IMPLEMENTING MARINE PROTECTED AREAS POLICY: LESSONS FROM CANADA AND AUSTRALIA

by

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Abstract

Canada's Oceans Act and Australia's Oceans Policy are based on similar principles and have similar objectives. Both recognize the need for improved oceans management, and include strategies for establishing a system of marine protected areas (MPAs) within a broader marine planning and integrated management context. There are indications, however, that the implementation process has been more successful in Australia than in Canada. This study analyzes and compares a range of factors that may influence the ability of Canada's Oceans Act and Australia's Oceans Policy to achieve their MPA policy objectives. Based on interviews of key informants and reviews of policy and literature, this cross-national comparative analysis reveals the challenges and opportunities of the policy context in each setting, and the relative strengths and weaknesses of the different implementation approaches. The report concludes with lessons and implications for Canada and Australia, and recommendations for other states interested in implementing MPA policy.

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Table of Contents

List of Tables

List of Figures

List of Acronyms

AOP	–	Australia's Oceans Policy
COA	–	Canada's Oceans Act
COS	–	Canada's Oceans Strategy
CPR	–	Common property resource
DEH	–	Department of Environment and Heritage
DFO	–	Department of Fisheries and Oceans Canada
EBM	–	Ecosystem based management
EEZ	–	Exclusive Economic Zone
eNGO	–	Environmental non-government organization
IM	–	Integrated Management
IUCN	–	World Conservation Union
MCCN	–	Marine and Coastal Community Network (Australia)
MPA	–	Marine protected area
NOAG	–	National Oceans Advisory Group
NOMB	–	National Oceans Ministerial Board
NGO	–	Non-government organization
nm	–	nautical miles
NOO	–	National Oceans Office (Australia)
NRSMPA	–	National Representative System of Marine Protected Areas (Australia)
NRTEE	–	National Round Table on the Environment and the Economy
RMP	–	Regional Marine Plans (Australia)
SERMP	–	South East Regional Marine Plan (Australia)
SMART	–	Specific, Measurable, Attainable, Realistic and Time-bound
TEK	–	Traditional Ecological Knowledge
UN	–	United Nations
UNCLOS	–	United Nations Convention on the Law of the Sea

1 Introduction

1.1 Rationale for Research

Marine conservation has become a focus of worldwide attention in response to the growing consensus that the health of the world's oceans is declining. The cumulative and increasingly severe impacts of overfishing and destructive fishing methods, non-renewable resource extraction, destruction of coastal habitats, introductions and invasions of alien species and climate change are rapidly destroying entire marine populations, species and ecosystems. The entire marine realm, on which humans depend for ecological services and resources, is at risk (Myers & Worm, 2003; GESAMP & Advisory Committee on Protection of the Sea, 2001; Norse, 1993). Sectoral, ad hoc and short-term management measures, which do not adequately recognize the interconnectedness of oceans uses and ecological components, have led to overexploitation of resources and environmental degradation. To prevent this from continuing, management must progress to a more systematic, holistic and integrated approach (Juda, 2003; GESAMP & Advisory Committee on Protection of the Sea, 2001; Bateman, 1999).

Marine protected areas (MPAs) show promise as a useful and feasible tool in ecosystem-based approaches for oceans conservation and management (National Research Council, 2001). MPAs are areas of the ocean designated to conserve, protect and/or restore natural and cultural values and resources (National Research Council, 2001; Gubbay, 1995; Agardy, 1997; Salm, Clark, Siirila, 2000). Since the 1990's, an extensive body of literature has developed on the benefits of MPAs as well as the environmental and economic need for them in light of dwindling marine resources (e.g., Ballentine, 1994; Ballentine, 1995; Kenchington & Agardy, 1990). MPAs are not, however, a stand alone conservation tool to be designed, implemented and managed in

isolation from each other and from other marine uses and policies for management techniques (Agardy, 1997). MPA policy should be implemented within a broader marine planning framework that ensures the integration of oceans related strategies (DFO, 2001a; Brunckhorst & Bridgewater, 1995).

In the last decade, Canada and Australia have adopted national level oceans management policies which incorporate integrated management, the precautionary principle, ecosystem-based management and MPAs (Canada's Oceans Act and Australia's Oceans Policy).[1] Although the underlying principles and objectives of these policies are similar, there are substantial differences in the socio-political and environmental contexts into which the policies have been introduced, as well as differences in implementation approaches. This provides an exemplary opportunity to learn about MPA implementation by comparing experiences in these two settings:

> It can be expected that the outcomes of these two different approaches to oceans governance [Canada and Australia] will be watched with interest by other countries wishing to develop a national system for the integrated exploitation as well as protection of the ocean environment within their jurisdiction" (Eadie, 2001, p.12).

Since the inception of Canada's Ocean's Act (COA) in 1997 and Australia's Oceans Policy (AOP) in 1998, there have been indications that the implementation process has been more successful for the AOP than for the COA. For example, in a review of the COA, the Standing Committee on Fisheries and Oceans concluded that "key elements of the Act do not appear to have been as fully implemented as they could or should have been" (Standing Committee on Fisheries and Oceans, 2001). In contrast, an article examining the development and implementation of Australia's Oceans Policy asserts that the "development and initial implementation has been stunningly rapid" (Wescott, 2000, p.872). This begs the question – Why? What are the factors that have

[1] See Appendices D and E for details

affected policy implementation in these two settings, and do they explain this initial discrepancy in implementation success?

This research compares the implementation of MPA policy under the COA and AOP. Using an adapted version of Mazmanian and Sabatier's (1981) framework for implementation analysis, I examine factors that may have influenced implementation in each country, including factors related to: the tractability of the policy problem; the ability of the policy to structure implementation; exogenous factors; and bottom-up factors. My analysis of these factors helps to explain the discrepancy of implementation success to date in the two countries and to predict whether future success is probable. I discuss the contextual challenges and opportunities that have facilitated or impeded implementation in these two settings, and the strengths and weaknesses of the Australian and Canadian implementation approaches.

1.2 Research Objectives

The objectives of this research are to:

- examine and compare factors affecting the ability of the COA and AOP to achieve their MPA policy objectives, based on postulates adapted from Mazmanian and Sabatier's framework for effective policy implementation; and
- identify the major strengths and weaknesses of the COA and AOP implementation approaches, as well as contextual challenges and opportunities in each country that have impeded or delayed successful implementation.

1.3 Report Organization

This report is divided into five chapters. Chapter 1 presents the rationale for the research and the research objectives. Chapter 2 describes and justifies the methods used, and draws on Sabatier and Mazmanian's (1981) framework to develop postulated factors about 15 key conditions that facilitate successful policy implementation. These factors

are used to structure the analysis in Chapter 4. Chapter 3 provides relevant background information about integrated oceans management, Canada and Australia's marine environment and resources, MPAs in general and the current status of MPAs in Canada and Australia, and the two MPA policies that are examined in this research (COA and AOP). The analysis in Chapter 4 examines and compares the Canadian and Australian policies and policy context, using the factors affecting policy implementation developed in Chapter 2. This analysis leads to conclusions in Chapter 5 about the challenges and opportunities facilitating or impeding implementation and the strengths and weaknesses of the Australian and Canadian approaches. Chapter 5 also discusses implications and lessons for policymakers in these and other countries, as well as reflections and conclusions about the methodology used.

2 Analytical Framework and Methods

The methodology for this cross national comparative analysis is described in this chapter. Figure 1 depicts graphically the methodological process that was used. The rest of the chapter elaborates on this figure to describe and provide rationale for the methods used.

2.1 Rationale for Cross National Comparative Policy Analysis

Cross national comparative analysis between two similar federalist countries can offer more realistic insight and lessons about the consequences of policy decisions and implementation approaches than the speculative and abstract thought exercises that are often employed in policy analysis (Rose, 1973). While this does not mean each nation should adopt the same policy or respond in the same way, it provides an opportunity to learn from each other's relevant experience and move forward in an educated and advantaged way (Rose, 1988). A cross-national comparative analysis can provide insight into the implementation of different policy approaches by identifying strengths and weaknesses of alternative approaches (Dogan & Pelassy, 1990).

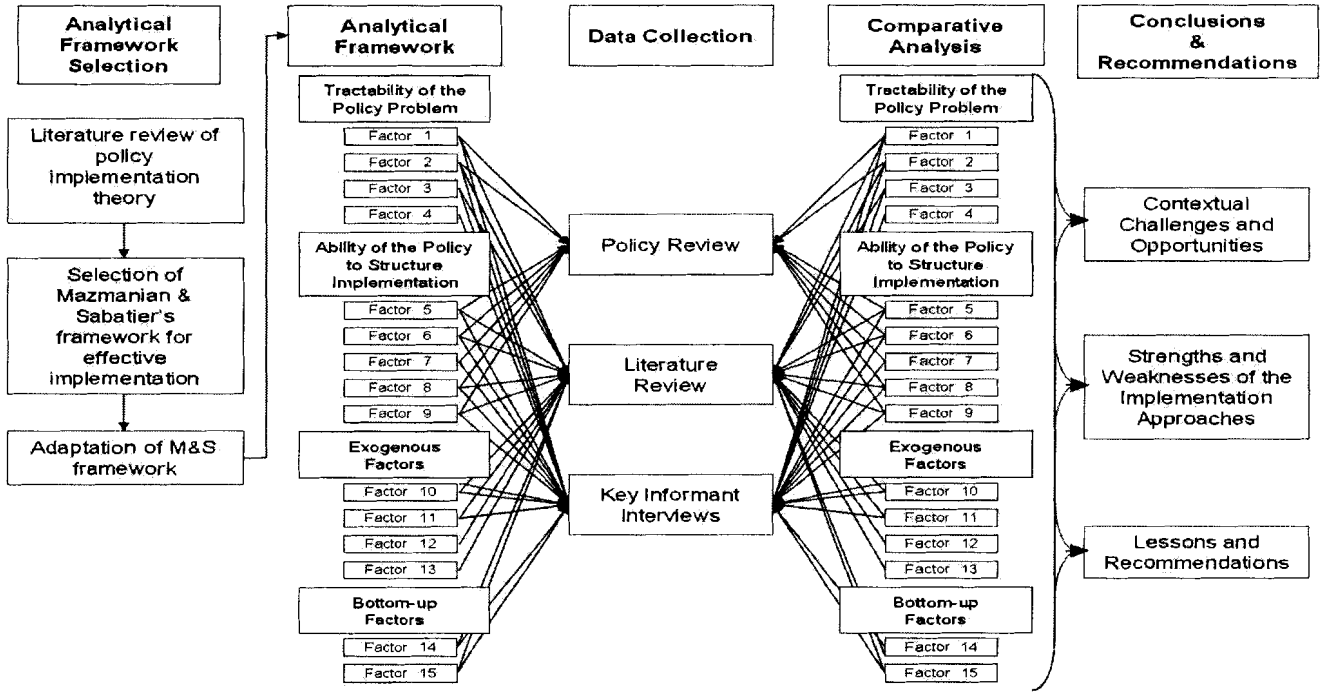


Figure 1 – Methodological Process

Analytical Framework Selection: After a literature review of policy implementation theory, Mazmanian and Sabatier's framework was chosen and then adapted for this analysis (described in section 2.2). The framework includes 15 factors in four categories.

Data Collection: Data was collected to uncover the state of affairs in Canada and Australia with respect to each of these 15 factors. The methods for data collection are described in section 2.3.

Comparative Analysis: The analysis in Chapter 4 presents the situation in Canada and Australia with respect to each of the factors, mostly one at a time even though the factors are interrelated.

Conclusions and Recommendations: The analysis in Chapter 4 is then synthesized into broader conclusions and recommendations in Chapter 5, including the existing conditions in each country that create opportunities or challenges (referred to as contextual challenges and opportunities), strengths and weaknesses of the policy approaches and lessons and recommendations.

2.2 Implementation Analysis Framework – Description and Rationale

2.2.1 Summary of Implementation Theory

Evaluation of policy implementation is a complex, multidisciplinary social science field of study about the process of turning the intentions expressed in policy and legislation into action. Over the last 30 years, a policy implementation literature has developed, which some scholars categorize into three distinct generations of research (Hamilton, 2000; Goggin, Bowman, Lester & O'Toole, 1990). The first generation of research shifted the focus from the study of the formation/design of policies and laws, to the process of turning those laws and policies into action. This generation of research (led by Pressman & Wildavsky, 1973) provided a glimpse into the complex nature of policy implementation, focused on barriers to effective implementation, and identified a number of factors that contribute to the probability of implementation success and failure (Goggin et al., 1990; Hamilton, 2000). This early research has been criticized, though, for its pessimistic outlook on the potential for successful implementation as a result of its narrow, case-specific approach and for its limited usefulness due to its lack of a practical or even theoretical framework in which analysis can be conducted (Hamilton, 2000).

The second generation of implementation research addressed this weakness by focusing effort on developing "analytical frameworks designed to identify factors that contribute to the realization or (non-realization) of policy objectives" (Lester, Bowman, Goggin, 1987). A dichotomy emerged in this generation of research between those studying implementation from the 'top-down' and those studying from the 'bottom up'. While the terms top-down and bottom-up are often used to refer to strategies in implementation design, they are also lenses with which analyses of policy implementation are conducted. The top-down analytical approach (also referred to as 'forward-mapping' or the "programmed' approach) examines a government's ability to

implement an authoritatively mandated policy and focuses on identifying the variables necessary for successful implementation, as defined by the authoritative agency (Hamilton 2000; Goggin et al., 1990; Elmore, 1985). Mazmanian and Sabatier's (1981) analytical framework, which I adapted and used for this research, falls in this category. The rationale for choosing this framework and justification for the adaptations that were made for this research follow in section 2.2.2.

The bottom-up approach of the second generation implementation literature (also referred to as 'backward mapping' or the 'adaptive' approach) argues that effective implementation requires a process that allows policy to be adapted through negotiations/collaborations between the public, non-government organizations, local communities, and federal, regional, state and municipal governments (Elmore, 1985). This approach focuses on how the public, stakeholders and communities interact, negotiate and affect policy implementation and how higher-level policies can be designed to facilitate and meet the needs of bottom-up processes.

Each of these approaches, top-down and bottom-up, has been criticized for ignoring the factors that are explained by the other, and for ignoring or downplaying the intricate connectivity in the relationships between factors affecting implementation from above and those affecting implementation from below (Hamilton, 2000).

The third generation of implementation research attempts to resolve the top-down/bottom-up dichotomy with complex models addressing the two simultaneously operating implementation processes: government authority commanded tasks and objectives interacting with sometimes unexpected actual operations (Goggin et al., 1990). Various models have been developed for this type of analysis. These models are beyond the scope of this paper because of their depth and complexity and because of the specificity of these models to particular policy arenas.

2.2.2 Description and Rationale for Analytical Framework

The Mazmanian and Sabatier (1981) framework was selected for this research because of its usefulness in addressing macro-level legal, political, logistical and socio-economic variables that affect the implementation process. It comprises postulates about wide-ranging factors that affect the ability of a centrally-mandated policy to achieve its objectives. In a scenario where the conditions proposed in the postulates are satisfied, we expect successful, or at least facilitated, implementation. Given that the COA and the AOP are both centrally-mandated MPA policies, the examination of the Canadian and Australian context with respect to each of the factors should explain the slower, more burdened implementation in Canada to date.

The framework was slightly adapted to suit the needs of this analysis and to incorporate some factors from bottom-up analysis approaches, in response to the weaknesses described in section 2.2.1. Two postulated factors were added to the framework to examine bottom-up influences on policy implementation: public participation; and Indigenous participation. Two factors were omitted from Mazmanian and Sabatier's framework. The two additional factors and the omitted factors are explained later in this section.

The framework was slightly restructured to simplify it into a list of factors feasible to analyze within the scope of this study. The factors affecting implementation can be categorised as: (1) factors relating to the tractability of the policy problem; (2) the ability of the policy to structure implementation; (3) exogenous factors affecting implementation; and (4) bottom-up factors. Each category is described below and all of the factors and their related postulates are summarized in table 1.

Factors Relating to the Tractability of the Policy Problem

Problems vary greatly in complexity and scope, and have inherent differences in their capability of being solved by a policy. The specific aspects of the policy problem that affect the ability of government institutions to achieve policy objectives are examined in this category. These factors include: validity of causal theory (i.e., whether the change in target group behaviour to which the policy is addressed will actually achieve the policy objectives); diversity of target group behaviour; target group as a percentage of the population; and extent of behavioural change required.

Ability of the Policy to Structure Implementation

Policies, strategies and statutes have the capacity to structure the implementation process in such a way as to increase the probability of effective implementation. Policy implementation is facilitated when: a policy has unambiguous and clearly ranked objectives; the implementing institution(s) possess adequate legal and institutional power and financial resources; and an implementing institution(s) is selected whose policy orientation is consistent with the new policy's objectives and who assigns high priority to the new objectives, and has the necessary technical, political and leadership skills.

When these conditions are present, the probability of attaining policy objectives is enhanced, even if the amount of behavioural change sought in target groups is considerable (Mazmanian & Sabatier, 1981).

Exogenous Factors Affecting Implementation

This category of factors addresses the effects of variables external to the policy process. Exogenous factors include: media attention to the problem; public support; the socioeconomic status of the public and target groups; and the political climate.

The exogenous nature of these factors does not necessarily mean that they cannot be influenced by the policy. An effectively-designed policy can provide sufficient policy

direction and resources to facilitate its implementation through these factors. For example, an effective policy would include a communications strategy which encourages media attention and public support (two of the exogenous factors). The outcomes of the policy are determined by the interaction between the policy actions and the environment within which they are being implemented. As these factors and interactions may vary over time, a full analysis would require a detailed examination over an extended period of time. I provide a general overview of exogenous factors since the inception of the COA and the AOP, but since these policies have been in effect for less than ten years it is likely that the interactions between policies and exogenous factors have not yet been fully worked out.

Bottom-up Factors

Top-down frameworks for analysis of policy implementation have been criticized for assuming "that the policy designers are the legitimate, key actors in the implementation process, while the other players are regarded as impediments" (Hamilton, 2000). This criticism is taken into account in this analysis, by adding two bottom-up variables to examine the implementation process in terms of consultation and collaboration between the implementing agency and stakeholders, including the public, non-governmental organizations (NGOs), local communities and Indigenous peoples. The bottom-up factors added are: public participation and Indigenous involvement.

Public and stakeholder involvement in resource management and policy decision-making has gained momentum in recent years. Many studies have corroborated the benefits of and need for consultation, and even shared decision-making, in policy development and implementation (e.g. Costanza et al., 1998; NRTEE, 1998; Salm et al., 2000; Margerum, 2002). Greater participation in planning and governance is based on the premise that those affected by a decision should participate directly in the decision-

making process to ensure its fairness, local appropriateness and acceptance (Berkes, Mathias, Kislalioglu, & Fast, 2001; Mitchell, 1995). Accordingly, I added a factor to the framework that: policy implementation is facilitated if there is public and stakeholder participation at multiple levels of the policy process. With increased public participation, there is a greater chance of attaining policy objectives by increasing public support and compliance and by adapting the policy to fit local contexts.

International attention has also been focussed on the recognition of Indigenous people's rights and interest in resource management and on traditional ecological knowledge as a vast and largely untapped reservoir of information and a means to integrate local values into decision-making (Robinson & Mercer, 2000; Berkes et al., 2001; NRTEE, 1998). Governments are under considerable pressure to develop and implement policies, legislation and co-management agreements that are consistent with indigenous rights (Robinson & Mercier, 2000). Accordingly, I added a final factor to the framework that: policy implementation is facilitated if there is a high level of Indigenous involvement in the policy process. Increased indigenous involvement will increase the chance of attaining policy objectives by increasing the soundness of policy through inclusion of traditional knowledge and engaging those with legal and moral rights over the resources.

Omitted Factors

Two factors were left out of Mazmanian and Sabatier's framework. The first one states that implementation is facilitated when the opportunity for participation is biased towards supporters of statutory objectives. Although this may be an effective strategy for policymakers wishing to push implementation through, it raises issues of equity and justice. Moreover, this type of manipulation can backfire when opponents that have not been given an opportunity to participate, especially those with vested rights in the marine

environment, trigger active opposition to the policy. Given this context, other scholars have argued that inclusive public participation is more likely to facilitate policy implementation than selective participation (NRTEE, 1998; Salm et al., 2000; Margerum, 2002) and so I elected to replace this factor. The second factor that I left out is related to the decision rules of the implementing agency. Investigating all the relevant decision rules would involve nation-wide investigations of decision points for policy development and implementation, as well as MPA site-specific decisions, in all levels of government in all regions of both countries, which is beyond the scope of this paper.

Table 1 – Postulates Related to Factors Affecting Implementation

Category	Factor	Postulate
Factors Relating to the Tractability of the Policy Problem		**Policy implementation is facilitated if...**
	Validity of causal theory *Factor 1*	there is a valid causal theory that connects the modification of the target group with the amelioration of the problem.
	Diversity of target group behaviour *Factor 2*	the behaviour being regulated is not very diverse, since it is then easier to frame clear regulations and thus it is more likely that objectives can be attained.
	Target group as a percentage of the population *Factor 3*	the target group whose behaviour needs to be changed is small and well-defined, since it is more likely that political support can be mobilized in favour of the program and more probable that objectives can be achieved.
	Extent of behavioural change required *Factor 4*	the amount of behavioural change required is small.

Category	Factor	Postulate
Ability of the Policy to Structure Implementation	**Level of clarity, ranking and consistency of objectives** *Factor 5*	the statute or policy provides unambiguous and clearly ranked objectives and instructions, because it is then more likely that the policy outputs of the implementing agencies and ultimately the behaviour of the target groups will be consistent with those directives.
	Legal and institutional power of lead agency *Factor 6*	the lead agency has jurisdiction over a sufficient number of the critical linkages over matters related to program implementation to actually attain policy objectives.
	Financial resources available to lead agency *Factor 7*	sufficient funding is provided to the lead agency.
	Lead agency's commitment to policy objectives *Factor 8*	the responsibility for implementation is assigned to an agency whose existing policy orientation is consistent with the new policy, who assigns a high priority to the policy objectives and whose officials are strongly committed to the policy objectives.
	Level of skilfulness and leadership of lead agency *Factor 9*	the agency officials possess the necessary managerial, technical, political and leadership skills to implement the policy.
Exogenous Factors Affecting implementation	**Media attention to the problem** *Factor 10*	the policy and related policy problem get above-normal media attention over a sustained period of time
	Public support *Factor 11*	the policy objectives are supported by a large proportion of the general public and there is a strong constituency group
	Socioeconomic and political conditions *Factor 12*	the socioeconomic and political conditions are such that: the policy problem is perceived as important; there is minimal local variation; the policy is economically viable for target groups; and their relative importance in the total economy is low.
	Support from sovereigns *Factor 13*	there is on-going support for the policy objectives from sovereigns over a sustained period of time
Bottom- up Factors	**Public participation** *Factor 14*	there is public, stakeholder and community participation at multiple levels of the policy process.
	Indigenous participation *Factor 15*	there is a high level of Indigenous involvement in the policy process.

Based on: Mazmanian and Sabatier (1981)

2.3 Description of Methodology

The methods used in this cross-national comparative policy implementation analysis research are: literature and policy review and key informant interviews. The multiple methods of data collection that were used and the multiplicity of sources helped ensure the validity of the analysis.

I conducted a policy review of public documents (legislation, policy documents, consultation records, annual reports and reviews), government websites and literature review of academic journals to uncover relevant information and develop understanding of the COA and AOP policy development, design and implementation processes. I also conducted a literature review of analytical criteria for policy implementation analysis and comparative policy analysis methods to determine and fine tune the analytical framework described in section 2.2.2.

Key informants are well-informed experts or leaders involved in the field of the research topic (Dexter 1970). I conducted key informant interviews to gain empirical information and uncover relevant, first-hand information from experts to validate my interpretations of the key policy documents and reports. Key informant interviews were useful in acquiring a more thorough understanding of the experience, perceptions, expectations and evaluations of participants in policy design and implementation than could be obtained solely from documents or from conducting a greater number of less intensive interviews or surveys (Dexter, 1970). The interviews included a combination of structured, semi-structured, open-ended and numerical-ranking questions. Having a mix of questions allows for the examination of the complexity of the various issues covered while ensuring that, beyond anecdotal stories, some concrete data results from the interviews (Knight, 2002). The interview questions were designed to generate

information about each of the factors affecting implementation, based on the postulates of the analytical framework (table 1).

An initial investigation of potential respondents' occupation/position within their organization, published papers and conference presentations allowed me to identify candidates for interviews that were the most involved and knowledgeable individuals in MPA policy implementation in Canada and Australia (opportunity sampling). From this initial list of individuals, candidates, who either accepted or declined being interviewed, were asked who they thought would be good informants based on their experience (snowball sampling). These methods are useful in identifying key informants that can offer meaningful first-hand insight into the policy process rather than being representative of a greater group (Thomas, 2003).

I interviewed 12 people currently or previously active in the oceans management and/or MPA policy field: three from the lead government agencies in Canada and Australia, and three independent/academic marine policy experts from each country. Prior to the interview, I provided each respondent with a description of the project and the list of interview questions (see Appendices B & C). Respondents were given the opportunity to review the documents provided and decide whether they would like to proceed with an interview. None of the respondents withdrew from the interview after reviewing the questions. The interviews were conducted over the telephone or in person. With permission of the respondents, the interviews were recorded. The tapes were loosely transcribed (i.e., not word for word, but capturing all the important concepts). Codes were used in the document to hide the respondents' identities. Each interview took between one and three hours.

In the analysis of the interview responses in Chapter 5, I reference the respondents' comments with an alphanumeric code in parentheses at the end of each

statement. The first letter of the code is 'C' or 'A', referring to whether the respondent was interviewed about Canada or Australia's policy, respectively. The second letter 'G' or 'I' refers to whether the respondent works for the governmental lead agency or an independent expert, respectively. The government respondents from Canada were employees of the Department of Fisheries and Oceans Canada, from the national office in Ottawa, the Maritime region and the Pacific region. The government respondents for Australia were two employees of the National Oceans Office (NOO) and one of the Department of Environment and Heritage (DEH). Respondents from both these agencies were chosen because of the relationship between NOO and DEH with respect to MPA and marine planning policy for the AOP (explained in section 3.6). The independent experts were academics or consultants. The numbers in the code (1, 2, 3) were assigned randomly to distinguish among respondents.

The open-ended questions led to discussions about a variety of topics and issues with each respondent. As a result, many ideas were expressed by only one or two respondents, and so statements and ideas used in the analysis in Chapter 4 were only included if they were not explicitly or implicitly contradicted by other respondents, or by the documents and literature I reviewed. Also to prevent misinterpretation during the interviews, I often summarized and repeated back the respondents' answers to ensure that I understood them correctly.

3 Policy Context and Description

3.1 Oceans Governance and Integrated Management

The oceans' resources are transboundary common property resources (CPR) with the characteristics of non-exclusivity (difficult for users to be excluded) and subtractibility (using the resources shrinks the supply that remains) (Ostrom, 1990). Over-exploitation is an expected outcome of the use of CPRs when there is no effective mechanism to regulate access to the resource and its use (Hardin, 1968).

Over-exploitation of the oceans' resources has taken place, as a result of their CPR nature coupled with: the lack of coordinated management; the growth of the global human population disproportionately concentrated in coastal areas; the intensification of historical ocean uses such as fishing; the emergence of new marine uses, such as the exploitation of offshore oil and gas; and the perceived convenience of the ocean as a place to dispose of ever-increasing human waste (Lubchenco, Palumbi, Gaines & Andelman, 2003; Juda, 2003).

Management of marine resources has traditionally taken place through sectoral jurisdictions and responsibilities, where activities within the same ecosystem are managed separately, without coordination or adequate understanding of interactions or cumulative impacts (Juda, 2003). By the 1960's it started becoming clear that a reactive, sectoral approach to use and management of natural resources is dysfunctional because of negative externalities, cumulative impacts and interactions between uses and ecosystem components (Reichelt & McEwan, 1999; Juda, 2003; Bateman, 1999). This sectoral approach has been described as "a tyranny of small decisions and a jurisdictional nightmare, giving rise to multiple, overlaid, uncoordinated and collectively excessive use of resources" (NOO, 1997a, section 2.1). In the 1960s and 1970s, the concept of integrated ocean policy began to emerge. Integrated ocean policy refers to a

comprehensive and coordinated approach to decision-making to manage ocean ecosystems as a functional whole (FAO, IIRR & ICLARM, 2000; DFO, 2001; Kenchington & Crawford, 1993).

The United Nations (UN), in the mid 1960s, began the process of replacing the freedom-of-the-sea doctrine (free to all, belonging to none) with the UN Convention on the Law of the Sea (UNCLOS), which came into force in 1994. Through UNCLOS, coastal states are entitled to exclusive economic zones (EEZ) in which they have sovereign rights over ocean resources in the water column, on the ocean floor and in the subsoil extending 200 nautical miles (nm) out from the shoreline, thus substantially increasing the amount of ocean area subject to national jurisdiction and management (UN Division for Ocean Affairs and the Law of the Sea, 1998). Along with those rights comes the responsibility to ensure proper management and conservation of those resources.

UNCLOS is closely linked to both Canada's Oceans Act (COA) and Australia's Oceans Policy (AOP), as all three acknowledge the need to manage the oceans as a complete system in an integrated way, rather than sector by sector. This is highlighted in the Convention's preamble which states that "the problems of ocean space are closely interrelated and need to be considered as a whole" (UN Division for Ocean Affairs and the Law of the Sea, 1982, preamble). Australia ratified UNCLOS in 1994 and was among the first countries to define a coordinated national plan to manage the oceans that fulfills its responsibilities mandated under the convention (Reichelt & McEwan, 1999). Canada ratified the Convention in 2003. A significant proportion of UNCLOS provisions are reflected in the COA which fulfills many of the requirements of the Convention.

3.2 Marine Protected Areas

Marine protected areas (MPAs) are ocean areas that have been designated with long-term protection. The World Wilderness Congress defines MPAs as:

> Any area of the intertidal or subtidal terrain, together with its overlying water and associated flora, fauna, historical and cultural features, which has been reserved by law or other effective means to protect part or all of the enclosed environment[2] (IUCN, 1988).

A great variety of MPAs exist and, despite the differences in objectives, size and level of protection, they serve as a management tool to protect, maintain, or restore natural and/or cultural resources in coastal and marine waters. MPAs range from small, highly-protected "no-take" areas, where no human activity is permitted (known as marine reserves), to large zoned areas which can accommodate different levels of regulated activity (Salm et al., 2000; Gubbay, 1995).

Marine protected areas can: conserve and enhance commercial resources; protect critical and unique habitats; conserve endangered or threatened species; protect and enhance ecosystem services; provide insurance against unforeseen ecosystem impacts and changes; enhance opportunities for scientific research and monitoring; provide socioeconomic benefits for coastal communities; and increase recreation and tourism opportunities (Salm et al., 2000; Ballantine 1994; Dugan & Davis, 1993; Halpern, 2003; Bohnsack, 1996; Allison, Lubchenco & Carr, 1998). In addition, marine reserves can be used in fisheries management to: improve the stability of catches; protect stocks from overfishing; increase fish abundance and size; and conserve a range of non-fished species (Halpern, 2003; Balentine, 1997; Ward, Heinemann & Evans, 2001).

While MPAs can mitigate some risks and impacts, they cannot prevent the detrimental environmental effects from problems such as climate change, alien species

[2] The World Conservation Union (IUCN) categories of MPA protection levels and management objectives are described in Appendix A.

invasions, pollution and urban and agricultural runoff (Day & Roff, 2000). MPAs also have limited value for protecting widespread or migratory species (Dugan & Davis, 1993). For these reasons, in order to limit and mitigate human impact on the marine environment, integrated marine management requires a range of marine conservation tools that should be used in conjunction with MPAs. If MPAs are not integrated into a broader oceans planning or management initiative, they may simply cause fishing efforts and other activities to be relocated. A network of MPAs that is poorly integrated with other marine management initiatives can actually be a detriment to the marine environment because it can give a false sense of security (Roberts, Gell & Hawkins, 2003) that can lead to relaxed restrictions in areas outside of MPAs under the assumption that the MPAs are safeguarding ecosystems and increasing productivity.

Uncertainty and limited scientific knowledge about the marine environment complicate and challenge the ability to design, select and manage successful MPAs (Agardy, 1994b). The fluid, three-dimensional and 'hidden' or submerged nature of the marine environment poses distinct challenges to monitoring and enforcement (Eichbaum, Crosby, Agardy & Laskin, 1996). In addition, the general obscurity of ecosystems below the surface of the water means that human impacts on the marine environment, as well as the benefits of MPAs, can more easily go unnoticed, decreasing the perceived importance of MPAs. Public perception and acceptance of MPAs is further hindered by the fact that many benefits of marine protected areas are hard to quantify and are slow to be realized (Agardy, 1994a). More direct challenges arise from opposition from ocean users, most notably the commercial fisheries, who see MPAs as a threat to open access and thus to their livelihood (Willison, 2002; Paige, 2001).

3.3 Australia and Canada's Marine Environment and Resources

Table 2 – Marine Environment and Resources

	Australia	Canada
Oceans	• Pacific • Indian • Southern ①	• Arctic • Pacific • Atlantic ①
Climatic Zones	• Tropical • Subtropical • South temperate • Subpolar • Polar ①	• Temperate • Subpolar • Polar ①
EEZ	16 million km^2 ②	3.7 million km^2 ③
Percentage of people living on the coast	85 % ④	23 % ⑤
Area of MPAs	646,000 km^2 ⑥	26,082 km^2 ⑦
Percentage of the EEZ in MPAs	4 %	1 %
Value of Ocean Industries[3]	$52 billion (AUS) (1998) ⑧	$22.7 billion (CDN) (2000) ⑨
Percentage of ocean industry contribution to the national GDP	6.5% ⑩	2% ③
Ocean industries with greatest contribution to GDP	Recreation & tourism ⑩	Commercial fishing & Offshore oil and gas ⑨
References:	① VanderZwaag, Davis, Haward & Kriwoken, 1996 ② NOO, 1998a ③ DFO, 2003a ④ Australian Bureau of Statistics, 2001 ⑤ DFO, 1997a	⑥ DEH, 2003a ⑦ Jamieson & Levings, 2001 ⑧ CSIRO, 1998 ⑨ DFO, 2000 ⑩ Department of Industry, Science and Tourism, 1997

Australia's Marine Environment

The Australian ocean area is exceptionally diverse and has a wealth of marine biodiversity, including many endemic marine species and a diverse array of ecosystems within all five of the major climatic zones (NOO, 1997b). Australia's marine

[3] Ocean industries included in this total include commercial and recreational fisheries, fish processing, aquaculture, offshore oil and gas, transportation, coastal tourism, construction, technologies, ocean services, hydrography and engineering

environment is integral to the character and culture of this island nation. Australia's oceans have experienced relatively low human impacts due to low population densities, except in the southeast region (State of the Environment Advisory Council, 1996). Marine resources in Australian waters provide considerable potential for sustainable development of ocean industries (Alder & Ward, 2001). Consequently, marine industries have been, and are projected to continue, growing. Therefore, pressure on marine resources from many longstanding and emergent industries is increasing (Greiner, Young, McDonald, & Brooks, 2000; Alder & Ward, 2001; NOO, 1998a). Marine tourism and recreation is the primary marine industry (Department of Industry, Science and Tourism, 1997).

Canada's Marine Environment

Canada is bordered on three sides by coasts, however, the majority of the Canadian population lives on the fourth, terrestrial side, along the 49th parallel. So, as a whole, the coast and the oceans are not strong identifying features for most Canadians. Like Australia, there are many competing interests in Canadian oceans. Species composition and quality of habitats in Canada's oceans have been altered by human impact, and many species, particularly finfish and shellfish, are depleted or have been extirpated (Pauly, Christensen, Dalsgaard, Froese & Torres, 1998; Powles et al., 2000). Due primarily to declines in fish stocks and reduced government expenditure, ocean industries in Canada are fluctuating rather than consistently increasing as in Australia, with offshore oil and gas replacing fishing as the main engine of marine industry growth (Mitchell & Wong, 2003; White, 2001)

3.4 MPAs in Australia and Canada

MPAs in Australia

With several of the world's largest MPAs (Great Barrier Reef Marine Park, Macquarie Island Marine Park and the Great Australian Bight Marine Park), Australia has a reputation for being a global leader in marine protected areas (State of the Environment Advisory Council, 1996). It is difficult to be precise about the number and total area of MPAs because reported figures are markedly different depending on how MPAs are defined and what is included and excluded. The Collaborative Australian Protected Areas Database statistics from 2002 show that 646,000 km^2 (4% of Australia's EEZ) were listed as MPAs (DEH, 2003a). However, more than half of this area (350, 000 km^2) belongs to one marine park, the Great Barrier Reef Marine Park. This park has an international reputation and is often used as a model for MPA planning and management (Kriwoken & Côté, 1996).

Australia has adopted several policies related to establishing a national network of marine protected areas, including: Ocean Rescue (2000); the Guidelines for the Establishment of a Representative System of Marine Protected Areas (1999); a Strategic Plan of Action for the Establishment of a National Representative System of Marine Protected Areas (NRSMPA) (1999); and the Australian Oceans Policy (1998). The NRSMPA is a joint Commonwealth, State and Northern Territory initiative aimed at providing protection for representative samples of coastal and marine ecosystems through a nationally agreed bioregional planning framework (ANZECC TFMPA, 1998). NRSMPA provides the framework for establishing MPAs under the Oceans Policy.

MPAs in Canada

Interest in MPAs developed during the 1990s in Canada (Jamieson & Levings, 2001; Shackell & Willison, 1995) mainly due to significant declines in fished species.

Progress in marine protection has been slow despite this increasing interest. There are 198 marine protected areas in Canada covering a total area of 26,082 km^2, or 1 % of Canada's EEZ (Jamieson & Levings, 2001). Most of these MPAs are one or more of the following: terrestrial parks with a limited marine component; relatively small; mostly associated with recreation values rather than conservation values; or shown as protected on paper, but with little profile among the general public and marine resource users (Jamieson & Levings, 2001; Kriwoken & Côté, 1996).

Progress towards MPAs in Canada has to date been focused on enacting legislation and formulating policy. Parks Canada's National Marine Conservation Act (2002), Environment Canada's Marine Wildlife Area designation in the Canadian Wildlife Act (1994) and the Department of Fisheries and Oceans' Oceans Act (1997) provide a suite of federal legislation to establish various types of MPAs. Where the provinces have jurisdiction, they also have legislation to establish MPAs (varying from province to province) including ecological reserves, provincial parks and wildlife areas.

3.5 Policy Approaches

"The different approaches adopted by Canada and Australia will allow other countries to observe the advantages and disadvantages of these distinct approaches" (Wescott, 2000, p.873). Canada has adopted a legislative approach, creating national legislation (Canada's Oceans Act) as a precursor to the development of collaborative approaches such as Integrated Management initiatives of an Oceans Management Strategy. The Department of Fisheries and Oceans (DFO) is the agency charged with implementing the Oceans Management Strategy and MPAs under the COA. DFO was already in existence before the inception of the COA and is primarily charged with managing fisheries and aquaculture. Australia has adopted a non-legislated, cooperative policy approach, where implementation is based on a bottom-up approach designed to

build cooperation through a stakeholder-driven regional marine planning process and then to develop ways to implement this as the process progresses. The National Oceans Office (NOO) is lead agency charged with implementation of integrated management and planning. NOO was established especially to implement the AOP. There is shared responsibility to implement MPA policy under the AOP, between NOO and the Department of Environment and Heritage (DEH), an agency which was already in existence before the inception of the AOP. DEH is primarily charged with protecting and conserving Australia's natural environment and cultural heritage.

3.6 Australia's Oceans Policy

3.6.1 Background

Australia's Oceans Policy is not the first Australian policy aimed at improving oceans governance, integrating sectorally and/or jurisdictionally-disjointed management practices or developing a national network of MPAs. The AOP has been described as culmination of a number of these coastal and ocean management initiatives that were introduced over the preceding decade (Haward & VanderZwaag, 1995; Herr & Haward, 2001).

UNCLOS provided some of the motivation for the development of this policy (Alder & Ward, 2001; Reichelt & McEwan, 1999; NOO, 1998a), but scientists, academics and the environmental community were also assertive in promoting the importance and need for an oceans policy to provide a framework for ecologically sustainable development of Australia's complete maritime estate (Alder & Ward, 2001; Bateman, 1999).

In December 1995, the Labor Prime Minister Paul Keating announced that the Commonwealth Government would develop a coordinated policy on the management of

Australia's marine resources (Bateman, 1999). The concept of an Australian oceans policy benefited from bipartisan support in the 1996 federal election campaign, so even though it was the Labor Government that made the initial announcement, the Liberal Government that came into power in May 1996 pursued the policy's development in 1997 (Foster & Haward, 2003). The development of the AOP included: a consultation paper on oceans policy that was open for public comment; the formation of a Ministerial Advisory Group on Oceans Policy (described in section 3.6.2); the involvement of the Marine and Coastal Community Network (MCCN), a national, non-government, community-based organisation, in the distribution and collection of information to and from communities; a 2-day Oceans Forum to gain input from stakeholders, academics, the scientific community and government; and an "Issues Paper" open for public consultation (Foster & Haward, 2003; Wescott, 2000).

Several Commonwealth Government agencies worked with representatives from marine industries, environmental organizations, research organizations and Indigenous groups to formulate the concepts embedded in the AOP and to comment and make recommendations on policy direction. Community involvement, information-sharing and public meetings were facilitated primarily through the MCCN. The task of the MCCN was to ensure that communities were aware of the AOP and had opportunities to participate in the developmental stages of the policy (Vince, 2003). State Governments were also kept informed of the policy's development but did not play an active role in the early phases of policy development (Alder & Ward, 2001).

After a substantial program of consultation and discussion, Environment Australia undertook the drafting of the policy document with the vision of "healthy oceans: cared for, understood and used wisely for the benefit of all, now and in the future" (NOO,

1998a). Australia's Oceans Policy was released on December 23, 1998, in the closing week of the United Nation's International Year of the Ocean.

3.6.2 Description of Australia's Oceans Policy

Australia's Oceans Policy adopts a cooperative, policy-based approach to oceans governance. Integrated and ecosystem-based oceans planning and management, which are at the core of AOP (NOO, 1998a , section 2) are expected to result from regional marine planning processes (Eadie, 2001). The purpose of the AOP is to provide a practical framework for implementation of integrated and ecosystem-based management of marine resources, uses and industries. The intent of the policy is to enable cross-sectoral and cross-jurisdictional management of Large Marine Ecosystems whose extent is determined on a biogeographic and bioregional rather than jurisdictional basis. The goals of Australia's Oceans Policy are described in Appendix E.

The new institutional arrangements, established to administer the AOP, comprise the National Oceans Ministerial Board, the National Oceans Advisory Group, the National Oceans Office and the Regional Marine Plan Steering Committees. These are briefly described below based on Australia's Oceans Policy (NOO, 1998a) and Wescott (2000).

National Oceans Ministerial Board (NOMB):

The NOMB, chaired by the Commonwealth Minister of the DEH, includes the federal ministers responsible for industry, resources, fisheries, science, tourism and shipping. The task of the board is to drive the implementation of the AOP by overseeing regional planning processes, furthering policy development, overseeing cross sector coordination, setting priorities for program expenditure and coordinating the Oceans Policy with State governments.

National Oceans Advisory Group (NOAG):

The NOAG is a consultative mechanism to aid the NOMB in policy development and implementation. It comprises members with mostly non-government interests (industry, conservation, Indigenous peoples, science) with expertise in oceans issues who report to the NOMB on: cross-sectoral and cross jurisdictional ocean issues; effectiveness of regional planning processes; and facilitation of information exchange among stakeholders.

National Oceans Office (NOO):

The NOO is an Executive Agency housed within the DEH that: provides advice on marine research priorities and secretariat and technical support to the NOMB and NOAG; coordinates the overall implementation and further development of the AOP; coordinates and develops the Regional Marine Plans (RMPs); acts as the main administrative body for coordinating multiple jurisdictions; and distributes information on AOP and RMP to all stakeholders.

Regional Marine Plan Steering Committees:

The RMP steering committees are established by the NOMB and comprise key non-government and government stakeholders in each region. Their main task is to oversee the development of regional marine plans.

Department of Environment and Heritage - National Representative System of Marine Protected Areas Program:

As opposed to the other institutional structures in this list which are new structures that were created for the AOP, the DEH is a pre-existing federal agency. DEH is charged with developing the National Representative System of Marine Protected Areas (NRSMPA). The primary goal of the NRSMPA is to establish and manage a comprehensive, adequate and representative system of MPAs in Australia to contribute to

the long-term ecological viability of marine and estuarine systems, to maintain ecological processes and systems, and to protect Australia's biological diversity at all levels (ANZECC TFMPA, 1998). While this program preceded the inception of the AOP, it will still play a significant role in achieving the AOP and RMP goals with respect to MPAs.

The institutional arrangements that have been established through the AOP do not involve one central authoritative management unit. Management will continue to occur through the existing (though modified) sectoral management arrangements which will be subject to increased coordination and direction from the AOP and RMPs. The AOP does not have accompanying legislation to bring the policy into force. Instead, the policy takes a cooperative approach among government agencies, stakeholders and coastal communities and is based on a broad range of policy commitments by the Commonwealth Government (Foster & Haward, 2003; Wescott, 2000).

Implementation of the AOP is to occur primarily through RMPs based on bio-geographical criteria rather than political boundaries (Eadie, 2001). The stated goals for the RMPs are to determine the conservation requirements of each marine region, including the establishment of MPAs, prevention of potential conflict between sectors in relation to resource allocation and provision of long term security to all ocean users (NOO, 1998a). The RMPs are binding for all Commonwealth agencies, but will rely on cooperation by the States and Territories (Bateman, 1999; Juda, 2003; Wescott, 2000; Eadie, 2001). The first RMP is the South East RMP (SERMP) and the second is the Northern RMP.

Two Commonwealth agencies share responsibility for implementing an MPA program under the AOP. The NOO is the coordinator of marine planning, which includes MPA planning, but the DEH continues to establish MPAs and implement the NRSMPA

program. The integration of the NRSMPA program with the AOP and RMPs remains vague. The AOP states:

> ***As far as possible***, future representative marine protected area proposals under the Commonwealth's NRSMPA programme will be developed as part of the Regional Marine Planning Process. Areas of known outstanding conservation significance will however continue to be assessed for protection in accordance with the existing processes (NOO, 1998a, p.23, emphasis added).

It is therefore unclear how the vast planning process involved in the RMPs will affect the NRSMPA program. The roles and responsibilities of both agencies are being clarified as the AOP is implemented.

Due to the focus of this project on the AOP and the broader planning context that MPAs are framed within, for the purposes of this research NOO is considered the lead agency (relevance to factors 6, 7, 8 and 9 of the analytical framework, see table 1).

3.7 Canada's Oceans Act

3.7.1 Background

A 1994 report by the Committee on Oceans and Coasts of the National Advisory Board on Science and Technology highlighted the problems posed by the fragmented approach to oceans policy in Canada (NABST, 1994; Berkes et al., 2001). This report suggested that the 1987 *Oceans Policy for Canada*[4] (DFO, 1987) could form the basis for a national oceans management strategy. Following this recommendation, the Department of Fisheries and Oceans (DFO) released a discussion paper, *A Vision for Oceans Management*, which supported the concept of an Oceans Act and the development of a national oceans management strategy (DFO, 1994). Following a process of consultations involving both those inside and outside of government, the vision of oceans management

[4] a latent policy that has not remained active nor has been implemented

resulted in Bill C-26 – An Act Respecting the Oceans of Canada – in 1996. Bill C-26 attained royal assent in December 1996 and came into force in 1997 (Canada's Oceans Act, 1997; Berkes et al., 2001).

Canada's Oceans Strategy (COS), released by DFO in 2002, is the Oceans Act's supporting policy statement and responds to the Act's requirement that DFO lead and facilitate the development of a national oceans management strategy (DFO, 2002a).

3.7.2 Description of Canada's Oceans Act and Oceans Strategy

The Oceans Act calls on one agency, DFO, to develop and implement a new integrated approach to managing oceans resources, uses and industries (Canada's Oceans Act, 1997). This Act is a bold step for Canada, the first country to enact comprehensive oceans management legislation (Herriman, Tsamenyi, Ramli, & Bateman, 1997). Part I of the Act emphasizes sovereignty over Canadian marine waters. Part II deals with the "Oceans Management Strategy" mandating the Minister of Fisheries and Oceans to "lead and facilitate the development and implementation of a national strategy for the management of estuarine, coastal and marine ecosystems" (Canada's Oceans Act, 1997, section 29) based on the principles of sustainable development, integrated management and the precautionary approach (Canada's Oceans Act, 1997, section 30).

The Act is termed 'enabling legislation'. Without designated management plans, policy or strategy, DFO cannot turn the Act's purpose into action. Canada's approach was to establish in legislation the authorization for the development of an oceans policy (termed "Oceans Management Strategy" in the COA), prior to specifying the process by which it will be implemented, apart from reference to integrated management plans (Wescott, 2000). Further direction came from the COS and its companion Policy and Operational Framework documents (DFO, 2002a; DFO, 2002b).

Canada's Oceans Strategy is the policy statement that "defines the vision, principles and policy objectives for the future management of Canada's estuarine, coastal and marine ecosystems" (DFO, 2002a, p.v). The central mechanism for implementation is through the development and implementation of Integrated Management (IM) plans.

The "Policy and Operational Framework for Integrated Management of Estuarine, Coastal and Marine Environments in Canada" was also released by DFO in 2002. It is a working document explaining how DFO is addressing its responsibilities for IM under the COA and COS by defining the IM Planning Process and model for an IM body (DFO, 2002b). The IM planning process can identify areas of interest for MPAs contributing to the national network. This IM framework is based on Large Oceans Management Areas and Coastal Management Areas, a geographic planning framework designed to reflect the linkages among ecosystems and enable management decisions and measures to be applied at appropriate scales (DFO, 2001; DFO, 2002b)

Under the COA, DFO has been given the task to "lead and coordinate the development and implementation of a national system of MPAs" (Canada's Oceans Act, 1997, section 35 (2)). After the passage of the Oceans Act, but before the release of the COS and the Policy and Operational Framework for Integrated Management, DFO developed the "National Marine Protected Areas Policy" which was completed in 1999 (DFO, 1999). The National MPA Policy affirms DFO's position in coordinating a system of MPAs and puts forth its MPA-related goals, objectives and codes of practice, which are outlined in Appendix D.

4 Comparative Analysis of Factors Affecting Policy Implementation

This chapter will provide an examination and description of each of the factors outlined in table 1 using information from literature review and empirical data obtained in the key informant interviews. For each postulated factor, I review the situation generally for each country and discuss the similarities and differences between them. I then recapitulate the findings in a summary table for each of the four categories of factors. In the summary tables, I assess whether each factor: strongly facilitates; facilitates; has no effect; impedes; or strongly impedes implementation of the COA or the AOP. The examination of these factors reveals contextual challenges and opportunities facilitating or impeding policy implementation and the strengths and weaknesses of the Australian and Canadian implementation approaches, which are summarized in the conclusion (tables 9 & 10).

4.1 Tractability of the Policy Problem

Integrated management and marine protected areas policy provide a complex context for policy implementation. This section will examine the main aspects of the marine protected areas policy problem that affect the ability of lead agencies to achieve policy objectives. The factors related to the manageability/complexity of the policy problem include: validity of causal theory; diversity of target group behaviour; target group as a percentage of the population; and extent of behavioural change required. Since these factors are mainly dependant on the existing situation in each nation, the examination of these factors will contribute mostly to the conclusions about the contextual challenges and opportunities facilitating or impeding policy implementation.

The oceans are vast, dynamic, and still largely unexplored and uncomprehended. The ocean is the most highly connected environment on the planet, connected through global water circulation patterns, species migration, and chemical contaminants transport (Lien, 2003). Despite this connectivity within the ocean environments, nation states have taken a highly fragmented approach to management (Berkes et al., 2001). As such, implementing integrated marine planning, including MPAs, requires a fundamental paradigm shift from a sectoral to a holistic approach to management. A difficult and complex policy arena is created by: the high level of connectivity of the marine environment coupled with its fragmented management; our limited knowledge and understanding of the marine environment; and the global commons aspect of marine resources.

Policy implementation is facilitated if there is a valid causal theory between the modification of the target group and the amelioration of the problem.
Factor 1

The key causal theory underlying MPA establishment is the belief that establishing a network of MPAs within an oceans management context (i.e. restricting target group behaviour within the MPAs) will attain the policy's intended objectives as described in Appendices D and E. Simply put, are MPAs effective?

Marine protected areas are still a relatively new tool and the science behind MPAs and MPA network design is still largely theoretical and incomplete, and sometimes inaccurate (Gray, 1998). Our knowledge of the marine environment is deficient, especially with respect to the interactions and interrelationships between ecological components, human impacts and management actions. Despite limitations on our understanding of the marine environment, however, many leading scientific experts agree that well-designed, managed and enforced MPAs (particularly marine reserves) are effective at improving environmental condition (including increased marine productivity, biodiversity, fish size

and abundance) within the protected area boundary, with spillover effects into outside areas (Halpern, 2003; Balantine, 1994; McClanahan & Mangi, 2000; Kenchington & Agardy 1990). While there has been some disagreement over the effectiveness of MPAs and concern over their limitations (Allison et al. 1998; Boersma and Parrish 1999; Roberts, Halpern, Palumbi, & Warner, 2001), most scientists recognize MPAs as an effective marine conservation management tool (Ballentine, 1994; Ballentine, 1995; National Research Council, 2001; Eichbaum et al., 1996; Kenchington & Agardy, 1990; Halpern, 2003).

There has been some suggestion that there is a stronger case for MPAs in tropical and sub-tropical waters than in temperate waters. This would have the effect of facilitating MPA policy implementation in Australia over Canada. It is a somewhat common assumption that there are fewer MPAs in temperate waters such as in Canada and that they have not been subject to the same level of research and public awareness as their tropical counterparts (DFO & BC LUCO, 1998; Tagart & Hooge, 2002). This may be due to the success and reputation of the Australian iconic Great Barrier Reef Marine Park and the relatively low profile of MPAs in temperate zones. When research on marine reserves has actually compared the effectiveness of temperate versus tropical reserves, the results have been equivalent for effects on density, biomass, average size and diversity (Halpern, 2004, pers. comm.). Based on this research, the actual strength of the causal theory for MPAs in Canada and Australia is likely the same. However, the perception that theoretical justification is stronger in Australia's tropical waters would favour MPA policy implementation in Australia over Canada since a perception of questionable effectiveness can delay implementation by opening up a debate about the usefulness of the policy.

Policy implementation is facilitated when the behaviour being regulated is not very diverse
Factor 2

Another element that contributes to the manageability/complexity of the policy relates to the characteristics of the groups whose behaviour the policy is to modify, referred to as the target groups. In the case of MPA policy, the target groups are marine resource users. In Australia and Canada, the target groups include: fisheries, aquaculture, offshore oil and gas, Indigenous peoples, marine mining, marine transportation, military, bioprospecting, marine tourism and recreation. While there are some similarities between the target groups in the two countries, the size, diversity and amount of behavioural change required of MPA policy groups varies between (and within) Canada and Australia.

Efforts to establish coherent and integrated ocean policy are complicated in both countries by the fact that stakeholders in the coastal and marine environment are diverse (Juda, 2003; NOO, 1997b). The groups reveal a broad spectrum of interests, behaviours, ethics and ambitions. For example, a typical surfer might: be concerned about water quality, especially fecal colliform counts; want beach access maintained; impact the marine environment only minimally and locally (by trampling sensitive intertidal areas); and be dependant on the ocean for recreation, fitness and spiritual well-being. In contrast a typical bottom trawler might: be concerned about fish stocks and productivity; want access to the resource maintained; impact the marine environment significantly by removing large amounts of biomass from the ocean and damaging the diverse habitats of the seafloor; and be dependant on the ocean for their livelihood. The diversity of the target groups is particularly cumbersome when pursuing an inclusive, stakeholder-driven approach as adopted in both the Integrated Management plans in Canada and the Regional Marine Plans in Australia. Representing all of the various interests at the same table can be very difficult (CI2; AI3; AG3; DFO, 2001) and "finding ways to manage

often competing and increasingly diverse resource interests has become, and continues to be a major challenge in oceans management" (DFO, 2002c, p.1).

One interview respondent, however, challenged the validity of the postulate related to the diversity of target groups by commenting that:

> Although the task of consulting and involving multiple stakeholder groups is complicated, the diversity of the groups assists planners by providing countervailing forces to strong lobby groups and diluting the effect of strong groups (A13).

In addition, working with the target groups, building understanding and awareness while empowering them with some decision-making power can facilitate policy implementation and subsequent enforcement (Gubbay, 1995). Therefore, coupled with the challenge of getting the diverse and sometimes conflicting groups together to find common ground, some of the respondents from both Canada and Australia commented that the diversity of stakeholder groups can both facilitate and impede implementation (C13; AG2; AG3).

Policy implementation is facilitated when the target group whose behaviour needs to be changed is small and well-defined.
Factor 3

The third factor captures the idea that the more diverse the behaviour being regulated, the more difficult it becomes to frame clear regulations and thus the less likely the objectives will be attained (Mazmanian & Sabatier, 1981). As such, the large and increasing diversity of target group behaviour related to ocean use will create complications in MPA establishment.

Historically, the target groups in Canada have been a relatively small and well-defined group. Across coastal Canada, fisheries have traditionally been the primary economic driver based on ocean resources. Marine industry

jobs[5] still only account for 145,000 jobs in Canada (0.9% of the total labour force) and they are focused in coastal communities in British Columbia, the maritime provinces and the northern territories, away from the majority of the Canadian population (DFO, 2003a). However, though a behavioural change would only be required from a small percentage of the whole population, the economic impact to the groups, as well as their vested interest in the issue, is high. This provides for a scenario of concentrated costs (small coastal communities) and diffuse benefits (whole world) which can make mobilization of political support for the MPA program difficult, thus hampering implementation. This is examined further in section 4.3. In addition, the target groups in Canada are becoming increasingly diverse in interest. Recently, mainly due to declines in fish stocks, other marine industries such as aquaculture and offshore oil and gas are beginning to replace fisheries as the main engine of ocean industries (Lien, 2003; White, 2001).

In Australia, the target groups are also increasing in diversity, but are much larger and less concentrated than in Canada. In 1994, when the GDP contribution of the marine industry was 30 billion Australian dollars, marine industry jobs accounted for 220,000 jobs in Australia (Department of Industry, Science and Tourism, 1997). Assuming that the number of jobs has remained proportional to the GDP contribution, I estimate that the marine industry currently contributes 365,000 jobs, which is 3.5% of the labour market. While this still may seem like a small contribution, it is a much greater proportion than in Canada.

Like Canada, activities in Australia's oceans are diversifying as industries other than fisheries grow in prominence. The target groups are less geographically defined

[5] Ocean industries included in this total include commercial and recreational fisheries, fish processing, aquaculture, offshore oil and gas, transportation, coastal tourism, construction, technologies, ocean services, hydrography and engineering

than in Canada, as they are distributed throughout Australia's many coastal communities which comprise most of the nation's population. In addition, because of the prominence of marine recreation for Australians, the target group includes a large amount of the general public who partake in marine recreation, including recreational fishing, surfing, boating and scuba diving. While this makes the target group less defined in nature, which may be an impeding factor, it can also be facilitating by increasing public interest and support, which is examined further in section 4.3. In general, the Australian context provides for more diffuse costs and diffuse benefits.

Policy implementation is facilitated if the amount of behavioural change required is small
Factor 4

In order for MPAs to be effective, policy implementation must place sometimes severe restrictions on the target groups, requiring substantial behavioural change particularly for extractive marine users. Since the Australian target group is predominantly tourism and recreation, less behavioural change is expected because their behaviour is more consistent with MPA objectives. In Australia, marine tourism accounts for 70% of marine industry GDP, compared to 5% in Canada (Department of Industry, Science and Tourism, 1997; DFO, 2000). In Australia the recreation sector is the primary 'user'[6] of the marine environment (NOO, 1997c). While the tourism and recreation industry will have to make changes to their behaviour, these changes are modest compared to other target groups, such as fisheries. In addition, for many tourism and recreational uses water quality is an important concern. This significant difference in target group behaviour in the marine environment reveals a more problematic context for MPA policy implementation in Canada than in Australia. Further

[6] in terms of number of people

discussion about the importance of marine tourism and recreation and how it is related to public support is examined in section 4.3.

More than the behavioural change that is required, however, it is the fundamental change in perception that may be the biggest change required for many of the user groups, as well as marine managers (CG3; CI2; CI3; AG3). MPA implementation involves a shift from a common property resource model to an "owning and zoning" model since it involves spatial marine planning and restricting some areas from resource extraction. Because of the pervasive perception of the oceans as a global commons (free to all, belonging to none), many simply believe that they have the right to fish. "This attitude has to change for successful MPA policy implementation, and this is a big hurdle" (AG3). However, "while there is strong resistance to this change, there is also evidence that this can be overcome" (C13). Education and awareness-building can bring stakeholders to support MPAs and integrated management, especially groups such as commercial fisheries that can benefit from the increased fish stocks and marine productivity that a marine reserve can provide. Currently, marine reserves are often seen as a competing resource allocation. Education can elucidate the opportunity for MPAs to improve fisheries management and returns to the fisheries (Alder & Ward, 2001). In Canada, fishing communities have not yet come to appreciate the value of MPAs for stocking resources (CG3).

Given the complexity described in this section, it is not surprising that Canada and Australia are two of the few countries worldwide to develop a comprehensive approach to oceans' governance. The level of difficulty, complexity, novelty and interdependence, complicates policy implementation in the MPA arena.

Table 3 – Summary of Factors Related to Tractability of the Policy Problem

Factor	CDN	AUS	Explanation
Validity of causal theory *Factor 1*	**F**	**SF**	Causal theory is the same in Canada and Australia. Most scientists agree that MPAs, especially marine reserves, are effective tools for marine conservation. However, there is the perception that the casual theory is stronger in Australia's tropical and sub-tropical waters than in temperate waters, even though research has demonstrated effectiveness in both settings.
Diversity of target group behaviour *Factor 2*	**N**	**N**	The target group behaviour in Canada and Australia is increasingly diverse, but MPA experts argue that this can facilitate as well as impede implementation.
Target group as a percentage of the population *Factor 3*	**F**	**I**	The target groups in Canada are smaller and more defined than in Australia
Extent of behavioural change required *Factor 4*	**I**	**F**	Target groups behaviour in Canada needs to be modified more than in Australia, as the main target group in Australia is tourism and recreation, whose activity needs to be modified less than other marine users such as fisheries, OOG and aquaculture (the main target groups in Canada).
SF = strongly facilitates			
F = facilitates			
N = neutral			
I = impedes			
SI = strongly impedes			

4.2 Ability of the Policy to Structure Implementation

The factors that are examined in this section are related to the ability of the policy itself to structure effective implementation. These factors are: the clarity, ranking and consistency of objectives; the legal and institutional power of the lead agency; the adequacy of financial resources; the lead agency's commitment to policy objectives; and the level of skilfulness and leadership of the lead agency. In the context of Australia's

Oceans Policy and Canada's Oceans Act, the divergence in approach, particularly with respect to the assignment of the lead agency and institutional arrangements, is significant and is described below. Since the factors in this category are the most easily controlled by policy and institutional design, the examination of these factors will for the most part contribute to conclusions about the strengths and weaknesses of the Australian and Canadian approaches for policy implementation.

Policy implementation is facilitated if the statute or policy provides unambiguous and clearly ranked objectives
Factor 5

The stated objectives of a policy are a key tool that, when clear, consistent and clearly ranked, can be indispensable for unambiguous directives to implementing officials (Mazmanian & Sabatier, 1981). The objectives of Canada's Oceans Act and Oceans Strategy with reference to marine protected areas are provided in Appendix D. These objectives are not SMART (Specific, Measurable, Attainable, Realistic and Time-bound) or clearly ranked. The Act does provide unambiguous reasons to establish an MPA (CI3; CG3; Canada's Oceans Act, 1997, section 35(1)), however, other objectives provided: are not clearly prioritized (CI3); contain language that is defined theoretically, but not operationally, such as sustainable development, integrated management and the precautionary approach (CI2; Standing Committee on Fisheries and Oceans, 2001); do not provide a temporal time frame (all respondents for Canada); and do not indicate how these objectives are to rank in the totality of DFO's programs (CI3; CG2). The process for establishing an MPA under the Oceans Act is clearly laid out in the National Framework for Establishing and Managing Marine Protected Areas. However, there is no mention of how MPAs will be integrated into the IM plans or how implementation of

the Oceans Act MPAs will be prioritized within DFO. Mazmanian and Sabatier (1981) postulate that:

> It is important that a statute assigned for implementation to an already existing agency clearly indicate the relative priority that the new directives are to play in the totality of the agency's programs. If this is not done, the new directives are likely to undergo considerable delay and be accorded low priority as they struggle for incorporation into the agency's operating procedures (Mazmanian & Sabatier, 1981, p.10).

This is what appears to have happened with the Oceans Act and Strategy within DFO, as evidenced further in this section's discussion of the lead agency's commitment to policy objectives (Factor 8).

The objectives for MPAs in Australia's Oceans Policy are described in Appendix E. The AOP provides broad overarching goals with respect to MPAs which assert a commitment to accelerating the development of the National Representative System of Marine Protected Areas (NRSMPA). The AOP is not intended to be the implementing mechanism for MPAs or to provide the objectives and timelines, but rather, to set out broad goals and policy direction for MPAs and provide the regional planning framework within which MPAs are to be implemented (AG2; AG3; A11). The Department of Environment and Heritage's (DEH) Guidelines for Establishing the NRSMPA include more specific MPA objectives, while the regional planning objectives and timelines are left to emerge from each RMP (AI1; AI3). Unfortunately, the lack of clarity of the AOP with respect to the roles and expectations of the National Oceans Office and the Department of Environment and Heritage has left blurred lines of responsibility between the agencies (AG1; AG2).

The South East Regional Marine Plan, the first RMP released in May 2004, also provides more specific objectives, with each objective accompanied by specification of the lead agency and partners charged with implementing the related actions and a time frame defined as 'commenced', 'short term' (1-2 years), 'medium term' (2-5 years),

'long term' (5-10 years) or 'ongoing' (NOO, 2004). As intended, these objectives and related actions are "SMART"er than the broad objectives of the AOP.

The next consideration is whether the responsible agency has the control to operationalize these objectives, which requires the necessary legal and institutional power, funding, commitment and skills. This is examined in the rest of this section.

Policy implementation is facilitated when the lead agency has jurisdiction over a sufficient number of the critical linkages over matters related to program implementation
Factor 6

Jurisdiction in the marine environment, in both Canada and Australia, is highly sectoralized, and divided among the federal, Provincial/State and Territorial governments, leading to the fragmented approach to management that both the AOP and the COA are intended to rectify. There are important differences that exist between Canada and Australia with respect to division of powers and responsibilities. There are two dimensions of division of power that need integration: vertical integration between the Federal and State/Provincial governments (local, stakeholder and Indigenous involvement is examined in section 4.4); and horizontal integration between agencies in the federal government with marine mandates. Effective horizontal and vertical integration is required to achieve the defragmentation of oceans management that is prescribed in both policies.

In Australia, there is a rigid division of power between the Commonwealth Government and the States. The Offshore Constitutional Settlement (OCS) of 1983 established that the States would be responsible for the management of activities in the area from the low water mark to three nautical miles (nm) offshore, and the

Commonwealth would have primary responsibility[7] from three nm to the outer boundary of the EEZ and continental shelf (Haward, 1989; Rothwell & Kaye, 2001). The OCS was hard-fought by the States and is therefore highly guarded (AG1; AG3; AI1; Herr & Haward, 2001). This historical friction makes cooperation in the marine environment challenging (Wescott, 2000; Foster & Haward, 2003). When the AOP was launched in 1998, the government was not able to get full support of all of the States. In the interest of getting the policy out in the International Year of the Ocean, they introduced the policy without formal State buy-in. So, while the RMPs are binding for all Commonwealth agencies, they are dependant on cooperation from the States in coastal waters (AI3; Bateman, 1999; Juda, 2003; Wescott, 2000). "NOO's ability to implement integrated oceans management policies is wholly dependent on the cooperation of either Commonwealth or State agencies where statutory powers lie" (A13). Mechanisms are in place, however, to facilitate and encourage Commonwealth-State cooperation and coordination including: the Natural Resource Management Ministerial Council (which has assumed responsibility from the no longer active Australian and New Zealand Environment and Conservation Council), and for MPAs specifically, the Task Force on Marine Protected Areas, which is a working group including members from Commonwealth, State and Territory agencies responsible for marine conservation and fisheries management (DEH, 2004a). Despite these mechanisms for cooperation, as one respondent for Australia said, "cooperation of the States is a work in progress" (AI2).

It is a challenge for the AOP to secure its place in Australia's oceans governance without legislative power (McPhail, 2002; Eadie, 2001; Smyth, Prideaux, Davey & Grady, 2003), showing a distinct difference from Canada's approach. NOO has no

[7] Primary, rather than exclusive responsibility means that there are agreed upon arrangements with respect to industry sectors which provide for specific roles and responsibilities of Commonwealth, State and Territorial governments, including situations of joint jurisdiction (Juda, 2003).

legislative power to enforce the AOP and the RMP policies. The policy does have compliance requirements for the relevant Commonwealth agencies, but they mostly require reporting by involved marine agencies and do not have enforcement measures in place for non-compliance. In addition, it is unclear how State and Territory Governments and the target groups (marine industries) will be required to comply. The policy relies heavily on the relevant strengths of ministers within the ministerial council to establish enforcement through informal actions (McPhail, 2002). Despite the implementation impediments caused by this lack of legislative power, some believe that this non-legislated approach was likely the best way to avoid reopening intergovernmental tensions that developed through the OCS process (Foster & Haward, 2003).

One NOO respondent explained that while the purpose of the AOP is to resolve the fragmented approach to oceans management that is caused by division of power and to provide the ability to cut across the jurisdictions, because the AOP did not get State buy-in from the beginning, "it's up to NOO to backtrack and get buy-in for the RMPs, which is influenced by a range of political factors beyond NOO's control" (AG3). Another respondent corroborated this by saying that:

> despite the fact that it's always been a goal to have State cooperation, the breadth of their input has still been very limited in the SERMP. Lack of engagement is likely due to the 'politics-of-the-day (AG2).

It remains a challenge to incorporate State waters into the RMPs because: the AOP was put forth without the agreement of the State governments; the States are defensive about the OCS; and Commonwealth initiatives in the coastal and marine environment are often viewed suspiciously as attempts to increase federal powers (AG1). One author states:

> What is clear is that attempts to develop an integrated oceans policy face difficulties due to continuing differences between state and federal governments as well as within particular levels of government (Juda, 2003, p.177).

Some States are pursuing MPA agendas that are not necessarily consistent with the AOP and RMP processes. This can confuse stakeholders and decrease the consistency in MPAs network design (AG3). In the SERMP, the States had limited involvement at the onset of the process, but have become more involved as the planning process has progressed. Currently, although the SERMP is identifying issues in State waters, it is unclear how those issues will be resolved, how restrictions will be enforced and consequently how integration is to occur across the three nm boundary (A13; Wescott, 2000). In the Northern RMP, there has been earlier engagement, a strong working relationship with NOO, and stronger interest by the Northern Territory and Queensland government (AG2; AG3), providing hope for cooperation. For holistic management of the oceans to occur, this vertical integration and cooperation is critical and remains a challenge (Wescott, 2000).

Horizontal integration is addressed in the AOP through the establishment of the National Oceans Ministerial Board, which includes the ministers with oceans responsibility, by establishing NOO as an executive agency that answers to the whole of government, and through RMP Steering Committees. In development of the AOP, there was tension between industry groups (and likely the government agencies representing their interests) who maintain that the current arrangements for regulation and management are adequate, and other stakeholders (including conservation groups) who believe that for integration to occur, there is a need for a new and truly integrated institutional arrangement (Wescott, 2000; Smyth et al., 2003). The AOP took a middle-ground approach. Some new institutional arrangements were established, such as the NOMB and the RMP Steering Committees, but management will continue to occur through the existing sectoral arrangement, subject to increased coordination and direction

from AOP and RMPs. Unfortunately, research has shown that interagency committees are often unsuccessful at achieving cooperation and coordination (Thomas, 2003).

Overall, vertical integration in the AOP is a delicate matter and has been slow and difficult. Horizontal integration has occurred to some extent though ministerial boards, but not through fundamental restructuring of oceans management responsibilities. Over all, one of the major impediments to MPA policy implementation is "interagency and interjurisdictional politics that have proven to be a hurdle to a coordinated approach to MPAs" (AG3).

In Canada, the federal government, and DFO in particular, has more comprehensive jurisdiction in the marine environment. The federal government has principal authority over oceans and their resources, issues transcending international boundaries, navigation, marine pollution and migratory birds. The provincial government owns coastal property above the low water mark, the seabed within inland waters, except in federal harbours, and regulates coastal land use, establishes coastal parks, and has authority for foreshore leases. Though the Federal government has primary responsibility for marine species and habitat conservation, there jurisdictional overlap in these matters (Canada's Constitution Act 1867, 1982, section 91 and 92; DFO, 1997b). There are also divisions of power and responsibility within the federal government itself.

There are 27 different federal governmental agencies that deal with oceans. Among others, Natural Resources Canada manages offshore oil and gas, Environment Canada manages migratory seabirds and DFO manages fisheries, marine mammals and aquaculture. This contradicts the integrated/holistic management approach prescribed in the Oceans Act. The COA confirms DFO's role as lead agency with regards to ocean issues and addresses the challenge of the jurisdictional division of power by assigning

DFO a coordinator/facilitator role to bring all interests together and determine how all the mandates of the various agencies can be exercised in a more coordinated fashion (CG1). The COA confirms the desire and need to cooperate, but does not describe the mechanisms to operationalize this, apart from the use of IM (CG3). Yet, unlike Australia, there is no systematic plan in place to implement IMs for all of Canada's EEZ. In addition, simply stating the desire to cooperate and designating DFO as the lead, does not ensure that cooperation will actually take place. DFO has not developed the necessary institutional arrangements for horizontal integration among federal agencies. Responsible agencies dealing with oceans continue to work separately without sufficient coordination with other responsible oceans managers and activities. The COA and COS have not, as yet, eliminated the institutional barriers to cooperation among different federal departments, or between the federal government agencies and the provinces (Lien, 2003).

> One interview respondent for Canada suggested that:
>
> for integration and coordination between all the different jurisdictions and powers to occur, there should be an oceans committee of senior Deputy Ministers from each of the departments with an oceans-related mandate, chaired by DFO in its role of 'leading and coordinating' as directed in the Oceans Act (CI2).

If integration is to occur, it should be through this type of broader group involved in policy decisions rather than through a unit inside DFO, as it is currently structured (CI2). In the Australia's Oceans Policy's model of institutional arrangements, this role is filled by the National Oceans Ministerial Board (described in section 3.6)

The division of power among federal agencies in Canada also exists in responsibility for establishing marine protected areas. There are three federal programs for MPAs: Environment Canada's National Marine Wildlife Areas; Parks Canada's National Marine Conservation Areas; and DFO's Marine Protected Areas. The

multiplicity of MPA programs, if well coordinated, could provide a good suite of possible legislative tools to suit different circumstances. However, if these are not adequately coordinated, as appears to be the case, the variety of programs can lead to competition and confusion over the responsibility of the various agencies, resulting in overlap and duplication of efforts (Standing Committee on Fisheries and Oceans, 2001). There is currently no national institutional arrangement or mechanism to ensure that the federal programs from the three agencies are adequately coordinated. One interview respondent stated that one of the significant factors impeding MPA policy implementation in Canada was "the multiplicity of institutions with MPA mandates who have insufficiently integrated their efforts despite claims that they will cooperate" (CI1).

DFO has significant power in the marine environment, which should facilitate implementation. However, horizontal and vertical integration in oceans management as a whole has remained weak despite regional advances such as the Eastern Scotian Shelf Integrated Management Project and British Columbia's Central Coast Integrated Management.

Policy implementation is facilitated when sufficient funding is provided to the lead agency
Factor 7

Lack of funding is often cited as the main reason for policy implementation failure. In keeping with this, the responses for both Canada and Australia to interview question 5 (see Appendix B & C) ranked 'financial resources committed to MPA policy implementation' as the greatest impeding factor for policy implementation. However, when asked whether enough funding was provided to implement the policy (question 11), the responses suggest that funding is a more significant impediment in Canada than Australia. In Canada all of the respondents

agreed that funding was insufficient. In Australia, only two of six respondents felt that funding was insufficient.

Since its inception, $15 – 17 million (Canadian) has been allocated annually to Canada's Oceans Act implementation. This is equivalent to only approximately 1% of the DFO's budget. No new funding was allocated to DFO from the federal government to implement the Oceans Act (CI2). So, during a time of decreasing budgets COA implementation was funded through the reallocation of resources from other programs and branches within DFO (C12). This does not make the newly established 'Oceans Branches'[8] very popular within the agency (Lien, 2003), which can pose difficulty and internal institutional turmoil. The Oceans Branches are tasked with leading and coordinating the integration of various oceans sectors, some of which fall within DFO (such as fisheries and aquaculture), while pulling funding away from the very same operations it is meant to be coordinating and on which it is dependant for science.

The Prime Minister's Round Table on the Environment and the Economy estimated that it would take about $500 million dollars (Canadian) over five years to adequately implement the COS. (NRTEE, 2003). DFO funding allocation is currently 15% of that, posing an obvious impediment to implementation.

The respondents for Australia responded less negatively with respect to the adequacy of funding for policy implementation. Four of six respondents felt that funding was adequate and five of six respondents felt that human resource allocations were adequate. One respondent commented that one of the most significant factors facilitating policy implementation is that "there are sufficient resources from Canberra to allow NOO to get out there and address the concerns, myths or fears that may erupt from stakeholder

[8] Each of DFO's administrative regions has a slightly different institutional structure. Therefore, Oceans Act implementation is administered by branches or divisions with different names, such as 'Oceans and Coastal Management Division' and 'Oceans and Habitat Branch'. In this research, the 'Oceans Branch' refers to all of the central and regional branches charged with Oceans Act/Oceans Strategy implementation.

groups" (AG2). When the AOP was released in 1998, the Government announced the allocation of $50 million (Australian) over three years for implementation. Currently, the annual budget (for 2003-04 and 2004-05) is $9.1 million (Australian) and the Department of Environment and Heritage has a separate budget for the NRSMPA program, which, for example, was an additional $1.4 million in the 1999- 2000 budget (Commonwealth of Australia, 1999). Funds are also expended by sectoral government agencies in order to implement the AOP, making it difficult to put an exact figure on the total amount Australia has spent on AOP implementation (AG1). Though a long term plan is not in place to ensure continued funding for the AOP (Alder & Ward, 2001), the policy benefits from bipartisan support (examined in sec 5.3) which should help to ensure long term commitment to providing resources for implementation.

Mazmanian and Sabatier elaborate on a number of ways to ensure that the lead agency has the requisite commitment to policy objectives:

> Responsibility for implementation can be assigned to agencies whose policy orientation is consistent with the statute and that will accord the new program high priority. This is most likely when a new agency is created specifically to administer the statute, as the program will necessarily be its highest priority ...Alternatively, implementation can be assigned to a prestigious existing agency that perceives the new mandate to be compatible with its traditional orientation and is looking for new programs (Mazmanian & Sabatier, 1981, p.13).

Policy implementation is facilitated when implementation is assigned to a lead agency whose existing policy orientation is consistent with the new policy and who assigns a high priority and is committed to its objectives.
Factor 8

Factor 8 seems to be the most salient of the factors with relation to DFO. DFO's existing policy orientation is not consistent with the COA. Traditionally, DFO has been a fisheries management agency. With the Oceans Act, the department has been formally mandated to expand its focus from fisheries objectives, and from often dealing in crisis management of a single species at a time, to

proactive and holistic oceans objectives. This is a challenge for DFO because of conflicting operational regulatory responsibilities, particularly those imposed by the Fisheries Act (CG3). Attachment to a traditional species-by-species approach is demonstrated by the great level of attention, funding and science that has been accorded to the new Species at Risk Act implementation (a species-by-species approach to conservation) compared to the Oceans Act (CI3). The primary constitutional responsibility and mandate of DFO is to regulate and protect the fisheries. Some argue that the Oceans Act undermines these responsibilities. The 2001 Standing Report on Fisheries and Oceans reported that the Minister of Fisheries and Oceans himself stated that as a result of the Oceans Act, he now views his role as that of managing competing interests and activities (Standing Committee on Fisheries and Oceans, 2001).

In order to adequately adopt the new, somewhat conflicting mandate of the Oceans Act (CI1) it is necessary for DFO to undergo a substantial change of culture (CI2) and a paradigm shift from a fisheries perspective to an oceans perspective (Lien, 2002). This fundamental change has not yet occurred within DFO and has been a significant impediment for COA implementation (CG2). The internal horizontal arrangements have not yet been worked out to make Oceans Act and Oceans Strategy principles part of how the entire agency is administered (CG2). The Oceans Act represents an attempt to make Canada an international leader in oceans governance and is "noteworthy because few countries have so boldly attempted to form an umbrella oceans law" (Herriman et al., 1997, section 23.1). However, the COA has been compartmentalized into an 'Oceans branch' at DFO, one of many branches, rather than being an umbrella policy that gets expressed through all of DFO's branches (Lien, 2003).

It is clear as well that as an agency as a whole, DFO is not fundamentally committed to the objectives of the COA, nor does it assign them high priority within the

hierarchy of importance of the agency (table 4). Many individuals within the agency, particularly within the regional Oceans Branches, are very committed, but are not given the opportunity to carry out this commitment (CI1; Lien, 2003). "The challenge is that the Oceans Act and Oceans Strategy continue to be marginalised not only within the department itself, but within the federal government as a whole" (Jessen, 2003).

In the interview questions, when asked to rank the importance that DFO assigns to Oceans Act implementation, and MPA program implementation, the mean ranking for both was somewhat low priority (see table 4). DFO priorities are clearly still in its historical mandates (CG2). From an internal perspective, DFO respondents ranked the priority given to COA and MPA policy even lower than the independent experts. One DFO respondent commented, however, that this situation is improving and Oceans Act and Oceans Strategy implementation are, albeit slowly, being assigned a higher priority within the organization (CG1). Another commented that MPAs are the most explicitly hailed and operational component of the COA (CI3).

Table 4 – Relative Importance of Policy to Lead Agency

Relative importance of...	Group of Respondents	Canada (mean)	Australia (mean)
Oceans Act/Oceans Policy for lead agency	Lead agency	4.3	1.0
	Independent expert	4.0	1.0
	Overall	**4.2**	**1.0**
MPA program for lead agency	Lead agency	4.3	1.3
	Independent expert	4.0	2.0
	Overall	**4.2**	**1.7**
1=very high priority, 2=somewhat high priority, 3=neutral, 4=somewhat low priority, 5=very low priority			

Forming a new agency to exclusively implement a policy can eliminate many of the problems faced by DFO including: historical bias; inconsistency with agency's policy orientation; and low priority assigned to policy objectives. This was the approach taken

in Australia. The National Oceans Office (NOO) was established to coordinate and facilitate the implementation of the AOP. As a result, there are no inconsistencies within the agency with respect to policy orientation, no inherent or historical institutional bias, and AOP policy implementation is not only the agency's highest priority, but their raison d'être. Accordingly, as one would expect, the relative importance of AOP implementation received 'very high priority ranking' from all of the respondents for Australia in Question 14. The MPA program also received high scores, with the mean between very high and somewhat high priority (see table 4). NOO has a high level of commitment to MPAs as part of the wider strategy of regional marine planning and sees the achievement of a National Representative System of MPAs through the RMP process as a key achievement of the policy (AG1; AG2; AI3). According to a NOO interview respondent, the delivery of a system of MPAs in the south east region is among the top two or three priorities for the deliverables in the final plan (AG1).

Implementation and establishment of MPAs under the AOP continues to occur through DEH. One independent respondent for Australia commented that one of the significant factors facilitating the implementation of MPAs is that "the lead role for MPA establishment in Australia has been assigned to the Environment department and not the Fisheries department" (AI3). In direct contrast, one Canadian interview respondent commented that one of the significant factors impeding implementation is that:

> the Oceans Act is inside the organization that manages fisheries, and the two are perceived to be in competition with each other rather that complementary. So, because of the mindset in a fisheries-dominated government agency, there is incentive to lower the importance and priority that should be placed on the COA and COS (CG2).

This stark contrast demonstrates the significant difference that institutional arrangements can have on policy implementation.

In an MPA News article about the lessons learned from planning an MPA network in Victoria, Australia, one of the five lessons learned was the need for an impartial facilitator for the process (Davis, 2003). The lesson is that the planning process should be driven by a body that is independent of the government, government bureaucracy, and all other vested interests. The members of the planning body should also have a high level of credibility for independent and unbiased decision-making with all stakeholders (Davis, 2003). Through Canada's Oceans Act, DFO is mandated to lead and coordinate a network of MPAs, as well as a national strategy for oceans management. Because it does not have complete authority over all aspects of this strategy and all users, it must act as a facilitator. As Davis explains, there is a need in this case to be unbiased and impartial. However, as both a government agency, and one whose main mandate has always been fisheries management, some stakeholders may see DFO as having a bias towards fisheries (CI1). DFO's historical relationship with fisheries management creates a conflict of interest that affects the agency's ability to satisfy this unbiased role.

In contrast, NOO has remained much more impartial. NOO was originally established as a branch within the Marine Portfolio in the Department of Environment and Heritage (DEH). In December 1999, it was changed to an Executive Agency, separate from DEH and from each of the constituent departments whose ministers make up the National Oceans Ministerial Board. In this model, NOO reports directly to Ministers as a 'whole-of-government' agency rather than to DEH (DEH, 1999; McPhail, 2002) reflecting the need for perceived independence (Alder & Ward, 2001). As a result of the quasi-independent nature of NOO, it is able to remain more impartial, as is called for as the coordinator and facilitator of a regional planning initiative. Also to ensure NOO's impartiality to all sectors, MPA implementation remains the responsibility of the Department of Environment and Heritage. Implementing MPA policy through DEH

reduces redundant capacity in Commonwealth agencies and also makes use of DEH's existing jurisdictional power, skills and experience with MPAs.

Policy implementation is facilitated when the agency officials possess the necessary managerial, technical, political and leadership skills
Factor 9

Necessary skills, experience and expertise among agency officials can increase the chances of succesful policy implementation (Mazmanian & Sabatier, 1981). The necessary skills for MPA policy-making, establishment, management and enforcement, a relatively new field of study, are still in their infancy though currently maturing as experience is gained worldwide. Furthermore, skills and expertise in integrated and holistic management of the oceans are still quite theoretical. "There is little global experience of implementing these principles in the oceans" (Alder & Ward, 2001). Canada and Australia are pioneering these concepts on a broad national scale and are only in the initial steps of putting them into practice. Therefore, everyone is "learning as they go" (AI2). Resource management and planning, and stakeholder and public involvement skills that exist within other resource and environmental management spheres are also applicable to the implementation of these oceans policies. In the circumstance where an agency is learning and honing skills as the policy is being implemented, it is important to have a policy process which incorporates strategies to "'learn' from programs so that subsequent improvements can be made in formulating both successful policy and improved management programs" (Halbert, 1993, p.261-262). Canada's has a 'learning-by-doing' approach built into the MPA policy as well as an adaptive management approach to IM planning processes. The AOP does not have these processes written into the policy. However, the staggered implementation of the RMPS encourages a 'learning-by-doing' approach. It is unclear, however, why Australia began

the process with the most complex, most highly used and populated RMP (the South East region).

For AOP implementation, NOO's staff has a range of expertise in planning and policy. Their strength is in stakeholder involvement, cooperation and working across sectors (AG1). The Department of Environment and Heritage provides the expertise in MPA policy, implementation and management, with experience establishing and managing MPAs on behalf of the Commonwealth. For COA implementation, DFO does not have great experience, capability or leadership in holistic oceans management (CI1), however, this skill set does not exist in any other agency in Canada (CG2; CG3; C12). One respondent for Canada asserted that one of the major factors impeding implementation is the "lack of experienced leaders and we insist on doing things ourselves instead of hiring foreign experts" (CI3). DFO's experience and knowledge is science-based. Their managerial skills have been severely questioned as many blame DFO for the decimation of major commercial fish stocks on the east and west coast, particularly the Atlantic (CI3; Keats, Steele & Green, 1986; Wickham, 2003). This has led to mistrust in DFO's managerial skills, which has been a serious impediment for policy implementation (CI3). In addition, although DFO has experience with designing and conducting consultations, they are notorious for alienating stakeholders and the public (CA1; CI3; Wickham, 2003; GSGilsason & Associates, 2004). Mazmanian and Sabatier argue that a component of good 'leadership' is the ability to "convince opponents and target groups that they are being treated fairly" (Mazmanian & Sabatier, 1981, p.20). DFO is in the unfortunate position of having pre-existing adversarial relationships with some ocean users in some regions, such as fisheries on the east coast, thus hindering their ability to elicit cooperation.

As a new agency, NOO is just beginning to build relationships. A report on the implementation of the Oceans Policy asserted that "over a short period, it (NOO) has gained a good external reputation" (TFG International, 2002, p.17). Leadership, in this sense, has been exhibited though the policy statement released by the National Oceans Ministerial Board in January 2004 on 'Marine Protected Areas and Displaced Fishing' addressing industry concerns over MPAs. One respondent from NOO mentioned that:

> one of the important factors facilitating policy implementation has been the improved capacity for stakeholders as a result of the AOP so that they're able to contribute constructively to the process. There has been government recognition and respect of the various stakeholder groups. There has been good buy-in from the fishing industry in the SERMP. There is still tension and concern, but there is also motivation for them to participate, so as not to get sliced out of their livelihood. Their contribution has been very positive (AG2).

One example of support of the SERMP from the fishing industry is demonstrated by the Australian Seafood Industry Council SERMP representative, who 'commended the mechanism by which the national Oceans Policy is being delivered,' suggesting an amicable relationship with the fishing industry in the south east RMP (Australian Seafood Industry Council, 2004). Therefore, while the skills necessary for oceans management and MPA policy implementation are still being honed in both Australia and Canada, the NOO is able to develop unhindered by historical institutional baggage and has been doing so with success.

Table 5 – Summary of Factors Relating to Ability of the Policy to Structure Implementation

Factor	CAN	AUS	Explanation
Level of clarity, ranking and consistency of objectives *Factor 5*	I	N	The COA provides very clear reasons for establishing an MPA. However, the objectives provided in COA: are not clearly prioritized; contain language that is defined theoretically, but not operationally; do not provide a time frame; and do not indicate how these objectives are to rank in the totality of DFO's programs. The AOP provides only broad overarching goals with respect to MPAs and there is a lack of clarity with respect to the roles and expectations of the NOO and DEH. However the SERMP does provides more specific objectives, including the lead agency and partners charged with implementation of the relevant actions, as well as a time frames.
Legal and institutional power of lead agency *Factor 6*	N	SI	The COA secures DFO's legal and institutional power in the oceans. However, responsibility for MPA establishment is shared between three federal agencies which can cause competing authority and confusion. Without legislative power or State-buy in, the AOP is challenged to secure its place in oceans governance, especially in coastal waters (0-3 nm) which are under State jurisdiction.
Financial resources available to lead agency *Factor 7*	SI	N	No new funding was allocated to DFO to implement the COA. The interview respondents all said that funding for the COA is not adequate. In contrast, four of six respondents for Australia felt that funding ($50 million for the first three years and $ 9.1 million annually after that) was adequate for AOP implementation.
Lead agency's commitment to policy objectives *Factor 8*	SI	SF	DFO's existing policy orientation is not consistent with the COA. Due to its existing responsibility for fisheries, DFO is not free of conflict necessary to be an unbiased facilitator for IM and MPA planning processes. DFO does not appear to be committed to the objectives of the COA and does not assign them high priority within the agency. Because NOO was established especially to implement the AOP, there are no policy orientation inconsistencies, no inherent or historical institutional bias and AOP policy implementation is the agency's highest priority. NOO can be an impartial facilitator for regional planning.

Factor	CAN	AUS	Explanation
Level of skilfulness and leadership of lead agency *Factor 9*	I	N	Canada and Australia are pioneering integrated and holistic management of the oceans, therefore required skills and expertise are still quite theoretical and they are learning as they go. DFO's experience and knowledge is science-based and their managerial skills have been questioned. NOO's staff has a range of expertise in planning and policy. DEH provides the experience and expertise in MPAs.
SF = strongly facilitates			
F = facilitates			
N = neutral			
I = impedes			
SI = strongly impedes			

4.3 Exogenous Factors Affecting Implementation

Effective policy implementation is also affected by factors that are mainly external to the basic policy process. A policy provides the legal and administrative structure for implementation. However, implementation occurs in the dynamism and capriciousness of the 'real world'. The exogenous factors examined in this section include the conditions, constraints and opportunities imposed by: media attention to the policy problem; public and constituency group support; the socioeconomic status of the public and target groups; and the political climate. Since these factors are mainly uncontrolled by the policy, the examination of these factors will contribute mostly to the conclusions about the contextual challenges and opportunities facilitating or impeding policy implementation

Policy implementation is facilitated if the policy and related policy problem get above-normal media attention over a sustained period of time.
Factor 10

A thorough analysis of media attention given to marine environmental issues in Canada and Australia would be necessary to fully assess how media affects policy implementation. This type of analysis is beyond the scope of this paper. However, the answers

to question 15 of the key informant interviews provide some insight into the level of media attention given to marine environmental issues in both nations. When asked to describe the amount of media coverage given to environmental marine issues in comparison with other environmental issues and how the amount of coverage has varied over the last 10 years, the responses for both Canada and Australia reveal that the amount of media attention given to marine environmental issues has increased over the last 10 years (CG1; CG2; CG3; CI1; CI2; CI3; AG1; AG2; AI1; AI2). One respondent for Canada commented that "the media attention to marine issues is not a continuous educational and informative exercise, but rather focuses on issues that make a good story, such as hurricanes and oil spills" (CI1). Respondents for Canada (five of six) mentioned that the media attention to marine issues varies markedly from region to region (CG1; CG3; C11; C12; C13), with a strong emphasis in the media in the Maritime Provinces, but not in the rest of the country, where the majority of the population resides. Respondents from Australia (four of six) mentioned that media coverage on marine environmental issues was reasonable, in their opinion, and consistent (AG1; AG2; AI1; AI3), and only two of the respondents mentioned regional variability in media coverage (AI1; A13).

Environmental non-government organizations (eNGOs) in Canada and Australia use media as a tool for public education and awareness and work to ensure that marine environmental issues remain in the public and political eye. In Canada, while there are organizations working to protect the marine environment and promote understanding and awareness of marine issues, there are no national eNGOs committed exclusively to marine conservation on a national scale. In Australia, there are a number of such organizations including the Marine and Coastal Community Network (MCCN) and the Australian Marine Conservation Society. One interview respondent commented on the

success of the MCCN at keeping marine environmental issues in the media. "Coastal and marine issues come up a lot in the media, facilitated by the Marine and Coastal Community Network. Part of their role is to get these issues into the media and increase public awareness and they have been successful at doing so" (AI1). Both Australia and Canada benefit from the advocacy, promotion and public awareness-building of the eNGO community. ENGOs, or green groups, are a strong and supportive constituency for marine conservation and MPAs. In Canada and Australia all of the respondents who answered the question on public support (Question 9) mentioned eNGOs, or conservation groups, as a strong supporter of MPAs (CG1; CG2; CG3; CI1; C12, CI3; AG1; AG2; AG1). In addition, in Question 4a many respondents (four of six for Canada, three of six for Australia) identified eNGOs as one of the most significant factors accelerating and/or facilitating the development of a network of MPAs (CG2; CI1; CI2; CI3; AG3; AI2; AI3). In Canada, "The active lobbying of eNGOS has been a huge factor. In fact, without their pressure, there probably wouldn't even be an Oceans Act" (CI2). A respondent for Australia mentioned that "the conservation sector has been very focused on MPAs over the last couple of years and has been successful at getting it on the government agenda" (AG3). NGOs are seen as having increasing importance in influencing governments to move away from sectoral views of oceans management (Wescott, 2000; Knecht, 1994). In Australia, there "has been the deliberate and planned nurturing of a constituency for an integrated oceans policy (by the Marine and Coastal Community Network, MAGOP, and its successor NOAG)" (Wescott, 2000, p.875). The use of an interest group as a mechanism for public involvement, consultation and awareness is an unusual approach for policy implementation and demonstrates a less government-controlled process (Vince, 2003). In contrast, the Standing Report on Fisheries and Oceans stated that some observers had complained that in Canada "DFO

had yet to recognize the potential for non-governmental organizations (NGO) and community involvement in MPA development." (Standing Committee on Fisheries and Oceans, 2001).

Five of six respondents for Canada and three of six respondents for Australia also mentioned that increasing public awareness and pressure, growing concern for the marine environment, and external support from scientists and experts are also facilitating MPA policy implementation. Two of the Australian respondents elaborated on public concern, mentioning the close connection Australians have with the marine environment. Concern and interest nationwide about management of marine resources may be higher in Australia than in Canada, for two main reasons: there is a greater percentage of people living by the coast in Australia than in Canada (85%, 23% respectively); and coastal and marine tourism and recreation play a prominent role for most Australians, whereas this is much less prominent on a national scale in Canada.

The socioeconomic and political conditions in Australia are more favourable than in Canada for MPA policy implementation in several ways, including: the perceived importance of the policy problem, the degree of local variation and the economic viability of the policy for target groups. Australian culture, as a whole, is more tightly connected to the ocean than Canadian culture. One respondent for Canada commented that:

> Canadians are generally not as connected to the ocean. A large portion of the population is not near the ocean, so the immediacy and concern is often not there. We just aren't a 'beach-going' people. In Australia, during summer holidays, everyone goes to the beach. In Canada, we head out to cottage country, lakes and mountains. When we do go to a beach, it's usually in another country (CG1).

The ocean and coast are an Australian icon, home and playground for most Australians, as more than 85% of Australians live within 50 kilometres of the coast (Australian Bureau of Statistics, 2001), the coast is the most frequented place of recreation other than one's home and 90% of all domestic tourism is estimated to be

coastal and marine (NOO, 1997c). For many different types of marine recreation, water quality and ecological health are of major concern. As a result, many surfing and diving organizations have played an important role in opposing ocean sewage outfalls and cleaning up coastal and marine environments (NOO, 1997c).

In contrast, 23 % of Canadians live in coastal towns (DFO, 1997a) while 90 % of the population lives along the southern (mostly terrestrial) border. An internal DFO survey conducted in 2001 revealed that only 30% of Canadians believe they live in a maritime nation (CG2). Canadians, as a whole, are not as closely connected to the ocean as Australians are. However, there is great local and regional variation in this regard, as demonstrated by the many coastal communities in British Columbia, the maritime provinces of the east coast, and the Arctic regions, where the culture and economy are shaped by the marine environment. This high degree of local variation in Canada in the perceived importance of marine issues, compared to a more homogenously engaged Australian population, contributes to a poor overall social context for national policy implementation.

It is important to note, however, that public support for the policy is not entirely an exogenous factor. The inclusion of a communications strategy into a policy to increase awareness and support can greatly influence this factor. Because the majority of the general public does not have an awareness of, let alone a strong stance on, marine protected areas, their understanding and support increases with simple messages about protecting the marine environment (Davis, 2003). Increasing public support can be accomplished by developing mechanisms for communicating with the public about the fundamental importance of both oceans and MPAs, training scientists to be better public communicators of their research and providing opportunities for them to engage with the public, bringing the decision-making structure closer to the people affected, making the

decision-making process more transparent, and providing opportunities for involvement (Jessen, 2003).

The economic viability of MPA policy for target groups also presents an interesting comparison across the two countries. The relative importance of the target groups in the total economy is lower in Canada than in Australia. Marine industry contribution to GDP is 2% in Canada versus 6.5% in Australia (DFO, 2003a; Department of Industry, Science and Tourism, 1997). However, if you remove tourism industry revenue from these values (given that MPAs may create as many, if not more, tourism and recreation opportunities than it restricts) the relative importance of the target groups in the total economy is equivalent.

This distinct difference between target groups in Australia and Canada is briefly examined in section 4.1. In Australia, the most economically productive user of the marine environment is tourism and recreation, as explained in section 4.1. Seventy percent of the GDP generated by the marine environment is generated by tourism. In Canada, tourism only accounts for 5% of GDP (Department of Industry, Science and Tourism, 1997; DFO, 2000). MPA policy, and the restrictions it imposes on marine industry behaviour and activities, will have less of an economic impact on tourism than other industries such as fisheries, offshore oil and gas and aquaculture, which are the dominant marine industries in Canada. In fact, while the tourism industry will likely have to modify their behaviour somewhat in an MPA, there are substantial potential economic gains for the tourism and recreational sectors from the natural settings and/or managed zones that MPAs provide. MPAs can provide for the protection of special recreational features in the marine environment, such as boat moorage and anchorage areas, beaches, wildlife viewing areas, SCUBA diving areas, and swimming and snorkeling areas (Greiner et al., 2000). In addition, MPAs can enhance tourism since

tourists may be attracted to the educational opportunities that MPAs can provide, such as learning about marine ecology, marine archaeology or local Indigenous cultures and their use of the sea (Agardy, 1993). Enhanced tourism and recreation opportunities in the marine environment can provide direct and significant financial benefits to local economies, especially for Australia's booming tourism industry.

MPA policy is less economically viable for Canadian target groups which are predominately extractive and whose activities are, therefore, less compatible with the objectives of MPAs. Despite the fact that the contribution of marine industries to the GDP is minor on a national scale, many small coastal communities in Canada are almost entirely dependent on marine resources for their livelihood. Fish stock declines have already put extreme economic pressure on many of these communities. Conservation efforts that put restrictions on marine resource utilization may have severe harmful impacts on these communities, if not carefully planned. However, a well-planned and designed network of MPAs can provide benefits to these communities and stakeholders in the form of increased marine productivity. Community and stakeholder involvement in the planning process, therefore is important, and described further in sec 5.4.

Policy implementation is facilitated if there is on-going support from sovereigns for the policy objectives over a sustained period of time
Factor 13

From a political perspective, the federal government in Canada caters generally to the population's focus on non-marine social, economic and environmental problems that are relatively more important than MPA policy for most people in Canada. The recent decade has witnessed a political trend towards the downsizing of public services (Pal, 1997). This results in the core needs (health care, education, employment) becoming relatively more important. As such, it is expected that political support for

allocating scarce and diminishing resources to MPAs would diminish in such times. There was a recent increase in interest in oceans issues when the Liberal Prime Minister Paul Martin mentioned the need for an Oceans Action Plan in his inaugural speech from the throne on February 2, 2004 and subsequently appointed a Parliamentary Secretary to the Minister of Fisheries and Oceans with a special emphasis on the Oceans Action Plan (Martin, 2004). However, oceans are not mentioned in the party's platform. The sporadic political interest in oceans provides a challenging environment for policy implementation.

In contrast, political support in Australia for a national oceans policy has been much more continuous. The development of the AOP has in fact benefited from continuing bipartisan support for an oceans policy (Eadie, 2001; Wescott, 2000; Foster & Haward, 2003).

Table 6 – Summary of Exogenous Factors

Factor	CAN	AUS	Explanation
Media attention to the problem *Factor 10*	N	F	In Canada, media attention to marine issues varies markedly from region to region, with stronger focus in the Maritime Provinces, but not in the rest of the country, where the majority of the population resides. In Australia, media coverage on marine environmental issues is more consistent. In both countries, media attention given to marine issues has increased over the last 10 years.
Public support *Factor 11*	F	SF	Both Australia and Canada benefit from advocacy, promotion and public awareness-building from the eNGO community. There appears to be greater concern and interest nationwide for how Australia is managing their marine resources than in Canada.

Factor	CAN	AUS	Explanation
Socioeconomic and political conditions *Factor 12*	I	F	The socioeconomic and political conditions in Australia are more favourable for MPA policy implementation than in Canada on a number of fronts including: the high degree of local variation in Canada in the perceived importance of marine issues, compared to a more homogenously engaged Australian population; greater local variation in Canada than in Australia; and coastal communities in Australia are more diversified thus making the policy more economically viable than in Canada, where coastal communities are highly dependant on marine resources.
Support from sovereigns *Factor 13*	I	F	The federal government focuses on social, economic and environmental problems that are relatively more important than MPA policy to most Canadians. Australia, on the other hand, has benefited from broad sovereign support for an oceans policy.
SF = strongly facilitates			
F = facilitates			
N = neutral			
I = impedes			
SI = strongly impedes			

4.4 Bottom- up Factors

Along with the predominantly top-down factors affecting implementation described in sections 4.1 – 4.3 (factors 1-13), effective policy implementation depends on an equitable and transparent process that allows policy to be shaped by consultation, negotiations and collaborations with the public, NGOs, local communities and Aboriginals (Alder & Ward, 2001; Kenchington & Crawford, 1993, Costanza et al., 1998; Hanson, 1998; NRTEE, 1998; Salm et al., 2000). One of the underlying principles of both COA and AOP is the importance of a decision-making process by which affected interests and stakeholders work together towards agreement on common goals, plans and policies affecting a specific issue or geographic area. Effective public, stakeholder, community and Aboriginal involvement is therefore necessary for successful policy

implementation in both countries. Since the factors in this category are a result of the policy approach, the examination of these factors will contribute mostly to conclusions about the strengths and weaknesses of the Australian and Canadian implementation approaches.

Policy implementation is facilitated if there is public participation at multiple levels of the policy process
Factors 14

To gauge the level of both public and Indigenous involvement in the Canadian and Australian policy process, an adapted version of Arnstein's ladder of public participation was used in the interviews (Arnstein, 1969). In Arnstein's ladder, each successive rung of the ladder represents a higher degree of citizen power in influencing planning and policies, more effective participation, and greater power sharing. The adapted version of the ladder can be found in the interview questions in Appendices B and C, questions 16 and 18, and the results of these interview questions can be found in table 7.

Table 7 – Public and Indigenous Involvement in the Policy Process

Level of involvement in policy decisions...	Group of Respondents	Canada (mean)	Australia (mean)
Public	Lead agency	3.7	4.0
	Independent expert	3.7	3.8
	Total	**3.7**	**3.9**
Indigenous peoples	Lead agency	4.2	4.0
	Independent expert	4.0	3.5
	Total	**4.1**	**3.8**

1 = Government decisions are implemented without any interaction with the public/Indigenous peoples
2 = There is a one way flow of information about the program from the government to the public without a channel for feedback.
3 = Government consults public through meetings, surveys and public enquiries to acquire relevant information/opinions from the public.
4 = Public can advise or plan but the government retains the right to judge the legitimacy or feasibility of the advice.
5 = Power, planning and decision-making responsibilities are evenly shared between the public and the government.
6 = Public and government work together, but the public holds a majority.
7 = Public handles the entire job of planning, policy making and managing

Canada's Oceans Act, Oceans Strategy and MPA policy reiterate the notion of collaboration with the public, coastal communities, affected Aboriginal organizations, and stakeholders in the development and implementation of a national strategy for the management the oceans (Canada's Oceans Act, 1997, section 29 &31; Canada's Oceans Strategy, 2002, Strategic Directions for Implementing COS; MPA Policy, 1999, Code of Practice). However, public and Aboriginal consultation is discretionary rather than mandatory under the Oceans Act. While the act provides that the minister ***shall*** cooperate with affected Aboriginal organizations, coastal communities and other persons (among others), it only provides that the minister ***may*** consult with them (Canada's Oceans Act, 1997 section 33(1) & 33(2); Juda, 2003; Standing Committee on Fisheries and Oceans, 2001). Though the policy and legislative documents reaffirm the concept of collaboration, DFO will not devolve much decision-making power to the public (CG1; CG2). This has led to inconsistency in the level of consultation and collaboration, as well as in the transparency of the policy process. There was considerable consultation in the inception of the Oceans Act. Subsequently, Canada's Oceans Strategy was written independently in the nation's capital, Ottawa, without public input on the original document (CG2). Afterwards, there was again considerable consultation, including much criticism. After a long period of silence (2-3 years), the COS was released from DFO Ottawa (CI1; CI2) with the opportunity for consultation limited to a discussion about implementation and not about the structure or content of the strategy document, which had already gone to the federal cabinet and received endorsement (CG2).

The role of involvement of local resource users and interested and affected parties is affirmed in the MPA Policy (DFO, 1999) on a MPA site-specific level only. Involvement in broader MPA policy issues, including the planning and establishment of a national *network* of MPAs has not occurred. The Standing Committee on Fisheries and

Oceans concluded in its 2001 report that while the COA is based on the precepts that stakeholders, including federal departments, should not implement plans related to oceans without seeking the collaboration of other interested parties, conflicts should be addressed at the planning stage, and long-term management plans should be based on regional and national goals, this does not appear to be happening in all cases (Standing Committee on Fisheries and Oceans, 2001). Public involvement must extend beyond consultations related to the establishment and management of specific MPAs and specific integrated management initiatives.

In Australia, the AOP process has been more stakeholder and public driven throughout. The AOP provides the opportunity for the public, NGOs, coastal communities and Aborigines to be engaged on a regional planning scale (rather than on an MPA-specific scale) through the RMP processes.

> Key interest groups and government agencies will be represented on Steering Committees established to oversee the development of each Regional Marine Plan. Extensive community consultation will be undertaken to ensure an open and transparent process (NOO, 1998a, p.12).

Public and stakeholder involvement in the AOP and RMP has been high and there is a strong commitment to these policies from government through the National Oceans Office. All respondents for Australia in the interviews agreed that the AOP and RMP processes have been very transparent. One independent expert respondent for Australia asserted that public and stakeholder involvement has been integral and pervasive throughout the policy process, not just at the end regarding where MPAs should be and their zoning plan. Therefore, there has been greater acceptance of the process, making implementation less contentious (AI2).

In spite of these extensive consultations, the Department of Environment and Heritage recently identified "increasing community and stakeholder engagement,

awareness, support and partnerships in the development of the NRSMPA" as a challenge to policy implementation (DEH, 2003b). The AOP remains vague and states that "as far as possible, future representative marine protected area proposals under the Commonwealth's NRSMPA program will be developed as part of the Regional Marine Planning Process" (NOO, 1998a, p.23). This leaves it unclear through what mechanisms the RMP process will contribute to the NRSMPA program and how the vast public and stakeholder planning involved in the RMPs will affect MPA implementation. In 2003, this relationship was clarified for the south east in the SERMP's User's Guide to Identifying Candidate Areas for a Regional Representative System of Marine Protected Areas, reassuring that "existing MPA stakeholder processes have been combined with regional marine planning forums to streamline the process for stakeholders and ensure effective integration of MPAs with the South-east Regional Marine Plan" (DEH, 2003c, section I.3). If followed elsewhere in Australia, this process should then address the challenge of public engagement in the development of the NRSMPA.

There are still many political processes within AOP and RMP implementation that are not necessarily stakeholder/public-driven and where government decisions override public decisions (AG3). As such, respondents' ranking for AOP public participation only slightly exceeded that for Canada on Arnstein's Ladder of Participation (see table 7). It may be that the scale on Arnstein's ladder was too rough to capture the variation in public and stakeholder involvement between Canada and Australia. Further break-down of levels between rung three and four might provide more insight into the policies' commitment to public involvement.

Community participation in "promoting and instituting a duty of care for the marine environment" in Australia (NOO, 1998a, p.30) is meant to be achieved in part by the Marine and Coastal Community Network (MCCN), a national, non-government,

community-based organisation which promotes a cooperative approach to marine planning and management by bringing together all the interest groups, individuals, community organisations, government agencies, industry, researchers and educators. The AOP affirmed that "the government will continue to support the community involvement in coastal and marine management by maintaining funding for the Marine and Coastal Community Network..." (NOO, 1998a, p.30). However, while the MCCN's funding remained stable during and immediately following the introduction of the AOP, they received a 33% cut in funding for 2001-2002, which has remained in subsequent budgets. This has meant that the MCCN has had to significantly restructure its operations, closing two regional offices and placing staff on part time employment (Allen, 2004, Pers Comm.), thus limiting an important mechanism for involvement.

Policy implementation is facilitated when there is a high level of Indigenous involvement
Factors 15

There are special considerations in both the Canadian and Australian context for Indigenous peoples. The relationship between Indigenous people's rights to marine resources and the environment in Canada and Australia is complex and evolving. A full description of the history and context is too extensive to be included here. For a summary of Aboriginal history and considerations in the Australia's Oceans Policy see Robinson and Mercier (2000) "Reconciliation in troubled waters? Australian oceans policy and offshore native title rights." For a summary of the Canadian Aboriginal context, see Berkes et al. (2001) "The Canadian Arctic and the Oceans Act: the development of participatory environmental research and management." For a comparative perspective, see Cohen, Luttermann & Bergin (1996) "Comparative Perspectives on Indigenous Rights to Marine Resources in Canada and Australia."

In Canada, Aboriginal title and rights, including rights to fish, are protected through the Constitution Act, 1982 (section 35). Restrictions can apply to Aboriginal people when they are based on legitimate conservation concerns. When a restriction on Aboriginal fishing is contemplated, consultation with First Nations is necessary (Wallace & Boyd, 2000). Court decisions have played an important role in delineating Indigenous rights in the ocean. In reference to 1990's Supreme Court of Canada case *R. v. Sparrow* (Supreme Court of Canada, 1990), Usher (1991) explains that "*Sparrow* indicates that Aboriginal fishing rights consist not just of a claim to a share of the harvest, but also a stake in the conservation and management of the resource."

The COA calls for Aboriginal involvement in the Oceans Management Strategy in sections 29, 30, 32(c), 32(d) and 33(1d) and 33(2) (Canada's Oceans Act, 1997).

Section 29 states that:

> ...the Minister of Fisheries and Oceans, in collaboration with other ministers, boards and agencies of the Government of Canada, with provincial and territorial governments and with affected Aboriginal organizations, coastal communities and other persons and bodies, including those bodies established under land claims agreements, shall lead and facilitate the development and implementation of a national strategy for the management of estuarine, coastal and marine ecosystems (Canada's Oceans Act, 1997, sec 29).

Aside from confirming that Aboriginal rights are not abrogated by the COA, there is no mention of Aboriginal involvement separately from other interests.

In Canada, it is difficult to generalize about the level of involvement of First Nations in marine planning because of the high degree of variability among different coasts (east, west and north) and different cultural, historical and legal circumstances (CG3). First Nations may have a strong conservation ethic, but also have a strong interest in protecting their use and ownership claims over marine resources.

Some First Nations are not interested in collaboration and consultation with DFO over marine issues in areas of unsettled land claims since there is disagreement over

jurisdiction. One DFO respondent boldly stated that there is a poor level of First Nations involvement in planning and policy development outside of settled treaties and that DFO is currently 'paying them lip service' (CI3). However, DFO recently recognized this lack of involvement of First Nations in Oceans Act programs and initiated the Aboriginal Aquatic Resource and Ocean Management program (DFO, 2003b) in the last budget, to build capacity for First Nations so they can better participate in multilateral decision-making and advisory processes such as IM MPA planning initiatives (DFO, 2003c). The results of this initiative are yet to be determined.

In areas of settled land claims (like the Inuvialuit in the North, for example), there are existing governance mechanisms and legal instruments for cooperation, consultation and co-management. Progress has been slow and not without difficulty, but also not without opportunity and some success (Berkes et al., 2001).

Another mechanism for Indigenous involvement is through the procurement and use of traditional ecological knowledge (TEK) in policy development, implementation and MPA planning. "Traditional knowledge is a mechanism to implement participatory management and is a mechanism to integrate local values into decision-making" (Berkes et al., 2001, p.465). The COA and AOP both refer to the role of TEK. The AOP states "traditional knowledge and management practices of Aboriginal and Torres Strait Islander peoples should be recognised and incorporated in ocean planning and management and related policy development" (NOO, 1998a). The Oceans Act states that the Minister may "conduct studies to obtain traditional ecological knowledge for the purpose of understanding oceans and their living resources and ecosystems" (Canada's Oceans Act, 1997, section 42). The Oceans Strategy makes reference only to using TEK for understanding ocean ecosystems, and not for policy development or implementation.

When asked in interviews if TEK is incorporated into MPA policy, planning and decision making, five of six of the respondents for Canada felt that there is a high degree of regional variation in use of TEK, but that it is incorporated to some extent, for the most part in MPA site-specific applications as opposed to broader policy and planning (CG1; CG2; CG3; CI2; CI3).

The respondents for Australia (5 of 6) said that while TEK is acknowledged as a valid and important source of knowledge, the degree to which it informs or influences AOP and RMP planning and decision-making is, as yet, either weak or unclear (AG1; AG2; AI1; AI2).

The AOP encourages the participation of Indigenous peoples:

The Government will:

- continue to facilitate Indigenous' participation in resource assessment, allocation and management;
- continue to foster the use of traditional knowledge and resource use data in management; and
- continue to implement, in conjunction with Aboriginal and Torres Strait Islander groups, cooperative programmes in marine protected area development and ecologically sustainable traditional and commercial use of marine fauna and flora (NOO, 1998b, p.9).

Like Canada, the level of involvement of Aboriginal people in AOP and MPA policy implementation is a very complex and dynamic issue that varies regionally. In the development of the AOP there was minimal Aboriginal involvement. A Commonwealth-supported Aboriginal group initially provided feedback for the policy. However, before the AOP was completed the Commonwealth rescinded funding support for the group, which frustrated the relationship between the AOP and Aboriginal and Torres Strait Islanders (AI1). In addition, despite the recognition and encouragement of Aboriginal involvement in the AOP, Robinson and Mercer argue that "with regard to Indigenous people...the policy's intent is absolutely clear: 'the Commonwealth has taken the

position that native title does not exist offshore'" (Robinson & Mercer, 2000, p.358). The Native Title Amendment Act of 1998 confirms that traditional (non-commercial) native title rights prevail over government regulation where offshore title exists. However, management of the marine environment can carry on as usual, without even requiring Indigenous involvement in decision-making (Robinson & Mercer, 2000).

The interview respondents for Australia (four of six) generally agreed that the level of Aboriginal involvement in the AOP, and particularly in the South East Regional Marine plan has been fairly low (AG1; AG2; AG3; AI1). However, in the Northern RMP, NOO started off with much stronger Aboriginal involvement, which is of particular importance for this region as most of the population of northern Australia is Aboriginal and without their involvement MPA policy implementation would be severely hindered (AG3).

Table 8 – Summary of Factors Relating to Bottom-up Factors

Factors	CAN	AUS	Explanation
Public Participation *Factor 14*	N	F	In Canada, public involvement is mainly on an MPA site-specific level. Involvement in broader MPA policy issues, including the planning and establishment of a national *network* of MPAs, has not occurred. In Australia, public and stakeholder involvement in the AOP and RMP has been high and there is strong government commitment through the National Oceans Office.
Indigenous Participation *Factor 15*	N	I	There is a high degree of variability with respect to the level of First Nations involvement in MPA policy in Canada. Mostly, it has been on a site-specific level, and has been higher in areas of settled land claims. TEK is incorporated to some extent (for the most part in MPA site-specific applications as opposed to broader policy and planning) though there is a high degree of regional variation. The level of Aboriginal involvement in the AOP, and particularly in the SERMP has been fairly low. However, in the Northern RMP, NOO started off with much stronger involvement. While TEK has been acknowledged as a valid and important source of knowledge, the degree to which it informs or influences AOP and RMP planning and decision-making is either weak or unclear.
SF = strongly facilitates			
F = facilitates			
N = neutral			
I = impedes			
SI = strongly impedes			

5 Discussion and Conclusion

This international comparative policy analysis has highlighted several factors that have made implementation of MPA policy under the COA in Canada more problematic than implementation under the AOP in Australia. Unless there are substantial changes in Canada to the context in which implementation is taking place and the current approach to implementation, it seems unlikely that implementation under the COA in future will be much more successful than it has been in the past. In the next two sections of this chapter, I summarize these conclusions in tables that review the contextual challenges and opportunities in both Canada and Australia, and the strengths and weaknesses of the COA and AOP approaches to policy implementation (tables 9 & 10). Then, in section 5.3, I draw out the key conclusions from the analysis of the factors affecting implementation and make general recommendations for MPAs and oceans management implementation. These conclusions are based on the factors examined in chapter 4, but are grouped into more general topics. I also summarize the implications of these conclusions for Canada and Australia. Finally, I reflect on the methodologies used for this research, and make recommendations for future research.

5.1 Contextual Challenges and Opportunities Facilitating or Impeding Policy Implementation

Table 9 summarizes the challenges and opportunities that exist in Australia and Canada that have facilitated or impeded implementation of MPA policy under the COA and the AOP. The table contains references to the factors in the analysis by which each conclusion is supported.

Table 9 – Contextual Challenges and Opportunities

	Implementation of Australia's Oceans Policy		Implementation of Canada's Oceans Act
	+ strength		– weakness
Economic Diversity	High economic diversity of coastal communities increases economic viability of restrictions on target group behaviour. *Factors 3 and 12*	+	Low economic diversity of coastal communities decreases the economic viability of restrictions on target group behaviour *Factors 3 and 12*	–
Primary users	The primary users of the ocean are recreation and tourism which engage much of the Australian public. This creates a facilitated context for MPA policy implementation because: (1) a strong connection between the public and the ocean increases support for improved oceans management; (2) less behavioural change is required from tourism and recreation than other uses to be consistent with MPAs; (3) though tourism and recreation are not without environmental impact, the industries have a vested interest in keeping the oceans clean and healthy (4) recreation and tourism can provide economic opportunity/diversification for coastal communities when other activities are restricted *Factors 3, 4 11 and 12*	+	The primary users of the ocean are offshore oil and gas and commercial fisheries. This creates a hindered context for MPA policy implementation: (1) the broader public is not engaged in supporting improved oceans management (2) extractive uses often require more behavioural changes to be consistent with MPAs (3) a small but highly concentrated group is dependant on marine resources and their activity will be substantially affected. *Factors 3, 4 11 and 12*	–
Sovereign Support	Sovereign support is high when the public is actively engaged and passionate about the policy arena. *Factors 11 and 13*	+	Sovereign interest is low when the public on a national level is not actively engaged. *Factors 11 and 13*	–

	Implementation of Australia's Oceans Policy		Implementation of Canada's Oceans Act	
	+ strength,		– weakness	
Division of Power	The Offshore Constitutional Settlement and historical friction between the Commonwealth and the States with respect to oceans governance creates a difficult arena for a cross-jurisdictional planning. *Factor 6*	–	In Canada, the constitution more wholly empowers the federal government with jurisdiction over the marine environment. While there are provincial/federal tensions concerning marine resource jurisdiction and provincial cooperation is needed in some cases, it does not pose as serious a challenge as in Australia. *Factor 6*	+
Indigenous marine resources management	Indigenous involvement in marine resource management in Australia is impeded by the lack of: recognition of native rights; legal requirements for consultation; and existing co-management arrangements. There are significant limitations to progress with respect to Indigenous offshore interests *Factor 15*	–	Indigenous involvement in marine resource management in Canada is encouraged by: the constitutional recognition and affirmation of Aboriginal rights; precedent set by court rulings; legal requirements for consultation and accommodation; and existing co-management arrangements. *Factor 15*	+
ENGO	ENGOs in Australia are active in building support and pressure for the implementation of oceans management and MPA policy. *Factors 10 and 11*	+	ENGOs in Canada are active in building support and pressure for the implementation of oceans management and MPA policy. *Factor 11*	+

5.2 Strengths and Weaknesses of the Australian and Canadian Implementation Approaches

Table 10 summarizes the strengths and weaknesses of the approaches adopted by Canada in COA implementation and by Australia in AOP implementation. The table contains references to the factors in the analysis by which the conclusion is supported.

Table 10 – Strengths and Weaknesses of the Implementation Approaches

	Implementation of Australia's Oceans Policy		**Implementation of Canada's Oceans Act**	
	+ strength,		– weakness	
Priority of Policy to the Lead Agency	Implementation of the AOP is the priority, the raison d'être, of NOO. *Factor 8*	+	Implementation of the Oceans Act is low on the priority list for DFO and in some ways conflicts with their existing and prevalent mandates. *Factor 8*	–
Lead agency as a facilitator	NOO is able to remain relatively impartial by: being established as a quasi-independent body that answers to the whole of government; being geographically distanced from other Commonwealth agencies; MPA establishment remaining in the DEH; and being independent from the agencies managing ocean uses. *Factors 8, 9*	+	DFO is supposed to be the facilitator for IM initiatives and coordinator of federal agencies with oceans responsibilities and MPA programs, but it has inherent bias as it is also the agency charged with fisheries and aquaculture management (among others), and MPA establishment. *Factor 8, 9*	–
Funding	Funding restriction is not creating a significant impediment. *Factor 7*	+	Inadequate funding has been problematic for implementation. *Factor 7*	–
Regional Focus	There is a strong regional focus on implementation through Regional Marine Plans (RMPs) to ensure that planning suits the needs, constraints and issues relevant to the regions. *Factor 6*	+	Power and decision making continues to reside in Ottawa where priorities, concerns, and objectives are often markedly different than on the coasts. There has been poor regional focus on implementation. *Factor 6*	–

	Implementation of Australia's Oceans Policy		Implementation of Canada's Oceans Act	
	+ strength,		– weakness	
Public and Stakeholder Involvement	Public and stakeholder involvement is encouraged by: the process being led by a lead agency perceived as fair and impartial; and opportunity to participate occurring on a regional planning level. *Factor 14*	+	Public and stakeholder involvement is discouraged by: the process being led by a lead agency perceived as biased; and little opportunity to participate other than on an MPA site-specific level. *Factor 14*	–
Oceans Management Integration	Existing sectoral management continues. New institutional arrangements increase coordination, but do not fundamentally change how oceans are managed. *Factor 6*	–	Existing sectoral management continues as the 'Oceans branches' get marginalized and compartmentalized within DFO, rather than becoming an umbrella policy. *Factor 8*	–
Cooperation of States, Provinces and Territories	The lack of State involvement and formalized agreement leaves a significant gap in the ability to implement holistic oceans management given state jurisdiction over coastal waters out to three nm. *Factor 6*	–	The federal government, and DFO in particular, mostly has the necessary power to implement the COA, which is reaffirmed through the Oceans Act. *Factor 6*	+
Systematic Approach	Systematic and staggered approach to implementation of RMPs has great potential for a learning-based approach and the eventual completion of marine planning for the entire ocean environment in Australia *Not explicitly expressed in the Factors*	+	The Integrated Management plans are being identified in an ad-hoc manner with no systematic national approach used to ensure the completion of marine planning for all of Canada's waters. *Not explicitly expressed in the Factors*	–
Use of eNGOs	The use of eNGOs in helping generate public and media attention and awareness of MPAs allows the lead agency to: advance conservation objectives without being perceived as biased; prevent duplication of efforts; and build on existing skills. *Factor 10, 11*	+	No direct use of eNGOs *Factor 10, 11*	–

5.3 Lessons Learned from the Comparative Analysis of Factors Affecting Policy Implementation

The conclusions drawn in this section do not follow the 15 factors precisely. Instead, I review the major topics and lessons from the analysis. For each topic, I provide reference to the factor(s) from which the conclusion is drawn. Each of the factors may not appear, as some factors have contributed more to policy implementation than others.

5.3.1 Legislated versus Policy-based Approach

Both of the policy approaches of Canada and Australia (legislated versus policy-based as described in section 3.5) have strengths and weaknesses. Australia's cooperative approach may be too flexible to accomplish the significant change in oceans governance that is required. Many stakeholders are happy with current management arrangements and since it is a stakeholder-driven process, they have power in directing the outcomes. In addition, since State involvement is based on cooperation, participation is not ensured, which can undermine the ecosystem-based oceans management objectives of the policy (see section 5.3.4). However, the cooperative, policy-based approach might more easily foster cooperation than legislation, since States and Territories might be suspicious of oceans legislation as being a tactical way of taking power from them in the marine environment. So, while the lack of legislation reduces the policy's top-down implementation power, it may prevent conflict with the States and Territories.

Canada's top-down legislative approach depends on the responsible agency having high levels of leadership, commitment, funding, public trust and skills. Unfortunately, the empowerment of DFO through the Oceans Act is negated by the low priority and funding allocated to implementation, severe public and stakeholder distrust of DFO and the agency's conflicting mandates.

Recommendations/Lessons: In a cooperative, policy-based approach, the lead agency must resolutely seek formal agreements and arrangements to achieve cooperation from those with which it shares power and to ensure compliance with policy outputs. In a legislative top-down approach, if the lead agency does not have high levels of leadership, commitment, funding, public trust and skills, its ability to successfully implement the policy is impeded.

5.3.2 Target Groups and Public Participation

There is a marked difference between the target groups in Australia and Canada. As examined in factors 2, 4 and 12, the main user of the marine environment, and the marine industry that contributes the most to Australia's GDP, is recreation and tourism, whereas in Canada, the main users are fisheries, offshore oil and gas development and exploration and aquaculture. This has a number of implications, which contribute to a better context for MPA policy implementation in Australia than in Canada. First, because many Australians spend their recreation time and holiday time at the beach, they are highly connected with the ocean and have a strong understanding of the importance of clean water, natural landscapes and intact ecosystems, which should facilitate implementation of MPA policy by increasing public interest, support and willingness to participate. Second, while the tourism and recreation industry is not without environmental impacts, the industry also has a vested interest in keeping Australia's oceans clean and healthy. Third, for the recreation and tourism industry's behaviour to be consistent with MPA policy objectives, less behavioural change is required than for many other industries (like offshore oil and gas and commercial fishing) and there are significant benefits. Fourth, enhanced tourism opportunity can provide economic

opportunity and diversification for coastal communities when other activities are restricted, making the policy more economically viable.

In Canada, the main target groups are fisheries and offshore oil and gas. Canadian use of the marine environment, and consequently the societal relationship with the ocean, is predominantly extractive and highly regionalized in areas far from where most of the Canadian population resides. This makes policy implementation more difficult for two reasons. First, as a whole the Canadian public is less interested in the marine environment in general and MPAs in particular, which makes it difficult for an oceans agenda to remain as a political priority. Second, the target groups face more substantial and restrictive behavioural changes in an MPA, which may generate stronger resistance to policy implementation. Further complications arise from the economic impacts of MPA policy for many coastal communities that are less economically diverse than Australian coastal communities.

In Canada, public participation has occurred mainly on an MPA site-specific level, rather than at the level of broader MPA policy issues, including the planning and establishment of a national *network* of MPAs, as described in factor 14. In contrast, in Australia, public and stakeholder involvement in the AOP and RMP has been high and there is a strong commitment within the NOO to public involvement in multiple levels of planning. Involvement in broad marine planning may be more meaningful for the public than consultation on site-specific details such as boundaries and zoning of an MPA, which may encourage participation in the process.

Recommendations/Lessons: Education and capacity-building within stakeholder groups is key to achieving effective and meaningful involvement. In addition, focus on economic diversification for coastal communities that are dependant on activities prohibited by policies can help to placate opposition by making the policy more

economically viable. There should be inclusive, transparent and meaningful participation and shared decision-making power at multiple levels of the policy process, not just on a MPA site-specific level. When members of the public, including stakeholder groups, are empowered with the opportunity to contribute to the decision-making process it may be easier to get them to cooperate and comply with the outcomes of decision-making. This also allows the policy process to be informed by the wealth of knowledge within the target groups.

Target groups' opposition to MPA policy is often cited as an impediment to implementation. It is valuable for the lead agency to build a context where, for those opposed to the policy, negotiation is a better strategy than opposition. This may be facilitated when (a) the process is adequately resourced (factor 7); (b) there are provisions for long term capacity-building for stakeholder groups (c) the lead agency demonstrates long term and resolute leadership, power and commitment to implementation (factors 8, 12, 13); (d) a regional planning process is led by a facilitator that is perceived as fair and impartial; and (e) communities are economically diversified to alleviate dependency on activities prohibited by the policy (factors 4, 12)

(a) If not adequately resourced, stakeholders who oppose changes in oceans management regimes may be rightly sceptical of the government's commitment to the process and may find it more productive to undermine the process rather than participate (factor 7).

(b) The policy should have provisions for long term capacity-building for stakeholder groups to provide them with the resources required for continued and informed participation.

(c) The lead agency must be prepared to provide constant and periodic infusions of political support if it is to overcome the inertia and resistance inherent in seeking

cooperation from target groups who may perceive their interests to be adversely affected by the policy. This requires the lead agency itself to be committed to policy objectives, to assign them high priority and to have adequate skills and funding (factor 8 and 9). Pre-existing antagonistic relationships that the lead agency may have with stakeholders can severely obstruct participation.

(d) Stakeholders are likely to be more willing to participate in a regional planning process that is facilitated by an agency that is perceived as fair and impartial. The end result of an MPA planning process commonly offers target groups with security of resource use in exchange for restricted access in selected areas. The site-by-site implementation of MPAs (especially when simultaneous uncoordinated approaches are being taken) can make those who are dependant on marine resources fearful of continued restrictions, since it is unclear to them when, where and if the restrictions will end.

(e) The policy will be more economically viable when communities are diversified and thus alleviate the level of dependency on activities that are prohibited by MPA.

5.3.3 Legal and institutional power and Integration

Horizontal and vertical integration are examined in factor 6, concerning the legal and institutional power of the lead agency.

Vertical integration

The AOP was released without State or Territory 'buy-in', and is therefore dependant on their cooperation to achieve holistic management of Australia's oceans (see section 5.3.1). The AOP uses new and pre-existing institutional arrangements to

encourage cooperation, but many believe that legislation will be necessary to reinforce them. The success of the AOP depends on achieving State and Territorial cooperation.

Provincial and territorial cooperation does not pose as serious a challenge in Canada where the provinces do not have much jurisdictional power in the marine environment. This avoids a layer of complexity that creates a difficulty in Australia.

Vertical integration and decentralization of power is still necessary to make implementation regionally appropriate. For Canada's oceans, power and decision-making continues to reside in the nation's capital, Ottawa, where priorities, concerns and objectives are different than on the coasts. There has been poor regional focus and decentralization of power in the implementation of MPAs in Canada. Australia has addressed regional diversity and has decentralized decision-making through the implementation of RMPs which include the identification of candidate MPAs.

Horizontal Integration

Both Australia and Canada address the need to harmonize and integrate sectoral ocean management. Both countries' marine policies, however, fail to reduce the number of agencies and departments involved in oceans management allowing for continuation of fragmented management (Juda, 2003). Integration of sectoral management is expected to come through coordination of activities and management decisions, rather than fundamental restructuring of institutional management bodies.

Australia has established bodies to increase horizontal integration among federal agencies and has established the NOO as an agency that coordinates all other agencies with oceans mandates. In contrast, in Canada, there remains a lack of coordination among federal agencies and little institutional or practical change in sectoral management has occurred since the inception of the Oceans Act. With respect to MPAs in particular, DFO does not appear to have coordinated the three federal MPA programs, which can

cause competing authority and confusion among resource users. There is also a lack of horizontal integration within the branches of DFO, since rather than amalgamating branches and incorporating COA principles into DFO's operations, new branches in most regions were established to implement the Act.

Recommendations/Lessons: To achieve integrated oceans management, horizontal and vertical integration needs to be realized. For this to occur there needs to be fundamental changes in: ways of thinking about ocean resources; policy approaches; and institutional arrangements. Active ministerial boards and multi-agency task forces can be useful. Minor reshuffling of current approaches may not be significant enough to achieve the fundamental change required.

5.3.4 Lead agency's Policy Orientation, Commitment and Policy's Hierarchy of Importance

The factors relating to the lead agency's policy orientation, namely commitment to the policy and hierarchy of importance of the policy to the agency (factor 8), appear to have been particularly important in making implementation of COA more problematic than implementation of the AOP. MPA policy implementation in Canada is challenged because: DFO's existing policy orientation (focused on fisheries management) is not consistent with the precautionary and holistic oceans objectives of the COA; the agency's historical fisheries focus and responsibility for managing aquaculture challenges its ability to fulfill the role of an unbiased facilitator; the objectives of the COA have not been assigned high priority within the agency nor have they been fundamentally incorporated in DFO procedures; and there has not been adequate funding for implementation. According to factors 5, 7 and 8, given this scenario, policy implementation will be problematic. The COA (and the DFO staff working on

implementation) is plagued by this adverse and encumbered context for implementation. It is not surprising that progress has been slow and challenging.

In contrast, the Australian model provides a superior context for policy implementation with respect to these factors (factors 7, 8 and 9). With the lead agency (NOO) especially established to manage implementation of the policy, implementation is facilitated by: the lack of inherent or historical institutional bias; the lack of institutional inconsistencies; and the high priority accorded to implementation of this policy. NOO has remained impartial by: being established as a quasi-independent body that answers to the whole of government; being geographically distanced from other Commonwealth agencies; and leaving MPA establishment to DEH. In Australia, there also does not appear to be as severe funding restrictions facing AOP implementation.

Recommendations/Lessons: When assigning a policy to an existing agency, it must be clear how the directives are to rank in the totality of an agency's responsibilities and funding should match additional responsibilities assigned to the agency, otherwise policy implementation will struggle to be accorded a high level of priority. Particular difficulty in implementation will occur when an agency's existing priorities and mandates conflict with new ones. When assigning a policy to an existing agency or when a new agency is established, the appropriate skills for policy implementation must be garnered and cultivated. Where these skills don't exist or are still being developed, a systematic 'learning-by-doing' approach should be adopted including strategies to incorporate lessons and make subsequent improvements.

In a planning and coordinator role, consideration should be paid to ensuring the neutrality of the agency to gain participation of stakeholder groups (see section 5.3.2.)

5.3.5 Public and Constituency Support:

There are inherent differences between Canada and Australia in terms of public engagement and interest with the marine and coastal environment (factors 11 and 12). In both countries, education and public awareness building is important to build a constituency to countervail the stakeholders that oppose MPA establishment and changes to existing sectoral management arrangements. A growing social consciousness and concerned public can be a driving force for policy implementation. Communicating can help build public support that will facilitate implementation and ensure sovereign support for the policy. The necessary changes required for successful MPA policy implementation are not just changes in how oceans are managed, but in how the public, users and the government view, understand and value ocean ecosystems and resources. MPA and oceans policy in Australia and Canada benefit from the support and public awareness-building of the eNGOs community, which can be an important and valuable facilitating factor for policy implementation.

Recommendations/Lessons: Public support is an important catalyst for change, helps keep an issue on the political agenda and helps build a solid and dependable constituency to counteract (and build support among) the opposition. Broad public support will ensure continued political support for the policy which can create a positive feedback loop. As such, a communications and public outreach strategy is an important component of the policy. Providing support to eNGOs, which are the leading stakeholder group that supports and promotes MPAs and integrated management, to increase public and stakeholder awareness and support, and media attention, would allow the lead agency in oceans planning to remain more neutral in their planning processes while advancing conservation objectives.

5.3.6 *Indigenous Participation*

The examination of factor 15 reveals a high level of regional variability related to Indigenous involvement in both Canada and Australia. In Canada, First Nations involvement in MPA policy has been on a site-specific level, and has been higher in areas of settled land claims, though there is much regional variability. TEK is incorporated to some extent, but for the most part in MPA site-specific applications as opposed to use in broader policy and planning, including in the design of a national network of MPAs. The level of Aboriginal involvement in the AOP, and particularly in the SERMP has been fairly low. However, in the Northern RMP, NOO started off with much stronger involvement, which is of particular importance for this region of high Aboriginal population. While TEK has been acknowledged as a valid and important source of knowledge, the degree to which it informs or influences AOP and RMP planning and decision-making is either weak or unclear.

Legal complexities, historical tension and delays in court are hurdles for Indigenous involvement in Canada and Australia. In Canada however, there are signs of promise for Indigenous involvement as demonstrated by: a constitutional amendment; past court rulings; legal requirements for consultation and accommodation; and experience and advancement of co-management cases. Australia lags behind in recognition of Aboriginal rights, especially in the marine environment.

Recommendations/Lessons: Co-management and the use of TEK in decision-making can be valuable methods of achieving the 'sustainable use' of resources in an environment where there is shared interest and authority, by increasing the ties between Indigenous resource users and stewards, local communities and all other levels of government.

5.4 Implications for Australia

In a perfect world, implementation of ecosystem-based integrated management of the oceans would involve a fundamentally restructured institutional model where all oceans activities are managed synchronously. Given the historically fragmented management arrangements and divisions of jurisdictional power, coordination of activities and management is more realistic than a complete restructuring. The model used for coordination of oceans management, including MPAs, though the AOP and RMPs is promising. The AOP provides an oceans planning context for the NRSMPA to be implemented within, which is a key development for MPA policy in Australia.

The strength in the institutional model established for AOP implementation is found in the creation of an impartial coordinating agency whose whole purpose is to advance large scale regional marine planning in a fair and equitable way, involving all stakeholders. Neutrality in the lead coordinating agency (NOO) is maintained by advancing a conservation agenda at arms length to the agency. For instance, DEH remains the agency that establishes MPAs. In addition to keeping NOO at arm's length from the conservation agenda, it allows each agency to focus on the development of specific skills. DEH continues to build and grow its skills and experience with MPA establishment and management, leaving NOO to focus on building facilitation and planning skills. Similarly, supporting eNGO's in awareness-building, education and keeping marine environmental issues in the media keeps conservation objectives at arms length, and makes use of already acquired skills of other institutions instead of duplicating efforts. By supporting eNGOs, benefit is being drawn from the powerful and passionate constituency group which is already actively promoting implementation of MPA and oceans management policies. This innovative approach should be strengthened within AOP implementation, rather than weakened as exhibited by recent funding cuts.

The comparison between Canada and Australia's target groups revealed an opportunity for Australia. The tourism and recreation sector is usually a fragmented, non-cohesive stakeholder group. However, they can prove to be an important and useful ally if resources are contributed to capacity building and if relationships are cultivated.

The main weakness in the Australian model lies within their most difficult contextual challenge - the division of power between the Commonwealth and the States. It is partially due to this division of power and management that the AOP was developed. Without State cooperation, the policy is unable to achieve its holistic and ecosystem-based management objectives. Implementation of the AOP should include more formalized agreements on cooperation and should focus on increasing State involvement and ownership in the policy to ensure that it is in fact the national, not federal, policy it was intended to be.

Summary of Recommendations for Australia

1. Nurture tourism and recreation sector as constituency for AOP and MPAs.
2. Continue to support the work of eNGOs in raising public and media attention.
3. Protect the independence and impartiality of NOO.
4. Formalize agreements with State/Territories and increase State/Territories involvement and ownership over RMPs.

5.5 Implications for Canada

Similar to the Australian situation, there has not been any fundamental restructuring of oceans management, but rather, Canada has adopted a coordinating approach to achieve integration. In Canada, MPAs continue to be developed outside of a broader marine planning process, other than the few instances where MPAs have been incorporated within an IM. Unfortunately, there are so many impediments and

constraints facing COA implementation that progress is extremely difficult and slow, despite the efforts of DFO Oceans staff.

There are some critical impediments to implementation that relate to DFO being the lead agency coordinating oceans management and MPA policy. The Australian model offers many lessons for Canada with respect to the creation of a lead agency that can, with little bias and internal institutional conflicts, effectively lead and coordinate a marine planning process that stakeholders will support. A newly created oceans office in Canada, whose whole purpose was to coordinate marine planning, could be successful if a level of impartiality and independence was ensured. Marine users around Canada might appreciate new direction and coordination in oceans management, especially if decision-making power was brought to the regions through regional marine planning processes. A new agency could build new, stronger relationships with stakeholders, gain their trust and remain neutral and impartial. Like the AOP model, to ensure its impartiality: an oceans office should answer to the whole of government; MPA establishment should remain in departments already mandated with conservation and protected areas initiatives, such as Parks Canada and Environment Canada; and eNGOs should build awareness and support for MPAs and oceans management.

Focusing on economic diversification for coastal communities that are dependant on activities prohibited by MPAs may help placate opposition by making the policy more economically viable. Currently in Canada, the context does not encourage those opposed to the policy to negotiate rather than oppose (see recommendation section 5.3.2).

The COA does not adequately address the development or coordination of an MPA network or the integration of MPAs with other conservation and management tools. The COA adds another legal tool for establishing MPAs, but has not contributed to a network or coordinated approach.

Summary of Recommendations for Canada

1. Create an independent and impartial oceans office to coordinate and facilitate integrated oceans management.
2. Bring decision-making to the regions, particularly through participatory decision-making in a broad planning process.
3. Support eNGOs in raising public and media attention.
4. Diversify coastal community economies.
5. Incorporate public and stakeholder participation at multiple levels of the process.
6. Coordinate the federal MPA programs into a comprehensive network approach to be implemented within a broader planning process.

5.6 Reflections on Methodology

5.6.1 Scope of Project Topic

There is a delicate balance that must be drawn in this kind of research between addressing a policy problem at a broad level in order to be able to examine the 'big-picture', but not working at such a broad scope that the issues cannot be addressed with the depth of analysis they deserve. In this research project, I compare two national oceans policies based on 15 different factors. Each factor, with its temporal and regional variation, provides enough material for its own research project. As a result, this analysis is only able to provide a glimpse into each factor and must ignore the case-by case, local and regional, strengths, weaknesses, opportunities and challenges that may in fact have at least as much effect on policy implementation as the national level factors that are examined. However, it is also very important to investigate and understand the wide-ranging scope of factors influencing the broad context to determine the national level ability to effect implementation, and to assess the strengths and weakness of different

policy approaches, as well as the pre-existing opportunities and constraints that are studied in this research.

5.6.2 Mazmanian and Sabatier Analytical Framework Limitations

One author's description of his research clearly reflected my own impressions of the analysis using Mazmanian and Sabatier's framework.

> I simplified very complex relationships observed in the field. It is difficult to imagine how these relationships could be modeled in formal terms without committing gross oversimplification. There are simply too many individuals, too many agencies, too many alternatives and too many exogenous forces most of which would have to be ignored to make formal models tractable (Thomas, 2003, p.282).

Policy implementation occurs in rich and complex real life scenarios. The only way to cognitively cope with this complexity is to reduce and classify it into manageable parts. The framework used for this analysis organizes and categorizes the various factors affecting implementation. However, there is a complex and dynamic interplay between these factors which does not get captured. The interplay itself may have as much or more effect on policy implementation than any of the individual factors. In addition, there is only an intuitive sense of the relative importance of the factors, which does not get incorporated into the analysis. This abstracted analysis is simply an ordered and static glimpse into the intricately disordered and dynamic real-world arena within which policies are actually implemented.

Mazmanian and Sabatier's framework was useful and practical for examining many different aspects of policy implementation. The wide-ranging variables examined provided for a robust analysis and successfully explained why the implementation of the COA MPA policy has been more problematic than the AOP.

5.6.3 Key Informant Interviews

Key informant interviews were conducted to gain first-hand information from experts to substantiate and validate the perspective gained from the policy literature. A wealth of information was gathered in structured and unstructured format. This diversity of information was difficult to systematically present in the analysis. However, while somewhat cumbersome, the interviews added richness and a realistic perspective to the analysis that would not have been captured otherwise.

In advance of the interviews, I was aware that the small sample size prevented the numerical data from being used in a statistical analysis. However, I expected that the Likert-scale rating question (question 5) would provide some useful numerical comparative data. Unfortunately, misinterpretation of the question by some interview respondents prevented me from using these data explicitly in the analysis. Fortunately, the interview format provided the opportunity for the respondents to explain their numerical answers and the ensuing discussion allowed me to detect this misinterpretation and also provided useful qualitative data. Being able to identify this misinterpretation highlights one of the benefits of interviews over surveys. Had this question been sent out in a survey format, the misinterpretation would have gone unnoticed and inaccurate results would have been reported.

5.7 Recommendations for Further Research

This research is based on 15 factors that are examined in only as much depth as is possible for this research. Each factor could be examined in more detail. It would also be useful to test the validity of these postulates more rigourously, and to assess their relative importance in policy implementation.

Other future research questions suggested by this study are:

- Are target groups in favour of an 'all-at-once' approach to MPA planning? Would they trade some restrictions on resource use in return for long-term security of access?
- What is the public and stakeholder perception of DFO and NOO's ability to coordinate, manage and lead marine management?
- Would target groups in Canada be more supportive of marine planning initiatives if the process was being coordinated and led by an independent, impartial body?
- Are there examples of ecosystem-based management policies (terrestrial or marine) that have used eNGOs and recreation groups to build support for initiatives? If so, have they been successful?
- What is the importance of the media in keeping marine policy issues on the political agenda? What successful methods can be used to maintain media attention on these issues?
- What factors enabled better cooperation with the States in Australia's Northern Regional Marine Planning process?
- What lessons can we learn from the Great Barrier Reef Marine Park planning process in the realm of marine planning, MPAs and stakeholder involvement, since this has been a successful and long-term process?
- Is MPA implementation facilitated in regions of high economic diversity?

5.8 Final Remarks

The factors affecting implementation that were each examined separately in this research are connected through the people, communities, government agencies and marine resources who in essence, make up the policy process. Effective implementation of the policy will depend on creating favourable conditions among these people, communities, government agencies and marine resources to change the way oceans are

being managed, used and perceived. Creating these favourable conditions for policy implementation (as described in the postulates of table 1) can be viewed from a top-down or bottom-up perspective. However, despite which perspective is used in analysis, or which approach is being used in the policy process itself, all of the factors will continue to affect the process, demonstrating the need to consider many different variables and perspectives concurrently. The complex and dynamic nature of these interactions and existing constraints and opportunities prevents research and analyses like this from concretely recommending a one-size-fits-all model for implementation. Regardless, research and consideration of the factors affecting implementation and the various models for implementation will continue to fine-tune MPA and oceans management.

Marine protected areas are becoming a more prominent and respected tool for marine conservation. As they are implemented, attention should be paid to establishing cohesive networks of MPAs, rather than individual, unconnected MPAs. In addition, integrating MPAs into a broader oceans management and governance context will optimize their ability to achieve results and provide benefits while minimizing costs to local, marine resource-dependant communities.

Appendix A: IUCN MPA Categories

Category	Type - Levels of Protection for MPAs
I	Strict protection
II	Ecosystem conservation and recreation
III	Conservation of natural features
IV	Conservation through active management
V	Landscape/seascape conservation and recreation
VI	Sustainable use of natural ecosystems

SOURCE: IUCN, 1988

MARINE PROTECTED AREAS MANAGEMENT OBJECTIVES
To protect and manage substantial examples of marine and estuarine systems to ensure their long term viability and to maintain genetic diversity;
To protect and manage areas of significance to the life cycles of economically important species;
To prevent outside activities from detrimentally affecting the marine protected areas;
To provide for the continued welfare of people affected by the creation of marine protected areas; to preserve, protect, and manage historical and cultural sites and natural aesthetic values of marine and estuarine areas, for present and future generations;
To facilitate the interpretation of marine and estuarine systems for the purposes of conservation, education and tourism;
To accommodate with appropriate management regimes a broad spectrum of human activities compatible with the primary goal in marine and estuarine settings; and
To provide for research and training, and for monitoring the environmental effects of human activities, including the direct and indirect effects of development and adjacent land practices.

SOURCE: IUCN, 1988

Appendix B: Interview Questions for Respondents for Canada

LIST OF ACRONYMS:

MPA – marine protected area
DFO – Department of Fisheries and Oceans (Canada)
COA – Canada's Oceans Act
AOP – Australian Oceans Policy
RMP – Regional Marine Plans (Australia)
NOO – National Oceans Office (Australia)

1. What is your position and role in your organization?

2. Have you had any direct involvement with Canada's Oceans Act (COA) or Oceans Strategy (policy design/creation, consultation, research, implementation, other)? If so, please describe briefly.

In this interview, when I refer to a marine protected area, I use the IUCN definition of MPAs:
"Any area of the intertidal or subtidal terrain, together with its overlying water and associated flora, fauna, historical and cultural features, which has been reserved by law or other effective means to protect part or all of the enclosed environment" (IUCN, 1988)
3. In your opinion, are MPAs a useful part of an oceans management strategy? Why/Why not?

4. a. In your opinion, what are the most significant factors that are accelerating/facilitating the development of a network of MPA's in Canada? Please mention up to three factors
b. In your opinion, are there significant factors hindering/impeding the development of a network of MPAs in Canada? Please mention up to three factors

5. For each of the following possible factors, indicate whether and how each has influenced MPA policy implementation under the COA/COS. Please read the entire list of factors first and then we will proceed to go through and rate them on the scale of 1 to 5, where 1 means that this factor strongly facilitates the implementation of MPA policy and where 5 means that this factor strongly impedes MPA policy implementation. For each factor, you will be given the opportunity to explain why or how you think that this factor can, will or has affected implementation of marine protected areas policy.

		Strongly Facilitate	Facilitate	No Effect	Impede	Strongly Impede	N/A
a	The level of complexity of the policy problem *Explain:*	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑ N/A
b	The diversity of stakeholder groups *Explain:*	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑ N/A
c	The clarity and consistency of COA/COS objectives *Explain:*	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑ N/A
d	The current jurisdictional division of power in the marine environment *Explain:*	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑ N/A
e	Extent of behavioural change required by stakeholder groups *Explain:*	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑ N/A
f	The timelines defined in COA/COS *Explain:*	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑ N/A
g	The financial resources committed to MPA policy implementation *Explain:*	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑ N/A
h	The human resources committed to MPA policy implementation *Explain:*	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑ N/A
i	The level of scientific consensus on usefulness of MPAs *Explain:*	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑ N/A
j	DFO's commitment to MPAs *Explain:*	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑ N/A
k	DFO's experience with MPA management *Explain:*	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑ N/A
l	DFO's experience with holistic management *Explain:*	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑ N/A

m	The relative importance of MPA in comparison with other mandates for DFO *Explain:*	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑ N/A
n	The current political climate in Canada *Explain:*	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑ N/A
o	The level of media attention to marine environmental issues *Explain:*	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑ N/A
p	Public involvement in decisions about MPAs *Explain:*	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑ N/A
q	The level of transparency of the policy process *Explain:*	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑ N/A
r	Level of involvement of First Nations *Explain:*	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑ N/A
s	First Nations position on MPAs through Canada's Oceans Act *Explain:*	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑ N/A

6. Is DFO's ability to implement integrated and holistic management of the oceans affected by jurisdictional divisions of power (seabed, vegetation, etc)? If yes, does the COA/COS address that challenge? How so?

7. a. Has the provinces' jurisdictional power over the seabed accelerated/facilitated or decelerated/impeded the establishment of MPAs though the COA/COS? How so?

b. Are there incentives in place for the provinces to cooperate in transferring their rights over the seabed to the federal government for the establishment of MPAs under the COA? If so, what are they? Are these incentives sufficient?

8. a. Does the Oceans Act/Oceans Strategy provide clear objectives for DFO with respect to MPAs? Explain
b. Does the Oceans Act/Oceans Strategy provide clear timelines for DFO with respect to MPAs? Explain

9. Have you been involved in public participation/consultation meetings concerned with the establishment of MPAs?

If yes, who has been the most supportive of MPA establishment?

Geographically, where is there greatest support for MPAs coming from (i.e coastal communities, inland, urban areas, etc)?

10. What stakeholder groups pose the greatest difficulty for MPA program implementation?

Does the diversity of stakeholder groups cause difficulty for MPA program implementation? If so, do you think that the COA/COS adequately addresses the difficulty that the diversity of these groups poses? How so?

11. Has the federal government provided the implementing agency (DFO) with enough funding to successfully implement the COA/COS?

12. Has the federal government provided the implementing agency (DFO) with enough personnel to successfully implement the COA/COS?

13. Is DFO is the right agency to implement the Oceans Act? Why or why not?

Does DFO have the right experience, commitment and knowledge to implement MPA policy? Is a qualified, experienced group of people working on MPA policy implementation?

14. How would you describe the importance that DFO assigns to Oceans Act implementation in comparison to DFO's other priorities?

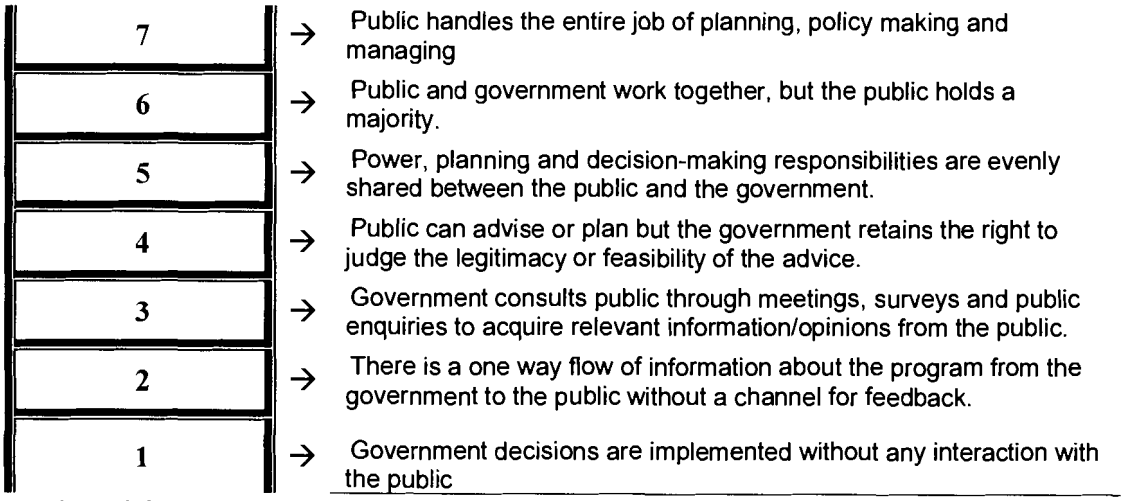
Very high priority	Somewhat high priority	Neutral	Somewhat low priority	Very low priority
❑	❑	❑	❑	❑
1	2	3	4	5

How would you describe the importance that DFO assigns to the MPA program in comparison to DFO's other priorities?

Very high priority	Somewhat high priority	Neutral	Somewhat low priority	Very low priority
❑	❑	❑	❑	❑
1	2	3	4	5

15. How would you describe the amount of media coverage currently given to environmental marine issues in comparison with other environmental issues? Has this amount of coverage varied over the last 10 years? If so, how?

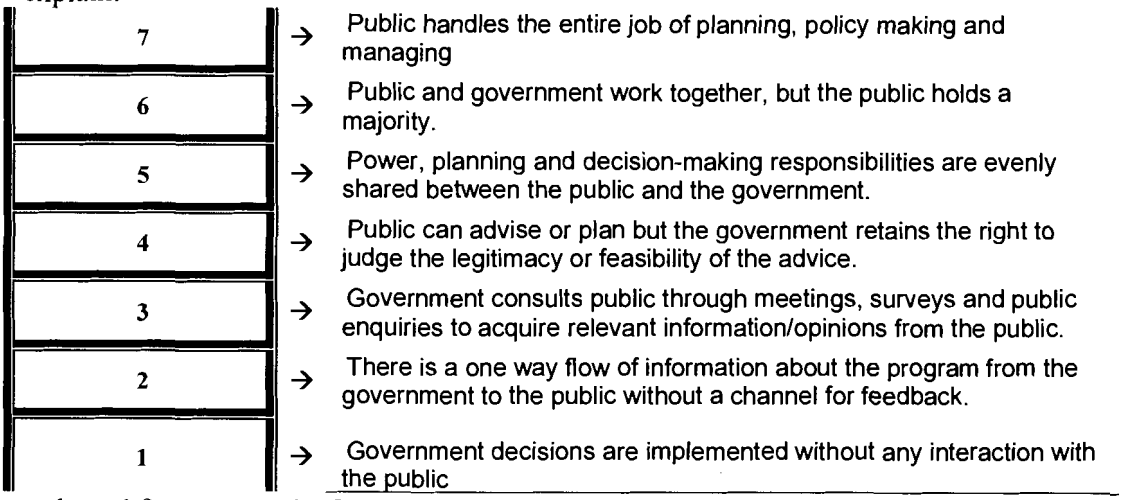
16. Where would you place the level of public/stakeholder participation in COA/COS's implementation process on the following ladder? Explain.



Adapted from: Arnstein, Sherry R. "A Ladder of Citizen Participation," Journal of the American Planning Association, Vol. 35, No. 4, July 1969, pp. 216-224.

17. Is First Nations traditional knowledge acknowledged and incorporated in MPA policy/planning and decision-making? If yes, how (through what mechanisms?)? If no, please explain.

18. Where would you place the level of First Nations participation in COA/COS's implementation process on the following ladder? (same graphics as Q 17). Please explain.



Adapted from: Arnstein, Sherry R. "A Ladder of Citizen Participation," Journal of the American Planning Association, Vol. 35, No. 4, July 1969, pp. 216-224.

Appendix C: Interview Questions for Respondents for Australia

LIST OF ACRONYMS:

MPA – marine protected area
NOO – Department of Fisheries and Oceans (Canada)
COA – Canada's Oceans Policy
AOP – Australian Oceans Policy
RMP – Regional Marine Plans (Australia)
NOO – National Oceans Office (Australia)

1. What is your position and role in your organization?

2. Have you had any direct involvement with the Australian Oceans Policy (AOP) or Regional Marine Plans (RMPs) (policy design/creation, consultation, research, implementation, other)? If so, please describe briefly.

In this interview, when I refer to a marine protected area, I use the IUCN definition of MPAs:
"Any area of the intertidal or subtidal terrain, together with its overlying water and associated flora, fauna, historical and cultural features, which has been reserved by law or other effective means to protect part or all of the enclosed environment" (IUCN, 1988)

3. In your opinion, are MPAs a useful part of an oceans management strategy? Why/Why not?

4. a. In your opinion, what are the most significant factors that are accelerating/facilitating the development of a network of MPA's in Australia? Please mention up to three factors
b. In your opinion, are there significant factors hindering/impeding the development of a network of MPAs in Australia? Please mention up to three factors

5. For each of the following possible factors, indicate whether and how each has influenced MPA policy implementation under the AOP/RMP. Please read the entire list of factors first and then we will proceed to go through and rate them on the scale of 1 to 5, where 1 means that this factor strongly facilitates the implementation of MPA policy and where 5 means that this factor strongly impedes MPA policy implementation. For each factor, you will be given the opportunity to explain why or how you think that this factor can, will or has affected implementation of marine protected areas policy.

	Strongly Facilitate	Facilitate	No Effect	Impede	Strongly Impede	N/A
a The level of complexity of the policy problem *Explain:*	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑ **N/A**
b The diversity of stakeholder groups *Explain:*	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑ **N/A**
c The clarity and consistency of AOP objectives *Explain:*	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑ **N/A**
d The current jurisdictional division of power in the marine environment *Explain:*	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑ **N/A**
e Extent of behavioural change required by stakeholder groups *Explain:*	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑ N/A
f The timelines defined in AOP *Explain:*	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑ **N/A**
g The financial resources committed to MPA policy implementation *Explain:*	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑ **N/A**
h The human resources committed to MPA policy implementation *Explain:*	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑ **N/A**
i The level of scientific consensus on usefulness of MPAs *Explain:*	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑ **N/A**
j NOO's commitment to MPAs *Explain:*	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑ **N/A**
k NOO's experience with MPA management *Explain:*	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑ **N/A**
l NOO's experience with holistic management *Explain:*	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑ **N/A**

m The relative importance of MPA in comparison with other mandates for NOO *Explain:*	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑ N/A
n The current political climate in Australia *Explain:*	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑ N/A
o The level of media attention to marine environmental issues *Explain:*	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑ N/A
p Public involvement in decisions about MPAs *Explain:*	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑ N/A
q The level of transparency of the policy process *Explain:*	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑ N/A
r Level of involvement of Aboriginals *Explain:*	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑ N/A
s Aboriginal position on MPAs through AOP *Explain:*	❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑ N/A

6. If a transfer of right from the States to the Commonwealth needs to occur to have an MPA established through the AOP in State or territorial waters, are there incentives in place for the States/territories to cooperate? If so, what are they? Are these incentives sufficient?

7. Is NOO's ability to implement holistic oceans management affected by jurisdictional divisions of power? If yes, does the AOP/RMP address that challenge? How so?

8. Does the Oceans Policy/Regional Marine Plans provide clear objectives with respect to MPAs? Explain.
Does the Oceans Policy/Regional Marine Plans provide clear timelines with respect to MPAs? Explain.

9. Have you been involved in public participation/consultation meetings concerned with the establishment of MPAs?
If yes, who has been the most supportive of MPA establishment?
Geographically, where is there greatest support for MPAs coming from (i.e coastal communities, inland, urban areas, etc)?

10. What stakeholder groups pose the greatest difficulty for MPA program implementation?
Does the diversity of stakeholder groups cause difficulty for MPA program implementation? If so, do you think that the AOP/RMP adequately addresses the difficulty that the diversity of these groups poses? How so?

11. Has the Commonwealth government provided the implementing agency (NOO) with enough funding to successfully implement the AOP/RMP?

12. Has the Commonwealth government provided the implementing agency (NOO) with enough personnel to successfully implement the AOP/RMP?

13. Is NOO is the right agency to implement the Oceans Policy? Why or why not?
Does NOO have the right experience, commitment and knowledge to implement MPA policy? Is a qualified, experienced group of people working on MPA policy implementation?

14. How would you describe the importance that NOO/RMP assigns to Oceans Policy implementation in comparison to other priorities?

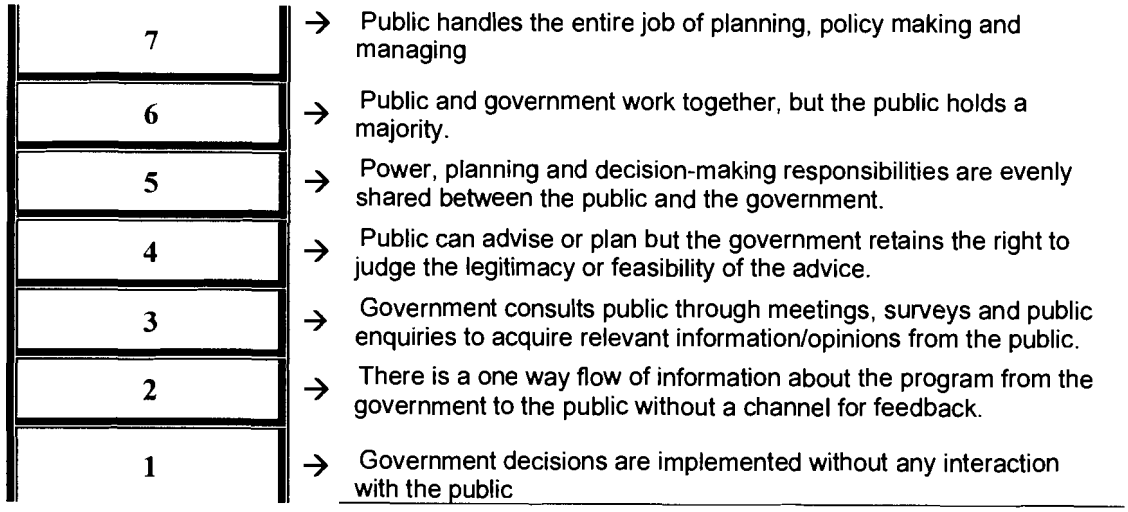
Very high priority	Somewhat high priority	Neutral	Somewhat low priority	Very low priority
❑	❑	❑	❑	❑
1	2	3	4	5

How would you describe the importance that NOO assigns to the MPA program in comparison to NOO's other priorities?

Very high priority	Somewhat high priority	Neutral	Somewhat low priority	Very low priority
❑	❑	❑	❑	❑
I	2	3	4	5

15. How would you describe the amount of media coverage currently given to environmental marine issues in comparison with other environmental issues? Has this amount of coverage varied over the last 10 years? If so, how?

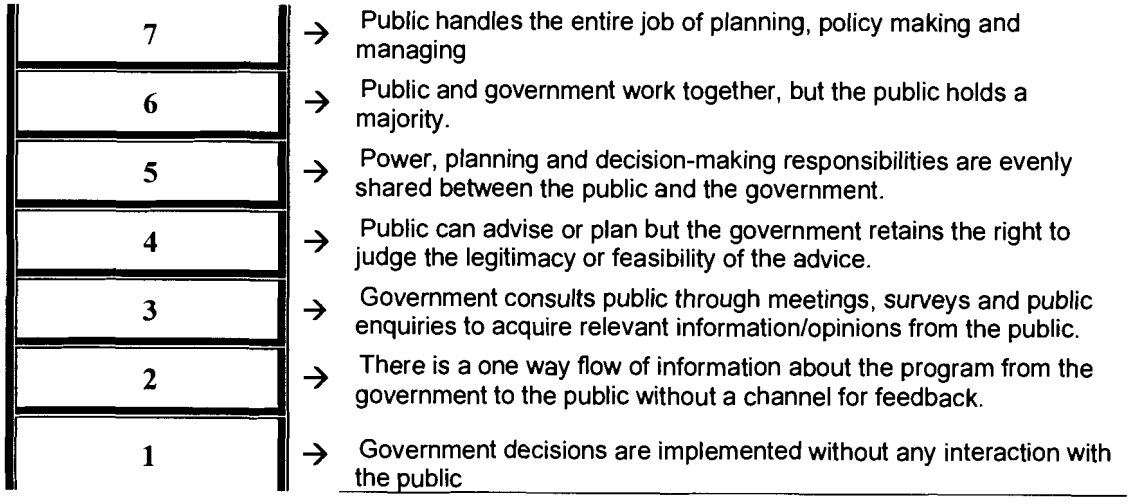
16. Where would you place the level of public/stakeholder participation in AOP/RMP's implementation process on the following ladder? Explain.



Adapted from: Arnstein, Sherry R. "A Ladder of Citizen Participation," Journal of the American Planning Association, Vol. 35, No. 4, July 1969, pp. 216-224.

17. Is Aboriginal traditional knowledge acknowledged and incorporated in MPA policy/planning and decision making? If yes, how (through what mechanisms?)? If no, please explain.

18. Where would you place the level of Aboriginal participation in AOP/RMP's implementation process on the following ladder? (same graphics as Q 17). Please explain.



Adapted from: Arnstein, Sherry R. "A Ladder of Citizen Participation," Journal of the American Planning Association, Vol. 35, No. 4, July 1969, pp. 216-224.

Appendix D: Canada's Oceans Act, Oceans Strategy and MPA Policy Objectives

CANADA'S OCEANS ACT MANAGEMENT STRATEGY OBJECTIVES

Section 29&30 - The Minister, in collaboration with other ministers, boards and agencies of the Government of Canada, with provincial and territorial governments and with affected Aboriginal organizations, coastal communities and other persons and bodies, including those bodies established under land claims agreements shall lead and facilitate the development and implementation of a national strategy for the management of estuarine, coastal and marine ecosystems in waters that form part of Canada...based on the principles of (a) sustainable development...(b)integrated management... and (c)precautionary approach. (Canada's Oceans Act, 1997)

CANADA'S OCEANS ACT - MARINE PROTECTECTED AREAS

Section 35 (1) A marine protected area is an area of the sea that forms part of the internal waters of Canada, the territorial sea of Canada or the exclusive economic zone of Canada and has been designated under this section for special protection for one or more of the following reasons:

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

(Canada's Oceans Act, 1997)

CANADA'S OCEANS STRATEGY OBJECTIVES

- Understanding and protecting the marine environment
- Supporting sustainable economic opportunities
- International leadership (DFO, 2002a)

MPA POLICY OBJECTIVES, GOALS AND CODE OF PRACTICE

Objective
To conserve and protect the ecological integrity of marine ecosystems, species and habitats through a system of Marine Protected Areas, as per the Oceans Act

Goals

- To proactively conserve and protect the ecological integrity of each MPA site.
- To contribute to the social and economic sustainability of coastal communities by providing for uses which are compatible with the reasons for designation
- To further knowledge and understanding of marine ecosystems.

Code of Practice
In implementing the Marine Protected Areas program, Fisheries and Oceans will:
- Adhere to the defined objective and goals of the MPA program
- Establish MPAs in a fair and transparent manner
- Adopt the principles of sustainable development, integrated management and the precautionary approach in decision-making
- Base decisions on the best available scientific information and traditional ecological knowledge

(DFO, 1999)

DEFINITIONS

Ecosystem-based management:
The management of human activities so that ecosystems, their structure, function, composition, are maintained at appropriate temporal and spatial scales. (DFO, 2002b)

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

Precautionary approach:
Erring on the side of caution (Canada's Oceans Act, 1997)

Marine Protected Area:
Area of the sea that forms part of the internal waters of Canada, the territorial sea of Canada or the exclusive economic zone of Canada and has been designated under this for special protection (Canada's Oceans Act, 1997)

Appendix E: Australia's Oceans Policy and National Representative System of MPAs Program Objectives

AUSTRALIAN OCEANS POLICY VISION AND GOALS

Vision: Healthy oceans: cared for, understood and used wisely for the benefits of all, now and in the future.

Goals:
1. To exercise and protect Australia's rights and jurisdiction over offshore areas, including offshore resources.
2. To meet Australia's international obligations under the United Nations Convention on the Law of the Sea and other international treaties.
3. To understand and protect Australia's marine biological diversity, the ocean environment and its resources, and ensure ocean uses are ecologically sustainable.
4. To promote ecologically sustainable economic development and job creation.
5. To establish integrated oceans planning and management arrangements.
6. To accommodate community needs and aspirations.
7. To improve our expertise and capabilities in ocean-related management, science, technology and engineering.
8. To identify and protect our natural and cultural marine heritage.
9. To promote public awareness and understanding.

MPA Goals:
The Government is committed to accelerating the development of the National Representative System of Marine Protected Areas (NRSMPA). It is essential that the NRSMPA is established as quickly as possible both for conservation purposes and to give regional security for industry access to oceans resources. As far as possible, future representative MPA proposals under the Commonwealth's NRSMPA programme will be developed as part of the Regional Marine Planning process. Areas of known outstanding conservation significance will, however, continue to be assessed for protection in accordance with the existing processes.
(NOO, 1998a)

GOALS OF THE NATIONAL REPRESENTATIVE SYSTEM OF MARINE PROTECTED AREAS

The primary goal of the NRSMPA is to establish and manage a comprehensive, adequate and representative system of marine protected areas to contribute to the long-term ecological viability of marine and estuarine systems, to maintain ecological processes and systems, and to protect Australia's biological diversity at all levels.

Comprehensiveness: inclusion of the full range of ecosystems recognised at an appropriate scale within and across each bioregion.
Adequacy: having the required level of reservation to ensure the ecological viability of species and integrity of ecosystems.
Representativeness: the areas selected for inclusion in MPAs should reasonably reflect the biodiversity of the marine ecosystems from which they derive.
The following secondary goals are designed to be compatible with the primary goal

- To promote the development of marine protected areas within the framework of integrated ecosystem management
- To provide a formal management framework for a broad spectrum of human activities, including recreation, tourism, shipping and the use or extraction of resources, the impacts of which are compatible with the primary goal
- To provide scientific reference sites
- To provide for the special needs of rare, threatened or depleted species and threatened ecological communities
- To provide for the conservation of special groups of organisms, e.g. species with complex habitat requirements or mobile or migratory species, or species vulnerable to disturbance which may depend on reservation for their conservation
- To protect areas of high conservation value including those containing high species diversity, natural refuges for flora and fauna and centres of endemism
- To provide for the recreational, aesthetic and cultural needs of Indigenous and non-Indigenous people.

(DEH, 2004b)

DEFINITIONS

Ecosystem-based management:
Management approach that recognizes that maintaining the structure and function of ecosystems is vital and that human uses and ecosystem health are interdependent. Management, usually of human activities and their effects, which seeks to identify and address direct and indirect effects on ecosystem components and to integrate planning and management activities across sectors within ecosystem-defined units or areas.

Precautionary principle:
Where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

Marine protected area:
An area of sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means.
(NOO, 1998b)

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