

# **DFO Maritimes Region Ecosystem Based Management (EBM) Framework Workshop II: Incorporating social, cultural and governance aspects**

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## **ABSTRACT**

Bundy, A., Daly, J., Thompson, C., and Westhead, M. 2021. DFO Maritimes Region Ecosystem Based Management (EBM) Framework Workshop II: Incorporating social, cultural and governance aspects. Can. Tech. Rep. Fish. Aquat. Sci. 3440: vi + 73 p.

DFO Maritimes Region is developing a holistic Ecosystem Based Management (EBM) Framework, that encompasses ecological, economic, social/cultural and governance objectives in support of DFO's long-standing mandate to apply an ecosystem approach to fisheries and oceans management in Canada. This report provides a summary of a DFO Maritimes Region workshop that was held on 25-29 January 2021: "Ecosystem Based Management (EBM) Framework Workshop II: incorporating social, cultural and governance aspects", to further the development of the EBM Framework. This workshop was a direct 'next step' from an earlier (2019) internal DFO EBM workshop that identified the need to engage specific external expertise to further develop the Social/Cultural and Governance elements of the Maritimes EBM Framework (Daly et al., 2020). This was the first external engagement on the EBM Framework by the Department and participants included invited external social scientists and Indigenous Peoples as well as DFO staff. There was broad consensus among participants that the EBM Framework was composed of the right pillars and objectives, thereby further validating the Framework. Using Canadian legislation to guide discussions, excellent progress was made on the development of primary and secondary statements for the social/cultural and governance objectives. Discussions were rich, underscoring the importance of developing the EBM Framework and its objectives through an interdisciplinary, collaborative process. Next steps include engaging with Indigenous Peoples to incorporate Indigenous perspectives and considerations into the Framework and continued collaboration with external social science expertise to fully develop the social/cultural and governance objectives of the EBM Framework.

## RÉSUMÉ

Bundy, A., Daly, J., Thompson, C., and Westhead, M. 2021. DFO Maritimes Region Ecosystem Based Management (EBM) Framework Workshop II: Incorporating social, cultural and governance aspects. Can. Tech. Rep. Fish. Aquat. Sci. 3440: vi + 73 p.

La région des Maritimes du MPO élabore un cadre holistique de gestion écosystémique (GE) qui englobe des objectifs écologiques, économiques, socioculturels et de gouvernance. Ce cadre vient appuyer le mandat de longue date du MPO visant à appliquer une approche écosystémique de la gestion des pêches et des océans au Canada. Le présent rapport présente un résumé d'un atelier organisé par la région des Maritimes du MPO du 25 au 29 janvier 2021 et intitulé « Atelier II sur le cadre de gestion écosystémique : intégration des aspects sociaux, culturels et de gouvernance », lequel visait à poursuivre l'élaboration du cadre de GE. Cet atelier constituait la « prochaine étape » directe à la suite de la tenue d'un atelier interne de GE du MPO en 2019 et lors duquel on a cerné le besoin de mobiliser une expertise externe particulière pour élaborer davantage les éléments socioculturels et de gouvernance du cadre de GE de la région des Maritimes (Daly et coll., 2020). Il s'agissait de la première consultation externe du ministère en ce qui concerne le cadre de GE, et on comptait parmi les participants des spécialistes externes des sciences sociales et des peuples autochtones invités, ainsi que des employés du MPO. Les participants ont largement reconnu que le cadre de GE proposait les bons piliers et objectifs, ce qui a permis de le valider davantage. En s'appuyant sur la législation canadienne pour orienter les discussions, d'excellents progrès ont été réalisés dans l'élaboration d'énoncés primaires et secondaires pour les objectifs socioculturels et de gouvernance. Les discussions ont été riches, soulignant l'importance d'élaborer le cadre de GE et ses objectifs au moyen d'un processus interdisciplinaire et collaboratif. Les prochaines étapes consistent à travailler avec les peuples autochtones afin d'intégrer les perspectives et les considérations autochtones au cadre de GE et à poursuivre la collaboration avec des spécialistes externes des sciences sociales en vue d'élaborer pleinement les objectifs socioculturels et de gouvernance de ce cadre.



## INTRODUCTION

Fisheries and Oceans Canada (DFO) has a long-standing mandate to apply an ecosystem approach to fisheries and oceans management in Canada (*Oceans Act*, 1996; *Fisheries Act* 2019, Rudd et al., 2019). Under the *Oceans Act*, an ecosystem approach, integrated management and the precautionary approach are all integral to the conservation and management of the marine environment. The amended *Fisheries Act* (2019) now stipulates that the Minister may consider the application of an ecosystem approach, and provides discretion to the Minister to consider socio-economic and cultural impacts while amending or implementing limit reference points and rebuilding plans. It also states that when making a decision under the *Fisheries Act*, the Minister may consider, among other things, 'social, economic and cultural factors in the management of fisheries'. Further, DFO's Sustainable Fisheries Framework (SFF), which guides Integrated Fisheries Management Plans (IFMPs), also requires an ecosystem approach and integration of social and economic considerations into management plans (DFO, 2019b). Fisheries management planning in the DFO Maritimes Region is generally guided by both conservation objectives (productivity, biodiversity, habitat), reflective of the 2012 Maritimes Region Ecosystem Approach to Management framework (Curran et al., 2012), and social, cultural and economic objectives (culture and sustenance, and prosperity), reflective of the Aboriginal right to fish for food, social and ceremonial purposes and to create circumstances for economically prosperous fisheries (DFO Mandate<sup>1</sup>, e.g., Elver IFMP<sup>2</sup>).

In support of an ecosystem approach, DFO Maritimes Region is developing a holistic EBM Framework that encompasses ecological, social, economic and governance objectives, that is, full spectrum sustainability (Stephenson et al. 2019, Foley et al. 2020). It is envisaged as a key tool that DFO can use to support decision-making within and across sectors by providing a broad range of indicators and objectives beyond the current considerations (largely ecological and economic). Anticipated applications include the development of fisheries management plans, marine spatial planning, marine conservation network planning, and the blue economy. A consistent and structured Framework would enable transparent, evidence-based decision-making. Framework objectives would be assessed using indicators sourced from a range of information, knowledge and data to assess how well we meet objectives across all four pillars. The workshop is one step in the development of the EBM Framework.

## Background

A range of definitions and acronyms have been used for an ecosystem approach over the years, which are often used interchangeably by both domestic and international communities. The most common definitions include the following:

1. Ecosystem Approach to Fisheries Management (EAFM): includes consideration of ecosystem factors in the assessment of stock status (Link & Browman, 2014; Link et al., 2020)
2. Ecosystem Based Fisheries Management (EBFM): takes into account interrelationships among the elements of the fishery and ecological system, considers humans as an integral part of the ecosystem, accounts for environmental influences and is place-based rather than species-based (Link, 2010; Fogarty, 2014)
3. Ecosystem Based Management (EBM)/Ecosystem Approach to Management (EAM): an interdisciplinary approach that balances ecological, social and governance principles at

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<sup>1</sup> [Mandate and role \(dfo-mpo.gc.ca\)](https://www.dfo-mpo.gc.ca/mandate)

<sup>2</sup> [Elver integrated fisheries management plan \(evergreen\) - Maritimes Region \(dfo-mpo.gc.ca\)](https://www.dfo-mpo.gc.ca/evergreen)

appropriate temporal and spatial scales in a distinct geographical area to achieve sustainable resource use. EBM recognizes coupled social-ecological systems with stakeholders involved in an integrated and adaptive management process where decisions reflect societal choice (Long et al., 2015).

These three definitions represent a hierarchy of ecosystem approaches with EBM/EAM being the most holistic, inclusive and interdisciplinary. Developing and implementing EBM/EAM is a process, informed by EAFM and EBFM, that requires time, commitment, top-down institutional support, rights holder support and bottom-up stakeholder support, among other criteria (Long et al., 2015). In the Maritimes Region, an EAM Framework was developed in the early 2010s (Curran et al., 2012) that built on several years of regional and national work prior to that (Gavaris, 2009; Jamieson and O'Boyle, 2001) to develop an ecosystem approach. This EAM Framework has been used for many years by various programs to guide the development of Integrated Fisheries Management Plans, Marine Protected Area conservation objectives, and conservation planning (Daly et al. 2020). Concurrently, from 2010 to 2016, the Canadian Fisheries Research Network (CFRN), a unique collaboration of academics, fishing industry representatives, and government researchers developed a Fisheries Evaluation Framework that included four 'pillars' of sustainability – ecological, economics, social and cultural, and institutional (CFRN Framework, 2018; Stephenson et al., 2019).

More recently, there have been two initiatives in support of an ecosystem approach to fisheries at the regional and national level. In 2016, the Maritimes Region Ecosystem Based Fisheries Management (EBFM) working group was formed to support and enhance EBFM in the Maritimes Region (Bundy et al., 2017). Subsequently, in 2019, DFO established a National Ecosystem Approach to Fisheries Management (EAFM) Working Group with the objective to develop a national framework to operationalize an ecosystem approach to stock assessment, the provision of science advice and application to fisheries management decision-making. Clearly, the mandates, laws and policies that guide DFO's management of Canada's fisheries, oceans and freshwater resources continue to progress towards the application of an ecosystem approach that includes integrated management, the consideration of ecological, social, cultural and governance conditions, and the precautionary approach. These, and other sustainability-related concepts are evolving to include ecological, economic, social (including cultural) and institutional (or governance) considerations (Stephenson et al 2021).

In support of the development of an ecosystem based approach to management the Maritimes Region EBFM WG held an internal cross-sectoral workshop in December, 2019 (EBM Framework Workshop I, Daly et al., 2020) to further advance the 2012 Maritimes EAM Framework and to consider broadening its scope to include additional elements from the CFRN Framework (i.e., economic, social/cultural and governance/institutional). At that workshop, there was consensus to merge the frameworks into a new/updated DFO Maritimes Region EBM Framework (Figure 1). This included adoption of the four pillars and initial definitions for the highest-level objectives within them.

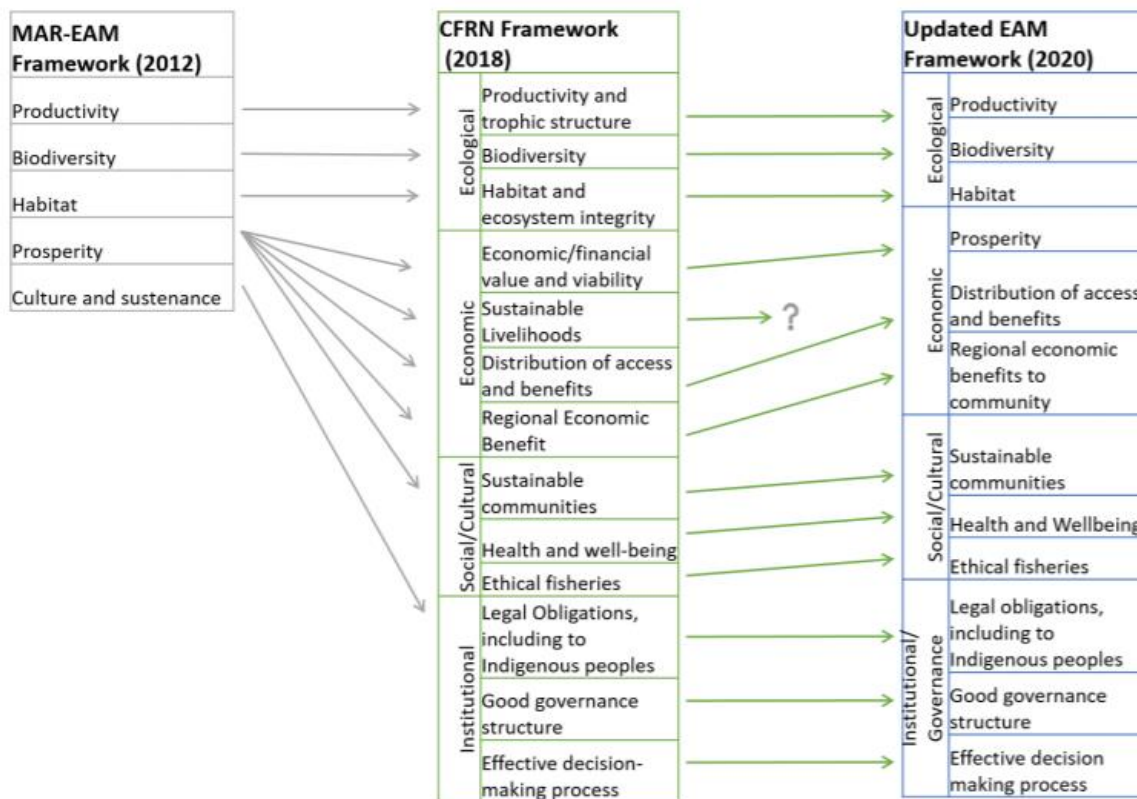


Figure 1. Evolution of the Maritimes Region EAM/EBM Framework, as articulated at the end of the December 2020 workshop (Daly et al. 2020).

At the 2019 EBM Framework Workshop I (Daly et al. 2020) it was recognized that DFO did not have sufficient knowledge or expertise to advance the Social/Cultural and Institutional/Governance pillars beyond the high-level objectives. It was thought that the appropriate expertise did exist within Canada, however, and developing partnerships with these external experts would be a way to better develop those elements of the Framework. As such, placeholders in the Framework were identified in the workshop report.

The objective of the January 2021 workshop (EBM Framework Workshop II) was a direct 'next step' from the 2019 workshop to engage specific external expertise to further develop the Social/Cultural and Institutional/Governance elements of the 2019 Maritimes EBM Framework. This 4-day workshop, held Jan 25 to 28, 2021, was fully online using MS Teams. It was the first external engagement on the Framework by the Department. Social scientists were specifically sought to participate, given the gap identified at the EBM Framework Workshop I. It was also clear that it was essential to include Indigenous participation to bring in their perspectives and contributions. Several Indigenous participants were therefore approached, through DFO's Indigenous Relations and Partnerships hub and Indigenous Affairs, to participate and/or provide perspectives during plenary sessions.

This report provides a detailed summary of the EBM Framework Workshop II. The workshop began with an afternoon plenary session to properly situate all participants and provide the appropriate context and important history of the EBM Framework for the meeting ahead. Two breakout groups were organized and tasked with further developing the Framework over the

next two days – one for Social/Cultural and one for Governance (note that we replace the term “Institutional/Governance” with the “Governance” for that specific pillar). The workshop ended with a final plenary session on the fourth day to present the breakout groups’ progress, have a final group discussion and identify next steps. The full agenda, list of workshop participants, acronyms and glossary are found in Appendices I through IV respectively. Appendix V provides a list of the policy statements provided to participants.

## INTRODUCTORY SESSION

The workshop began with an overview of the scope and objectives of the workshop by co-Chair Maxine Westhead, followed by a round of introductions among the 48 participants. Next, in order to inform workshop discussions and understand EBM from different perspectives, three experts were invited to provide perspectives on EBM: Dr. Rob Stephenson provided DFO’s context and approach to EBM; Dr. Paul Foley explored EBM using a social science lens; and Mi’kmaq Elder Dr. Albert Marshall presented a First Nations and Indigenous perspective focused on ‘Two-Eyed Seeing’. The opening session ended with two presentations by the workshop co-chairs, Dr. Alida Bundy and Maxine Westhead, on the DFO EBM Framework and the plan for the workshop respectively, followed by a discussion and opportunity for questions. Summaries of the presentations and discussion are provided below, in the order in which they were presented during the workshop.

### Workshop Scope and Objectives

**Presenter:** Maxine Westhead, Marine Planning and Conservation, Aquatic Ecosystems, Bedford Institute of Oceanography

#### Presentation Summary:

Maxine Westhead opened the workshop by outlining the scope and objectives and by explaining that this workshop is just one step in the on-going process of developing the Maritimes Region EBM Framework. The *purpose* of the workshop is to:

“further develop the Maritimes Region’s EBM Framework by exploring and discussing social (including cultural), and governance objectives that might serve DFO in advancing a holistic ecosystem approach, integrated management, marine spatial planning, and a Blue Economy Strategy, among other initiatives.”

Westhead explained that the workshop, involving both internal DFO and external participants, was intended to facilitate a collegial and interdisciplinary discussion among academic social scientists, First Nations representatives and cross-sectoral DFO employees. Westhead explained that the *scope* of the workshop was the further development of the Maritimes Region EBM Framework and reiterated that the workshop was regional in nature. She went on to explain that the basic structure of the EBM Framework is composed of four overarching pillars with corresponding candidate/draft objectives, and that the focus of this workshop was to further develop and refine two of those four pillars (social/cultural and governance).

The guiding *objectives* for participants were to: (1) Explore different perspectives on EBM, (2) Explore, discuss and expand social/cultural and governance objectives of the Maritimes EBM Framework, (3) Use Canadian policy, disciplinary expertise and sector knowledge to inform

development of candidate sub-objectives for each of the social/cultural and governance objectives and (4) Produce a consensus draft list of candidate measurable sub-objectives for the social/cultural and governance objectives. Westhead concluded by explaining the structure of the workshop, which consists of two plenaries (opening and closing) and four breakout groups: two morning breakout groups for the social/cultural pillar and two afternoon breakout groups for the governance pillar (see Agenda in Appendix I).

## **Wrestling with Interdisciplinarity: incorporating social, cultural, economic and institutional considerations into DFO business**

**Presenter:** Dr. Rob Stephenson, Population Ecology Division, Science Branch, St. Andrews Biological Station

### **Presentation Summary:**

Robert Stephenson was the Principle Investigator of the Canadian Fisheries Research Network (CFRN) which ran from 2010 to 2016. One CFRN project was the development of a framework for comprehensive fisheries evaluation that explicitly integrates ecological, economic, social (including cultural) and institutional (or governance) objectives/values. This framework aligns with DFO's mandate and role which include (1) sustainably managing fisheries and aquaculture, (2) working with fishers, coastal and Indigenous communities to enable their continued prosperity from fish and seafood, and (3) ensuring that Canada's oceans and other aquatic ecosystems are protected from negative impacts (DFO, 2021). Social-ecological system thinking, and holistic and comprehensive forms of management are emerging from domestic policies and international initiatives (e.g. UN Sustainable Development Goals). EBM is consistent with these holistic governance approaches and scholars have defined it as such. Although there are many definitions of EBM (Long et al., 2017; AORA, 2018; Smith et al., 2017), the term is evolving to align with achieving Integrated Management (IM). A simple but straightforward definition from Smith et al. (2017, p.1991) defines ecosystem based management as "balancing human activities and environmental stewardship in a multiple-use context."

The ecosystem approach to management exists on a continuum, from single-species management, which considers one species of fish, to ecosystem based management, which considers multiple aquatic activities taking place over varying spatial and temporal scales and requiring many different types of scientific advice.

Both the *Fisheries Act* and the *Oceans Act* talk explicitly about combining multiple objectives in decision-making (*Fisheries Act*, Sections 2.5, 6, 34 and 43) and implementing conservation based on an ecosystem approach (*Oceans Act*, *Preamble Paragraph 5 and 8*; *Sections 30, 31 and 32*). The *Species at Risk Act* also discusses an ecosystem approach (Section 41[3]). DFO employees are tasked to develop the plans for such goals and face the challenge of articulating and making these terms operational. In order to fulfill these mandates, DFO requires experts with diverse backgrounds, disciplines, and an interdisciplinary approach. Although the EBM Framework has advanced in the past few years, DFO is now trying to bring in the best available knowledge to this Framework. The EBM Framework is envisaged as a key tool DFO can use for implementation across sectors. If the approach to develop the EBM Framework is unified, collaborative, and interdisciplinary then DFO can continue to make progress in advancing a holistic ecosystem approach.

## A Social Science Perspective on EBM

**Presenter:** Dr. Paul Foley, Associate Professor, Memorial University Grenfell Campus

### Presentation Summary:

Paul Foley shared his perspective on EBM from his background in the social sciences and training in critical political economy analysis. Although not trained in EBM, Foley explained that there are overlaps between EBM and political economy in that both approaches have a commitment to holistic analysis, systems thinking and a reluctance to narrow reductionism. Foley was involved with the CFRN and therefore has an understanding of the CFRN Framework, which provides the structural basis to the EBM Framework. Foley focused on three primary reflections: what knowledge do we need?; who produces or holds the knowledge?; and what might we do to push boundaries of integrated management thinking further towards innovative and more inclusive knowledge production for ocean and coastal management and EBM in particular?

#### *What knowledge do we need?*

Foley looked to past integrations of social science with EBM and Integrated Management (IM) and found that these discussions have been taking place for the past 50-60 years in the literature. He found it striking that the challenges of integrating social science, social research, or human dimensions in EBM have been recognized for decades. Foley quoted multiple passages from Slocombe (1993) who wrote:

“The holistic, interdisciplinary study of ecosystems has been underway for 20 or 30 years.” (p. 619)

“If the goal is management of an entire watershed, bioregion, or ecosystem, natural-science information alone is not enough. The management unit includes people, their social and economic activities and their shared and individual beliefs. In redefining the management unit through these concepts, we must also conceptualize the system to include many more dimensions... We want better understanding of local and regional economies, cultures, societies and their points of interaction with the natural environment.” (p. 619)

“Gaining this knowledge requires using information and methods more familiar to community development, social impact assessment, and historical and ethnographic researchers and practitioners than to environmental planners and ecologists. Such approaches provide new information that can be integrated with the biophysical to provide significant theoretical perspectives with practical implications.” (p. 619)

Foley went on to say that examples of integration in EBM can vary widely from very weakly to very strongly integrated.

#### *Who produces or holds knowledge?*

When considering who produces or holds knowledge, Foley reflected on his time as part of the CFRN which brought together natural and social scientists, government, and industry. This collaboration included representatives from Canada's owner-operator fleet who were integral to

the project by informing and testing the framework. The CFRN demonstrated the importance of including civil society and having sustained working relationships.

*What might we do to push boundaries of integrated management thinking further towards innovative and more inclusive knowledge production for ocean and coastal management and EBM in particular?*

Fostering the 'right' or 'good' ways of knowing is value-laden because values are embedded in processes of decision-making. Although these are big issues to contend with, Foley ended his talk with some direct reflections on pushing the boundaries of knowledge and fostering more diverse and inclusive ways of knowing. First, pushing the boundaries past ecological and economic pillars (to social and governance) should have occurred decades ago, but it is important that the CFRN and DFO EBM Workshops are working towards this goal now. Because no one workshop can achieve decades of knowledge-integration, it is important to be creative, ambitious, but also somewhat patient when developing these objectives and indicators.

Although incorporating social science can aid in this integration, it is important not to privilege social science overwhelmingly so as not to achieve weak integration. Further, it is important to consider that social science is different from 'social research' (e.g., much of Statistics Canada-type research can be considered social research but not necessarily social science). Social science and the humanities include a multitude of disciplines, subfields, perspectives, theories and frameworks, which give meaning to data captured in social research.

Foley concluded with a reflection on credibility as a key aspect of pushing the boundaries of knowledge production. Procedurally, credibility amongst participants, including knowledge holders and managers, is critical. Second, and more challenging, is the credibility of indicators – with indicators being reference points that distill knowledge. Foley challenged the group to consider opportunities for creative forms of indicators, such as narratives and story-telling in data, and to not just focus on conclusive or unequivocal indicators. Indicators can provide a credible way to communicate different forms of knowledge and therefore should not be communicated only through letters and numbers but through creative approaches (e.g., pictures, videos), too.

## **Two-Eyed Seeing and EBM**

**Presenter:** Elder Dr. Albert Marshall, Elder of the Mi'kmaw Nation, Advisor of Unama'ki Institute of Natural Resources, and Member of the Moose Clan of the Mi'kmaw Nation

### **Presentation Summary:**

Elder Albert Marshall discussed the concept of "Etuaptmumk / Two-Eyed Seeing." Two-Eyed Seeing is a term Elder Marshall coined that is part of Indigenous Peoples' ways of thinking and embraces "learning to see from one eye with the strengths of Indigenous knowledges and ways of knowing, and from the other eye with the strengths of mainstream knowledges and ways of knowing, and to use both these eyes together, for the benefit of all" (Elder Albert Marshall in Bartlett et al., 2012; Reid et al., 2020).

Elder Marshall explained that euro-centric systems have not attempted to include traditional Indigenous knowledge, in either the past or present, which has resulted in the stifling of traditional knowledge and Indigenous world-views. Traditional knowledge has been evolving for

thousands of years, and over this time Indigenous ancestors were able to co-exist with their natural world without compromising the ecological integrity of the natural system. When Elder Marshall invokes his Two-Eyed Seeing, he sees that we have (1) exhausted the carrying capacity of the system and (2) compromised the cleansing capacity of the system, resulting in the negative effects that we see today (e.g., severe weather conditions).

From his perspective, he is concerned that the government and policy makers are not taking these issues seriously and are continuing down a path of 'business-as-usual.' Elder Marshall is therefore concerned that we are creating an imbalance in the system and that the oceans are our last hope and source of life that we depend on.

Elder Marshall believes that Two-Eyed Seeing is a wonderful concept and it must be action-oriented and amplified to enact changes. It is our inherent responsibility to work towards a more sustainable world. Elder Marshall communicated that he is concerned that because there are so few Indigenous voices, these perspectives are not being heard. Therefore, it is important to listen to these voices to achieve sustainable future defined as: a future in which the next seven generations of people can sustain themselves.

The challenges we face now, such as global warming, are not regional or national in nature and therefore require local voices to resonate globally. For example, aquatic life does not recognize jurisdictions or political boundaries and it will take collaborative efforts to protect these ecosystems and species.

Elder Marshall stated that he hopes Two-Eyed Seeing can generate interest in different ways of thinking and lead people to reflect. He argued that Indigenous voices should be listened to, because they have been able to live in harmony with nature for thousands of years. Rather than developing ways to manipulate nature, we need to learn from and work with nature. Elder Marshall stated that although these arguments sound philosophical in nature, they are practical in enacting change. If you agree that we need transformational change, then everyone should work together to apply the gifts and knowledge that they have been given to work towards a better future.

In closing, Elder Marshall said that he hopes science will respect the spirituality in nature, and not only view nature as an object but also as a subject. There is a great need for a transformative change and Elder Marshall asks that whatever people's backgrounds or cultures are, people should embrace Two-Eyed Seeing to address the challenges of our present and future. Water, air, and soil are essential to our way of life, and these should be protected and not commodified or compromised going forward.

## **Review DFO EBM Framework, Scope and Process**

**Presenter:** Dr. Alida Bundy, Ocean and Ecosystem Sciences Division, Science Branch, Bedford Institute of Oceanography

### **Presentation Summary:**

Alida Bundy reviewed the history of EBM in DFO and the Maritimes Region and some parallels with other EBM initiatives. Given that many workshop participants were external to DFO, it was important to share the history of work that led to the EBM Maritimes Workshop II. DFO has been exploring EBM nationally for over two decades, beginning with the Dunsmuir 1 workshop in



2001 (Jamieson and O'Boyle 2001), the development of bioregions and pilot integrated management initiatives in the mid-2000s and, most recently, the formation of the National Ecosystem Approach to Fisheries Management in 2019 signaling support for EAFM at the national level.

In the Maritimes Region, the Maritimes Ecosystem Approach to Management (EAM) Framework was developed in the late 2000s by the Maritimes EAM Working Group, as described by Curran et al. (2012). It was based on a pragmatic ecosystem approach to fisheries framework developed by Gavaris (2009). The Maritimes EAM Framework was applied in pilot test cases, in a regional assessment (see Floyd and Worcester 2014) and was incorporated into regional Integrated Fisheries Management Plans (IFMPs). In 2016, the Maritimes Ecosystem Based Fisheries Management (EBFM) Working Group (WG) was formed and hosted a workshop in 2017 entitled, "Incorporating an Ecosystem Approach into Science Advice for Fisheries (April 3 to 7 2017)" (Bundy and Worcester, 2017) and is on-going.

Concurrently, the Canadian Fisheries Research Network (CFRN) developed a 'Full Spectrum Sustainability' Framework in 2018 (Stephenson et al., 2018; 2019). In recognition of this latter work, and the need to update the earlier Maritimes EAM Framework, a workshop was held in December 2019 to develop a consensus EBM Framework to assess the cumulative impacts of fishing (Daly et al., 2020). The 2019 workshop resulted in a new draft EBM Framework that (1) represented a holistic view of sustainability grounded in DFO policies, mandates and laws; (2) formalized ecological, economic, social/cultural and governance objectives and provided a transparent and standard framework for decision-support; and (3) laid the groundwork for assessing the cumulative impacts on ocean ecosystems. It is intended to provide the basis for evidence-based decision-making, allow the Department to assess progress against objectives, be applicable to a range of decisions across DFO Branches, and provide a means for a consistent approach within DFO.

The Maritimes EBM Working Group was formed in January 2020 with the goal to promote EBM and further develop the EBM Framework. The new draft EBM Framework that resulted from the 2019 workshop provides the skeleton of 4 main pillars, ecological, economic, social/cultural and governance, together with candidate objectives for each (Figure 2). Further development of the Framework is required to make it operational, which involves grounding the Framework in Canadian laws, policies and international agreements to which Canada is a signatory. To this end, the EBM Working Group has reviewed over 70 documents, of which 500+ statements were identified as relevant to the EBM Framework.

<b>ECOLOGICAL</b> <ul style="list-style-type: none"> <li>– Productivity</li> <li>– Biodiversity</li> <li>– Habitat</li> </ul>	<b>SOCIAL AND CULTURAL</b> <ul style="list-style-type: none"> <li>– Sustainable communities</li> <li>– Health and well-being</li> <li>– Ethical Activities</li> <li>– Indigenous and other cultures</li> </ul>
<b>ECONOMIC</b> <ul style="list-style-type: none"> <li>– Economic viability and prosperity</li> <li>– Distribution of access and benefits</li> <li>– Regional economic benefit</li> <li>– Sustainable Livelihoods</li> </ul>	<b>GOVERNANCE</b> <ul style="list-style-type: none"> <li>– Legal obligations, including to Indigenous Peoples</li> <li>– Good governance structure</li> <li>– Effective decision-making processes</li> </ul>

Figure 2. EBM Framework Pillars and Objectives

This current workshop is part of the Maritimes Region EBM initiative, and is focused on further developing the social/cultural and governance pillars and objectives of the EBM Framework, with the support and contributions of academic social scientists and some Indigenous representatives.

## Review Plan for the workshop

**Presenter:** Maxine Westhead, Marine Planning and Conservation, Aquatic Ecosystems, Bedford Institute of Oceanography

### Presentation Summary:

Maxine Westhead concluded the presentations portion of the first plenary by explaining the structure of the workshop going forward and sharing with attendees the questions and directive that each breakout group is tasked with addressing:

- 1) We have identified candidate pillars and objectives at the December 2019 Workshop – are these the right ones?
- 2) Is there anything major missing? Are they sufficient?
- 3) Unpack candidate pillars and objectives using current Canadian Government and DFO laws and policies, and international agreements.

The purpose of the breakout groups and final plenary are to further develop the EBM Framework by exploring, discussing and unpacking the candidate objectives to inform DFO decision making in the future. The unpacking process will be informed by Canadian laws, policies and international agreements (that Canada is signatory to) to craft candidate sub-objectives, statements and indicators (Figure 3). The 500+ statements described by Bundy were reduced to a more manageable data set for the purposes of this workshop (see 'Policy Statements listed by EBM Objectives for Social/Cultural and Institutional/Governance Pillars in Appendix V).

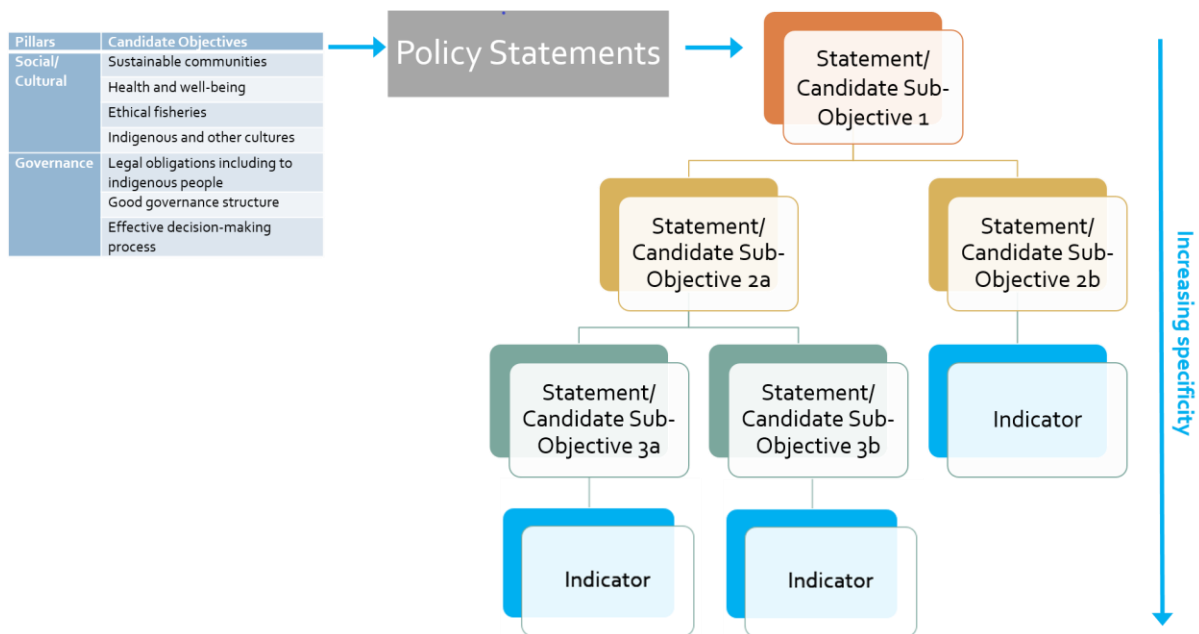


Figure 3. Process for unpacking DFO EBM Framework Objectives

Attendees were encouraged to attend the breakout group most applicable to their expertise. Westhead concluded by stating that this collective and iterative process builds on previous DFO Maritimes EBM initiatives and is not the last step in the process.

### Discussion

A key commonality among perspectives is that the push for holistic forms of governance is not new, with 20+ years of work in DFO, 30-50 years of work within Academia, and tens of thousands of years of Indigenous stewardship and coexistence with environmental systems. Paul Foley challenged the group to ask what knowledge is needed and who produces and holds that knowledge, while Elder Marshall discussed the need to embrace multiple ways of seeing to think about transformative change. Rob Stephenson proposed that the EBM Draft Framework, developed at the 2019 workshop be used as a tool to work through these questions. By design, the EBM Framework helps overcome silos which are an impediment to integrated and ecosystem approaches. We need to see problems as integrated at the onset to overcome siloed thinking, recognise the connections between questions, issues and approaches, and adopt interdisciplinary and transdisciplinary approaches.

Questions were raised about the process to further develop the EBM Framework. The EBM approach has been developed over the last 10+ years within DFO (see presentation by Rob Stephenson). This workshop is the first time that the current EBM Framework has been presented for broader input, and therefore comments, questions and challenges are welcome to help identify where the Framework does well and where it needs improvement. This workshop is the first step in a longer process to further develop the EBM Framework.

Several questions and comments were raised about language, terminology and the need for clear definitions. This is particularly important when working in interdisciplinary groups on complex issues. As legislation and policies don't always provide exact definitions and

interpretations, it will be important to recognize vague language and work to add precision, where possible, to any terminology as the EBM Framework is developed further.

Caution was expressed concerning goal or objective definition, which can be value-laden and subjective, especially with respect to social goals in comparison to ecological goals. It was suggested that bridging, through co-learning, or learning from one another and incorporating multiple ways of knowing and values, are important concepts when balancing different perspectives and avoiding 'us vs. them' thinking. This led to the question of whether multiple ways of knowing can be incorporated into the Framework. The larger vision of the Framework is to eventually support decision-making within DFO across sectors by providing a broad range of indicators and objectives beyond the current considerations (largely ecological and economic). A consistent and structured Framework would enable transparent, evidence-based decision-making. Framework objectives would be evaluated using indicators sourced from a range of information, knowledge and data to assess how well we meet objectives across all four pillars. Multiple ways of knowing can potentially be incorporated into both the objectives and indicators. However, it was also noted that these bigger picture plans need to be balanced with providing shorter-term information needs to DFO managers who are tasked with making day-to-day decisions.

Participants were interested to learn how objectives will be weighted when the Framework is implemented or whether all objectives/indicators will be weighted equally. This was followed up with the concern that we don't end up only measuring the things that are easy to measure (e.g., checking 75% of boxes but leaving 25% unchecked that happens to be really important). While these are important issues, it was noted that it is important to get the framing of the objectives right first, then the indicators will subsequently be selected/developed to address these objectives. Weighting the objectives/indicators is possible but will emerge depending on how the objectives are framed and the specific application of the Framework. If there was interest in weighting objectives in the future, there are tools (e.g., multi-criteria decision-making) that can be used, however the focus of this workshop is on developing the values/objectives rather than indicators.

This led into a discussion of pragmatism vs. idealism in EBM Framework development approach and whether the basic structure of the EBM Framework is final. The workshop co-chairs indicated that a pragmatic approach was being taken. Starting with objectives, rather than indicators, enables the EBM Framework to be constructed in a process that is informed by Canadian policy. Where policy is lacking and gaps are identified, those topics are flagged for future work. As long as the objectives have the potential to be measurable, then the question of indicators can be addressed later. The key take-away is that the structure is not written in stone, but has been developed with the input of many people (in both the CFRN and DFO) and therefore provides a good basis from which to work.

## **BREAKOUT GROUPS**

Two breakout groups each met for 4-6 hours over two days. One focused on the Social/Cultural objectives of the Framework and one on the Governance objectives. Both groups were tasked with the following three questions:

1. We have identified candidate pillars and objectives at the December 2019 Workshop – are these the right ones?
2. Is there anything major missing? Are they sufficient?

3. Unpack candidate pillars and objectives using current Canadian Government and DFO laws and policies, and international agreements.

Participants were provided with a synopsis of Canadian laws, policies and international agreements relevant to Canada and EBM to inform this process (Appendix V). For the unpacking process, participants were asked to select policy statements that relate to the candidate pillars and objectives as the basis to develop candidate sub-objectives or statements that reflect Canadian legislation. The ultimate goal is to unpack the objectives to develop measurable candidate objective/statements with associated indicators. The goal for this workshop was to identify primary and secondary candidate sub-objectives/statements for each of the Social/Cultural and Governance objectives identified in the EBM Framework (Tables 1 and 2).

## SOCIAL/CULTURAL OBJECTIVES

**Facilitators:** Melanie MacLean (DFO) and Gerald Singh (Memorial University)

**Note Takers:** Catherine Thompson (DFO) and Evan Andrews (Memorial University)

**Number of Participants:** 33 (1<sup>st</sup> session); 29 (2<sup>nd</sup> session)

### Box 1: Social/Cultural Candidate Objectives

- Sustainable communities (including the importance of the contribution of fishing and other marine activities to the well-being of dependent communities, social capital, informed citizenry and cultural heritage)
- Health and well-being (including working conditions/occupational safety and general health within a wider community context)
- Ethical fisheries (including basic human interests in welfare, safety, freedom and justice and encompassing aspects of just access, the right to food (food security and food safety)
- Indigenous and other cultures (including the effects of the environment and activities on important social, cultural and spiritual aspects of our communities and society)

### Q1. Are the candidate pillars and objectives appropriate?

Overall, the social/cultural breakout group recognized that the EBM Framework was a positive development and that it was appropriate to explore it further in this workshop (see Box 1 for descriptors of each candidate objective). However, several areas for further consideration and clarification were identified during discussions.

The group questioned whether the “Indigenous and other cultures” objective was (1) adequate to capture the myriad of rights and perspectives of Indigenous Peoples and (2) how to better inform the objective and the overall Framework with Indigenous voices, peoples, and objectives. Overall, it was concluded that Indigenous considerations and rights required more thought, and this comment applied to the whole Framework.

- Should Indigenous objectives and considerations be separated into a discrete objective or pillar? Or should Indigenous values/cultures/communities be reflected across existing pillars, as currently, but further elaborated? The latter option would result in a unified, inclusive and comprehensive Framework. The alternative (i.e., if Indigenous objectives were considered separately) would no longer be unified but was suggested by some participants to be more appropriate given the complexities of Indigenous issues.

- Multiple routes forward were raised to adequately address Indigenous values/cultures/communities such as incorporating aspects of the region’s Peace and Friendship Treaties as well as the UN Declaration on the Rights of Indigenous Peoples (UNDRIP). Given this discussion, policy statements were not identified for the Indigenous and other cultural objective at this time although many considerations were documented.
- Linkages with the Governance pillar are present and may need to be made clearer (i.e., Legal obligations)

Social objectives are cross-cutting with other objectives, especially governance objectives (e.g., the process for achieving sustainable communities, ethical fisheries, etc.), therefore it is important to review and develop the social objectives together with the ecological, economic and governance objectives. Social objectives include many cross-cutting issues that are relevant to other Government of Canada Departments (e.g., food safety). Therefore, some aspects of the Social Pillar may be captured by broader Government of Canada priorities or alternatively, at the provincial level.

Definitions and Clarification: Following from the discussion on Day 1, it was noted again that some of the terminology needs to be better defined. A few examples are provided below, and are further discussed under the objectives to which they pertain:

- Well-being needs to be defined, and then determine whether it is cross-cutting with the governance pillar.
- What is meant by ‘other cultures’ in the objective “Indigenous and other cultures”? This could include diverse cultural aspects of relevance to management including norms (i.e., rules or expectations that are socially regulated), values, rights and beliefs, places and sites, community history, language as culture, and food as culture.
- Sustainable communities: What is sustainable in a sustainable community?
- Health and well-being: Should food safety be captured or just human safety?
- Ethical Fisheries: What do we mean by ethical? Is ethical treatment of fish included in this? What about other marine activities?

#### *Q2. Is there anything major missing? Are they sufficient?*

- The scope of the Framework is intended to include multiple marine activities (not just fishing). Note that the CFRN Framework was originally developed for fisheries specifically.
- The scope of the Framework should explicitly include marine, coastal and freshwater environments.
- Indigenous values/cultures/communities should be clearly reflected across pillars.

#### *Q3. Unpack candidate pillars and objectives*

Themes for each objective were further discussed, then one (or more) overarching policy statements were selected from the policy review for each objective and secondary statements were then created (Table 1). Where a theme could not be captured in a secondary statement, some text was left for further development.

### **Sustainable communities**

Given the recommendation that the scope of the Framework includes freshwater and coastal activities and ecosystems, the “Sustainable communities” objective was broadened to include inland and freshwater environments and communities.

Terminology was discussed in relation to sustainable communities, concerning both what sustainable means and what communities we are talking about. The term “sustainability” was questioned as it can be open to different forms of interpretation (i.e., sustainability of what? or sustainability for who?). The following points were also discussed:

- Elder Albert Marshall’s concept of Two-Eyed Seeing, where decisions are made with respect to the futures of the next seven generations, embodies the concept of sustainability.
- The connection between sustainable resources as a ‘means’ to achieve sustainable communities was noted, and that sustainable resources alone is not the end point.

A key aspect of sustainability is the balancing/consideration of multiple objectives, which means assessing and making trade-offs and considering cumulative impacts. The EBM Framework will provide information to make those decisions clearer and more transparent. It can also help prioritize social objectives through clear articulation of the objectives and increased understanding of their relationships. Note that with respect to decision making and trade-offs, caution was expressed about the language of trade-offs in sustainability, which is commonly voiced as economic vs. ecological and can lead to false dichotomies.

### Developing the Objectives

Six policy statements from the *Fisheries Act*, *Oceans Act*, Integrated Aboriginal Policy Framework, the Sustainable Fisheries Framework, Small-Scale Fisheries Guidelines and UNDRIP were selected by participants to inform the Sustainable Communities Objectives (Table 1). These statements were chosen for the following reasons:

- Growth and well-being aspects of the Integrated Aboriginal Policy Framework (IAPF) statement is key to a sustainable community
- The Sustainable Fisheries Framework (SFF) statement introduces the concept of ‘common property’, which acknowledges benefits to communities beyond extractive uses, such as social benefits
- The Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries (SSF) call for community and corporate social responsibility
- The *Oceans Act* refers to economic diversification and generation of wealth for coastal communities
- The *Oceans Act* underscores the importance of community knowledge and governance cooperation (i.e. integrated management)
- The UNDRIP statement underscores that sustainable communities also include sustainable Indigenous communities, and also looks to responsibilities to future generations

With this basis, the following primary Candidate Objective/Statement was drafted to reflect the overall intent of the six policy statements: “Manage and govern (oceans and freshwater)/(aquatic) activities to (support sustainable)/(sustain) coastal and Indigenous communities (,values and practices over time across inland communities)”. Secondary candidate Objective/Statements were then drafted to focus on specific elements of the policy statements. One secondary candidate objective, with a variant, was proposed, focused on ensuring that social and cultural aspects are considered alongside economic diversification opportunities that benefit coastal communities (see Table 1 for summary). Additional candidate sub-objectives/statements remain to be developed.

### Health and well-being



The group recommended that, in addition to safety at sea, the “Health and well-being” objective should explicitly include broader aspects of well-being, such as material well-being, subjective well-being, relational well-being, community well-being, quality of life, food safety and food security. Food safety refers to concerns over disease and spoilage, for example due to biotoxins, whereas food security includes the following four dimensions: availability, access, utilization and stability (FAO, 2009). Food safety is also important in terms of getting seafood product to market, i.e., has to be approved by the Canadian Food Inspection Agency (CFIA). The group noted that several aspects of Health and well-being involve multiple agencies and therefore working with jurisdictional overlaps, with other agencies and with provinces (food safety, occupational health and safety).

These distinctions of well-being can be drawn out in sub-objectives. In doing so, we also need to consider human health and well-being and environmental health as interconnected. Therefore, the objective should also capture the mechanisms and processes that lead to well-being, such as the importance of intergenerational knowledge transfer or food security as a means to the health and well-being of communities. It was also noted that well-being is not ‘absolute’, so it can be hard to measure.

Occupational health (safety at sea):

Effective safety at sea programs can improve productivity and reduce injuries. There has been active research in this area that will help inform objectives around safety at sea. Working at sea is inherently risky, therefore risk minimization and mitigation are linked to physical safety.

Individual or community health and well-being?

It was recognized that we need to consider both individual and collective/community health and well-being, and that these may be captured in different pillars/objectives. For example, “Health and well-being” could capture ‘individual’ health while “Sustainable Communities” could include ‘community’ health. However, the group agreed that ‘health and well-being’ should include both individual health and community health. Further, individual well-being could include subjective well-being (how one is doing in relation to their neighbors), while community well-being could include intergenerational knowledge transfer as something that holds the fabric of communities together. Health and well-being also has a procedural component that may be captured in the Institutional pillar of letting communities decide or define what aspects of health and well-being are important to them.

Other points raised:

- GBA+ as a cross-cutting issue
- Physical safety aspects of health in relation to conflict and conflict resolution – need to think about culturally relevant conflict resolution procedures
- Institutional racism
- Suggestion to consider existing indicators of health and well-being, such as the Canadian Index of Wellbeing and indicators associated with the UN Sustainable Development Goal 3 (SDG 3).

## Developing the Objectives

Four policy statements were selected from the IAPF, the Small-Scale Fisheries Guidelines and the FAO (Table 1) for the following reasons:



- The SSF Guidelines (6:16) statement speaks to complexity that surrounds safety at sea issues
- The statement from the FAO speaks to broader health and well-being and connection to the health and integrity of marine ecosystems
- The IAPF statement speaks to the well-being of their communities and the relationship with seeking a greater share of the fisheries resource
- The second statement from the SSF Guidelines (5:13) highlights the connection between sustainable use of fisheries resources and food production, which is directly significant to health and well-being

One of these statements is derived from Canadian policy and the other statements come from international agreements. This highlights a potential missing element in Canadian fisheries and oceans policy of clear language regarding health and well-being.

Based on these policy statements, a primary Candidate Objective/Statement was drafted (Table 1) that reflects the need to foster health and well-being of communities through governance. Two secondary Candidate Objective/Statements further specified this, focusing on governance that ensures basic needs, standards of living, and physical welfare are being met and linking environmental health to human health (and the relationship to environmental justice), with food being recognized as a significant aspect of health and well-being. There is a need for further consideration of secondary Candidate Objective/Statements around: occupational health, conflict (including culturally relevant mechanisms for conflict resolution), racism and non-discrimination, food safety and food security.

## **Ethical Activities**

The term “Ethical Fisheries” was expanded to “Ethical Ocean Activities” to include all ocean and coastal activities. Note, however, that the term should be further expanded to be inclusive of freshwater systems. One option would be to simply use the term “Ethical Activities”.

The discussion centered on four main areas, which can be developed into candidate sub-objectives: (i) equity, including social justice; (ii) ethical aquatic activities; (iii) food security and the right to food; and (iv) Gender-based Analysis Plus (GBA+). These are each discussed below.

### **(i) Equity, including social justice**

Principle 5 from the SSF Guidelines (see Table 1) refers to equity and equality, which stimulated a discussion of the need to differentiate between equity and equality. Briefly, equality is the equal treatment of all people, whereas equity recognizes that different circumstances may require different resources and opportunities to reach an equal outcome. Equity and equality form one of the guiding principles of the SSF Guidelines with the recommendation to use “preferential treatment where required to achieve equitable outcomes, particularly for vulnerable and marginalized groups” (SSF Guidelines; Section 3.1, Guiding Principle 5). Therefore equity allows the consideration and discussion of preferential treatment for those disadvantaged. While it is unclear how specific statements that discuss preferential treatment would be included in the EBM Framework, it was recognized that equity should be an outcome.

Social justice, a key element of equity, has three dimensions, all of which can inform potential sub-objectives: recognitional justice, procedural justice and distributional justice (see Appendix IV). Recognitional justice refers to the acknowledgement of and respect for pre-existing governance arrangements as well as the distinct rights, worldviews, knowledge, needs, livelihoods, histories and cultures of different groups in decisions; Procedural justice refers to the level of participation and inclusiveness of decision making and the quality of governance processes; and Distributional justice can be defined as fairness in the distribution of benefits and harms of decisions and actions to different groups across space and time. It was suggested that equity can be considered a goal, with procedural, distributional and recognitional justice as means to achieve it.

## (ii) Ethical Activities

Ethical activities constitute a broad category including human rights, justice, etc., therefore the aspects that are reflected in Canadian and DFO policy were the focus of this objective.

Three aspects of ethical activities were discussed:

- Human rights and justice:
  - o The three dimensions of social justice (recognitional, procedural, distributional)
  - o Aspects of justice may be captured in DFO's GBA+ (see below)
- Environmental responsibility and the intrinsic value of nature; managing nature ethically
  - o Articulating processes: Responsibility to the environment and other organisms that inhabit it – articulated by elders and knowledge holders
  - o Environmental toxicology and pollution can affect marginalized groups (such as in Northern communities)
- Ethical treatment of animals
  - o An example is high-grading (i.e., discarding lower dollar value fish). This type of concern is included under the Ecological Pillar (Biodiversity Objective), but there is the ethical aspect of discarding so it can be included here to capture that dimension.
    - Example: We want to dissuade policies that promote the disposal of lower dollar value of fish.
  - o Handling fish and marine mammals ethically. The Marine Mammal regulations outline harvesting techniques and requirements related to marine mammals, which might be useful to add to the ethical handling of marine mammals <https://laws-lois.justice.gc.ca/eng/regulations/sor-93-56/index.html>

## (iii) Food security and right to food:

This brief discussion concerned whether this should be included here or under Health and Well-being. There was general support to also include this under Ethical Activities since health and well-being relate to food as healthy food, whereas Ethical Activities concern the right to food and includes the justice component.

## (iv) Gender-based Analysis Plus (GBA+)

Gender-based Analysis Plus (GBA+) is an analytical Framework that guides the assessment of how designated projects may have different positive and negative impacts on diverse groups of people or communities (Impact Assessment Agency of Canada. 2020). It recognizes that historical and current power structures (e.g., laws, policies, governments and other institutions) have shaped society and created inequalities. It was proposed that GBA+ issues could frame a separate candidate sub-objective as it applies directly to issues of distributional, recognitional and procedural fairness. However, GBA+ could also be included under distributional justice as part of the Equity Objectives (i.e., this could be a way achieve equity with respect to GBA+).

### Developing the Objectives

Four policy statements were suggested to inform the development of objectives for Ethical (Ocean) Activities. As with the policy statements selected for Health and Well-being, these were mostly drawn from International guidelines and agreements (SSF Guidelines, UNDRIP and FAO), with one statement selected from DFO's New Access Framework (Table 1). These were selected for the following reasons:

- The SSF Guidelines (Principle 15) speak directly to equity and equality and promoting justice and fair treatment
- The New Access Framework speaks to equity
- UNDRIP (Article 8.2[b]) promotes the justice dimension of Ethical Activities by stating the importance of limiting the dispossession of lands, territories and resources of Indigenous Peoples. Note that this may also be appropriate under the Governance pillar since it concerns the procedural aspect of justice.
- The statement from the FAO was also used for Health and Well-being and related to food security through the connection to the health and integrity of marine ecosystems. It also speaks to the intrinsic value of marine ecosystems rather than the economic benefits of ocean activities

From these, the following overall Candidate Objective/Statement was proposed: “All ocean and freshwater (aquatic) activities are undertaken in an ethical and just manner, including the ethical handling of fish and marine mammals”. Three further secondary Candidate Objectives/Statements were developed that focus on (i) acknowledging historic inequities and injustices in decision making to prevent future inequities, (ii) procedural, and distributional justice and equity in decisions and impacts, and (iii) gender considerations. Note that sub-objectives/statements specifically concerning “Ethical Activities” and “Food Security and Right to Food” were not developed at this stage.

### Indigenous and other cultures

Participants agreed with the importance of appropriate inclusion of Indigenous considerations in the Framework, but there was insufficient First Nations representation at the workshop to address sub-objectives concerning Indigenous Peoples for this Objective (see above). Nonetheless, there was discussion of the following:

- Canada is a signatory to UNDRIP and it should be included in the Policy Review.
- New policies will be a game changer for how these issues are considered (i.e., Bill C-15 and UNDRIP)
- Court decisions set boundaries, but the objectives included in this Framework do not need to be limited to minimums set by courts; the objectives could aim higher

- Suggestion that more time is needed to be set aside to address Indigenous aspects of the Framework overall (social and governance) as elements of this Objective may also be captured under the Governance Pillar.
- Inherent Rights of self-governance and treaty rights can be flagged for future discussions. Participants noted the difference between Aboriginal rights (including Aboriginal title) and treaty rights:
  - “Aboriginal rights” (including Aboriginal title) are the inherent rights of the Aboriginal people of Canada that emerge from prior use and historical occupation of the lands and waters of what is now known as Canada.
  - Treaty rights are negotiated rights and arise from formal agreements between European heads of state (and Canada) and Aboriginal leaders” (Harris and Millerd, 2010; Denny and Fanning, 2016)
- Aboriginal fisheries include Food, Social and Ceremonial (FSC) and commercial communal (coming out of court decisions, R. v. Sparrow, [1990]<sup>3</sup> and R v Marshall (1999)<sup>4</sup>) but there are broader interests in self-governance of fisheries.

Other cultures includes consideration of Nova Scotian coastal communities (and aquatic resource adjacent communities more broadly), French and Acadian coastal communities and fishing (aquatic activities) as a way of life.

- Entry points for ‘cultures’ can be values, norms and beliefs
- Reference to a paper on social indicators for sustainability (Hicks et al., 2016)

### Developing the Objectives

Only one policy statement, sourced from the Departmental Plan, was selected to inform the objectives for Indigenous and other cultures (Table 1). The objectives for this part of the Framework were not developed further, for the reasons noted above. However the following place markers were identified for “Other Cultures”:

- Values, norms and beliefs as they connect to people’s behavior
- Generational differences (recognize the values and beliefs that are different between generations)
- History, local memory and knowledge, and how these play a role in cultures
- Food as culture (connected to intergenerational aspects)
- Practices as culture, heritage resources, place and archaeology
- Language as culture – relevant in impact assessments

## GOVERNANCE/INSTITUTIONAL OBJECTIVES

**Facilitators:** Suzuette Soomai (DFO) and Charlie Mather (Memorial University)

**Note Takers:** Jack Daly (DFO) and Sheila Prall-Dillman (DFO)

**Number of Participants:** 24 (1<sup>st</sup> session); 19 (2<sup>nd</sup> session)

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<sup>3</sup> R. v. Sparrow, [1990] 1 S.C.R. 1075

<sup>4</sup> R. v. Marshall, [1999] 3 S.C.R. 456

**Box 2: Governance/Institutional Candidate Objectives**

- Legal obligations including to Indigenous Peoples (cultures, legitimacy, stability)
- Good governance structure (including growing interest in collaboration, inclusiveness, shared stewardship and participation in management), appropriate temporal and spatial scales, appropriate stakeholder and disciplinary involvement, adaptive management, openness, participation, transparency, accountability
- Effective decision-making process (reflecting the need for democratic, participatory, transparent, openly communicated, integrated, structured decision-making, use of best available (scientific) knowledge, recognition of coupled social-ecological systems, accounting for uncertainty and the dynamic nature of ecosystems, efficiency, flexibility, ability to address conflicts/trade-offs and cumulative effects)

**Q1. Are the candidate pillars and objectives appropriate?**

The Governance breakout group's view of the Framework was similar to that of the Social/Cultural breakout group: the structure was viewed favorably, but there is a need for greater consideration of Indigenous Peoples and their rights. Workshop participants who were previously involved in the development of the CFRN Framework stated that the Governance Pillar was developed to encompass structure, process and outcomes, and that the terminology used in objectives were developed in terms of outcomes, i.e., good governance structures = good outcomes; effective decision-making = effective outcomes. It was further suggested that the Framework needs to distinguish between laws, policies and strategies – all of which have different implications and the aspects of the Framework that are legal obligations need to be distinguished from commitments (i.e., marine conservation targets are commitments, fulfilling treaty rights is a legal obligation). Similar to the Social/Cultural breakout group, participants discussed the need to clarify terminology (e.g., what is 'effective'?).

Participants recognized an overlap in terminology used to describe the objectives of Good governance and Effective decision-making (see Box 2) and participants clarified the dimensions of each objective. The key distinction between objectives is that "Good governance" refers to structures and institutions, and "Effective decision-making" refers to the processes and results of decision making. Having objectives that capture (1) structures and (2) process was understood to be fundamental to governance considerations and this thinking was used in the development of candidate sub-objectives. In the identification of policy statements, new descriptors were identified for these objectives (e.g., subsidiarity; legitimacy; credibility) that helped clarify and bolster each objective.

Finally, a key point that came up in discussions around the Governance Pillar, but is relevant to the EBM Framework overall, is how to strike the balance between a framework that supports structural changes and one that helps guide DFO employee decision-making on shorter time scales. The participants recognized that there are structural challenges in government for dealing with multi-sectoral activities and cumulative effects. Therefore, it may be helpful to point to structural challenges (e.g., silos and differences in temporal scale of considerations), while providing guidance to DFO employees to improve current processes and fulfill government obligations to consider ecological, economic, social/cultural and governance objectives as posited by the EBM Framework.

**Some key points for the Legal obligations objective were:**

- Indigenous considerations need to be thought of more broadly and other statements included, such as from the *Constitution Act* and UNDRIP/Bill C-15, and self-governance

agreements and arrangements should be considered. Section 35 of the *Constitution Act* (1982) recognizes and affirms Aboriginal and treaty rights. Section 35 of the *Constitution Act* is referenced in both the *Fisheries Act* (see Sections 2[1], 2.3, 2.4 and 4.1[9]) and DFO policies covered in the Policy Review that was prepared for this workshop (Appendix V, Daly et al, *in prep*), including the Integrated Aboriginal Policy Framework and the DFO-CCG Reconciliation Strategy.

- Need to think about how obligations to Indigenous Peoples fit into the broader context beyond the EBM Framework
- Structurally, questions raised of whether Indigenous considerations should be cross-cutting throughout the Framework or in a separate pillar (similar concerns raised in the Social/Cultural breakout group)

### Q2. *Is there anything major missing? Are they sufficient?*

- It is unclear how commitments/targets for marine conservation fit within the Legal obligations objective
- Gaps in the good governance objective include:
  - Values: being explicit about what values are reflected in policy
  - Subsidiarity: at which level is decision-making appropriate?
  - Legitimacy/credibility: Legitimacy and credibility can come from the EBM Framework being grounded in Canadian policy and law. We should expand our understanding of credibility to also consider whether acts, policies, or the process used is deemed just by those who are impacted by it
- Ensure that aspects of the Framework are in line with EBM
  - It was suggested that the principles used to define governance objectives should be relevant for EBM. Suggestion to avoid overly abstract understandings of governance.

### Q3. *Unpack candidate pillars and objectives*

Themes for each objective were further discussed, then one (or more) overarching policy statements were selected from the policy review for each objective and secondary statements were created subsequently (Table 2). Where a theme could not be captured in a secondary statement, some text was left for further development.

## **Legal and other obligations**

The name of this objective was changed from “Legal obligations including to Indigenous people” to “Legal and other obligations” to distinguish between laws, policies and strategies and between legal obligations and commitments. For example, the Government of Canada has legal obligations under the *Fisheries Act* and treaties with First Nations, and non-binding commitments under the Convention on Biological Diversity and UN Sustainable Development Goals. It was further agreed that it should include domestic legal obligations (PIIFCAF) and international agreements (beyond treaties and constitutional rights). Bill C-15 and UNDRIP, for example, may have increased implications going forward (free, prior and informed consent).

Suggested inclusions in this objective included food security and conflict resolution, themes that are captured in the Social Pillar but are cross-cutting. Language and terminology were key again, with the need to think about terms such as ‘nation-to-nation’ and language around the Minister’s discretion in legislation. Finally, we need to think about how the obligations to Indigenous Peoples fit into the broader context beyond the purposes of the EBM Framework.



In this process, we are using existing policies, legislation and commitments to inform the development of the EBM Framework and objectives. However, it was noted that policies are not necessarily in place to fulfill the legal obligations that Canada has, therefore this should be taken into consideration, i.e., can we think beyond existing policy? This could be termed “anticipatory governance”.

### Developing the Objectives

Five statements were selected to further develop the Legal and other obligations objective (Table 2). Two statements were from the *Fisheries Act* and three were chosen from the DFO-CGC Reconciliation Strategy. All five statements were primarily focused on the fulfilling Legal obligations and Reconciliation Commitments to the Indigenous Peoples of Canada:

- Section 2.5 of the *Fisheries Act* was raised as a starting point to consider Legal obligations to Indigenous Peoples in legislation
- Section 34 of the *Fisheries Act* was suggested because it (1) says the Minister “shall” rather than “may” so it has more weight behind it, and (2) because it mentions the *Constitution Act* further bolstering it
- The two statements from the DFO-CGC Reconciliation Strategy were chosen because (1) the nation-to-nation relationship statement spoke to broader Indigenous considerations; (2) the statement on recognizing treaty rights referenced the Constitution Act and UNDRIP.

The following overall Candidate Objective/Statement was proposed based on the statements in Table 2: “Recognize and implement legal obligations and commitments, including Indigenous and treaty rights, and environmental concerns related to fisheries, oceans, aquatic habitat, and marine waterways”. Secondary statements based on this should elaborate on what types of things Canada is obliged to do. Examples could include “Ensure that Indigenous Peoples treaties & rights are accommodated”, “Ensure FSC fisheries are considered and prioritized above other fisheries”, “Ensure that Canada is living up to international agreements (e.g., SSF)”. “Ensure that licensing policies are met (e.g., owner-operator, fleet separation)” Table 2). Development of a secondary Objective/Statement related to ‘recognized self-determination’ (DFO-CGC Reconciliation Strategy) was also recommended to address the procedural aspect of achieving reconciliation. A further secondary Objective/Statement related to ensuring that conflicts are resolved in a timely manner (which crosses over with the Well-being Objective in the Social Pillar) was also proposed, although not sourced from a specific policy statement. Finally several additional themes were noted including nation-to-nation relationship, self-governance, Treaty and Constitutional Rights (Table 2).

### Good governance structure

The group was reminded that we are developing an integrated structure (Framework) to be applied across multiple activities, e.g., fisheries, aquaculture, transportation; governance that links sectoral and multi-sectoral decision-making. Integrated management (IM) is a major theme in this objective – statements from legislation give it credibility. The governance structure must reflect this and take a holistic IM approach. EBM and IM are intrinsically linked and composed of: common vision, governance structure, and information that is readily available. A common framework provides decision-makers with a common starting point.

The difference between government and governance was noted, and that governance structures are not just government structures, i.e., governance is more inclusive. Can current governance deal with the issues that come up in EBM (such as cumulative impacts)? What type of governance is needed to support EBM to deal with cumulative impacts? It was also noted that

we are not trying to change governance structures at this stage but rather achieve a common vision. However, there are structural challenges (e.g., silo structure and thinking) so it's helpful to point to those structural challenges. For example, good governance will require intra- and inter-agency collaborations and aspects of integrated management (i.e., common vision, structure, information).

The description of the Good Governance Structure Objective should include the following:  
Values at different scales and levels; Subsidiarity and Legitimacy and Credibility

The need for broad engagement was emphasised together with the need for inclusion of diverse perspectives and multiple knowledge sources (different sources and kinds of knowledge). Associated with this was the requirement for adequate resources (not just financial) for this type of initiative to function well by enabling all relevant parties to participate. Participation, democracy, etc. is also relevant under effective decision-making process (see below) and contributes to the transition from good governance to effective decision-making.

The suggestion was made that Canada needs a modern ocean policy statement that defines IM, EBM, MSP, etc. It should include key elements such as openness, participation, transparency, and accountability.

There was a recommendation to include conflict resolution mechanisms. This is a cross-cutting concern with the Social Pillar, where conflict should be addressed and people should be safe from conflict and violence, and the Institutional Pillar which provides the process for addressing conflict.

### Developing the Objectives

Four policy statements were chosen to inform the development of objectives for Good Governance Structure and correspond to the themes discussed above. One statement was from the Pathways of Effects Guidelines and three were from the *Oceans Act*:

- The statement from the Pathways of Effects Guidelines was included, because it captures the good governance component of integrated management, and directly references the *Oceans Act*, heightening its credibility
- Section 29 of the *Oceans Act* was chosen because of its referencing to the development and implementation of integrated management (similar to the Pathways of Effects Guidelines statement)
- The Preamble from the *Oceans Act* was chosen because of its reference to collaboration with a myriad of relevant groups (e.g., other Ministers, coastal communities, aboriginal organizations, etc.).
- Similarly, Section 33(1)(a) references cooperation among groups and includes "other persons and bodies, including those bodies established under land claims agreements".

The overarching first statement that was crafted from these policy statements included the key themes of collaboration, shared stewardship and recognized the appropriate temporal and spatial scales at which good governance structures are situated (Table 2).

Secondary statements developed addressed good governance components that were identified as important in the breakout group including (i) considering multiple knowledge sources, in line with Integrated Management, (ii) enforcement and make-up of structures enforceable across sectors, (iii) resource base available to facilitate a good governance structure (not necessarily monetary), (iv) mechanism to ensure intra and inter-agency collaboration, and (v) ensure that



conflicts are resolved in a timely manner (cross-cutting with both the Legal Obligations and Health and Well-being Objectives).

### **Effective decision-making process**

A question was raised why the term “effective decision-making” was used for this objective, rather than “ethical decision making”. The former was used because Canadian policy and governance aspire to ‘effective’ decision-making and ‘good’ governance structures. Decisions should be transparent and come in a democratic, timely manner, which is why this wording was used. It was agreed that the term “ethical” should be included in the descriptor (Box 2).

Several of the descriptive terms for this objective are vague and potentially unhelpful, therefore they require clear definitions. For example, transparency would suggest that information is available about what decisions were based on. Some of these terms are described in a research paper by Angel et al. (2019), which could be used as a basis for further fleshing out the definitions. For example, “predictability” does not mean that decision making is rigid, but that things will not change without consultation. To further define these terms, the suggestion was made to use the second level objective to explain what is meant by the overarching terms in the descriptors.

The group agreed that effective decision-making should be participatory, democratic, involve shared stewardship and include diverse perspectives and multiple ways of knowing. The latter would include Indigenous and local knowledge, when provided. Note that incorporating multiple ways of knowing could be a means to incorporate Two-Eyed Seeing, as outlined by Elder Marshall. When engaging with diverse perspectives, we should ensure that communities, and in particular, Indigenous Peoples, are engaged early-on in the planning and decision-making process. Decision making, as noted for good governance, should be devolved to the lowest level, inclusive of user groups that decisions have potential to impact.

The group discussed the term “Best available science” and questioned whether this was related to evidence-based decision making. Could we unpack what is included as evidence? Perhaps could use “best available knowledge”, which would be more inclusive.

It was considered important to capture ‘effective outcomes’ in this objective, which could be encapsulated as a secondary objective. It was agreed that proof of effective decision-making is in the effectiveness of decision outcomes and that decision making might be improved if we considered the effectiveness of decisions.

The overall decision-making process and how the problem is conceived is important. It was suggested that we need a guide on how decisions are made and who is responsible for these decisions. Generally accepted principles of good governance would be a way to inform this process. We should also be aware that this is about EBM and consider what is special about EBM when we consider governance.

Decision making necessarily involves trade-offs, explicitly or implicitly, and it was suggested that there should be a second statement related to trade-offs. The EBM Framework is designed to explicitly assess trade-offs against the objectives defined across the four pillars of sustainability, in a clear and consistent manner. Scenario exploration and comparison is one way to identify optimal decisions or informed political decisions, but unintended or unanticipated consequences from decision making and trade-offs also need to be explored. It was suggested that framing decision making in terms of trade-offs may not be helpful, but rather be emblematic of structural

problems. For example, trade-offs may be seen as being prevented when there is a common vision around not having 'less bad things' but rather 'some good things' and that could be a better starting point. Recommended sources for additional information on this approach are provided below<sup>5</sup>. There was not consensus on this opinion.

### Developing the Objectives

Three policy statements were suggested to inform the development of objectives for Effective Decision-Making Process. These statements were all identified from Canadian policy including the Fish and Fish Habitat Protection Program Policy Statement (FFHPP Statement), the Atlantic Fisheries Policy Review (AFPR), and the Sustainable Fisheries Framework (SFF); Policy for Managing Impacts of Fishing on Sensitive Benthic Areas (Table 2):

- The FFHPP Statement promotes sound decision-making and references the precautionary approach
- The AFPR Statement, although specific to fisheries, references that allocations will be stable and predictable, and that decisions and conflicts will be resolved through fair and transparent processes
- The SFF Statement highlights the importance of shared stewardship and states that the department will promote collaboration, participatory decision-making and shared responsibility among resource users and stakeholders.

The first overarching statement that was crafted from the policy statements identified stated the decision-making process should be structured, collaborative, transparent, inclusive, predictable and equitable. Further, it stated that the process should be able to achieve desired outcomes, using the best available knowledge, and is consistent across activities.

Secondary statements relevant for this objective included (i) assessing what data and information is considered in decision-making, (ii) ensuring an open and transparent process to demonstrate trade-offs, and (iii) ensuring that conflicts among sectors are resolved in a timely manner (cross-cutting with the other Governance Objectives).

Components of the Effective Decision-Making Process Objective were identified as needing to be further fleshed out by looking to definitions provided in the literature.

## DISCUSSION

EBM is an inherently interdisciplinary process that requires participation and engagement across disciplines, with stakeholders, and in Canada, with Indigenous Peoples. This workshop represents one step in the further development of a holistic EBM Framework that builds on existing work (Curran et al., 2012; Stephenson et al., 2018, 2019) and encompasses ecological, economic, social/cultural and governance objectives for DFO Maritimes. Development of the social/cultural and Governance Objectives of the EBM Framework was the specific focus of this workshop, with initial discussions guided by two questions: (1) Is the 2019 Framework composed of the right pillars and objectives? (2) Are these pillars and objectives sufficient and is anything major missing? There was broad consensus among participants that the EBM Framework was composed of the right pillars and objectives, thereby further validating the Framework. Responses to the second question were more complex. First and foremost, although no major gaps in the Framework were identified, there was broad consensus that the

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<sup>5</sup> <https://uwaterloo.ca/sustainability-assessment-project/people-profiles/robert-b-gibson>  
<https://www.kateraworth.com/doughnut/>

representation and incorporation of Indigenous rights and objectives in the EBM Framework requires much greater consideration through outreach and consultation with Indigenous Peoples and relevant policies and laws. Aside from this concern, participants agreed that the Framework has all of the right components, with the caveat that more thought is required to extend it to non-fishing and non-marine aquatic activities, as intended. There were also suggestions for improving descriptions, terminology, and finer grained language to ensure the Framework had credibility, legitimacy, and would be used in decision-making. Informed by, and based on, Canadian policy statements, good progress was made developing the primary and secondary Candidate Objectives/Statements for the social/cultural and governance pillars. In addition, the scope of the EBM Framework was extended to consider all aquatic environments (i.e., saltwater and freshwater), the well-being objective was expanded to consider food safety and the ethical objective was expanded to include all aquatic activities and the ethical treatment of animals.

Indigenous considerations were discussed throughout the workshop. Two main concerns were (i) that there was not sufficient First Nations representation at the workshop to inform or discuss the objectives specific to Indigenous issues; and (ii) whether Indigenous considerations should be included in existing pillars and objectives as they currently are, or whether Indigenous considerations should be a separate objective or Pillar. It was recognized that this does not need to be presented as an either/or situation; Indigenous issues are relevant to multiple objectives and Indigenous communities face unique circumstances that may be better considered through a separate pillar and objectives. It was also suggested that the EBM Framework is intended to be comprehensive and holistic and that there is a risk of isolating First Nations issues if they are grouped together in a separate pillar. Finally, it was recognized that there needs to be greater consideration of the linkages between EBM and First Nations perspectives, e.g. Etuaptmuk, Netukulimk, how EBM aligns with Indigenous perspectives and vice-versa.

Discussions during the plenary sessions and the social/cultural and governance breakout groups were rich, underscoring the importance of developing the EBM Framework and its objectives through an interdisciplinary, collaborative process. Some of the topics and themes that emerged during these discussions are outlined below. See Box 3 for a summary of main workshop achievements.

### **Emergent Themes**

- EBM implementation is an ongoing and iterative process. Introductory presentations underscored how different groups have been trying to achieve holistic management for decades, through different knowledge and disciplines, and arguably was being practised by Indigenous Peoples prior to colonialization in Canada. This workshop is a continuance of long-standing efforts to achieve more holistic forms of governance.
- Development of the EBM Framework is also an iterative process and this workshop is one step in that process.
- Developing the EBM Framework around the four pillars enables the full breadth of ecological, economic, social/cultural and governance concerns to be considered, facilitating a move from single-sector management to a more holistic and integrated approach.
- The EBM Framework will provide more comprehensive and transparent evaluation, advice and decision making that explicitly includes the four pillars, a common vision, expanding from a government to a governance-mindset, and structural changes.
- Need to consider multiple forms of knowledge and challenge ourselves and others.

- Credibility is important to the success of any framework. Part of credibility is having a common vision and terminology that everyone understands and defines in the same way. Terminology needs to be defined clearly for working across disciplines and sectors.
- Many aspects of the Framework are cross-cutting across pillars (e.g., justice, food safety, food security, Indigenous rights and governance, sustainability, high-grading). Food security, for example, was raised in three social objectives (“Health and well-being”, “Ethical activities” and “Indigenous and other cultures”). Health and well-being captured food safety and security. Ethical activities captured the justice aspect of food security, and Indigenous and other cultures captured ‘culture as food – food as culture.’ This underscores the importance of viewing the objectives as integrated and complimentary.
- EBM Framework should be applicable to fresh water and inland settings, therefore it is necessary to make sure that it is inclusive and applies equally to both marine and freshwater.
- As social, cultural and governance considerations are integrated into the EBM Framework, it is important to recognise and understand that there are differences within the various disciplines within the Social Sciences and Humanities (SSH, i.e., it is not a singular discipline. Different disciplines within the SSH approach issues from different perspectives, lens’ and paradigms. It is also important to recognise the differences between SSH and the Natural Sciences. In contrast to SSH, the natural sciences have fewer epistemological (theory of knowledge) differences. The potential for capacity building of SSH understanding within DFO through the DFO-OFI working group was noted.
- The Governance Pillar was recognized as cross-cutting across all aquatic activities and government sectors. This led to discussions on how this pillar of the Framework would be implemented given its cross-cutting nature across DFO sectors, Government of Canada departments, and across different stakeholders partaking in different aquatic activities (e.g., fishing, shipping, other ocean use). Further, when considering multiple objectives in a multiple-activity ocean and aquatic use context, participants asked to ensure that the mechanisms and processes leading to decision making feature a diversity of knowledge, where trade-offs will fall in the Framework, and whether mechanisms for evaluating trade-offs should be explicitly mentioned in the Framework.

## Next Steps

Three key next steps to progress the EBM Framework are (i) engagement with Indigenous Peoples; (ii) continued development of the candidate sub-objectives for the Social/Cultural and Governance Pillars; and (iii) application of the Framework. Initial voluntary task groups of workshop participants were formed to address (i) and (iii).

- i. In order to further develop the social/cultural and governance objectives (e.g., the health and well-being objective expanded to include relational, subjective; ethical objective to consider principles of social justice) and continue to build capacity between DFO and the social sciences (and diversity of disciplines within) participants were requested to volunteer for task groups to continue this work. Many participants volunteered and next steps include more formal formation of these task groups.
- ii. Engaging with Indigenous Peoples to incorporate Indigenous perspectives and considerations into the Framework will be a top priority moving forward.
- iii. Participants discussed the need for an application of the Framework to test its performance, evaluate strengths, weaknesses and gaps. Suggestions included retrospective or current applications to DFO programs (e.g., Species at Risk, IFMPS), a

future-oriented context that incorporates anticipatory change and testing the Framework as part of the engagement process with First Nations. There are also plans to use the Framework in the new Maritimes Lobster project led by Science and in DFO's marine spatial planning work, led by Aquatic Ecosystems.

### Box 3 - MAIN ACHIEVEMENTS

- Framework verification:
  - Consensus on EBM Framework structure (validated by external participants)
- Framework sub-objective formulated:
  - 1<sup>st</sup> statement/sub-objective identified for all but one Objective (i.e., Indigenous and other cultures)
  - 2<sup>nd</sup> statements identified for all but one Objective (i.e., Indigenous and other cultures)
- Framework objectives articulated:
  - 2 Candidate Objective name changes suggested:
    - Ethical Fisheries
      - Changed to *Ethical Ocean Activities*
    - Legal obligations including to Indigenous Peoples
      - Changed to *Legal and other obligations, including to Indigenous Peoples*
- Scope of objectives expanded:
  - All objectives should be consider all aquatic environments (i.e., saltwater and freshwater)
  - Well-being objective should be expanded from human safety to consider food safety
  - Ethical objective to be expanded to all aquatic activities and treatment of animals
- Social Science Involvement:
  - Relationships formed with external Social Science and Humanities experts who expressed interest in follow-up Framework development
  - Agreement that research should not be a part of the Framework, but rather should inform the Framework (e.g., inform establishment of Indicators)

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## TABLES

**Table 1. Social/Cultural Objectives**

Policy statements were provided to workshop participants, bold text represents statements developed in the breakout groups and discussed in the final plenary.

<u>Sustainable Communities</u>		
Policy Statements	1 <sup>st</sup> Candidate Objective/Statement	2 <sup>nd</sup> Candidate Objective/Statement
<p>“The fundamental theme of DFO’s Integrated Aboriginal Policy Framework is on fostering a respectful and mutually beneficial relationship with Aboriginal groups who are seeking a greater share of the fisheries resource, on contributing to the growth and well-being of their communities, and on providing them with a greater role in integrated aquatic resource and oceans management.” (IAPF; Intro)</p>	<p><b>Manage and govern (oceans and freshwater)/(aquatic) activities to (support sustainable)/(sustain) coastal and Indigenous communities (, values and practices over time across inland communities)</b></p>	<p><b>Ensure social and cultural aspects are consider in economic diversification opportunities that benefit coastal communities</b></p>
<p>“The fishery is a common property resource to be managed for the benefit of all Canadians, consistent with conservation objectives, the constitutional protection afforded Aboriginal and treaty rights, and the relative contributions that various uses of the resource make to Canadian society, including socio-economic benefits to communities.” (SSF; Policy for Managing Impacts of Fishing on SBAs)</p>		<p><b>Ensure coastal and Indigenous communities and their social and cultural aspects are consistent with/prioritized in economic diversification opportunities</b></p>
<p>“WHEREAS Canada recognizes that the oceans and their resources offer significant opportunities for economic diversification and the generation of wealth for the benefit for all Canadians, and in particular for coastal communities” (<i>Oceans Act</i>; Preamble)</p>		
<p>“Except as otherwise provided in this Act, when making a decision under this Act, the Minister may consider, among other things, (e) community knowledge (f) cooperation with any government of a province, and Indigenous governing body and any body – including a co-management body – established under a land claims agreement; (g) social, economic and cultural factors in the management of fisheries;</p>		



(h) the preservation or promotion of the independence of license holders in commercial inshore fisheries” ( <i>Fisheries Act</i> ; Section 2.5)		
“Social responsibility: promoting community solidarity and collective and corporate responsibility and the fostering of an environment that promotes collaboration among stakeholders should be encouraged.” (SSF Guidelines; Guiding Principle)		
"Indigenous Peoples have the right to maintain and strengthen their distinctive spiritual relationship with their traditionally owned or otherwise occupied and used lands, territories, waters and coastal seas and other resources and to uphold their responsibilities to future generations in this regard." (UNDRIP Article 25)		
<b>Health and well-being</b>		
Policy Statements	1 <sup>st</sup> Candidate Objective/Statement	2 <sup>nd</sup> Candidate Objective/Statement
“All parties should recognize the complexity that surrounds safety-at-sea issues (in inland and marine fisheries) and the multiple causes behind deficient safety. This applies to all fishing activities.” (SSF Guidelines; 6.16)	<b>Govern and manage oceans and freshwater activities (practices) to foster the health and well-being of coastal and Indigenous communities</b>	<b>Governing and managing to ensure basic needs, standards of living, and physical welfare are being met</b>
“Maintaining the health and integrity of marine ecosystems for the benefit of other uses and users including biodiversity, scientific interest, intrinsic value, trophic structure and other economic uses such as tourism and recreation.” (FAO Tech 8)		<b>Ensure environmental health in order to deliver human health</b>
“The fundamental theme of DFO’s Integrated Aboriginal Policy Framework is on fostering a respectful and mutually beneficial relationship with Aboriginal groups who are seeking a greater share of the fisheries resource, on contributing to the growth and well-being of their communities, and on providing them with a greater role in integrated aquatic resource and oceans management.” (IAPF; Intro)		<b>Sub-objective to capture: occupational health and safety, conflict (including culturally relevant mechanisms for conflict resolution), racism and non-discrimination, food safety and food security</b>
“States and all those engaged in fisheries management should adopt measures for the long-term conservation and sustainable use of fisheries resources and to secure the ecological foundation for food production.” (SSF Guidelines; 5.13)		

<u>Ethical (Ocean) Activities</u>		
Policy Statements	1 <sup>st</sup> Candidate Objective/Statement	2 <sup>nd</sup> Candidate Objective/Statement
"Equity and equality: promoting justice and fair treatment –both legally and in practice – of all people and peoples, including equal rights to the enjoyment of all human rights." (SSF Guidelines; Principle 5)	<b>All ocean and freshwater (aquatic) activities are undertaken in an ethical and just manner, including the ethical handling of fish and marine mammals</b>	<b>Recognize and acknowledge historic inequities and injustices in decision making and prevent future inequities</b>
"The fishery is a common, public resource that should be managed in a way that does not create or exacerbate excessive interpersonal or inter-regional disparities." (New Access Framework; Equity)		<b>Ensure recognitional, procedural, and distributional justice and equity in decisions and impacts AND/OR Ensure that individuals are not discriminated against</b>
"States shall provide effective mechanisms for prevention of, and redress for... Any action which has the aim or effect of dispossessing them of their lands, territories or resources" Cross cutting Managed ethically should not result in these kinds of outcomes (UNDRIP; Article 8.2[b])		<b>Gender considerations (Intersectionality, GBA+)</b>
"Maintaining the health and integrity of marine ecosystems for the benefit of other uses and users including biodiversity, scientific interest, intrinsic value, trophic structure and other economic uses such as tourism and recreation." (FAO Tech 8 Report. [p.11])		
<u>Indigenous and other cultures</u>		
Policy Statements	1 <sup>st</sup> Statement	2 <sup>nd</sup> Statement
"Ensure that Indigenous Peoples are empowered to make decisions about their communities" (Departmental Plan)	<b>THEMES RAISED FOR CONSIDERATION IN CRAFTING STATEMENTS:</b> <ul style="list-style-type: none"><li>- <i>Values, norms and beliefs as they connect to people’s behavior</i></li><li>- <i>Generational differences (recognize the values and beliefs that are different between generations)</i></li><li>- <i>History, local memory/knowledge, and how these play a role in cultures</i></li><li>- <i>Food as culture (connected to intergenerational aspects)</i></li><li>- <i>Practices as culture, heritage resources, place and archaeology</i></li></ul>	
"Except as otherwise provided in this Act, when making a decision under this Act, the Minister may consider, among other things, (g) social, economic and cultural factors in the management of fisheries;" (Fisheries Act, S.2.5)		

	<ul style="list-style-type: none"> <li>- <i>Language as culture – relevant in impact assessments</i></li> <li>- <i>Fleshing out 'Other cultures'</i></li> </ul>
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**Table 2. Governance Objectives**

Legal and other Obligations, including to Indigenous Peoples		
Policy Statements	1 <sup>st</sup> Candidate Objective/Statement	2 <sup>nd</sup> Candidate Objective/Statement
"Except as otherwise provided in this Act, when making a decision under this Act, the Minister may consider, among other things, (d) Indigenous knowledge of the Indigenous Peoples of Canada has been provided to the Minister; (f) cooperation with any government of a province, and Indigenous governing body and any body – including a co-management body – established under a land claims agreement" (Fisheries Act, S.2.5)	<b>Recognize and implement legal obligations and commitments, including Indigenous and treaty rights, and environmental concerns related to fisheries, oceans, aquatic habitat, and marine waterways.</b>	<b>Ensure that Indigenous Peoples treaties &amp; rights are accommodated.</b>
"When making decisions under this Act, the Minister shall consider any adverse effects that the decisions may have on the rights of the Indigenous Peoples of Canada recognized and affirmed by section 35 of the Constitution Act (1982)." (Fisheries Act, S.34)		<b>Ensure FSC fisheries are considered and prioritized above other fisheries.</b>
"Build renewed nation-to-nation, Inuit-Crown, and government-to-government relationships with Indigenous Peoples based on the recognition of rights, respect, cooperation, and partnership." (DFO-CGC Reconciliation Strategy)		<b>Ensure that Canada is living up to international agreements (e.g., SSF).</b>
"Recognized Self-determination: "Indigenous groups effectively manage their own fisheries and other marine assets in their territories. Indigenous groups share in fisheries, oceans, aquatic habitat, and marine waterways decision-making." (DFO-CGC Reconciliation Strategy)		<b>Indigenous groups effectively manage their own fisheries and other marine assets in their territories. Indigenous groups share in fisheries, oceans, aquatic habitat, and marine waterways decision-making.</b>
"Recognize and implement Indigenous and treaty rights related to fisheries, oceans, aquatic habitat, and marine waterways in a manner consistent with section 35 of the Constitution Act, 1982, the United Nations Declaration on the Rights of Indigenous Peoples, and the federal Principles Respecting the Government of Canada's		<b>Ensure that conflicts are resolved in a timely manner.</b>
		<b>Ensure that licensing policies are met (e.g. owner-operator, fleet separation).</b>

Relationship with Indigenous Peoples" (DFO-CGC Reconciliation Strategy) - <i>Raised because it references the Constitution Act and UNDRIP (Sheila and Alida)</i>		
<b><u>Good Governance Structures</u></b>		
Policy Statements	1 <sup>st</sup> Candidate Objective/Statement	2 <sup>nd</sup> Candidate Objective/Statement
"The Government of Canada, through the <i>Oceans Act</i> (1997), is committed to the integrated management of human activities in or affecting Canada's marine ecosystems. Integrated management is implemented through an ecosystem approach—or Ecosystem-based Management (EBM)." (Pathways of Effects Guidelines)	<b>Use collaborative, inclusive governance structures that enable shared stewardship and is applied at appropriate temporal and spatial scales.</b>	<b>Structure can consider multiple knowledge sources.</b>
"The Minister,..., shall lead and facilitate the development and implementation of plans for the integrated management of all activities or measures in or affecting estuaries, coastal waters and marine waters that form part of Canada or in which Canada has sovereign rights under international law" ( <i>Oceans Act</i> , 1996, Article 29, p. 15)		<b>Agreements/ commitments among parties/levels/sectors must be enforceable.</b>
"WHEREAS the Minister of Fisheries and Oceans, in collaboration with other ministers, boards and agencies of the Government of Canada, with provincial and territorial governments and with affected aboriginal organizations, coastal communities and other persons and bodies, including those bodies established under land claims agreements, is encouraging the development and implementation of a national strategy for the management of estuarine, coastal and marine ecosystems" ( <i>Oceans Act</i> , Preamble)		<b>Funding/resource base available to facilitate the governance structure. Appropriate regulatory structure for the governance structure.</b>
"In exercising the powers and performing the duties and functions assigned to the Minister by this Act, the Minister (a) shall cooperate with other ministers, boards and agencies of the Government of Canada, with provincial and territorial governments and with		<b>Mechanism to ensure intra/inter agency collaboration.</b> <b>Ensure that conflicts are resolved in a timely manner.</b>

affected aboriginal organizations, coastal communities and other persons and bodies, including those bodies established under land claims agreements" (Oceans Act; S. 33(1)(a))		
<b><u>Effective Decision-Making Process</u></b>		
Policy Statements	1 <sup>st</sup> Candidate Objective/Statement	2 <sup>nd</sup> Candidate Objective/Statement
Promote sound decision-making: "The Department will also be guided by the application of a precautionary approach and risk-based approach to decision-making" (FFHPP)	<b>The decision making process should be structured, collaborative, transparent, inclusive; predictable and equitable; and able to achieve desired outcomes. Consistency across activities. Best available knowledge.</b>	<b>Be able to assess what data and information was considered in decision-making.</b>
"The access and allocation of fisheries resources will be more stable and predictable, and decisions will be made and conflicts resolved through fair, transparent and rules based processes." (AFPR)		<b>Ensure open and transparent process to demonstrate trade-offs.</b>
"Shared stewardship is an important part of managing Canada's fisheries resources. As such the Department will promote collaboration, participatory decision-making and shared responsibility with resource users and other stakeholders." (SFF)		<b>Ensure that conflicts among sectors are resolved in a timely manner.</b>

## APPENDICES

### Appendix I: Workshop Agenda

DFO Maritimes Region Ecosystem Based Management (EBM) Framework Workshop II: incorporating social, cultural and governance aspects

OBJECTIVE: To further develop the Maritimes EBM Framework by exploring and discussing social (including cultural), and governance objectives (Table 1).

FORMAT: Online via Microsoft Teams (MS Teams)

DATES: January 25 – 28th, 2021. Please note that All times are **Atlantic Standard Time (AST)**

#### AGENDA:

**Monday 25th January, 1:00 - 4:30 pm:** Introductions and Overview of EBM and the EBM Framework

- ❖ Co-Chairs: Alida Bundy and Maxine Westhead
  - Opening: Workshop Scope and Objectives (5 min) - Maxine Westhead
  - Introductions (20 min) - All
  - Opening Perspectives on EBM – Moderated by Sophie Pitre-Arsenault
    - Dr. Rob Stephenson: DFO perspective of EBM (15 min)
    - Elder Albert Marshall: two eyed seeing and EBM (25 min)
    - Dr. Paul Foley: an academic social science perspective on EBM (15 min)
  - Reflections and Discussion (30 min) - All

BREAK @ 3:00 pm

RESTART @ 3:30 pm

- Review DFO EBM Framework, Scope and Process (20 min) - Alida Bundy
- Review plan for the workshop (10 min) - Maxine Westhead
- Discussion (30 min) - All

**Tuesday 26th January:** Breakout Groups\* to explore development of candidate sub-objectives for Social (including Cultural) and Governance Objectives

Social, cultural Objectives (9:00 am - 12:00 pm)

- ❖ Facilitators: Melanie MacLean, Gerald Singh; Note Takers: Catherine Thompson, Evan Andrews

Governance Objectives (2:00 - 4:00 pm)

- ❖ Facilitators: Suzuette Soomai, Charlie Mather; Note Takers: Jack Daly, Sheila Prall-Dillman

**Wednesday 27th January:** Breakout Groups (continued)\* to explore development of candidate sub-objectives for Social (including Cultural) and Governance Objectives

Social, cultural Objectives (9:00 am - 12:00 pm)

- ❖ Facilitators: Melanie MacLean, Gerald Singh; Note Takers: Catherine Thompson, Evan Andrews

Governance Objectives (2:00 - 4:00 pm)

- ❖ Facilitators: Suzuette Soomai, Charlie Mather; Note Takers: Jack Daly, Sheila Prall-Dillman

**Thursday 28th January, 1:00 pm – 4:30 pm:** Incorporate social, cultural and governance aspects into EBM Framework

- ❖ Co-Chairs: Alida Bundy and Maxine Westhead
  - Report back from breakout groups
    - Social, cultural
    - Governance
  - Discussion and synthesis - All

BREAK @ 3:00 pm

RESTART @ 3:30 pm

- Next Steps
- Closing

\* Participants are not expected to participate in all breakout groups, but those that are relevant to their expertise.



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## Appendix III. Acronyms

<b>AFPR</b>	Atlantic Fisheries Policy Review
<b>CFIA</b>	Canadian Food Inspection Agency
<b>CFRN Framework</b>	Canadian Fisheries Research Network Sustainability Framework
<b>DFO</b>	Department of Fisheries and Oceans
<b>EAM</b>	Ecosystem Approach to Management
<b>EAFM</b>	Ecosystem Approach to Fisheries Management
<b>EBM</b>	Ecosystem Based Management
<b>EBFM</b>	Ecosystem Based Fisheries Management
<b>FAO</b>	Food and Agriculture Organization of the United Nations
<b>FFHPP Statement</b>	Fish and Fish Habitat Protection Program Policy Statement
<b>FSC</b>	Food, Social and Ceremonial
<b>GBA+</b>	Gender-based Analysis Plus
<b>IAPF</b>	Integrated Aboriginal Policy Framework
<b>IFMPS</b>	Integrated Fisheries Management Plans
<b>IM</b>	Integrated Management
<b>MSP</b>	Marine Spatial Planning
<b>NAFO</b>	Northwest Atlantic Fisheries Organization
<b>OFI</b>	Ocean Frontier Institute
<b>SFF</b>	Sustainable Fisheries Framework
<b>SSF</b>	Small-Scale Fisheries
<b>SSH</b>	Social Sciences and Humanities
<b>TB</b>	Treasury Board of Canada
<b>UNDRIP</b>	UN Declaration on the Rights of Indigenous Peoples

## **Appendix IV. Glossary**

### **Accountability**

The means of explaining and enforcing responsibility. It involves rendering an account of how responsibilities have been carried out; taking corrective action and fixing any problems that have been identified; and, depending on the circumstances, accepting personal consequences if the matter is attributable to the office holder's own action or inaction (Treasury Board of Canada Secretariat, 2005, p.15).

### **Adaptive management**

A process that can improve management practices incrementally by implementing plans in ways that maximize opportunities to learn from experience (Hicks et al., 2009).

### **Agency**

The capacity and capability to make choices (Chandler, 2013).

### **Animal welfare**

The physical and mental state of an animal in relation to the conditions in which it lives and dies (OIE, 2013).

### **Animal well-being**

The biological, physical, and mental aspects of animals maintained for laboratory, zoological, or agricultural purposes (Weed and Raber, 2005).

### **Blue Economy**

A blue economy is a strategy to harness the potential of our oceans, seas, lakes, and rivers – resources that Canada is privileged to have in abundance – to make life better for all, particularly women, young people, Indigenous Peoples, and people living in developing countries. It means tapping into the latest innovations, scientific advances, and best practices while building prosperity and conserving our waters for future generations (PMO, 2018, see <https://www.dfo-mpo.gc.ca/campaign-campagne/bes-seb/index-eng.html> for further details).

The sustainable use of ocean resources for economic growth, improved livelihoods and jobs, and ocean ecosystem health (World Bank, 2017).

### **Collaboration**

The action of working together towards a common goal. Functional working relationship within and between participants in decision making whereby people work together towards common goals (Angel et al., 2019).

### **Conflict**

An active disagreement between people with opposing opinions or principles (Cambridge Dictionary: <https://dictionary.cambridge.org/dictionary/english/conflict>. Accessed March 23<sup>rd</sup>, 2021).

### **Credibility**

The quality of being trusted and believed in (Oxford University Press, 2021).

Belief and trust in the adequacy of the knowledge, evidence and arguments provided (Cash et al. 2003).

**Culture**

The learned patterns of behaviours and thought characteristics of a societal group (Harris, 1988).

**Cumulative Effects**

The combined impact of multiple pressures, both natural and anthropogenic, accumulated over both time and space (DFO, 2021).

The result from the incremental, accumulating, and/or interacting impacts of an activity and its stressors on habitats and species, when added to other past, present or potential future impacts (Hegmann et al. 1999).

Cumulative environmental effects are effects of an additive, interactive, synergistic, or irregular (surprise) nature, caused by individually minor, but collectively significant actions that accumulate over time and space” (Harriman and Noble 2008).

**Cumulative Impacts**

The impact on the environment caused by a human activity which results in an incremental impact in combination with other past, present and reasonably foreseeable future human activities (Government of Canada 2012).

In the broadest sense, cumulative impacts are the successive, incremental and combined impacts of one, or more, activities on society, the economy and the environment. Cumulative impacts result from the aggregation and interaction of impacts on a receptor and may be the product of past, present or future activities (Franks et al. 2010).

Note that the terms **Cumulative Effects** and **Cumulative Impacts** are often used interchangeably. As a rule of thumb, “effects” tend to refer to the measurable change in an ecosystem component due to one or more stressors, while the “impact” considers whether this change occurs to a large enough degree that it becomes something we care about, i.e. it changes a valued ecosystem component to a degree that is “impactful” (Noreen Kelly, DFO, pers. comm.)

**Distributional justice**

The allocation of benefits (goods) and burdens (bads) of resource-based developments and environmental laws, policies, and management actions (Bennett 2019).

**Economic Prosperity**

Economic prosperity is the state of flourishing, thriving, good fortune in regards to wealth.

**Ecosystem Approach to Fisheries Management (EAFM)****DFO:**

Incorporating environmental variables into stock assessments to improve science advice and management decisions (DFO National EAFM WG)

**Broader Scientific Community:**

Inclusion of ecosystem factors into a (typically single species) stock focus to enhance our understanding of fishery dynamics and to better inform stock-focused management decisions (Patrick and Link, 2015).

Includes consideration of ecosystem factors in the assessment of stock status (Link and Browman, 2014, Link et al., 2020).

### **Ecosystem Based Fisheries Management (EBFM)**

#### **DFO:**

Requires that fisheries management decisions consider the impact of the fishery not only on the target species, but also on non-target species, seafloor habitats, and the ecosystems of which these species are a part. Further, management decisions should take into account changes in the ecosystem which may affect the directed species, including the effects of weather, climate and interactions between target fish stocks with predators, competitors, and prey species (DFO, 2009b).

#### **Broader Scientific Community:**

Recognizes the combined physical, biological, economic, and social tradeoffs for managing the fisheries sector as an integrated system, specifically addresses competing objectives and cumulative impacts to optimize the yields of all fisheries in an ecosystem. (Patrick and Link, 2015)

Takes into account interrelationships among the elements of the fishery and ecological system, considers humans as an integral part of the ecosystem, accounts for environmental influences and is place based rather than species based. (Fogarty 2014) A holistic, place-based framework that seeks to sustain fisheries and other services that humans want and need by maintaining healthy, productive and resilient fishery systems (Levin et al., 2018; Essington et al., 2016).

### **Ecosystem Based Management (EBM)**

#### **DFO:**

Ecosystem-Based Management (EBM) is the management of human activities so that marine ecosystems, their structure (e.g. biological diversity), function (e.g. productivity) and overall environmental quality (e.g. water and habitat quality), are not compromised and are maintained at appropriate temporal and spatial scales (DFO, Canada's Ocean Strategy).

Ecosystem-based management is an adaptive approach aimed at managing human activities based on best available scientific knowledge and traditional ecological knowledge (TEK) of ecosystems to meet ecosystem objectives and achieve desired conditions. Ecosystem-based management ensures that linkages among key ecosystem components are considered when identifying, establishing, planning and managing MPAs on site-specific and network bases. (DFO, 2018a)

#### **Broader Scientific Community:**

A multi-sectored approach to management that accounts for the interdependent components of ecosystems, and the fundamental importance of ecosystem structure and functioning in providing humans with a broad range of ecosystem services (Patrick and Link, 2015).

An interdisciplinary approach that balances ecological, social and governance principles at appropriate temporal and spatial scales in a distinct geographical area to achieve sustainable resource use. Scientific knowledge and effective monitoring are used to acknowledge the connections, integrity and biodiversity within an ecosystem along with its dynamic nature and associated uncertainties. EBM recognizes coupled social ecological systems with stakeholders involved in an integrated and adaptive management process where decisions reflect societal choice (Long et al., 2015).

Balancing human activities and environmental stewardship in a multiple use context (Smith et al., 2017).

## **Ecosystem Approach (EA)**

### **DFO:**

In keeping with international advancements in integrated aquatic management, Fisheries and Oceans Canada is moving towards an ecosystem approach to management. The Department's objectives for science required for an ecosystem approach to management are as follows:

- Research should improve our knowledge of key ecosystem relationships and linkages to human activities and be broadly applicable to all departmental responsibilities.
- Monitoring and data and information management should produce ecosystem-focused products and services of value to all parts of the department.
- Scientific advice should be provided from an ecosystem perspective and be integrated across client sectors (DFO, 2020a).

### **Broader Scientific Community:**

An ecosystem approach extends traditional management by (1) taking into account the impact of an activity on all ecosystem components, not just those resources utilized by that activity, and (2) accounting for the cumulative effects of all activities impacting the ecosystem (Gavaris, 2009).

The Ecosystem Approach is intended to provide a holistic approach to managing human activities and environmental stewardship within relevant geopolitical systems..... Because the Ecosystem Approach recognizes humans as part of the ecosystem and explicitly considers trade-offs between management strategies it can engage the stakeholder community and assist with conflict resolution (ICES, 2016).

## **Effective**

As an element of governance: processes that produce the intended outcomes and can be seen to do so (Angel et al., 2019).

## **Efficiency**

A good use of time and energy, without wasting any (Cambridge Dictionary: <https://dictionary.cambridge.org/dictionary/learner-english/efficiency>. Accessed March 23<sup>rd</sup>, 2021).

## **Efficient**

Working or operating quickly and effectively in an organized way (Cambridge Dictionary: <https://dictionary.cambridge.org/dictionary/english/efficient>. Accessed March 23<sup>rd</sup>, 2021).

**Etuaptmumk**

Etuaptmumk, or “Two-Eyed Seeing” is a term Elder Marshall coined that is part of Indigenous Peoples’ ways of thinking and embraces “learning to see from one eye with the strengths of Indigenous knowledges and ways of knowing, and from the other eye with the strengths of mainstream knowledges and ways of knowing, and to use both these eyes together, for the benefit of all” (Elder Albert Marshall in Bartlett et al., 2012; Reid et al., 2020).

**Equality**

Refers to the full participation and inclusion of everyone in a society’s major institutions, and the socially supportive substantive opportunity for all to develop and exercise their capacities and realize their choices (Young, 1990).

**Flexible**

Ability to adapt and respond to changing circumstances (Angel et al., 2019).

**Ethical**

Relating to beliefs about what is morally right and wrong. (Cambridge Dictionary: <https://dictionary.cambridge.org/dictionary/english/ethical> Accessed March 23rd, 2021).

**Food Security**

Food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life. The four pillars of food security are availability, access, utilization and stability (FAO 2009).

Food security is the foundation for healthy eating and requires a food supply that is stable and sustainable. A person is considered food secure if they can access with dignity, healthy food that is affordable, safe, culturally appropriate, and meets their nutritional needs and preferences (BC Ministry of Health 2014).

DFO refers to these two definitions of ‘food security’ in the Proposal from the Area-Based Management Technical Working Group to the Indigenous and Multi-stakeholder Advisory Body May 22, 2020 (found here: <https://www.dfo-mpo.gc.ca/aquaculture/publications/amb-twg-eng.html>)

**Governance**

The shared, collective effort of government, private business, civic organizations, communities, political parties, universities, the media and general public to reach end goals. Governance determines and implements rights, laws, policies, and objectives and is underpinned by values, norms, and principles (Jentoft and Chuenpagdee, 2009; Kooiman and Jentoft, 2009).

**Impact**

A measurable change to an ecosystem component or function as a result of an interaction from a pressure. Impacts of greatest relevance for this advice are ones resulting from an anthropogenic pressure that cause a change in the status of an ecosystem component and ultimately a response in ecosystem function (DFO, 2015).

**Indigenous Knowledge**

(The following information is taken from a draft internal Fisheries and Oceans Canada (DFO) guidance document on Indigenous Knowledge, Ottawa, 2021)



There is no universal definition of Indigenous knowledge, and the composition of Indigenous knowledge should be determined by Indigenous peoples themselves. Indigenous knowledge is intricately tied to Indigenous worldviews and ways of life, rather than knowledge in a western sense. Indigenous knowledge is holistic, and a complex interrelationship among knowledge, practice and belief.

The term Indigenous knowledge may not be universally used, and other terms such as Indigenous Knowledge Systems, Traditional Knowledge, Traditional Ecological Knowledge, or Aboriginal Traditional Knowledge, which all convey the same concept, may be used instead. When working with Inuit, the term Inuit Qaujimajatuqangit (IQ) is more likely to be used than Indigenous knowledge. Similarly, when working with Métis knowledge holders, the term Métis Traditional Knowledge is more likely to be used than Indigenous knowledge.

### **Inclusive**

Processes that support participation by all parties with a legitimate interest (Angel et al., 2019). Advice should be drawn from a variety of scientific sources, from experts in relevant disciplines and from external and international sources. Due weight also needs to be given to 'traditional knowledge' of local peoples (SAGE Principle, CSTA 1999).

### **Integrated Management (IM)**

A continuous process through which decisions are made for the sustainable use, development, and protection of areas and resources. IM acknowledges the interrelationships that exist among different uses and the environments they potentially affect. It is designed to overcome the fragmentation inherent in a sectoral management approach, analyzes the implications of development, conflicting uses and promotes linkages and harmonization among various activities (DFO, 2002).

### **Legitimacy**

Legitimacy: the perception that the production of information and technology has been respectful of stakeholders' divergent values and beliefs, unbiased in its conduct, and fair in its treatment of opposing views and interests (Cash et al. 2003)

### **Marine Spatial Planning (MSP)**

Marine Spatial Planning is a collaborative and transparent approach to managing ocean space, balancing the increased demand for human activities with the need to protect marine ecosystems by considering all activities and partners in a marine area to make informed decisions about ocean management in an open and practical manner (DFO, 2018b).

### **Material well-being**

Satisfaction with a range economic concerns such as government's handling of the economy, taxes, the cost of basic necessities, household income, pay and fringe benefits from one's job, financial security, standard of living, and agreement within the family regarding how money should be spent (Sirgy, 2018).

### **Netukulimk**

Netukulimk is a complex cultural concept that encompasses Mi'kmaq sovereign law ways and guides individual and collective beliefs and behaviours in resource protection, procurement, and management to ensure and honour sustainability and prosperity for the ancestor, present and future generations (Prosper et al., 2011).

### **Norms**

Rules or expectations that are informally regulated and enforced; accepted rules (Brennan et al., 2013).

### **Openness**

Lack of secrecy, concealment or restriction. Accessibility (Oxford University Press, 2021). The government is expected to employ decision-making processes that are open as well as transparent to stakeholders and the public, and that the public has access to the findings and advice of scientists as early as possible. (SAGE Principle, CSTA 1999)

### **Participatory Governance**

A subset of governance theory that puts emphasis on democratic engagement through deliberative practices (Fischer, 2016).

### **Precautionary Approach (PA)**

The Precautionary Approach advises caution when scientific information is uncertain, unreliable or inadequate. The Precautionary Approach advises against using the absence of adequate scientific information as a reason to postpone or fail to take action to avoid serious harm to the resource (DFO, 2009a).

### **Physical well-being**

Physical well-being consists of the ability to perform physical activities and carry out social roles that are not hindered by physical limitations and experiences of bodily pain, and biological health indicators (Capio et al. 2014).

### **Predictable**

As an element of governance: predictable and consistent decision-making procedures that are not changed without adequate consultation or justification (Angel et al., 2019).

### **Procedural justice**

The level of marginalization or inclusion of stakeholders in rule and decision making (Bennett 2019).

The process by which allocation and management decisions are made (Daigle et al., 1996).

### **Recognitional justice**

The degree to which stakeholder rights, knowledge and values are taken into account (Bennett, 2019).

### **Relational well-being**

The terms and quality of relationships (White, 2017).

The presence of supportive relationships, which derive from successful experiences of nurturance and attachment, and is promoted by empathy and opportunities to give and receive caring and compassion (Prilleltensky, 2005).

### **Resources**

As an element of governance: human, technical, and financial assets and capacities available to support governance (Angel et al., 2019).

### **Socio-Ecological System:**

Integrated complex systems that include social (human) and ecological (biophysical) subsystems in a two-way feedback relationship (Berkes, 2011).

Consisting of two interacting subsystems: the biological (epidemiological ecosystem) and the social (social and economic conditions of life of the society) subsystems where the biological subsystem plays the role of the governed object and the social acts as the internal regulator of these interactions (Cherkasskii, 1988).

Systems where social, economic, ecological, cultural, political, technological, and other components are strongly linked (Petrosillo et al., 2015).

### **Socio-Economic**

Involving both social and economic matters (Cambridge University Press, 2021)

### **Socio-Economic Status**

A measure of one's combined economic and social status. Tends to be positively associated with better health (Baker, 2014).

### **Structured decision-making**

A distinctly pragmatic label given to ways for helping individuals and groups think through tough multidimensional choices characterized by uncertain science, diverse stakeholders, and difficult trade-offs (Gregory et al., 2012).

### **Subjective well-being**

People's emotional and cognitive evaluations of their lives, includes what lay people call happiness, peace, fulfillment, and life satisfaction (Diener et al., 2003).

Good mental states, including all of the various evaluations, positive and negative, that people make of their lives, and the affective reactions of people to their experiences (OECD, 2013).

### **Sustainability**

Meeting the needs of the present without compromising the ability of future generations to meet their own needs (Brundtland, 1987).

In the Sustainable Survey for Fisheries, which reports DFO's progress in implementing the Sustainable Fisheries Framework policies, the following definition for 'sustainability' is provided:

Sustainability means a species can survive and meet the needs of their present population without weakening the chances of future generations to meet their own needs. Sustainability reflects the capacity to thrive over the long term (DFO, 2018c).

### **Sustainable Communities**

Communities that use their resources to meet current needs while ensuring that adequate resources are available for future generations; they seek a better quality of life for their residents while maintaining nature's ability to function over time (Bell and Grinstein, 2001).

The term 'Sustainable Communities' is used in the Departmental Sustainable Development Strategy (2020 to 2023) to describe the FSDS target: Safe and Healthy Communities. The aim of this target is that all Canadians live in clean, sustainable communities that contribute to their health and well-being (DFO, 2020b).

### **Sustainable Development**

Development that meets the needs of the present without compromising the ability of future generations to meet their own needs (Bruntland, 1987).

DFO recognizes and adheres to the 1987 Bruntland Commission Report definition for 'Sustainable Development,' as stated in DFO's Sustainable Development Strategy 2005-2006.

Also from this report: The principles of sustainable development maintain that social, economic and environmental issues are interconnected and must be equally integrated into the decision-making process (DFO, 2005).

### **Socio-Epistemology:**

In the standard sense of the term today, social epistemology is a field within analytic philosophy. The field of social epistemology focuses on the social aspects of how knowledge is created and disseminated (Goldman and O'Connor, 2019).

### **Social Equality**

The level to which all members of a society are assigned the same status based on recognition, opportunity and outcomes (Österblom et al., 2020).

### **Shared Stewardship**

Shared stewardship is about working together in an integrated way to make decisions and take actions as they relate to resource management. This involves working at scale, promoting cross boundary solutions, and joint priority setting (USDA, 2018).

### **Social Equity**

Combines a concern for equal treatment, with an assessment of what constitutes fair treatment across both substantive outcomes and procedural concerns (Österblom et al., 2020).

The fair, just and equitable management of all institutions serving the public directly or by contract, and the fair, just and equitable distribution of public services, and implementation of public policy, and the commitment to promote fairness, justice, and equity in the formation of public policy (Svara and Brunet, 2005).

Johnson and Svara (2011) identify four broad approaches used to measure social equity:

1. Procedural fairness (due process)
2. Access (distributional)
3. Quality (process)
4. Outcomes (impact)

### **Subsidiarity**

The implication that any particular task should be decentralized to the lowest level of governance with the capacity to conduct it satisfactorily (Marshall, 2008).

### **Trade-offs**

The result of a choice between two desirable but incompatible features (Oxford University Press, 2001).

### **Transparent**

Open and informed policies, procedures, decisions, and supporting documentation (Angel et al., 2019).

Implies a clear articulation of how decisions are reached, policies are presented in open fora, and the public has access to the findings and advice of scientists as early as possible. (SAGE Principle, CSTA 1999)

### **Two-Eyed Seeing**

Learning to see from one eye with the strengths of Indigenous knowledges and ways of knowing, and from the other eye with the strengths of mainstream knowledges and ways of knowing, and to use both these eyes together, for the benefit of all (Elder Albert Marshall in Bartlett et al., 2012; Reid et al., 2020).

### **Values**

Individual and shared preferences for a certain states of affairs over others (Hofstede 2001), the importance and qualities attributed to features of the social and natural world (Brown et al. 1984), or an enduring and deeply held set of beliefs about how people who conduct them and interact with the world around them (Rokeach 1973)

### **Quality of Life**

As individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns (WHO (World Health Organization), 1997).

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## Appendix V. Policy Statements listed by EBM Objectives for Social/Cultural and Institutional/Governance Pillars

This document was created in preparation for the January 25-28<sup>th</sup> 2021 *DFO Maritimes Region EBM Workshop II: incorporating social, cultural and governance aspects*. It provides a summary of policy statements that support the development of the DFO Maritimes EBM Framework (Daly et al. 2020). These policy statements have been selected from over seventy laws and policies relevant to DFO and EBM. The laws and policies reviewed are presented below in [Table 1](#). (pp.1-3), with links to the up-to-date webpages or PDFs for each document. This resulted in over 500 statements.

For the purposes of this workshop, these 500 statements were reduced in number through a prioritization process by the relevant DFO Sectors ([Table 2](#)). Prioritization was based on relevance, impact and usage. Therefore not all policy statements listed in Table 1 are reflected in Table 2.

[Table 2](#) lists the subset of prioritized policy statements, the source of these statements, and the most relevant DFO sector to which these statements are applicable (pp.4-17). These statements are organized under the Social/Cultural and Institutional/Governance Pillars (and associate candidate sub-objectives of the Maritimes EBM Framework) in a hierarchical manner. That is, policy statements from legislation are listed first, statements from domestic policies second, and then international commitments listed last, with some documents crossing these boundaries in order to be grouped with 'like' statements. Some statements feature bolded text to help readers of the document identify why those statements are relevant to the objectives they correspond to.

Table 1. List of Policies Reviewed

Policy	Reference	Link
<b><u>Mandates and Direction</u></b>		
2020-2021 Departmental Plan	DFO 2020	<a href="#">Link</a>
DFO Mandate Letter	PMO 2019	<a href="#">Link</a>
Supplementary Letter	PMO 2021	<a href="#">Link</a>
EEEC Mandate Letter	PMO 2019	<a href="#">Link</a>
Cabinet Directive on Regulation	TB Secretariat 2012	<a href="#">Link</a>
<b><u>Fisheries Management</u></b>	DFO 2019	<a href="#">Link</a>
<b><i>Fisheries Management - Indigenous Fisheries Management</i></b>		
An Integrated Aboriginal Policy Framework	DFO 2007	<a href="#">Link</a>
Aboriginal Fishing Strategy	DFO 2012	<a href="#">Link</a>
Aboriginal Communal Fishing Licenses Regulations	Justice 2009	<a href="#">Link</a>
DFO-Coast Guard Reconciliation Strategy	DFO 2019	<a href="#">Link</a>
Action Plan for the Renewal and Expansion of DFO's Indigenous Programs	DFO 2019	<a href="#">Link</a>
<b><i>Fisheries Management - Resource Management (including recreational)</i></b>		
Fisheries Act	Parliament 2019	<a href="#">Link</a>
Section 10 of the <i>Fisheries Act</i> : Fish Allocation for Financing Purposes	DFO 2018	<a href="#">Link</a>

Canada's Wild Atlantic Salmon Policy	DFO 2018	<a href="#">Link</a>
Sustainable Fisheries Framework	DFO 2019	<a href="#">Link</a>
Precautionary Approach	DFO 2009	<a href="#">Link</a>
Precautionary Approach Guidance	DFO 2013	<a href="#">Link</a>
Policy for Managing Impacts of Fishing on Sensitive Benthic Areas	DFO 2009	<a href="#">Link</a>
Ecological Risk Assessment Framework	DFO 2013	<a href="#">Link</a>
Policy on Managing Bycatch	DFO 2013	<a href="#">Link</a>
Bycatch Guidance	DFO 2013	<a href="#">Link</a>
Fishery Monitoring Policy	DFO 2019	<a href="#">Link</a>
Fishery Monitoring Policy Steps	DFO 2019	<a href="#">Link</a>
Policy on New Fisheries for Forage Species	DFO 2009	<a href="#">Link</a>
Atlantic Canadian loggerhead turtle conservation action plan	<u>DFO 2010</u>	<a href="#">Link</a>
Memorandum of Understanding between Fisheries and Oceans Canada (DFO) and Transport Canada (TC) regarding safety at Sea of Commercial Fish Harvesters	<u>DFO 2014</u>	<a href="#">Link</a>
New Emerging Fisheries Policy	DFO 2008	<a href="#">Link</a>
Atlantic Recreational Fishing License Program	<u>DFO 2003</u>	<a href="#">Link</a>
Recreational Fisheries in Canada - Operational Policy Framework	DFO 2001	<a href="#">Link</a>
<b><i>Fisheries Management - Licensing</i></b>		
Atlantic Fisheries Policy review: Framework for the Management of Fisheries on Canada's Atlantic Coast (AFPR)	DFO 2004	<a href="#">Link</a>
New Access Framework (from AFPR)	DFO 2002 (updated 2008)	<a href="#">Link</a>
Policy for Preserving the Independence of the Inshore Fleet in Canada's Atlantic Fisheries (PIIFCAF)	DFO 2007	<a href="#">Link</a>
Commercial Fisheries Licensing Policy for Eastern Canada	DFO 1996	<a href="#">Link</a>
Commercial Fisheries Licensing Policy for the Maritimes Region	DFO 2020	<a href="#">Link</a>
Policy on Issuing Licenses to Companies (for Canada's Inshore Atlantic Fisheries)	DFO 2017	<a href="#">Link</a>
<b><i>Fisheries Management - C&amp;P</i></b>		
Enforcement of the <i>Fisheries Act</i>	DFO 2019	<a href="#">Link</a>
<b><u>Aquatic Ecosystems</u></b>		
	DFO 2020	<a href="#">Link</a>
<b><i>Aquatic Ecosystems - Marine Conservation and Planning</i></b>		
Oceans Act	Parliament 2019	<a href="#">Link</a>
Canada's Ocean Strategy Our Oceans, Our Future	DFO 2002	<a href="#">Link</a>
Canada's Oceans Action Plan For Present and Future Generations	DFO 2005	<a href="#">Link</a>
Policy and Operational Framework for Integrated Management of Estuarine, Coastal and Marine Environments in Canada	DFO 2002	<a href="#">Link</a>
National Framework for Canada's Network of Marine Protected Areas	DFO 2011	<a href="#">Link</a>
Federal Marine Protected Areas Strategy	DFO 2005	<a href="#">Link</a>
National Framework for Establishing and Managing Marine Protected Areas	DFO 1999	<a href="#">Link</a>
Marine Protected Areas Policy	DFO 1999	<a href="#">Link</a>
Guidance and Lessons Learned for Canada's Marine Protected Areas Network	DFO 2008	<a href="#">Link</a>
Maritimes Regional Oceans Plan	DFO 2014	<a href="#">Link</a>
Coral & Sponge Conservation Strategy for Eastern Canada 2015	DFO 2015	<a href="#">Link</a>
Protection Standards to better conserve our oceans	DFO 2019	<a href="#">Link</a>

Framework for integrating socio-economic analysis in the Marine Protected Areas designation process	DFO 2016	<a href="#">Link</a>
<b><i>Aquatic Ecosystems - Species at Risk Management Division</i></b>		
Species at Risk Act	Parliament 2019	<a href="#">Link</a>
<b><i>Aquatic Ecosystems - Fish and Fish Habitat Protection Program</i></b>		
Fish and Fish Habitat Protection Policy Statement	DFO 2019	<a href="#">Link</a>
Policy for Applying Measures to Offset Adverse Effects on Fish and Fish Habitat Under the <i>Fisheries Act</i>	DFO 2019	<a href="#">Link</a>
Pathways of Effects – National Guidelines	DFO 2012	<a href="#">Link</a>
<b><i>Aquatic Ecosystems - Aquaculture Management</i></b>		
Aquaculture Policy Framework	DFO 2013	<a href="#">Link</a>
Framework for Aquaculture Risk Management	DFO 2019	<a href="#">Link</a>
<b><u>International Commitments</u></b>		
Update of the zero draft of the Post-2020 Global Biodiversity Framework	CBD 2020	<a href="#">Link</a>
Convention on the Law of the Sea	UNGA 1995	<a href="#">Link</a>
FAO Code of Conduct for Responsible Fisheries	FAO 1995	<a href="#">Link</a>
FAO Technical Guidelines for the ecosystem approach to fisheries	FAO 2003	<a href="#">Link</a>
FAO Technical Guidelines for Indicators of sustainable development of marine fisheries	FAO 1999	<a href="#">Link</a>
Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries	FAO 2015	<a href="#">Link</a>
Global Ocean Alliance	DFO 2020	<a href="#">Link</a>
Ocean Plastics Charter	PMO 2018	<a href="#">Link</a>
Charlevoix Blueprint	PMO 2018	<a href="#">Link</a>
<b><u>Other relevant Acts and Policies</u></b>		
Coastal Fisheries Protection Act	Parliament 2019	<a href="#">Link</a>
Canada Shipping Act, 2001	Parliament 2019	<a href="#">Link</a>
Fishing and Recreational Harbours Act	Parliament 2019	<a href="#">Link</a>
Impact Assessment Act	Parliament 2019	<a href="#">Link</a>
Canadian Code of Conduct for Responsible Fishing Operations	DFO 1998	<a href="#">Link</a>
Canada's Oceans Protection Plan	PMO 2016	<a href="#">Link</a>
Gender Based Analysis Plus Guidelines	Treasury Board Secretariat 2020	<a href="#">Link</a>
TB Values and Ethics Code	Treasury Board	<a href="#">Link</a>
Federal Sustainable Development Strategy	E&CC 2019	<a href="#">Link</a>
DFO International Science Strategy	DFO 2009	<a href="#">Link</a>

Table 2. Prioritized policy statements

<p><b>Sector Acronyms are listed as follows:</b></p> <p><b>Fisheries Management:</b> Indigenous Fisheries Management (FM-IFM), Resource Management (FM-RM), Licensing (FM-Licensing), Conservation and Protection (FM-C&amp;P).</p> <p><b>Aquatic Ecosystems:</b> Marine Planning and Conservation (AE-MPC), Species at Risk Management Division (AE-SARM), Fish and Fish Habitat Protection Program (AE-FFHPP), Aquaculture Management (AE-AM).</p>
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SOCIAL/CULTURAL		
<p><b>SUSTAINABLE COMMUNITIES (n=8)</b>  (including the importance of the contribution of fishing and other marine activities to the wellbeing of dependent communities, social capital, informed citizenry and cultural heritage)</p>		
Policy Statement	Source	Sector
<p>“Except as otherwise provided in this Act, when making a decision under this Act, the Minister may consider, among other things,</p> <p>(e) <b>community knowledge</b></p> <p>(f) <b>cooperation</b> with any government of a province, and Indigenous governing body and any body – including a co-management body – established under a land claims agreement;</p> <p>(g) <b>social, economic and cultural factors</b> in the management of fisheries;</p> <p>(h) the preservation or promotion of the independence of license holders in commercial inshore fisheries”</p>	<p>Fisheries Act; S. 2.5 (e, f, g, h)</p>	<p>FM-Licensing and FM-RM</p>
<p>“WHEREAS Canada recognizes that the oceans and their resources offer significant opportunities for economic diversification and the generation of wealth for the benefit for all Canadians, and in particular for <b>coastal communities</b>;</p> <p>“Healthy marine and coastal ecosystems, sustainable communities and responsible use supported by effective management processes”</p> <p>Specific to MPAs “To contribute to the social and economic sustainability of coastal communities by providing for uses which are compatible with the reasons for designation”</p>	<p>Oceans Act; Preamble</p> <p>Maritimes Regional Oceans Plan; Vision</p> <p>Marine Protected Areas Policy; Goals</p>	<p>AE-MPC</p>
<p><b>“community knowledge</b> and interests, including <b>socio economic interests</b>, should be considered in developing and implementing recovery measures”</p>	<p>SARA; Preamble</p>	<p>AE-SARM</p>
<p>“The fishery is a common property resource to be managed for the benefit of all Canadians, consistent with conservation objectives, the constitutional protection afforded Aboriginal and treaty rights, and the relative contributions that various uses of the resource make to Canadian society, including <b>socio-economic benefits to communities</b>.”</p>	<p>SFF; Policy for Managing Impacts of Fishing on SBAs</p>	<p>FM-RM</p>

SOCIAL/CULTURAL		
SUSTAINABLE COMMUNITIES (n=8) (including the importance of the contribution of fishing and other marine activities to the wellbeing of dependent communities, social capital, informed citizenry and cultural heritage)		
“ensure that the benefits of fishing licences flow to the fish harvester and the <b>coastal community</b> ”	Policy for Preserving the Independence of the Inshore Fleet in Canada's Atlantic Coast; Objective	FM-Licensing
“Objectives are driven by legislation, intergovernmental and international agreements, and considers ecological knowledge, <b>cultural and societal values, economic goals</b> , and are informed by Indigenous Knowledge (IK) and other local knowledge.”	Framework for Aquaculture Risk Management; Objectives	AE-AM
“The fundamental theme of DFO’s Integrated Aboriginal Policy Framework is on fostering a respectful and <b>mutually beneficial relationship with Aboriginal groups who are seeking a greater share of the fisheries resource, on contributing to the growth and well-being of their communities</b> , and on providing them with a greater role in integrated aquatic resource and oceans management.”	Integrated <b>Aboriginal</b> Policy Framework; Intro	FM-IFM
“Social responsibility: <b>promoting community solidarity</b> and collective and corporate responsibility and the fostering of an environment that promotes collaboration among stakeholders should be encouraged.”	SSF Guidelines; Guiding Principle	FM-RM

SOCIAL/CULTURAL		
HEALTH AND WELL-BEING (n=5) (including working conditions/occupational safety and general health within a wider community context)		
Policy Statement	Source	Sector
"The fundamental theme of DFO's Integrated Aboriginal Policy Framework is on fostering a respectful and mutually beneficial relationship with Aboriginal groups who are seeking a greater share of the fisheries resource, on contributing to the growth and <b>well-being</b> of their communities, and on providing them with a greater role in integrated aquatic resource and oceans management."	Integrated Aboriginal Policy Framework; Intro	FM-IFM
"Establish principles that take into account the promotion of a safety culture among commercial fish harvesters"	MOU between DFO and TC regarding safety at sea of commercial fishermen; S. 2.1.1	FM-RM
"All parties should recognize the complexity that surrounds safety-at-sea issues (in inland and marine fisheries) and the multiple causes behind deficient safety. This applies to all fishing activities."	SSF Guidelines; 6.16	FM-RM and FM-CP
"Maintaining the health and integrity of marine ecosystems for the benefit of other uses and users including biodiversity, scientific interest, intrinsic value, trophic structure and other economic uses such as tourism and recreation."	FAO Tech 8	AE-MPC
"States and all those engaged in fisheries management should adopt measures for the long-term conservation and sustainable use of fisheries resources and to secure the ecological foundation for <b>food production</b> ."	SSF Guidelines; 5.13	FM-RM

Safety  
at Sea

Safety  
at Sea

SOCIAL/CULTURAL		
ETHICAL FISHERIES (n=2) (including basic human interests in welfare, safety, freedom and justice and encompassing aspects of just access, the right to food (food security) and food safety)		
Policy Statement	Source	Sector
"The fishery is a common, public resource that should be managed in a way that does not create or exacerbate excessive interpersonal or inter-regional disparities"	New Access Framework; Equity	FM-Licensing
"Equity and equality: promoting justice and fair treatment – both legally and in practice – of all people and peoples, including equal rights to the enjoyment of all human rights."	SSF Guidelines; Principle 5	FM-RM



## SOCIAL/CULTURAL

### INDIGENOUS AND OTHER CULTURES (n=4)

(including the effects of the environment and activities on important social, cultural and spiritual aspects of our communities and society).

Policy Statement	Source	Sector
"Ensure that Indigenous Peoples are empowered to make decisions about their communities"	Departmental Plan	FM-IFM
"Subsection 32(2) and paragraph 36(1)(b) do not apply to a person who possesses an individual of a listed extirpated, endangered or threatened species, or any part or derivative of such an individual, if (b) it is used by an aboriginal person for <b>ceremonial or medicinal purposes, or it is part of ceremonial or medicinal purposes, or it is part of ceremonial dress used for ceremonial or cultural purposes</b> by an aboriginal person"	SARA; S. 83(5)(b)	AE-SARM
"Indigenous groups have appropriate <b>food, social, ceremonial (FSC)</b> and commercial fish access. Indigenous groups participate in a variety of economic development opportunities (e.g., fish harvesting, aquaculture, marine infrastructure)."	DFO-CG Reconciliation Strategy; Long-term objectives	FM-IFM
"Resource management processes and decisions will therefore consider the consequences from both ecological and socio-economic perspectives, and aim to provide the widest range of uses and benefits possible..." and "Decisions that affect human use will also account for the constitutionally protected rights of Indigenous Peoples to priority access <b>for food, social and ceremonial purposes.</b> "	Canada's Wild Atlantic Salmon Policy; Principles	FM-RM

Food,  
social &  
ceremonia  
l (FSC)  
fisheries

FSC  
fisheries

INSTITUTIONAL/GOVERNANCE		
LEGAL OBLIGATIONS INCLUDING TO INDIGENOUS PEOPLE (n=10) (Fulfilling legal commitments, Treaties and agreements, legitimacy, stability)		
Policy Statement	Source	Sector
"Except as otherwise provided in this Act, when making a decision under this Act, the Minister may consider, among other things, (d) Indigenous knowledge of the Indigenous Peoples of Canada has been provided to the Minister; (f) cooperation with any government of a province, and Indigenous governing body and any body – including a co-management body – <b>established under a land claims agreement</b> "	Fisheries Act; S. 2.5(d, f)	FM-IFM and FM-RM
"When making decisions under this Act, the Minister shall consider any adverse effects that the decisions may have on the rights of the Indigenous Peoples of Canada recognized and affirmed by <b>section 35 of the Constitution Act (1982)</b> ."	Fisheries Act; S. 2.4	FM-IFM and FM-RM
"Before recommending to the Governor in Council that a regulation be made in respect of [various sections of the Act regarding fish habitat], <b>the Minister, prescribed person or prescribed entity, as the case may be, shall consider the following factors: (g) Indigenous knowledge of the Indigenous Peoples of Canada that has been provided to the Minister</b> "	Fisheries Act; S. 34.1(1)(g)	AE-FFHPP
"Recognized Self-determination: <b>"Indigenous groups effectively manage their own fisheries and other marine assets in their territories.</b> Indigenous groups share in fisheries, oceans, aquatic habitat, and marine waterways decision-making."	DFO-CG Reconciliation Strategy; Long-term Objectives	FM-IFM
"To provide a foundation for the development of <b>self-government agreements and treaties.</b> "	Aboriginal Fishing Strategy; Objectives	FM-IFM
"Recognize and implement Indigenous and <b>treaty rights</b> related to fisheries, oceans, aquatic habitat, and marine waterways in a manner consistent with section 35 of the Constitution Act, 1982, the United Nations Declaration on the Rights of Indigenous Peoples, and the federal Principles Respecting the Government of Canada's Relationship with Indigenous Peoples"	DFO-CG Reconciliation Strategy; Commitment	FM-IFM
"The fishery is a common property resource to be managed for the benefit of all Canadians, consistent with conservation objectives, the <b>constitutional protection afforded Aboriginal and treaty rights</b> , and the relative contributions that various uses of the resource make to Canadian society, including socio-economic benefits to communities."	SFF; Policy for Managing Impacts of Fishing on SBAs	FM-RM
"Build renewed nation-to-nation, Inuit-Crown, and government-to-government relationships with Indigenous Peoples based on the recognition of rights, respect, co-operation, and partnership"	DFO-CG Reconciliation Strategy; Federal Commitment	FM-RM AE-FFHPP

## INSTITUTIONAL/GOVERNANCE

### LEGAL OBLIGATIONS INCLUDING TO INDIGENOUS PEOPLE (n=10)

(Fulfilling legal commitments, Treaties and agreements, legitimacy, stability)

"The Government of Canada is committed to a renewed, <b>nation-to-nation, Inuit-Crown and government-to-government relationship</b> based upon the recognition of rights, respect, cooperation and partnership."	FFHPP Statement; S. 6.4	
"Respecting existing <b>rights</b> and activities: respect federal / provincial / territorial government mandates and authorities; - respect relevant provisions of applicable land claims agreements and treaties; and - take into consideration harvesting by Aboriginal groups and others, and other activities carried out in accordance with existing licenses, regulations and legal agreements."	National Framework for Canada's Network of MPAs; Principles	AE-MPC
"Strengthen the Owner-Operator and Fleet Separation Policies"	Policy for Preserving the Independence of the Inshore Fleet in Canada's Atlantic Coast; Objectives	FM-Licensing

Policy to implement

## INSTITUTIONAL/GOVERNANCE

### GOOD GOVERNANCE STRUCTURES (n=20)

(including growing interest in collaboration, inclusiveness, shared stewardship and participation in management), appropriate temporal and spatial scales, appropriate stakeholder and disciplinary involvement, adaptive management, openness, participation, transparency, accountability

Policy Statement	Source	Sector
"In exercising the powers and performing the duties and functions assigned to the Minister by this Act, the Minister (a) <b>shall cooperate</b> with other ministers, boards and agencies of the Government of Canada, with provincial and territorial governments and with affected aboriginal organizations, coastal communities and other persons and bodies, including those bodies established under land claims agreements"	Oceans Act; S. 33(1)(a)	AE-MPC
"To the extent possible, the recovery strategy must be <b>prepared in consultation</b> with any landowners and other persons whom the competent minister considers to be directly affected by the strategy, including the government of any other country in which the species is found."	SARA; S. 39(3)	AE-SARM
For Recovery Strategies (S.39) , Action Plans, or Management Plans (S.48), the <b>plans or strategies must be prepared in cooperation with</b> ; (a) the appropriate provincial and territorial minister for each province and territory in which the listed wildlife species is found; (b) every minister of the Government of Canada who has authority over federal land or other areas on which the species is found; (c) if the species is found in an area in respect of	SARA; S. 39.1, 48.1, and 66.1	AE-SARM

## INSTITUTIONAL/GOVERNANCE

### GOOD GOVERNANCE STRUCTURES (n=20)

(including growing interest in collaboration, inclusiveness, shared stewardship and participation in management), appropriate temporal and spatial scales, appropriate stakeholder and disciplinary involvement, adaptive management, openness, participation, transparency, accountability

which a wildlife management board is authorized by a land claims agreement to perform functions in respect of wildlife species, the wildlife management board;  
(d) every **aboriginal** organization that the competent minister considers will be directly affected by the recovery strategy; and  
(e) any other person or organization that the competent minister considers appropriate.

"The Minister shall establish a Council, to be known as the National Aboriginal Council on Species at Risk, consisting of six representatives of the **aboriginal peoples of Canada** selected by the Minister based upon recommendations from aboriginal organizations that the Minister considers appropriate."

"At the heart of **Integrated Management** is a commitment to citizen engagement in the broadest sense; that is governments at all levels, Aboriginal groups, corporate and sectoral interests, community interests, non-governmental organizations..." with the overall objective being "create governance mechanisms that foster greater involvement of the people most affected by decisions"

"**Integrated Management** (IM) is a collaborative, flexible and transparent planning and management process. It recognizes the shared responsibility of governments, Aboriginal groups, coastal communities, industry and others to support the sustainability of our marine resources. Also embedded in the IM concept is the continued respect for the legislative mandates of individual departments and agencies."

"The Government of Canada, through the *Oceans Act* (1997), is committed to the **integrated management** of human activities in or affecting Canada's marine ecosystems. Integrated management is implemented through an ecosystem approach—or Ecosystem-based Management (EBM)."

"Management of new fisheries requires **an integrated approach** that would blend science and business principles and effective involvement of government, industry and other parties to ensure fisheries are ecologically and economically sustainable."

"All parties should recognize the need for **integrated and holistic approaches**, including cross-sectoral collaboration, in order to address disaster risks and climate change in small-scale fisheries."

SARA; S. 8.1

AE-SARM

Policy and Operational Framework for Integrated Management of Estuarine, Coastal and Marine Environments; S. 3.1

AE-MPC

Federal Marine Protected Areas Strategy; Objectives

AE-MPC

Pathways of Effects - National Guidelines

AE-FFHPP

New Emerging Fisheries Policy

FM-RM

SSF Guidelines; S. 9.3

FM-RM

Integrated Management (IM)

IM

IM

INSTITUTIONAL/GOVERNANCE		
<b>GOOD GOVERNANCE STRUCTURES (n=20)</b> (including growing interest in collaboration, inclusiveness, shared stewardship and participation in management), appropriate temporal and spatial scales, appropriate stakeholder and disciplinary involvement, adaptive management, openness, participation, transparency, accountability		
<b>Collaboration and Engagement</b> "DFO supports a collaborative approach when addressing oceans and coastal issues in order to share resources and knowledge, seek advice and work together to advance common priorities."	Maritimes Regional Oceans Plan; Vision	AE-MPC
"The fundamental theme of DFO's Integrated Aboriginal Policy Framework is on fostering a <b>respectful and mutually beneficial relationship with Aboriginal groups</b> who are seeking a greater share of the fisheries resource, on contributing to the growth and well-being of their communities, and on providing them with a greater role in integrated aquatic resource and oceans management."	Integrated Aboriginal Policy Framework; Intro	FM-IFM
<b>"Collaborate with Indigenous Peoples</b> in the renewal of laws, policies, programs, and operational practices"	DFO-CG Reconciliation Strategy; Guiding principles	FM-IFM
An objective of the Aboriginal Fishing Strategy is "To <b>provide Aboriginal groups with an opportunity to participate in the management of fisheries</b> , thereby improving conservation, management and enhancement of the resource."	Aboriginal Fishing Strategy; Objectives	FM-IFM
"Where they exist, fisheries managers and science advisors should <b>use existing fishery advisory processes to engage fishery participants and co-management bodies</b> under land claims agreements, as well as other potential fishery interests."	PA guide; S. 5	FM-RM
<b>"Participants will be effectively involved</b> in fisheries management decision-making processes at appropriate levels; they will contribute specialized knowledge and experience, and share in accountability for outcomes."	Atlantic Fisheries Policy Review; Supporting Objectives	FM-Licensing
"Fisheries management decision-making processes will be <b>more inclusive</b> so that resource users and others will have appropriate opportunities to participate."	Atlantic Fisheries Policy Review; Principles	FM-Licensing
<b>"Provide resource users with a greater role</b> in shaping social and economic objectives."		
"Conservation initiatives will be optimized with the active engagement of provincial governments, First Nations, other Indigenous organizations, volunteers and other stakeholders in the development and implementation of management decisions."	Canada's Wild Atlantic Salmon Policy	FM-RM
"Managing Canada's recreational fisheries is a <b>shared responsibility</b> between federal, provincial and territorial governments"	Atlantic Recreational Fishing License Program	FM-Licensing

Collaboration & engagement

Collaboration & engagement

Inclusive governance

INSTITUTIONAL/GOVERNANCE		
<p>GOOD GOVERNANCE STRUCTURES (n=20)</p> <p>(including growing interest in collaboration, inclusiveness, shared stewardship and participation in management), appropriate temporal and spatial scales, appropriate stakeholder and disciplinary involvement, adaptive management, openness, participation, transparency, accountability</p>		
<p>"Fish harvesters will conduct harvesting operations in accordance with Canadian fisheries' laws and regulations; international laws, regulations, conventions, declarations and protocols adopted by Canada; and harvesting plans adopted by each fishery."</p> <p>"Apply sustainable fishing Principles and sustainable fisheries development to all aspects of fish harvesting and management of fisheries."</p>	<p>Canadian Code of Conduct for Responsible Fishing Principle 9</p> <p>Guideline 1.1</p>	FM-RM
<p>"<b>Transparency:</b> clearly defining and widely publicizing policies, laws and procedures in applicable languages, and widely publicizing decisions in applicable languages and in formats accessible to all."</p>	<p>SSF Guidelines; Principle 8</p>	FM-RM

Fisheries

INSTITUTIONAL/GOVERNANCE		
<b>EFFECTIVE DECISION-MAKING PROCESSES (n=20)</b> <i>(reflecting the need for democratic, participatory, transparent, openly communicated, integrated, structured decision-making, use of best available (scientific) knowledge, recognition of coupled social-ecological systems, accounting for uncertainty and the dynamic nature of ecosystems, efficiency, flexibility, ability to address conflicts/trade-offs and cumulative effects)</i>		
Policy Statement	Source	Sector
"Except as otherwise provided in this Act, when making a decision under this Act, the Minister may consider, among other things, (d) Indigenous knowledge of the Indigenous Peoples of Canada that has been provided to the Minister; (e) community knowledge; (f) cooperation with any government of a province, any Indigenous governing body and any body — including a co-management body — established under a land claims agreement"	Fisheries Act; S.2.5 (d, e, f)	AE-FFHPP
the Minister shall consider " <b>Indigenous knowledge</b> of the Indigenous Peoples of Canada that has been provided to the Minister;" when making regulations under the Fish and Fish Habitat Protection Provisions	Fisheries Act; S.34.1(1)(g)	AE-FFHPP
" <b>Community knowledge</b> and interests, including socio economic interests, should be considered in developing and implementing recovery measures"	SARA; Preamble	AE-SARM
"The <b>traditional knowledge of the aboriginal peoples</b> of Canada should be considered in the assessment of which species may be at risk and in developing and implementing recovery measures,"	SARA; Preamble	AE-SARM
"COSEWIC must carry out its functions on the basis of the best available information on the biological status of a species, including scientific knowledge, community knowledge and <b>aboriginal traditional knowledge</b> "	SARA; S. 15(2)	AE-SARM
"Aboriginal traditional knowledge subcommittee 18 (3) Subject to subsection (2) [Membership], the chairperson and members of the aboriginal traditional knowledge subcommittee must be appointed by the Minister after consultation with any aboriginal organization he or she considers appropriate."	SARA; S. 18(3)	AE-SARM
"DFO supports Aboriginal ecological knowledge. SARA calls this "Traditional Aboriginal Knowledge" while the Biodiversity Convention contains language "which encourages governments and Aboriginal people to work together to <b>establish processes for empowering Aboriginal communities.</b> " DFO Science Sector has noted this and continues to work to increase its working relationship with Aboriginal people."	Integrated Aboriginal Policy Framework; Programs	FM-IFM
Promote sound decision-making: "The Department will also be guided by the application of a <b>precautionary approach</b> and risk-based approach to decision-making"	FFHPP Statement; S. 7.4	AE-FFHPP

Forms of knowledge

Forms of knowledge

Forms of knowledge

Precautionary Approach

INSTITUTIONAL/GOVERNANCE		
<b>EFFECTIVE DECISION-MAKING PROCESSES (n=20)</b> <i>(reflecting the need for democratic, participatory, transparent, openly communicated, integrated, structured decision-making, use of best available (scientific) knowledge, recognition of coupled social-ecological systems, accounting for uncertainty and the dynamic nature of ecosystems, efficiency, flexibility, ability to address conflicts/trade-offs and cumulative effects)</i>		
<b>Precautionary approach</b> and transparent decision making: "Management decisions must apply the precautionary approach and must be made in an open, inclusive, and transparent manner."	Canada's Wild Atlantic Salmon Policy; Principles	FM-RM
"Whenever appropriate, management decisions and actions will take into account socio-economic factors as well as biological. When a stock is in the Healthy zone, socio-economic considerations may prevail; in the Cautious zone, socio-economic and biological factors will be balanced to reflect the stock trajectory and location in the zone; and in the Critical zone, biological considerations will prevail"	SFF; Precautionary Approach	FM-RM
"Continue to work to protect biodiversity and species at risk, while <b>engaging</b> with provinces, territories, Indigenous communities, scientists, industry and other stakeholders to evaluate the effectiveness of the existing <i>Species at Risk Act</i> and assess the need for modernization."	EEEC Mandate	AE-SARM
"DFO-Coast Guard <b>partners with Indigenous groups</b> on a rights recognition and distinctions basis, using aggregates where feasible. Indigenous groups' role in management and decision-making is well-defined, implemented, accepted by all parties."	DFO-CG Reconciliation Strategy, Long-term objectives	FM-IFM
<b>Shared accountability and responsibility:</b> "Full engagement and collaboration will give harvesters an opportunity to better understand their responsibilities for complying with monitoring requirements, and will give DFO an opportunity to better understand the diverse needs of Indigenous groups and stakeholders"	SFF; Fishery Monitoring Policy, Principle 4	FM-RM
"Shared stewardship is an important part of managing Canada's fisheries resources. As such the Department will promote <b>collaboration</b> , participatory decision-making and shared responsibility with resource users and other stakeholders."	SFF; Policy for Managing Impacts of Fishing on SBAs	FM-RM
"Considering Indigenous Peoples Perspectives in Developing an offsetting Plan"  If objectives to offset are not identified in fisheries management plans or are identified but are not given priority, then " <b>Indigenous groups, fisheries managers, local organizations and stakeholders may help to identify</b> areas that would benefit from restoration or enhancement"	Policy for Applying Measures to Offset Adverse Effects on Fish and Fish Habitat	AE-FFHPP
"The <b>access and allocation of fisheries resources will be more stable and predictable</b> , and decisions will be made and conflicts resolved through fair, transparent and rules-based processes."	Atlantic Fisheries Policy Review;	FM-Licensing

Engagement  
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consultation

Engagement  
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INSTITUTIONAL/GOVERNANCE		
<b>EFFECTIVE DECISION-MAKING PROCESSES (n=20)</b> <i>(reflecting the need for democratic, participatory, transparent, openly communicated, integrated, structured decision-making, use of best available (scientific) knowledge, recognition of coupled social-ecological systems, accounting for uncertainty and the dynamic nature of ecosystems, efficiency, flexibility, ability to address conflicts/trade-offs and cumulative effects)</i>		
	Supporting Objectives	
"Access criteria must be applied in a fair and consistent manner through a decision-making process that is open, transparent and accountable and that ensures fair treatment for all."	New Access Framework; Equity	FM-Licensing
"Fisheries management decision-making processes will provide opportunities for increased Aboriginal participation and involvement."	Atlantic Fisheries Policy Review; Principles	FM-Licensing
"Operational decision making affecting specific fisheries will normally be made as close to those fisheries as possible and will primarily involve resource users."	Atlantic Fisheries Policy Review; Principles	FM-Licensing
"Recognizing that aquaculture is a legitimate use of land, water and aquatic resources, DFO will work with provincial and territorial governments to provide aquaculturists with predictable, equitable and timely access to the aquatic resource base."	Aquaculture Policy Framework	AE-AM
"Consultation and participation: ensuring active, free, effective, meaningful and informed participation of small-scale fishing communities, including Indigenous Peoples, taking into account the UN Declaration on the Rights of Indigenous Peoples (UN DRIP) in the whole decision-making process related to fishery resources and areas where small-scale fisheries operate as well as adjacent land areas, and taking existing power imbalances between different parties into consideration."	SSF Guidelines; Principle 6	FM-RM

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