
FINAL EVALUATION REPORT
**EVALUATION OF THE OCEANS MANAGEMENT
PROGRAM**

PROJECT NUMBER 6D014

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EVALUATION DIRECTORATE
CHIEF FINANCIAL OFFICER SECTOR
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ACRONYMS

AOI	Area of Interest
CSAS	Canadian Science Advisory Secretariat
DFO	Fisheries and Oceans Canada
FTE	Full-Time Equivalent
ICO	Interdepartmental Committee on Oceans
IOM	Integrated Oceans Management
LOMAs	Large Oceans Management Areas
MEQ	Marine environmental quality
MPA	Marine Protected Area
MSP	Marine spatial planning
NHQ	National Headquarters
RCOMs	Regional Committees for Oceans Management

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Executive Summary

Introduction

This report presents the results of the evaluation of the Oceans Management program, conducted by the Evaluation Directorate of Fisheries and Oceans Canada (DFO) in 2017. The evaluation examined the period from 2012-13 to November 2017 to provide information to senior management in support of decision-making. It included activities at National Headquarters as well as at all six DFO regions: Newfoundland and Labrador, Maritimes, Gulf, Quebec, Central and Arctic, and Pacific.

Program Profile

The Oceans Management program takes an integrated and evidence-based approach to managing oceans issues and collaborates with other federal departments, other levels of government, Indigenous groups, and stakeholders. Building on a foundation of science, the program addresses a number of challenges facing Canada's oceans, such as oceans health, marine habitat loss, declining biodiversity and growing demands for access to ocean space and resources. The program gathers, disseminates and considers information on ecological, social and economic impacts to ensure the protection, conservation and sustainable use of Canada's oceans. The legal basis for the program derives from the *Oceans Act* (1997) which, along with Canada's Oceans Strategy (2002), provides the Department with a framework for managing estuarine, coastal and marine ecosystems.

Over the five-year period of the evaluation, the Oceans Management program spent an average of 13 million dollars annually and employed between 75 and 115 people.

Evaluation Methodology

Evaluation questions were determined in compliance with the Treasury Board's *Policy on Results* (2016) and were developed in consultation with senior program management. The primary focus of the evaluation related to questions regarding continued need for the program, the extent to which the program is positioned to meet Mandate Letter commitments, the extent to which there is an effective foundation for the long-term durability of the program, and the extent to which the program's resources, strategic direction, and governance structure support the efficient achievement of results.

The evaluation used a mixed methods approach and the triangulation of multiple lines of evidence to corroborate its findings. Lines of evidence included a document review, a literature review including an international comparison, financial and administrative data analysis, 63 interviews, three sites visits, two surveys and a Rapid Impact Evaluation approach conducted by an external consultant for one particular component of the evaluation.

Evaluation Findings

Current and evolving uses of Canada's oceans have resulted in a more complex marine environment and a greater need for oceans management. The activities of the Oceans Management program are intended to protect marine biodiversity and advance the sustainable development of the oceans resources. The context of the marine environment poses several challenges to making progress toward these objectives. Competing priorities of marine users,

increasing demands for access to ocean space and resources, cumulative effects of marine stressors such as marine debris and pollution, the need to collaborate with other regulators, partners, and stakeholders, and the administrative structure of DFO increases the complexity of managing oceans. To respond to this complexity, the *Oceans Act* outlines a series of tools for the management of oceans that the program can use, including Marine Protected Areas (MPAs), Marine Environmental Quality guidelines, and integrated oceans management plans. The program has made some notable advancement in certain aspects of oceans management using some of these tools; however a more balanced use of all tools would better support the broad integrated oceans management mandate.

The funding structure of the program has impacted its progress on some components. The proportion of temporary funding has increased significantly throughout the period of the evaluation while permanent funding has declined, indicating the program is heavily driven by short-term priorities. In 2016-17, temporary funding surpassed permanent funding. The Marine Protected Area (MPA) component of the program has received the largest proportion of temporary funding. MPAs contribute to the Government of Canada commitment to increase the proportion of Canada's marine and coastal areas that are protected. Dedicated resources have led to successful achievement of the interim target to reach 5% marine conservation by 2017. However, this focus has shifted attention and resources away from other core components of the program, and an unbalanced use of all available tools in the *Oceans Act* has resulted in fragmented program delivery. The capacity of the program to deliver a comprehensive and holistic response to needs in the oceans has largely been impacted by the selective priorities associated with temporary funding initiatives that stipulate certain results to be achieved.

The marine conservation target has galvanized collaboration and has resulted in significant progress in establishing Marine Protected Areas. However, the current pace of designating Marine Protected Areas to meet the target deadlines has raised concerns that conservation objectives and due diligence processes have been compromised. In addition, the program has not provided a clearly articulated framework to respond to the Mandate Letter commitment to better co-manage the oceans, resulting in internal and external confusion about how co-management will be pursued. While increased attention as a result of these commitments has positioned the program to advance a whole-of-Government approach to oceans management, ineffective communication, or communicating in a way that is not easily understood by partners and stakeholders, has negatively impacted some relationships with partners and stakeholders and may affect the outcomes of collaborative activities.

The influence of selective priorities has limited the implementation of long-term strategies described in integrated oceans management plans. Integrated oceans management plans have been developed, but resources have been reallocated to short-term priorities, leaving limited support for their implementation. In addition to resource distribution, the evaluation found that the implementation of integrated ocean management plans has also been constrained by their strategic nature; existing plans are high-level and not supported by feasible action plans that can be implemented. Moreover, limited monitoring of existing conservation measures, such as MPAs, hinders the program's ability to demonstrate the results of its activities. Limited implementation of long-term plans and priority-driven resource distribution puts into question the extent to which the program will have sufficient time and capacity to implement evolving approaches to oceans management, such as marine spatial planning.

Another contextual challenge for the program is operating within the current DFO administrative regions, which divide the ocean space into areas that do not align with the marine bioregions. Despite close proximity, DFO administrative regions have different approaches to oceans management. This has resulted in inconsistencies and inefficiencies in program delivery which have limited the effectiveness of the program and impeded an ecosystem-based approach to oceans management. Decision-making based on administrative regions rather than marine bioregions limits the effectiveness of the program.

In summary, the program has made progress in managing the oceans, despite external factors that have limited the way that it can address needs. Significant achievements have been made in addressing conservation needs through the establishment of Marine Protected Areas, but more limited progress has occurred in other aspects of the program, particularly related to the limited implementation of integrated oceans management plans. To further advance protection of marine biodiversity and foster sustainable development of the oceans, the program should focus on using all tools available within the *Oceans Act*, improve the monitoring and management of existing conservation measures, and implement long-term, proactive and collaborative strategies that support an ecosystem-based approach to ocean management.

Recommendations

From the above evidence and findings, the following three recommendations are being made for the Oceans Management program:

Recommendation 1: It is recommended that the Assistant Deputy Minister, Aquatic Ecosystems, enhance the long-term sustainability of the program by: building upon previous planning processes; making clear linkages between Marine Protected Areas, MPA networks, Marine Environmental Quality guidelines and broader oceans planning and management; articulating realistic deliverables; and improving communication, both internally and externally, on program processes, activities, and progress supporting integrated oceans management.

Recommendation 2: It is recommended that the Assistant Deputy Minister, Aquatic Ecosystems, advance data collection activities to gather baseline and ongoing information about the marine environment to support decision-making, including for marine spatial plans, Marine Environmental Quality guidelines, and Marine Protected Areas. In particular, consistent data collection and monitoring activities for MPAs are needed to: provide evidence of their effectiveness in achieving conservation objectives; support their adaptive management; and ensure compliance with their respective regulations.

Recommendation 3: It is recommended that the Assistant Deputy Minister, Aquatic Ecosystems, examine the constraints that DFO administrative regions place on the program's ability to advance an ecosystem-based approach to oceans management by exploring options that would facilitate decision-making based on marine bioregions.

1.0 Introduction

1.1 Purpose of the Evaluation

This report presents the results of the evaluation of the Oceans Management program undertaken by the Evaluation Directorate within Fisheries and Oceans Canada (DFO). The main objective of the evaluation was to provide senior management with information to support decision-making.

1.2 Evaluation Scope and Context

An evaluation of the Oceans Management program was proposed by senior management to serve information needs related to Mandate Letter commitments and overall direction of the program. The evaluation was approved for completion in 2017-18 at the Performance Measurement and Evaluation Committee meeting held on December 2, 2016.

The evaluation examined the period from 2012-13 to November 2017 and included National Headquarters and all regions. The evaluation was undertaken in line with the Treasury Board *Policy on Results* (2016), which requires departments to measure and evaluate performance, using the resulting information to manage and improve programs, policies and services.

Previous evaluations of the program include an evaluation of the Integrated Oceans Management program in 2011-12 and a horizontal evaluation of the Health of the Oceans initiative, led by DFO in 2012-13. Further, an audit of Oceans Management was completed in 2015-16.

The evaluation report and summary were presented to, and received Deputy Head approval at the Performance Measurement and Evaluation Committee on January 17, 2018.

2.0 Program Profile

2.1 Program Context

The Oceans Management program takes an integrated and evidence-based approach to managing oceans issues and collaborates with other federal departments, other levels of government, Indigenous groups, and stakeholders. Building on a foundation of science, the program addresses a number of challenges facing Canada's oceans, such as oceans health, marine habitat loss, declining biodiversity and growing demands for access to ocean space and resources. The program gathers, disseminates and considers information on ecological, social and economic impacts to ensure the protection, conservation and sustainable use of Canada's oceans. The legal basis for the program is derived from the *Oceans Act* (1997) along with Canada's Oceans Strategy (2002) which provides the Department with a framework for managing estuarine, coastal and marine ecosystems.

The key components of the overarching approach of the program, as described in the *Oceans Act* and above, are to: develop and implement plans for integrated management of all activities or measures in or affecting estuaries, coastal waters and marine waters; develop policies and programs; establish advisory and management bodies; establish marine environmental quality guidelines; establish Marine Protected Areas (MPAs); and lead and coordinate the development and implementation of a national system of MPAs on behalf of the Government of Canada.

In addition, there are two priorities in the Prime Minister’s Mandate Letter to the Minister of Fisheries, Oceans and the Canadian Coast Guard that pertain to the Oceans Management Program:

1. To increase the proportion of Canada’s marine and coastal areas that are protected – to five percent by 2017, and ten percent by 2020
2. To work with the provinces, territories, Indigenous Peoples, and other stakeholders to better co-manage our three oceans.

2.2 Program Resources

The resources for Oceans Management activities between 2012-13 and 2016-17 are detailed below (Table 1 and Table 2). The actual expenditures for the Oceans Management program, excluding Science, presented in Table 1 shows that B-base funding has increased over the period under review, while A-base funding has decreased each year from 2012-13 to 2016-17. In 2016-17, B-base funding surpassed A-base funding.

Table 1: Total Actual Expenditures by Fiscal Year, 2012-13 to 2016-17

	2012-13	2013-14	2014-15	2015-16	2016-17
Total expenditures – including Oceans Management and Science *	\$33,477,306	\$36,377,316	\$39,232,228	\$43,017,698	\$48,261,315
Oceans Management only	\$12,113,728	\$10,697,211	\$11,742,535	\$12,730,514	\$18,588,787
Oceans Management: A-base	\$11,500,294	\$10,649,677	\$9,087,645	\$8,763,946	\$8,315,964
Oceans Management: B-base	\$613,434	\$47,534	\$2,654,890	\$3,966,568	\$10,272,824

Source: Chief Financial Officer, DFO

* Science (Ecosystem Assessment) has historically been reported together with Oceans Management spending. Ecosystem Assessment provides science for Oceans Management but it also supports other programs (e.g., Fisheries Protection, Species at Risk, etc.).

Table 2: Total Actual Full-Time Equivalent (FTE) Utilization by Fiscal Year, 2012-13 to 2016-17

	2012-13	2013-14	2014-15	2015-16	2016-17
Total Oceans Management and Science *	263.16	261.89	276.16	304.78	354.2
Total Science only	170.52	180.45	201.15	225.68	238.93
Total Oceans Management only	92.64	81.44	75.01	79.11	115.26

Source: Chief Financial Officer, DFO

* Science (Ecosystem Assessment) has historically been reported together with Oceans Management FTEs. Ecosystem Assessment FTEs enables Oceans Management but it also supports other programs (e.g., Fisheries Protection, Species at Risk, etc.).

3.0 Evaluation Methodology

3.1 Evaluation Approach and Design

The evaluation's scope and core questions were determined based on the Treasury Board *Policy on Results* (2016), a review of key program documents, results from preliminary discussions / interviews with senior management, and findings and recommendations from previous audit and evaluation reports.

The planning phase of the evaluation identified core questions and key aspects of the program to examine to respond to the information needs of senior management and best support departmental decision-making. The evaluation's core questions as identified in the evaluation matrix¹ (Annex A) were:

- Is there a continued need for the Oceans Management program?
- To what extent is the Oceans Management program positioned to deliver on the two Ministerial Mandate Letter commitments?
- To what extent is the Oceans Management program advancing on integrated oceans management and is there an effective foundation for the long-term durability of the program?
- To what extent are the program's resources, strategic direction and governance structure appropriate to support the achievement of results?
- Could the efficiency of the Oceans Management program be improved?

3.2 Data Sources

In order to produce useful, valid and meaningful findings, the evaluation used a mixed methods approach, where both qualitative and quantitative data were collected. Triangulation was used extensively across all lines of evidence to corroborate findings. Lines of evidence included:

- Document review;
- Literature review and an international comparison;
- Financial and administrative data analysis;
- 63 key informant interviews, including 13 scoping interviews, 29 internal and 21 external interviews. Most interviews were conducted in person;
- Three site visits to the Pacific, Gulf and Maritimes regions;
- An internal survey to over 170 people which had about a 70% response rate;
- An external survey to over 250 people which had about a 46% response rate; and
- A Rapid Impact Evaluation (RIE) approach for one particular component of the evaluation. An external consultant was hired to conduct the RIE, a new approach being piloted by the

¹ The evaluation matrix in Annex A provides an overview of the evaluation questions, as well as key indicators, data sources, and the research methods that were used.

Evaluation Directorate. The RIE approach looked at Marine Protected Areas (MPAs) in the Pacific and the Maritime regions to assess how an alternative scenario for engaging with partners and stakeholders would affect the outcomes of the MPAs. It involved two full-day expert panel sessions – one in Vancouver and one in Halifax, as well as interviews and surveys with key interests.

3.3 Evaluation Limitations and Mitigation Strategies

Although the evaluation encountered some challenges, methodological limitations were mitigated, where possible, through the use of multiple lines of evidence and the triangulation of data. This approach was taken in order to establish the reliability and validity of the findings and to ensure that conclusions and recommendations are based on objective and documented evidence. Other mitigation strategies were used as deemed appropriate. Details on limitations and their associated mitigation strategies are described in Table 3.

Table 3: Limitations and Mitigation Strategies

Limitations	Mitigation Strategies
The Oceans Management program underwent significant changes throughout the scope and conduct of the evaluation. As a result, not all ongoing changes in the program were able to be captured in the evaluation.	The data collection phase of the evaluation was extended up to the reporting phase to include pertinent, late-coming information of relevance to evaluation findings and recommendations.
Approaches to oceans management have significant international variation, making it challenging to conduct comparisons for some evolving concepts, such as co-management and marine spatial planning. As a result, there was limited application of the international comparison.	Information found in the literature review and international comparison was used to provide context and illustrate best practices of other international jurisdictions in the report, with the recognition that there are certain contextual elements that limited comparability.
Surveys were administered when many internal employees and partners/stakeholders were away on annual leave and/or were working in the field, which may have affected response rates.	To maximise response rates, notifications regarding the survey were sent to partners and stakeholders in June in advance of the survey launch and a minimum of two reminders were sent while the survey was open. The survey deadline was extended to the end of September.
The Oceans Management program has historically reported its financial and human resources together with Ecosystem Assessment Science in corporate reports. Ecosystems Assessment Science does not exclusively contribute to the Oceans Management program, which created challenges in accurately determining resources allocated to the program.	In order to present a more accurate picture of program funding and human resources dedicated to the Oceans Management program, Chief Financial Office staff provided the expenses coded to the Oceans management program only and the information related to FTEs was provided by the Corporate Planning and Reporting staff.

4.0 Findings

4.1 Needs for Oceans Management

Key Finding: Current and evolving uses of Canada’s oceans have resulted in a more complex marine environment and a greater need for oceans management. The program has not been fully responsive to current needs in the oceans, nor has it developed pro-active approaches to managing emerging issues.

The responsibility to work toward conserving ocean diversity, protecting ecosystems functions, and addressing user conflict in Canada’s three oceans falls under the purview of the Oceans Management program. As a maritime nation, Canada has the world’s longest coastline, three oceans, the Great Lakes and an immense sea of Arctic ice. The oceans and Great Lakes combined cover an area of approximately 5.7 million square kilometres, equivalent to over half of Canada’s land mass.² The diversity of partners and stakeholders and the need to balance economic and environmental considerations in this large ocean space results in a complex environment of competing priorities. In its efforts to implement integrated oceans management, the program must consider the impacts and activities of a wide range of current and evolving marine users, including fisheries, transportation, oil and gas, tourism, and coastal communities.

This complexity is only expected to increase as international discussions about the “blue economy” – the premise that healthy ocean ecosystems lead to more productivity and sustainability for ocean-based economies – drive processes to better understand how to manage the marine environment to most effectively realize the economic potential in the oceans. It is expected that oceans-based industries, such as marine aquaculture, coastal tourism, and fisheries, will double their contribution to the global value-added by 2030.³ Emerging activities, such as the projected growth of aquaculture, have created more interest in the economic potential of the oceans and will likely create more demand for limited oceans space. Debate over the sustainable development of oceans is further being driven by factors such as economic growth, job creation, and the need to protect ocean health for current and future generations.⁴

In parallel to more attention on the oceans for economic purposes, there is more concern being raised in regards to ocean conservation. According to a survey conducted by World Wildlife Fund in 2016, over 90% of survey respondents were in support of protecting marine areas and 73% of Canadians believe that the oceans must be protected in order to sustain the economy and coastal communities.⁵ There is a need to improve understanding of the complicated interactions between human uses and natural changes in the marine environment. Marine stressors such as

² DFO. (2017). “Spotlight on Marine Protected Areas”. <http://www.dfo-mpo.gc.ca/oceans/publications/mpaspotlight-pleinsfeuxzpm/index-eng.html>

³ Organisation for Economic Cooperation and Development (2017). “Marine Protected Areas: Economics, Management and Effective Policy Mixes”. <http://www.oecd.org/env/marine-protected-areas-9789264276208-en.htm>

⁴ Food and Agriculture Organization of the United Nations (2014). “Blue growth: unlocking the potential of seas and oceans”. <http://www.fao.org/zhc/detail-events/en/c/233765/>

⁵ World Wildlife Fund Canada. (2016). “Public Opinion on Marine Protected Areas”. http://awsassets.wwf.ca/downloads/wwf_environics_report_final_feb2017.pdf?_ga=1.70232976.1264700562.1478615786

pollution, marine noise, marine debris, climate change, and the impact of land activities on the water affect the ocean ecosystems. Due to increasing human use, these stressors are more prevalent and are occurring with greater intensity. The compounding nature of multiple stressors results in cumulative effects which further impact the marine environment in complex ways and can have significant socioeconomic implications for ocean-based industries and the coastal communities that depend on them for their livelihood.

The combination of more users, new uses and cumulative effects of activities has resulted in an increasingly complex marine environment and more pressing need for coordinated responses to oceans issues. Given this situation, identifying a comprehensive approach that can address the needs of multiple marine users is a major challenge for the program. The extent to which the program is able to meet current needs and strategically integrate anticipated increases in the use of oceans is a key factor in its ability to effectively advance oceans management.

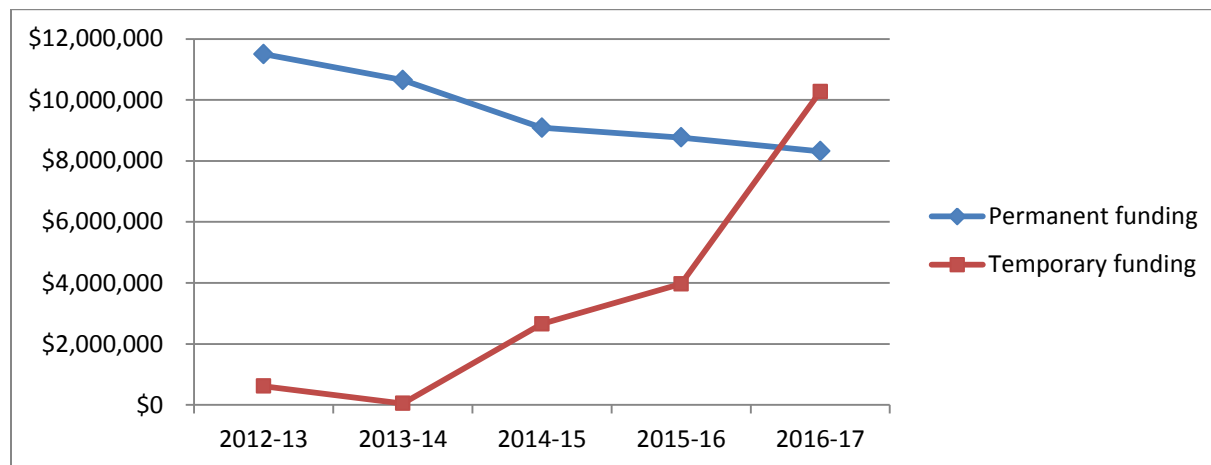
To address these needs, the Oceans Management program conducts activities as per the legal basis of the *Oceans Act*, which outlines the tools available to deliver its mandate. Part II of the *Oceans Act* provides the Minister with the authority to collaborate with others; develop and implement integrated oceans management plans; implement Marine Environmental Quality guidelines; convene advisory and management bodies; and establish Marine Protected Areas. These activities are under the umbrella of the oceans management strategy for Canada's estuarine, coastal and marine waters. The comprehensive utilisation of all of these tools is core to the success of the program; however, it has not made balanced use of all aspects of the *Oceans Act*. As a result, it has not been responsive to all needs for oceans management, nor has it developed proactive approaches to managing emerging issues. Key informants noted that some of the difficulty in advancing on integrated oceans management is a result of ambiguity in the *Oceans Act* and the voluntary nature of participation by partners and stakeholders, suggesting the language in the *Oceans Act* should be more prescriptive. Conversely, others said the *Oceans Act* has adequate provisions and the real limitation to advancing on integrated oceans management stems from limited application of available tools.

Another consideration when advancing integrated oceans management, Marine Protected Areas (MPAs), and MPA networks is that some oceans activities are outside the legislative purview of DFO. For example, regulation of certain aspects of oil and gas activities fall under either Natural Resources Canada's legal authority, or joint Natural Resource Canada and provincial authority; certain aspects of marine transportation fall under Transport Canada's legal authority or under the United Nations Convention of the Law of the Sea; and there are legal requirements that apply to DFO's work in land claims areas. This makes for a complex legislative environment that can bring challenges in achieving some of the desired outcomes of integrated oceans management, MPAs, and MPA networks. It also underscores the importance of effective governance arrangements to collaborate with partners, including federal, provincial and territorial governments, and Indigenous groups.

Key Finding: Priority-setting exercises have been based on fulfilling obligations in temporary funding initiatives, resulting in selective priorities and fragmented delivery of program activities. Limited attention to how the program intends to achieve its broader integrated oceans management objectives may affect the long-term sustainability of the program.

Evidence indicates that temporary funding initiatives have been driving program activities. Over the past five years, the program received temporary funding from several initiatives.⁶ Each initiative stipulates results that must be achieved, which has typically resulted in their prioritization. Analysis of financial data in Graph 1 illustrates a trend of increasing temporary funding for specific priorities and objectives while permanent funding, which is meant to support core program activities, has steadily declined. In 2016-17, temporary funding surpassed permanent funding, indicating that program activities are heavily influenced by short-term funding priorities.

Graph 1: Total Actual Expenditures by Fiscal Year, 2012-13 to 2016-17



Many key informants said that susceptibility to selective priorities is a major impediment to the program's ability to provide comprehensive responses to address ocean management needs. Temporary funding initiatives, such as the current focus on marine conservation targets, have shifted attention away from other components of the program, including implementing integrated oceans management plans, therefore limiting its ability to make measurable progress on the broader goals of integrated oceans management. Selective priorities have led to a series of uncoordinated activities that prevents the program from providing a clear, comprehensive direction and long-term vision for the program. More balanced use of all tools of the *Oceans Act* would provide a more comprehensive response when managing dynamic ocean environments.

The program has also been hindered by a lack of communication regarding how various temporary initiatives support holistic integrated oceans management, resulting in confusion about the overall objectives of the program. Some internal key informants noted that the broader strategy of integrated oceans management is less tangible and more complex than, for example,

⁶ These initiatives include the Health of the Oceans Initiative, World Class Tanker Safety System, National Conservation Plan, Marine Conservation Targets, and the Oceans Protection Plan.

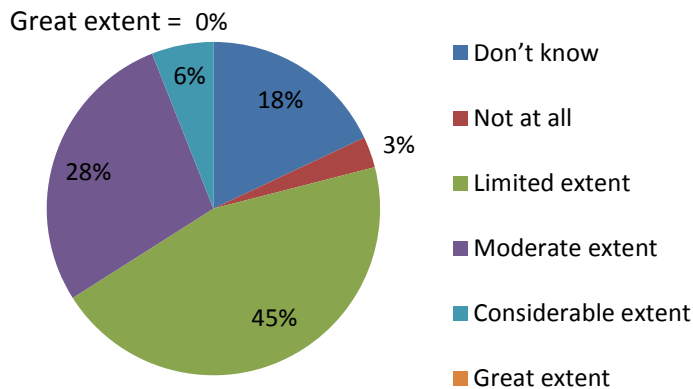
the time-bound nature of marine conservation targets and the concrete regulations of MPAs. As a result, MPAs are more easily understood than integrated oceans management. Efforts to better explain integrated oceans management are needed to ensure partners and stakeholders understand the long-term objectives of the program. External perceptions of inadequate communication and insufficient explanation of activities may point to the program's tendency to communicate using technical language that is not well understood by partners and stakeholders.

Further, the uneven distribution of resources to the regions has led to variable advancement of program activities. For example, some regions operate in close proximity but have differing capacity to operationalize guidance and conduct activities, which hinders a consistent approach to oceans management. Evidence indicates some efforts have been made to provide more consistency through active internal governance committees, including the Oceans Management Oversight Committee and the National Ocean Managers Committee, which provide platforms for information sharing and discussion. However, the challenges of the DFO administrative regions and the way that resourcing is distributed constrain holistic oceans management. As a result of these issues, it is difficult for the program to provide a comprehensive response to marine user needs consistently across all regions.

4.2 Integrated Oceans Management

Key Finding: The limited implementation of integrated oceans management plans affects the ability of the program to identify how its activities are making a measurable difference in the sustainable management of oceans.

Section 31 of the *Oceans Act* compels the Minister of Fisheries and Oceans Canada to “lead and facilitate the development and implementation of plans for the integrated management of all activities and measures in or affecting” Canada’s oceans, coastal waters and estuaries. These plans aim to provide a holistic and comprehensive strategy to manage the diverse needs in the oceans and support sustainable development. Despite the creation of multiple plans of various scope and size, implementation has been affected by competing priorities that have redirected resources to other aspects of the program. Shifting direction, a lack of operational guidance for integrated oceans management (IOM), and limited action plans to implement existing IOM plans have hindered progress on the broad oceans mandate. While the principles of adaptive management advocate periodically updating plans based on new knowledge and technology, the lack of implementation limits the ability of the program to demonstrate its performance in advancing integrated oceans management. Insufficient implementation puts into question the extent to which the program is making a measurable difference in addressing user conflict and fostering sustainable development. The program’s history of developing plans, but the inability of obtaining sustained resourcing to implement the plans, raises some concern regarding the extent to which new planning activities will have enough long-term support to be tangibly implemented.

Graph 2: To what extent have integrated oceans management plans been implemented?

Graph 2 indicates that almost half (45%) of survey respondents said that IOM plans were implemented to a limited extent. No respondents said the plans were implemented to a great extent. It was noted that there are unreasonable expectations related to integrated oceans management plans because they do not fully acknowledge the complexity of the marine environment. This results in aspirational documents that cannot be substantively implemented, which limits manageable and realistic progress in the marine environment.

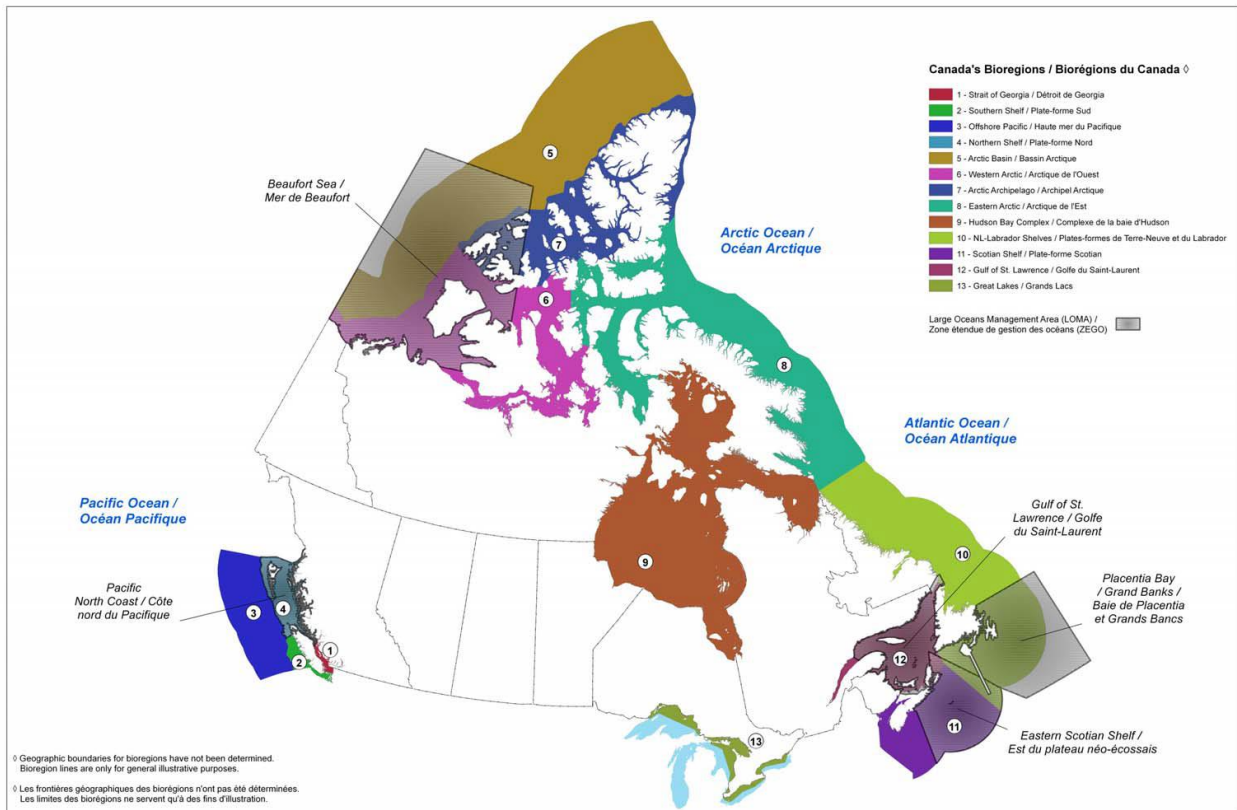
Furthermore, it was suggested by a few key informants that the lack of implementation of IOM plans may be related to how they are described in the *Oceans Act*. To facilitate integrated oceans management, the *Oceans Act* provides the program with tools that are both regulatory and non-regulatory in nature. For example, MPAs are established by regulation using the authority provided in the *Oceans Act* upon designation and Marine Environmental Quality (MEQ) guidelines can be either regulatory or voluntary, depending upon the context in which they are applied. In contrast, most aspects of IOM plans are not enabled as regulatory tools.⁷ The text within the *Oceans Act* related to the implementation of IOM plans focuses on developing policies and programs to support their implementation and coordinating with other ministers, boards and agencies to do so but it does not have a regulatory component which would require these activities to be conducted.

In the early stages of the Oceans Management program, five Large Oceans Management Areas (LOMAs) were used as the foundation for integrated oceans management planning. Partners and stakeholders worked together to develop long-term plans for the sustainable management of these areas. In 2011-12, the program evolved toward a bioregional approach, consisting of 13 distinct areas. The marine bioregions were developed through a 2008-09 Canadian Science Advisory Secretariat process as a basis for MPA network planning; the program is also using

⁷ Within IOM plans there are aspects that can be regulatory, e.g., Marine Environmental Quality guidelines and Marine Protected Areas

bioregions for the purposes of broader integrated oceans management planning. The linkages between previous and current planning processes were not well-communicated to internal or external partners and stakeholders. Evidence indicates that the evolution in the program was generally viewed as a change in direction, which caused confusion internally and externally regarding the objectives of the program.

Figure 1: Canada's thirteen marine bioregions



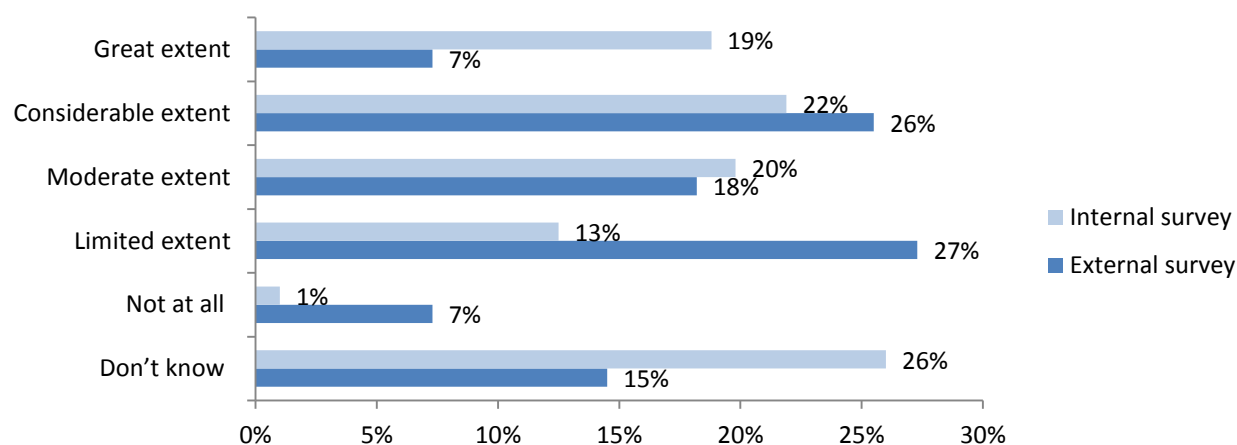
As shown in Figure 1, the five LOMAs with similar, and in some cases, identical geographic footprints to the bioregions are the: Beaufort Sea, Placentia Bay/Grand Banks, Gulf of St. Lawrence, Scotian Shelf/Atlantic Coast/Bay of Fundy, and the Pacific North Coast.⁸ The program was able to leverage work completed under the LOMAs and IOM plans exist for each of them. However, evidence indicates there has been little implementation of the priorities identified in the LOMA plans.⁹ Furthermore, considering the remaining eight bioregions do not have the same level of research as those that coincide with the former LOMAs, it is expected that developing management plans for these bioregions will take many years. It is not clear how priorities will be determined for these nor have implementation timelines been disclosed.

⁸ DFO. "Integrated Oceans Management". <http://www.dfo-mpo.gc.ca/oceans/management-gestion/index-eng.html>

⁹ DFO. (2016). "Internal Audit of Oceans Management". <http://www.dfo-mpo.gc.ca/ae-ve/audits-verifications/15-16/6b275-eng.html>

Nevertheless, for the five areas mentioned above, it appears that IOM planning intends to align with and advance through MPA establishment under Canada’s network of Marine Protected Areas.¹⁰ The MPA network is based on a framework developed in collaboration with the Oceans Task Group¹¹ and outlines a vision for Canada’s marine environment that includes “an ecologically comprehensive, resilient and representative national network of marine protected areas that protects the biological diversity and health of the marine environment for present and future generations”.¹² A connected series of MPAs is meant to enhance the benefits of each individual MPA, and is intended to fulfil ecological goals more effectively and more comprehensively.

Graph 3: To what extent is the program meeting the MPA network objective of establishing a more systematic approach to MPA planning and establishment?



Survey results suggest the program has not made significant progress in meeting the MPA network objective of establishing a more systematic approach to MPA planning and establishment. Graph 3 demonstrates that there is a variable perception of MPA network progress, with a discrepancy between internal and external respondents. This corroborates with some key informants, who questioned the extent to which MPAs being designated were meeting overall MPA network goals. Despite this, a June 2017 Report on Canada’s Marine Protected Areas produced by the Oceans Task Group highlights efforts to pursue strategic MPAs within bioregions, with the goal of having MPA network plans ready for implementation by 2020.¹³ Document review supported the program’s intention to simultaneously proceed with implementing MPAs in alignment with network plans while also finalising an overall national MPA network design.

¹⁰ DFO. (2017). “Canadian Council of Fisheries and Minister’s Report on Canada’s Network of Marine Protected Areas”. <http://www.dfo-mpo.gc.ca/oceans/publications/mpa2017-2017zpm/page01-eng.html>

¹¹ The Oceans Task Group is a sub-committee of the Canadian Council of Fisheries and Aquaculture Ministers. It includes federal representatives (Fisheries and Oceans Canada, Parks Canada Agency, and Environment and Climate Change Canada) as well as partners from coastal provinces and territories

¹² DFO. (2011). “National Framework for Canada’s Network of Marine Protected Areas”. <http://www.dfo-mpo.gc.ca/oceans/publications/mpanf-cnzpm/page02-eng.html>

¹³ DFO. (2017). “Canadian Council of Fisheries and Minister’s Report on Canada’s Network of Marine Protected Areas”. <http://www.dfo-mpo.gc.ca/oceans/publications/mpa2017-2017zpm/page01-eng.html>

The current strategy of pursuing priority marine bioregions for MPA network planning appears to be a logical and resource-efficient way of linking MPA conservation objectives with the broader integrated oceans mandate. A long-term and well-resourced commitment to using a consistent approach is necessary to advance implementation. However, it is unclear as to whether the program has the required support and resources to advance in this manner. The implementation steps that are needed to achieve long-term objectives are ambiguous, which has led to uncertainty about the extent to which IOM plans can be carried out.

A significant barrier to the implementation of IOM plans is their strategic nature which tends to be too high-level to provide details on how to operationalize the objectives contained within them.¹⁴ High-level IOM plans provide a framework to guide more detailed planning processes, however other than for MPA networks, there is limited evidence that the program has advanced to implement such detailed actions under existing IOM plans. As a result, survey results revealed mixed perceptions about their usefulness. Table 4 indicates relatively high use of integrated oceans management plans. However, the main use by both internal and external respondents is for information purposes. There is limited usage of the plans for decision-making purposes.

Table 4: Use of integrated oceans management plans

Use of integrated management (IOM) plans	External survey respondents	Internal survey respondents
Respondents have used an IOM plan	51%	85%
For information	78%	75%
For planning	51%	47%
To share with others	43%	38%
For decision-making	27%	19%

External survey respondents noted that plans could be made more useful if more key partners and stakeholders were engaged in their development, for example, engaging with Indigenous partners and coastal communities to implement and monitor plans, or incorporating industry in a pro-active approach to help identify low-risk areas, which may allow for a more cooperative, enabling process to establish management plans.

In addition, internal survey respondents noted a lack of resources dedicated to the integrated oceans management components of the program as a barrier to implementing plans. About half mentioned that selective priorities redirected resources to short-term initiatives, which reduces the capacity to deliver on longer-term integrated oceans management plans. Findings from an internal audit conducted in 2016 also noted internal concern that the directional shift away from LOMAs would result in less attention on integrated oceans management.¹⁵ Significant time and resources have gone toward the development of plans, but their inability to provide clear actions or define the necessary resources for implementation raises concerns that they cannot provide tangible support to integrated oceans management.

¹⁴ Pacific North Coast Integrated Management Area Initiative. (2017). "Pacific North Coast Integrated Management Area". <http://www.pncima.org/site/plan-development/the-pncima-plan.html>

¹⁵ DFO "Internal Audit of Oceans Management," <http://www.dfo-mpo.gc.ca/ae-ve/audits-verifications/15-16/6B275-eng.html>

Further, the high complexity of the regions (e.g., working with multiple provinces, many Indigenous groups, and high-intensity industries) make it exceptionally challenging to make the necessary trade-offs and difficult decisions to follow through with implementation of plans. Regions are constrained by their administrative boundaries, which do not always align with effective ocean planning areas. In addition, the extent to which National Headquarters has provided clear guidance and facilitated implementation strategies for regions that share ocean space is unclear. These limitations impact the implementation of IOM plans.

Key Finding: There is increasing international momentum toward the use of marine spatial planning which the program intends to pursue as a tangible tool to manage conflicts, address marine user needs, and support the sustainable development of the oceans economy.

In addition to MPA networks and IOM plans, the program is exploring marine spatial planning as a strategy for oceans management planning. Marine spatial planning (MSP) is an ecosystems-based approach that can be used to address ocean management issues and advance sustainable development and conservation priorities.¹⁶ Through a process of mapping areas of the oceans for particular uses, it brings together, informs, and coordinates the activities of marine users and regulators.

International trends indicate momentum toward the use of MSP for oceans management across regional and national levels. As of June 2017, a database recording regional and national marine spatial plans consisted of 64 countries, including Canada.¹⁷ Capturing opportunities to sustainably develop oceans is a feature of “blue economy” strategies and is a major driver of marine spatial planning projects internationally. Maritime planning information provided by the European Commission indicates a range of benefits to MSP, including reducing conflict between sectors and providing the opportunity to seek synergies between activities; providing certainty and transparency to encourage investment; and protecting the environment through the early identification of impacts and the opportunities of multiple use of ocean space.¹⁸ MSP is increasingly recognized as a means to achieve global oceans governance goals, linking the needs for conservation and sustainable development from a local to global scale.¹⁹

Marine spatial planning was viewed favourably by survey respondents, who noted that MSP would provide a transparent and proactive plan oriented towards understanding and addressing interactions between human activities and marine ecosystems. MSP highlights communication, collaboration, and buy-in; and it emphasizes predictable decision-making that prioritizes sustainable development. Some of the benefits of the MSP planning process include the development of governance structures with key partners and stakeholders and data tools such as

¹⁶ Intergovernmental Oceanographic Commission. (2009). “Marine spatial planning”. http://www.ioc-unesco.org/index.php?option=com_content&view=article&id=147&Itemid=76

¹⁷ Intergovernmental Oceanographic Commission.. (2017). “Status of Marine Spatial Planning”. http://msp.ioc-unesco.org/world-applications/status_of_msp/

¹⁸ European Commission. (2017). “Maritime Spatial Planning”. https://ec.europa.eu/maritimeaffairs/policy/maritime_spatial_planning_en

¹⁹ Intergovernmental Oceanographic Commission. (2017). “Joint Roadmap to accelerate MSP processes worldwide”. http://www.unesco.org/fileadmin/MULTIMEDIA/HQ/SC/pdf/Joint_Roadmap_MSP_v5.pdf

marine atlases to guide decisions around the use of marine space. External survey respondents further noted that a well-implemented and holistic MSP process is the most effective way to build social license, increase legitimacy of decisions in the oceans, and create more durable solutions to address ocean needs.

However, some caveats to MSP were noted by both internal and external respondents. A significant barrier is the need for data that is comparable, regularly updated, and accessible. Consistent data collection is necessary to integrate the cumulative effects of the various uses of the marine environment and to adaptively manage a marine spatial plan on a regular basis. Although efforts have been made to coordinate data at the federal level through the Federal Geospatial Platform, led by Natural Resources Canada, and other initiatives such as the Marine Spatial Data Infrastructure project, evidence indicates ongoing issues with access to comparable data that stems from a lack of regular monitoring. Further, the process to develop a marine spatial plan is lengthy and can exceed governance cycles that may direct priorities elsewhere. The length of time to create a marine spatial plan speaks to the challenges of multiple jurisdictional authorities and the variety of marine users implicated in oceans management.

Lengthy planning processes and delays that are not well-explained may negatively impact participation by partners and stakeholders in the use of marine spatial planning. Conversely, rushed processes and inadequate representation of partners and stakeholders may yield biased results that affect effective implementation. In either situation, the compound effect of poorly communicating the program's evolving planning processes may result in hesitation to participate in future planning activities. For example, the extensive involvement of partners and stakeholders in the LOMA process created expectations for collaborative oceans management. The lack of communication as to why LOMA planning was refocused caused frustration and disappointment. Evidence indicates there is reluctance by partners and stakeholders to participate in processes that are perceived to have limited use for decision-making or are not connected to other management activities of the program.

Stemming from the 2016 internal audit recommendation to update the Oceans Strategy, the program is advancing MSP through a joint federal, provincial, territorial and Indigenous pilot project in the Pacific North Coast Integrated Management Area (PNCIMA). As a phased approach, implementing MSP in the Pacific North Coast will involve federal coordination and the integration of marine spatial data, development of bioregional planning tables, partner and stakeholder consultations, and involvement of Indigenous groups.

Considerable time, effort, and resources were dedicated to the Pacific North Coast project over the past decade; however the main output has been a largely high-level and strategic document lacking clear direction for implementation.²⁰ Five priorities have been identified as focus areas for implementation including governance arrangements, marine protected area network planning, monitoring and adaptive management, integrated economic opportunities, and tools to support plan implementation.²¹ Evidence suggests progress has been made in establishing a single

²⁰ Pacific North Coast Integrated Management Area Initiative. (2017). "Pacific North Coast Integrated Management Area". <http://www.pncima.org/site/plan-development/the-pncima-plan.html>

²¹ Pacific North Coast Integrated Management Area Initiative. (2017). "Pacific North Coast Integrated Management Area". <http://www.pncima.org/site/plan-development/the-pncima-plan.html>

governance structure for the bioregion; however, it is unclear at this time as to when this governance structure will begin its responsibilities or to what extent progress has been made on the other priority areas.

As the program intends to pursue MSP, more effort will be needed to clarify and communicate the roles and relationships between integrated oceans management plans and marine spatial planning. MSP should continue to build upon existing IOM plans to retain the valuable information and partnerships that have already been developed. Furthermore, the program will need to provide clear, measurable and achievable action plans that are prioritized for implementation. The program's current pursuit of MPA networks and MSP is in line with trends of similar jurisdictions internationally; resourcing should extend beyond planning to ensure activities can be implemented.

4.3 Collaboration activities

Key Finding: Successful collaboration is achieved when the Oceans Management program clearly identifies objectives and proceeds with an issues-oriented approach that leads to tangible results – both of which galvanize users and regulators to take actions in the oceans.

In order to implement integrated oceans management plans in estuaries, coastal and marine waters, the *Oceans Act* specifies that the Minister of Fisheries and Oceans may establish advisory or management bodies and shall co-ordinate with other ministers, boards, and agencies of the Government of Canada. As a result, the extent to which the program can facilitate collaboration is directly linked to the extent to which it can meet responsibilities outlined in the *Oceans Act*. Evidence demonstrates that collaboration with internal and external partners and stakeholders has occurred with varying degrees of success. Collaboration has been most successful when the program focuses on specific issues that produce tangible results that can be communicated to Canadians. Stories of successful collaboration improve awareness of oceans issues, build momentum, and further galvanize users and regulators to take action in support of the conservation and sustainable development of oceans.

At a broad level, the program has made progress in developing relationships with key provincial and federal partners. The Mandate Letter commitments have resulted in the re-establishment of several interdepartmental committees at varying levels of authority and a whole-of-Government response to oceans management. The 2016 reinstatement of the Assistant Deputy Minister Interdepartmental Committee on Oceans and the Director General Interdepartmental Committee on Oceans, as well as the renewal of the Oceans Task Group, have been viewed as effective ways to provide information and discuss shared interests in the oceans. These governance committees consist of relevant partners that have the authority to make decisions within their respective departments and agencies. The regular participation by senior level management indicates interest and added value of attending meetings.

Given that collaboration is an integral tool in the *Oceans Act* and a core component in pursuing program activities, this resurgence in interest is providing a platform for the program to strengthen relationships; however concerns were raised that the marine protection Mandate Letter commitment is the main driver in bringing together these authorities. To ensure long-term sustainability of the program, these committees need to ensure they give adequate attention to all

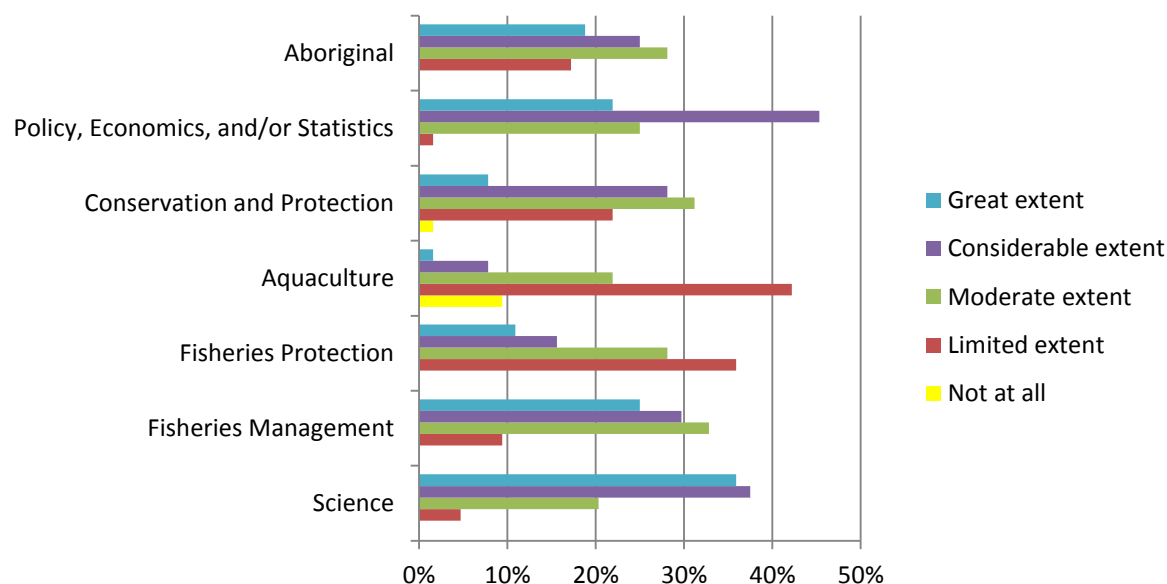
aspects of integrated oceans management. Framing oceans as a whole-of-government issue will provide a better platform for the program to effectively advance on diverse oceans issues.

To date, successful collaboration with other government departments has occurred when working on concrete ocean issues. Recent collaboration with Natural Resources Canada resulted in proposed amendments to the *Oceans Act* and the *Canada Petroleum Resources Act* to facilitate the MPA designation process.²² In addition, the program has begun collaborating with other regulators, including Transport Canada, to develop Marine Environmental Quality (MEQ) guidelines regarding marine noise affecting whale populations as part of the Oceans Protection Plan. Work is also being undertaken on other priority environmental stressors that pose immediate risk to the oceans. For example, the Gulf region is working with others to try to establish a monitoring indicator for land-based water pollution in the Northumberland Strait. The groundwork that has been done thus far supports the development of a marine environmental quality guideline to address the nutrient enrichment issue in that region of the ocean.

Though MEQ guidelines have been a longstanding tool in the *Oceans Act*, they have only recently been advanced. The cross-cutting nature of many of the issues in the oceans, such as pollution, marine debris and climate change, require collaboration among various jurisdictions and authorities. While it is apparent that the possibilities of this tool have not been fully realized, MEQ guidelines can be used as a means to advance implementation of integrated oceans management plans. They present an opportunity to collaborate with multiple DFO groups and other federal regulators on concrete issues in the oceans.

The Mandate Letter commitment to increase marine protection has also increased the visibility of the program within DFO. Progress in MPA designation has required a whole-of-DFO effort to advance on areas of scientific analysis, economic analysis, consultation, and regulatory drafting within tight timelines. However, as show in Graph 4, it appears that groups that should be engaged in oceans management, but are not directly linked to delivering on MPAs, have experienced less collaboration, including Fisheries Protection and Aquaculture.

²² DFO. (2017). “Proposed Oceans Act Amendments”. <http://dfo-mpo.gc.ca/oceans/conservation/act-loi-eng.html>

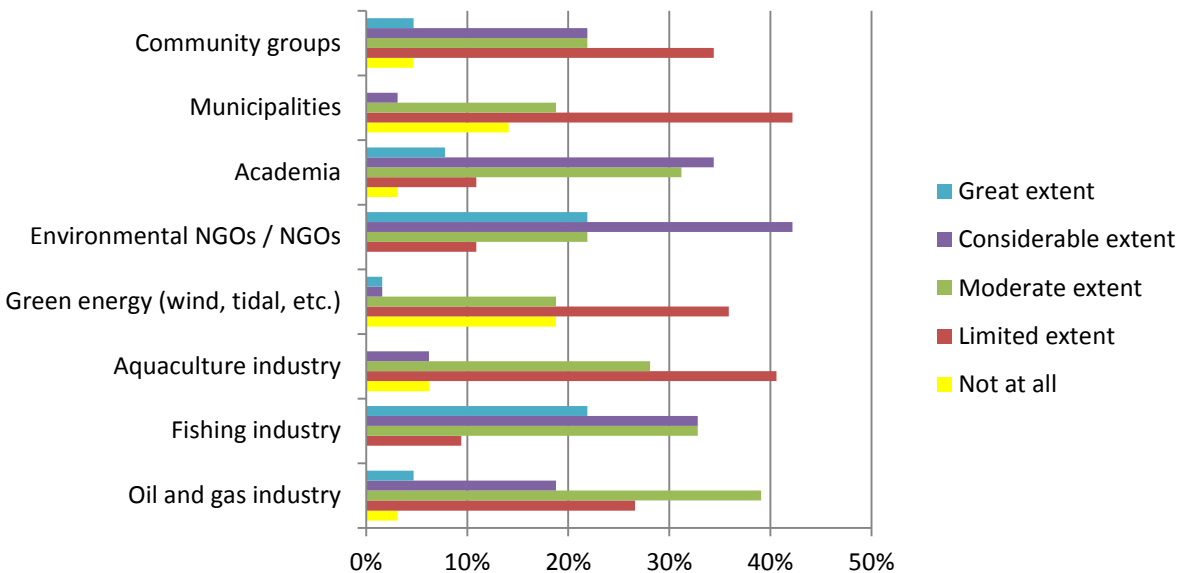
Graph 4: To what extent is there effective collaboration between the program and other DFO groups?

Further, Graph 5 indicates that collaboration activities have generally been effective with external partners and stakeholders, including the fishing industry and environmental non-governmental organisations. Less effective collaboration was noted with the aquaculture and green energy industries, despite evidence that indicates these industries are interested in expanding in the oceans.²³ With regards to aquaculture, Canadian trends in fishing suggest that despite a one percent overall decrease in fishery production, aquaculture's share of production will increase by thirty-two percent by 2025.²⁴ Further, DFO's Evaluation of the Sustainable Aquaculture Program (2018) found strong interest by industry in pursuing development of aquaculture, which will likely increase demands for ocean space in coastal areas. A lack of early engagement will limit the program's ability to strategically integrate new and increasing ocean activity into its planning.

In addition, low levels of collaboration with community groups and municipalities may point to limited progress in managing ocean needs in coastal areas. This situation represents a missed opportunity to collaborate with groups that are often most affected by activities in the oceans. To maintain a pro-active and future-oriented outlook, the program should address areas of limited collaboration to ensure involvement of all relevant marine users and regulators.

²³ DFO (2018) Evaluation of Sustainable Aquaculture Program. <http://dfo-mpo.gc.ca/ae-ve/evaluations-eng.htm> and; Food and Agriculture Organization of the United Nations (2016). "The State of the World Fisheries and Agriculture: Contributing to food security and nutrition for all." <http://www.fao.org/3/a-i5555e.pdf>

²⁴ Food and Agriculture Organization of the United Nations (2016). "The State of the World Fisheries and Agriculture: Contributing to food security and nutrition for all." <http://www.fao.org/3/a-i5555e.pdf>

Graph 5: To what extent is there effective collaboration between program and select partners and stakeholders?

The extent of effective collaboration is also affected by the way that DFO's administrative regions are defined. For about half of external survey respondents who interact with more than one DFO administrative region, a lack of coordination has created challenges. It was noted that while there have been visible efforts to improve coordination over the course of the evaluation, the regions have different approaches to Oceans Management (e.g., level of resources, frequency and approaches to engagement, data collection, interpretation of direction from NHQ) and often conduct work independently of each other, regardless of proximity or issues of mutual interest.

Furthermore, the spatial unit identified by the Oceans Management program for planning is the bioregion. This supports an ecosystem-based approach to oceans management; a core principle that has been with the program since its inception. However, current administrative regions may be a barrier in implementing a broader, more comprehensive integrated oceans management perspective. The combination of DFO regional boundaries, provincial and territorial boundaries, and two official languages, further complicates a coherent approach. While efforts have been made to discuss issues and forge synergies, significant time is spent dealing with ineffective internal governance structures rather than addressing needs in the oceans.

The perception that there is miscommunication and inconsistency in the interpretation of NHQ direction leads to confusion and duplication of effort for some partners and stakeholders, many of whom have limited capacity to engage in discussions with multiple regions on the same topics. Repetitive consultation processes and unclear messaging has resulted in some stakeholder fatigue and disinterest in further collaborating with what is perceived to be an uncoordinated program. These factors highlight the need for clear and efficient mechanisms for both internal and external collaboration.

The program can look to its own history for best practices in collaboration to address these challenges. There have been some very successful collaboration activities at the operational level in the regions. For example, the Eastern Scotian Shelf Integrated Management initiative was described as an effective forum to make tangible progress on the sustainable development of the oceans. This committee provided an opportunity for various stakeholders with opposing views to come together to discuss their needs and issues in the oceans. Strong and effective relationships were formed, benefiting a variety of collaboration activities. Key informants expressed disappointment about the dissolution of the project. Some noted that a few partnerships continued informally but were largely dependent on individuals who had this shared history, suggesting that as staff turnover, these relationships may be lost.

Similarly, Regional Committees on Oceans Management (RCOMs)²⁵ and equivalent governance structures were positively viewed as a forum for to share information, discuss issues, and advance mutual understanding of the perspectives of all stakeholders. However, there was some internal and external criticism that while RCOMs provided a useful platform, they did not always make tangible progress on integrated oceans management. Issues with the advisory function of the RCOMs, expansion of scope to be too broad to advance on issues, and questions of appropriate representation negatively affected the results of the RCOMs. The current presence and activity of RCOMs in the regions is variable and it was suggested that limited engagement with partners and stakeholders will negatively affect long-term relationships. Evidence supports the need for regions to implement a structure similar to RCOMs, with a clear mandate, objectives, and appropriate representation.

Key Finding: Collaborative approaches that include partners and stakeholders in agreement-seeking activities are believed to produce better results for the management of oceans.

Collaboration in the oceans is by nature extremely complex due to the number of issues and the diversity of users, regulators and others with a stake in decisions that may affect them. Current high levels of interest by partners and stakeholders should be channeled into activities that advance program objectives. Further, to sustain high participation in collaboration processes, the program should demonstrate that decisions take into account the information provided by partners and stakeholders, thus providing tangible evidence of the value of participating in forums and other committees.

Findings from the Rapid Impact Evaluation (RIE) approach indicated more “agreement-seeking” approaches to collaboration could improve the results of certain Oceans Management activities, such as MPA establishment. Representatives from the program involved in the RIE approach agreed that the current process is “consultative” and is used to obtain useful and influential advice, comments or recommendations. Evolving toward a more “agreement-seeking” approach would shift the intended purpose to “reaching a workable agreement or settlement”. The main difference would be the inclusion of a clear and collaborative method based on transparency and

²⁵ Similar structures include Regional Committees on Coastal and Oceans Management (RCCOMs) and Regional Implementation Committees on Oceans Management (RICCOMs); In general, RCOMs consist of provincial representatives and regional representatives from the Oceans Management program; they can also include partners and stakeholders.

agreement at every step in the designation process. This alternative scenario could contribute to more public support, recognition, and more effective protection of designated MPAs in the long-term. It is anticipated that “agreement-seeking” approaches would provide a more balanced outcome for conservation, socio-economic and community principles as relevant interests are actively involved at every key decision point in the process, including when changes are considered.

In an “agreement-seeking” approach the inclusion of suitable representatives enhances the legitimacy of results; therefore representation must be given appropriate consideration when developing the process. The RIE approach found that participation by owner-operators of the fishing industry, provinces, and Indigenous organisations was often affected by limited capacity for engagement. The effect of capacity issues on engagement by partners and stakeholders can have an influence on the outcomes of collaboration processes. The program has made efforts to engage partners and stakeholders, including Indigenous groups, academic institutions, and Environmental Non-Governmental Organizations, through the use of the Oceans Management Contribution Program, established in 2016, to support the development and implementation of conservation and management activities.

Witnesses from the Standing Committee on Environment and Sustainable Development further noted the value of bringing parties to the table early in the process to ensure all interests, knowledge, contributions, and rights could be considered and balanced, while recognizing that these processes are complex and often involve considerably more time.²⁶ In the case of MPAs, “agreement-seeking” approaches to collaboration would require additional time, personnel, and engagement mechanisms up-front. It is expected that benefits would be realized in the longer-term, as prior agreement would ease the development of management plans.

Research conducted by West Coast Environmental Law and supported by key external informants noted public participation results in more robust, more accepted, and more implementable decisions regarding marine protection.²⁷ Processes that are driven by grassroots organizations, local communities, and engaged partners and stakeholders can provide effective contributions to overall program results that promote sustainable development and conservation of the ocean environment. There is potential for highly-involved partners and stakeholders to engage in collaborative management aspects, including conducting community and Indigenous monitoring of protected areas, conducting education and outreach activities, and providing information for adaptive management.

²⁶ Standing Committee on Environment and Sustainable Development (2016). “Taking Action Today; Establishing Protected Areas for Canada’s Future”. <https://www.ourcommons.ca/DocumentViewer/en/42-1/ENVI/report-5>

²⁷ West Coast Environmental Law, (2016). “Brief to Standing Committee on Environment and Sustainable Development – Study on Federal Protected Areas and Conservation Objectives”.

<https://www.wcel.org/sites/default/files/publications/WCEL%20Brief%20on%20MPAs%20to%20Standing%20Ctee%20May%209%202016.pdf>

4.4 Co-management

Key Finding: As a result of the mandate commitment to “better co-manage our three oceans”, partners and stakeholders have increasing expectations regarding the program’s position on co-managing oceans. A lack of a clearly articulated framework for co-management has resulted in confusion and uncertainty for those both internal and external to the program, leading to limited progress in delivering on this mandate commitment.

In November 2015, the Prime Minister’s Mandate Letter to the Minister of Fisheries, Oceans and the Canadian Coast Guard directed the Minister to “Work with the provinces, territories, Indigenous Peoples, and other stakeholders to better co-manage our three oceans”.²⁸ This commitment brought the term “co-management” into the present-day conscience of program staff as well as internal and external partners and stakeholders.

While the Mandate Letter has emphasized better co-managing oceans, the term “co-management” is not new within DFO. For example, it has been used in the Fisheries Management program in relation to partnering with industry to support sustainable management, science and research activities. It also has a specific meaning in the context of delivering DFO programs where land claim agreements are in effect.

A review of program-related documents revealed that the term co-management has also been part of Oceans Management program since shortly after the *Oceans Act* came into force in 1997. The Policy and Operational Framework for Integrated Management of Estuarine, Coastal and Marine Environments in Canada (2002)²⁹ explains that in some cases, integrated management may be achieved through co-management in areas where legislative provisions provide for the sharing of management responsibilities. The policy, which draws on the Co-Management Guide developed by the National Roundtable on the Environment and the Economy (1998), emphasizes an overall governance model that includes decisions based on shared information, agreements that outline specific responsibilities and obligations, and management systems in which governments and other relevant interests take an active part in designing, implementing and monitoring the effectiveness of plans.

Further, the Co-Management Guide developed by the National Roundtable on the Environment and the Economy (1998)³⁰ describes frameworks and possible applications for co-management, including opportunities to apply co-management in the establishment of MPAs and the development of integrated management plans for coastal and marine waters under the *Oceans Act*. This guide indicates the potential for co-management throughout the lifecycle of an integrated oceans management plan, including establishing geographical boundaries, identifying research priorities, promoting education and outreach, and monitoring implementation of plans. The positive benefit of co-management noted by the guide would be the ability to go beyond

²⁸ Office of the Prime Minister (2015). “Mandate Letter to the Minister of Fisheries, Oceans and the Canadian Coast Guard”. <https://pm.gc.ca/eng/minister-fisheries-oceans-and-canadian-coast-guard-mandate-letter>

²⁹ DFO. (2002). “Policy and Operational Framework for Integrated Management of Estuarine, Coastal and Marine Environments in Canada”. <http://dfo-mpo.gc.ca/oceans/publications/cosframework-cadresoc/page01-eng.html>

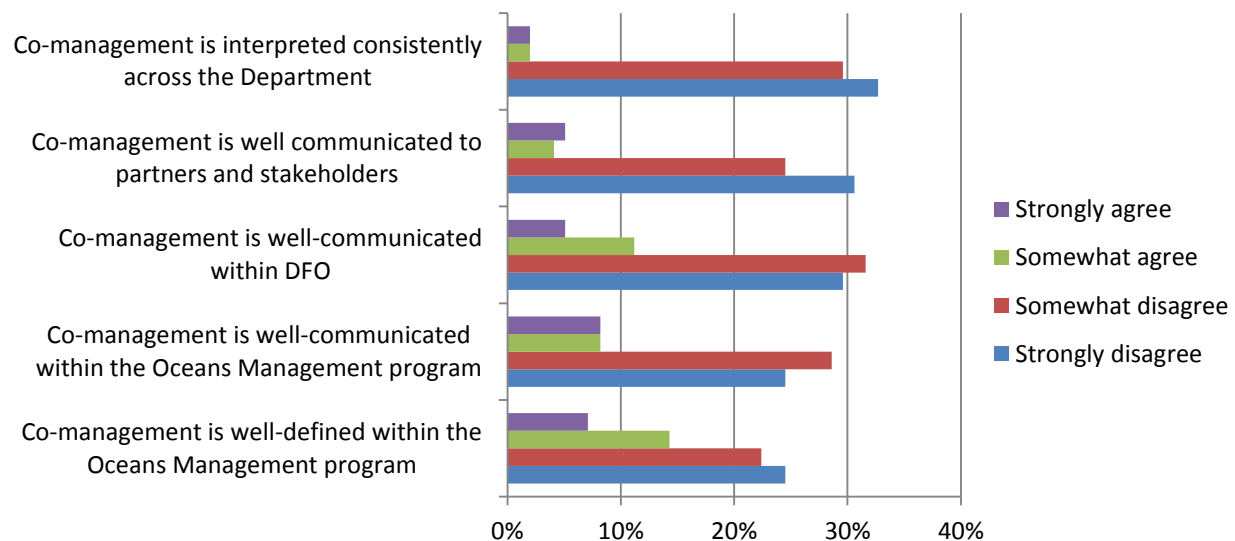
³⁰ National Roundtable on the Environment and the Economy (1998). “Sustainable Strategies for Oceans: A Co-Management Guide”. http://publications.gc.ca/collections/collection_2011/trnee-nrtee/En133-37-1998-eng.pdf

fragmented, silo approaches to regulatory management to an ecosystem-based approach that brings together interests for a more comprehensive understanding of constraints and opportunities in the coastal and marine environment.

The Oceans Management program has previously conducted co-management activities in limited contexts, such as arrangements with Indigenous groups to deliver oceans management programming in the Western Arctic through the Beaufort Sea Partnership. However, there has been little evolution or applications of co-management within the context of the 2015 Mandate Letter commitment to better co-manage the oceans. More than half of internal survey respondents said that co-management has had little to no implementation; further, while internal key informants were able to identify co-management applications related to fisheries management, there was limited acknowledgement of activities conducted by the Oceans Management program to support co-management. It appears there is little understanding of what co-management is or how it can be applied as specified by the Mandate Letter commitment.

Confusion stems from an incoherent and inconsistent understanding of co-management by internal staff and a lack of clear direction and communication of the parameters of co-management. Graph 6 shows that internal survey respondents noted co-management is neither well-defined nor well-communicated within the program, within DFO or to partners and stakeholders. Moreover, the view of internal survey respondents is that co-management is not interpreted consistently across the Department. The delay in providing a clear definition of co-management has created high expectations about how the program intends to deliver on this Mandate Letter commitment. A lack of a clearly articulated framework within which the program will pursue co-management has affected the perception of the program’s ability to effectively establish co-management models that play an active role in oceans management.

Graph 6: Interpretation of co-management by internal survey respondents



Several challenges in developing co-management within the Oceans Management program were mentioned, including questions of jurisdictional authority, devolving management, and considerable variation in the capacity of partners and stakeholders to engage in a co-management

model. Further, existing examples of co-management illustrate their context-specific nature, which will likely lead to individualized implementation of co-management in various forms, dependent on the partners involved and the extent of activities to be undertaken. These challenges require focused and dedicated attention to develop a clear understanding that can be well articulated and provide an effective foundation for co-management arrangements. While the evaluation recognizes these challenges, limited evidence of co-management in practice suggests that the Oceans Management program has not implemented co-management in any substantive way since the Mandate Letter was announced in 2015.

Despite challenges, the program has recently gained momentum toward implementing co-management activities. Document review reveals that since 2016, federal partner dialogue regarding oceans issues, including co-management, has increased in senior governance committees such as the Interdepartmental Committees on Oceans. These committees currently prioritize sharing information, but could pursue joint initiatives and more collaborative actions in the oceans. Also, the concept has been advanced in the context of Indigenous participation in conservation and management objectives. The trilateral Federal/Provincial/Indigenous governance framework for the Pacific North Coast is being explored as an option to model co-management approaches moving forward.

The impetus to advance nation-to-nation relationships has also placed more attention on the potential for Indigenous Protected Areas. In September 2017, a Statement of Intent was signed by the Nunatsiavut Inuit of Labrador and the Government of Canada³¹ that would see the governments cooperatively developing an integrated vision for the marine space in Northern Labrador. The emphasis on preserving culture, communities and the environment includes the possibility to develop MPAs and explore solutions for conservation such as Indigenous Protected Areas.³² The positive social and economic benefits of terrestrial Indigenous Protected Areas in other jurisdictions, such as Australia,³³ suggest high potential for Indigenous Protected Areas and co-management of MPAs to advance the nation-to-nation relationship.

In addition, external key informants view co-management as a significant opportunity for DFO to advance components of integrated oceans management. It was suggested that opportunities for co-management lie within reconciliation with Indigenous groups, marine spatial planning, co-development of proposals, MPA development and MEQ guidelines. To move forward, a clearly articulated framework that describes the parameters of co-management arrangements in different contexts is needed to proceed with a coordinated approach and broader application of this evolving component of the program.

³¹ Government of Canada. (2017). “Government of Canada and Nunatsiavut Launch Partnership to Protect Ocean in Northern Labrador”. https://www.canada.ca/en/parks-canada/news/2017/09/governments_of_canadaandnunatsiavutlaunchpartnershiptoprotectoce.html?wbdisable=true

³² Globe and Mail (2017): “Inuit to write marine-management plan for eastern end of Northwest Passage comes as route sees increasing traffic”. <https://beta.theglobeandmail.com/news/politics/inuit-will-write-marine-management-plan-for-eastern-end-of-northwest-passage/article36428995/?ref=http://www.theglobeandmail.com&>

³³ Standing Committee on Environment and Sustainable Development (2016). “Taking Action Today; Establishing Protected Areas for Canada’s Future”. <https://www.ourcommons.ca/DocumentViewer/en/42-1/ENVI/report-5>

4.5 Marine Protected Areas

Key Finding: The program has made significant progress in DFO’s contribution to the Government of Canada’s marine conservation targets; the target to protect five percent of the oceans and coastlines by 2017 has been surpassed. However, accelerated designation processes raised some concern that conservation objectives and due diligence processes have been compromised to meet target deadlines.

The designation of Marine Protected Areas has been the most tangible and extensively used tool within the *Oceans Act*. MPAs are an internationally recognized measure to advance conservation objectives in ocean environments. The Government of Canada defines an MPA using the International Union for Conservation of Nature definition, which is “a clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values”.³⁴

In the *Oceans Act*, MPAs are designated for the conservation and protection of one or more of the following³⁵:

- (a) Commercial and non-commercial fishery resources, including marine mammals, and their habitats;
- (b) Endangered or threatened marine species, and their habitats;
- (c) Unique habitats;
- (d) Marine areas of high biodiversity or biological productivity; and
- (e) Any other marine resource or habitat as is necessary to fulfil the mandate of the Minister.

MPAs are a significant component of meeting domestic and international marine protection commitments. The Government of Canada is a signatory to the Conservation on Biological Diversity’s Aichi Biodiversity Targets, including the commitment to protect 10% of coastal and marine waters by 2020.³⁶ The Prime Minister reaffirmed this commitment in the November 2015 Mandate Letter to the Minister of Fisheries, Oceans, and the Coast Guard and also included an interim target of achieving five percent protection by 2017.³⁷ DFO’s contribution to the marine conservation targets is supported by similar efforts from Environment and Climate Change Canada and Parks Canada Agency. On October 28th 2017, the Minister of Fisheries, Oceans and the Canadian Coast Guard and the Minister of Environment and Climate Change announced that Canada surpassed the interim target to protect five percent of the oceans and coastlines by 2017.³⁸ This is a substantial gain over the approximately one percent of Canada’s marine areas protected two years ago.

³⁴ DFO (2010). “Spotlight on Marine Protected Areas in Canada”. <http://www.dfo-mpo.gc.ca/oceans/publications/mpaspotlight-pleinsfeuxzpm/index-eng.html>

³⁵ The *Oceans Act* came into force in 1997: <http://laws-lois.justice.gc.ca/eng/acts/O-2.4/>

³⁶ Convention on Biological Diversity. “Aichi Biodiversity Targets”. <https://www.cbd.int/sp/targets/>

³⁷ Office of the Prime Minister (2015). “Mandate Letter to the Minister of Fisheries, Oceans and the Canadian Coast Guard”. <https://pm.gc.ca/eng/minister-fisheries-oceans-and-canadian-coast-guard-mandate-letter>

³⁸ DFO (2017). “Canada reaches important 5% marine conservation milestone”. https://www.canada.ca/en/fisheries-oceans/news/2017/10/canada_reaches_important5marineconservationmilestone.html

DFO's efforts are being met through the designation and establishment of MPAs and other effective area based conservation measures. So far, eleven MPAs have received designation under the *Oceans Act*; three of which have been established in the past two years. Additionally, another six Areas of Interest have been identified for potential MPA designation, including significant portions of the off-shore Pacific Ocean.

In addition to MPAs, other effective area-based conservation measures have thus far contributed 2.25% to the Government of Canada marine conservation targets.³⁹ International consultations are ongoing to establish standards for these measures. Currently, DFO has developed its own criteria, based on peer reviewed science advice from the Canadian Science Advisory Secretariat to assess conservation activities in the marine environment conducted by DFO.⁴⁰ The criteria are currently being applied to marine management measures, such as marine refuges that include protection for sensitive cold water coral concentrations and fishery closures to protect spawning areas.⁴¹ Given that oceans are governed by multiple jurisdictions, there is also opportunity for other government departments and agencies to apply other effective area based conservation measure criteria within their own authority. However, some key informants expressed reservations about the extent to which DFO's criteria will hold up to international scrutiny; noting some concern that attention on other effective area-based conservation measures was more focused on achieving the targets rather than advancing on conservation objectives. Nevertheless, most internal and external survey respondents agreed that these types of measures are an effective way to conserve biodiversity in the oceans.

The noteworthy progress being made on the marine conservation targets highlights the program's competence in advancing on concrete issues with clear goals and tangible objectives. Directed resources, targeted engagement, active senior management leadership, and high levels of internal and external collaboration with marine users and regulators have all contributed to the tangible results.

A positive outcome of the targets has been to attract more attention and participation of partners and stakeholders. At the same time, high interest has resulted in high expectations and close scrutiny of the way that DFO pursues MPAs. While historically MPA designation has taken approximately seven years, which was noted by key informants as being unnecessarily long, the timeline of the Mandate Letter commitment has resulted in an accelerated designation process.

³⁹ DFO (2017). "Canada reaches 5% marine target". <http://dfo-mpo.gc.ca/oceans/publications/mct-ocm/five-cinq-eng.html>

⁴⁰ Guidance is based on advice generated from the Canadian Science Advisory Secretariat and emerging direction from both the International Union for the Conservation of Nature Task Force and the Canadian Council on Ecological Direction. Currently, it defines five broad criteria: identifies five broad criteria for other effective area-based conservation measures:

- 1) Clearly defined geographic space;
- 2) Conservation or stock management objectives;
- 3) Presence of ecological components of interest;
- 4) Long-term duration of implementation; and
- 5) Ecological components of interest are effectively conserved.

For the Canadian Science Advisory Secretariat research, see: "Guidance on Identifying "Other Effective Area-Based Conservation Measures" in Canadian Coastal and Marine Waters". <http://publications.gc.ca/site/eng/9.810108/publication.html>

For more information on other effective area-based conservation measures, see: DFO (2017). "Operational Guidance for Identifying 'Other Effective Area-Based Conservation Measures' in Canada's Marine Environment". <http://www.dfo-mpo.gc.ca/oceans/publications/oeabcm-amcepz/index-eng.html>

⁴¹ DFO. (2017). "List of marine refuges". <http://www.dfo-mpo.gc.ca/oceans/oeabcm-amcepz/refuges/index-eng.html>

MPAs have significant impacts on the way a given area can be used, requiring extensive scientific and socioeconomic analysis to make difficult decisions regarding allowable activities. With accelerated deadlines, key informants have suggested that due diligence of the process has been compromised in favour of meeting the target. Some perceived that final decisions were being influenced by key stakeholder groups rather than being based on facts and evidence. More effort is needed to better communicate throughout the process to ensure the objectives of designation are well understood and to explain how the results of engagement activities were integrated into MPA designation decisions.

Questions of due diligence are further prompted by a perceived lack of transparency in the designation process. As an example, document review identified that socioeconomic data is incorporated early in the process to designate MPAs.⁴² The program has made recent strides to ensure a consistent and clear approach to the inclusion of socio-economic information in MPAs. In 2016, a guidance document was developed by DFO's Economics and Statistics sector to support socio-economic analysis in the MPA designation process.⁴³ Additionally, in 2017 the program published a guidance document to incorporate spatial socio-economic data into the MPA network design process. The program worked with internal DFO groups and consulted with Environment and Climate Change Canada, Parks Canada Agency and Natural Resources Canada to develop the guidance.⁴⁴ Despite what appears to be a clear and intentional process internally, some external respondents suggested socio-economic information was not accessible for their review and had limited integration into decisions to designate certain MPAs. This is particularly problematic as transparency is a key principle in reaching the marine conservation targets.⁴⁵

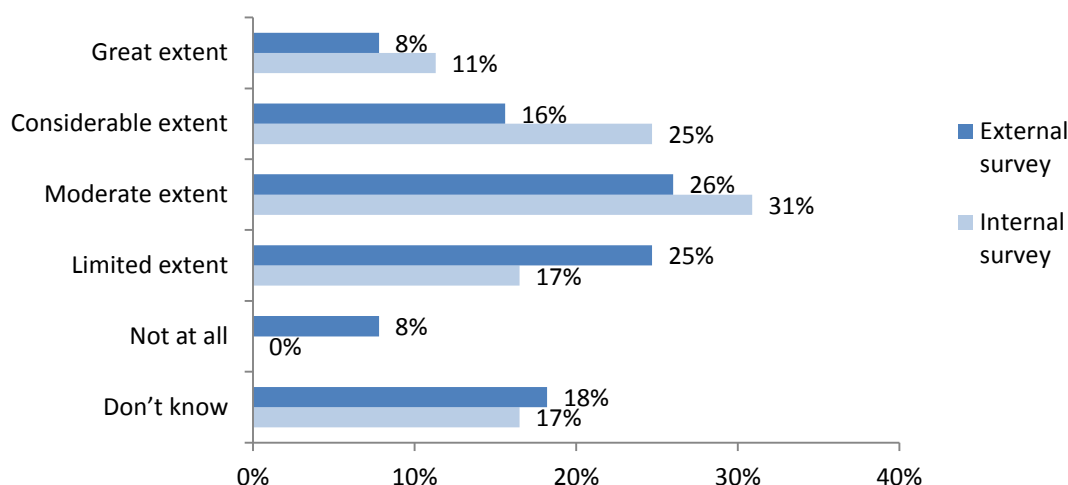
Further, key informants and survey respondents stated that in efforts to reach a quantitative target quickly, the program may be compromising conservation objectives in favour of selecting areas of low conflict where there is less resistance to designation. Graph 7 indicates that external survey respondents view the extent to which MPAs provide long-term protection of marine biodiversity, ecosystem function, and/or special natural features as limited to moderate. Internal respondents have more positive views.

⁴² DFO. "Process: Establishing and Managing MPAs under the Oceans Act". <http://www.dfo-mpo.gc.ca/oceans/mpa-zpm/process-processus-eng.html>

⁴³ DFO. (2016). "Framework for Integrating Socio-Economic Analysis in the Marine Protected Areas Designation Process".

⁴⁴ DFO. (2017). "Guidance on incorporating economic use information into marine protected area network design".

⁴⁵ DFO. (2017). "Meeting Canada's Marine Conservation Targets". <http://www.dfo-mpo.gc.ca/oceans/conservation/plan-eng.html>

Graph 7: To what extent are MPAs providing long-term protection of marine biodiversity?

Efforts are currently being made to identify areas within the context of MPA network development where human pressures are present. However, the limited number of coastal MPAs and the recent focus on establishing large off-shore areas suggests the program may not be adequately addressing high conflict coastal areas which may have a greater need for conservation measures. Nonetheless, the protection of large offshore marine areas is part of the program's strategy to reach the marine conservation targets, and they are recognized as having value for conservation, as these areas can be reference areas for monitoring natural variability and long-term change.⁴⁶

Key Finding: Some partner and stakeholder concerns related to Marine Protected Areas may be due to limited understanding of the flexibility of MPA designs, including the site-specific nature of each MPA's conservation objectives. This confusion may be exacerbated by the different approaches used by DFO administrative regions and the way the program communicates conservation objectives.

The design of any given MPA is intended to be flexible in alignment with its unique conservation objectives. As stipulated in the *Oceans Act*, regulations to designate an MPA may include zoning and prohibit certain classes of activities within the MPA. Alternatively, regulations may stipulate some activities that are allowed and that do not interfere with conservation objectives, including some that may be viewed as contrary to conservation. As an example, the use of bottom-trawling fish equipment may not compromise conservation objectives in one MPA whereas it would be prohibited in another MPA where the intent is to prevent damage to benthic layers of the protected area. This design approach has led to confusion and in some cases pushback among stakeholders. Some key informants raised concern about the lack of minimum standards and inconsistency being applied to the establishment of MPAs.

⁴⁶ DFO. (2017) "Meeting Canada's Marine Conservation Targets". <http://www.dfo-mpo.gc.ca/oceans/conservation/plan-eng.html>

In 2017, public concern was expressed regarding allowable activities in St. Anns Bank MPA and the Laurentian Channel Area of Interest (AOI) in the Atlantic Ocean.⁴⁷ Despite being in close proximity, oil and gas exploration is prohibited from St Anns Bank MPA but was proposed to be allowed in the Laurentian Channel AOI. This resulted in significant stakeholder pushback regarding adequate levels of protection in MPAs. The rationale to explain why these activities could continue without compromising conservation objectives was not well communicated to partners and stakeholders. Evaluation evidence indicated that the language used by the program is sometimes not accessible or easily understood by external audiences, particularly when it is explaining science or complex program concepts.

Part of the challenge in the above example may have also been linked to the fact that the designation of each of these MPAs was carried out by two different DFO administrative regions. The perception of program inconsistency was noted by external respondents as a particular challenge in the Atlantic, where four administrative regions (Quebec, Gulf, Maritimes, and Newfoundland and Labrador) operate in close proximity in the same oceans space.

These findings suggest that the perceptions held by external partners and stakeholders do not align with the intended activities and goals of the program. While progress is being made in the establishment of MPAs, difficulty getting key messages across is impacting relationships with partners and stakeholders. Continued challenges in communicating the results of various risk assessments, what conservation objectives intend to achieve, and the rationales behind allowable and prohibited activities, may hinder partner and stakeholder support for DFO-led MPAs. As the program intends to pursue more AOIs and MPAs, it must work diligently to provide plain-language and easily understandable information to partners and stakeholders.

Efforts to further clarify debate over protection standards are now being made. As of October 2017, the program is in the process of establishing a national advisory panel on the development of protection standards for MPAs with the intent of providing more clarity regarding protection in MPAs.⁴⁸ In addition, it should be noted that there has been recent, active effort to improve communication of program activities and keep information up-to-date on the DFO website.⁴⁹ The language is clear, understandable, and provides a good overview of the intent of marine conservation. Further enhancing awareness and education would benefit the program.

⁴⁷ Canadian Parks and Wilderness Society. (2017). “St. Anns Bank MPA achieves important milestone”. <http://cpaws.org/news/st.-anns-bank-marine-protected-area-achieves-important-milestone> and; Desmog Canada (2017). “Industry Sways Feds to allow offshore drilling in Laurentian Channel”.

<https://www.desmog.ca/2017/07/22/industry-sways-feds-allow-offshore-drilling-laurentian-channel-marine-protected-area>

⁴⁸ The Canadian Parks and Wilderness Society. (2017). “CPAWS applauds government commitment to establishing minimum standards for marine protected areas <http://cpaws.org/news/cpaws-applauds-government-commitment-to-establishing-minimum-standards-for>

⁴⁹ DFO (2017). “Protecting oceans”. <http://www.dfo-mpo.gc.ca/oceans/index-eng.html>

4.6 Monitoring and Management of Marine Protected Areas

Key Finding: Inconsistent and limited monitoring and data collection affects the program’s ability to measure the effectiveness of MPAs in achieving conservation objectives or to provide information to adaptively manage MPAs.

In the 2012 Fall Report of the Commission of the Environment and Sustainable Development, DFO faced criticism for not systematically monitoring or managing marine protected areas.⁵⁰ Inadequate monitoring limits the knowledge about the impacts of existing MPAs, which creates information gaps for future oceans management planning. Moreover, negative perceptions of the extent to which MPAs are effectively monitored may lead to reduced partner and stakeholder confidence in the ability of the program to effectively manage MPAs. Survey results suggest the issue of inadequate monitoring continues to exist: two-thirds of external survey respondents and just under half of internal respondents stated the extent to which MPAs are monitored for effective protection is from not at all to moderate.

Management plans for MPAs highlight the need for effective monitoring strategies that provide information to assess progress on conservation objectives and to make appropriate adaptive management decisions. Out of the eleven existing MPAs, seven have management plans; three have been recently designated and are not yet expected to have a completed management plan. The remaining MPA is Bowie Seamount MPA which was designated in 2008. A Memorandum of Understanding to support cooperative planning and management of the area has been signed between DFO and the Council of Haida Nations, but a management plan has yet to be completed. Information in management and monitoring plans for MPAs⁵¹ show that some ad-hoc monitoring has taken place but there is limited evidence to indicate that monitoring has contributed to the adaptive management of MPAs.

In support of monitoring, the program received funding directed toward the monitoring and management of existing MPAs.⁵² Activities funded by these initiatives produced rigorous science-based advice about the development of monitoring strategies, but evidence indicates sufficient monitoring programs have not been implemented in all MPAs. Further, monitoring that is being conducted appears to occur outside of comprehensive plans that have comparable indicators, protocols and consistent strategies for data collection. Without adequate baseline information, comparable data, and regular monitoring, it will be difficult for the Oceans Management program to assess the impact of MPAs. Annex B provides the status of management plans and monitoring reports.

Moreover, as the lead authority for *Oceans Act* MPAs, DFO is responsible for ensuring compliance with regulations and is mandated to issue fines and pursue legal action for regulatory

⁵⁰ OAG. (2012). “2012 Fall Report of the Commissioner of the Environment and Sustainable Development”. http://www.oag-bvg.gc.ca/internet/english/parl_cesd_201212_03_e_37712.html

⁵¹ Two of the reports are based on the International Union for the Conservation of Nature (IUCN) guidelines for assessing the effectiveness of a Marine Protected Area. For more information, see IUCN (2014). “How is your MPA doing? A guidebook of natural and social indicators”. <https://portals.iucn.org/library/sites/library/files/documents/paps-012.pdf>

⁵² Funded by the Health of the Oceans Initiative, DFO Science undertook several Canadian Science Advisory Secretariat research projects to determine monitoring indicators and strategies for eight pre-existing MPAs. The program further received funding under the National Conservation Plan directed toward the monitoring and management of existing MPAs.

violations. Surveillance of areas protected for marine conservation (e.g., MPAs and other marine management measures) is primarily conducted by the Conservation and Protection Directorate at DFO. In addition, the program receives support from the Canadian Coast Guard and pursues opportunities for surveillance support from other federal departments and agencies that have activities in the oceans.⁵³ The logistical challenges of patrolling large ocean areas and a possible lack of marine user awareness of regulations negatively affect both near-shore and off-shore MPAs. Since April 2017, data is being collected by the Conservation and Protection Directorate on the total hours spent conducting surveillance in MPAs and marine refuges, as well as other general activities that support compliance, such as public consultations and building community awareness about the intent of MPA regulations.

Key Finding: Enhancing public awareness of MPAs could advance monitoring activities. Opportunities exist to involve partners and stakeholders in monitoring and active management of MPAs.

Understanding and interpreting how MPA management actions influence substantive outcomes is still an evolving area of academic research. One study found that adequate staff and budget capacity were the strongest predictors of conservation impact, suggesting that as there is a global expansion of MPAs, there will need to be adequate expansion of resources to support their management.⁵⁴ Opportunities exist to leverage the interest of partners and stakeholders, and in particular Indigenous groups and coastal communities, to collaborate on MPA monitoring and management. For example, the program could advance on these aspects by taking advantage of a new Grants and Contributions Program related to oceans management.

Findings from the RIE approach suggest that agreement-seeking approaches to designating MPAs would encourage involvement and ownership of MPAs by partners and stakeholders, translating into more support for monitoring and higher levels of compliance. Further, providing timely information in plain language regarding regulations also helps users better understand the purpose of MPAs and how to better conform to the regulations. Outreach activities raise awareness of the purpose and intent of MPAs, which in turn increases support for regulations.

The program has previously collaborated with community groups to produce effective results for monitoring. The Community Aquatic Monitoring Programming in the Gulf of St. Lawrence was noted as an effective community monitoring program that supported the collection of water quality data in Northumberland Strait. In addition to advancing knowledge of biodiversity, the program empowered community groups to take ownership of the estuary. Engaging local partners and stakeholders for monitoring provides a two-fold benefit of gathering data and raising awareness about the importance and value of protected areas.

Further, opportunities exist to expand community surveillance programs, including with Indigenous organizations and coastal communities. For example, the Coastal First Nations Great Bear Initiative on the Pacific Coast is associated with an ongoing network of Coastal Guardian

⁵³ For example, see the Gully Management Plan (2008): <http://www.dfo-mpo.gc.ca/Library/333121.pdf>

⁵⁴ Gill et. al. in Nature. (2017). “Capacity shortfalls hinder the performance of marine protected areas globally”. https://www.coris.noaa.gov/activities/mpa_performance/

Watchmen. Individuals from Indigenous communities are involved in monitoring activities and advancing understanding of the cultural and natural resources of the north and central coasts of British Columbia. The program is supported by several Indigenous organisations and alliances, environmental groups and philanthropic foundations.⁵⁵ Developing similar programs would provide surveillance support and advance collaborative management objectives for the program.

High interest in the management of Canada's oceans signals the importance and value of the oceans to Canadians. Opportunities to collaboratively advance conservation objectives and work towards better oceans outcomes should be sought by the program. Collaboration improves relationships with partners and stakeholders, increases the knowledge of the oceans and the value of conservation, and allows the program to find efficiencies to dedicate resources to the holistic implementation of integrated oceans management.

5.0 Conclusions and Recommendations

5.1 Conclusions

Current and evolving uses of Canada's oceans have resulted in a more complex marine environment and a greater need for oceans management. A diverse number of ocean users and activities continue to place pressure on marine ecosystems. There is a need to work with others to protect ocean biodiversity and ecosystem functions and promote sustainable use of ocean resources. The Oceans Management program uses tools outlined in the *Oceans Act* to respond to these needs but as a result of selective priorities determined by temporary funding initiatives, there has been uneven use of all the available tools to address the needs in Canada's oceans.

Temporary funding initiatives have provided resources to advance on some components of the program, though priorities have redirected resources away from other core aspects. Implementation of integrated oceans management plans and the establishment of Marine Environmental Quality guidelines has been limited, in part due to this priority-driven funding structure. This has led to fragmented delivery of program activities and has hindered the program from making measurable progress on the broader oceans management objectives.

The Mandate Letter commitments to protect 10% of the marine environment by 2020 and better co-manage the oceans have placed significant attention and interest on the program's activities. The marine conservation targets have galvanized a whole-of-government approach and positioned the program to build relationships with other regulators, partners, and stakeholders to advance on marine management. However, concerns were expressed that accelerated designation processes to meet target deadlines may be compromising conservation objectives and due diligence process.

The program must also work within the boundaries of DFO administrative regions, which does not facilitate a bioregional approach to managing oceans. This situation presents challenges in

⁵⁵ Coastal First Nations Great Bear Initiative Coastal Stewardship Network: <https://coastalguardianwatchmen.ca/>

providing a comprehensive, national program and creates confusion for marine users who operate on broader scales that do not align with DFO regional structures.

Moving forward, the program needs to use all available tools within the *Oceans Act* to better address current and emerging issues in the oceans. As collaboration is an essential component of effective oceans management, strong governance structures are required to facilitate success and comprehensive progress on oceans issues. Active monitoring and reporting mechanisms for existing management measures, such as MPAs, are needed to illustrate results and progress on integrated oceans management.

5.2 Recommendations

Based on the findings of the evaluation, the following recommendations are being made:

Recommendation 1: It is recommended that the Assistant Deputy Minister, Aquatic Ecosystems, enhance the long-term sustainability of the program by: building upon previous planning processes; making clear linkages between Marine Protected Areas, MPA networks, Marine Environmental Quality guidelines and broader oceans planning and management; articulating realistic deliverables; and improving communication, both internally and externally, on program processes, activities, and progress supporting integrated oceans management.

Rationale: Current and evolving activities in Canada's oceans have resulted in a more complex marine environment and a greater need for oceans management. Selective priorities, largely due to an increasing trend of temporary funding, has led to unclear direction and limited use of the available tools within the *Oceans Act*. As a result, the program has been prevented from comprehensively addressing the needs in the oceans. Fragmented delivery of program activities has led to progress on only select components of the program to the detriment of broader integrated oceans management. Moreover, there has been significant planning for integrated oceans management but much less implementation. Due to a lack of actionable plans that have realistic and measurable objectives, the program's ability to demonstrate effective results has been limited. Further, to support internal and external understanding of program activities there is a need to improve communication through the use of more comprehensible and accessible language.

Recommendation 2: It is recommended that the Assistant Deputy Minister, Aquatic Ecosystems, advance data collection activities to gather baseline and ongoing information about the marine environment to support decision-making, including for marine spatial plans, Marine Environmental Quality guidelines, and Marine Protected Areas. In particular, consistent data collection and monitoring activities for MPAs are needed to: provide evidence of their effectiveness in achieving conservation objectives; support their adaptive management; and ensure compliance with their respective regulations.

Rationale: Demonstrating the impact of Marine Protected Areas on the marine environment is challenging and will take many years. However, without effective monitoring activities, the program has limited understanding of the effect of MPAs designated under the *Oceans Act*. Six of the eleven existing MPAs were designated more than 10 years ago but evidence suggests that

only ad-hoc monitoring has occurred. Inadequate data collection and monitoring activities hinder the ability of the program to demonstrate results and adaptively manage these MPAs. While factors outside of the program's control have considerable influence on the outcomes of MPAs, more progress is needed to measure the impact of MPAs on conservation objectives. Further, as the program advances activities such as marine spatial planning and the use of Marine Environmental Quality guidelines, there is an increasing need for data to support understanding of the marine environment and to assess progress resulting from the application of these management actions.

Recommendation 3: It is recommended that the Assistant Deputy Minister, Aquatic Ecosystems, examine the constraints that DFO administrative regions place on the program's ability to advance an ecosystem-based approach to oceans management by exploring options that would facilitate decision-making based on marine bioregions.

Rationale: Recent progress has been made with interdepartmental and interjurisdictional collaboration and communication through the renewal of senior management committees. These committees have advanced discussion on the oceans file at the federal and provincial levels, resulting in platforms that could be used to take a whole-of-Government approach to making decisions in the oceans. To further advance on effective oceans management, there is a need to explore opportunities to improve the program's ability to make decisions on a bioregional basis. The current DFO administrative regions divide the ocean space into areas that do not align with the marine bioregions, which impedes an ecosystem-based approach to oceans management. DFO administrative regions have different approaches to oceans management, despite close proximity, which results in inconsistencies and inefficiencies in program delivery. This further leads to challenges when making decisions and conducting activities in support of ecosystem-based oceans management. In addition, regional committees for oceans management should also be structured to support decision-making based on marine bioregions. Improving governance to support an ecosystem-based approach to oceans management will allow the program to be better positioned to address issues in Canada's oceans.

6.0 Management Action Plan

RECOMMENDATION 1

Recommendation 1: It is recommended that the Assistant Deputy Minister, Aquatic Ecosystems, enhance the long-term sustainability of the program by: building upon previous planning processes; making clear linkages between Marine Protected Areas, MPA networks, Marine Environmental Quality guidelines and broader oceans planning and management; articulating realistic deliverables; and improving communication, both internally and externally, on program processes, activities, and progress supporting integrated oceans management.

Rationale: Current and evolving activities in Canada’s oceans have resulted in a more complex marine environment and a greater need for oceans management. Selective priorities, largely due to an increasing trend of temporary funding, has led to unclear direction and limited use of the available tools within the *Oceans Act*. As a result, the program has been prevented from comprehensively addressing the needs in the oceans. Fragmented delivery of program activities has led to progress on only select components of the program to the detriment of broader integrated oceans management. Moreover, there has been significant planning for integrated oceans management but much less implementation. Due to a lack of actionable plans that have realistic and measurable objectives, the programs ability to demonstrate effective results has been limited. Further, to support internal and external understanding of program activities there is a need to improve communication through the use of more comprehensible and accessible language.

STRATEGY

As the DFO lead program on integrated management, the Oceans Management Program will pursue marine spatial planning in order to better coordinate its program activities with those of other programs, departments and agencies within the broader objectives and principles of the *Oceans Act*.

Marine spatial planning considers current and future marine activities within a marine area and assesses their individual and cumulative effects to inform decisions on use of ocean space to meet environmental, economic and social objectives. As an integrated ecosystem based approach, marine spatial planning can accelerate identifying and overcoming knowledge gaps associated with the management of activities in the marine environment and their individual and/or cumulative effects on ecosystems and other economic values. Information on marine uses is collected, analysed and disseminated through geographic spatial data and tools which supports decision making.

Planning will be done through joint Federal/Provincial/Territorial and Indigenous governance at a bioregional level. This will bring together and leverage knowledge and data to develop a collective understanding of a marine bioregion and to support planning for future use. An output of this process will be interactive marine atlases that identify the location of current human activities, significant marine

species and critical or unique habitats that can inform impact assessments of project proposals, regional marine spatial plans and management measures to inform regulatory authorities in the marine environment and protect biodiversity.

This approach will provide additional benefits through:

- Further integrating disparate planning efforts, including their data sets to form a holistic assessment of the marine environment;
- Providing direction as to where to apply conservation and/or other management measures and which *Oceans Act* or other legislative or regulatory tools are the best measure to put in place to address the objectives of this planning area;
- Integrating partner and stakeholder information into commonly used geospatial platforms; and,
- Providing a national approach to program development and implementation and increased transparency and certainty to marine users and regulators.

MANAGEMENT ACTIONS	DUE DATE (BY END OF MONTH)	STATUS UPDATE: COMPLETED / ON TARGET / REASON FOR CHANGE IN DUE DATE	OUTPUT
The Assistant Deputy Minister, Aquatic Ecosystems, will seek funding to stabilize program capacity to lead integrated oceans management activities.	March 2019		
The Assistant Deputy Minister, Aquatic Ecosystems, will establish and/or enhance national and bioregional governance structures to advance integrated oceans management with Federal, Provincial, Territorial and Indigenous partners and to improve governance effectiveness relating to roles, responsibilities and accountabilities.	March 2020		

<p>The Assistant Deputy Minister, Aquatic Ecosystems, will disseminate communication products to foster improved understanding of how activities contribute to Oceans Program’s goals and to increase transparency and accessibility to oceans data.</p>	<p>March 2020</p>		
<p>The Assistant Deputy Minister, Aquatic Ecosystems, will articulate realistic deliverables by using a risk based approach to select priority issues of concern, identify best fit management approaches and implement management tools within the authority of the <i>Oceans Act</i>.</p>	<p>March 2021</p>		
<p>RECOMMENDATION 2</p>			
<p>Recommendation 2: It is recommended that the Assistant Deputy Minister, Aquatic Ecosystems, advance data collection activities to gather baseline and ongoing information about the marine environment to support decision-making, including for marine spatial plans, Marine Environmental Quality guidelines, and Marine Protected Areas. In particular, consistent data collection and monitoring activities for MPAs are needed to: provide evidence of their effectiveness in achieving conservation objectives; support their adaptive management; and ensure compliance with their respective regulations.</p> <p>Rationale: Demonstrating the impact of Marine Protected Areas on the marine environment is challenging and will take many years. However, without effective monitoring activities, the program has limited understanding of the effect of MPAs designated under the Oceans Act. Six of the eleven existing MPAs were designated more than 10 years ago but evidence suggests that only ad-hoc monitoring has occurred. Inadequate data collection and monitoring activities hinder the ability of the program to demonstrate results and adaptively manage these MPAs. While factors outside of the program’s control have considerable influence on the outcomes of MPAs, more progress is needed to measure the impact of MPAs on conservation objectives. Further, as the program advances activities such as marine spatial planning and the use of Marine Environmental Quality guidelines, there is an increasing need for data to support understanding of the marine environment and to assess progress resulting from the application of these management actions.</p>			

STRATEGY			
<p>The Oceans Management Program relies on internal and external partners and stakeholders to have an integrated understanding of the marine environment and uses many different sources of data and knowledge to support its activities. The program aims to respond to the government-wide challenge of making data open and accessible.</p> <p>The program recognizes the need to engage partners and stakeholders in monitoring activities and will pursue:</p> <ul style="list-style-type: none"> • Increased capacity of partners and stakeholders to participate in and take ownership of monitoring activities; • Strengthened accountabilities relating to monitoring activities, both with internal and external partners; • Consistent data collection activities to support integrated oceans management objectives; and, • Enhanced access to, integration and dissemination of internal and external data sources to inform baselines, environmental assessments, and support development and tracking of oceans management measures, including MPAs. 			
MANAGEMENT ACTIONS	DUE DATE (BY END OF MONTH)	STATUS UPDATE: COMPLETED / ON TARGET / REASON FOR CHANGE IN DUE DATE	OUTPUT
<p>The Assistant Deputy Minister, Aquatic Ecosystems, will work with the Ecosystems and Oceans Science and Strategic Policy Sectors to develop a system for data collection, analysis, management and dissemination to support enhanced monitoring and decision making.</p>	<p>March 2020</p>		
RECOMMENDATION 3			
<p>Recommendation 3: It is recommended that the Assistant Deputy Minister, Aquatic Ecosystems, examine the constraints that DFO administrative regions place on the program’s ability to advance an ecosystem-based approach to oceans management by exploring options that would facilitate decision-making based on marine bioregions.</p>			

Rationale: Recent progress has been made with interdepartmental and interjurisdictional collaboration and communication through the renewal of senior management committees. These committees have advanced discussion on the oceans file at the federal and provincial levels, resulting in platforms that could be used to take a whole-of-Government approach to making decisions in the oceans. To further advance on effective oceans management, there is a need to explore opportunities to improve the program’s ability to make decisions on a bioregional basis. The current DFO administrative regions divide the ocean space into areas that do not align with the marine bioregions, which impedes an ecosystem-based approach to oceans management. DFO administrative regions have different approaches to oceans management, despite close proximity, which results in inconsistencies and inefficiencies in program delivery. This further leads to challenges when making decisions and conducting activities in support of ecosystem-based oceans management. In addition, regional committees for oceans management should also be structured to support decision-making based on marine bioregions. Improving governance to support an ecosystem-based approach to oceans management will allow the program to be better positioned to address issues in Canada’s oceans.

STRATEGY

The Program will implement a national organizational structure model it has developed that responds to the current and future needs of the Program. This will be augmented by exploring new approaches to organizational structure, including the EX cadre in all regions, to enable an integrated, ecosystem based approach to the management of Canada’s oceans in keeping with the principles of the *Oceans Act*.

MANAGEMENT ACTIONS	DUE DATE (BY END OF MONTH)	STATUS UPDATE: COMPLETED / ON TARGET / REASON FOR CHANGE IN DUE DATE	OUTPUT
The Assistant Deputy Minister, Aquatic Ecosystems, will work with Regional Director Generals and the Deputy Minister to explore processes or organizational approaches that support implementation of a bioregional model to oceans management.	December 2019		

Annex A: Evaluation Matrix

Evaluation Questions	Indicators	Document and Administrative Data Review	International Literature Review	Key Informant Interviews	Internal and/or External Survey	Rapid Impact Evaluation approach
1. Is there a continued need for the Oceans Management program?	1.1 Evidence of the importance of oceans management for Canadians.	X		X	X	
	1.2 Evidence of increased use and complexity in the marine environment.	X		X	X	X
	1.3 Evidence of international commitments.	X		X		
2. To what extent is the Oceans Management program positioned to deliver on the two Ministerial Mandate Letter commitments: a) To increase the proportion of Canada's marine and coastal areas that are protected; and b) To work with provinces, territories, Indigenous Peoples, and other stakeholders to better co-manage Canada's three oceans.	2.1 Evidence that the program is well-positioned to deliver on Fisheries and Oceans Canada's marine and coastal protected area targets. <ul style="list-style-type: none"> Evidence from documentation and key informant views on the capacity of the program to deliver on mandate commitments. Issues, gaps, and concerns in achieving targets are identified and addressed. 	X		X		
	2.2 Extent of progress towards identifying and designating marine protected areas and other effective area-based conservation measures. <ul style="list-style-type: none"> Evidence of collaboration with other DFO sectors and external groups to define, establish and implement marine protected areas and other effective area-based conservation measures, including inter-sector cooperation. 	X		X	X	
	2.3 Evidence that processes to establish marine protected areas are efficient. <ul style="list-style-type: none"> Well-defined strategies and directives guide marine protected areas establishment processes. Efficiencies are identified to improve establishment of MPAs 	X	X	X	X	X

Evaluation Questions	Indicators	Document and Administrative Data Review	International Literature Review	Key Informant Interviews	Internal and/or External Survey	Rapid Impact Evaluation approach
	2.4 Evidence of the development of guidance and directives related to defining and implementing co-management.	X	X	X	X	X
	2.5 Evidence of efforts to implement co-management initiatives. <ul style="list-style-type: none"> Issues, gaps and concerns are identified, communicated and addressed. 	X	X	X	X	X
3. To what extent is the Oceans Management program advancing on integrated oceans management and is there an effective foundation for the long-term durability of the program?	3.1 Evidence of progress towards the development and implementation of planning initiatives for the management of the marine environment.	X	X	X	X	
	3.2 Evidence of the appropriate use of tools available within the <i>Oceans Act</i> to carry out Oceans Management activities (e.g., Marine Protected Areas, Marine Environmental Quality guidelines, and role of the Minister to collaborate with others on the integrated management of oceans).	X		X	X	X
	3.3 Evidence that the program develops and shares information and knowledge products to users and other regulators of Canada's oceans to support integrated management.	X		X	X	
4. To what extent are the program's resources, strategic direction and governance structure appropriate to support the achievement of results?	4.1 Evidence that the program has the appropriate financial and human resources to deliver on the full scope of intended program activities.	X		X		
	4.2 Evidence that strategic direction and governance structures are in place.	X		X	X	
5. Could the efficiency of the Oceans Management program be improved?	5.1 No duplication or overlap exists with other programs. <ul style="list-style-type: none"> If duplication or overlap exists, steps are taken to address them. 	X		X	X	X

Evaluation Questions	Indicators	Document and Administrative Data Review	International Literature Review	Key Informant Interviews	Internal and/or External Survey	Rapid Impact Evaluation approach
	5.2 Evidence that the program engages in cross-sectoral and interdepartmental collaboration to improve efficiencies.	X		X	X	X
	5.3 Examples of best practices and lessons learned are communicated and shared amongst regions.	X	X	X	X	X

Annex B: Status of MPA Management Plans and Monitoring Programs

Name of Marine Protected Area	Date of designation	Status of Management Plans	Status of Monitoring Programs
Endeavour Hydrothermal Vent	2003	Published and intended to guide management from 2010 to 2015, and be reviewed every 5 years. More up-to-date plan not available.	No information on monitoring program. Management plan (2010-2015) indicates the development of an ecological monitoring plan as a priority activity.
Bowie Seamount	2008	Under development.	CSAS report published in 2011 recommending steps to be taken prior to putting monitoring program in place.
Musquash Estuary	2006	Management plan published in 2008 with priorities and actions from 2010 to 2015. More up-to-date plan not available. Review was completed of collaborative efforts and research activities for first 7 years of the MPA.	Monitoring framework proposed in 2011. Research and monitoring activities have, and continue to be, undertaken in the Musquash Estuary to improve understanding of ecosystem structure and function, but outside a comprehensive plan/program.
The Gully	2004	Management plan published in 2008. Review was conducted to evaluate the social and governance aspects of Gully management effectiveness, based on commitments laid out in the Gully Marine Protected Area Management Plan.	Some monitoring had taken place since the 1990s but no monitoring plan existed. Monitoring has continued outside of an approved plan, and results have been peer-reviewed and shared. A CSAS review was done of the proposed monitoring framework and strategy in 2010. Not yet fully implemented.
Basin Head	2005	Management plan published. Three successive implementation reports have been published noting progress on the implementation of the management plan.	No known monitoring plan, but implementation reports indicate some monitoring taking place outside of the approved and comprehensive plan/program. Monitoring indicators and protocols, as well as a community model to collect data are described in the management plan.
Gilbert Bay	2005	Management plan published 2007.	Active monitoring program in place for cod populations, partly based on historical monitoring in place from before the area designated as an MPA. Monitoring report published 2009.

Eastport	2006	First management plan produced in 2007. Subsequent management plan published to cover the years 2013 to 2018. Results of monitoring and science advice were used to make changes to management plan.	Science in support of monitoring the area pre-existed establishment (e.g. for lobster), and as such some monitoring is carried out. Review published in CSAS report 2011 shows appropriate indicators in place but more work needs to be done on protocols for research and techniques for analysis
Tarium Nirutait	2010	Comprehensive management plan published 2013 and replaced predecessors which were management plans targeting primarily the Beaufort Sea Beluga.	CSAS report completed (2012) providing advice on five priority indicators including protocols and strategies.
Anguniaqvia niqiqyuam	2016	Management plan not yet developed.	Monitoring plan not yet developed.
Hectate Strait	2017	Management plan not yet developed. Conservation strategy guides activities for the cold-water corals which are being protected in MPA.	Monitoring plan not yet developed.
St Anns Bank	2017	Management plan not yet developed.	Draft monitoring framework prepared and review presented in 2013 CSAS report. Report provides advice on steps needed to set up monitoring program.
Laurentian Channel	Pending final designation		

NOTE: Most of the information gathered from the program public website for existing MPAs: <http://dfo-mpo.gc.ca/oceans/mpa-zpm/index-eng.html>