

Engaging stakeholders in marine conservation planning: Recommendations for moving forward with a bioregional marine protected area network on the Scotian Shelf

By

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The undersigned hereby certify that they have read and recommend to Marine Affairs Program for acceptance a graduate research project titled “Engaging stakeholders in marine conservation planning: Recommendations for moving forward with a bioregional marine protected area network on the Scotian Shelf” by Katherine Hastings in partial fulfilment of the requirements for the degree of Master of Marine Management.

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## **ABSTRACT**

It is widely recognized that engaging stakeholders in marine protected area (MPA) network planning is critical for ensuring the long-term success of this conservation tool. Participatory decision-making leads to smoother implementation and enhanced compliance with regulations, while also promoting social learning, fairness, and public trust. In spite of compelling evidence for effective stakeholder engagement, it is not uncommon for MPAs to fail because of poor engagement processes. This project endeavours to elucidate some of the best practices in stakeholder engagement, and how they have been applied to MPA network planning. An appraisal of relevant literature revealed several key best practices in participatory decision-making, which include: fostering meaningful participation; engaging early; establishing clear objectives; conducting transparent processes; flexibility; acquiring independent facilitation; incorporating socioeconomic data; and, utilizing local knowledge. An examination of two international case studies, namely, the California Marine Life Protection Act and the United Kingdom Marine Conservation Zone Project, demonstrated how these best practices have been applied in different contexts. Lessons learned through this research informed a set of recommendations for Fisheries and Oceans Canada (DFO)-Maritimes Region as they embark on MPA network planning in the Scotian Shelf bioregion. By taking the information in this project under advisement, it is believed that DFO could develop a strong public participation strategy for this initiative.

*Keywords:* marine protected areas, network planning, stakeholder engagement, best practices, California Marine Life Protection Act, United Kingdom Marine Conservation Zone Project, Scotian Shelf, Canada



## LIST OF ABBREVIATIONS USED

AOI	Area of Interest
BoF	Bay of Fundy
BRTF	Blue Ribbon Task Force
CBD	Convention on Biological Diversity
CC	Central Coast
CDFG	California Department of Fish and Game
CFGC	California Fish and Game Commission
CNSOPB	Canada-Nova Scotia Offshore Petroleum Board
CRA	California Resources Legacy
DEFRA	Department for Environment, Food and Rural Affairs
DFO	Department of Fisheries and Oceans
EBSA	Ecologically and Biologically Significant Area
ESS	Eastern Scotian Shelf
ESSIM	Eastern Scotian Shelf Integrated Management
GDP	Gross Domestic Product
GIS	Geographic Information System
IUCN	International Union for Conservation of Nature
HOTO	Health of the Oceans
JNCC	Joint Nature Conservation Committee
LOMA	Large Ocean Management Area
MCAA	Marine and Coastal Access Act
MCZ	Marine Conservation Zone
MLPA	Marine Life Protection Act
MOU	Memorandum of Understanding
MPA	Marine Protected Area
NC	North Coast
NCC	North Central Coast
NCS	Named Consultative Stakeholder
NE	Natural England
NGO	Non-Governmental Organization
OCMD	Oceans and Coastal Management Division
RLFF	Resources Legacy Fund Foundation
RSG	Regional Stakeholder Group
SAP	Science Advisory Panel
SAT	Science Advisory Team
SC	South Coast
SFB	San Francisco Bay
SIG	Statewide Interests Group
SNCB	Statutory Nature Conservation Body
UK	United Kingdom
US	United States
WSS	Western Scotian Shelf

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## CHAPTER 1. INTRODUCTION

### 1.1. OVERVIEW AND PROJECT MOTIVATION

Canada is a maritime nation, boasting the world's longest coastline and second largest exclusive economic zone (DFO, 2005a). For centuries, strong cultural and economic ties to the sea have been forged in communities from coast to coast to coast. However, the health of Canada's marine ecosystems is in a state of decline. Our once thriving seas are now severely threatened by over-exploitation, pollution, and climate change. As a result, so too are the livelihoods of hundreds of thousands of Canadians who rely directly on the sea and its resources. In 1996, the Government of Canada passed the *Oceans Act*, which provided the framework for a new, more holistic approach to oceans management. The Act adopted the modern concepts of sustainable development, the ecosystem approach, the precautionary approach, and integrated management. Guiding the ongoing effort to put these concepts into practice is an overarching goal of ensuring "healthy, safe and prosperous oceans for the benefit of current and future generations of Canadians" (DFO, 2002a, p. 10).

The *Oceans Act* includes a provision for the development of a national system of marine protected areas (MPAs) under the leadership of Fisheries and Oceans Canada (DFO). MPAs represent a key management strategy for conserving biodiversity, and are employed all over the world (IUCN-WCPA, 2008). At present, Canada is in the process of adjusting its approach to MPA planning to reflect international best practices, which include the development of ecologically representative MPA networks (DFO, 2010a). Network planning will proceed at a bioregional level once national guidance has been

finalized. In anticipation of these bioregional planning processes, this project surveys best practices in engaging stakeholders in MPA network planning. The motivation for this investigation stems from a strong consensus in the literature that the involvement of stakeholders in MPA planning and management is paramount to the long-term success of the MPAs (e.g. Kelleher, 1999; Agardy, 2000; Kessler, 2004; Dalton, 2005; Toropova et al., 2010). In spite of this widespread recognition, Agardy et al. (2011) pointed out that “[a] far-too-common phenomenon that dooms many an MPA to failure is insufficient involvement of stakeholders in the planning process” (p. 227). Moreover, Pomeroy & Douvère (2008) asserted that “[a]lthough a broad range of policy and legal documents hold a strong need for the identification and involvement of stakeholders, neither of them provide a process for doing so in practice” (p. 817). With all of these points in mind, this project endeavours to formulate a set of recommendations for moving forward with MPA network planning in the Scotian Shelf bioregion. This bioregion is located off the east coast of Canada, and falls under the jurisdiction of the DFO-Maritimes administrative region (Figure 1). The Oceans and Coastal Management Division (OCMD), specifically, is responsible for bioregional network planning. OCMD staff have been working hard to prepare for this undertaking, and are committed to its success. Recognizing the importance of effective stakeholder engagement to achieving this success, they expressed a keen interest in this project. In May 2011, the author completed an internship in the division, and had the opportunity to gain firsthand insights into their ongoing MPA planning efforts. This included assisting with the collection of coastal human use data and preparing for the upcoming stakeholder consultation on the newest Scotian Shelf MPA candidate.

This project builds on the earlier work of Hedley & Willison (2007), who also examined best practices in stakeholder engagement in the Canadian context. Emphasis is placed on the applicability of these practices to MPA network planning, using two international case studies as examples. Lessons learned from these case studies, and a review of the literature, informs the recommendations for OCMD.



FIGURE 1. The six administrative regions of Fisheries and Oceans Canada (DFO, 2008).

## 1.2. RESEARCH QUESTIONS AND METHODOLOGY

The questions that directed the research for this project are as follows:

- What are key factors to consider when engaging stakeholders in MPA planning?
  - What are current best practices? What should be avoided?
- How can best practices be applied to the forthcoming MPA network planning efforts in the Canadian Scotian Shelf bioregion?

Answers to these questions were sought through an extensive literature review of relevant academic journal articles, legislation, policy, and grey literature (e.g. technical reports, government publications). This literature review drew primarily from material related to

MPAs and marine spatial planning; however, a small sampling of participation-oriented literature also contributed to this review.

An in-depth examination of two case studies helped illustrate how best practices in stakeholder engagement have been applied to MPA network planning in other regions. The following case studies were analyzed:

- The Marine Life Protection Act in California, United States (US); and,
- The Marine Conservation Zone Project in the United Kingdom (UK).

These specific initiatives were chosen as good examples of large-scale, participatory MPA network planning. Each region adopted the same basic model, which they executed differently. There are process design elements from both examples that could be tailored to fit the Canadian context. Further insights into the successes and challenges associated with each case study were gained through informal telephone and email discussions with several MPA practitioners (introduced in Chapter 5). Their names and comments have been used in this report with their permission, and all personal communications have been quality assured.

*\*A note on terminology:*

There are many different terms used to describe protected areas in the marine environment. These include, for example, “marine reserve”, “marine conservation area”, “marine managed area”, “marine park”, “marine sanctuary”, and others. These terms are often used interchangeably, even though they may connote differing levels of protection depending on the country or specific context. Following Agardy (2000), the term “marine protected area” is assumed to encompass all other terms.

There are also nuances in the meanings of “stakeholder engagement” and “public

participation” throughout the literature. For the purposes of this project, these two terms are considered synonymous, and will be defined as “the practice of consulting and involving members of the public [stakeholders] in the agenda-setting, decision-making, and policy-forming activities of organizations or institutions responsible for policy development” (Rowe & Frewer, 2004, p. 512). Furthermore, this definition is seen to apply regardless of whether the engagement mechanisms empower the participants.

## CHAPTER 2. MARINE PROTECTED AREAS

### 2.1. DEFINITION AND PURPOSE OF MPAS AND MPA NETWORKS

A frequently cited and globally accepted definition of a protected area (marine or terrestrial) is provided by the International Union for Conservation of Nature (IUCN): “A clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values” (Dudley, 2008, p. 8). The IUCN developed a six-category system for describing the different levels of protection and/or management objectives that may be associated with protected areas (Table 1). A MPA is often zoned such that several different IUCN categories are represented within its boundaries. These MPAs are referred to as “multiple-use”, as they accommodate a variety of human uses while maintaining some level of protection throughout<sup>1</sup>. Multiple-use MPAs are common because they strike a balance between conservation and sustainable use objectives, ensuring the socioeconomic needs of adjacent communities are also addressed (IUCN-WCPA, 2008).

Category	Category Name	Management Approach
Ia	Strict nature reserve	Highly restricted human access
Ib	Wilderness area	Limited use by indigenous and local communities
II	National park	Focus is on recreation/education
III	Natural monument or feature	Focus is on a specific feature
IV	Habitat/species management area	Focus is on a specific habitat or species
V	Protected landscape/seascape	Focus is on human-nature interaction
VI	Protected area with sustainable use of natural resources	Allows for “low-level non-industrial use of natural resources”

TABLE 1. IUCN protected area categories (adopted from Dudley, 2008).

<sup>1</sup> Therefore, MPAs incorporating only Category Ia are strictly ‘no-take’.



Over the past decade, there has been a surge in MPAs worldwide, with a rise of more than 150% in protected area coverage between 2003 and 2010 (Toropova et al., 2010). Even so, the total global MPA coverage falls far short of international targets (see Table 2), and lags behind terrestrial protection substantially. While nearly 14% of the world's land area is protected, a mere 1.17% of the oceans are protected (Spalding et al., 2010; IUCN, 2011). The increasing use of MPAs as an ocean management tool is part of a global response to suffering coastal and ocean ecosystems, and the vast resources and services they provide. Humans are at the root of this ecosystem degradation, having historically over-exploited fish stocks, allowed marine- and terrestrially-based pollutants to enter the seas, and forced significant global warming. In 2008, Halpern et al. asserted that the entire world ocean area has been influenced in some way by 'anthropogenic drivers of ecological change', and that 41% has been strongly affected by multiple drivers. MPAs represent one tool through which further harm to the oceans may be lessened or prevented, and existing damage mitigated. In addition to the obvious conservation value of protected areas, there are many benefits that can be accrued to human users through the implementation of MPAs. Angulo-Valdés & Hatcher (2010) grouped these benefits under five main headings:

- 1) Fishery benefits (e.g. spillover of adults and juveniles from no-take areas into fished areas; improved spawning habitats);
- 2) Non-fishery benefits (e.g. diversification of the ocean economy and associated job creation; increased recreational opportunities);
- 3) Management benefits (e.g. reduction in use/user conflicts; promotion of holistic management approaches);

- 4) Education/research benefits (e.g. by providing sites where long-term scientific monitoring can occur; public education and outreach opportunities);
- 5) Cultural benefits (e.g. enhanced conservation appreciation; improved peace-of-mind).

Angulo-Valdés & Hatcher (2010) noted that the prospect of fisheries benefits is what tends to garner the most support for MPAs. However, many have cautioned against viewing MPAs as a panacea for fisheries management (e.g. Hilborn et al., 2004; Kaiser, 2005). Although MPAs have had demonstrable benefits for certain sessile species, these benefits are not as easily realized for highly mobile species. Careful MPA planning is required to attain such large-scale fisheries benefits (e.g. Gaines et al., 2010).

To further enhance the conservation (and fishery) benefits of MPAs, nations and their MPA practitioners are being encouraged to develop ecologically representative MPA *networks*. IUCN-WCPA (2008) defined a MPA network as: "...a collection of individual MPAs or reserves operating cooperatively and synergistically, at various spatial scales, and with a range of protection levels that are designed to meet objectives that a single reserve cannot achieve" (p. 12). If designed correctly, a network can provide widespread, inclusive biodiversity protection, while incurring fewer socioeconomic impacts than a single, large MPA. Furthermore, as the threat of climate change grows, well-designed MPA networks may help to ensure the resilience of ocean ecosystems in the face of environmental fluctuations and catastrophic events (Laffoley et al., 2010). Five network design criteria were put forth in Decision IX/20 of the Ninth Meeting of the Conference of the Parties to the Convention on Biological Diversity (CBD) (CBD, 2008). The design criteria include:

- 1) Ecologically and biologically significant areas (EBSAs): The network should encompass areas that have special importance (e.g. habitat or species rarity, high biodiversity, critical habitat, etc.).
- 2) Representativity: The network should include sites in each biogeographic region to capture the full range of marine biota and habitats.
- 3) Connectivity: The network should facilitate the natural linkages between different areas by protecting key sites that account for different life cycle stages, migration corridors, larval dispersal patterns, etc.
- 4) Replicated ecological features: Multiple sites protecting similar habitats/species safeguard against the possibility of damage arising from environmental variability and/or catastrophic events.
- 5) Adequate and viable sites: The selected sites should be of sufficient size and protection level such that the features they are intended to protect are protected effectively.

## **2.2. INTERNATIONAL MPA COMMITMENTS**

In recent decades, provisions for the protection of marine resources and/or ecosystems have been enshrined in international law and policy (e.g. Toropova et al., 2010). Under this guidance, marine conservation has become progressively more holistic, with an ecosystem-based approach being adopted in lieu of a single-species approach. In addition, a number of spatiotemporal targets for MPA coverage have been set (see Wood, 2011), in spite of the fact that the value and realism of these numeric targets has come into question (e.g. Agardy et al., 2003). The key international targets are summarized in Table 2.

Target name	Date adopted	Deadline	Target	Target pertains to:
World Summit on Sustainable Development	2002	2012	Representative network of MPAs	Global ocean
IUCN World Parks Congress	2004	2012	20-30% <sup>1</sup>	Global ocean
Convention on Biological Diversity				
<i>7th Conference of the Parties</i>	2004	2012	Representative network of MPAs	Areas under national jurisdiction
<i>8th Conference of the Parties</i>	2006	2012	10%	Areas under national jurisdiction
<i>10th Conference of the Parties</i>	2010	2020	10% <sup>2</sup>	Areas under national jurisdiction

<sup>1</sup> refers to 'strict protection'

<sup>2</sup> original 2006 target extended due to slow progress

**TABLE 2.** Major international MPA targets (adapted from Wood et al., 2011).

### 2.3. MPAs IN CANADA

DFO has the lead responsibility for oceans management in Canada, as mandated by the *Oceans Act* (1996). The Act legislated the development and implementation of an oceans strategy (see DFO, 2002a; 2002b) based on the principles of sustainable development, integrated management, and the precautionary principle. As a means toward achieving integrated management, the Act bestowed the Minister of Fisheries and Oceans with the authority to recommend designation of MPAs in Canadian waters. These particular MPAs are referred to as *Oceans Act* MPAs, and will be discussed in more detail in Section 2.4. DFO is not the sole management body acting in the marine environment. In addition to *Oceans Act* MPAs, there are two other core federal MPA programs in Canada: Marine Wildlife Areas (established by Environment Canada) and National Marine Conservation Areas (established by Parks Canada) (DFO, 2005a). In

fact, marine protective measures may be enacted under the auspices of approximately eight federal, and 40 provincial/territorial, legislative and regulatory tools (DFO, 2010b). However, the vast majority (84%) of the total marine area protected is managed federally. To promote interdepartmental cooperation in the establishment and management of a network of MPAs in Canadian waters, the *Federal Marine Protected Areas Strategy* was developed (DFO, 2005a). This strategy addressed one of the deliverables under the “Health of the Oceans” (HOTO) pillar introduced in *Canada’s Ocean Action Plan* (DFO, 2005b). In 2007, a series of five-year funding packages were announced for HOTO initiatives (DFO, 2010c). In addition to agency-specific funding for their individual MPA programs, DFO, Environment Canada, and Parks Canada were together allotted several million dollars for the implementation of the *Federal Marine Protected Areas Strategy*. In spite of this funding boost, little measurable progress has been made toward achieving the objectives of the strategy. Certainly, if the current pace of implementation is maintained, Canada will be hard-pressed to meet its international commitments and legal obligations to marine conservation (e.g. as a signatory to the CBD).

In 2010, DFO, in collaboration with a Technical Experts Committee composed of other federal, provincial, and territorial government representatives, drafted the *National Framework for Canada’s Network of Marine Protected Areas* (DFO, 2010a). This development has been viewed as a “promising sign” that Canada may shift to a more efficient model of MPA planning and implementation (Jessen, 2011). The framework provides strategic guidance for a national MPA network, which will have its foundation at the bioregional level (Figure 2) (DFO, 2010a). Thirteen major biogeographic units have been identified in Canada’s oceans (and Great Lakes) based on oceanographic and

bathymetric features (DFO, 2009a). Science-based guidelines for MPA network planning in the Canadian context (DFO, 2010d) draw on this classification scheme, as well as the EBSA identification guidelines produced by DFO in 2005 (see DFO, 2005c). These MPA network guidelines closely follow the design criteria put forth by the CBD (DFO, 2010d). Science, policy, and planning guidelines for establishing MPA networks have also been developed by national NGOs, including World Wildlife Fund-Canada (Day & Roff, 2000; Smith et al., 2006; Smith et al., 2009), and most recently, the Canadian Parks and Wilderness Society (Jessen et al., 2011).

The draft national framework (i.e. DFO, 2010a) proposed an eight-step planning process for the bioregional MPA networks, which is summarized below, with some additional discussion as appropriate:

- 1) *Identify and involve stakeholders.* The framework calls for stakeholders to be “directly involved in the planning process from the onset and throughout” (DFO, 2010a, p. 9). However, it is unclear exactly how, and to what extent, stakeholders are to be involved. The framework alludes to the fact that the government-led bioregional planning teams “may be expanded to include other directly implicated government departments, Aboriginal organizations and economic or environmental stakeholders...that have mechanisms for protecting areas” (DFO, 2010a, p. 8). The vagueness of this statement raises many questions. Under what circumstances would stakeholders be invited to partake in the planning team? How many stakeholders would be permitted to participate in this capacity? And, most importantly, what would their role be on the planning team? How much sway would they have in the decision-making process surrounding potential

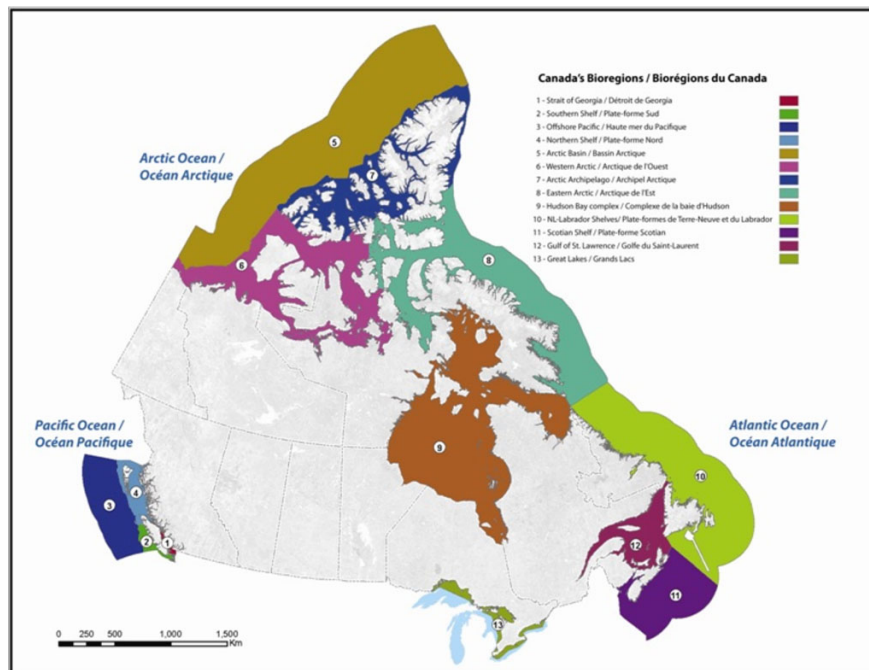
network designs? These questions will remain unanswered until the national guidance is finalized, and bioregional network planning formally gets underway.

- 2) *Compile ecological and socioeconomic data.* This is an important step, particularly from the point of view of socioeconomics. Because MPA networks are principally designed to achieve conservation objectives, rigorous ecological data collection is a given. However, socioeconomic data is often either given lesser attention or ignored altogether. The negative ramifications of such neglect were seen in the first phase of MPA network planning in the Scotian Shelf bioregion (see discussion in Chapter 6). The explicit inclusion of socioeconomics in the draft national framework will presumably help avoid such negative feedback in the future, depending on how the data is collected and used in the planning process.
- 3) *Set network objectives.*
- 4) *Set conservation targets and apply network design principles.*
- 5) *Review existing or proposed conservation measures; perform gap analysis; consider potential economic and social impacts of proposed new MPA sites.* The national framework commits to MPA network planning that achieves the objectives of the bioregional network while “minimiz[ing] socioeconomic impacts to the extent possible” (DFO, 2010a, p. 9). The framework identifies the conservation planning software Marxan as a “communications tool” that could be used to “fuel discussions with stakeholders” by providing the opportunity to visualize different network scenarios (DFO, 2010a, p. 9). Again, the degree to which stakeholders would be involved in the actual development of those network

scenarios is unclear. It is possible that stakeholders will simply be consulted on a series of pre-determined network designs.

- 6) *Identify jurisdiction and appropriate conservation measures to protect each priority area identified; finalize bioregional network plan.*
- 7) *Undertake site-specific planning and implementation.*
- 8) *Manage and monitor MPA network.*

The framework has yet to be finalized, and thus one can only speculate as to how the overarching guidance it provides will be carried out, and whether it will ultimately be effective. No timeline is provided for network completion; rather, implementation will proceed over time “as resources allow” (DFO, 2010a, p 2). Regardless, the framework has situated Canada in a better position to move forward, and provides reason for optimism.



**FIGURE 2.** Canada's marine bioregions (DFO, 2010a). Note that the region of interest in the present study is the Scotian Shelf bioregion, which is shaded in dark purple (number 11).



## 2.4. OCEANS ACT MPAS

The *Oceans Act* (1996) is the principal legislative tool employed by DFO to establish MPAs; however, they also have the authority to impose fisheries closures under the *Fisheries Act* (1985) and to protect critical habitat under the *Species at Risk Act* (2002). Part 35 of the *Oceans Act* dictates that a MPA may be designated in Canadian waters to conserve and protect one or more of the following:

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

The establishment of *Oceans Act* MPAs have historically followed a basic six-step process (DFO, 1999):

- 1) Identification of an “Area of Interest” (AOI);
- 2) Initial screening of the AOI;
- 3) Detailed AOI evaluation<sup>2</sup> (i.e. ecological, technical, and socioeconomic overviews), followed by a recommendation to the Minister (i.e. with respect to whether the AOI should be considered further as a MPA candidate);
- 4) Development of a management plan for the candidate MPA site<sup>3</sup>;
- 5) Formal designation of the MPA, including regulations and zoning;

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<sup>2</sup> Ministerial approval of the AOI is required prior to this step being completed.

<sup>3</sup> Step 4 may be completed concurrently with Step 5.

6) Ongoing MPA management.

For each *Oceans Act* MPA established to date, this process has taken several years to complete. There are currently eight such MPAs in Canadian waters, and an additional seven AOIs (DFO, 2010b; DFO, 2011a). Two of these MPAs, The Gully and Musquash Estuary, are located in the Scotian Shelf bioregion, as is the recently announced St Anns Bank AOI.

The *Oceans Act* (1996) provides no explicit provisions for engaging stakeholders in MPA planning and designation. However, Part 33(2) sets a precedent for consultation with affected stakeholders on any initiatives falling within the purview of the *Oceans Act*. Economic sustainability is not a stated objective in any of the Parts, and there are no provisions for the consideration of socioeconomic factors in the establishment of *Oceans Act* MPAs. In spite of this, the recently released draft national MPA framework states the following as one of three high-level goals for the network:

To support the conservation, protection and wise management of Canada's living marine resources and their habitats, **and the socio-economic values and ecosystem services they provide to present and future generations.** (DFO, 2010a, p. 5, emphasis added)

Furthermore, one of the guiding principles of the framework is to “incorporate socio-economic imperatives where possible” (DFO, 2010a, p. 6), which is also reflected in the proposed eight-step network planning process discussed in Section 2.3. The framework calls for timely stakeholder involvement, and “open and transparent processes” (DFO, 2010a, p. 6). Similarly, the federal MPA strategy calls for “enhanc[ed]... stakeholder engagement in marine protected area planning and establishment” (DFO, 2005a, p. 12),

and “increas[ed] awareness, understanding and participation of Canadians in the marine protected areas network” (p. 13). From a policy perspective, at least, DFO and its federal partners have committed to engaging stakeholders in the forthcoming MPA bioregional network planning initiatives. How and to what extent this engagement will occur remains unclear.

In 2004, DFO released a consultation framework intended to “build a common understanding and coordinated approach to consultations in support of departmental decision-making processes” (DFO, 2004a, p. 1). This framework was accompanied by a consultation ‘toolbox’, which supports the implementation of the framework by providing the “practical guidance and tools for planning and evaluating consultations” (DFO, 2004b, p. 1). DFO’s consultation framework is based upon nine principles:

- 1) *Commitment*: Strong leadership and adequate resources (human, financial, and technical) are required to support a consultation process.
- 2) *Evaluation*: To determine the success of a consultation, it should be evaluated against its prescribed objectives both during, and following, the process.
- 3) *Timing*: Consultation participants require adequate time to prepare for, and meaningfully engage in, a consultation process. Consultation timeframes should take into account participant availability and the anticipated level of controversy associated with the consultation subject.
- 4) *Inclusiveness*: Consultations should include “the appropriate range of groups or individuals that may have an interest in, be affected by or can make a meaningful contribution to a government decision” (DFO, 2004a, p. 18).
- 5) *Accessibility*: The consultation method(s) should reflect due consideration of

how affected stakeholders would prefer to be consulted. Comprehensive information on the consultation, as well as the subject of the consultation, should be easily accessible and provided in a timely manner.

- 6) *Clarity*: The objectives of the consultation, and how the input received will be incorporated into decision-making, should be clear to participants. Supporting documentation for the consultation should be in ‘plain language’ to ensure a universal understanding of the issues.
- 7) *Accountability*: The roles and responsibilities of consultation participants, including the managing agency, should be defined from the outset. This includes legislative, regulatory, and policy obligations.
- 8) *Transparency*: The consultation process should be thoroughly documented, and results should be communicated back to the participants.
- 9) *Coordination*: Consultations should not be conducted in isolation. The planning and results of a consultation should be considered within the context of other initiatives within the department, as well as those in other departments and sectors. An effort should be made to maintain strong coordination and communication among interested parties.

Further guidance with respect to consulting with Aboriginal groups is also provided. DFO must honour the fiduciary relationship between the Government of Canada and Aboriginal peoples by ensuring they do not “unjustifiably infringe Aboriginal or treaty rights” (DFO, 2004a, p. 31).

## CHAPTER 3. THE SCOTIAN SHELF BIOREGION

### 3.1. HUMAN USES OF THE SCOTIAN SHELF

The Scotian Shelf bioregion is an intensely used ocean area, with a multitude of user groups competing for space and resources. The ocean sector, which is comprised of a broad suite of activities yielding economic impact (Table 3), contributed 15.5% of the provincial Gross Domestic Product (GDP) in Nova Scotia in 2006 (Gardner et al., 2009). In the same year, 13.9% of provincial employment resided in the ocean sector, accounting for over 60,000 jobs. The ocean clearly plays an integral role in both the livelihoods of individual Nova Scotians, and the economic viability of coastal communities across the province. Consequently, there are many stakeholders and other interest groups that must be taken into consideration when making management decisions about ocean use.

Sector	Activity
Seafood	Fishing Aquaculture Fish processing
Oil & gas	Exploration/production Field development
Transportation	Water transportation Support activities
Tourism	Recreational fishing Cruise ship travel Coastal recreation
Construction	Ports & harbours
Manufacturing	Ship & boat building Navigation equipment
Public sector	Federal government Provincial government Universities/research

**TABLE 3.** Major ocean activities occurring in the Scotian Shelf bioregion and the adjacent Province of Nova Scotia (adapted from Gardner et al., 2009).

The commercial fishing industry has a centuries-old history in the Scotian Shelf bioregion, having formed the cultural and economic backbone of many coastal communities in Nova Scotia. There are currently over 30 directed fisheries in the region (DFO, 2011b). Traditionally, groundfish (especially cod, haddock, pollock) and coastal shellfish have been the most heavily exploited fisheries (DFO, 2005d). However, in 1993, the cod and haddock fisheries were closed over much of the Eastern Scotian Shelf (ESS) due to stock collapse, and remain closed today (Figure 3; DFO, 2011b). This closure prompted significant change in the fishing industry, with many fishermen and fish processors leaving the industry, and others shifting their effort to different target species (DFO, 2005d). Although the groundfish fishery continued to thrive in the Western Scotian Shelf (WSS) and Bay of Fundy (BoF) regions, groundfish have become far less important in the total landed value of the commercial seafishery in the decades since the collapse. Now, invertebrate fisheries account for the highest proportion (80% in 2003) of the total landed value (DFO, 2005d), and fisheries for non-traditional species (e.g. sea cucumber, whelk, hagfish) are emerging (DFO, 2011b). In 2006, the commercial fishing industry as a whole had the third highest GDP impact (following national defence, oil and gas) and second greatest employment impact<sup>4</sup> (following national defence) of all the ocean-related activities in Nova Scotia (Gardner et al., 2009). DFO is responsible for regulating, managing, and enforcing the commercial fisheries in Canada under the *Fisheries Act* (1985).

There are 13 Mi'kmaq First Nations in Nova Scotia, who collectively have the longest-standing connection to the land and sea surrounding the province (DFO, 2011b). In 1999, a Supreme Court of Canada ruling (i.e. the *Marshall* decision) reaffirmed the

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<sup>4</sup> Measured in full-time equivalents (FTEs).

treaty right of Aboriginals to fish for a “moderate livelihood”. Since then, there has been a considerable increase in the landed value of Aboriginal fisheries (tripling between 2000 and 2006), as well as the number of Aboriginals employed in fishing (60% increase in employment over roughly the same period) (DFO, 2011b). In addition to this commercial use, Aboriginals have constitutionally protected rights to fish for food, social, and ceremonial purposes, which may not be infringed upon by legislation or regulation “except where required to fulfill the responsibility of the state to conserve” (i.e. Jessen et al., 2011, p. 49; in reference to the 1990 Supreme Court *Sparrow* decision).

In the late 1990s and early 2000s, there was a notable increase in oil and gas interests on the Scotian Shelf (DFO, 2011b). During that time, the Canada-Nova Scotia Offshore Petroleum Board (CNSOPB), which is the joint federal-provincial regulatory body for petroleum development in the Nova Scotia offshore, issued dozens of exploratory and significant discovery licences to industry. Since then, however, interest has declined substantially. The number of active exploratory licences in March 2011 was four, down from 57 in March 2003 (DFO, 2011b). The majority of licences are, or have been, for areas on or near the Scotian Slope, where significant hydrocarbon deposits are known to exist (particularly in the Sable Sub-basin) (DFO, 2005d). Two major production projects have been implemented to date (both in the vicinity of Sable Island): the Cohasset-Panuke Project (oil extraction; 1992-1999) and the Sable Offshore Energy Project (natural gas extraction; 1999-present) (CNSOPB, 2011). Another natural gas project, the Deep Panuke Offshore Gas Development Project, is due to begin extraction in 2011. In 2006, the oil and gas industry had the second greatest (following national defence) GDP impact of all the ocean-related activities in Nova Scotia and the Scotian

Shelf bioregion (Gardner et al., 2009). However, this industry had a comparatively small employment impact, ranking sixth among the 11 main activity groups.

Other activities/uses in the Scotian Shelf bioregion include numerous active and inactive submarine telecommunications cables, marine research, and military operational activities and training exercises (DFO, 2005d). International and domestic ship traffic is also significant in the region, with seven major ports in Nova Scotia alone. Potential future uses of the Scotian Shelf bioregion include marine renewable energy development (e.g. tidal, wind, and/or wave) and marine mining (DFO, 2011b).

Less is known about the inshore human uses of Nova Scotia's marine environment. The coast is historically data deficient when compared to the offshore; however, the ongoing work of Gromack et al. (2010) is helping to address these deficiencies. Presently, an effort is being made to obtain information on coastal fisheries, recreational activities, development, and the growing number of aquaculture sites. This information will be pertinent when DFO-Maritimes brings their MPA program closer to shore.

Human uses of the ocean have inevitable impacts on marine ecosystems. These impacts range from minimal to devastating, and occur on a variety of timescales. Some of the human-induced pressures affecting the Scotian Shelf include overexploitation of living resources, incidental injury or mortality (e.g. whale strikes, bycatch), benthic habitat disturbance, pollution (e.g. oil, chemical, noise, light, etc.), and cumulative effects (DFO, 2011b). To prevent excessive, or even irreversible, damage, these pressures must be mitigated through appropriate governance and management measures. In Canada, there exists a suite of legislative, policy, and management tools established to ensure the

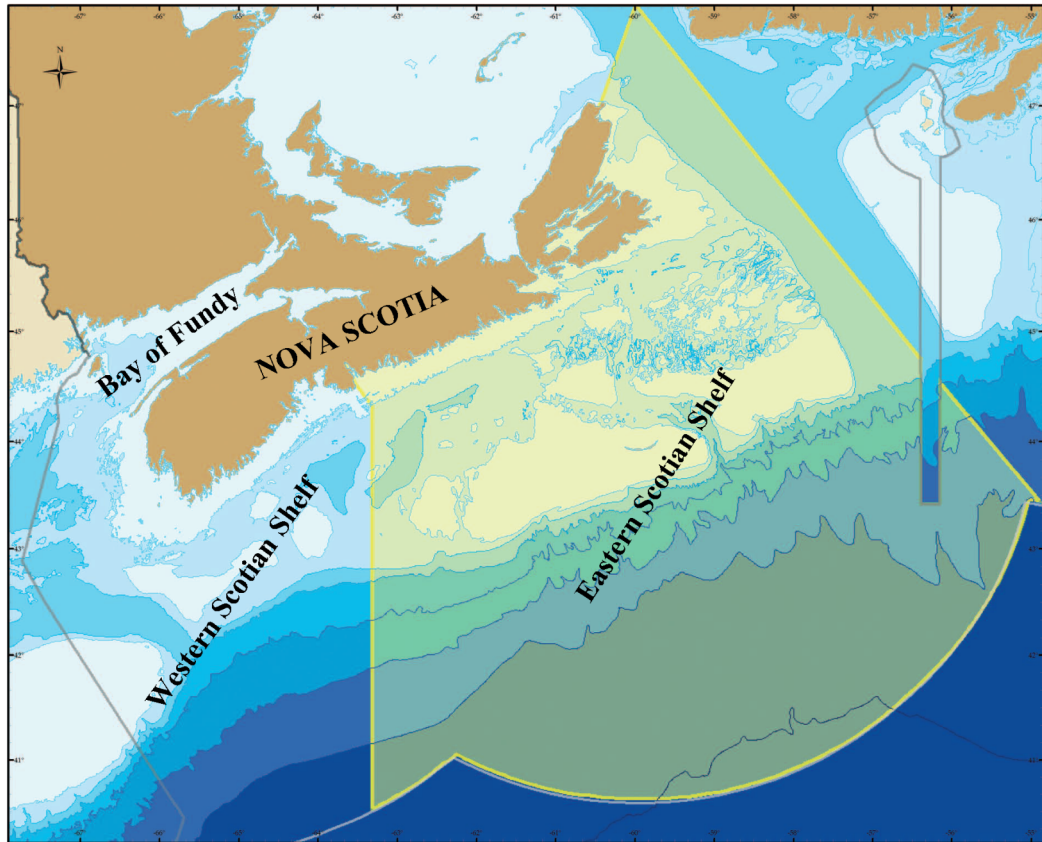


sustainable use and conservation of marine resources and habitats. To apply these tools most effectively, an integrated approach to oceans management is slowly being adopted.

### **3.2. THE EASTERN SCOTIAN SHELF INTEGRATED MANAGEMENT AREA**

The development and implementation of integrated management plans in Canada's oceans was called for in the *Oceans Act* (1996), and is one of three principles underlying *Canada's Ocean Strategy* (DFO, 2002a). DFO-Maritimes became the first region to pilot an integrated management initiative, with an announcement to this effect made in 1998 (Rutherford et al., 2005). The planning area for this initiative is the ESS, which is one of five priority Large Ocean Management Areas (LOMAs) across the country (DFO, 2005b). The ESS LOMA encompasses approximately 325,000 square kilometres of highly productive and sought-after ocean space (Figure 3; DFO, 2007). Nearly a decade of collaborative planning among government departments, ocean users, and other stakeholders culminated in the Eastern Scotian Shelf Integrated Management (ESSIM) Plan (i.e. DFO, 2007). Continued collaboration on ESSIM-related matters is facilitated through two major stakeholder bodies (the ESSIM forum and the Stakeholder Advisory Council), and two intergovernmental forums (the Regional Committee on Ocean Management and the Federal-Provincial ESSIM Working Group). Being founded on principles that include conservation and ecosystem-based management, the ESSIM Initiative is a natural vehicle for marine conservation planning in the Scotian Shelf bioregion. Indeed, *Canada's Federal Marine Protected Areas Strategy* suggests that MPA network planning occur within broader integrated management planning. However, the ESSIM area represents only a portion of the Scotian Shelf bioregion-at-large. There remain two other major sub-areas that have yet to undergo integrated

management and conservation planning: the WSS and BoF (Figure 3).



**FIGURE 3.** The jurisdictional boundary of the DFO-Maritimes region (adapted from DFO, 2005d). The area shaded in yellow is the ESSIM planning area. The other two major areas, the Western Scotian Shelf and the Bay of Fundy, are also indicated.

### **3.3. BIOREGIONAL MPA NETWORK PLANNING**

DFO-Maritimes is currently in the first phase of a long-term bioregional MPA network planning initiative (DFO, 2009b). This planning effort continues to be supported by region-specific MPA network analysis using available ecological, biological, and physical data (see, for example, Horsman et al., 2011). To date, socioeconomic information has not been explicitly incorporated into regional network designs. In 2008, a DFO-Maritimes working group identified a preliminary suite of ‘ecological priority areas’ using the Marxan conservation planning software (Figure 4; DFO, 2009b). By

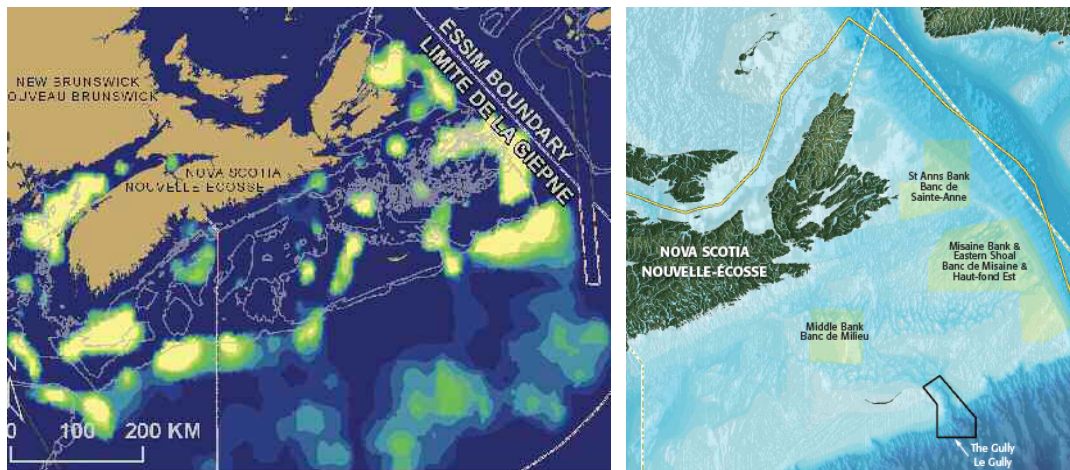
process of elimination, three candidate AOIs were chosen for further consideration: St Anns Bank, Misaine Bank & Eastern Shoal, and Middle Bank (Figure 4). All three of these candidates demonstrate adherence to *Oceans Act* MPA criteria and do not overlap with existing or planned conservation measures. They also fall within the ESSIM planning area, where the first new MPA in the network was to be established.

A broad-based public consultation process was held on the three candidate AOIs, marking the first time the public had been *formally* consulted on the selection of an *Oceans Act* AOI (M. King<sup>5</sup>, personal communication, August 15, 2011). In many ways a pilot project, the consultation experienced some hiccups, but nonetheless marked an important step toward more inclusive MPA planning in the region. The consultation was originally scheduled to run from 13 October 2009 to 11 December 2009 (DFO, 2011c). However, due to two unforeseen extensions, the process came to a close five months later than anticipated, on 14 May 2010. The first extension was granted at the request of the stakeholders, who felt that the original 60-day period was too short for thorough, meaningful consultation. The second extension was made to allow sufficient time for further discussion of the AOIs following the mid-consultation development and release of site-specific socioeconomic profiles. Public/stakeholder feedback was primarily solicited through a form included in the consultation booklet (made available in hard copy and online; see DFO, 2009b). One hundred and fifty-eight of these feedback forms were returned (DFO, 2011c). Seventy (mostly bilateral) in-person meetings with stakeholder groups were held, and can be broken down as follows: fishing industry (32), government (20), Aboriginal groups (6), academics (4), NGOs (3), ESSIM Stakeholder

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<sup>5</sup> Marty King works in the Protected Areas and Conservation Planning section of OCMD at DFO-Maritimes.

Advisory Committee (3), oil and gas (2). Direct feedback was also encouraged. Full contact information for the DFO-Maritimes office was provided in the consultation booklet (DFO, 2009b). An additional 53 phone calls and 24 formal written submissions were received at the regional office, and seven emails were sent directly to the Minister of Fisheries and Oceans (DFO, 2011c). To stay abreast of developments related to the forthcoming MPA designation process, interested individuals could submit a ‘Stay in the Loop’ form, which was both enclosed in the consultation booklet and available online (DFO, 2009b). Following the consultation, DFO-Maritimes recommended one of the candidate sites to the Minister of Fisheries and Oceans for approval as the next *Oceans Act* AOI. An official announcement of approval for the St Anns Bank AOI came on 8 June 2011, over a year after the close of the consultation period (DFO, 2011d).



**FIGURE 4.** Output from a Marxan analysis of the Scotian Shelf bioregion (left), and the locations of the three areas chosen as candidate AOIs (right) (DFO, 2009b).

The St Anns Bank AOI is a 5100 square kilometre area characterized by high biodiversity, unique oceanographic conditions, and sensitive bottom habitat (DFO, 2009b). Situated along a common migratory route, numerous marine mammal and fish species pass through the area every year, including the endangered blue whale and

bluefin tuna. St Anns Bank is also host to populations of at-risk species such as Atlantic wolffish, Atlantic cod, and foraging leatherback turtles. There are several commercial fisheries operating in the AOI; however, the groundfish and snow crab fisheries account for the vast majority of this activity (DFO, 2010e). As a whole, fishing activity has declined substantially in the St Anns Bank AOI over the past decade. In 2008, the total landed value of fish caught in the AOI was less than 10% of its value in 2003, representing a drop of roughly one million dollars. There are currently no exploratory or production licences for oil and gas, no active submarine cables, and no First Nations fishing licences in the AOI (DFO, 2010e). However, there is an important commercial shipping route that traverses the St Anns Bank AOI region (DFO, 2005d; DFO, 2011c). Nonetheless, given the relatively limited human use in this AOI, it is not surprising that it was the most amenable to stakeholders, especially when compared to the other two areas, each of which supports highly lucrative fisheries (DFO, 2010f; DFO, 2010g; DFO, 2011c).

## **CHAPTER 4. STAKEHOLDER ENGAGEMENT**

### **4.1. WHO IS A STAKEHOLDER?**

The simplest definition of a stakeholder is “anybody that holds a stake or interest in a particular issue” (Bennett, 2002, p. 25). Pomeroy & Douvere (2008) elaborated on what constitutes an ‘interest’, explaining that stakeholders may include: “groups affected by management decisions, groups dependent on the resources to be managed, groups with claims over the area of resources, [and] groups with activities that impact on the area or resources” (p. 818). Moreover, stakeholders usually “hold considerable political and/or economic influence” based on a historical dependence/association with, institutional mandate for, or economic interest in, the resource or area in question (Pomeroy & Douvere, 2008, p. 818).

To ensure that a participatory decision-making process involves “the right people at the right time” (Bennett, 2002, p. 26), it is good practice to conduct a stakeholder analysis (Reed, 2008; see Maguire et al., in press, for an example of a stakeholder analysis). There are many potential stakeholders in an environmental decision, and a stakeholder analysis helps to systematically identify, categorize, and prioritize relevant stakeholders (Reed, 2008). It also may provide insight into the interrelationships, perceptions, and beliefs of certain stakeholder groups (Kessler, 2004; Pomeroy & Douvere, 2008). In this way, the managing agency might anticipate potential points of conflict in a decision-making process (Kessler, 2004). The managing agency should also get a sense of how well individual stakeholders represent their constituencies. This is important because it is highly unrealistic to engage all stakeholders equally in a

participatory decision-making process (Kessler, 2004). In most cases, a representative stakeholder advisory or planning body is formed, which has the most direct role in the decision-making process from the perspective of stakeholder involvement. It is therefore important that its membership be inclusive, reflecting not only the wide array of different interest groups, but also the heterogeneity within these interest groups (Meltzer, 1998; Pomeroy & Douvère, 2008). A thorough stakeholder analysis can help achieve good representation. However, Ritchie & Ellis (2010) cautioned that stakeholder analyses are not foolproof, explaining that they may not effectively capture unorganized or underrepresented groups.

#### **4.2. ENGAGING STAKEHOLDERS IN THE MARINE ENVIRONMENT**

For a number of reasons, engaging stakeholders in marine conservation is a challenging endeavour. First, it can be difficult to convince people of the need to conserve the oceans when so much of the damage wrought by humans is hidden beneath its surface. Because of the remoteness of the oceans, it has been easy for humankind to adopt an ‘out of sight, out of mind’ mentality toward them (e.g. Day & Roff, 2000). This has allowed us to become disconnected from the impacts of our actions. Secondly, for centuries, marine resources have been viewed as ‘common property’ that cannot be subjected to the traditional ownership rights characteristic of land (e.g. Russ & Zeller, 2003). Any given area of the ocean is seen to belong to everyone, and to no one. This has been the prevailing understanding among sea users for so long, that the idea of closing off areas of the sea to resource extraction is generally not well received. For example, as one of the oldest ocean industries, fishing interests have come to consider their open access to fish an “inalienable right” (Agardy, 2000, p. 5). As such, their

opposition to MPAs is often vociferous. Furthermore, it can be expected that fishermen will only become more protective of their livelihood as fish stocks continue to dwindle.

The absence of exclusive ownership at sea results in a complex web of stakeholders in marine resource management and conservation planning. The multitude of different concerns, viewpoints, and values that such a diverse range of interest groups bring to the table make it challenging to converge around a solution that everyone can live with. Achieving such a solution is made even more difficult by the fact that there is often a paucity of socioeconomic data available to MPA planners/managers (Wahle et al., 2003). However, these challenges should not deter managing agencies from striving for meaningful stakeholder engagement.

#### **4.3. HOW ARE STAKEHOLDERS INVOLVED?**

An appraisal of the vast body of literature that exists on stakeholder participation typologies, methods, and their effectiveness is beyond the scope of this project. However, it is informative to briefly consider the general spectrum of participation. In her seminal paper, Arnstein (1969) depicted this spectrum as an eight rung ladder. In this model, the bottom rungs represent degrees of ‘nonparticipation’ (citizens have little to no control over the decision- making process), while the top rungs represent degrees of ‘citizen power’ (citizens have near or complete control over the decision-making process). In the middle are degrees of ‘tokenism’ (citizens are consulted, but do not have any decision-making authority). Building upon the work of Arnstein (1969), several other typologies have since been developed (see e.g. Reed, 2008 for an overview). Figure 5 portrays one such typology, which serves as a simple framework for consideration of the range of participatory processes that may be employed in MPA



planning and management. It has been suggested that a decision-making process that balances both stakeholder-driven ('bottom-up', i.e. Level IV in Figure 5) and government-driven ('top-down', i.e. Level I in Figure 5) approaches is ideal (e.g. Kelleher, 1999; Kessler, 2004). Exactly what this means in practice will vary from case to case, with the 'best' combination depending on the specific context (Jones et al., 2011). Generally speaking, the approach taken by DFO falls somewhere within Level II on the continuum shown in Figure 5. In contrast, both of the case studies discussed in Chapter 5 (i.e. in California and the UK) adopted planning processes falling within Level III of the continuum.

Management Agency Controlled		Stakeholder Controlled	
I	II	III	IV
<p>Management agency has authority, makes the decision, and then informs the stakeholders</p> <ul style="list-style-type: none"> <li>• Telling</li> <li>• Directing</li> <li>• Management agency is accountable and responsible</li> <li>• Management agency is in control</li> <li>• Stakeholders are told about, but not involved in decision making</li> </ul>	<p>Management agency gathers input from the stakeholders before deciding</p> <ul style="list-style-type: none"> <li>• Selling</li> <li>• Coaching</li> <li>• Stakeholder input is gathered as part of the process</li> <li>• Stakeholders are consulted and may have input into the decision</li> </ul>	<p>Stakeholders decide and recommend actions for the agency to implement</p> <ul style="list-style-type: none"> <li>• Participating</li> <li>• Facilitating</li> <li>• Accountability is shared</li> <li>• Stakeholders provide decision to management agency, who then develops an action plan and implements the decision</li> </ul>	<p>Stakeholders decide and act to implement</p> <ul style="list-style-type: none"> <li>• Delegating</li> <li>• Liaisoning</li> <li>• Stakeholders are accountable and responsible</li> <li>• Stakeholders can set direction and take action without approval</li> <li>• Stakeholders implement decision</li> </ul>

FIGURE 5. Participatory decision-making continuum (Kessler, 2004).

#### 4.4. WHY STAKEHOLDER ENGAGEMENT?

The importance of engaging stakeholders in marine management and planning is well recognized in the literature (e.g. Kelleher, 1999; Mascia, 2003; Lundquist & Granek, 2005; Pomeroy & Douvère, 2008; Maguire et al., in press). Although time-consuming, costly, resource-intensive, and often complicated (e.g. Kessler, 2004; Ritchie & Ellis,

2010), actively engaging stakeholders in the decision-making process leads to “smoother, more widely supported” implementation (Walker, 2009, p. 12). In fact, the potential short and long-term benefits of effective stakeholder engagement are numerous and compelling. For instance, with broad-based support, less time and energy will be spent “overcoming resistance” and “defending the solutions” (Walker, 2009, p. 12). Gaining such support also lessens the chance that a project will be abandoned altogether due to vehement opposition. Project abandonment not only signifies a lost investment, but also may leave ‘bad blood’ between stakeholders and the managing agency, which could damage future projects. Another key benefit that can be accrued through stakeholder involvement is that of increased compliance with regulations. To this end, Kessler (2004) pointed out that “stakeholders are more knowledgeable about, committed to, and supportive of regulations if they had a say in the process” (p. 5). Indeed, the more involved stakeholders are in the decision-making process, the greater their sense of ownership over the outcome (e.g. Lundquist & Granek, 2005; Reed, 2008; Ehler & Douvere, 2009). This pride may then be extended to their constituencies; for example, Walker (2009) stated: “a process which engages people in deliberation can produce a large group of ready-made champions willing to advocate the solutions to their peers” (p. 13). Enhanced voluntary compliance equates to lesser enforcement costs incurred by the managing agency (Kelleher, 1999).

Stakeholder participation in decision-making may “expand and diversify the capacity of the planning team” by introducing local and traditional knowledge to the process (Ehler & Douvere, 2009, p. 44; also discussed in Section 4.5). This contributes to more comprehensive baseline information and higher quality decisions (Reed, 2008).

This information also helps to foster a shared understanding of the issues among stakeholders and the managing agency, which tempers conflict and promotes the attainment of creative, mutually acceptable solutions (Kelleher, 1999; Pomeroy & Douvere, 2008; IUCN-WCPA, 2008). In addition, social learning is advanced when stakeholders develop new relationships, build on existing ones, and transform those that are adversarial as they “learn to appreciate the legitimacy of each other’s views” (Reed, 2008, p. 2420) and “work together to find a solution to a problem that is shared by all participants” (Dalton, 2005, p. 1397). Positive relationships formed during a participatory process may be carried through to future processes, influencing their success (Dalton, 2005). Public participation has been said to have other normative benefits, such as contributing to a more democratic society, promoting active citizenship, and increasing public trust in decisions (Kelleher, 1999; Reed, 2008).

While the benefits of stakeholder participation have often been demonstrated, Reed (2008) made a very important point:

Although these studies suggest that stakeholder participation may improve the quality of environmental decisions, they do so with one strong caveat: **the quality of a decision is strongly dependent on the quality of the process that leads to it.** (p. 2421, emphasis added)

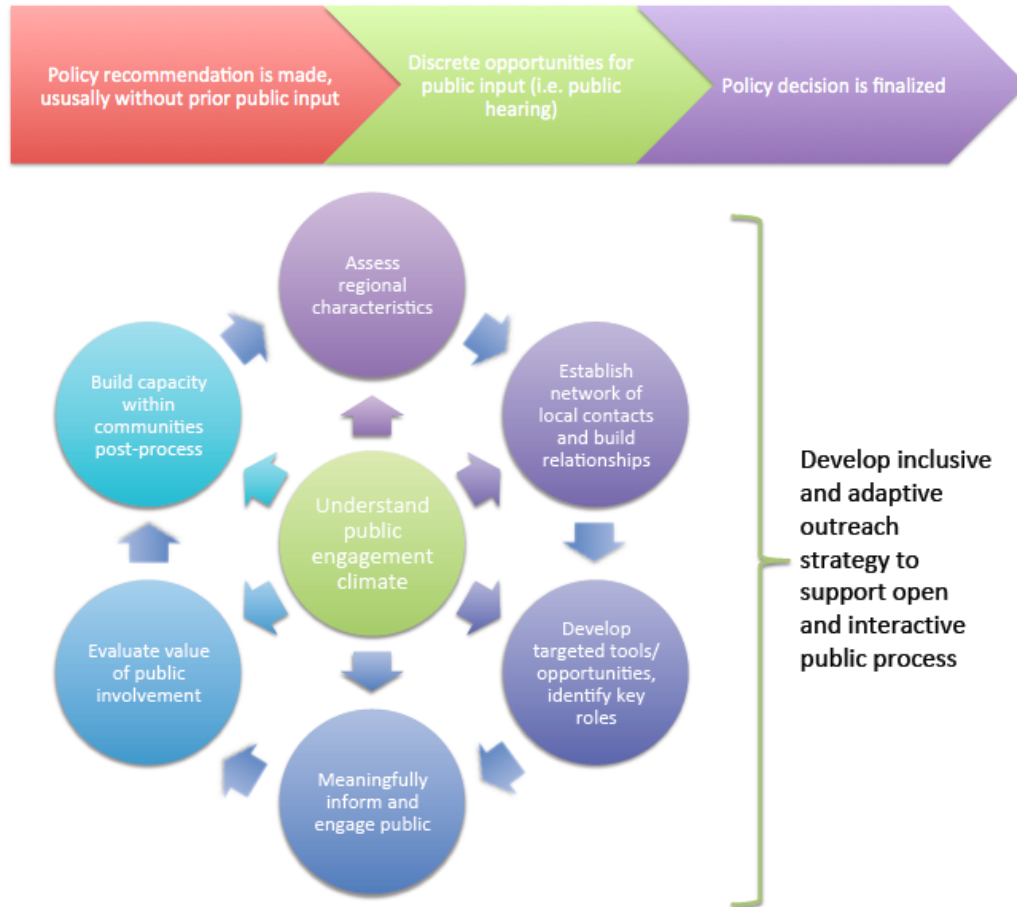
#### **4.5. BEST PRACTICES**

While the particulars of what constitutes ‘best practice’ in public participation may be debated, Reed (2008) discovered there are certain fundamentals where broad consensus exists. These and other emergent themes are discussed below.

### *Commit to meaningful participation*

Stakeholders should not be involved in a decision-making process “just for the sake of making implementation easier” or “as a means of persuasion”; rather, stakeholder participation should be “a value in itself” (Jentoft et al., 2007, p. 619). Indeed, Reed (2008) argued that participation needs to become institutionalized in government agencies, stating that “[m]any of the limitations experienced in participatory processes have their roots in the organisational cultures of those who sponsor...them” (p. 2426). Government decision-making processes are generally linear, allowing for discrete public engagement opportunities only. The institutionalization of participation in government would involve a paradigm shift in which public engagement becomes a dynamic, continuous process (Figure 6). To undergo such a shift, the agency in question has to be able and willing to surrender some of their ingrained, regimented structure.

A critical component of achieving meaningful engagement is stakeholder education (e.g. Kessler, 2004; Lundquist & Granek, 2005; Pomeroy & Douvere, 2008; Pound, 2009). Education empowers stakeholders with the knowledge, skills, and capacity to have a genuine dialogue with managers about marine conservation issues, and actively participate in formulating solutions (Kessler, 2004; Pomeroy & Douvere, 2008). Ritchie & Ellis (2010) asserted that “sound deliberative practice” relies on this two-way flow of information. Ultimately, stakeholders want their involvement to have an obvious impact on the decision-making process. In order for this to be realized, they have to be given both the tools to do so and the opportunity to use them.



**FIGURE 6.** The current model typical of public engagement strategies in governmental decision-making processes [top], and a proposed new model for developing public engagement strategies in governmental decision-making processes [bottom] (figures used with permission from Kelly Sayce, Principal, Strategic Earth Consulting).

*Engage early*

The importance of engaging with stakeholders from the earliest possible point in the decision-making process has been repeatedly emphasized in the literature (e.g. Chess & Purcell, 1999; Kelleher, 1999; Rowe & Frewer, 2000; IUCN-WCPA, 2008; Pomeroy & Douvere, 2008; Reed, 2008; Gleason et al., 2010). Early engagement helps promote transparency and timely information exchange, and is important for ensuring meaningful participation. In fact, Bennett (2002) suggested that public confidence is shaken as soon as they perceive that a decision, or even part of one, has already been made. Bringing stakeholders into the process too late places them in a reactive position, leading them to

undermine the initiative (Sanchirico et al., 2002; Reed, 2008). This can be avoided if stakeholders are involved right from the scoping stage. Early engagement also helps to avoid conflict and delay later in the process by identifying and addressing contentious issues at the outset (Gleason et al., 2010).

#### *Establish clear objectives*

It is important to have clearly stated objectives for the participatory process itself, as well as the proposed MPAs (e.g. Agardy, 2000; Rowe & Frewer, 2000; Kessler, 2004; Reed, 2008). Lundquist & Granek (2005) explained that “clearly defined and shared objectives are valuable for defining expected outcomes, for ensuring that expectations are not overly ambitious, and for guiding the relative importance of socioeconomic, political, and biological criteria in the decision-making process” (p. 1773). It is important for stakeholders’ expectations to be standardized in order to avoid disappointment and/or withdrawn support. Indeed, the managing agency needs to be clear from the outset as to what stakeholders can expect from their participation, as misunderstandings in this regard are common (Ehler & Douvère, 2009).

#### *Be transparent*

Dalton (2005) defined a transparent process as one in which “participants clearly see how the process is structured and how a decision is reached” (p. 1397). This means that any information related to the content and procedure of the decision-making process should not be held back; instead, it should be clearly communicated to stakeholders in a timely and accessible manner (e.g. Rowe & Frewer, 2000; Jessen et al., 2011). Any information that cannot be shared due to sensitivities should be highlighted, and an explanation as to why it is being withheld provided in a forthright manner (Rowe &

Frewer, 2000). Throughout the process, it should be clear to stakeholders how their input is being used, and how it will affect the final outcome (e.g. Pound, 2009; Jessen et al., 2011; Jones et al., 2011). Transparency is essential if stakeholders are to perceive the decision-making process as fair, and therefore, legitimate (Kessler, 2004; Dalton, 2005). Achieving legitimacy is key to the success of MPAs, as their governability depends on it (Jentoft et al., 2007). A transparent process also increases the accountability of the managing agency, and helps to assuage any suspicions or general distrust stakeholders may harbour toward it (Rowe & Frewer, 2000). Ultimately, stakeholders want to be assured that decisions are being made based on the best available scientific and socioeconomic information, “and not by individuals with biases” (Smith et al., 2006, p. 55). Ehler & Douvère (2009) asserted that “[t]he outcomes of the participation process should be made available to the stakeholders who should then also have a chance to review and verify the outcomes...of their participation” (p. 46). They further noted that this communication should be ongoing to maintain trust and interest in the process. Finally, a transparent process enhances stakeholder learning since “[w]ithout the dissemination of information, learning cannot take place” (Madsen & Ulhøi, 2001, p. 86).

### *Be flexible*

Adaptive capacity is vital when running participatory processes, and should be anticipated in the design of the process itself (e.g. Bernstein et al., 2004; Kessler, 2004; Reed, 2008; Pound, 2009; Gunton et al., 2010). Good decision-making processes are not static, and should be able to accommodate evolving ideas with ease (Ehler & Douvère, 2009). With public participation processes especially, it is difficult to predict how they will unfold. There are so many personalities and issues involved, which are bound to

interact in different ways in different contexts. As such, all participants need to be willing to learn and adapt through the duration of the process.

*Hire a neutral, third party facilitator for stakeholder meetings*

Reed (2008) asserted that “[h]ighly skilled facilitation is particular[ly] important for conservation, given the likelihood of dealing with conflict” (p. 2425). He then went on to describe a successful facilitator as one who can “be perceived as impartial, open to multiple perspectives and approachable”, and who is capable of “maintaining positive group dynamics, handling dominating or offensive individuals...and get[ting] the most out of reticent individuals” (p. 2425). The importance of professional facilitation is echoed in other works as well (e.g. Chess & Purcell, 1999; Berstein et al., 2004; Ehler & Douvère, 2009; Pound, 2009; Gleason et al., 2010; Gunton et al., 2010; Jessen et al., 2011). Facilitators have the training and skills necessary to most effectively manage stakeholder deliberations, keeping them moving forward.

*Incorporate socioeconomic information from the outset*

The importance of including socioeconomic information in MPA planning and management is well recognized as being pertinent to the long-term success of the MPAs (e.g. Kelleher & Recchia, 1998; Sanchirico et al., 2002; Richardson et al., 2006; Pomeroy et al., 2007; Charles & Wilson, 2009; Ferse et al., 2010). In spite of this, socioeconomics have historically been afforded far less attention in MPA design than ecological considerations, both in practice and in the academic literature (e.g. Christie et al., 2003; Dalton, 2005). It has been argued that this needs to change, and that socioeconomic data, like biophysical data, should be integrated into network design from the very beginning (Richardson et al., 2006; see also Klein et al., 2008). Moreover, proponents of this



approach assert that it need not result in compromised biodiversity goals, which is a concern that has been expressed by others (e.g. Roberts et al., 2003).

*Utilize traditional and local knowledge*

The value of capturing and utilizing traditional (indigenous) and local knowledge in decision-making processes is often cited (e.g. Scholz et al., 2004; Secretariat of the Convention for Biological Diversity, 2004; Pomeroy et al., 2007; Reed, 2008; Charles & Wilson, 2009; Jessen et al., 2011; Mackinson et al., 2011). Charles & Wilson (2009) defined this knowledge as “the understanding of natural and social environments by individuals, based on their own observations, experiences, beliefs, or perceptions” (p. 9). Local knowledge can supplement scientific data by filling in gaps and contributing to a richer, more comprehensive understanding of the natural and social environment (e.g. Lundquist & Granek, 2005; Reed, 2008; Jessen et al., 2011). Moreover, the collection and use of local knowledge empowers stakeholders (Scholz et al., 2004). Triangulation with other data sources can help validate locally derived data and enhance its rigour (e.g. Agardy, 2000; Scholz et al., 2004; Reed, 2008).

## CHAPTER 5. CASE STUDIES

### 5.1. INTRODUCTION

This chapter provides an in-depth accounting of two international case studies that embody a fresh approach to stakeholder participation in MPA network planning. First, the implementation of the Marine Life Protection Act in the state waters of California is examined. This is followed by a discussion of how the same model was adapted to the Marine Conservation Zone Project in the UK. Both examples demonstrate the application of fundamental best practices. An overview of the legislative and governance framework, basic planning process, and mechanisms for stakeholder involvement is provided for each case study. Information was gathered from the literature, and then supplemented with insights from MPA practitioners with direct experience in these particular initiatives, as follows:

- Marine Life Protection Act (California, US):
  - **Darci Connor** is a private consultant who worked as a MLPA Initiative Marine Planner during the North Central Coast, South Coast, and North Coast regional MPA planning processes.
  - **Evan Fox** is a private consultant who worked as a MLPA Initiative Marine Planner during the Central Coast and North Central Coast processes, and acted as Principal Planner during the South Coast and North Coast processes.
  - **Kelly Sayce**, Principal at Strategic Earth Consulting, worked as the MLPA Initiative Public Outreach and Education Coordinator during the South Coast and North Coast processes.

- Marine Conservation Zone Project (UK):
  - **Jamie Davies** is the Senior Specialist for Marine Conservation Zones within Natural England, responsible for project management of the planning and implementation of the Marine Conservation Zone Project.

## 5.2. CASE STUDY 1: THE MARINE LIFE PROTECTION ACT – CALIFORNIA, US

In California, like many other coastal areas, population growth, coastal development, and increased ocean usage have exacted a toll on the state’s marine ecosystems. In the late 1990s and early 2000s, several state-level legislative tools were passed to address the declining health of California’s coastal waters (i.e. up to three nautical miles offshore<sup>6</sup>), including the *Marine Life Management Act* (1998), the *Marine Life Protection Act* (1999), the *Marine Managed Areas Improvement Act* (2000), and the *California Ocean Protection Act* (2004). These legislative initiatives have since made California a national leader in marine conservation (Wooninck et al., 2008). The implementation of the *Marine Life Protection Act* (MLPA), in particular, has garnered considerable international attention for its unique blend of elaborate bottom-up and top-down approaches to MPA network planning. From the perspective of stakeholder engagement, the implementation of the MLPA is a highly valuable case study, with well-documented and advanced participatory processes. In fact, Lieberknecht (2008) described the current implementation effort as being “about as sophisticated as it gets in participatory, science-based MPA planning” (p. 4).

The MLPA, passed by the California State Legislature in 1999, recognizes the threat human activities pose to marine biodiversity in state waters, and seeks to mitigate

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<sup>6</sup> Waters within three nautical miles of the coast are under state jurisdiction in the US.

this threat through an effective network of MPAs. It acknowledges that state MPAs had historically been established in a “piecemeal” fashion, without sound scientific guidance, and that they were generally characterized by unclear goals, poor management measures, and limited no-take coverage. Consequently, whatever MPA “network” that existed in California waters prior to the passage of the MLPA was seen as inadequate to provide the protection necessary to achieve meaningful conservation. To address this, the MLPA calls for the re-examination and re-design of California’s MPA system such that it achieves six (primarily biodiversity-oriented) main goals. The MLPA focuses explicitly on protecting living marine resources and habitat; however, other state legislation, primarily the *Marine Managed Areas Improvement Act* (2000), provides the support necessary to achieve further protection objectives as necessary (Saarman & Carr, 2011). The key deliverable of the MLPA is a ‘Master Plan’, which was developed by the California Department of Fish and Game (CDFG) and adopted by the California Fish and Game Commission (CFGC). The Master Plan is meant to guide the implementation of the MLPA, providing direction on project delivery, science criteria, management, enforcement, and funding (CDFG, 2008). The Act includes specific instructions with respect to public engagement in the development of the Master Plan, as well as the broader MLPA program:

- (The Marine Life Protection Program shall include) “Provisions for educating the public about MPAs, and for administering and enforcing MPAs in a manner that encourages public participation.” (Sec. 2853c)
- “The master plan shall be prepared with the advice, assistance, and involvement of participants in the various fisheries and their representatives, marine

conservationists, marine scientists, and other interested persons.” (Sec. 2855b)

- (The CDFG/Master Plan team) “...shall take into account relevant information from local communities, and shall solicit comments and advice for the master plan from interested parties on issues including, but not necessarily limited to, each of the following: (1) Practical information on the marine environment and the relevant history of fishing and other resources use, areas where fishing is currently prohibited, and water pollution in the state's coastal waters. (2) Socioeconomic and environmental impacts of various alternatives. (3) Design of monitoring and evaluation activities. (4) Methods to encourage public participation in the stewardship of the state's MPAs.” (Sec. 2855c)

In spite of these commitments, the first attempt at implementing the MLPA was rather devoid of stakeholder engagement and socioeconomic considerations (Weible, 2006). Furthermore, the limited effort that was made toward engaging stakeholders in the process was non-inclusive and ineffective. In April 2001, a two-page informational letter was distributed to approximately 7000 constituents, half of whom were commercial fishermen (CDFG, 2008). The letter provided an introduction to the MLPA, and solicited preliminary recommendations regarding the impending redesign of the state’s MPA network. Commercial and recreational fishermen included in the mail-out also received fishing block maps on which they were asked to indicate areas of primary use. In retrospect, the CDFG (2008) identified two major downfalls in their approach to engagement during this first implementation attempt: 1) they had an incomplete mailing list, biased toward commercial fisheries, and 2) most of the block maps that were returned indicated all of the blocks as being important, rendering them effectively useless

for planning purposes. It is clear from the literature, however, that the stakeholder engagement process was beset by a series of blunders, and needed to improve in more than just these two areas (e.g. Weible, 2008). For example, many interested constituents were uninformed about the MLPA process and the planned public meetings until months later, and in some cases it was too late to participate at all (CDFG, 2008). Those who did receive notice felt they were given insufficient time to prepare (Weible, 2008). However, it was the lack of transparency and consideration of socioeconomic impact that generated the most backlash from stakeholders. During what turned out to be a ‘behind-closed-doors’ process, the Master Plan team of scientists developed a set of (natural) science-based draft proposals for a statewide MPA network (Weible, 2006). The obvious neglect of socioeconomics in the proposals concerned some of the members of the team, with one revealing they felt the impending public meetings would be like “walking into a ‘buzz saw’” (Weible, 2008, p. 355). Despite these concerns, the draft MPA proposals were presented to the public in the summer of 2001. Although they were intended “only as a concept to generate input from fishermen and other stakeholders”, they were not received as such (Harty & John, 2006, p. 23). For many stakeholders, the maps of the MPA networks provided online and at a series of public meetings connoted permanence in their design, whether intended or not (Weible, 2008). The proposals themselves were met with intense disapproval and anger from stakeholders, who not only opposed the size and placement of the MPAs, but also were aggrieved at not having been consulted during their creation (Weible, 2006). In short, the CDFG became enshrouded in what Weible (2008) described as a “public relations nightmare” (p. 350). Indeed, the public meetings were a “disaster” (Weible, 2008, p. 355). On one occasion, attendees pelted government

officials and scientists with shrimp, while on others, the police had to be brought in to control rowdy crowds. To make matters worse, the venue, structure, and content of the meetings was poor: Weible (2008) described them as being characterized by “inadequate space and seating, poor sound systems, unclear presentations, and ineffective and untrained facilitators” (p. 355). Moreover, emotional participants, who were at times confrontational and abusive, often prevented meaningful discussion at these meetings. Weible (2008) also pointed out the general lack of understanding among stakeholders as to how the MPA sites were selected, which led to suspicion regarding whether the sites were simply randomly placed, or even whether they were sited deliberately to undermine certain interests. Furthermore, the unclear and inconsistent objectives of the proposed MPA network resulted in stakeholders being frustrated by mixed messages (Berstein et al., 2004). In spite of efforts made to ameliorate the hostile situation in the following months, the CDFG failed to gain widespread support for the MLPA (CDFG, 2008). The public discontent and opposition quickly translated into intense political pressure on the CDFG from the fishing industry, prompting the demise of the implementation effort by the end of the year (Weible, 2006). Following this MLPA debacle, stakeholders were left feeling mistrustful and embittered toward the CDFG (Berstein et al., 2004). In January 2002, a revamped approach to MLPA implementation was announced, which included a commitment to form seven regional stakeholder working groups (CDFG, 2008). However, this attempt was also doomed to failure as a result of inadequate funding. The third and final implementation attempt took hold in August 2004 when the CDFG signed a Memorandum of Understanding (MOU) with the California Resources Agency (CRA) and the private Resources Legacy Fund Foundation (RLFF), and collectively formed the

MLPA Initiative (CDFG, 2008). The introduction of private funding helped create the capacity for a more comprehensive approach to MPA network planning in the state (IUCN-WCPA, 2008). However, as important as this funding has been to the successful execution of the MLPA Initiative, it has also generated controversy (E. Fox, personal communication, July, 19, 2011). From the outset, there were some who expressed apprehension toward the RLFF's involvement, fearing that its dedication to marine conservation would bias the planning process toward stricter environmental protection. In addition, there were those who felt that if the state was unwilling to allocate the funds required to implement the MLPA, the process could not be seen to reflect the will of the people. However, the exceedingly transparent, bottom-up planning process that was adopted by the Initiative helped alleviate many of these initial fears. The RLFF remained very much at arms length throughout the MPA network planning process, and had no one on staff with the Initiative (E. Fox, personal communication, July 19, 2011). Regardless, there are still certain stakeholder groups who believe the RLFF's presence is far from innocuous, and that the MLPA Initiative implementation process is legally flawed. In fact, several lawsuits over the MLPA have been filed against the state by coalitions of maritime stakeholders (primarily recreational and commercial fishing interests). To date, none of these lawsuits have succeeded in slowing the implementation process.

Implementation of the MLPA has proceeded according to five geographic study regions: Central Coast (CC; 2005-2007<sup>7</sup>), North Central Coast (NCC; 2007-2010), South Coast (SC; 2008-2011), North Coast (NC; 2009-2011), and San Francisco Bay (SFB; options report under development) (CDFG, 2008; CDFG, 2011). These regions were

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<sup>7</sup> Timelines encompass regional planning process and subsequent regulatory phase (CDFG, 2011; E. Fox, personal communication, August 15, 2011)



systematically chosen, with consideration given to ecological, managerial, social, and logistical factors. Completion of the full statewide network was originally envisioned for 2011. Regulations are already in place in the CC and NCC regions, and will come into effect on October 1, 2011 in the SC region (CDFG, 2011). The NC and SFB regions are currently in the regulatory and pre-planning phases, respectively (E. Fox, personal communication, July 21, 2011; CDFG, 2011). Statistics on the CC, NCC, and SC regional networks are provided in Table 4 to provide a sense of the scale and network coverage typical of the MLPA planning regions.

Region	Central Coast	North Central Coast	South Coast <sup>1</sup>
Status	Implemented (2007)	Implemented (2009)	Planned
Area of region	2970 km <sup>2</sup>	1980 km <sup>2</sup>	6090 km <sup>2</sup>
Number of no-take reserves	10	11	19
Total number of MPAs	29	24	37
Mean MPA area	18 km <sup>2</sup>	17 km <sup>2</sup>	15 km <sup>2</sup>
MPA network area (sum of MPAs)	529 km <sup>2</sup>	397 km <sup>2</sup>	569 km <sup>2</sup>
Percentage of total area that is protected	18%	20%	9%

<sup>1</sup> The final MPA network design for the SC region, as adopted on December 15, 2010, consists of 36 MPAs, covering 484 square kilometres, or 8% of the study region area (CDFG, 2010). However, the existing Channel Islands MPAs, which were not modified during the MLPA process, bring the total network coverage in the study region to 15%.

**TABLE 4.** Attributes of the first three MLPA regions to undergo MPA network planning (adapted from Saarman & Carr, 2011).

The regional planning processes have been supported and driven by a complex web of government agencies and volunteer groups (Figure 7). The key players involved in the MLPA Initiative are as follows:

- The **California Fish and Game Commission (CFGC)**, which is a politically appointed body that supervises the activities of the CDFG, makes all final decisions related to MLPA implementation (CDFG, 2008; E. Fox, personal communication, July, 21, 2011).
- The **California Resources Agency (CRA)** provides oversight of the MLPA implementation process and has a role in coordinating funding (CDFG, 2008).
- The **California Department of Fish and Game (CDFG)** has a broad array of responsibilities as the lead management and enforcement agency (CDFG, 2008). These include designing and implementing the MLPA Master Plan, contributing relevant expertise and guidelines to the MPA network planning process, conducting feasibility evaluations of proposed MPA network designs, and developing regulatory language (CDFG, 2008; Gleason et al., 2010).
- The **MLPA Initiative staff, or “I-Team”**, is comprised of public (i.e. CDFG) and private (i.e. contracted consultants) staff who contribute a variety of expertise to the planning process (E. Fox, personal communication, July 19, 2011). In short, they “support, enable, drive, and manage the process” (Lieberknecht, 2008, p. 5). The I-Team consists of specialists in areas such as policy, science (e.g. fisheries, habitat), resource management, Geographic Information Systems (GIS), project management, public education/outreach, and facilitation, among others (Gleason et al., 2010; E. Fox, personal communication, July 19, 2011). The dual structure of the I-Team reflects the public-private partnership on which it was founded (E. Fox, personal communication, July 19, 2011). The private staff have both supplemented and added to the expertise of

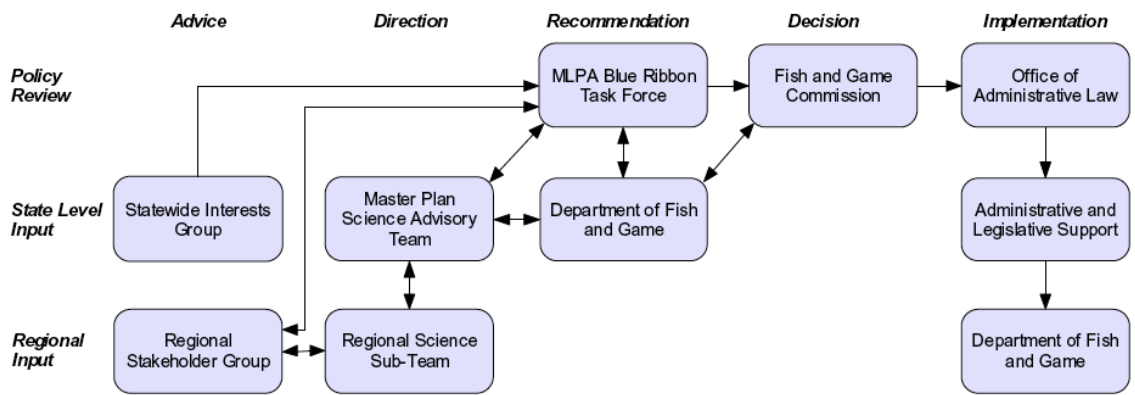
the CDFG, making it possible to execute very resource-intensive regional planning processes, and ultimately implement the MLPA successfully.

- The MLPA **Steering Committee** is a high-level strategic coordinating body for the MLPA Initiative, and is composed of senior staff from the I-Team, as well as the CDFG-at-large, the CRA, and the CFGC (CDFG, 2008; E. Fox, personal communication, July, 19, 2011).
- The MLPA **Blue Ribbon Task Force (BRTF)** is composed of distinguished public leaders (e.g. businessmen/women, lawyers), responsible for managing and overseeing the MPA planning process under the MLPA Initiative (CDFG, 2008; E. Fox, personal communication, July, 21, 2011). The BRTF provides important independent leadership in the process, and is expected to liaise with the stakeholder groups (CDFG, 2008; Osmond et al., 2010). The politically appointed Secretary for Natural Resources selects the members of the BRTF (CDFG, 2008; E. Fox, personal communication, July, 21, 2011).
- The Master Plan **Science Advisory Team (SAT)** developed the scientific guidance on MPA network design used in the regional planning processes, and provides ongoing natural and social science advice to the CDFG, BRTF, and RSGs (CDFG, 2008). The SAT does not partake directly in creating the network designs, but rather evaluates MPA proposals and provides the feedback and information necessary for those proposals to meet the prescribed network design criteria (E. Fox, personal communication, July 21, 2011). Regional SAT ‘sub-teams’ help facilitate two-way communication between the SAT and the RSGs as they work to develop MPA network alternatives (CDFG, 2008). The director of

the CDFG leads the selection of the Master Plan SAT.

- The **Statewide Interests Group (SIG)**, composed of representatives from key interest groups, is a champion of public involvement in the MLPA Initiative (CDFG, 2008). The SIG is dedicated to enhancing communication between stakeholders and the BRTF, conducting public outreach, and seeking out opportunities for engagement. The executive director of the I-Team leads the selection of SIG representatives.
- **Regional Stakeholder Groups (RSGs)** are convened for each study region through a nomination and selection process led by the chair of the BRTF and director of CDFG (CDFG, 2008). The RSGs are responsible for developing a set of MPA network alternatives that are in line with the SAT's science guidelines, as well as relevant policy. Membership generally numbers between 30 and 50 maritime stakeholders, who are chosen as much for their character as for their representation (Hull et al., 2010; Osmond et al., 2010). Candidates must submit to interviews during which they are questioned about their interests, expertise, and their ability to commit to a long-term planning process (Gleason et al., 2010). Achieving RSG membership that is both representative *and* balanced has been an ongoing challenge (E. Fox, personal communication, July 19, 2011). For example, whereas the fishing industry is composed of many different fisheries (e.g. eel, rockfish, urchin), the other major stakeholder groups (e.g. NGOs) are far less subdivided. Therefore, adequate stakeholder representation on the RSG generally equates to an overall imbalance of consumptive versus non-consumptive interests. This has prompted some tension and criticism, as the

imbalance can affect the relative support for different alternative MPA proposals. The BRTF, SAT, SIG, and RSGs are purely voluntary, and each group has its own motivation for participating (Lieberknecht, 2008). For the RSGs, that motivation is strong. There is a clearly legislated mandate for the development of MPA networks in California waters by which stakeholders are compelled to abide. This is the ‘stick’ in the popular ‘stick and carrot’ idiom. The ‘carrot’ is a stakeholder-led design process, which, from the perspective of a stakeholder, is an opportunity best not refused. In the face of imminent MPA designations, most, if not all, stakeholders would much rather have a say in the process than not.



Arrows indicate the flow of information, recommendations, and policy direction. Note: Input is solicited from the interested public and stakeholders at each step, until adoption of regulations by the Commission.

**FIGURE 7.** Administrative structure of the MLPA Initiative (CDFG, 2008).

Each regional planning process, taking an average of three years to complete, has followed four general steps: 1) data gathering and other preparatory work; 2) development of MPA network design proposals; 3) evaluation of proposals; and 4) final decision and action (CDFG, 2008; Hull et al., 2010). The first step includes the development of a complete profile of the region that encompasses biological, oceanographic, socioeconomic, and governance aspects, as well as surveying existing

ocean management measures (CDFG, 2008). Ancillary information is solicited from local communities and stakeholders. The completed regional profiles are extensive, numbering in the hundreds of pages (e.g. California Marine Life Protection Act Initiative, 2009; 2010). Other preparatory activities that occur during this first step include the formation of the RSG and SAT sub-team, development of additional advice, and preliminary assessment of key candidate areas for MLPA MPAs (CDFG, 2008). Upon completion of this initial planning, the RSG begins the process of developing a series of alternative MPA network proposals (usually around three) for consideration by the BRTF and CFGC (CDFG, 2008; Hull et al., 2010). The proposals must adhere to the science, feasibility, and policy guidance prepared by the SAT, CDFG, and BRTF, respectively (Gleason et al., 2010; D. Connor, personal communication, August 1, 2011). After each round of the three-round iterative design process, the proposals are evaluated to determine how well they align with the guidelines. They also undergo preliminary socioeconomic impact analyses (CDFG, 2008). Based on the feedback received, the RSG revises the proposals during rounds two and three, and then submits their final versions to the BRTF. The BRTF is not compelled to forward all of the proposals to the CFGC if they feel there are some that fail to adequately meet the guidelines provided (D. Connor, personal communication, August 1, 2011). However, this has not been a problem to date (Osmond et al., 2010; D. Connor, personal communication, August 1, 2011). Along with the proposals, the BRTF provides the CFGC with their own evaluation and recommended 'preferred alternative'. The CFGC makes a final decision as to which of the proposals will be implemented following their review and the collection of public testimony (CDFG, 2008).

Each regional planning process completed to date has been constrained by timelines set out in the MLPA MOUs (see Appendix Q in CDFG, 2008; Amendment and extension of memorandum of understanding, 2008). Having rigid timelines compelled RSG members to cooperate with one another in order to expedite compromises. They were further motivated to do so by the BRTF's commitment to finish the MPA proposals themselves if the RSG could not "converge around solid alternatives" (Gleason et al., 2010, p. 65). Compromises have been reached in the various planning processes with the help of professional facilitators trained in conflict resolution, negotiation, and effective communication (Lieberknecht, 2008). Indeed, the facilitators were essential to the success of the RSG deliberations (K. Sayce, personal communication, July 28, 2011). There are also features of the design process itself that have helped ensure timely progress. For example, percentage-based targets for habitat representation, which are characteristic of many MPA planning efforts, were not included in either the MLPA or the scientific guidelines prepared for the MLPA (Gleason et al., 2010). Had such targets been included, or given to stakeholders for deliberation, it was speculated that too much time and energy would have been spent debating the targets rather than moving the design process forward. Secondly, there are three types of MPAs that can be established in state waters, each affording different levels of protection. Gleason et al. (2010) pointed out the flexibility this has permitted stakeholders during the network design process.

During the first regional planning process, the RSG was highly polarized into consumptive and non-consumptive interests, resulting in very little cross-interest support for the alternative MPA proposals that were developed (D. Connor, personal

communication, July 25, 2011). In subsequent processes, the I-Team attempted to dampen entrenched positional behaviour by seeking out individuals who demonstrated an ability to: “balance a regional perspective with localized knowledge”, “express fundamental interests (as opposed to fixed positions)”, and “[work] collaboratively, seeking to integrate the interests of a full range of constituencies” (D. Connor, personal communication, August 1, 2011). In addition, the approach was adapted to promote more compromised alternative MPA proposals by appointing RSG members to cross-interest working groups during the first two rounds of planning. During the third round, members were given the option to realign themselves with a planning group of their choosing. Those members who demonstrated a strong willingness to work with opposing interests to achieve mutual gains were retained in a cross-interest group, while the others broke into a consumptive-oriented work group and a non-consumptive-oriented work group. Although challenging, the facilitation of effective cross-interest stakeholder discussions is of great importance to the MPA planning process (D. Connor, personal communication, July 25, 2011). A negotiated agreement on a hybrid solution that attempts to balance all user interests is apt to gain the most widespread support. To promote frank cross-interest discussion, the I-Team has created ‘safe spaces’ for disparate RSG members to speak informally outside of the RSG meetings in the form of work sessions and homework groups. Without the pressure of live webcasting and/or a public audience, RSG members are generally less reluctant to reach across the table and work towards finding common ground. However, any compromises that are achieved during these informal meetings still have to be vetted by the RSG as a whole.

The regional MPA planning processes in California have been greatly enhanced



by the use of a regularly upgraded web-based GIS decision support software tool called ‘MarineMap’, the successor to ‘Doris’ (Hull et al., 2010; MarineMap Consortium, 2011). Although this software was designed specifically for California, the code is open source and “adaptable to situations and environments around the world” (MarineMap Consortium, 2011). Doris was originally developed for the MLPA Initiative in lieu of the popular Marxan conservation-planning GIS tool, which was deemed too limiting to the stakeholder-driven process envisioned by MLPA staff (Gleason et al, 2010). Constraints included the need for expert users and percentage-based targets, as well as barriers to the inclusion of unconventional stakeholder-derived socioeconomic data. Moreover, many stakeholders were mistrustful of Marxan, viewing it as a ‘black-box’ model (Hull et al., 2010). With MarineMap, a user-friendly interface empowers designers to visualize data layers and how they interact with ease. Stakeholders can experiment with different network designs without prior GIS experience. There are now over 400 spatial datasets in the MLPA geodatabase, including oceanographic, physical, geographical, managerial, ecological, and socioeconomic data layers (Gleason et al., 2010). Because the MLPA calls for MPA networks to be designed according to the ‘best readily available science’, real-time data refinement has occurred throughout the regional planning processes (E. Fox, personal communication, July 19, 2011). Stakeholders have found this to be frustrating at times, as the adjustment and/or addition of data can result in their proposals no longer meeting the prescribed objectives/criteria. The integration of new information into the planning process such that it minimizes disruption has been identified as an area requiring improvement.

Initially, socioeconomic information was sparse in comparison to the available

biophysical data (Hull et al., 2010). Consequently, extensive socioeconomic data collection was necessary. One-on-one interviews with commercial and recreational fishermen ended up proving especially useful in this regard (for a discussion of the interview methodology used, see Scholz et al., 2004). Astrid Scholz, who served on the MLPA SAT from 2004 to 2006 (Ecotrust, n.d.), observed that “having such [socioeconomic] data and being able to address people’s concern for their livelihood was a very powerful tool” (as paraphrased in Hull et al., 2010, p. 104). There is no explicit reference made to promoting economic sustainability in the MLPA (e.g. Lieberknecht, 2008; Hull et al., 2010; Osmond et al., 2010). As such, the extent to which it has been taken into account in the design and objectives of the regional MPA network designs is well beyond the legal mandate of the Act. However, following the strong opposition from stakeholders in the first attempts at implementation, it was recognized that a better accounting of socioeconomic impacts was necessary. Accordingly, rigorous socioeconomic assessment is now conducted “as a matter of good policy” (Hull et al., 2010, p. 98), and supplemental region-specific socioeconomic objectives are formally recognized by the CFGC (Osmond et al., 2010).

The ways in which stakeholders and the public were engaged evolved throughout the first four regional planning processes, partly in response to lessons learned, and partly because every region had different stakeholder dynamics (D. Connor, personal communication, July 25, 2011). The benefits of including the public early became increasingly apparent to the I-Team, and by the start of the SC process, there were sufficient resources to hire dedicated outreach and education staff. The addition of these staff not only expanded the capacity for improved public engagement in the

implementation of the MLPA, but also helped facilitate a culture shift within the I-Team as a whole (K. Sayce, personal communication, July 28, 2011). Over time, public engagement and perception issues became part of the collective consciousness of the team, and such issues were eventually afforded equal weight in their weekly meetings. Summarized below are some examples of the strategies employed to engage stakeholders and the interested public in the regional planning processes (beyond the RSG and SIG):

- At each BRTF meeting, a panel of four to six stakeholders is present, and they are given an opportunity to participate in discussion (CDFG, 2008).
- The BRTF hosts bi-annual stakeholder roundtable discussions moderated by a facilitator (CDFG, 2008).
- RSG members, along with BRTF and/or I-Team members, may be given the opportunity to participate in a tour through the study region, which promotes education and communication (CDFG, 2008). These tours help to personalize the MPA planning process for stakeholders and BRTF members alike, making them more considerate and cognizant of the interests/concerns of others because they can directly relate to their story (D. Connor, personal communication, July 25, 2011).
- Stakeholder-hosted meetings, where members of the BRTF and/or SAT visit a community, allow for the specific concerns and needs of that community to be heard and understood by key players in the MLPA process (CDFG, 2008).
- Public workshops are held periodically to share and discuss information on specific topics as required (CDFG, 2008).
- Stakeholders may be involved in a process of ‘joint fact-finding’ whereby they

guide research by helping to define common objectives, for example. This exercise has helped build mutual respect and understanding between scientists and stakeholders, and even fostered enthusiasm in fishermen to collaborate further with scientists in the future (Saarman & Carr, 2011).

- The development of local community profiles brings together social scientists and community members in an effort to understand and address local impacts of MPAs (CDFG, 2008).
- Stakeholder interviews may be conducted to elicit valuable local knowledge that can be used in the MPA planning process (CDFG, 2008).
- A network of ‘key communicators’ was established during the SC and NC planning processes (K. Sayce, personal communication, July 28, 2011). These are individuals who are in a position to distribute information on the MLPA to large groups of constituents. Key communicators are provided with educational PowerPoint presentations, posters, and brochures developed by the I-Team in an effort to provide accurate and clear information about the MPA planning process and opportunities for public involvement.
- Meetings of the BRTEF, SAT, and RSG are open to members of the public, and time is allotted for public attendees to make comments (CDFG, 2008).
- The MLPA website is a key information and communications portal for the MLPA Initiative. Meeting schedules for all of the major groups (e.g. RSGs, SAT, BRTEF, CFGC) are posted online, along with agendas and supporting materials (CDFG, 2011). Live webcasts and/or archived video/audio recordings of these meetings are made available via the CAL-SPAN network, “an Internet

distribution network enhancing the transparency and participation in the California governmental process” (CAL-SPAN, 2011). Contact information for members of the RSG and the I-Team is also provided on the website, as well as instructions regarding where to direct public comment. Stakeholders and interested members of the public may join an email list server to receive updates on recent developments, or view news releases and monthly newsletters. The website is also home to copious background information, as well as all of the policy and science guidance used in the planning process. All MPA proposals and evaluations are also posted online. Certainly, the strong degree of public transparency that has become a characteristic of the MLPA Initiative is very clear from the vast content of the website.

- Written comments from the public regarding the MLPA and the regional planning processes are encouraged, and the I-Team makes sure that comments are sent to the RSG, SAT, and BRTF, as well as posted on the MLPA website (K. Sayce, personal communication, July 28, 2011). As part of a commitment to ‘responsive decision-making’, efforts are made to “articulate the ways in which comments received were reflected in decisions made or the reasons they were not” (CDFG, 2008, p. D3).
- The public has been given the opportunity to play a formal role in the regional planning processes through the development of ‘external arrays’ of MPAs (K. Sayce, personal communication, July 28, 2011). These are MPA network proposals developed externally to the RSG by members of the interested public. External proposals are handled exactly the same way as the RSG proposals during

the first two rounds of the planning process<sup>8</sup>. In the third and final round, only RSG proposals are considered; however, to differing degrees, these proposals often incorporate elements of the external arrays. The option to develop external arrays empowers those who are not on the RSG to formally provide their expertise and input.

In the first four planning regions, at least, the MLPA has been successfully implemented, and this overall success can be largely attributed to several important enabling factors. A strong and clear legal mandate is one such factor (e.g. Ugoretz, 2009; Gleason et al., 2010; E. Fox, personal communication, July 19, 2011). Having legally binding network objectives upon which to rely made it easier for managers and support staff to implement the project and deal with opposition (E. Fox, personal communication, July, 19, 2011). Significant funding has also been key in the success of the MLPA Initiative (e.g. Ugoretz, 2009; Gleason et al., 2010; E. Fox, personal communication, July 19, 2011). In this case, much of this funding came from a private source, which not only supported the hiring of much needed additional staff, but also made possible the development of MarineMap, for example (E. Fox, personal communication, July 19, 2011). Moreover, the flexibility of this funding source allowed for any obstacles in the process to be readily overcome. Finally, Gleason et al. (2010) asserted that strong political will “was essential, especially in the face of organized opposition” (p. 65). This opposition came primarily from certain highly organized groups of recreational fishermen who worked against the MLPA through legal action, protests, media campaigns, and

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<sup>8</sup> Note that in the NC process, the first round of planning included external arrays only (K. Sayce, personal communication, August 11, 2011). The RSG, formed in the second round, began their deliberations based on these external arrays. This procedural change was made in response to the unique community structure of the NC region, whose communities are generally quite engaged and active in environmental issues.

direct lobbying (E. Fox, personal communication, July 21, 2011).

Whether the process outcomes of the MLPA Initiative can be deemed a success has been debated (D. Connor, personal communication, August 1, 2011). However, regardless of outcomes, there is no denying the considerable effort that has gone into engaging stakeholders and the wider public. Throughout the regional planning processes, the I-Team has worked to establish a foundation of trust upon which positive working relationships can be built (D. Connor, personal communication, July 25, 2011). This relationship building has occurred during dinners and mixers, study tours, or more personally ‘over a cup of tea’. The transparency of the process has also been of critical importance in this regard, and has been cited as a key to success in the MLPA overall (E. Fox, personal communication, July 19, 2011). When stakeholders can see that their input is important, and that it is, in fact, informing the decision-making process, a strong sense of trust and commitment is fostered. Furthermore, the I-Team conducted extensive upfront work in each region to familiarize themselves with the culture and public perception issues surrounding MPAs, and to identify key contacts and underrepresented groups (D. Connor, personal communication, July 25, 2011). The stakeholder and public engagement processes have not been perfect, however. For example, Kelly Sayce (personal communication, July 28, 2011) identified two key areas where there were ongoing challenges:

- California has a highly diverse ethnic population speaking many different languages. An improved system for engaging these and other underrepresented groups has been identified. This might include identifying and working with ‘ambassadors’ from these groups who can help deliver the MLPA message on a

peer-to-peer basis.

- There was a steep learning curve associated with the engagement of California tribes and tribal communities over the course of the first four regional planning processes. During the first process, there were no tribal representatives on the RSG, nor was there broader tribal participation. This early exclusion (which extended back to the drafting of the MLPA itself) caused widespread scepticism of the MLPA Initiative among tribes and tribal communities, and deepened a historical distrust of government processes. Tribal engagement and RSG (also BRTF, SIG) representation improved substantially during subsequent processes, evolving with each region to incorporate lessons learned. By the third and fourth processes, the key importance of relationship and trust building had become clear to MLPA staff, and this is where they focused their effort. Tribal forums and face-to-face dialogue with tribal citizens and councils fostered a two-way information exchange and helped facilitate feedback on RSG MPA proposals. However, the tribes and tribal communities, who identify themselves as sovereign nations, not stakeholders, found it difficult to accept and participate in the overall process framework utilized for engaging stakeholders in regional MPA planning. While the issue of sovereign rights falls outside the purview of MLPA Initiative staff, it highlights a need for alternative engagement strategies for tribes.

In spite of these challenges/weaknesses, one is hard-pressed to find another MPA network planning initiative as ambitious, innovative, and inclusive as the MLPA. It has created a new model for participatory marine conservation planning, which is now being adopted elsewhere (e.g. in the UK), “and is certainly worth considering for future MPA



planning efforts” (D. Connor, personal communication, August 1, 2011).

### **5.3. CASE STUDY 2: THE MARINE CONSERVATION ZONE PROJECT – UK**

There are several types of MPAs in UK waters, which have been designated under a mix of international, national, and European legislation/programs (UKMPA Centre, 2009). These MPAs include, but are not limited to:

- Wetland sites protected under the Ramsar Convention;
- Special Areas of Conservation and Special Protection Areas established as part of the European Union’s Natura 2000 network to protect specific species/habitats and bird populations, respectively;
- Sites of Specific Scientific Interest/Areas of Special Scientific Interest established nationally, primarily to protect intertidal species/habitats; and,
- Marine Nature Reserves established nationally to protect marine flora, fauna, and geologic features of special interest (these sites will eventually be subsumed by the new marine conservation zone program discussed below).

With the passage of the UK *Marine and Coastal Access Act* (MCAA) in 2009, a renewed national-scale effort toward comprehensive marine protection was initiated. Part 5 of the MCAA provides the legal mandate for the “appropriate authority” to designate marine conservation zones (MCZs) in UK waters (excluding the territorial seas of Scotland and Northern Ireland). The Act dictates that, along with existing UK MPAs, MCZs must form a coherent ecological network by the end of 2012. The appropriate authority for MCZ designation varies from region to region due to the devolution of power in the UK. For the purpose of this report, attention will be paid to the area of jurisdiction maintained by the Secretary of State for the UK Department for Environment, Food and Rural

Affairs (DEFRA). This area includes the inshore and offshore waters of England, as well as the offshore waters of Wales and Northern Ireland (*Marine and Coastal Access Act, 2009*). These waters are the focus of the ‘Marine Conservation Zone Project’, which is expected to be completed by 2012 (JNCC, 2010).

In contrast to the MLPA, the MCAA establishes a legal precedent for due consideration of “any economic or social consequences” a MCZ designation may create (*Marine and Coastal Access Act, 2009, Section 117[7]*). The inclusion of this clause helped preclude difficulties akin to those experienced in California during the first MLPA implementation attempt. However, socioeconomic consequences are considered only “as fully as is compatible with the primary objective of creating an ecologically coherent network of Marine Protected Areas” (NE & JNCC, 2010a, p. 39). That is, the ecological integrity of the network will not be sacrificed due to adverse socioeconomic impacts, but every effort will be made to minimize impacts where possible and “work with the grain of sustainable economic use of the seas” (as quoted in NE & JNCC, 2010a, p. 39). DEFRA (2009) explained this context-specific weighting further, saying:

Where an area contains features that are rare, threatened or declining, or forms a biodiversity hotspot, greater weight is likely to be attached to ecological considerations. Where there is a choice of alternative areas which are equally suitable on ecological grounds, socio-economic factors could be more significant in deciding which areas may be designated as an MCZ. (p. 45)

Although the MCAA provides no specific provisions related to stakeholder/public engagement in MCZ designation, a legal requirement for such engagement exists through

European legislation. Having ratified the Aarhus Convention<sup>9</sup> in 2005, the UK is legally compelled to involve stakeholders in environmental planning (Lausche, 2011; J. Davies, personal communication, July 13, 2011). The UK has also been motivated by the growing body of evidence supporting effective stakeholder engagement as a key to success in both marine conservation planning and long-term management. As such, stakeholder engagement is an important element of MCZ policy. In their national MPA network strategy, the UK government acknowledged that MCZs are most likely to be successful if they are “well understood and supported by all sea users” (DEFRA, 2010a, p. 18), and emphasized that an inclusive approach to MCZ implementation would be adopted. Indeed, paragraph 55 of the strategy laid the groundwork for the bottom-up planning process that would be adopted by the MCZ Project, indicating that stakeholders would be asked to “draw where they recommend where [sic] new sites should be” (DEFRA, 2010a, p. 20). Seeing the MLPA as a “good model” for the engagement of stakeholders in MPA planning, the MCZ Project assumed the same basic structure (Davis, 2011). The development of the stakeholder-led regional MCZ planning processes drew heavily on the findings of Pound (2009) and Hull et al. (2010), who examined best practices in stakeholder engagement and socioeconomic data incorporation, respectively (J. Davies, personal communication, July 13, 2011). These comprehensive reports were commissioned by DEFRA and its partners for the specific purpose of informing the delivery of the MCZ Project.

DEFRA enlisted Natural England (NE) and the Joint Nature Conservation Committee (JNCC) as their delivery partners on the MCZ Project (NE & JNCC, 2010a).

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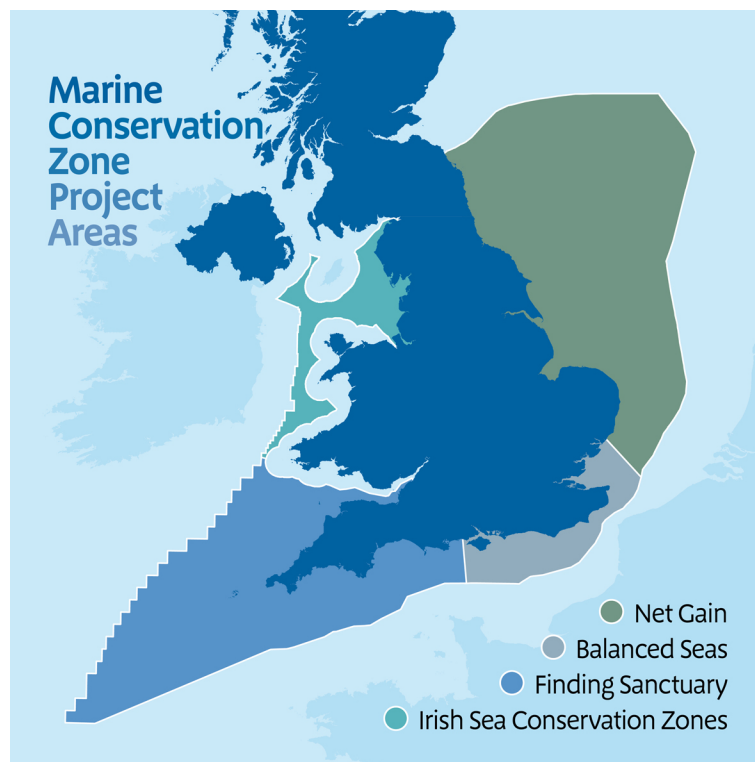
<sup>9</sup> Formally known as the *Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters*, reflecting the three pillars of the Convention, or the “three main guarantees to the public” (Lausche, 2011, p. 43).

These two agencies, referred to as Statutory Nature Conservation Bodies (SNCBs), are statutory advisors to the government on issues related to marine conservation in the UK's inshore (up to 12 nautical miles) and offshore (12-200 nautical miles) regions, respectively. The SNCBs were given the task of managing and participating in four regional planning projects, each of which would contribute to the larger MCZ network planned for UK waters under the MCAA. The regional projects focus on marine areas southeast of England ('Balanced Seas'), southwest of England ('Finding Sanctuary'), in the North Sea ('Net Gain'), and in the Irish Sea ('Irish Sea Conservation Zones') (Figure 8). In contrast to the MLPA, all of the regional projects have proceeded within the same timeline, rather than being staggered (NE & JNCC, 2010a). This was a decision largely driven by the UK's commitment to the principles of the OSPAR Convention<sup>10</sup> and the CBD to establish MPA networks by 2012 (J. Davies, personal communication, July 13, 2011). With an iterative approach to implementation, the MLPA Initiative was able to continually improve upon their regional processes, whereas the MCZ Project had no such opportunity. However, this did not prove to be a detriment to the success of the project. By heeding the recommendations of Pound (2009), the SNCBs were able to avoid many of the problems that commonly befall stakeholder engagement processes. In addition, because the stakeholders were similar across the regions, any issues that did arise were fairly consistent, and thus easier to address in an efficient manner (J. Davies, personal communication, July 13, 2011). This 'all-at-once' implementation approach also instilled a sense of fairness among the regions. That is, no one region had to act as a 'guinea pig', bearing the brunt of the growing pains. The simultaneous regional planning processes

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<sup>10</sup> The Convention for the Protection of the Marine Environment of the North-East Atlantic.

helped build stronger working relationships between stakeholders and MCZ Project staff through frequent communication and problem solving. Of course, there were also some drawbacks to this approach, mainly from the perspective of potential stakeholder burnout (Davis, 2011). For example, ‘national’ stakeholders, who have a stake in marine planning in more than one geographic region, often participated in multiple regional stakeholder groups (RSGs) (Davis, 2011; J. Davies, personal communication, July 13, 2011). In these cases, it was not uncommon for the same industry representative to attend the meetings of all the RSGs. The time, effort, and commitment required of these particular individuals were significant.



**FIGURE 8.** Map of the marine areas covered by the four MCZ regional projects (DEFRA, 2010b).

There were many entry points for stakeholder involvement in the regional MCZ processes; however, only the RSGs had a direct role in developing network recommendations (NE & JNCC, 2010a). To ensure fair representation of all significant

sectors, RSG memberships of up to 50 stakeholder representatives were permitted. Following the completion of a stakeholder analysis, RSG members were recruited through a mix of public and targeted outreach and awareness campaigns (for further information on how stakeholder representatives were chosen, see *Balanced Seas & 3KQ*, 2010; *Dialogue Matters*, 2010, for example). The initial stakeholder analysis, while challenging, generally proved effective (J. Davies, personal communication, July, 22, 2011). The resulting RSGs were strong, both from a representation and a personal character standpoint. Consequently, there were very few instances where problems occurred that were significant enough to warrant mitigation or member replacement. RSG members were generally good about abiding by the terms of their membership, which included an agreement to report back to their sector.

Independent facilitators were contracted to work with the RSGs (NE & JNCC, 2010a). The same facilitator remained with each RSG throughout the planning phase to promote consistency. Additional facilitators were brought in to further support the process if needed. Those sectors unable to partake in the RSG could nominate a representative as a ‘Named Consultative Stakeholder’ (NCS). These stakeholders forfeited their decision-making power, but were given the opportunity to comment on MCZ recommendations at key stages in the planning process. This allowed them to maintain meaningful involvement without the time commitment of the RSG. Similarly, to ensure that interests at the sub-regional and local levels were adequately engaged, most of the regional projects formed ‘Local Groups’ of stakeholders (*Balanced Seas & 3KQ*, 2010; NE & JNCC, 2010a). Like the NCSs, the Local Groups play an advisory role to the RSG, providing feedback on the local implications of potential MCZ sites at key

stages in the planning process. Each of the regional projects has a team of liaison officers, who have played an integral role in engaging local and regional stakeholders, as well as the wider public (J. Davies, personal communication, July 22, 2011). These officers act both as communication conduits and data gatherers, particularly for those sectors where data is sparse (e.g. the inshore fisheries). They work closely with stakeholder groups to collate relevant data and information to fill in these knowledge gaps. The SNCBs are responsible for engaging with stakeholders at the international and national level, and do so according to an internal engagement and communications strategy (J. Davies, personal communication, July 22, 2011).

Over the course of 16 months, the four RSGs formulated recommendations for the locations, sizes, shapes, and conservation objectives of MCZs in their area of interest. They also contributed to the socioeconomic impact assessments of the proposed MCZs. The MCZ network design process was aided by a series of project-specific guidance documents addressing project delivery, ecological network criteria, conservation objective development, and how to plan MCZs in areas where socioeconomic activities occur (see NE & JNCC, 2010a; 2010b; 2011a; and 2010c, respectively). These were supplemented by high-level guidance from DEFRA (e.g. DEFRA, 2010b) and a variety of other thematic advice papers (e.g. NE & JNCC, 2010d; 2011b; 2011c). This guidance provided the necessary structure and information for the regional planning processes, and clarified the roles and responsibilities of the parties involved. On a regional scale, a Regional Project Board and a Regional Project Team supported the work of the RSG, with the former providing project oversight, and the latter providing assorted expertise (e.g. GIS, project management, social science, MPA planning, etc.). Each Regional

Project Team had a full-time economist in its membership (J. Davies, personal communication, July 13, 2011). The economist was responsible for conducting the analysis required for the environmental, social, and economic impact assessments, but relied heavily on the input of stakeholders and enforcement bodies for data on the expected costs/benefits of a MCZ to industry and regulators. At the national level, the MCZ Project Board, MCZ Project Team, and the MCZ Project Technical Support Group collectively supported the work of the regional projects (NE & JNCC, 2010a). An independent Science Advisory Panel (SAP) was responsible for providing scientific expertise (in the natural sciences only), and ensuring MCZ recommendations conformed to ecological criteria. The apparent lack of economic and social science expertise on the SAP was not an oversight (J. Davies, personal communication, July 13, 2011). Government officials discussed SAP membership at length prior to its establishment, and eventually made a conscious decision to restrict it to natural science representation. Because the creation of an ecologically coherent MPA network was the primary objective of the MCZ Project, a SAP dedicated solely to ensuring its realization was seen as appropriate. Socioeconomic concerns were not ignored, however. They were addressed systematically through other mechanisms, supported by dedicated personnel. As such, the SAP membership was met with little to no objection from stakeholders. Furthermore, because the entire planning process was so transparent, and directly informed and quality-assured by the stakeholders themselves, they had little reason to fear or question its delivery. Those stakeholders who did express any apprehension generally responded positively when clarification was provided.

The same basic MCZ planning process took place in each of the four regions (NE



& JNCC, 2010a). The first stages included project preparation, assembly of regional working groups, and information gathering, followed by the development of a regional profile (including biophysical and socioeconomic information). There were then three four-month long MCZ planning cycles, in which the RSGs deliberated over potential MPA network designs, and received feedback from the SAP, DEFRA economists, other stakeholders, and external economists/social scientists as needed. If, after “all reasonable options [had] been explored and negotiated”, there were still objections to specific MCZ sites, they were logged and included in the final recommendation package (NE & JNCC, 2010a, p. 33). Impact assessments were developed concurrently with MCZ recommendations.

As was the case with the MLPA, MCZ planning was supported by GIS-based decision support software. However, the MCZ planning utilized Marxan, and lacked the same interactive capacity characteristic of MarineMap. After being acquainted with the basic capabilities of Marxan, stakeholders were able to direct project staff in what they wanted to see on the maps (J. Davies, personal communication, July 13, 2011). The design process itself was largely conducted using hard copies of base maps and data layers printed on acetate sheets for easy visualization. Hand-drawn designs were digitized by staff and returned to the RSGs for quality assurance. A web-based interactive mapping tool supported the planning process by allowing any interested stakeholder to visualize data and contribute their own; however, it did not provide an option to experiment with different network designs (MCZ Project Interactive Map, 2010). The information on how and where stakeholders use the sea was amalgamated such that individual contributions could not be identified. This was made clear to

potential contributors on the MCZ mapping website to allay any concerns over confidentiality.

The regional projects submitted their draft final MCZ recommendations to the SAP for evaluation in June 2011 (NE & JNCC, 2011d). Shortly thereafter, the SAP provided the projects with feedback regarding how well their respective network proposals met the ecological guidance. The regional projects are currently in the process of adjusting their MCZ recommendations to reflect this SAP feedback, and must submit the finalized recommendations to NE and JNCC by 31 August 2011. Submission of the regional impact assessments will occur in two parts, the first on 16 September 2011 and the second on 21 October 2011. Originally, the regional projects were to submit their entire recommendation package (including MCZ recommendations, impact assessments, SAP opinion, and a list of objections) to the SNCBs by June 2011 (NE & JNCC, 2010a). However, this deadline was extended to accommodate the complexity of the regional planning processes, and the need for additional time to complete robust impact assessments (NE & JNCC, 2011d). Once received, the SNCBs will review all of the information provided by the regional projects, and forward it to DEFRA by 16 January 2012 (rather than the original date of 30 November 2011). At this time, they will also provide their own statutory advice to DEFRA on the MCZ proposals. DEFRA will examine the MCZ recommendations and evaluate how well they meet the terms and objectives set forth in the MCAA (NE & JNCC, 2010a). They may make adjustments to the MCZ recommendations as required. A formal 12-week public consultation on the potential MCZs will be held in the summer of 2012 (NE & JNCC, 2011d). Final site designations are anticipated to occur by December 2012. The full MCZ designation

process is summarized schematically in Figure 9.

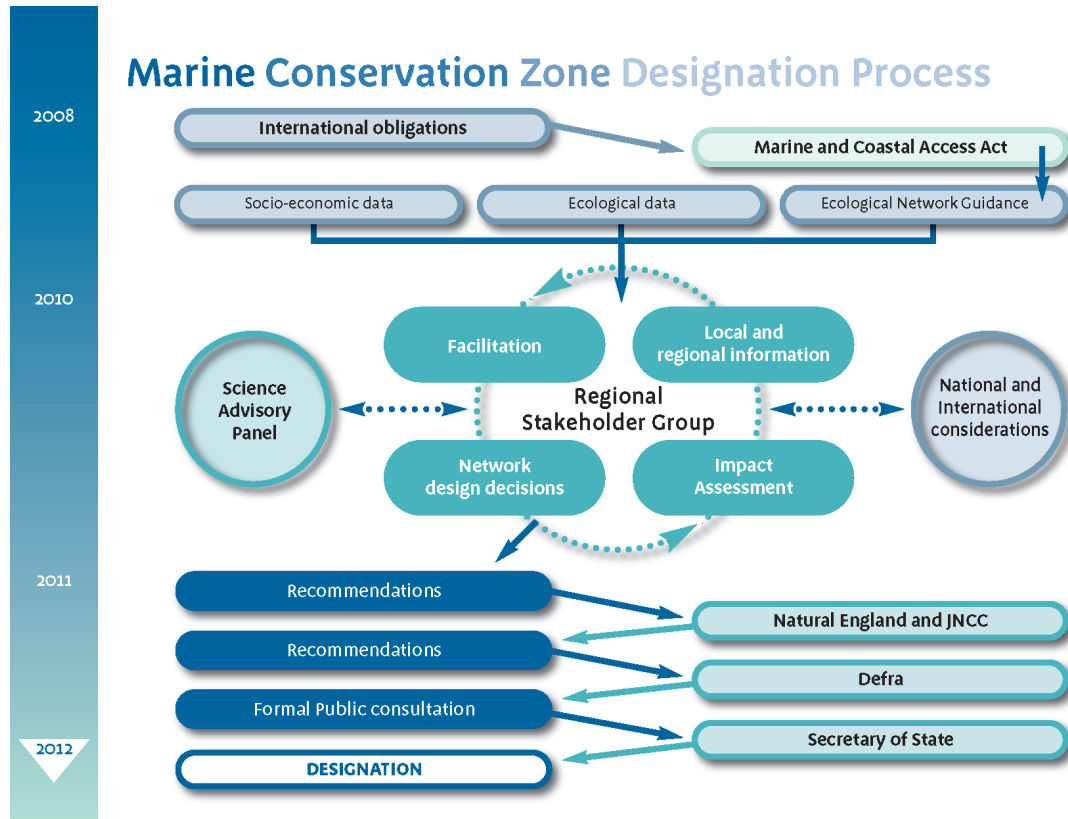


FIGURE 9. Simple schematic of the MCZ designation process in the UK (NE & JNCC, 2010e).

Like the MLPA, comprehensive websites for the regional MCZ projects have played an important role in keeping stakeholders and the interested public informed. Website content includes educational background information, up-to-date news, various resources (e.g. meeting reports, progress reports, newsletters, frequently asked questions), and contact information. A list of the regional project staff and RSG members is also provided.

The regional stakeholder-driven MCZ planning processes have been largely successful, and if given the choice, Jamie Davies said he would not have taken a different approach (personal communication, July 22, 2011). There were challenges to the process, particularly the uncertainty about exactly how stakeholder activity will be

impacted by the designation of MCZs, how they will be managed, and whether all recommendations submitted will be designated. The timeline and levels of evidence available to make recommendations also presented challenges. The process would have been smoother if these issues had been addressed at the outset. However, there is a general feeling among stakeholders that the process has been valuable, and there is a real sense of pride and ownership in the MCZ recommendations. Considerable social capital has been built through the MCZ planning process, with the working relationships between stakeholders improving significantly, and there are many cases where those who previously would not have spoken to one another, now do. In fact, the RSGs have demonstrated an active interest in retaining their groups in the post-implementation phase. The open and transparent process, coupled with strong communication and engagement, was pertinent to the success of the regional projects (J. Davies, personal communication, July 22, 2011).

## CHAPTER 6. DISCUSSION & RECOMMENDATIONS

As steward of one of the largest ocean areas in the world, Canada should be at the forefront of marine conservation. Indeed, with the passage of the *Oceans Act* in 1996, Canada was poised to take a leadership role in oceans management. The implementation of the Act to date, however, has been largely disappointing, with very little to show after more than a dozen years (e.g. Ricketts & Hildebrand, 2011; Jessen 2011). As a result of its inaction, not only has Canada fallen behind, it is now being ‘lapped’ by countries who have since adopted newly innovative approaches to oceans management, including MPA planning and management. In fact, Canada currently ranks 70th worldwide in total ocean area protected (Jessen, 2011). A number of contributing factors have been cited to explain this poor performance, including inadequate funding and political will, as well as fundamental weaknesses in the *Oceans Act* itself. While these particular factors are beyond the control of the Oceans and Coastal Management Division (OCMD) at DFO-Maritimes, there are still several areas where they can advance their approach at the regional level. Based on the best practices identified in Section 4.5, and their application in the two case studies, several recommendations are discussed below. Many of these recommendations are framed in the context of the 2009-2010 ESS AOI consultation; however, there are also some independent considerations. It should be noted that analysis of the AOI consultation is based on formal consultation materials only, and does not take into account any informal and/or undocumented engagement that may have occurred during that time. Recommendations are directed at OCMD specifically, and are organized according to the ease with which OCMD might be able to implement them. ‘Ease’ is assessed based on the author’s perception of OCMD’s power to independently

implement the recommendations at the bioregional level. Specific funding requirements are not assessed, although it is understood that funding is expected to be scarce over the next several years. HOTO funding expires in 2012, and it is unknown whether it will be renewed. Moreover, the most recent federal budget resulted in \$57 million in cuts to DFO (Maher, 2011), and it is unclear which programs will be affected by the cuts. For simplicity, the recommendations provided below have been grouped into four categories according to the criteria just discussed. These categories are: ‘least difficult’, ‘moderate’, ‘difficult’, and ‘beyond OCMD’s control’. The categories are relative, and have no quantifiable parameters. The placement of recommendations is purely subjective.

**Least difficult:**

*\*Rationale for category placement: The following recommendations are expected to be associated with minimal cost, and they could be easy to address at the bioregional level once national guidance has been finalized.*

*Establish a clear long-term vision for the bioregion before proceeding*

The AOI consultation feedback (i.e. DFO, 2011c) revealed that stakeholders want to know what to expect from the MPA program in the future. Questions were raised over how much of the region would eventually be protected, and what would happen to the two candidate AOIs that were not selected. It is probably safe to say that the idea of a MPA network represents a threatening unknown to most, if not all, consumptive user groups. Questions of the nature seen in the consultation will only become more insistent once the national network guidance is finalized. Before OCMD moves forward with network planning in earnest, they should have clear answers to these questions.

*Do not offer timelines unless they can be adhered to*

The consultation booklet informed stakeholders that “the AOI selection process will move quickly” and that an early 2010 announcement was anticipated (DFO, 2009b, p. 17). In reality, the announcement did not come until June 2011. Unless there is great confidence that a set timeline can be delivered, it would be best not to offer it. Empty promises of any description, no matter how trivial the issue may seem, do nothing to foster stakeholders’ confidence and trust in DFO or the MPA planning process. Instead, the public will just get frustrated. If for some reason there is a delay in the process that cannot be avoided, ongoing dialogue should be maintained with stakeholders and the public-at-large. This is part of conducting a transparent decision-making process. It will also help enhance process efficiency by helping to preserve the momentum and/or goodwill built during the consultation. If dialogue is not maintained during lulls in the process, DFO risks having to start all over again with stakeholders.

*Approach network planning on a sub-regional basis*

It appears from the MLPA and MCZ Project case studies that sub-dividing the larger region into smaller study regions is an effective way of approaching network planning. In the case of Nova Scotia, the obvious study regions would be the ESS, WSS, and BoF. Each of these regions should have their own regional stakeholder advisory body. By proceeding on a sub-regional basis, both planning and public engagement could become more manageable for OCMD. Trying to plan for the entire bioregion at once could become confusing and cumbersome, particularly because each of the regions is characterized by different use patterns and a unique culture. Moreover, there would be the risk of unorganized or underrepresented stakeholder groups getting ‘lost in the

shuffle’.

*Involve stakeholders earlier*

Feedback from the AOI consultation revealed that stakeholders wanted to be involved in the AOI selection process earlier. Indeed, from a public acceptance point-of-view, earlier involvement will likely become a necessity once a network of sites, rather than just one, is being proposed. One of the key lessons learned from the first MLPA implementation attempt is that the exclusion of stakeholders from network design can derail the entire process. Even if it is not possible for OCMD to adopt the highly participatory network design processes used in the MLPA and MCZ Project, stakeholders should at the very least be privy to how the networks are being planned. It is extremely unlikely that stakeholder groups will take kindly to having a network proposal, or proposals, ‘sprung’ on them without prior knowledge or opportunity for input. Instead, DFO should consider reporting back to a stakeholder advisory council at key points in the planning process, and subsequently integrating their feedback into the network design. This way, stakeholders are aware of the parameters being used in the design, and will have had the opportunity to provide input (which would hopefully be visible in the evolution of the network proposals). It may also be useful to have a demonstration of how Marxan works.

*Develop meaningful engagement mechanisms*

Arguably, the feedback forms included in both the consultation booklet and on the website were not an effective means through which to solicit representative stakeholder feedback. The dichotomy between the meeting and written feedback is acknowledged in the AOI consultation feedback report. Feedback from fish harvesters, one of the most



important stakeholders in the AOI selection, accounted for just 10% of the responses received (DFO, 2011c). The remaining feedback came from students (66%) and a mix of academics, retirees, government and NGO employees, professionals, and others (24%). Not only is this a highly disproportionate response rate, it is biased in the wrong direction. First and foremost, the objective of a consultation such as this is to garner as much feedback as possible from ocean users. Feedback from university students, while not unimportant, is secondary. The feedback forms clearly failed to adequately capture input from key stakeholder groups. Accordingly, in the future, such forms should not be used as one of the principal engagement mechanisms.

*Seek out partnerships*

Establishing partnerships with local communities and stakeholder groups could provide DFO with support in collecting data and/or public education. For example, DFO could adopt the ‘key communicators’ approach that was used by the MLPA Initiative. This would involve finding local champions who could help spread factual information about MPAs and the bioregional network planning efforts to their communities or industry sector.

*Strengthen public education materials*

The need for better public/stakeholder awareness of MPAs was pointed out explicitly in the AOI consultation feedback (DFO, 2011c). In fact, much of the feedback further illustrates this need. For example, several fishing groups contended that the benefits of MPAs are unproven in cold-water environments. Similarly, there was some confusion and/or misunderstanding surrounding why MPAs are needed, and how they are different from other conservation measures. In addition to more general outreach

materials, DFO should develop industry-specific educational materials dedicated to addressing common misconceptions about MPAs. Outreach materials should provide information that is comprehensive and meaningful, avoiding bureaucratic language wherever possible.

**Moderate:**

*Incorporate socioeconomic data from the outset*

*\*Rationale for category placement: Fulfilment of this recommendation is of critical importance, but because acquiring and compiling socioeconomic data may prove resource-intensive, it may not be as easy to implement as some of those already discussed.*

Consideration of potential socioeconomic impacts was one of the more glaring omissions in the AOI selection process. Not only were the candidate AOI sites selected based solely on ecological criteria, the consultation booklet provided no background on the socioeconomic activities at each site. Indeed, consideration of socioeconomic issues earlier in the process was one of the main issues raised in the feedback received (DFO, 2011c). As it was, socioeconomic information was only provided after the commercial fishery and NGO sectors requested it in the midst of the consultation. DFO responded to this request by producing three socioeconomic profiles. These profiles included information on the commercial fisheries operating in the area, their current landed values/quantities (and decadal trends) and how dependent individuals/communities are on the catch from the candidate AOI in question (see DFO, 2010e; 2010f; 2010g). Information on activities other than commercial fisheries was very sparse, comprising less than one page in each of the eight to nine page documents. An objection to this bias

toward fisheries also emerged in the consultation feedback (DFO, 2011c). In addition, stakeholders were disappointed that information on potential future activities, as well as historical fishing activities, was not included in the socioeconomic profiles. Given the rushed timeframe in which these profiles were developed, it is not surprising they proved inadequate in fulfilling stakeholders' expectations. Nonetheless, credit is due to DFO for demonstrating the adaptive capacity necessary to respond to unanticipated challenges during the consultation. Indeed, many stakeholders expressed appreciation for the socioeconomic profiles, in spite of their flaws (DFO, 2011c). DFO contended that the socioeconomic profiles were never intended to be detailed impact assessments, as these are typically completed after the AOI has been selected. However, based on the feedback they received during the AOI consultation, coupled with international best practices, they would be well advised, in the future, to thoroughly consider socioeconomics from the outset. This should include comprehensive regional profiles, as well as the systematic inclusion of socioeconomic data in network design.

*Enhance transparency*

*\*Rationale for category placement: Because of the hierarchical nature of federal agencies, OCMD may not have the authority to disclose information at its own discretion. Furthermore, they may not necessarily have control over when information is released. If this is the case, it could be challenging to achieve a fully transparent process at the bioregional level.*

It is apparent from the consultation feedback (i.e. DFO, 2011c) that stakeholders felt disconnected from the AOI decision-making process. There was a general lack of clarity regarding how the results of the consultation would be taken into account. In fact,

due to an underlying distrust of DFO, some stakeholder groups believed their feedback would be ignored altogether. The scant information provided in the consultation booklet regarding how stakeholder feedback would be incorporated did little to alleviate these fears. The following information was provided:

Your comments at this stage are very important as they will be used by DFO staff, along with other information, to help evaluate which area will be recommended to the Minister of Fisheries and Oceans as an AOI for MPA designation under the Oceans Act. (DFO, 2009b, p.17)

This statement provides no tangible evidence that would lead stakeholders to believe their feedback was genuinely going to influence the final recommendation. As such, they had little reason to presume the consultation was anything more than ‘a check in the box’ for DFO. Moreover, the feedback from the consultation (i.e. DFO, 2011c) was not made available to the public until after the AOI had been announced, and still no explanation was provided as to how the feedback was used in the decision-making process. This shows a lack of decision-making transparency. In this particular case, St Anns Bank was the obvious choice from the perspective of minimizing socioeconomic impact. As such, this lack of transparency has likely generated minimal backlash. However, in the future, if the options are more contentious, stakeholders are bound to demand an explanation for why one was chosen over another. They will want to know how different criteria were weighted. If DFO does not have a clear and defensible methodology for making these decisions, stakeholders will lose confidence in the process and question their contributions to it.

As part of moving toward more transparent decision-making processes, it should

become routine to make the schedules and minutes of stakeholder meetings available to the public online, for example. This should also apply to internal and intergovernmental meetings so that the decision-making process is visible from start to finish, and the public can follow it in real-time. All guidance documents and supporting materials should also be made available. Essentially, nothing should be hidden or conducted behind closed doors unless the nature of the information is proprietary or otherwise sensitive. Transparency is the key to gaining public trust.

*Move away from the site-by-site approach*

*\*Rationale for category placement: This could be readily achieved with adequate funding support.*

Although expected to change in the future, to date, *Oceans Act* MPAs have been established on a site-by-site basis only. Aside from the obvious ecological drawbacks of this site-by-site approach, it also poses challenges to effective stakeholder engagement (identified in Davis, 2011). For example, stakeholders in the Scotian Shelf bioregion have complained that this approach unfairly singles out certain user groups, while leaving others unaffected. In contrast, if an all-at-once approach were adopted, it would “demonstrate that every part of the region was being given equal treatment and attention by MPA planners” (Davis, 2011, p. 3). It was also pointed out that the site-by-site approach can be challenging for managers, as they must reacquaint themselves with industry stakeholders each time; a necessary, but large, upfront investment of time and resources. It could be further argued that the same is true for stakeholders, who may develop consultation fatigue as a result of this repetitive approach.

### Expand beyond ESSIM

*\*Rationale for category placement: This could be readily achieved with adequate funding support.*

ESSIM and its advisory mechanisms have served as a valuable pilot for integrated management planning and a useful platform for MPA establishment; however, it is important that the intense oceans management efforts that have characterized the ESS be soon expanded. Stakeholders in the ESSIM area have had many years to adjust to the idea of MPAs and broader integrated management. Meanwhile, the stakeholders and communities in the other major areas of the bioregion (i.e. the WSS and the BoF) have had no exposure to *Oceans Act* MPAs, or integrated oceans management. As such, little groundwork has been laid for MPA network planning in these regions, which could make it challenging for DFO to expeditiously carry out such planning in the future. This ‘groundwork’ applies not only to stakeholder education and awareness, but also to management preparedness. Through ESSIM, the Gully MPA, and the recent AOI consultation, there are several existing stakeholder advisory bodies in the ESS region, and OCMD has developed relationships with key stakeholders. Similar opportunities for relationship building have not yet been realized in the WSS and BoF regions.

### Acquire independent, professional facilitation for stakeholder meetings

*\*Rationale for category placement: This could be readily achieved with adequate funding support.*

Many commercial fishermen in Atlantic Canada have a strong distrust of DFO, feeling that they have mismanaged fisheries (e.g. Dovetail Consulting, 2005). This tense relationship stems back several decades, and the anger felt by some fishermen is fierce

and deep-seated. As such, the ability of DFO employees to conduct effective stakeholder consultations is severely compromised, simply by affiliation. Regardless of how well intentioned the individual or individuals running the consultations may be, they are still representing DFO. This can make it exceedingly difficult for stakeholders to place their trust in the process, and provide constructive feedback. This makes it all the more imperative to have a neutral mediator.

Hire consultants

*\*Rationale for category placement: This could be readily achieved with adequate funding support.*

It would be useful to hire specialized consultants to help with the network planning process design, including the development of a public engagement strategy.

**Difficult:**

Engage in stakeholder-led network design processes

*\*Rationale for category placement: This would require substantial funding and resources.*

Based on the case studies examined in this project, it could be argued that a stakeholder-led network design process would be ‘ideal’. However, such processes are incredibly resource-intensive, and would require substantial funding.

**Out of OCMD’s control:**

Update legislation

*\*Rationale for category placement: Amending legislation is beyond the authority of OCMD.*

It is apparent from the two case studies examined in this project that strong,

explicit legislation is one of the keys to guiding, supporting, and reinforcing effective network planning. The *Oceans Act* is no longer sufficient in this regard, and needs to be updated to reflect the evolving policy goals of DFO's MPA program. Both the MLPA and the MCAA provide pages of detailed legal guidance on MPAs and MPA networks. In comparison, the guidance in the *Oceans Act* is vague and extremely sparse (amounting to less than one page).



## CHAPTER 7. CONCLUSION

Canada's oceans, rich with biodiversity and natural resources, are woven into the economic, cultural, and recreational fabric of the country. The health of our oceans has been seriously compromised by human activities, however. It is imperative that effective management tools be put in place to help mitigate this damage, and ensure that Canada's natural heritage is protected for future generations. MPAs represent one such management tool. Under the *Oceans Act*, DFO has a mandate to develop a national system of MPAs in Canadian waters. To date, this has occurred in a piecemeal manner, with sites being established on an individual basis after a lengthy process. However, recent national policy guidance is positioning Canada to adopt a systematic network approach to MPA planning that is more consistent with international best practices. It is widely recognized that engaging stakeholders in MPA planning and management is critical if the initiative is to have long-term success. Participatory decision-making processes can lead to smoother implementation, voluntary compliance with regulations, and higher quality decisions, while promoting social learning and increased public trust. In order for these benefits to be realized, however, the process itself has to be strong. An extensive body of literature exists on stakeholder engagement and marine planning. A review of this literature reveals several best practices for conducting effective public engagement processes. These include:

- Committing to meaningful participation through empowering stakeholders with knowledge and the capacity to truly influence the decision outcome;
- Engaging with stakeholders early in the process;
- Establishing clear objectives to help manage participant expectations;

- Allowing for transparency to foster a sense of fairness and legitimacy in the process;
- Demonstrating the flexibility necessary to adapt to dynamic participatory processes;
- Hiring impartial, professional facilitators to help run stakeholder consultations;
- Integrating socioeconomic data from the outset; and,
- Seeking out traditional and local knowledge to attain a more complete understanding of the natural and social environments.

The two case studies examined in this project, the MLPA in California, and the MCZ Project in the UK, demonstrated the application of these best practices. The early implementation attempts of the MLPA also demonstrated what can happen if these practices are neglected. Both of the case studies (eventually) adopted highly sophisticated, participatory MPA network planning processes that were supported by strong legal frameworks.

In light of these research findings, several recommendations have been put forward to DFO-Maritimes, and specifically OCMD, as they prepare to undergo MPA network planning in the Scotian Shelf bioregion. Due to the substantial cost and resource requirements associated with the stakeholder-driven planning processes used in California and the UK, it may be unlikely that a similar approach could be adopted in Canada at this time. Despite this, there are still several measures that could be taken to enhance stakeholder engagement processes. These include, for example: clarifying long-term objectives, engaging with stakeholders from the beginning of the process, maintaining continuous dialogue, enhancing transparency, strengthening outreach

materials, and integrating socioeconomic data into network design. It is believed that by heeding these recommendations, more meaningful stakeholder participation can be fostered, and the success of the MPA network can be ensured.

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