would help Canada to protect the remaining 13.14% required to reach 30% by 2030.

Network planning is currently underway in five of Canada's 12 marine bioregions: Pacific Northern Shelf, Gulf of St. Lawrence, Newfoundland and Labrador Shelves, Western Arctic, and Scotian Shelf which includes the Bay of Fundy. Once established, these networks will contribute to the 2030 targets. However, the proposed boundaries for sites within the networks have not been released publicly, so we cannot yet gauge the total contribution they will make to Canada's marine protection targets.

Ocean conservation networks will only be effective in preserving biodiversity if they are well designed and designated as a unit, and representative of habitats and species of each bioregion.

In addition to completing the networks where planning is already underway, CPAWS recommends implementing them in the remaining seven marine bioregions: Strait of Georgia, Pacific Southern Shelf, Offshore Pacific, Arctic Basin, Arctic Archipelago, Eastern Arctic, and Hudson Bay Complex.

Figure 4: Canada's Marine Bioregions.²⁵

Bioregions 1–12 count towards Canada's 10% target for ocean protection, while the Great Lakes are counted toward the 17% target for conservation of inland waters and terrestrial habitat.



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3 -Strengthen standards for existing MPAs and marine refuges

Canada has made great strides in increasing the area of ocean designated for conservation and establishing protection standards for these areas. However, we still lag behind many countries in the world in restricting harmful human industrial and commercial activities within existing MPAs. Some recent progress has been made in applying stronger protection measures for St. Anns Bank (Nova Scotia), Gwaii Haanas (British Columbia) and Laurentian Channel (Newfoundland and Labrador) – all existing "protected areas". However, the total area within these sites closed to all extraction and industrial uses adds up to less than one percent of Canada's ocean estate.

Given the clear scientific findings that fully protected MPAs provide the best possible hope for the conservation of marine biodiversity, Canada needs to strengthen all existing MPA regulations significantly.²⁶

To improve the effectiveness of marine refuges, the federal government should work with the provinces of Newfoundland and Labrador and Nova Scotia to amend the Offshore Accord Agreements. Their goal should be to amend those agreements to better protect marine refuges from oil and gas activities, including both exploration and extraction.²⁷ SeaBlue Canada²⁸ has also made recommendations for improving marine refuges in a recent report which should be implemented.²⁹

4 - Indigenous Protected and Conserved Areas (IPCAs)

As the 2018 National Panel on MPA Standards noted in their final report to the Minister of Fisheries and Oceans, Indigenous protected and conserved areas (IPCAs) will play a critical role in advancing Canada's ocean conservation objectives, and the federal government needs to make it a priority to work with Indigenous Peoples and Organizations to develop a framework for IPCAs.³⁰ The Panel also emphasized that IPCAs are founded on Indigenous laws and governance, with Indigenous Peoples as rights holders, that they do not depend on the recognition by the federal government, and that they represent a potential tool for reconciliation. Supporting the establishment of an Indigenous-led process to develop an IPCA framework should be a high priority in the context of ocean conservation in Canada.

Gwaii Haanas demonstrates a successful co-governance partnership between federal and Indigenous governments. Managed in a partnership between the Council of the Haida Nation and the Government of Canada and informed by stakeholders including commercial fishers, tour operators, and environmental groups, the Gwaii Haanas Gina 'Waadluxan Kil<u>GuhlGa Land-Sea-</u> People Management Plan is the first of its kind in Canada. It is built on traditional knowledge that the land, sea and people are interconnected and must be managed to preserve natural and cultural values.



CPAWS is heartened by the significant effort Canada has made to advance marine protection over the past three years. It has resulted in tangible gains, and renewed hope that we can protect some of the world's most important, remaining and relatively intact ocean ecosystems. It also gives us hope that we can regenerate life within marine ecosystems that humans have significantly harmed along our more southern and accessible coastlines over the past few hundred years.

The Haida Nation is working with federal and provincial agencies to design a network of MPAs around Haida Gwaii The leap from having just over one percent of Canada's ocean estate designated as protected in 2016 to more than eight percent by 2019, and the federal adoption this year of world-leading standards for regulating future marine protected areas are also extremely heartening moves. These recent advances in ocean conservation are built on dedicated work over decades by government managers and researchers, Indigenous Peoples, communities, academic institutions and local and national conservation organizations. Local industry and community stewardship and engagement in planning for the future health of the ocean have also been key to Canada's recent progress in marine protection, as has political leadership.





Climate change is adding new stress on ocean species and ecosystems

However, there is no time to rest on our laurels. Canada's ocean and all life that depends on it is under more stress than ever before in human history. Climate change is accelerating stresses on the world's ocean, while at the same time increasing its global importance as a carbon sink. Overfishing and industrial activities such as oil and gas extraction and shipping have reached an unprecedented rate. As a highly developed country with the world's longest coastline, Canada needs to continue its recent progress.

Since 2012 we challenged the federal government to protect 10% of Canada's ocean by 2020. It appears as though we will meet that challenge. Now an even greater effort is necessary to reach a new goal of protecting a least 30% of our ocean estate by 2030 – the scientifically-identified minimum needed for long term ocean health.³¹

As this report notes, a significant part of the groundwork has already been laid to identify potential large protected area networks within five of Canada's 12 marine bioregions. These will be critical to implement in the near future. It is also imperative that work begins on network planning for Canada's other seven marine bioregions. As part of our efforts toward reconciliation with Indigenous Peoples, and in the interests of strengthening our economy, Canada will need to continue to engage a full range of experts and community members, and to invest in creating and effectively managing protected areas to become a true world leader in marine conservation.

CPAWS is proud of the role we have taken over the past 25 plus years in advocating for marine conservation by governments and communities of all sizes. We are heartened by recent progress and committed to continuing to be a strong voice for our country's magnificent ocean and all of the life it sustains.

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Endnotes

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- 26 Edgar et al. (2014).
- 27 For additional measures to improve marine refuges please see Aten, T. and Fuller, S. (2019). A technical review of Canada's Other Effective Area-Based Conservation Measures: Alignment with DFO guidance, IUCN-WCPA guidance and CBD SBSTTA guidance. SeaBlue Canada.
- 28 SeaBlue Canada is a collaboration of six organizations working to ensure Canada protects its oceans. The members are Canadian Parks and Wilderness Society, David Suzuki Foundation, Ecology Action Centre, Oceans North, WWF Canada, and West Coast Environmental Law.
- 29 Aten, T. and Fuller, S. (2019). A technical review of Canada's Other Effective Area-Based Conservation Measures: Alignment with DFO guidance, IUCN-WCPA guidance and CBD SBSTTA guidance. SeaBlue Canada.
- 30 Final Report of the National Advisory Panel on Marine Protected Area Standards. 26 September 2018. http://www.dfo-mpo.gc.ca/oceans/publications/advisorypanel-comiteconseil/2018/finalreport-rapportfinal/page08eng.html#crown
- 31 Dinerstein et al. (2019)

Appendix 1

Recently Designated MPAs in Canada			
Anguniaqvia Niqiqyuam, NWT - 2016	Anguniaqvia niqiqyuam in Darnley Bay is a site of great importance to the Inuvialuit people as a subsistence hunting and fishing ground, and is critical habitat for Arctic char, beluga whales, polar bears, ringed and bearded seals and the only thick billed murre colony in the Canadian Arctic.		
St. Anns Bank, NS – 2017	Located off the coast of Cape Breton, St. Anns Bank contains an ecologically diverse ecosystem and important habitat for species at risk such as the leatherback sea turtle and Atlantic wolffish, as well as deep-sea corals and sponges.		
Hecate Strait Glass Sponge Reefs, BC - 2017	The Hecate Strait and Queen Charlotte Sound Glass Sponge Reefs were discovered in 1987 and were thought to have gone extinct around 40 million years ago. Found nowhere else on earth, they have been growing on the seafloor for over 9,000 years, and provide important deep-sea habitat for a variety of species. Their delicate structures are extremely vulnerable to damage from trawlers, long lines and prawn traps, which are now prohibited in the area.		
Scott Islands, BC – 2018	The Scott Islands are internationally recognized as a globally significant bird area and are the most important breeding ground for seabirds in BC. They are home to about half of the world's Cassin's Auklets, 90% of Canada's tufted puffins, and 95% of Pacific Canada's common murres.		
American Bank, QC – 2019	American Bank is a highly productive area close to Forillon National Park that is home to a significant portion of the southern Gulf of St. Lawrence cod population, the endangered leatherback sea turtle, and several endangered whale species.		
Laurentian Channel, NL - 2019	Laurentian Channel is a biodiversity hotspot that is home to the largest concentration of black dogfish in Canada and provides a critical migration route for 20 species of whales, including the endangered North Atlantic Right Whale. Laurentian Channel is Canada's largest fully protected MPA and the first to be designated under Canada's new MPA protection standards.		



The Anguniaqvia Niqiqyuam MPA protects critical habitat for beluga whales

Appendix 2

Canadian Marine Refuges	Bioregion	Size km ²
Bay of Islands Salmon Migration	Estuary and Gulf of St Lawrence	218
Beauge Bank Sponge Conservation Area	Estuary and Gulf of St Lawrence	215
Central Gulf of St Lawrence Coral Conservation Area	Estuary and Gulf of St Lawrence	1,284
Corsair and Georges Canyons Conservation Area (restricted bottom fisheries zone)	Scotian Shelf	8,797
Davis Strait Conservation Area	Eastern Arctic	17,298
Disko Fan Conservation Area (portion closed to all bottom-contact fishing)	Eastern Arctic	7,485
Division 30 Coral Closure	Newfoundland and Labrador Shelves	10,422
East of Anticosti Island Sponge Conservation Area	Estuary and Gulf of St Lawrence	939
Eastern Gulf of St Lawrence Coral Conservation Area	Estuary and Gulf of St Lawrence	423
Eastern Honguedo Strait Coral and Sponge Conservation Area	Estuary and Gulf of St Lawrence	2,338
Emerald Basin and Sambro Bank Sponge Conservation Areas	Scotian Shelf	260
Funk Island Deep Closure	Newfoundland and Labrador Shelves	7274
Hatton Basin Conservation Area	Eastern Arctic and Newfoundland and Labrador Shelves	42,459
Hawke Channel Closure	Newfoundland and Labrador Shelves	8837
Hopedale Saddle Closure	Newfoundland and Labrador Shelves	15,411
Jacques-Cartier Strait Sponge Conservation Area	Estuary and Gulf of St Lawrence	346
Jordan Basin Conservation Area	Scotian Shelf	49
Les Demoiselles nursery (Plaisance Bay), Magdalen Islands Closure	Estuary and Gulf of St Lawrence	0.3
Lobster Area closures (Trout River, Shoal Point, Penguin Islands, Gooseberry Island, Glovers Harbour, Mouse Island and Gander Bay)	Newfoundland and Labrador Shelves; Estuary and Gulf of St Lawrence	94

Lophelia Coral Conservation Area	Scotian Shelf	15
Magdalen Islands lagoons (6 overlapping fisheries area closures)	Estuary and Gulf of St Lawrence	136
Miramichi Bay Closure	Estuary and Gulf of St Lawrence	1,553
North of Bennett Bank Coral Conservation Area	Estuary and Gulf of St Lawrence	821
Northeast Channel Coral Conservation Area (restricted bottom fisheries zone)	Scotian Shelf	391
Northeast Newfoundland Slope Closure	Newfoundland and Labrador Shelves	46,833
Offshore Pacific Seamounts and Vents Closure	Offshore Pacific	82,530
Parent Bank Sponge Conservation Area.	Estuary and Gulf of St Lawrence	530
Saguenay Fjord Upstream Closure	Estuary and Gulf of St Lawrence	109
Scallop Buffer Zones	Estuary and Gulf of St Lawrence	5,835
Slope of Magdalen Shallows Coral Conservation Area	Estuary and Gulf of St Lawrence	335
South-East of Anticosti Island Sponge Conservation Area	Estuary and Gulf of St Lawrence	845
Strait of Georgia and Howe Sound Glass Sponge Reef	Strait of Georgia	32.6
Western Honguedo Strait Coral Conservation Area	Estuary and Gulf of St Lawrence	496
Western/Emerald Banks Conservation Area (restricted fisheries zone)	Scotian Shelf	10,234
Total		274,845

For more information on Canada's marine refuges, see Aten, T. and Fuller, S. (2019). A technical review of Canada's Other Effective Area-Based Conservation Measures: Alignment with DFO guidance, IUCN-WCPA guidance and CBD SBSTTA guidance. SeaBlue Canada.

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