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**MARINE SPATIAL PLANNING FROM AN IRISH PERSPECTIVE:
TOWARDS BEST PRACTICE IN INTEGRATED MARITIME
GOVERNANCE**

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Thesis submitted for the Degree of Ph.D

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Abstract

Abstract

Marine spatial planning (MSP) is advocated as a means of managing human uses of the sea in a sustainable manner. The adoption of a system of MSP is seen as urgent in the face of ever-increasing demands on marine resources. This is particularly so in Ireland with its extensive seas, belatedly being recognised as a significant development resource. There is evidence that a diverse range of stakeholders at national and local levels in Ireland are positively disposed toward MSP but no practical manifestation of the concept is in place, though some preparatory work is underway to facilitate its likely implementation into the future. Little in-depth research has been undertaken to explore how MSP could be best implemented in Ireland.

The European Commission (EC) is a major promoter of MSP and has developed a set of common principles for MSP in the European Union. A critical examination of these principles in practice is undertaken through an evaluation of three marine spatial planning initiatives: The Channel Islands National Marine Sanctuary; The Clyde Pilot MSP Project; and The Eastern Scotian Shelf Integrated Management Initiative. The objective of these evaluations is to derive useful lessons regarding the implementation of these principles in general. A critical examination of the Irish context is also presented and a roadmap for MSP in Ireland is developed.

It is evident that the EC's guiding principles provide a useful framework for the implementation of MSP. Some principles, however, need further clarification, elaboration and strengthening. Successful implementation of MSP in Ireland requires the development of national marine policy which creates an overall vision for Ireland's marine environment and economy and which emphasizes the place-based nature and integrated management dimensions of MSP. It also requires the development of new ecosystem governance practices and mechanisms through which stakeholders can engage in a dialogue about the management of the marine environment.

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Chapter 1. Introduction

1.1 Marine Spatial Planning

Those tasked with the management of the marine environment face three major interrelated issues: preventing and reversing environmental degradation; managing an expanding maritime economy; and avoiding conflict in the marine environment. Recent assessments of the state of global and regional marine environments reveal continuing decline of marine biodiversity, the transformation of food webs, increasing marine pollution, and the acidification and warming of the world's oceans (POC, 2003; Millennium Ecosystem Assessment, 2005; Nellemann *et al.*, 2008). Marine activities are often situated in sensitive ecological areas without full consideration of their impacts. Conflict between human uses and the marine environment can result in loss of marine biodiversity (Worm *et al.*, 2006). Without significant improvements to marine resource management, marine biodiversity is likely to deteriorate substantially in the coming decades and negatively impact the resource base of coastal nations (UNEP, 2010). Addressing the immense environmental challenges emanating from intensifying human use of the marine environment (Halpern *et al.*, 2008) necessitates a comprehensive integrated approach to marine governance (UNEP, 2010).

Due to technological advances, globalisation, and lax governance frameworks, the exploitation of marine resources has expanded spatially into deep offshore waters (Smith, 2000; Berkes *et al.*, 2006). Projections for the development of marine industries indicate that industrialisation of the marine environment is likely to accelerate in the coming decades (Douvere, 2008). In the European Union (EU), for example, it is predicted that offshore wind energy production will rise from 10,000MW in 2010 to 70,000 MW in 2020 (EWEA, 2005). The Irish government has set a target of having at least 500MW of wave and tidal energy by 2020 (DCMNR, 2007) with an overall aim of creating an export-oriented ocean energy sector (DCENR, 2010a). Forecasts indicate that global production from aquaculture is expected to grow at an average annual rate of 4.5% over the period 2010 - 2030 (Brugère and Ridler, 2004). In an Irish context, it is predicted that the output from

shellfish farms will be 96,000 tonnes by 2020, up from 43,000 in 2004 (Marine Institute, 2006). Long-term forecasts also indicate that the global demand for coastal tourism products will continue to intensify in the coming decade (Dixon *et al.*, 2008). Making room for new marine uses and safeguarding more traditional uses, without degrading the marine environment, will require the adoption of new integrated management strategies, as current management frameworks do not facilitate the integrated management of all marine activities occurring in one area (Douvere, 2008).

The growing demand for marine space can result in conflict in the marine environment. Conflict can arise between different marine sectors and within individual sectors (Douvere, 2008; Douvere and Ehler, 2009a). Some marine activities are incompatible with one another and often compete for space in the marine environment or negatively impact on one another if conducted in close proximity (Douvere and Ehler, 2009a). For example, spatial conflicts between fisheries and the submarine cable industry have resulted in the loss of fishing gear and in significant costs associated with repair of cables and loss of revenue due to cable disruptions (Coffen-Smout and Herbert, 2000). The potential range of conflicts has grown in recent years as new activities, such as aquaculture, wind farms and liquefied natural gas terminals are increasingly located offshore (Crowder *et al.*, 2006). Conflicts may also occur within one marine sector. For example, conflict may arise between the users of different gear types within a fishery (Douvere and Ehler, 2009a).

There is growing consensus amongst policymakers and the academic community alike that these challenges can be addressed through the adoption of marine spatial planning (MSP) (Ehler and Douvere, 2007; Young *et al.*, 2007; Douvere, 2008; Maes, 2008; Ehler and Douvere, 2009; McLeod and Leslie, 2009; Flannery *et al.*, 2010; Jay, 2010a; Kidd *et al.*, 2011). Many leading maritime nations, including, Australia, Germany, the Netherlands, the United Kingdom (UK) and the United States (US) have begun to implement MSP. It is defined as the “rational organization of the use of marine space and the interactions between its uses, to balance demands

for development with the need to protect the environment, and to achieve social and economic objectives in an open and planned way” (Douvere, 2008, p. 766). MSP is promoted as a means of managing human uses of the sea in a sustainable manner and described as “a way of improving decision making and delivering an ecosystem-based approach to managing human activities in the marine environment. It is a planning process that enables integrated, forward looking, and consistent decision making on the human uses of the sea” (Ehler and Douvere, 2007, p.8). MSP enables sectoral integration, incorporates hierarchical policies from the supra-national to the local, and seeks to anticipate and address future resource demands in a sustainable manner (MSSP Consortium, 2005a; Claydon, 2006). MSP can replace the current piecemeal, sectoral approach and provide a mechanism for a strategic and integrated plan-based approach to managing “current and potential conflicting uses, the cumulative effects of human activities, and marine protection” (Douvere, 2008, p. 766).

MSP offers a range of benefits, including: a) a strategic, integrated and forward-looking framework for all uses of the sea to help achieve sustainable development, taking account of environmental as well as social and economic objectives; b) the application of an ecosystem approach to the regulation and management of development and activities in the marine environment by safeguarding ecological processes and overall resilience to ensure the environment has the capacity to support social and economic benefits (including those benefits derived directly from ecosystems); c) the allocation of space in a rational manner so as to avoid or minimise conflicts of interest and, where possible, maximise synergy between sectors; and d) the identification, safeguarding, or where necessary and appropriate, the recovery or restoration of important components of coastal and marine ecosystems, including natural heritage and nature conservation resources (UK-MSP Working Group, 2005).

One way to develop and improve the practice of MSP is to learn from early adapters. Critical assessments of key elements of MSP as implemented in early initiatives

serve to inform and enhance policy and practice into the future (CEC, 2008; Douvère and Ehler, 2009a; CEC, 2010). The European Commission (EC) strongly advocates MSP and has developed a set of guiding principles for its implementation by Member States of the European Union (EU). This research critically examines these principles by assessing their applicability in three diverse MSP initiatives: The Channel Islands National Marine Sanctuary, The Scottish Sustainable Marine Environment Initiative Clyde Pilot; and The Eastern Scotian Shelf Integrated Management Initiative. Lessons from these initiatives are then incorporated into the development of a MSP process suitable for Ireland.

1.2 The Irish Marine Context

Ireland is a small island economy with an extensive marine resource (see Figure 1.1). It consists of 90,000 km² of a land resource and almost 900,000 km² of a marine resource. The marine sector directly employs approximately 22,000 people and provides indirect employment for another 22,000 (Shields *et al.*, 2005). It generates an annual turnover of nearly €3 billion, contributing approximately 1% of Ireland's Gross National Product (GNP) (Shields *et al.*, 2005). This is a considerably lower percentage of GNP than in most other maritime countries: the marine sector is estimated to contribute 3.5 % of the UK's GNP, with a turnover of €23.7 billion (Shields *et al.*, 2005). On a comparative basis, Ireland's marine resource is under-utilised and under-developed. However, GNP is a crude gauge of its significance and conceals the importance of the marine sector to Ireland as an island nation on the edge of Europe (Long, 2007). Over 99% of Ireland's exports and imports, for example, are carried by shipping, while an estimated 4 million people travel to and from Ireland each year on international ferries (Long, 2007).

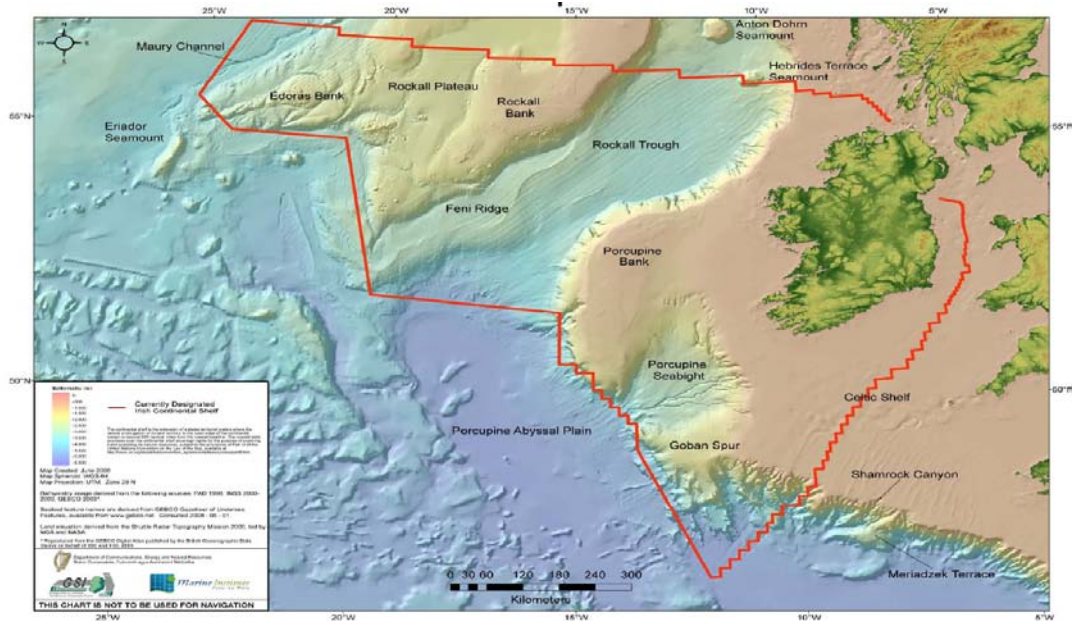


Figure 1.1: Irish Continental Shelf (Source: Dept. of Communications, Energy and Natural Resources, Geological Survey of Ireland, and The Marine Institute)

1.3 Attitudes to MSP in Ireland

Stakeholder participation is integral to the success of MSP (Pomeroy and Douvere, 2008). Two Irish studies indicate strong support for a process of MSP. A national level study sought to evaluate ‘high level’ stakeholders’ perceptions of MSP (Nixon, 2006). The survey focused on full-time professionals employed by environmental and industrial representative bodies, non-governmental organisations, as well as experienced independent consultants involved in marine related matters. Asked if MSP should be implemented in Ireland, 100% of respondents replied positively, although some entered caveats (Nixon, 2006). These centred on issues of commitment, political will, coastal development and the need for assurances that it would be undertaken properly. The second study, targeting local level stakeholders in the marine environment, was conducted in the Dingle Peninsula, on the south-west coast of Ireland (Flannery and Ó Cinnéide, 2008). A total of 95 questionnaires were completed. A purposeful sampling technique was utilised as it allowed for the deliberate selection of people with specific characteristics, behaviour or experience, in this case people whose livelihoods are directly or indirectly derived from the sea and other active users of the marine environment (Flannery and Ó Cinnéide, 2008).

Strong support for MSP was apparent among these stakeholders, with 81% of respondents favouring its development (Flannery and Ó Cinnéide, 2008).

1.3.1 Stakeholder lobbying for MSP in Ireland

Some stakeholder groups, in particular the offshore energy sector and environmental groups, have begun to lobby for the introduction of MSP in Ireland. For example, in a recent policy paper, the Marine Renewables Industry Association argued that spatial planning should be introduced in the marine environment to facilitate the development of the sector and to help Ireland achieve its renewable energy targets (MRIA, 2010). It proposed that four marine zones for ocean energy be prioritised by Government and that efforts to achieve 2020 targets relating to offshore renewable energy be focused in these zones. They also expressed frustration at the fact that Ireland had recently lost out on valuable ocean energy investment to Scotland, arguing that Ireland was ill-prepared to take advantage of these opportunities (Siggins, 2011). In a written response to the *Draft Offshore Renewable Energy Plan*, they call on government to urgently undertake the work required to enable an initial leasing round, which may include MSP, and to commence planning for grid connections (MRIA, 2011). The Coastal Concern Alliance has argued that a lack of marine policy and strategic planning is threatening scenic coastlines and marine wildlife and that there is a lack of public participation in the planning of our marine environment. They call for the introduction of MSP as a solution to these issues (Coastal Concern Alliance, no date).

1.4 Spatial Marine Scientific Research

The EU Green Paper of the future of maritime policy emphasises that mapping of coastal waters is a prerequisite for effective MSP (CEC, 2006). Seabed mapping provides information necessary to spatially define many seabed resources and boundaries and to identify potential opportunities and constraints. Ireland is ahead of other European Countries in this regard as it has completed an extensive seabed survey and is in the process of completing a detailed inshore mapping project (Long, 2007). The Geological Survey of Ireland and the Marine Institute are the lead

Chapter 1. Introduction

agencies overseeing these projects. Between 1999 and 2005, the Irish National Seabed Survey mapped over 85% of the Irish marine continental shelf. For the purpose of the survey, the seabed was divided into three zones: 0 - 50 m isobaths; 50 - 200 m isobaths; and 200 - 4,500 m isobaths (Long, 2007). Phase two of this project, focused on 26 bays and 3 priority areas selected on the basis of an extensive stakeholder exercise that was conducted between 2002 and 2005. This exercise included consultation with over 50 organisations, including government departments, coastal local authorities, industry sectors and consultancy companies. The EU designated Biologically Sensitive Area (Figure 1.2) was also surveyed on an opportunistic basis in the course of this work. It is anticipated that maps arising from these projects will assist decision-makers implement sustainable development strategies through an integrated system of MSP.



Figure 1.2: Location of priority bays, priority areas and the Biological Sensitive Area as designated under the EU's Common Fisheries Policy (Source: INFOMAR).

The Marine Institute is also a partner in the MeshAtlantic project (2011-2013) which aims to harmonise seabed habitat mapping over the coastal and shelf zones of the

Atlantic Area in order to help inform spatial planning and management (MeshAtlantic, 2011). The project involves the compilation of existing data and the collection of new data to develop habitat maps for the Atlantic Area (MeshAtlantic, 2011). The project also involves stakeholder workshops to demonstrate WebGIS interactive maps emanating from the project.

1.5 Key European drivers of MSP

The EC views MSP as a management tool for “creating new opportunities for economic growth and job creation in Europe, while safeguarding the marine biodiversity and cultural heritage that our seas provide” (EU, 2010, p.4). The EC recognises the inadequacy of the current institutional framework for the sustainable management of the marine environment (Borja, 2006) and advances in its *Strategic Objectives 2005-2009* a need for a comprehensive, integrated approach to developing a thriving European maritime economy in an environmentally sustainable manner (CEC, 2005). To achieve this, the EC has recently developed new marine policy and legislation in the form of its Marine Strategy Framework Directive (MSFD) under the auspices of the Directorate General for the Environment; and an Integrated Maritime Policy (IMP) under the auspices of the Directorate General for Maritime Affairs and Fisheries. Within these, MSP is advanced as a key tool for the sustainable management of the marine environment.

1.5.1 Marine Strategy Framework Directive

The aim of the MSFD is to promote sustainable use of the sea, conserve marine ecosystems and achieve ‘good environmental status’ of the European marine environment by 2020 (EC, 2008). The Directive provides a framework for national initiatives to achieve good status for the environment and introduces the principle of ecosystem-based MSP (Douvere, 2008). As such, it formalises an ecosystem-based approach to marine environmental management in European waters (De Santo, 2010). It is envisaged that implementation of the Directive will address all activities impacting the marine environment and lead to the establishment of protected areas (EC, 2008). The Directive recognises that conditions and issues vary across the

marine regions and sub-regions that make up the EU marine environment and that this diversity should be taken into account in the preparation of marine strategies (EC, 2008). It also recognises the transboundary and interconnected nature of the marine environment. Accordingly, Member States are expected to develop marine strategies specific to their own marine environments that are also reflective of the broader marine region or subregion to which they belong (EC, 2008). This requires a high degree of coordination between Member States. To achieve this, the Directive envisages a coordinating role for existing transnational institutional structures and in particular for regional sea conventions, such as OSPAR¹ and HELCOM². The Directive has established a series of marine regions and sub-regions for the purpose of facilitating implementation. Regions established are: the Baltic Sea, the North East Atlantic Ocean, the Mediterranean Sea and the Black Sea. The North East Atlantic Ocean is further divided into the following Sub-Regions: the Greater North Sea, including the Kattegat and the English Channel; the Celtic Seas; the Bay of Biscay and the Iberian Coast; and the Atlantic Ocean, including the waters surrounding the Azores, Madeira and the Canary Islands. The Mediterranean is divided into the Western Mediterranean Sea; the Adriatic Sea; the Ionian Sea and the Central Mediterranean Sea; and the Aegean-Levantine Sea.

The MSFD requires Member States to identify actions which need to be taken to achieve or maintain good environmental status in their marine environment (EC, 2008). These include spatial protection measures which contribute to a network of marine protected areas, including such areas established under the Habitats and Birds Directives. Member States are directed to adopt flexible and adaptive management strategies based on the precautionary principle and an ecosystem-based approach (EC, 2008). Implementation of the MSFD requires the development of specific tools that can support an ecosystem-based approach to marine management in order to achieve good environmental status. These “tools include spatial protection measures and measures in the list in Annex VI to Directive 2008/56/EC, notably spatial and temporal distribution controls, such as maritime spatial planning” (EC, 2010, p. 16).

¹ OSPAR is the Commission for the protection of the Marine Environment of the Northeast Atlantic.

² HELCOM is the Baltic Marine Environment Protection Commission.

The MSFD directs Member States to ensure that all interested parties are given early and effective opportunities to participate in the implementation of this Directive (EC, 2008). Although acknowledging the need for public involvement in the establishment, implementation and updating of marine strategies, the Directive lacks detail regarding the exact form and purpose of this involvement (Fletcher, 2007). The MSFD also states that where possible public consultation should involve existing management bodies or structures. The public should be provided with information regarding the different elements of marine strategies, including: a) the initial assessment and the determination of good environmental status; b) the environmental targets established; c) the monitoring programmes established; and d) the programmes of measures (EC, 2008). The strong focus on information sharing, with correspondingly little emphasis on more meaningful stakeholder engagement, suggests the EC may be content with weak, somewhat tokenistic participatory processes in relation to the implementation of the MSFD.

1.5.2 Integrated Maritime Policy

The development of an IMP was initiated with the launch of a Green Paper on future maritime policy for the European oceans and seas in, June 2006 (CEC, 2006). The Green Paper focuses on promoting growth and jobs in maritime industries in a sustainable manner (De Santo, 2010). It regards MSP as a key instrument in managing and expanding an increasingly competitive maritime economy, while at the same time safeguarding biodiversity (Douvere and Ehler, 2006). In October 2007, following consultation on the Green Paper, the EC released its IMP, also known as the 'Blue Book' (CEC, 2007). It is designed as a framework for coordinating European marine management and overseeing the development of national and regional MSP initiatives (De Santo, 2010). The IMP promotes integrated management as a means of addressing the difficulties that arise as a result of competing uses of the marine environment (CEC, 2007). The IMP regards MSP as a fundamental tool for the sustainable development of marine areas and coastal regions in the EU (CEC, 2007). It argues that an integrated maritime governance framework requires planning tools, such as MSP, that can support integrated policy-making

across marine sectors (CEC, 2007). It also argues the need for cooperation on a regional basis.

In 2010, the EC began consultation on a *Proposal for a Commission Communication on Integrated Maritime Policy for the Atlantic Ocean Sea Basin* (EC, 2011b). The Irish government responded very favourably to the proposal stating that “the successful implementation and development of the IMP as a driver of economic, social and environmental development is of great importance to Ireland as one of the truly maritime nations of the Union” (Marine Institute, no date: online). In its response, the Irish government “recognizes great advantage in cooperation among Member States regarding the Atlantic Area in relation to a broad range of issues, including economic recovery; competitiveness; sustainable development; and environmental issues” (Marine Institute, no date: online). The consultation process finished recently and the European Parliament resolution of 9 March 2011 on the European Strategy for the Atlantic Region requests the EC to shape, as soon as possible, an EU strategy for the Atlantic region (European Parliament, 2011). The European Parliament “wishes for this strategy to work following a bottom-up approach, starting from local authorities and involving all stakeholders; insists on the necessity of associating regional and local public authorities, Member States, the European Union, private stakeholders and civil society organisations (including interregional networks and organisations concerned) in the design and the implementation of this strategy” (European Parliament, 2011, p. 4).

The IMP also committed the EC to the development of a roadmap to facilitate the development of MSP by Member States and this was duly issued in November 2008 (CEC, 2008). In this document the EC exhorts the development of a common approach among Member States and advances key working principles (CEC, 2008). The EC asserts, that in accordance with its IMP, the ecosystem approach should be an overarching principle for MSP (CEC, 2008). Ten further principles are included: a) using MSP according to area and type of activity; b) defining objectives to guide MSP; c) developing MSP in a transparent manner; d) stakeholder participation; e)

coordination within Member States; f) ensuring the legal effect of national MSP; g) cross-border cooperation and consultation; h) achieving coherence between terrestrial and maritime spatial planning; i) a strong data and knowledge base; and j) incorporating monitoring and evaluation in the planning process (CEC, 2008). The EC held a number of workshops to debate these principles with Member States, regions, industry and non-governmental organisations, as a result of which they were further elaborated (CEC, 2010) but with no new additions or deletions. At this stage these principles may be regarded as a work-in-progress to be further elaborated and refined in the light of experiences. These principles are utilised in this thesis to develop a conceptual framework for MSP.

1.6 Research aims

The fundamental aim of this project is to develop an approach to MSP that is appropriate for Ireland. Specific research objectives include: a) the development of a theoretical framework appropriate to MSP; b) an evaluation and assessment of international experience with respect to MSP; c) an exploration and critical review of the Irish planning system particularly as it relates to the marine environment; and d) the development of a good practice approach for MSP in Ireland. Particular emphasis is paid to the area stakeholder participation in the theoretical framework, the evaluation of MSP experiences and in the development of a best practice approach for Ireland, as it is considered to be vital for the successful implementation of MSP.

The research methodology is outlined in Chapter 2. The EC's Principles for MSP and related literature are critically reviewed in Chapter 3. Findings and related lessons regarding the implementation of MSP, from case studies on The Channel Islands National Marine Sanctuary, The Scottish Sustainable Marine Environment Initiative Clyde Pilot, and The Eastern Scotian Shelf Integrated Management Initiative, are presented in Chapter 4. The context for MSP in Ireland is critically examined in Chapter 5 and recommendations regarding its implementation are advanced.

Chapter 2. Methodology

2.1 Introduction

The methodology employed in this study is detailed in this chapter. Case studies were conducted in order to adduce good practice lessons from existing MSP initiatives. An in-depth literature review and analysis of documents, such as plans and policies, were undertaken to critically assess the context for MSP in Ireland. The chapter begins by describing the case study approach. Lesson-drawing processes and theory-based evaluations are then discussed. This is followed by an account of the case study selection process. Research methods employed in the case studies are then elaborated, including: document and archival research; structured observations; and semi-structured interviews. The data analysis process is then described.

2.2 Multiple case study approach

The case study approach is a suitable research methodology “when ‘how’ or ‘why’ questions are being posed, when the investigator has little control over events, and when the focus is on a contemporary phenomenon with some real-life context” (Yin, 2003, p. 1). Case study research enables researchers to develop an understanding of the context or environment in which processes are conducted or in which phenomena occur. Case study methods are criticised because of their time and resource intensive nature (Yin, 2003) and their poor representativeness and generalisability (Stoecker, 1991). Although such research takes much time and resources, they produce rich, in-depth data that other research strategies may be unable to generate. Proponents also argue that case study research is not about the typicality of the case but rather the generalisability of processes and understanding of contexts within which these processes occur (Hartley, 2004). It is possible to generalise lessons regarding particular cases to similar contexts.

Several different designs are applicable, including: single case study; single embedded case study; multiple case studies; and multiple embedded case studies. An embedded case study contains more than one sub-unit of analysis (Yin, 2003). Multiple case studies are often preferred over single case studies as they provide an opportunity to compare and contrast each case (Scholz and Tietje, 2002). Analytic

conclusions independently arising from two or more case studies are more authoritative than those coming from a single case study (Yin, 2003). As the contexts of the case studies are likely to be different, common conclusions from multiple case studies are more generalisable than conclusions derived from a single case study (Yin, 2003).

A multiple embedded case study approach is employed in this research to develop a set general set of good practice lessons for MSP. A critical examination is also undertaken of marine management systems in Ireland to see how these general lessons could be deployed in an Irish context. The case studies examined in this thesis were selected in order to achieve two interrelated objectives: to draw lessons from the experiences of existing MSP initiatives in relation to the EC's principles for MSP; and to conduct in-depth evaluations of these initiatives' stakeholder participatory processes.

2.2.1 Lesson-drawing

Confronted with common problems, policymakers can learn from the actions of their counterparts in other countries or regions. If a policy or programme is found to be effective in one institutional setting, it may be successfully transferred to another, with necessary adaptations to make it fit within legislative frameworks (Rose, 1991). If a policy or programme is found not to work, policymakers in other districts can learn what not to do when formulating their own course of action. The context of programmes also needs to be understood before transferrable lessons can be derived. Lesson-drawing, however, is more than an evaluation of a programme in its own context; it also entails analysis of the transferability of these lessons to other contexts and areas (Rose, 1991). Lesson-drawing typically addresses the question: "under what circumstances and to what extent can a programme that is effective in one place transfer to another" (Rose, 1991, p. 3). The process of lesson-drawing begins with the scanning of policies or programmes in effect elsewhere, and concludes with an evaluation of what are the likely outcomes if a programme was transferred from one place to another (Rose, 1991). It may also conclude with an analysis of what would

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need to change in order to facilitate the successful implementation of a programme imported from elsewhere.

Four types of lesson-drawing (Table 2.1) are generally recognised. This study utilises two of these, namely, emulation; and synthesis. Each MSP initiative is evaluated separately and lessons which can be emulated elsewhere, including errors to be avoided, are assimilated. In the final chapter the lessons from the three case studies are synthesised in order to inform a good practice approach to MSP in Ireland.

Table 2.1: Types of lesson-drawing (adapted from Rose, 1991)

Copying	Adoption more or less intact of a programme already in effect in another jurisdiction.
Emulation	Adoption, with adjustment for different circumstances, of a programme already in effect in another jurisdiction.
Hybridisation	Combine elements of programmes from two different places.
Synthesis	Combine familiar elements from programmes in effect in three or more different places.
Inspiration	Programmes elsewhere used as intellectual stimuli for developing a novel programme.

2.2.2 Evaluating participatory processes

Evaluation of participatory processes can reveal perceptions and attitudes of participants, aid understanding of intended and unintended effects of the processes, and improve the practice of stakeholder engagement in the future (Oels, 2006).

Theory-based evaluations use normative criteria to evaluate participatory processes. Such evaluations assess the extent to which participation processes meet criteria that have been developed in relevant theoretical literature. As collaborative planning theory is concerned with decision-making in the face of conflicting interests, it is a useful source from which to derive evaluation criteria to evaluate stakeholder participation processes (Oels, 2006). These criteria relate to processes and outcomes as distinguished by Chess (2000) and are developed in Chapter 3.

2.2.3 Case study selection

A critical element in lesson-drawing is to find programmes that address similar problems to the issue at hand (Rose, 1991). For this study, the academic literature on MSP was reviewed to identify appropriate initiatives. A number of nations, including Australia, Belgium, Canada, France, Norway, the Netherlands, Portugal, Spain, the UK and the US, have begun to implement MSP at various scales and for a variety of different objectives. Although there are a number of accounts outlining and describing the experiences of some of these initiatives (Douvere and Ehler, 2009a; Douvere and Ehler, 2009b; McCrimmon and Fanning, 2009; Dickinson *et al.*, 2010; Ehler and Douvere, 2010; Merrie, 2010) there are relatively few in-depth, objective evaluations of MSP initiatives.

Douvere and Ehler (2009a) provide a broad typology of MSP initiatives and categorise them as being (a) nature protection; (b) multiple use objectives; or (c) based on an ecosystem approach. Although this is a crude typology, with some initiatives falling into one or more categories, it provides a useful framework by which to group existing MSP initiatives. As part of this study, MSP initiatives reported in the academic literature were classified using this typology. These listings were then screened and confined to MSP initiatives that had been completed, involved high-levels of stakeholder participation, and had produced a plan. Finally, and based largely on expediency, an initiative was selected from each category as follows: (a) nature protection: The Channel Islands National Marine Sanctuary (CINMS); (b) multiple use objectives: The Clyde MSP Pilot Project; and (c) MSP based on an ecosystem approach: The Eastern Scotian Shelf Integrated Management (ESSIM) initiative. The CINMS is recognised as a good example of a marine EBM initiative (Douvere, 2008) incorporating extensive stakeholder participation in its planning process (Arkema *et al.*, 2006). Similar to the proposed regional MSP areas in the US, the CINMS is tasked with implementing EBM in an area comprised of both Federal and State waters and with engaging stakeholders throughout the planning process. The Clyde Pilot is a useful case study as it is one of the first explicit efforts at MSP to produce a plan and also involved a high level of stakeholder participation (Flannery and Ó Cinnéide, 2011). The ESSIM initiative is

also a suitable case study as it is often cited as a good exemplar of MSP (Young *et al.*, 2007; Douvere, 2008; Merrie, 2010; Schaefer and Barale, 2011) and it has adopted a collaborative planning approach.

2.3 Gathering evidence for case studies

A number of data-collection techniques are employed in case study strategies. The data collected in case studies are typically rich and in-depth, focusing on the experiences of participants in the study (Berg, 2001). Stake (1995) identified six sources of evidence that can be used in case studies: documents; archival records; interviews; direct observation; participant-observation; and physical artifacts. The first four sources of evidence were used in the case studies investigated for this study.

2.3.1 Documents and archival records

Documents and archives were reviewed for each of the case studies and to assess the context for MSP in Ireland. Accessing textual source constituted the first stage of the case studies. Typically, texts were publically available and included memoranda, agendas, administrative documents, plans, and secondary sources, such as academic articles. Some non-public texts were also made available including minutes of meetings and agendas. Texts analysed in the CINMS case study included: the advisory council's terms and conditions; its decision-making and operational protocols; minutes of meetings; the advisory council's work plan; and the CINMS Plan. For the Clyde Pilot project texts included: the final plan (Donnelly *et al.*, 2010); annual and quarterly reports; minutes of meetings; guidance documents, discussion papers; and an evaluation report. Texts analysed for the ESSIM case study included: a number of academic papers, predominately produced by members of the ESSIM Planning office; the ESSIM Plan, advisory council's terms of conditions, protocols, and minute meetings; and workshop proceedings.

Lesson-drawing is more than the evaluation of existing programmes and entails the critical examination of the transferability of these lessons to a new context. Hence, the context for MSP in Ireland needed to be explored. As there is no MSP policy in Ireland, the current marine management regime was assessed. This required the critical examination of policies, processes, legislation and related documents as well as secondary sources such as academic and newspaper articles. This process enabled realistic recommendations regarding the implementation of the lessons derived from the case studies to be tailored to the Irish situation.

2.3.2 Interviews

Interviewing is a useful method for the collection of qualitative data (Stake, 1995; McCracken, 1998). In-depth interviews which focus on group relationships and activities have been advanced as a key method in the investigation of collaborative planning (Gunton and Day, 2003; Healey *et al.*, 2003; Innes and Booher, 2003). This study employed semi-structured interviews to gather qualitative data for each case study. This type of interview involves pre-determined questions but with inbuilt flexibility of process (Dane, 1990) that enables the researcher to explore some topics in detail, by asking further questions based on information provided during the interview and tailoring of questions to enhance interviewees' understanding (Berg, 2001). Interview flexibility does have some disadvantages as all participants are not asked the same questions making it difficult to compare responses during analysis (Dane, 1990).

Semi-structured interview schedules were designed for each of the MSP initiatives investigated in the course of this study. Interview questions mainly related to themes derived from the conceptual framework, as developed in Chapter 3. The advantages of flexibility were deemed to outweigh drawbacks. If questions were entirely structured with no flexibility, it would have been difficult to probe the phenomenon being examined. For example, participants' responses often warranted further investigation, yet the questions needed to obtain this information were not always included in the interview schedule. Adhering to a structured schedule would also

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have created a problem with repetition as interviewees sometime answered two or more of the listed questions in their responses to a single question. To minimise skewing of the data, the researcher probed interviewees to understand and answer questions but balanced this by ensuring participants answered questions from their own experiences and perspectives (McCracken, 1998). Semi-structured interviewing allowed the researcher a certain level of standardisation at the analysis stage, while remaining open to additional information that may not have been supplied through responses to the original interview questions. Flexibility is also crucial as although questions are developed and piloted in advance, each participant's response is contextual. It is somewhat unrealistic for participants to be interviewed in a manner that does not allow sufficient flexibility to account for varying contexts among participants. Semi-structured interviews allowed for focused questions but also enabled the researcher to explore new themes when interesting or valuable information was offered by the interviewee.

The process of selecting interviewees for each case study also varied, depending on the information available regarding participants in the various initiatives. In the CINMS case study, contact information for stakeholder representatives and CINMS staff was readily available. In this instance, all representatives and staff members were contacted by e-mail. Twelve (12) stakeholder representatives agreed to be interviewed. Those interviewed included representatives of fishing, recreational and environmental groups, and government departments and agencies. One in-depth semi-structured interview with an official of the sanctuary management team was also conducted. Stakeholder representative contact information was not publically available for the Clyde Pilot or for the ESSIM initiatives. In the case of the Clyde Pilot, interview requests were made through the Firth of Clyde Forum project officer who circulated an e-mail to all stakeholder representatives requesting interviews. As a result, six in-depth semi-structured interviews were conducted with members of the Clyde Pilot Steering Group, drawn from a broad spectrum of interests including: government departments and agencies, planning authorities, environmental groups, and coastal communities. No interviews were conducted with Clyde Pilot staff members. For the ESSIM case study, in-depth interviews were sought with all

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stakeholder representatives through the ESSIM Planning Office. Eleven (11) semi-structured, in-depth interviews were conducted with SAC representatives drawn from a broad spectrum of interests, including: fishing, offshore energy, government departments and agencies, environmental groups, and coastal communities. A group interview was also conducted with staff members from the ESSIM Planning Office.

All interviews were recorded and transcribed. Before commencing interviews, each participant gave informed consent in order to be a part of the study. All interviewees were guaranteed anonymity. Interviews began with general background questions concerning the interviewees' role in the particular MSP initiatives and progressed to more detailed questions concerning the processes and outputs of the initiatives. The majority of interviews were conducted face-to-face, usually at the interviewees' places of business or at another location of their choosing. A total of five interviews were conducted by telephone. Interviews lasted between 40 minutes and two hours. Telephone interviews tended to be shorter than face-to-face interviews.

2.3.3 Direct observations

Direct observation is “a research method in which events are selected, recorded, coded into meaningful units, and interpreted by non-participants” (Dane, 1990, p. 151). There are many advantages to direct observation. For example, the context of a particular phenomenon can be examined and a researcher may learn about certain aspects that cannot or will not be disclosed in an interview or questionnaire (Neutens and Robinson, 2010). There are two main types of observation methods: unstructured and structured. Unstructured observation involves the researcher in the phenomenon under investigation, who then explains the situation as objectively as possible (Neutens and Robinson, 2010). Unstructured observation may involve the researcher as a participant in the observation process and may also involve use of a camcorder or recorder, specimen recording and anecdotes (Neutens and Robinson, 2010). The use of unstructured observation methods generally leads to problems of reliability, memory distortion and researcher bias (Neutens and Robinson, 2010). Alternately, structured observation methods observe pre-selected behaviour and a

systematic recording of the events is planned. There are certain steps which must be followed when utilising observation as a research method. The observation must: have a specific research focus, be designed systematically, be recorded systematically, and undergo reliability and validity testing (Neutens and Robinson, 2010).

A structured observation method was used in this study. Ideally observations would have been made of all three case study initiatives. However, due to a variety of reasons including, rescheduling of initiative meetings, time and resource constraints, it was only possible to observe the ESSIM initiative to any appreciable extent. Two ESSIM meetings were observed with the permission of the ESSIM Planning office: one stakeholder representative meeting; and one sub-committee meeting. Observing these meetings facilitated a greater understanding of the ESSIM process and of issues then on the table, including, in particular, action planning and plan implementation. It also allowed the researcher to arrange further interviews with participants. The observations focused on two themes relating to the conceptual framework: decision-making processes; and plan implementation. It was not possible to record the meetings so detailed hand-written notes were made. The reliability and validity of observations were tested during subsequent interviews with stakeholder participants and ESSIM staff who were present at the observed meetings.

2.4 Data analysis

Thematic analysis is an approach that involves the creation and application of codes to data. The data being analysed might take any number of forms, including: an interview transcript, field notes, and policy documents. Thematic analysis focuses on ‘what’ is stated rather than ‘how’ it is stated (Bryman, 2004). In this approach data are reviewed for content and coded for exemplification of the identified categories or themes. Coding facilitates easier analysis of the data by extracting material from large quantity of recordings, texts and documents (Potter, 2004). Typically coding involves the analysis of data for instances of a phenomenon of interest and copying them into an archive. Coding can be either inductive (Boyatzis, 1998) or deductive

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(Crabtree and Miller, 1999). Inductive coding uses the data to identify and develop themes from them (Boyatzis, 1998). Deductive coding involves the development of a codebook prior to the analysis of the data (Crabtree and Miller, 1999). Deductive qualitative coding often uses categories or themes derived from earlier work such as theories, models, mind maps and literature reviews to analyse data (Sandelowski, 1995). The codebook is sometimes based on a preliminary scanning of the text.

A deductive approach is employed in this study as it focuses more on deriving lessons relating to specific elements of the MSP process as opposed to theory building. Themes relating to the key elements of MSP and collaborative planning are derived from the conceptual framework. Deductive coding was then performed on texts and interview transcripts. The theme ‘stakeholder participation’ was further coded according to process and outcome criteria drawn from a review of collaborative planning literature. Often segments of the texts or interview transcripts were allocated more than one code. Hard copies of documents were coded manually. Interview transcriptions were coded and inserted into a spreadsheet (Figure 2.1). The data were then compared across the different sources to enable the researcher to interpret the findings. Three different spreadsheets were created for each case study.

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1 CINMS CASE STUDY		
2 Source	Quote	Themes
3 CINMS interviewee # 1	We really didn't have a say in how the S/	Self or co-design of process
4 CINMS interviewee # 1	There's such different range of views at ti	Shared purpose
5 CINMS interviewee # 1	Who represents the public at large? Not	Representation
6 CINMS interviewee # 1	the SAC is the most politically stacked d/	Diversity
7 CINMS interviewee # 1	I couldn't produce those reports, they're	Equality
8 CINMS interviewee # 1	I use my newspaper column mainly, I'm v	Networked
9 CINMS interviewee # 1	We move around the table and see who	Constructive dialogue
10 CINMS interviewee # 1	The staff do a good job, they keep us inf	Effective process management
11 CINMS interviewee # 1	Show me one person who understands th	Ecosystem approach
12 CINMS interviewee # 1	Look at the MPA process, that was dela	MSP according to type of activ
13 CINMS interviewee # 1	Yeah we worked well together on the M/	New networks
14 CINMS interviewee # 1	We had meetings around the time of the /	New networks
15 CINMS interviewee # 1	There's a few of us working on the State	Better relationships
16 CINMS interviewee # 1	We made suggestions, made comments,	High quality agreement
17 CINMS interviewee # 1	We don't really do that anymore. We got	Consensus decision-making
18 CINMS interviewee # 1	We get scientists in talking about ocean	Learning
19 CINMS interviewee # 1	From my point of view it's been successful	Successful
20 CINMS interviewee # 1	I think the other memebers know more	Relationships
21 CINMS interviewee # 1	We wouldn't normally work together, so	Relationships
22 CINMS interviewee # 1	The SAC has a certain type of conservat	Relationships
23 CINMS interviewee # 1	They spent a long time gathering data for	Data and knowledge
24 CINMS interviewee # 1	Some conservationists on the SAC want	ICZM

Figure 2.1: Screen shot of interview coding

Chapter 3. Conceptual Framework

3.1 Introduction

This chapter critically examines the EC's principles of MSP. Marine ecosystem-based management (EBM) has incorporated many of the principles in various guises over time. Particular emphasis is paid to the principle of stakeholder participation as it is regarded as absolutely fundamental to successful outcomes (Pomeroy and Douvère, 2008; Dickinson *et al.*, 2010). In this regard, the need for deliberative planning practices in MSP is explored in detail after which a synthesis of collaborative planning theory is presented.

3.2 Ecosystem-based management

EBM is an integrated approach to natural resource management (NRM) which emerged from critical assessment of traditional resource management techniques. Traditional NRM methods had failed to manage resources sustainably. These methods were unsuccessful mainly because they focused solely on specific sectors and did not take account of the cumulative impacts that these activities had on the ecosystem as a whole (Guerry, 2005). Various marine sectors such as shipping, fisheries, tourism and coastal development, for example, were largely managed on a separate basis (Curtin and Prellezo, 2010). All of these activities exert a pressure on the ecosystem through, for example, eutrophication, pollution and habitat loss (Curtin and Prellezo, 2010). The sectoral management approach resulted in these impacts being viewed in isolation from one another and only understood in the context of the sector from which they emanated (Curtin and Prellezo, 2010). As understanding of ecosystem interconnectedness grew, it was recognised that the traditional segmented and disjointed management of the environment would not ensure the sustainable development of natural resources. This led to calls for a new holistic management method which would recognise the interconnected nature of ecosystems and resource users (Grumbine, 1994).

EBM emerged as a place-based approach to NRM largely in response to these criticisms. A place-based approach focuses on specific ecosystems and the various

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human activities impacting on them (McLeod *et al.*, 2005; Crowder and Norse, 2008). By adopting a place-based approach, EBM avoids the pitfall of attempting to manage each piece of an ecosystem until the whole is managed (Guerry, 2005). The place-based nature of EBM is in contrast to the single species or single issue approach adopted by the traditional sectoral approaches to NRM, including marine management. The place-based approach illuminates the cumulative stresses affecting a specific ecosystem and facilitates the integrated management of activities that give rise to these stresses. Furthermore, traditional NRM processes largely treated humans as exogenous to ecological systems. EBM not only encompasses ecological systems but explicitly incorporates the social system (Berkes and Folke, 1998).

Fundamentally, EBM is about recognising connections (Guerry, 2005) especially the inextricable linkages between ecological ecosystems and social systems (McLeod and Leslie, 2009). In essence, adopting an EBM approach conceptualises natural resource systems as consisting of coupled social-ecological systems (Berkes and Folke, 1998). Within coupled systems, individual resource users, social networks, and institutions are perpetually effected by and have an effect on ecological systems (Shackeroff *et al.*, 2009). By recognising the connections amongst resource users and between users and the ecological system, EBM allows for all stresses on an ecosystem to be taken into account when designing management strategies. While the idea of applying EBM to land management has been around since the early 1950s, interest in its applicability to marine management has only grown in the last two decades (Arkema *et al.*, 2006).

3.3 EBM of the marine environment

Marine EBM “involves recognizing and addressing interactions among different spatial and temporal scales, within and among ecological and social systems, and among stakeholder groups and communities interested in the health and stewardship of coastal and marine areas” (Leslie and McLeod, 2007, p.540). It “seeks to sustain the benefits of the ecological goods and services that the oceans provide to humans as well as all living organisms on the planet” (Ehler and Douvere, 2007, p.8). The OSPAR and HELCOM commissions have jointly defined marine EBM as “the comprehensive integrated management of human activities based on the best available scientific knowledge about the ecosystem and its dynamics, in order to

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identify and take action on influences which are critical to the health of marine ecosystems, thereby achieving sustainable use of goods and services and maintenance of ecosystem integrity” (OSPAR-HELCOM, 2003, p.1).

Adopting an ecosystem-based approach to marine management is advanced as one way of resolving the marine governance issues such as user conflict, degradation of fragile environments, accounting for cumulative impacts on the ecosystem, and fragmented governance (McLeod *et al.*, 2005; Crowder *et al.*, 2006). The sectoral approach to marine management has not adequately sustained coastal and ocean resources. Scientists report that ecological interactions are vital to the health and resilience of marine ecosystems (Leslie and McLeod, 2007). The traditional sector-by-sector approach is viewed as being an inadequate means of managing marine resources as it does not account for: a) interactions among ocean activities; b) cumulative impacts of these activities over space and time; c) the affect of activities on the delivery of ecosystem services; and d) explicit tradeoffs between activities (Halpern *et al.*, 2008). An ecosystem-based approach to marine management is viewed as a promising way of addressing these shortcomings.

Marine EBM has been incorporated into numerous international agreements and adopted by numerous national governments (Curtin and Prellezo, 2010). The 2002 *World Summit on Sustainable Development* called for the adoption of the ecosystem approach by 2010 in order to address the rapid decline of fish stocks (WSSD, 2002). The 1982 *Convention on the Conservation of Antarctic Marine Living Resources*, the 1992 *Convention on Protection of the Marine Environment of the Baltic Sea Area*, and the 1992 *Convention on the Protection of the Marine Environment in the North East Atlantic* all call for the application of EBM in the marine environment (Kidd *et al.*, 2011). In a European context, the need for marine EBM is recognised in EC’s Green Paper, *Towards a future Maritime Policy for the Union: A European Vision for the Oceans and Seas* (CEC, 2006). The Green Paper considers “ecosystem-based marine regional spatial planning as a tool to ensure investment decisions at sea and refers to licensing, promoting or placing restrictions on maritime activities” (Maes,

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2008, p. 809). Marine EBM has been adopted in Australia, Canada, Norway, the UK, and the US.

There is considerable debate about the efficacy of marine EBM and how it should be implemented (Kidd *et al.*, 2011). There is, for example, a lack of sufficient scientific understanding of marine ecosystems to enable the effective implementation of marine EBM (Wang, 2005; Frid *et al.*, 2006). Critics argue that the transition to EBM in policy and management spheres is out of step with scientific progress and the development of resource management tools (Smith *et al.*, 2007) and that, in effect, science needs to ‘catch up’ before EBM can be implemented effectively (Thrush and Dayton, 2010). Others argue that EBM is not about science or an extension of natural resource management tools, but that it is a fundamental reframing of how we interact with nature (Grumbine, 1994) and that it can be supported, for the most part, by existing biological, oceanographic, economic and social information appropriate to the issues being managed (Murawski, 2007). Although there may be insufficient data available to answer conclusively all questions relating to the impacts of particular management choices, “there usually is information to at least identify qualitatively the likely interactions among species and sectors and the directionality of particular human activities on biota and their social and economic impacts” (Murawski, 2007, p.684). EBM should therefore focus on analysing and understanding critical components and linkages (Mitchell, 1997). The extra resources and time required to analyse and understand the remaining elements is not proportional to the benefits that would accrue from these exercises, as many of them could not be effectively managed even if they were fully analysed and understood (Mitchell, 1997). Thus, EBM is less about managing the entire ecosystem, an unlikely and unwieldy proposition to begin with, and more about coordinated management of various human activities that impact on it.

Murawski (2007) argues that due its complexity, the implementation of EBM should be incremental. This proposition is open to question. Incrementally expanding an EBM initiative is likely to exacerbate problems associated with fragmented

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governance of the marine environment rather than overcome them. Scaling up localised EBM initiatives so as to incorporate larger areas may prove to be extremely difficult, as it may be necessary to include new stakeholders as the initiative expands. The addition of new stakeholders at this stage would require the reopening of dialogue regarding management objectives and other issues. Furthermore, institutions tend to be path dependant and once they gather momentum and thrust they can be extremely difficult to change (North, 1990).

Although there is broad acceptance of the need to adopt an ecosystem-based approach in the marine environment, there are still relatively few examples of the effective implementation of marine EBM worldwide (Tallis *et al.*, 2010). Until recently, the implementation of EBM in the marine environment has been primarily focused on fisheries management (Guerry, 2005) which does not account for the cumulative impacts of other marine sectors or resolve user conflicts. Furthermore, the potential range of conflicts has grown in recent years as new activities, such as aquaculture, wind farms and liquefied natural gas terminals are increasingly located offshore (Crowder *et al.*, 2006).

A review of marine EBM initiatives found that there was a disconnect between how EBM was conceptualised in the academic literature and how it was applied by NRM agencies and managers (Arkema *et al.*, 2006). The review found that marine EBM initiatives are inclined to overlook critical ecological and human factors emphasised in the academic literature (Arkema *et al.*, 2006). These inconsistencies may be due to a lack of a clear approach or toolset for the implementation of marine EBM (Arkema *et al.*, 2006). It is also argued that early initiatives overemphasised the ecological aspect of EBM to the detriment of the social and economic spheres (Curtin and Prellezo, 2010). With a growing appreciation for the need to include economic and societal objectives in EBM initiatives this is now being addressed in some areas (Garcia and Cochrane, 2005; Barnes and McFadden, 2008; Berghöfer *et al.*, 2008).

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While the ecosystem approach is conceptually appealing we must consider how it can be applied in real world settings to promptly solve resource management issues (Mitchell, 1997). Translating EBM theory into practice has proven to be problematic. An in-depth review of the application of the ecosystem approach revealed that despite its broad acceptance, EBM is still more of a concept than a practice (CBD, 2007). The implementation of marine EBM is extremely complex (CBD, 2007) and, until recently, there were no politically and administratively feasible tools for implementing EBM in the marine environment (Young *et al.*, 2007). EBM, as conceptualised in the academic literature, is said to be too broad and too abstract an idea to enable effective implementation by marine managers (Arkema *et al.*, 2006). Practical planning tools to implement EBM in the marine environment must be developed (Arkema *et al.*, 2006; CBD, 2007; Douvère, 2008). It is in this context that MSP is advanced as a practical tool for effective implementation of EBM of the marine environment (Crowder *et al.*, 2006; Ehler and Douvère, 2007; Young *et al.*, 2007; Douvère, 2008).

The uncertainty concerning what is meant by marine-based EBM and how it should be implemented were highlighted at the 2006 meeting of the *Open-ended Informal Consultative Process on the Oceans and the Law of the Sea* (Kidd *et al.*, 2011). The meeting concluded that there was a need to: clarify the concept and to develop a clearer understanding of its implications; encourage more active implementation of EBM in the marine environment; and share experiences and lessons learned from its implementation (Kidd *et al.*, 2011). The critical examination of MSP initiatives which employ an ecosystem approach can contribute to this debate and help develop best practice regarding its implementation.

3.4 Deploying MSP according to area and type of activity

In accordance with the principle of using MSP according to area and type of activity, management of the marine environment should be based on the size, density and character of planned or existing activities, their impacts, environmental vulnerability, and existing governance structures (CEC, 2008, 2010). The EC argues that spatial

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plans may not need to encompass entire marine areas, for example, an entire Exclusive Economic Zone (EEZ); and that different planning mechanisms may be employed depending on the intensity of human activity in an area and that area's vulnerability. It is envisaged that densely used or particularly vulnerable areas may require highly prescriptive spatial plans, whereas areas with low use density may only require general management principles. The decision to opt for a strict or more flexible approach should be subject to an evaluation process (CEC, 2008).

This recommendation is similar to an approach favoured by some MSP theorists who use the terrestrial terms *urban* and *rural* to differentiate between high and low density use areas respectively. *Urban* seas refer mainly to seas neighbouring built-up land areas, variously containing ports, shipping routes, naval bases, marine aggregate extraction, dumping zones, coastal and marine leisure industries, waste disposal, and conservation initiatives (Smith *et al.*, 2010). *Urban* seas lie within the territorial sea and are somewhat concentrated around key estuaries and firths beyond which lays vast *rural* seas with marine uses typically extending from fishing and fish farming, to offshore oil and gas fields, shipping lanes, military exercise areas, extensive coastal and marine conservation designations, and marine renewable energy generation (Smith *et al.*, 2010).

An approach to MSP that is too narrowly focused on intensely used marine areas ignores the fluid, interconnected nature of the marine environment and is at odds with implementing an ecosystem approach. Such an approach is more likely to exacerbate issues arising from the fragmented governance of the seas than resolve them (Flannery and Ó Cinnéide, 2011). In this respect an *urban/rural* divide is not fully compatible with an ecosystem-based approach and adds to difficulties in assessing environmental and socio-economic issues in a holistic fashion. While the *rural* sea may be less intensively used, it provides vital ecosystem services such as climate regulation and nutrient recycling. Focusing MSP efforts on *urban* seas may result in new development being pushed into less suitable and possibly more vulnerable areas. By concentrating on *urban* seas, there is a danger that development

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in *rural* seas will be project-led, rather than plan-led, resulting in the sub-optimal use of marine space and resources (Flannery and Ó Cinnéide, 2011). Furthermore, industries operating in the *rural* seas, such as oil and gas, eventually come ashore, often traversing *urban* seas in doing so. How and where these industries come ashore is an extremely pertinent question for MSP. This is of particular concern because marine renewable energy, a key driver of MSP in EU waters (Jay, 2010b) and one of the more foot-loose marine sectors, is predominantly located in *rural* seas. Failure to adequately include the renewable energy industries in marine spatial plans is likely to add uncertainty to the sector, fail to integrate it with the development of onshore electricity transmission and distribution infrastructure, and ultimately hinder its long-term development (Flannery and Ó Cinnéide, 2011). There may also be considerable difficulty marrying *urban* and *rural* plans at a later date. A piecemeal approach, with separate and largely independent plans for various parts, may serve to aggravate issues arising from the fragmented governance of this marine environment. To avoid this, MSP guidelines should encourage an approach which would see detailed local level plans for intensely used or vulnerable areas nested within larger area plans, with each having regard for regional and national level plans and policies (Flannery and Ó Cinnéide, 2011).

It may also be possible to use zoning to address issues relating to intensely used or vulnerable areas (Schaefer and Barale, 2011). Zoning is viewed as an essential tool for the coordination of different marine activities (Guerry, 2005; Curtin and Prellezo, 2010). It has been argued that as “all activities and their associated consequences (threats and benefits) are necessarily spatially explicit, managing the ocean spatially makes intuitive sense” (Halpern *et al.*, 2008, p.209). Although often associated with marine conservation, there is already a degree of zoning in the marine environment. These zones primarily refer to one marine sector. Examples of ‘sectoral zoning’ include shipping channels, traffic separation schemes, marine protected areas, aquaculture sites and disposal areas (Douvere, 2008). Zoning is considered to be an appropriate tool for the implementation of marine EBM as it can address the cumulative and interactive stressors on an ecosystem (Halpern *et al.*, 2008). Zoning can be used to designate areas for particular activities in densely used or vulnerable

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areas, and the definition of general management principles might suffice for areas with lower use density (Schaefer and Barale, 2011). To be effective, however, zoning needs to be applied to a broad area and the area must be managed as a whole rather than as a series of protected areas surrounded by a sea of unmanaged activities (Day, 2002). In effect, to be successful zoning must be applied as part of an overall plan for the marine area. For example, the Great Barrier Reef Marine Park employs a zoning system which sees ‘conservation zones’ surrounded by ‘buffer zones’, where some activities are permitted, beyond which lie ‘general use zones’ (Day, 2002). An approach to MSP which would see zoning employed within a broader area plan would be more aligned to the adoption of an ecosystem approach and could be applied through the nested approach described above.

When implementing marine EBM it is also necessary to address the multiple spatial and temporal scales at which social and ecological systems interact (Leslie and McLeod, 2007). Interactions at one level can affect the dynamics of interactions at other levels (Levin, 2006). For example, the international submarine cable industry may have a negative impact on a local scale inshore fishery and *vice versa* (Coffen-Smout and Herbert, 2000). Similarly, governance institutions operating in the same geographical area in the marine environment may have an effect on each other’s efficacy. This interplay may occur between institutions operating at the same level, (horizontal interplay) or different levels (vertical interplay) and may be positive or negative (Gehring and Oberthur, 2008). For example, Skjaereth (2006) demonstrates that positive interplay between the North Sea Conferences, OSPAR and the EU accelerated decision-making within the EU and has facilitated prompter implementation of International North Sea Conference Declarations. Thus, it is important to understand how the implementation of MSP will effect and be effected by other institutions. This will be made considerably easier if MSP is applied in a comprehensive rather than piecemeal fashion.

3.5 Objectives to guide MSP

As MSP is future orientated, it is critical that an overarching strategy or vision for the planning area is developed (Schaefer and Barale, 2011). The EC promotes the

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setting of strategic objectives for MSP at a regional or national level (CEC, 2008). These strategic objectives are then to be further defined by operational objectives. Strategic objectives are usually aspirational, while operational objectives are usually articulated in terms of measurable quantities (de la Mare, 2005). Aspirational objectives are “statements of philosophical principle, based on ethical and ideological criteria, including aesthetic, cultural and socio-economic values” (de la Mare, 2005, p.61). Operational objectives are “expressed in terms of measurable quantities so that they can be used in day to day management.” (de la Mare, 2005, p.61). In practice, operational objects are employed to achieve aspirational objectives (Arkema *et al.*, 2006).

However, a review of 49 marine EBM management plans found that they contained mainly aspirational objectives, with little or no attention given to measurable operational objectives (Arkema *et al.*, 2006). This indicates that there is a need, when implementing MSP, to understand how aspirational goals will be given practical effect through measurable operational objectives. Inclusion of measurable objectives prevents EBM initiatives from generating well-meaning but ultimately toothless plans. Use of SMART (Specific, Measurable, Achievable, Realistic, Time-limited) principles in designing objectives (Day, 2008; Douvere, 2008) and detailed action plans may help to overcome this problem.

3.6 Transparency of MSP processes

The need for MSP processes to be transparent and comprehensible to the public so as to enhance accountability and legitimacy is stressed by the EC (CEC, 2008). MSP processes should be easy for stakeholders, and the general public, to understand and follow (Schaefer and Barale, 2011). Ready availability of legible documentation and straightforward procedures are helpful in this regard (Schaefer and Barale, 2011). To ensure transparency, the decision-making process must be clear and decisions need to be communicated and justified to stakeholders (CEC, 2010). Transparency needs to be incorporated into all phases of the planning process. For example, it has been

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established that transparency in the participant selection procedure enhances the credibility and legitimacy of the planning process (National Research Council, 2009).

3.7 Coordination within Member States

MSP is expected to simplify and accelerate decision-making, licensing, and consenting procedures (CEC, 2010). In this respect the EC argues the benefits of a single administrative entity leading the MSP process, although it concedes that existing governance structures can achieve this objective and that new entities are not always necessary. Similarly, current governance frameworks are viewed as inhibiting the effective implementation of EBM (Tallis *et al.*, 2010). Due to the predominance of the sectoral approach many marine resource management agencies have overlapping and sometimes conflicting governance frameworks. This can be addressed through the integrated management of marine activities. Integrated management refers to “integrating the management of previously separate activities, for example oil exploration, fishing and mining, in a way that promotes conservation and the sustainable use of resources” (Curtin and Prellezo, 2010, p.826). Integrated management has been implemented in the marine environment mainly through two different management strategies: Integrated Coastal Zone Management (ICZM) and Integrated Ocean Management (IOM). ICZM is predominately concerned with the land-sea interface and with the management of coastal areas and usually operates at the sub-national level (Cicin-Sain *et al.*, 1998). IOM largely focuses on the use and management of ocean areas under national jurisdiction and is often concerned with the organisation of national agencies to address ocean management issues (Cicin-Sain *et al.*, 1998). The increased industrialisation of the marine environment and the growing recognition of the interconnectedness of marine ecosystems, have highlighted the deficiencies of this dual management system (Cicin-Sain *et al.*, 1998) resulting in EBM being viewed as a way of combining the management of coastal and ocean resources.

Adopting an integrated management approach requires NRM agencies to find the correct balance between a broad approach, where an agency has general knowledge

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across sectors, with the deep approach, where an agency has in-depth knowledge of one particular sector (Mitchell, 1997). Each approach has strengths and weaknesses and the challenge is to incorporate as many of the benefits of both while minimising their disadvantages (Mitchell, 1997). A broad institutional approach has the benefit of overcoming problems arising from the fragmented governance of natural resources and ecosystems (WCED, 1987). A narrower institutional approach allows an agency to develop in-depth knowledge of a sector and to build close relationships with organisations and individuals working in that sector. Mitchell (1997, p. 62) argues that it may make operational sense to proceed along narrow, sectoral lines as someone with a water problem “would find it much easier to find a water agency than to find one labelled as an ‘aquatic systems branch.’” He argues that “while conceptually we need to strive to build an ecosystem approach more explicitly into planning and management, it may be that organizational structures should be maintained along sectoral lines, as those are the ones most easily recognized by the public” (Mitchell, 1997, p. 62). This view underestimates the capacity of resource users to adapt and ignores the fact that interagency cooperation is one of the most difficult things to achieve when adopting an ecosystem approach. Mitchell (1997) also seems to overlook the need for agencies adopting an ecosystem approach to educate resource users on the benefits of adopting such an approach and to allow them time to develop the capacity to contribute meaningfully to the development of integrated management plans.

Integrated management contains many of the key concepts of marine EBM. These include recognition of the interconnectedness of terrestrial and marine areas, managing for the cumulative impacts, striving for sustainable development, use of the precautionary approach and engaging stakeholders in the planning process (Curtin and Prellezo, 2010). Integrated management is a more established management strategy than marine EBM or MSP, having been implemented widely over the last number of decades. Due to their commonalities, the critical examination of experiences with integrated management can help inform the implementation of marine EBM and MSP (Curtin and Prellezo, 2010).

3.8 Cross-border cooperation and consultation

Cross-border cooperation is crucial to ensure the harmonisation of plans across transboundary ecosystems (CEC, 2008). As all European seas and oceans are shared by several Member States and third countries, early communication, consultation and cooperation with neighbouring states is considered to be a vital component of MSP in European waters (CEC, 2010; Schaefer and Barale, 2011). Such cooperation may be facilitated by regional seas conventions such as OSPAR and HELCOM. Cross-border cooperation and consultation will improve the transfer of MSP knowhow and raise the overall quality of MSP processes. Cross-border cooperation entails the development of a shared vision based on common interests, such as an offshore energy grids, fisheries, and shipping, amongst neighbouring states (Schaefer and Barale, 2011). While this may be necessary to improve the coordination of transboundary activities, careful consideration must be given to how this supra-national visioning exercise is integrated with national and sub-national objectives.

3.9 Coherence between terrestrial and maritime spatial planning

The EC argues a need for cooperation between marine and terrestrial planning processes so as to achieve consistency in the coastal zone (CEC, 2008). Marine and terrestrial spatial planning need to be coordinated as impacts on marine ecosystems from terrestrial based activities, such as agriculture and coastal development, are relevant in the context of implementing an ecosystem-based approach. Furthermore, many offshore developments, such as wind farms, pipelines and subsea cables, require land connections (Schaefer and Barale, 2011). This coordination can be facilitated through ICZM processes (CEC, 2008). Integrating terrestrial and marine planning is difficult due to their different legal and institutional frameworks, often with little or no coordination between the two (Schaefer and Barale, 2011).

Therefore, it is important that procedures for the regular exchange of information between actors in both arenas are established. This may require regular coordination meetings between government departments and agencies, and the development of ICZM participation mechanisms that are inclusive of both land-based and marine-based stakeholders (Schaefer and Barale, 2011).

3.10 A strong data and knowledge base

Up-to-date and accurate environmental and socio-economic data and scientific knowledge are fundamental to effective MSP (CEC, 2008). Although there is often a dearth of useable data relating to specific parts of the marine environment or ecosystem, this should not be used as a justification to delay the implementation of MSP (Schaefer and Barale, 2011). MSP initiatives which lack the necessary data should adopt a precautionary approach and should be sufficiently adaptive to react to changes and new information (Day, 2008; Douvere and Ehler, 2009b). Because of inherent uncertainty associated with the marine environment, implementation of EBM and MSP generally should be undertaken in accordance with the precautionary principle and through adaptive management (Ehler and Douvere, 2009; Curtin and Prellezo, 2010). The scientific consensus statement on marine EBM states that “levels of precaution should be proportional to the amount of information available such that the less that is known about a system, the more precautionary management decisions should be” (McLeod *et al.*, 2005, p.4). The precautionary principle was borne out of the recognition of the need to build foresight into planning and decision-making procedures. The concept originated in Germany but was soon included in international agreements, particularly those relating to marine pollution (Mitchell, 1997). The precautionary principle is described in the 1992 *Rio Declaration Environment and Development* as an approach which directs that “where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation” (UNCED, 1992b online). The precautionary principle was incorporated by the EU in the Maastricht Treaty as both a legal obligation and a required objective for environmental policy (De Santo, 2010).

The precautionary principle seeks to ensure “that a substance or activity posing a threat to the environment is prevented from adversely affecting the environment, even if there is no conclusive scientific proof linking that particular substance or activity to environmental damage” (Cameron and Abouchar, 1991, p. 2). It is a guiding principle which encourages decision-makers to consider the likely harmful effects of proposed activities. As it is a guiding principle it is open to interpretation and has been implemented in a number of different ways. Young (1993; cited in

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Mitchell, 1997) suggests three possible interpretations of the precautionary principle: a conservative interpretation, a liberal interpretation and a relatively weak interpretation. A conservative interpretation only allows the approval of activities which pose no danger to the ecological system or does not reduce ecological quality, and are spatially confined within boundaries which would enable complete reversibility (Young, 1993; cited in Mitchell, 1997). A liberal interpretation requires 'risky' uses of the environment which are considered to employ the best available technology and to operate within a precautionary safety margin. Finally, a weak interpretation of the precautionary principle requires uses to employ the best available technology that does not involve prohibitive expenses (Young, 1993; cited in Mitchell, 1997). It is argued that the flexibility of the precautionary principle means that it can be custom-designed to meet local needs, conditions and circumstances (Mitchell, 1997). However, this begs the questions: who defines the approach to be pursued and how can one ensure that it is not adapted to serve vested interests?

An adaptive approach allows for management strategies to be evaluated, to learn from their success or failure, and for these lessons to be incorporated into future strategies (Lee, 1993). An adaptive approach to MSP requires regular monitoring and evaluation mechanisms. These should enable marine managers to assess the extent to which spatial and temporal measures of the spatial plan are culminating in anticipated outcomes and to respond accordingly (Douvere and Ehler, 2010). Adaptive management is viewed as a key element of implementing an ecosystem-based approach and is one of the main ways in which EBM differs from traditional management approaches (Curtin and Prellezo, 2010). "One key issue for design and evaluation of policies is how to cope with the uncertain" (Holling, 1978, p. 7). It has been argued that we have always lived with uncertainty and that the traditional way of dealing with the unknown has been through trial and error (Holling, 1978). Errors and failures provide new knowledge and understanding of the unknown and so long as this new knowledge is incorporated into future decision-making, it increases our capability to deal with resource management issues (Holling, 1978). Adaptive management takes into consideration uncertainties in the knowledge available

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regarding how an ecosystem functions and enables the inclusion of new knowledge as it is produced (Curtin and Prellezo, 2010).

Lee (1993) argues that we should view NRM policies as experiments and that implementing an adaptive management approach requires that learning from failures are incorporated into future initiatives and policies. Three conditions must be met if the experimental approach is to work as a management strategy: the experiment must not destroy the experimenter, the experiment should be reversible, and the experimenter must be willing to start again (Mitchell, 1997). Thus, an adaptive approach should be designed to test hypotheses about the influence human uses will have on an ecosystem (Lee, 1993). This approach assumes that there is a willingness to learn from policy failures and that NRM agencies have the capacity and resources to undertake extensive evaluations (Mitchell, 1997). Organisations vary in their capacity to learn from mistakes (Mitchell, 1997) while it also may not be politically prudent for an agency to highlight failures of policies designed at governmental level. Furthermore, initiatives may also fail due to poor implementation rather than due to any inherent flaw in the policy. To avoid making this type of error, resource agencies also need to evaluate implementation strategies. Finally, understanding how any one policy impacts on a resource is increasingly difficult in the marine environment as a number of parallel policies may have direct and indirect impacts on components of an ecosystem.

3.11 Monitoring and evaluation in the planning process

It is vitally important that an evaluation of current and planned future activities, and their interactions, is undertaken at the beginning of any MSP process (Schaefer and Barale, 2011). It may be possible to link these assessments with the implementation of the MSFD. Monitoring and evaluation needs to cover socio-economic, environmental and governance objectives, with appropriate criteria and indicators being defined early in the MSP process so as to measure the cumulative impacts of these activities in the planning area (CEC, 2010). Experiences of early MSP initiatives indicate a tendency to focus on the initial phases of the process, for example, objective setting and data collection, with considerably less attention being

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paid to monitoring and evaluation (Schaefer and Barale, 2011). As MSP is implemented to achieve a range of social, economic, and ecological objectives, a range of indicators from these three spheres are needed to measure the performance of the plan (Douvere and Ehler, 2010). Ecological and socio-economic objectives may take a considerable length of time to achieve, so it is important to measure short-term performance of MSP initiatives through the development of an appropriate set of governance indicators to demonstrate progress (Ehler, 2003). Governance indicators should illustrate interim accomplishments which eventually lead to the achievement of ecological and socio-economic objectives. They can include, *inter alia*, level of stakeholder satisfaction, streamlined permitting procedures, and improved interdepartmental integration (Douvere and Ehler, 2010).

The experiences of early MSP initiatives in transitioning from the objective setting phase into implementation and monitoring reflects a common problem in NRM and environmental planning in general. There is often difficulty moving from the normative and strategic planning phases to operational planning and plan implementation (Mitchell, 1997). Without implementation strategies, policies and planning decisions made at normative and strategic levels become little more than good intentions. It is often assumed that implementation will logically follow an effectively designed plan or policy (Mitchell, 1997). However, resource users, managers and bureaucracies are often resistant to change. If the *status quo* is to be challenged, implementation strategies must be discussed early in the planning process and not appended to completed plans as afterthoughts.

It is vitally important that an understanding of what successful implementation implies, of the important obstacles that must be overcome, and of the best implementation framework to be employed, is developed early in the process if implementation failure is to be avoided (Weale, 1992). There are numerous factors which can impede implementation, including: resolvability of the problem to be addressed; lack of clear objectives and goals; insufficient resources and information; and incorrect assumptions regarding cause-effect relationships (Mitchell, 1997). For

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the most part these obstacles can be addressed by adopting good planning practices and, in the case of MSP, by following the basic principles of EBM. However, a lack of commitment is cited as one of the major impediments to effective implementation (Mitchell, 1997). This includes a lack of commitment by politicians and resource management agencies to implement specific policies or plans and may not be simply rectified through recourse to good planning practice. There can be many reasons for this lack of commitment, including self-interest, higher priorities, disillusionment with bureaucratic routine and lack of leadership. “If existing interests and institutional inertia are to be overcome, then considerable thought and time must be devoted to the implementation component of resource and environmental management” (Mitchell, 1997, p. 259). Also, although a government may be sincere about tackling marine biodiversity loss, it may be more concerned with the creation of jobs and economic security. This may be addressed by linking the implementation of MSP to the three pillars of sustainable development and by including explicit socio-economic objectives in the resulting plans.

3.12 Ensuring legal effect

The EC argues that if MSP is to be effective it needs to be based on legally binding frameworks (CEC, 2008). Legislation should establish the authority to undertake MSP, explain why MSP is being implemented and outline what is to be achieved (Ehler and Douvère, 2009). Current MSP practices in EU Member States indicate that different tools can be used to affect a legally binding process (Schaefer and Barale, 2011). For example, some states have adopted the use of legally binding project level targets (e.g. for wind farm development) whereas others have established a legal obligation to consider certain planning principles and guidelines in the decision process (Schaefer and Barale, 2011). The legal framework should provide for inter-institutional cooperation, make administrative competencies clear, contain no equivocation as to who is bound by the plan and precisely describe who is to be held accountable for its implementation and enforcement (CEC, 2010; Schaefer and Barale, 2011). The framework needs to operate in accordance with international law and it is preferable if an EEZ is established as it makes a marine spatial plan easier to enforce (CEC, 2010).

3.13 Stakeholder participation

3.13.1 The importance of stakeholder participation

Implementing marine EBM requires stakeholders to recognise their interconnectedness and their cumulative impacts on the environment (Shackeroff *et al.*, 2009). Stakeholder participation is therefore viewed as a key principle of MSP (Ehler and Douvère, 2007; Young *et al.*, 2007; Flannery and Ó Cinnéide, 2008; Pomeroy and Douvère, 2008; Dickinson *et al.*, 2010; Ritchie and Ellis, 2010). It is central to effective MSP, as implementing EBM is not about managing ecosystems, *per se*, but is essentially concerned with managing human activities that have an impact on them (Kidd *et al.*, 2011). Stakeholder participation is a mechanism through which the concerns, needs and values of those with a stake in the future of particular ecosystems are incorporated into the planning process. Stakeholder participation in MSP is vital in order to minimise user conflict and the cumulative negative effects users may have on the environment (Douvère and Ehler, 2009a). Other benefits of involving stakeholders in MSP include: facilitating better understanding of the ecosystem and the influence of various stakeholders on it; identifying interactions between different stakeholders and their cumulative impacts; building trust, enhancing the legitimacy and acceptance of plans; and increasing the likelihood of plan implementation (Ehler and Douvère, 2007; Pomeroy and Douvère, 2008).

In the guiding principles, the EC views stakeholder participation as a source of knowledge that can improve MSP. The identification and inclusion of relevant stakeholders at an early stage in the planning process is regarded as vital to the timely identification of potential conflicts and synergies between stakeholders (CEC, 2010). Although substantial stakeholder participation prolongs the planning process, this delay is balanced by a prompter implementation phase due to an increased sense of ownership of planned initiatives amongst stakeholders resulting from their involvement in the process (CEC, 2010). Early engagement of all relevant stakeholders, including those in the adjacent coastal regions, is vital in order to clarify goals and benefits, and to achieve broad acceptance, ownership and support for the implementation of plans (Schaefer and Barale, 2011).

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This raises questions regarding the appropriate administrative level and scale for MSP, as institutional frameworks employed in terrestrial planning may not be appropriate for MSP (Schaefer and Barale, 2011). For example, the MSP framework in the UK, created by the *Marine and Coastal Act 2009*, has been likened to its regional planning processes, more so than the local spatial planning processes employed in terrestrial planning (Ritchie and Ellis, 2010). Planning at this scale and level will have a knock-on effect on participation processes employed in MSP. Participation in regional planning “tends to be less of a public exercise that involves a huge variety of individuals with a myriad of values and views, but generally involves fewer 'stakeholders' who may be representing certain social, economic or environmental interests” (Ritchie and Ellis, 2010, p.708). However, regional participatory processes employed in terrestrial planning in the UK have been criticised for being exclusionary and for reinforcing the *status quo* (Pattison, 2001). Although Ritchie and Ellis (2010) accept that the experience of terrestrial regional planning provides a useful starting point, they call for the development of participatory models and governance frameworks specific to MSP.

Adopting an ecosystem-based approach to managing marine resources is “concerned with the cumulative impacts of human activities on the potential of marine ecosystems to provide the suite of services that we need and want” (Halpern *et al.*, 2008, p.205). Setting goals and objectives for marine EBM is then a matter of societal choice. Thus, facilitating dialogue among marine stakeholders is vital as it requires stakeholders to formulate a common vision and mutually agreeable goals and objectives (Leslie and McLeod, 2007). It is therefore important to utilise participation mechanisms which encourage dialogue and interaction between stakeholder groups, rather than just between policymakers and stakeholders, and that the roles and responsibilities of participants are understood from the beginning (Schaefer and Barale, 2011). Creating the institutional space for this dialogue is difficult, but it is not an insurmountable challenge (Leslie and McLeod, 2007). The resulting dialogue is likely to be rife with tension as stakeholders with conflicting views and values engage in dialogue to create a common vision. This tension is

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essential to constructing a vision that is acceptable to all the stakeholders (Leslie and McLeod, 2007).

In contrast to the traditional system of NRM, which often involves disjointed policymaking and planning, EBM is specifically concerned with bringing all stakeholders and regulators together to devise a single, integrated plan for specified areas (Layzer, 2008). The EC's principle acknowledges the importance of fostering interaction between stakeholder groups and emphasises the need for open debate between different marine sectors and not just between policy-makers (CEC, 2008, 2010). This hints at a more deliberative form of stakeholder participation than that advanced by the MSFD. Ritchie and Ellis (2010, p.718) also conclude that there is a need for deliberative participation in MSP "to mediate the different forms of knowledge and conflicts of interest that emerge from the process." The following section critically examines participation in NRM, deliberative participation and collaborative planning. Process and outcome criteria relating to effective collaborative planning are then explored.

3.13.2 Participatory planning

Public participation in planning entails procedures which are designed to consult, involve, and inform stakeholders so as to enable those affected by a decision to have an input into that decision (Smith, 1993). Participatory initiatives vary in the level of participation employed and in the degree to which control is devolved to the public. According to Arnstein (1969) a participatory approach essentially entails the redistribution of power from government agencies to the public. She argues that different degrees of participation are apparent, ranging from measures that effectively amount to non-participation, through tokenism, to citizen control. Arnstein (1969, p. 13) argues that the real objective of participatory initiatives, which she categorises as 'manipulation' and 'therapy', is not to enable stakeholders to participate in planning but to "enable powerholders to 'educate' and 'cure' the participants." The next rungs of her participation ladder, 'informing', 'consultation' and 'placation', describe degrees of tokenistic participation. At this level, stakeholders voices may be 'heard' but they lack the power to ensure that they will

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be 'heeded' (Arnstein, 1969). The top three rungs of the ladder, 'partnership', 'delegated power' and 'citizen control', represent progressively increasing degrees of citizen power and decision-making capacity, that enable non-traditional decision-makers to negotiate with traditional power holders and acquire managerial power.

Ozbekham (1969) describes the planning process as consisting of three levels: normative, strategic and operational. At the normative level the desired ends and ideals are defined and decisions are made about what ought to be done (Smith, 1982). At the strategic level decisions are made about what can be done and the means to achieve stated goals and objectives are selected (Smith, 1982). At the operational level decisions are made about what is to be done and plans are implemented (Smith, 1982). Although decision-making occurs at all three levels, public participation in the planning process is often confined to the operational level, as a result of which it is often tokenistic or cosmetic, as key planning decisions are taken before the operational period begins (Mitchell, 1997). In the absence of early public engagement, participation in the operational phase often expands beyond its remit, which results in protracted debates over a variety of non-operational issues, excessive costs and delays (Smith, 1982). Proponents of participatory planning argue a need to move toward methods which incorporate participation during all phases of the planning process in order to fully realise its potential (Healey, 1998; Conley and Moote, 2003; Innes and Booher, 2004).

3.13.3 Deliberative participation

Historically, NRM and environmental planning focused on the use of public participation as a method to improve decision-making with respect to outcomes and often overlooked broader benefits that may be fostered through participatory planning processes (Parkins and Mitchell, 2005). Many different forms of participation are associated with NRM and the form employed greatly determines the quality of input from stakeholders, and associated beneficial outcomes. Some established modes of public participation, such as public hearings, and review and comment procedures, have been criticised for enabling NRM agencies to comply with legal requirements for participation without allowing for significant and meaningful input from the public (Cortner and Moote, 1998; Wondolleck and Yaffee,

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2000; Innes and Booher, 2004). These mechanisms do not allow for two-way dialogue and do not promote deliberation amongst participants, encouraging them to focus solely on their own narrow objectives. The adoption of deliberative and communicative participation mechanisms has been advanced as a way of addressing these issues (Innes, 1996; Cortner and Moote, 1998; Healey, 2000; Wondolleck and Yaffee, 2000).

Deliberative participation creates spaces where participants “can discuss and debate common concerns, access a wide range of information, and reflect and revise their understanding of issues” (Parkins and Mitchell, 2005, p. 530). In a deliberative process participants “exchange opinions and viewpoints, weigh and balance arguments, and offer reflections and associations” (van de Kerkhof, 2006, p. 282). They are premised on the idea that all stakeholders’ perspectives are valid and worthy of respect (Stoll-Kleemann and Welp, 2006). Stakeholders come to recognise their interdependency, query how they want to live together and formulate actions to create this collective vision (Oels, 2006). By facilitating deliberation rather than negotiation, these processes allow stakeholders to reflect upon their interactions with one another and the environment (Stoll-Kleemann and Welp, 2006). Deliberative approaches to planning have been theorised and applied through a number of different approaches including collaborative planning (Healey, 1998; Healey, 2000) deliberative planning (Forester, 1989) and consensus-building (Innes, 1996).

3.13.4 Collaborative planning

This discussion focuses on collaborative planning, as it is the most commonly applied form of deliberative planning, especially in NRM, but much of the discussion and critique is applicable to all forms of deliberative practice.

Collaborative planning is a way by which communities collectively organise to improve the quality of their places (Healey, 2000). It is considered to be an emerging mode of governance which facilitates adaptive and creative policymaking (Innes and Booher, 2004). Its proponents contend that all stakeholders are treated equally within a collaborative planning process (Innes and Booher, 2004). Collaborative planning

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affords participants new opportunities to renegotiate power structures (Ghose, 2005). Through stakeholder dialogue, collaborative initiatives seek to address the interests of all stakeholders and present both the conceptual space and time for these to be explored (Healey, 2000; Innes and Booher, 2004). Collaborative planning initiatives differ from other forms of participatory planning as stakeholder dialogue is one of its central tenets (Healey, 2000; Innes and Booher, 2003). Although collaborative planning is a method of improving decision-making, its proponents stress that immediate outcomes derived from the planning process itself, such as dialogue and trust, are just as valuable as the ultimate planning decision (Connick and Innes, 2003).

The devolution of plan development and implementation to stakeholders is a major divergence from traditional NRM planning (Wondolleck and Yaffee, 2000; Gunton and Day, 2003; Mason, 2007). By fostering dialogue, collaborative planning is viewed as superior to conventional, traditional, largely top-down planning methods (Healey, 2000; Innes and Booher, 2003, 2004). Advocates of collaborative planning argue that it is more likely to resolve conflict than traditional NRM planning methods (Wondolleck and Yaffee, 2000). It is advanced as a method for reducing conflict between stakeholders as it presents repeated opportunities for face-to-face contact between traditional adversaries (Innes and Booher, 2004). Collaborative planning advocates also contend that the overall management of a natural resource can be improved by integrating local knowledge into the planning procedure (Beierle and Konisky, 2000; Berkes *et al.*, 2000; Beierle and Cayford, 2002; Pound *et al.*, 2003). Through extensive and intimate interaction with the resource, local stakeholders acquire considerable knowledge of how it behaves under different conditions (Berkes, 1999; Brunner *et al.*, 2005). Incorporating this knowledge into the planning process enhances the quality of decision-making and also makes the process more adaptive to changes in the conditions of the resource (Berkes *et al.*, 2000).

3.13.5 Collaborative planning process criteria

Collaborative planning is advanced as a multi-stakeholder communicative and interactive process of place-making (Healey, 1998) with a number of attendant criteria that must be met in order to build a successful process. The planning process should be designed by, or at the very least in conjunction with stakeholders (Innes and Booher, 1999; Frame *et al.*, 2004; National Research Council, 2009). This allows stakeholders to play a purposeful role in framing the planning problem, in discussing what sort of process is practical and implementable, and in formulating the ground rules, objectives, and tasks for the process (Innes and Booher, 1999; Conley and Moote, 2003; National Research Council, 2009). This means potential participants should be included in the process as early as possible (National Research Council, 2009). The planning process must also strive to include all stakeholders who are, or could be, affected by the planning issue (Chrislip and Larson, 1994; Healey, 1998). Exclusion or under-representation of some stakeholders undermines the legitimacy of the process and its outcomes. The inclusion of a diverse range of interests, ideas, knowledge and values in the planning process helps to create innovative and novel solutions to shared problems (Healey *et al.*, 2003). An inclusive framework, however, does not necessarily guarantee broad participation as stakeholders also must have an incentive to participate. Participants generally become involved if they understand that their interests are in some way interdependent on the actions of other participants in the planning process (Logsdon, 1991; Wood and Gray, 1991; Booher and Innes, 2002). Interdependency implies that participants in the collaborative initiative require something from other members as they cannot achieve their goals unilaterally (Booher and Innes, 2002). Most importantly, participants must legitimately represent the groups for which they speak and express concerns relevant to these groups (Yaffee *et al.*, 1996). To meet these conditions, only recognised stakeholder representatives should be allowed to engage in the dialogue and regular consultation with their constituents is required (Gray, 1985).

For collaboration to occur among different stakeholder groups the dialogue must be 'authentic' (Innes and Booher, 1999). There are a number of prerequisites, derived in

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large measure from Habermas's (1985) theory of communicative rationality, which enable authentic dialogue (Innes and Booher, 2003). Representatives must speak sincerely and make accurate and comprehensible statements (Innes and Booher, 2003). The sincerity of the statements is something other participants can judge, aided by a good facilitator who ensures that statements are comprehensible and accurate (Innes and Booher, 2003). Collaborative planning processes also should be accessible, transparent and accountable to stakeholders (Conley and Moote, 2003; Frame *et al.*, 2004; National Research Council, 2009). Initiatives should be adaptive, flexible and creative processes, and should incorporate high-quality information into the decision-making process (Innes and Booher, 1999; Frame *et al.*, 2004; Oels, 2006). Ideally, decision-making should be on a consensual basis (Innes and Booher, 1999) though other forms are possible (van de Kerkhof, 2006). Finally, theorists contend that the planning process must be managed effectively and in a neutral fashion (Frame *et al.*, 2004).

3.13.6 Collaborative planning outcome criteria

Planning theorists outline a number of outcomes which should accrue from an effective collaborative planning process. Above all, a collaborative planning process should result in a high quality agreement (Innes and Booher, 1999; Frame *et al.*, 2004) with a commitment by all participants to its implementation (Frame *et al.*, 2004; National Research Council, 2009). Collaborative planning exponents argue that by engaging all stakeholders in the planning process support for the final decision is enhanced (Innes and Booher, 2004) and this, in turn, increases the likelihood of successful plan implementation (Forester, 1999; Innes and Booher, 1999). Face-to-face interaction enables participants to discover shared values, to build trust and respect for one another and to form reciprocal relationships (Axelrod and Hamilton, 1981; Susskind and Cruikshank, 1987; Innes and Booher, 1999). In building trust, participatory initiatives designed to support collaborative planning, promote the development of imaginative solutions to management issues and help avoid win/loss outcomes (Dryzek, 1994; Innes, 1996; Wondolleck and Yaffee, 2000; Cullen *et al.*, 2010).

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Collaborative planning should also facilitate the flow of knowledge, social and political capital through these networks, increasing institutional capacity (Healey *et al.*, 2003). As participants in collaborative initiatives interact and engage in authentic dialogue they learn from one another and create new knowledge (Innes and Booher, 1999). In this way, innovative solutions to problems as well as changed attitudes and practices emerge (Frame *et al.*, 2004). Social learning means that participants may learn and adopt new work practices. For example, as participants gain an understanding of collaborative planning, they may adopt similar approaches in other settings. Lead agencies learn from their experience and develop enhanced capabilities to undertake further collaborative planning processes (Frame *et al.*, 2004). The collaborative planning process and outcome criteria employed in this study are presented in Table 3.1.

Table 3.1: Criteria used to evaluate stakeholder participation

Process Criteria	Self or co-design of process Shared purpose Interdependency Representation <ul style="list-style-type: none"> - Diverse and inclusive - Equality - Legitimacy - Networked Deliberative decision-making Constructive dialogue Effective process management <ul style="list-style-type: none"> - Flexible, adaptive and creative process - Accessible, accountable and transparent process - Understanding of what can be implemented - High-quality information - Facilitation
Outcome Criteria	High quality agreement <ul style="list-style-type: none"> - Implementation of agreement - Perceived as a successful Reciprocal relationships <ul style="list-style-type: none"> - New networks - New institutions Network power Increased institutional capacity Learning <ul style="list-style-type: none"> - Changes in attitudes and practices

3.14 Critiques of collaborative planning

Some theorists are sceptical about the benefits of collaborative planning, particularly as it relates to NRM (Coggins, 1998; McClosky, 1998; Coglianesi, 1999). Critics assert that collaborative planning initiatives often have inconsequential impacts on the environmental problem they seek to resolve. They argue that collaborative planning debilitates efforts aimed at finding long-term solutions to environmental and resource problems (Layzer, 2008). Critics claim that in order to obtain consensus, collaborative planning initiatives marginalise stakeholders with extreme views, circumvent contentious issues, focus on the most resolvable issues, and avoid imposing restrictions on participating stakeholders (Layzer, 2008). As a result of this, they argue collaborative planning concentrates on finding the lowest common denominator rather than the optimal solution (Beierle and Cayford, 2002; Peterson *et al.*, 2005). Some theorists perceive collaborative planning as a tool for limiting citizen resistance to manageable arenas, wherein resistance is eroded and power relations are unchallenged (Atkinson, 1999). Collaborative planning does not necessarily ensure that plans are grounded in the best available science nor does it translate into a willingness to implement environmentally protective policies (Layzer, 2008). It also may exacerbate inequalities and favour dominant groups in society (Kenney, 2000). Environmental groups, argue that local industries are able to commandeer the planning process, while industrial groups argue the opposite is true (Conley and Moote, 2003). Stakeholders who participate in failed collaborative initiatives question the worth of the resources they expended on it (Conley and Moote, 2003).

Some argue that collaborative planning allows processes to be captured by powerful groups due to inadequate and unequal representation and resources (Kenney, 2000). It has been argued that collaborative planning processes exacerbate inequalities and tend to favour powerful local interests (Flyvberg, 1998). Rather than challenging the *status quo*, collaborative planning processes may allow influential, vested interests cement their powerful positions in society. The assumption that collaborative planning processes would allow for the redistribution of power has been criticised for insufficiently addressing the political and social realities associated with them

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(Murray and Murtagh, 2004). Collaborative planning proponents have been criticised for overstating the inclusiveness and collaborative nature of these processes (Phelps and Teweder-Jones, 2000; McGuirk, 2001; Ellis, 2004) and for under-theorising the role broad power structures play in shaping them (Yiftachel, 2001). The capacity of collaborative planning to meaningfully challenge the *status quo* has been questioned, given that power and access to capital, expertise and other resources are unequally distributed in society (Hopkins, 2010). Similarly, collaborative planning has been critiqued for its over-emphasis on the capacity of individual agency (Fainstein, 1995; Feldman 1995, 1997; Lauria and Whelan, 1995).

Many of these criticisms focus solely on the outputs of collaborative planning initiatives and their immediate effect on environmental quality. By focusing solely on outputs, critics often overlook social outcomes which these initiatives produce. A recent analysis of collaborative EBM initiatives, that evaluated some social outcomes, reported a tendency to avoid contentious issues or to use vague language to mask differences, often leading to difficulties during the plan implementation stage (Layzer, 2008). Furthermore, trust created between stakeholders in these initiatives was found to be temporary and fragile (Layzer, 2008). Little evidence of collaborative planning leading to novel solutions was apparent and where innovative solutions were employed, it was as a means to overcome a bargaining impasse rather than as a solution to an environmental problem (Layzer, 2008). Further critical examination of collaborative planning initiatives is regarded as vital to the advancement of both theory and practice (Innes and Booher, 2010). Evaluating collaborative planning initiatives informs our understanding of its limitations and potentials. Assessments of collaborative planning should not be confined to the evaluation of final outcomes; the processes by which these outcomes are produced also need to be examined (Innes and Booher, 1999).

Chapter 4. Examining Marine Spatial Planning in Practice: Three Case Studies

4.1 Introduction

The three case studies described earlier are presented in this chapter. These are: The Channel Islands National Marine Sanctuary (CINMS); The Scottish Sustainable Marine Environment Initiative (SSMEI) Clyde Pilot Project; and The Eastern Scotian Shelf Integrated Management (ESSIM) initiative. Each case study includes a brief overview of the initiative and the policy and legislative framework within which it functions. Findings in relation to the EC guiding principle are presented in the case of each case study. Particular attention is paid to the principles of stakeholder participation. Each case study concludes with a discussion of findings and lessons for MSP initiatives.

4.2 The Channel Islands National Marine Sanctuary

The CINMS has been highlighted as an example of a marine EBM initiative (Douvere, 2008) which incorporates extensive stakeholder participation in its planning process (Arkema *et al.*, 2006; Flannery and Ó Cinnéide, in press). The CINMS falls into the broad category of *MSP for nature protection* in Douvère and Elher's (2009a) typology of MSP initiatives. First, the policy and legislative context of the CINMS is outlined. This is followed by an overview of the CINMS management and planning processes. The findings of the evaluation and some initial reflections on the CINMS are then presented.

4.2.1 Policy and legislative context

In 2010, the United States Interagency Ocean Policy Taskforce recommended that an ecosystem approach to marine management be implemented. It also recommended that new regional MSP bodies should establish formal mechanisms for regular stakeholder dialogue for the effective implementation of this approach (United States Interagency Ocean Policy Taskforce, 2010). An ecosystem approach is, however, already being pursued within current US legislative frameworks and some of the initiatives have adopted participatory approaches (Murawski, 2007). In this regard,

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The National Marine Sanctuary Program (NMSP) is a particularly relevant example as it has recently adopted an ecosystem approach (Flannery and Ó Cinnéide, in press). The NMSP was established in 1972 through The Marine Protection, Research and Sanctuaries Act (MPRSA) (US, 1972). The Act seeks to protect selected marine areas while permitting compatible recreational and commercial activities (Bunce *et al.*, 1994). The Act targets nationally significant areas exhibiting unique ecological, historical, educational, recreational, scientific, archaeological or aesthetic qualities and needing permanent protection (Department of Commerce, 2008). To date, 13 sanctuaries have been established under this Act. The NMSP is overseen by the National Oceanic and Atmospheric Administration (NOAA) Ocean Service, Office of National Marine Sanctuaries (ONMS) which manages the sanctuaries “by working cooperatively with the public” (Department of Commerce, 2008, p.3).

A number of laws and court rulings have clarified the complex governance of the Channel Islands marine environment. The Federal Submerged Lands Act of 1953 “granted ownership of lands and natural resources from the mean high tide line to three nautical miles (nmi) offshore to coastal states” (Department of Commerce, 2008, p.46) enabling them to control and regulate the development of resources such as oil and gas and fisheries within three nmi (Department of Commerce, 2008). The Outer Continental Shelf Lands Act of 1953 “established federal jurisdiction over the resources beyond three nmi and created a legal framework within which to manage those resources” (Department of Commerce, 2008, p.46). The Channel Islands are more than three nmi from the mainland and the governance of their marine environment was disputed until a 1965 US Supreme Court ruling established that the state of California has jurisdiction to three nmi offshore from each of the Islands and that federal jurisdiction extends from the three nmi limit (Department of Commerce, 2008).

4.2.2 Channel Islands National Marine Sanctuary overview

The CINMS was designated in 1980 and comprises approximately 1110 square nmi off the coast of Southern California. It contains a diverse range of marine life, habitats and culturally significant artefacts which provide numerous opportunities for

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research, education, recreation and commercial activities (Department of Commerce, 2008). The sanctuary boundary begins at the Mean High Water Line of San Miguel Island, Santa Cruz Island, Santa Rosa Island, Anacapa Island, Santa Barbara Island, Richardson Rock, and Castle Rock and extends seawards to the six nmi limit.

A Stakeholder Advisory Council (SAC) in respect of CINMS was established in 1998. The SAC has 21 seats, 10 government seats and 11 community stakeholder seats. There are also three seats with attendance rights only (Table 4.1). The SAC is tasked with providing advice to the sanctuary superintendent on management issues. The SAC is empowered to form working groups, as necessary, that consist of SAC members and non-members who are invited to participate due to their special knowledge of specific issues. Working groups include: a conservation working group; a commercial fishing working group; a sanctuary education team; and a research activities panel (CINMS, 2011a). A review of the CINMS management plan began in 1998, with a new plan coming into effect on the 19th of March 2009. The management plan outlines the sanctuary's management objectives, related actions plans and performance measures.

Table 4.1: CINMS Stakeholder Advisory Council Seats (Source: CINMS, 2003)

Non-government Seats	Government Seats	Non-Voting Members
Tourism	National Park Service	Channel Islands National Marine Sanctuary
Recreation (Non-Consumptive)	Minerals Management Service	Monterey Bay National Marine Sanctuary
Commercial fishing	Department of Fish and Game	Gulf of the Farallones National Marine Sanctuary
Research	California Coastal Commission	
Public At-Large (2 seats)	County of Ventura	
Business	National Marine Fisheries Service	
Recreational Fishing	US Coast Guard	
Education	US Department of Defense	
Conservation	California Resources Agency	
Chumash	County of Santa Barbara	

4.2.3 Evaluation findings

The following section presents evaluation findings based on the criteria derived from the EC's guiding principles for MSP. They include: a) using an ecosystem approach; b) deploying MSP according to area and type of activity; c) defining objectives to guide MSP; d) ensuring statutory standing; e) coordinated governance; f) cross-border cooperation and consultation; g) coherence with terrestrial plans; h) monitoring and evaluation; i) incorporating data and knowledge; and j) transparency.

4.2.3.1 Ecosystem approach

The primary focus of the NMSP is the protection of natural resources. The ONMS, however, has moved progressively towards promoting multiple uses of the sanctuaries (Tarnas, 1988). The ONMS has recently adopted an ecosystem approach to “achieve balance among ecological, environmental and social influences” (Department of Commerce, 2008, p.5). The CINMS adopted this approach in its recent marine management plan. The CINMS plan seeks to use an ecosystem approach as a framework for “addressing the longterm protection of a wide range of living and non-living marine resources, while allowing multiple uses of the Sanctuary compatible with resource protection” (Department of Commerce, 2008, p.6).

The plan integrates the management of all human activity in the sanctuary. It contains a number of action plans to address cross-sectoral issues. Two action plans in particular are highly relevant to adopting an ecosystem approach: the Water Quality Action Plan; and the Resource Protection Action Plan. Both plans seek to understand the cumulative impact of human activity within and around the sanctuary and to address these through cross-sectoral strategies. The Water Quality Action Plan adopts an ecosystem approach in addressing pollution from a variety of terrestrial and marine-based activities and seeks to coordinate the efforts of federal, state, and local government entities and other organisations which play a role in water quality protection (Department of Commerce, 2008). The Resource Protection Action Plan states that in order to implement an ecosystem approach the CINMS will examine and evaluate existing and potential resource management issues that may affect the

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sanctuary (Department of Commerce, 2008). The action plan seeks to address, *inter alia*, issues within the sanctuary arising from aquaculture, energy development, climate change, ocean acidification, human-induced acoustic impacts, introduced species, marine bioprospecting, marine mammal strikes, motorised personal watercraft activity, and limited spatial data on sanctuary resources and uses (Department of Commerce, 2008). The Resource Protection Action Plan contains three strategies for addressing these issues: 1) identify and assess current and emerging issues; 2) respond to identified issues; and 3) general marine zoning. Each strategy contains a number of activities to facilitate its implementation and implementation of the overall action plan. Activities include: a) developing comprehensive list of issues; b) periodically assessing and prioritising current and emerging issues; c) tracking emerging issues; e) analysing spatial data; and f) evaluating utility of zoning strategies for the sanctuary (Department of Commerce, 2008).

4.2.3.2 Deploying MSP according to area and type of activity

The CINMS is concerned with a relatively small sea area and its management plan deals with the entire extent of the sanctuary. However, a number of other management instruments focus on protecting valuable or vulnerable areas and have been developed independently of the management plan. For example, a number of marine protected areas (MPAs) were implemented prior to the completion of the CINMS plan. These were developed through a separate five year multi-agency, multi-stakeholder planning process. However, the fragmented nature of marine governance in the area has inhibited their effective implementation as the portion of the MPAs in state waters were implemented four years before the portion in federal waters due to an internal dispute between two agencies in the National Oceanic and Atmospheric Administration (Crowder *et al.*, 2006).

4.2.3.3 Defining objectives to guide MSP

The process of defining objectives and action areas for the plan began in 1999 when the CINMS held a number of scoping meetings. Issues raised at these meetings were refined by CINMS staff in conjunction with the SAC. To aid this process, sanctuary

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staff analysed the specific threats each of these issues posed to the sanctuary. They also conducted an analysis to determine which of these issues were currently being addressed successfully through existing measures. Sanctuary staff also considered the feasibility of each action as well as the availability of resources to address them, including staff expertise and potential external partners for implementation of management strategies. At the end of this process nine broad action areas were finalised and included in the management plan: a) public awareness and understanding; b) conservation science; c) boundary evaluation; d) water quality; e) emergency response; e) enforcement; f) maritime heritage; g) resource protection; h) operations; and i) performance evaluation (Department of Commerce, 2008).

A detailed action plan has been produced for each of these action areas (Table 4.2). The action plans contain three sections. The first section provides a concise description of the issues at hand and briefly introduces the management strategies and regulations CINMS will implement to address these issues. The second section provides an account of these strategies, its objectives and implementers. This is followed by a detailed account of the activities to be undertaken to implement each strategy. For example, strategy *AU.1 Education Program Development* contains seven interrelated activities: 1) develop teacher workshops; 2) continue to develop education programs addressing water quality; 3) provide content for “Mapping An Ocean Sanctuary” educational materials; 4) continue support of UC Santa Barbara’s Marine Science Institute ‘Oceans to Classrooms’ marine science series; 5) conduct student field monitoring; 6) partner with the mobile marine education van; and 7) participate in national initiative strategies including the *JASON Project*, *Immersion Institute*, *Sanctuary Quest*, and *Telepresence (Oceanslive!)* (Department of Commerce, 2008). The status of each activity, how frequently it will occur, and partners for its implementation are also provided in this section. The third section provides an estimated annual cost for implementing each strategy in the action plan. It also highlights strategies from the other action plans that are directly or indirectly linked to the overall objective outlined in the first section.

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Table 4.2: CINMS action plans and strategies (Department of Commerce, 2008)

<p>PUBLIC AWARENESS & UNDERSTANDING ACTION PLAN AU.1 – Education Program Development AU.2 – Community Involvement/Volunteer & Intern Program Development AU.3 – Team OCEAN AU.4 – Developing Outreach Technology AU.5 – Greater Southern California Outreach AU.6 – Developing Education & Outreach Tools & Products AU.7 – Visitor Center Support & Development AU.8 – MPA Network Education AU.9 – Multicultural Education</p>
<p>CONSERVATION SCIENCE ACTION PLAN CS.1 – Sanctuary Aerial Monitoring and Spatial Analysis Program CS.2 – Comprehensive Data Management CS.3 – Support Monitoring and Site Characterization Program CS.4 – Collaborative Marine Research Project CS.5 – Research Interpretation CS.6 – Biological Monitoring of MPA Network CS.7 – Socioeconomic Monitoring of MPA Network CS.8 – Automated Identification System (AIS) Vessel Tracking</p>
<p>BOUNDARY EVALUATION ACTION PLAN BE.1 – Final Determination on Boundary Issue</p>
<p>WATER QUALITY ACTION PLAN Page WQ.1 – Offshore Water Quality Monitoring WQ.2 – Water Quality Protection Planning</p>
<p>EMERGENCY RESPONSE & ENFORCEMENT ACTION PLAN EE.1 – Emergency Response Planning & Implementation EE.2 – Expanding Enforcement Efforts</p>
<p>MARITIME HERITAGE ACTION PLAN MH.1 – The Shipwreck Reconnaissance Program MH.2 – MHR Volunteer Program MH.3 – Partnering With the Santa Barbara Maritime Museum MH.4 – Implementing a Coordinated MHR Protection Outreach Effort MH.5 – Upgrading the Maritime Heritage Website MH.6 – Supporting Public Education of Chumash Native American Maritime Heritage</p>
<p>RESOURCE PROTECTION ACTION PLAN RP.1 – Identifying & Assessing Current and Emerging Issues RP.2 – Responding to Identified Issues RP.3 – General Marine Zoning</p>
<p>OPERATIONS ACTION PLAN OP.1 – Sanctuary Advisory Council Operations OP.2 – Permitting and Activity Tracking OP.3 – Relationships with Other Authorities OP.4 – Vehicle, Boat & Aircraft Operations OP.5 – Administrative Initiatives OP.6 – Human Resources OP.7 – Office Space Expansion OP.8 – Greening Facilities & Operations</p>
<p>PERFORMANCE EVALUATION ACTION PLAN EV.1 – Measuring Sanctuary Performance Over Time</p>

4.2.3.4 Statutory standing

CINMS was established under the auspices of MPRSA (US, 1972). The Act enables the CINMS to produce regulations and rules specific to the sanctuary. A review of the sanctuary's regulations was undertaken during the recent management plan review process, resulting in a Final Rule document being published in January 2009.

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This document details the statutory instruments currently employed in the management of the sanctuary.

4.2.3.5 Coordinated governance

Although the ONMS is responsible for the implementation of the sanctuary plan, there are a number of other bodies with competencies, rights and obligations within the sanctuary. To promote comprehensive protection of sanctuary resources, the ONMS has also developed cooperative agreements and memorandums of understanding with several regulatory agencies with competencies within the sanctuary. These include: the National Park Service (NPS), which is responsible for managing the Channel Islands National Park ; The Nature Conservancy, a non-profit conservation organisation which owns 76% of Santa Cruz Island; California Department of Fish And Game, which is responsible for the management of living marine resources in the sanctuary from mean high tide to three nautical miles offshore; United States Coast Guard, which has broad responsibility for enforcing all federal laws and regulations throughout the Sanctuary, and assists NOAA in the enforcement of CINMS regulations; National Marine Fisheries Service, which, in conjunction with state resource agencies, approves and enforces Fishery Management Plans, and also shares responsibility with the U.S. Fish and Wildlife Service for the implementation of the Marine Mammal Protection Act and the Endangered Species Act; and the U.S. Fish and Wildlife Service, which works to conserve, protect, and enhance freshwater fish, wildlife, and plants and their habitats (Department of Commerce, 2008).

As well as liaising with these agencies, the MPRSA empowers the ONMS, through the Secretary of Commerce, to hold federal agencies responsible for their actions in the sanctuary. Federal agency actions that are likely to destroy, cause the loss of, or injure any sanctuary resource are subject to consultation with the Secretary of Commerce, even if it occurs outside of a sanctuary (US, 1972). As part of this consultation, federal agencies must supply the Secretary of Commerce with a written statement describing the action and its potential effects on sanctuary resources. If the Secretary finds the action likely to negatively impact the sanctuary, an alternative

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course of action for the federal agency is recommended. The agency, however, must only consider the Secretary of Commerce's recommendations and may ignore them so long as it provides a written statement explaining why it chose to do so (US, 1972). If after ignoring the Secretary's recommendations, the agency's actions results in the destruction of a sanctuary resource, that agency must take prompt action to prevent and mitigate further damage and also restore or replace the resource by means of a way agreed to by the Secretary (US, 1972).

4.2.3.6 Cross-border cooperation and consultation

Due to its geographical location, the CINMS does not have to address cross-border issues *per se*. It does, however, cooperate and consult with other management bodies and agencies which operate in the waters contiguous to the sanctuary. It also cooperates and consults with the neighbouring National Marine Sanctuaries of Monterey Bay and the Gulf of the Farallones. This is partly facilitated by the SAC, where the superintendents of these sanctuaries have seats. Interviewees, however, indicated that representatives of these sanctuaries rarely, if ever, attend SAC meetings.

4.2.3.7 Coherence with terrestrial plans

According to the *Coastal Zone Management Act* (1972) all public agencies and all federal agencies, to the extent possible under federal law or regulations or the United States Constitution, must comply with the Coastal Management Program. The Act defines the state's coastal zone as extending seaward to the 3nmi limit and extending inland generally 1,000 yards from the mean high tide line of the sea, and as including all offshore islands (State of California, 2010). Thus, the CINMS plan had to be submitted to the Federal Consistency Unit of the California Coastal Commission where it was found to be consistent with the California Coastal Program.

The issue of expanding the sanctuary's boundary, so as to include the entire Santa Barbara Channel and some of the mainland coast, was raised by many people during

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the public scoping meetings held in 1999. This idea has since been championed by some members of the SAC, while being fiercely resisted by others. The delimitation of a new boundary was to be included in the management plan but, recognising the complexity of the issue and the likelihood of resistance from certain stakeholder communities, sanctuary staff concluded that additional analysis of the issue was desirable in order to make a more informed decision (Department of Commerce, 2008). An action plan to evaluate the possibility of expanding the boundary was subsequently included in the new management plan and was to be initiated once the review process had finished (Department of Commerce, 2008). The action plan, however, does not contain any commitment to assess how an enlarged sanctuary would coordinate its management plans with existing or future terrestrial plans.

The CINMS is contiguous to The Channel Islands National Park (CINP), with their jurisdictions overlapping in the coastal zone. CINP's jurisdiction extends seaward to one nmi offshore around Santa Rosa, Santa Cruz, Anacapa, and Santa Barbara islands, and non-proprietary jurisdiction extends out to one mile offshore from San Miguel Island. According to the CINMS management plan, the NMSP and the NPS are committed, at a national level, to close cooperation for the protection and management of shared marine resources across the country (Department of Commerce, 2008). In the Channel Islands region, the “CINP is an active and integral Sanctuary partner on projects ranging from enforcement, to education and outreach, and research and monitoring” (Department of Commerce, 2008, p.47). The CINP also has one member and one alternate seat on the SAC. The CINMS and CINP also held a joint staff meeting in 2003, and provided input into one another's management plans (Department of Commerce, 2008). An analysis of the CINMS plan indicates that the CINMS and the CINP cooperate on a number of issues and in particular the monitoring of kelp beds.

4.2.3.8 Monitoring and evaluation

The CINMS Plan contains a Performance Evaluation Action Plan which instructs sanctuary staff to conduct routine performance evaluations over the first five years of the plan. The action plan contains performance measures for all the strategies

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outlined in the other action plans (see Table 4.3 for examples). Sanctuary staff are required to report the findings of their evaluations and work with the SAC to identify successful implementation of management strategies and to establish management strategies that need to be reformulated in order to achieve their objectives.

Table 4.3: Performance measures for public awareness & understanding action plan strategies AU.1 and AU. 2 (Source: Department of Commerce, 2008)

Strategies	Objective	Performance Measures	Metrics
AU.1 Education Program Development	To link local teachers with national efforts to improve ocean literacy.	Increased public participation in CINMS education programs.	Number of K-12 teachers participating in Sanctuary education workshops.
			Number of K-12 teachers requesting Sanctuary education tools and materials.
			Number of regional participants in LiMPETS program.
		Increased awareness about the CINMS in the K-12 community.	Number of national initiatives & events sponsored by CINMS over next 5 years.
Number of presentations given by CINMS education staff at regional/ national conferences.			
AU.2 Community Involvement/Volunteer & Intern Program Development	To increase community awareness about the Channel Islands National Marine Sanctuary and the National Marine Sanctuary Program through the development of CINMS volunteers and interns.	Growing number of public opportunities to learn about CINMS goals, programs and issues.	Number of adult education classes offered/number students enrolled.
		Increased citizen participation in marine conservation efforts at CINMS.	Number of surveys in REEF database.
		Improved volunteer/intern program effectiveness and efficiency.	Number of volunteers and interns participating in Sanctuary programs.
			Number of intern or volunteer applications submitted.
Evaluation of volunteer programs.			

4.2.3.9 Incorporating data and knowledge

Due to its remit the CINMS conducts research and data collection on an ongoing basis. Research focuses on collecting data on marine resources, evaluating ecosystem health, assessing the impact of human activity in the sanctuary, implementing effective resource management strategies, and increasing understanding of the importance of the Sanctuary (CINMS, 2011b). The Sanctuary participates in research projects with organisations such as University of California Santa Barbara, the U. S. Coastguard, NOAA Coastal Ocean Program, NOAA National Marine Fisheries Service, the National Park Service, and the Department of Fish and Game (CINMS, 2011b). A number of the action plans contain commitments to undertake further research and to gather further data to aid decision-making. For example, the Water Quality Action Plan contains strategies which will see the sanctuary complete a water quality characterisation report, and compile and synthesise information on jurisdictional water quality authorities and responsibilities, before developing corrective actions for managing the impacts on water quality within the sanctuary. It is recognised in the plan that there is limited spatial data regarding the sanctuary's resources and uses. There is a commitment in the plan to begin to address this deficit by analysing existing spatial data. The CINMS plan indicates the SAC is viewed as a vital source of knowledge. Some of the SACs working groups also undertake research or secure funding for research.

4.2.3.10 Transparency

SAC meetings are open to the general public and time is provided at these meetings for public comment. A number of interviewees raised concerns regarding the transparency of the process for selecting representatives. SAC representatives are chosen by the sanctuary superintendent. According to the SAC charter, those aspiring to become Council members apply directly to the sanctuary superintendent (CINMS, 2003). The sanctuary superintendent submits copies of all applications to the SAC, which acts as a preliminary reviewing body (CINMS, 2003). Some interviewees expressed concerns with the prevailing selection process. They argued that the selection process allowed the SAC to be dominated by stakeholders who are unlikely to disagree with the actions of sanctuary management. One interviewee claimed that:

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the SAC is the most politically stacked deck I've ever seen in my entire life...it's a carefully concocted body (CINMS SAC Member).

4.2.4 Stakeholder participation

The following section presents the findings of the evaluation based on the criteria derived from the collaborative planning literature. These include: a) self or co-design of process; b) shared purpose; c) equality; d) representation; e) interdependency; f) constructive dialogue; g) consensus based decision-making; h) effective process management; i) high quality agreement; j) reciprocal relationships, new networks and institutions; k) network power; l) increased institutional capacity; and m) learning, changes in attitudes and practices.

4.2.4.1 Design of process

The SAC was established on a top-down basis by NOAA with local stakeholders having little influence on the participatory mechanism. However, SAC members played an active role in formulating the SAC's decision-making and operational protocols (CINMS, 2005). In 2003, a subcommittee was convened to develop decision-making procedures for the SAC. Operating procedures were further refined by the SAC later that year and updated again at a SAC meeting in 2005. These procedures focused on clarifying eight main areas: use of consensus approach; the use of Robert's Rules of Order; noticing of SAC actions; introducing items to agendas; voting and absentees; minority views; role of non-government alternates; and SAC letter writing (CINMS, 2005). Agreed procedures are implemented by the SAC although they have not been formally incorporated into the SAC's charter.

4.2.4.2 Shared purpose

The SAC, in conjunction with sanctuary staff, select issues for their work plan for the forthcoming year. At the outset of the selection process, sanctuary management presents a list of topics that are of particular concern to them and on which they consider the input of the SAC would be useful. Individual SAC members propose additional topics which they wish the SAC to address. Finally, and in the form of a

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secret ballot, SAC members rank each topic as of either high, mid, or low priority. One interviewee noted that the 2009 work plan contained no less than 31 separate items, of which eight were rated as being of high priority, and that the SAC is unable to devote sufficient time even to the high priority items, as the Council only meets six times a year. The work plan is considered to be overloaded and unrealistic due to the fact that there is little dialogue in the agenda setting process with almost all topics being added to the work plan:

nothing gets thrown out, the list just gets longer and longer (CINMS SAC Member).

The 2009 SAC work plan contains the following high priority items: 1) SAC subcommittee and Sanctuary Education Team to develop long-term recommendations for addressing ship strikes to whales in the Santa Barbara Channel; 2) provide advice on development of CINMS education strategies, messages, and audiences; 3) solicit input from the SAC on black abalone critical habitat and provide the Council with information on other abalone issues; 4) Department of Fish and Game to present information on 2009 planned monitoring activities and preliminary results, soliciting SAC feedback/comments; 5) receive Marine Life Protection Act (MLPA) Initiative process status reports, primarily to understand implications for the Channel Islands MPA network; 6) receive periodic reports from staff, or invited partners, on progress toward addressing the SAC water quality recommendations from Sept 2005; 7) receive educational presentations from staff or invited partners on Sanctuary water quality topics, including Channel Keeper report on CINMS water quality characterisation; and 8) receive periodic progress reports from staff on efforts to pursue Advisory Council recommendations contained with the Council's 2008 report on ocean acidification. Although these priority areas are linked to the overall objectives of the CINMS plan, only the first four areas require active input from the SAC, with the latter four areas mainly consisting of the SAC receiving presentations or reports.

One interviewee described how they used their working group to examine issues which do not get considered by the SAC. She explained how their working group

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engaged with sanctuary staff to discuss ways in which they could take on a more proactive role in addressing issues which they had put forward as work plan items but which had not received sufficient backing to become a priority issue for the SAC:

we realised that we keep putting things on the work plan that aren't getting done; we actually sat down with the staff and said as a working group how can we help advance some of the issues that are just on the list year after year. So, they said 'if you can develop some of the background information and bring that forward to the Council, we're open to that (CINMS SAC Member).

The interviewee went on to explain that this approach was initially viewed with suspicion by other SAC members but that they eventually adopted some of the recommendations generated by the working group:

At first the council were like 'what are you doing, where did this come from, we're working on the Management Plan or the MPAs, you're just one seat on the council, why are you trying to drive the agenda?' ... they were like 'why is it a big issue?' So we had to step back and we said lets explain this, lets explore it, so we ended up having experts explain to the council what the issues were; we produced a report and we worked with the Council to fine tune some recommendations for the superintendent and they ended up loving it and they adopted this report (CINMS SAC Member).

4.2.4.3 Equality

Concerns were also expressed regarding the undue influence this working group was able to wield over the SAC. Although accepting that all SAC members had the right to be part of the group and that they had ample opportunities to comment on the reports it generated, some members felt disconcerted with the role this working group had assumed. One interviewee pointed out that conservation representatives, who led the production of the reports, were regarded as discharging their official duties when they attend SAC and working group meetings, while other members had to forego their own work to do so. It was also contended that the production of these reports were part of the conservation representatives' job, whereas other SAC members would have to personally meet such costs if they were to produce similar reports. In essence, some members felt at a disadvantage *vis-à-vis* other members of the Council.

4.2.4.4 Interdependency

There is little evidence of a sense of interdependency among SAC members. Some stakeholders appear to be able to advance their agendas and achieve their goals without the support of others. For example, one interviewee explained that their primary goal in relation to the recent redrafting of the management plan was to ensure that the boundary of the sanctuary was not expanded to include the mainland coastal zone. To achieve this goal the stakeholder explained that they:

had to build [their] own bridge to the superintendent, it didn't have anything to do with the advisory council (CINMS SAC Member).

A need to work closely with other Council members in order to achieve their goals was not considered necessary by interviewees. One interviewee felt that the mandate of the SAC was too broad for this sort of interdependency to develop, and that it was more likely to flourish at the more focused sub-SAC level:

You come along, it's a nice [SAC] meeting but what got done? At the working group level you are more task orientated, you're dealing with a topic you have a particular interest in, the others are there for the same reason. At this level you begin to understand one another more (CINMS SAC Member).

4.2.4.5 Representation and participation

SAC representatives are chosen by the sanctuary superintendent rather than being elected by their constituencies. A sanctuary staff member explained that this process enables the superintendent to select stakeholders from certain sectors whose advice, knowledge and connections may be helpful in tackling current issues germane to the sanctuary. For example, the current appointee to the 'business seat' is from the shipping sector as the sanctuary is actively pursuing whale ship strike issues at this time. The community stakeholders span wide-ranging interests with one seat representing the 'business community' and two seats representing 'the public at large.' One interviewee felt that those occupying 'the public at large' seats often failed in their mandate to represent the wider public and often ended up representing their own narrow interests:

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people who claim to represent the public at large end up representing themselves and their own personal viewpoints... the only person who is supposedly a representative of the public at large would be an elected official...they're elected by the public and they answer to the public (CINMS SAC Member).

Most interviewees indicated they consulted with and reported to their constituents. Two interviewees had formal structures for reporting to constituents while others used a variety of informal structures in communicating with their constituents. For example, one representative, who contributed a column to an industry newspaper, used this means to inform constituents of the work of the SAC and the sanctuary. Another representative used a SAC working group to consult with a broad range of constituency stakeholders. Two interviewees said that the topics on the SAC's agenda primarily determine to whom they report and with whom they consult, as many issues discussed by SAC are only of interest to specific constituents. The networked nature of the SAC was noted positively by one interviewee as it facilitated the distribution of new information concerning the sanctuary to Council and back to their constituencies. Another interviewee saw their own participation as being highly tokenistic with little or no attention being paid to his contributions:

I'm there so they can tick a box next to [my constituency]...having me there really legitimizes their effort to include us, even though I may go there and say you know this is wrong and here's why and they go 'thank you!' And move on (CINMS SAC Member).

4.2.4.6 Deliberative decision-making and constructive dialogue

Initially, the SAC made all decisions by consensus. However, it soon transpired that it was not possible to reach consensus on many issues and this was resulting in stalemate. On the advice of an external facilitator the SAC adopted a new decision-making process. The SAC began keeping two lists, one for all items on which it was able to reach consensus and another for items on which it could not agree, with both lists being forwarded to the sanctuary superintendent. An interviewee explained that

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this allowed all SAC members to have their opinions recorded and passed on to the sanctuary superintendent:

Everyone's voice got heard. And it was known that if you can get people to agree with you, your input is going to have more weight probably but even if you can't get agreement or consensus we're still going to give this information to the superintendent and he may decide to adopt it...it stopped all arguing, there was no arguing, you put out your idea, you explained it, try to get support for it, if not go on to the next person (CINMS SAC Member).

All interviewees were of the opinion that the SAC provided a platform for them to engage in dialogue with other stakeholders. An interviewee commented that one of the benefits of being on the SAC was that it facilitated face-to-face communication with a wide variety of stakeholders:

One of the best things about the Council is that it brings a variety of stakeholders and allows a discussion, sometimes a very frank discussion, a lot of discussion of various issues...it's provided a vehicle for us to communicate face to face and to get to know each other (CINMS SAC Member).

However, several interviewees queried the quality of this dialogue. Three further interviewees were of the opinion that some of the government sector representatives were not acting sincerely, as they often engaged in the dialogue but abstained from voting. One of these interviewees was also of the opinion that some government representatives were primarily concerned with 'watching their turf' rather than being fully committed to the process.

4.2.4.7 Effective process management

All interviewees consider the overall process as being managed effectively. Sanctuary staff are praised for the manner in which they operate the SAC. Some interviewees believe the SAC process would be improved by changing all government seats to non-voting status so as to circumvent issues about engaging in the dialogue but abstaining from voting. Another interviewee favoured the presence

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of government representatives because it afforded stakeholders the opportunity to communicate directly with these government entities, but also expressed frustration at their tendency not to vote:

Some of the regulatory seats have participated in discussions very strongly and then said we can't vote. If you're not a voting member or you're not going to vote on a particular issue then at some point you have to fall out of the discussion because I've seen people try to reach consensus on some pretty significant issues and then they have one very vocal party abstain, and to me that's manipulating a process (CINMS SAC Member).

4.2.4.8 High quality agreement

By its very design the SAC does not have the capacity to produce a high quality agreement. It is tasked solely with providing advice. However, it has contributed to the development of the new management plan for the sanctuary. Most interviewees felt that SAC played a meaningful role in the development of the plan; one interviewee, however, thought the SAC involvement in the development of the plan was very minimal:

We made suggestions, made comments, asked if things could be worded differently, but it's not really our plan – it's a conservation plan! (CINMS SAC Member).

4.2.4.9 Reciprocal relationships

The role of the SAC in building new relationships was stressed by many interviewees. One interviewee, who has been a SAC member since the very beginning, maintains that by getting to know and trust one another stakeholders are able to work better together:

participants are a little less hostile towards each other, you know we've been through 10 years already, and I think there's just better dialogue (CINMS SAC Member).

Another interviewee commented that reciprocal relationships built at the SAC helped them with their regular duties:

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Developing relationships definitely helps us on other issues. You know I can just pick up the phone and call [another SAC member] and say I've got a question about this or that. So yeah, it definitely helps (CINMS SAC Member).

Some view their roles as being specifically about building relationships with the other sectors and communities at the SAC table:

Many of the other members wouldn't be familiar with us, so my job is to set straight some of the mythology that sometimes surrounds us...to make sure they understand that we're not villains (CINMS SAC Member).

Trusting relationships built at the SAC table enable stakeholder representatives to work better together in the course of other participatory processes. An interviewee explained that there were a number of current or former members of the SAC participating in a MPA designation process and that their previous experience of working together enabled them to communicate better during this process:

Well the fact that on the state process [the Californian MLPA Initiative] we have something like eleven SAC members, or former members, so we know each other...you have a long-term relationship with a fairly broad number of people then you're not having to start off from scratch and you've developed a certain amount of trust (CINMS SAC Member).

Involvement in working groups has resulted in several interviewees forming new networks with other SAC members. For example, one SAC member, whose constituency group visited another's workplace, explained how this visit enabled them to gain a greater understanding of the *modus operandi* of the other party and that this has proven to be particularly useful in tackling working group issues. Two other interviewees explained that, although the working group with which they were involved had dissolved, they still communicated from time to time with some of its former members regarding topics of common interest. It was pointed out that the working groups were effective in promoting interaction with non-SAC members and in facilitating a flow of knowledge to and from the SAC.

4.2.4.10 Network power

There is little evidence of the SAC developing network power. While interviewees generally acknowledged the role the SAC played in shaping the new management plan, they also highlighted the fact that the sanctuary superintendent and staff can ignore their input. An interviewee explained that although SAC consensus on an issue provides an authoritative message to the sanctuary superintendent, the latter can effectively ignore it:

The closer we get to consensus the more powerful the message is. But the superintendent can just ignore our advice (CINMS SAC Member).

Four interviewees contend that the SAC is powerless as it needs to seek the sanctuary superintendent's approval for any action. In accordance with its operating charter, the SAC must obtain the superintendent's approval: to add an item to the agenda; to correspond with, or to provide advice or information to other groups or individuals; and to issue press or information releases or other documentation (CINMS, 2003).

There is some evidence of network power evolving at working group level. As already outlined, one working group has been able to further their goals even though these did not rank highly on the SAC's agenda. This group was able to secure funding to conduct research and produce reports on topics which it deemed important but which were not scheduled to be addressed by the SAC or sanctuary staff. Through the use of experts and draft reports, the working group was then able to convince the SAC of the importance of these issues and to collaborate with the SAC in producing final drafts of the reports. These reports were highly influential in furthering the goals of this working group and are referenced extensively throughout the new management plan.

4.2.4.11 Institutional capacity and learning

The Council is viewed as a useful vehicle for communicating scientific knowledge to stakeholders. For example, interviewees commented that they had developed a better understanding of marine management issues, such as ocean acidification and water quality, from their involvement in the process. Interviewees also commented regularly about how they learned from and about one another. One commented that their involvement made them realise that there was a vast variety of stakeholders active in the CINMS:

It's made me realise how many different stakeholders there are in the sanctuary. You always think of the fishermen but you might not think of the tourism stakeholders or shipping or whoever. Being at the table kind of drives that home, there's a lot going on out there (CINMS SAC Member).

Another interviewee explained that the experience had changed work processes within their agency and that they are now disposed to using multi-stakeholder participation processes for natural resource management issues:

[we use] it for MLPA now, we're using it for our abalone advisory group, for looking at a potential fishery; you know that that has become the norm for how you operate, definitely (CINMS SAC Member).

4.2.5 Lessons for MSP from CINMS case study

The CINMS plan is an integrated management plan which focuses on cross-sectoral management issues rather than producing management plans for each sector. Its capacity to adopt a truly integrated management approach is greatly aided by its statutory standing and associated capacity to somewhat hold other agencies responsible for their actions, at least to some degree. Its efforts at implementing an ecosystem approach can only be assessed once it completes its Water Quality and Resource Protection action plans. The objectives for these action plans, and the plan as a whole, compare favourably to those of the EBM initiatives assessed by Arkema (2006). The broad, aspirational management objectives of the plans are to be achieved through detailed strategies that are specific and measurable and which have to be implemented within a specific timeframe. In this manner the CINMS objectives

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roughly approximate the SMART principles for objective setting as advanced by some MSP theorists (Day, 2008; Douvère and Ehler, 2010).

The difficulty of implementing an ecosystem approach in areas with fragmented governance is demonstrated by the experience of the CINMS in implementing MPAs. It is argued that planning of MPAs should be as part of MSP processes, rather than being conducted separately, and that they should be implemented within a comprehensive place-based management plan (Young *et al.*, 2007). Adopting such an approach would enable the CINMS to link its MPAs to other management strategies. A piecemeal approach to the implementation of MSP which would further fragment the governance of the marine environment is likely to produce similarly unsatisfactory results.

The CINMS experience points to several lessons regarding stakeholder participation that are applicable to other MSP initiatives. First, future MSP initiatives should be encouraged to adopt collaborative forms of stakeholder participation. As the SAC demonstrates, face-to-face interaction and constructive dialogue produces several beneficial outcomes that are unlikely to be developed through less collaborative participatory mechanisms such as commenting procedures and public hearings. Through the SAC, stakeholders have begun to understand and trust one another resulting in the formation of new relationships and networks. They also have engaged in social learning resulting in changes in attitudes and practices of some participants. These outcomes are helping stakeholders recognise their interconnectedness and develop a greater understanding of the marine socio-ecological system, which aids the implementation of EBM.

Second, to develop a greater sense of interconnectedness stakeholder participation in future MSP initiatives should be task orientated. That the outcomes described above have not translated into a greater sense of interdependency can be attributed in large measure to the very general nature of the SAC and its somewhat passive form of

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participation. The SAC does not work towards specific goals but is tasked with providing general advice to the sanctuary superintendent. Insufficient use of deliberation and dialogue in the process of formulating a work plan also contributes to this lack of shared purpose. The annual task of drawing up the SAC work plan provides an opportunity to foster a sense of common cause amongst participants. However, failure to limit the work plan to a relatively small and feasible number of items means that members generally manage to get their priority items on to the agenda on their own right and without forging synergistic links with other stakeholders' priorities. The process by which work plan items are chosen effectively turns stakeholder representatives into lobbyists and limits the need for them to engage in constructive dialogue. More legitimate claims to effective stakeholder participation may be made in respect of the working groups as a sense of interconnectedness between stakeholders at this level is more apparent. This may be attributable to the focused single issue mandate typically ascribed to these groups, wherein participants actively participate in the achievement of a set goal, and the gravitation towards them of parties with a high interest in these specific issues.

Third, consensus-based decision-making may be difficult to implement in relation to marine socio-ecological systems due to the diverse range of interests and future MSP initiatives should be encouraged to explore other decision-making processes which encourages dialogue amongst stakeholders. Although the SAC experienced difficulties in employing a consensus-based approach, the current decision-making process does not oblige members to engage in dialogue with one another. The consensus and non-consensus lists system adopted by the SAC does not promote dialogue and does not challenge members to examine their assumptions. While the forwarding of all opinions and advice to the sanctuary superintendent seemingly provides an opportunity for all voices to be heard, it negates the necessity for SAC members to engage in dialogue and eschews the opportunity to create innovative solutions to sanctuary management issues. Although the move to the new decision-making procedure allows for all opinions to be recorded, it effectively reduces participation to a commenting procedure and further constrains the development of benefits associated with stakeholder dialogue.

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Fourth, in order to foster authentic dialogue stakeholder representatives need to be viewed as legitimate representatives of their communities. Authentic dialogue in the SAC is somewhat inhibited due to the ‘handpicking’ of representatives and by participants nominally representing very broad swathes of the community. This has resulted in some of these participants not being recognised as legitimate representatives by the other SAC members. To enhance legitimacy, and to avoid accusations of bias, representatives should be nominated by stakeholder constituencies and not by marine managers, as currently happens in some cases. Dialogue is also constrained due to the fact that government representatives are often unable to vote on particular actions. The role and function of government representatives in MSP stakeholder participation processes may also need to be clarified.

Fifth, MSP initiatives may have to work with certain stakeholder constituencies in order to build their capacity to participate effectively and to ensure stakeholder participation processes are not captured by powerful interests who may be more adequately equipped to participate and to advance their own agenda. As demonstrated by one of the SAC’s working groups, some stakeholder communities are more adept than others at furthering their own goals in stakeholder participation processes. This particular group was able to draw on their political, social and knowledge capital to enter into dialogue with sanctuary staff outside of SAC meetings, to obtain grants to conduct studies, and ultimately to get their concerns addressed through the CINMS Plan although they were not originally considered as priority issues by either the SAC or by sanctuary staff. Although this type of proactive participation is laudable, a balanced approach that ensures all stakeholders have equal opportunity to participate and influence proceedings so that MSP processes are not dominated by powerful interest groups, is imperative.

4.3 The Scottish Sustainable Marine Environment Initiative Clyde Pilot Project

The Clyde Pilot is a useful case study as it is one of the first explicit efforts at MSP to produce a plan and also involves a high level of stakeholder participation. Although the Clyde Pilot predates the publication of the EC's guiding principles in respect of MSP, it anticipated several of them and generally set out to act in accordance with principles of EBM. A brief account of the overall Scottish Sustainable Marine Environment Initiative (SSMEI) is followed by a synopsis of the changing policy and legislative framework in which the SSMEI Clyde Pilot was developed. This is followed by an overview of the Clyde Pilot. Evaluation findings relating to the EC's guiding principles and collaborative planning criteria are then presented and discussed in terms of lessons for future MSP initiatives. Due to the geographical location of the Clyde Pilot, evaluation against the guiding principle which promotes cross-border cooperation and consultation was not applicable.

4.3.1 The Scottish Sustainable Marine Environment Initiative

In 2002, the Scottish Government initiated the SSMEI to develop and test MSP options for the sustainable development of its marine resources. The SSMEI sought to explore these options through the establishment of four pilot projects based in: a) the Firth of Clyde; b) Shetland Islands; c) the Sound of Mull; and d) the Berwickshire coast (Marine Scotland, 2010b). The SSMEI National Steering Group coordinates the four SSMEI pilot projects. The SSMEI strives to build upon and complement existing UK marine policies and initiatives with the overall aim of gaining "an understanding of the nature, value, and management needs of Scotland's marine environment and to identify alternative management approaches, with a view to ensuring new management initiatives and possible future legislation result in a truly sustainable framework" (Marine Scotland, 2010a, online). The SSMEI process has undergone three distinct phases. Phase one was largely concerned with reviewing literature pertinent to MSP. Phase two consisted of a scoping exercise and the design of the framework for pilot projects, with phase three being comprised of the development and implementation of the pilot projects.

4.3.2 Changing policy and legislative framework

The processes of developing a plan for the Clyde took place within a changing policy and legislative framework. The *UK Marine and Coastal Act 2009* granted the Scottish Executive new marine related competencies relating to the planning, conservation and enforcement in areas beyond Scotland's territorial sea (specifically, the 12 nmi to 200 nmi zone). The Act granted Scottish Ministers responsibility for issuing new marine licenses in the Scottish offshore region, the authority to designate MPAs, and new enforcement powers (Marine Scotland, 2010c). The Act also devolved responsibility for the implementation of the MSFD to the Scottish Executive. As a result of the Act, Scottish Ministers also participated in the development of a Marine Policy Statement for the UK marine area. Future marine planning in the offshore and inshore areas is to be guided by this statement.

The *Marine (Scotland) Act 2010* introduced, *inter alia*, a new statutory marine planning framework for Scotland. Under this Act, Scotland will develop a National Marine Plan and a number of Regional Marine Plans. The exact areas for the Regional Marine Plans have yet to be decided; however, from an analysis of the options put forward for public consultation, it is likely that the Firth of Clyde will form a major part of one of these regions.

4.3.3 SSMEI Clyde Pilot

The SSMEI Clyde Pilot sought to develop and implement a MSP process and an associated marine spatial plan, leading to an integrated and sustainable approach to the management of the Firth of Clyde as a whole. The process of developing a plan for the Clyde began in 2006. The non-statutory plan was developed by the SSMEI project team, with support and input from a local stakeholder-regulator steering group (Flannery and Ó Cinnéide, 2011). The project team consisted of a project officer and a project assistant. A pre-existing stakeholder - regulator partnership, the Firth of Clyde Forum (FCF), comprising local authorities, development organisations, business and community organisations, and individuals in their own right, was used as the basis for the steering group. FCF members represent the

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project's Steering Group who provide general support and guidance to the project team (Donnelly *et al.*, 2010).

The Clyde Pilot planning area (Figure 4.1) encompasses the marine and tidal extent of the Firth of Clyde, including the Clyde Estuary. It extends seaward from the extreme high water mark, overlapping with the jurisdiction of several terrestrial planning authorities in the intertidal zone, to a line drawn from the tip of the Mull of Kintyre across to Finnarts Point (Donnelly *et al.*, 2010). Surrounding the Firth of Clyde are three structure plan areas (Ayrshire, Argyll and Bute, and Glasgow and Clyde Valley) and nine local planning authority jurisdictions (Argyll and Bute, Arran, East Renfrewshire, Inverclyde, Glasgow, West Dunbartonshire, North Ayrshire, South Ayrshire, and Loch Lomond and The Trossachs) (Donnelly *et al.*, 2010).

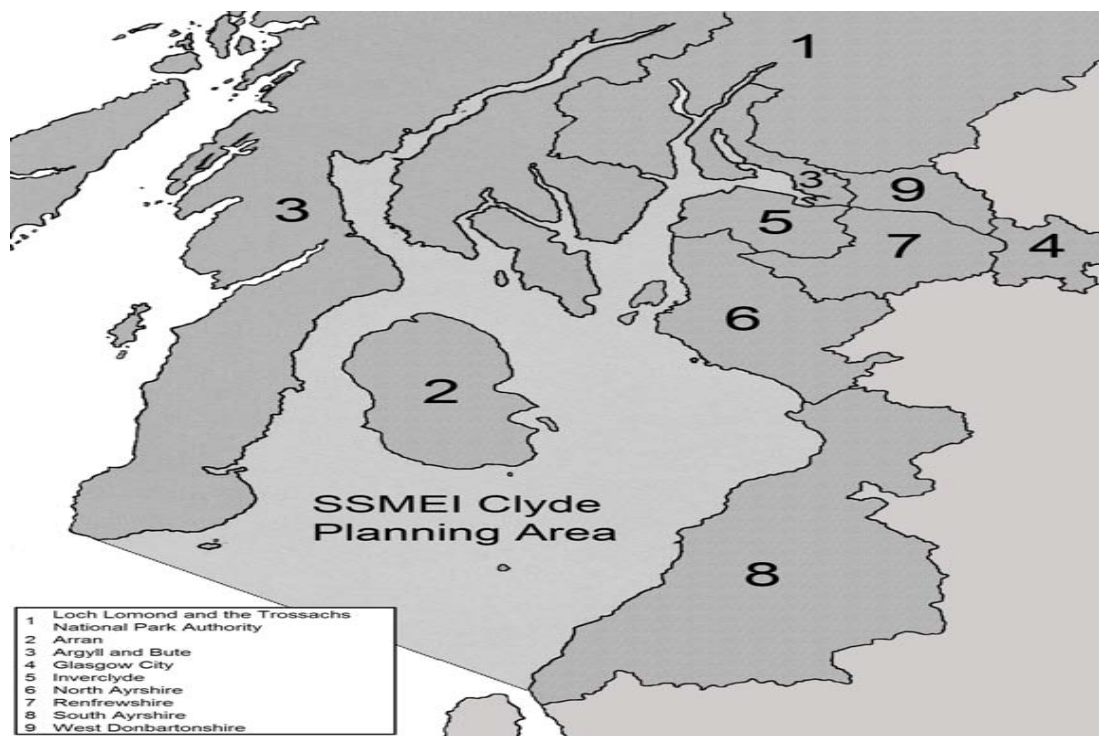


Figure 4.1: Clyde pilot planning area and bordering terrestrial planning areas (Source: Flannery and Ó Cinnéide, 2011).

A draft Marine Spatial Plan for the Firth of Clyde was issued for consultation in March, 2009, with the final plan published in July, 2010. The plan presents a cross-sectoral, long-term vision for the management of Firth of Clyde (Donnelly *et al.*,

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2010). As the plan has no statutory basis, it is highly indicative in function and largely reliant on local sectoral interests and planning authorities in terms of practical implementation.

4.3.4 Evaluation findings

The following section presents the findings from the evaluation based on the criteria derived from the EC's guiding principles for MSP. They include: a) using an ecosystem approach; b) deploying MSP according to area and type of activity; c) defining objectives to guide MSP; d) ensuring statutory standing; e) coordinated governance; f) coherence with terrestrial plans; g) incorporating monitoring and evaluation; h) incorporating data and knowledge; and i) transparency.

4.3.4.1 Ecosystem approach

There is evidence that the Clyde Pilot devoted considerable attention to the adoption of an ecosystem approach. A commissioned report entitled *Sustainable Development Criteria and the Ecosystem Approach* was produced as part of SSMEI Phase II (Haskoning UK Ltd., 2005). This report includes a brief overview of the approach in general as well as the 12 principles for adopting an ecosystem approach as advanced by the Convention on Biological Diversity. The ecosystem approach was also elaborated upon in a discussion paper presented at the Clyde Steering Group meeting in May, 2007, in which it was defined as “a holistic method for management of human activities. It looks at all the links among living and nonliving resources, rather than considering single issues in isolation. Ecosystem based plans focus on the multiple activities occurring within specific areas that are defined by ecosystem, rather than artificial boundaries” (Clyde Pilot, 2007, p.2).

It appears, however, that it was difficult to arrive at a consistent understanding of the ecosystem approach and to fully comprehend how it might be applied to MSP in the Clyde area (Thompson and Donnelly, 2010). Although much time was spent discussing and defining the ecosystem approach, there is little or no evidence of it being adopted in the Clyde plan. The final plan contains various sectoral plans with

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no attempt at mediating between the ambitions of the various sectors or at accounting for their cumulative impacts. As will be demonstrated later in the chapter, these sectoral plans also have rather tenuous links to the over-arching objectives of the plan.

The manner in which data and information were collected for the plan also suggests that sectoral interests, rather than the ecosystem, were placed in the centre of plan development:

Even the way of gathering information and views was essentially to get each sector and say 'what do you want from the Clyde?' and then try and put that into the plan (Clyde Steering Group Member).

Some interviewees claim that this overly sectoral approach to plan formulation inhibited efforts at implementing an ecosystem approach. Commenting on the sectoral-based as opposed to an ecosystem-based approach to the preparation of the plans within the Clyde Plan, one interviewee said:

that may be a reflection on how the plan was developed, initially we went off into sectoral groups and then tried to develop thinking in the different sectors and then some of that was pulled together in some cross-sectoral work...but it was impossible to combine these plans (Clyde Steering Group Member).

This approach was criticised for trying to be too accommodating of sectoral goals and objectives and for not adopting practices from terrestrial planning which would mediate between these:

if you look at what land-use planners do, they take what everyone wants and they listen to it all, but they don't write it all into the plan, everyone doesn't get what they want, this tries to deliver what everyone wants, individual sectors, rather than saying everyone can't have what they want, we're going to have a bit of this here and people are going to have to make compromises (Clyde Steering Group Member).

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This bilateral approach was highlighted as being useful for gaining an insight into issues that are of concern to the different stakeholder groups but criticised as being unsuitable for developing objectives for an integrated plan:

It was difficult trying to tie the plans together...I don't think it was bad to do that to understand peoples issues, but to actually take that to develop into policies and sections of the plan, I wouldn't advise doing it that way again (Clyde Steering Group Member).

As well as being critical of the adoption of an overly sectoral approach, one interviewee was also critical of the policies put forward by individual groups, arguing that they, by and large, reflected the aspirations of individual sectors in the area and that there was no framework for combining these outputs:

The main criticism was that there was these sectoral policies, which weren't policies at all, they were just wish lists...there was no attempt at coming up with a plan of how these things would meld together (Clyde Steering Group Member).

In 2008, a report which describes the interactions amongst various sectors active in the planning area was completed. Data for the report were gathered from sectoral representatives, who were asked to populate interactions matrices by indicating the relationship between their sector and other subsectors in the area. Respondents were asked to classify these interactions as either neutral, competitive, conflictual, incompatible, or positive (Table 4.4). The report found that there were very few unmanaged conflicts in the planning area (Thompson *et al.*, 2008).

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Table 4.4: Categories from Clyde Pilot sectoral interactions matrix (source: Thompson *et al.*, 2008)

Neutral	Where the activity of the other (sub)sector has no positive or negative influence on your (sub)sector
Competition	Where there is sustainable competition for access to the same resources or areas between the other (sub)sector and your (sub)sector
Conflict	Where conflict arises as a consequence of unmanaged competition between the other (sub)sector and your (sub)sector
Incompatible	Where there is a fundamental and unmanageable incompatibility between the activity of the other (sub)sector and your (sub)sector
Positive	Where the activity of the other (sub)sector has a positive influence on your (sub)sector

Although the creation of sectoral interaction matrices (see Table 4.5 for an example) was useful in terms of highlighting possible conflicts and synergies amongst the sectors, the dearth of spatial data included in the report means that the location of these inter-sectoral interactions are not available. For example, although it is clear from the matrix that there is conflict, or possible conflict, between the offshore wind energy sector and large shipping activity, it does not illustrate where these conflicts arise or where they are likely to arise.

Table 4.5: Example of Sectoral Interactions Matrix (adapted from: Thompson *et al.*, 2008)

Sector	Sub – Sector	Shellfish	Tankers	Bulk carriers	Container vessels	Ferries	Cruise ships
Renewable Energy	Offshore Wind	Neutral	Conflict	Conflict	Conflict	Conflict	Conflict

4.3.4.2 Using MSP according to area and type of activity

Although the Clyde Pilot made no effort to distinguish between intensely used and sparsely used areas within its planning boundaries, it did identify a number of areas

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of special importance to the maintenance of biodiversity. It proposed these areas be identified within the plan as *Local Areas of Marine Importance* and that guidance be provided on their protection from activities that disrupt ecosystem functioning, degrade natural habitats and reduce biodiversity. The final plan does not contain any such designations or guidance. The plan contains very little spatial data and no spatial designations in respect of human activities or policies. However, in its recommendations for future statutory MSP in Scotland, the Clyde Pilot suggests the division of marine regions into smaller planning units, as appropriate, and the development of sub-regional plans for particularly busy or sensitive areas.

4.3.4.3 Defining objectives to guide MSP

Three broad long-term aims and eight key objectives are outlined for the Clyde pilot. The aims, embracing respectively the three pillars of environmental, economic, and social sustainability, relate to: a) maintaining and enhancing the biodiversity, landscape and seascape of the Firth of Clyde, by protecting and improving its natural resources; b) providing a framework that supports current economic activity, opportunities for growth and attracts investment; and c) maintaining the wellbeing and cultural diversity of coastal communities (Donnelly *et al.*, 2010).

These high-level, long-term aims are to be achieved through eight key objectives: a) developing an integrated suite of policies and proposals for future development; b) improving the knowledge base of habitats, species and pressures; c) promoting maritime transportation; d) enhancing understanding of the importance of seascape and associated landscapes; e) increasing participation in marine-related recreational activities; f) maintaining and improving the wellbeing, culture, heritage and diversity of coastal communities; g) increasing commercial confidence through better-informed decision-making; and h) safeguarding and enhancing the quality of the marine, coast and intertidal habitats and species (Donnelly *et al.*, 2010).

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Although these overarching and key objectives are largely aspirational, the Clyde Plan contains four cross-cutting policy themes (environment, communities, heritage, and safety) and five sectoral plans (recreation and tourism; shipping and transport; mariculture; fishing; and energy and sub-sea infrastructure) which are intended to detail how these objectives are to be achieved. Policy themes and sectoral plans, however, predominantly consist of further aspirational policies and sectoral ambitions with no operational strategies or action plans. For example, the first policy under the environment crosscutting theme, *Policy ENV 1*, highlights the lack of detailed and useable knowledge regarding the marine environment of the Clyde but proposes no actions or strategies to rectify this situation. The sectoral plans continue in a similar vein. For example, *Policy R&T 8*, calls for integrated marketing of the Firth of Clyde and asserts a need for greater involvement and cooperation between various stakeholders in this regard. It does not, however, propose a course of action to foster greater cooperation between these stakeholders in order to produce effective strategies. The plan does contain a ‘proposed action plan’ which is useful in highlighting potential partners for the implementation of the various policies outlined in the plan but does not contain any strategies for achieving these. Although it is not an action plan, *per se*, it does impose time-lines on the Clyde Plan’s policies by suggesting a target year for the delivery of each proposal.

Stakeholders interviewed for the purpose of this study claim the objectives are too sectorally focused and fall well short of the level of integration that is consistent with an ecosystem approach. This is echoed in the evaluation document produced by the Clyde Pilot which argued that future MSP efforts should focus on developing policies that mediate between the aspirations of various sectors while safeguarding ecosystem functioning (Thompson and Donnelly, 2010). One interviewee, with a terrestrial planning background, stated that they had advised the project team and steering group that there was little or no connection between the sectoral plans and the overarching objectives for the plan but that this advice was ignored.

4.3.4.4 Coordinated governance

The Clyde Pilot sought to explore a voluntary stakeholder-regulator partnership as a means of implementing MSP. The FCF provided an existing governance structure on which to build this partnership. Using a pre-existing body to lead MSP had a number of advantages. The FCF provided a ready-made platform through which to connect with disparate stakeholder networks. Members of the FCF had already established good working relationships, had built trust in one another and had become accustomed to working together in a planning context, having recently completed an ICZM project. Using the FCF as a vehicle to deliver MSP, in the opinion of some interviewees avoided unnecessary duplication of effort as its members were largely representative of the relevant stakeholders for any MSP initiative.

Building on a pre-existing governance structure also had a number of disadvantages. Participation in the planning process was perceived by some potential stakeholders to be the sole prerogative of members of the FCF. A clearer division between the two groups might have better illustrated its openness to all stakeholders. A prominent stakeholder group, the Community of Arran Seabed Trust (COAST) argued that the FCF should not have been tasked with developing the plan as it had the effect of largely confining participation and dialogue to groups that were members of the forum. Another weakness associated with FCF is that it was not accustomed to implementing an ecosystem approach and the plan it produced reflects this as it mainly consists of unrelated sectoral strategies. One interviewee commented that the Clyde Pilot was perceived by some as being largely a conservation-driven exercise, especially as it was housed by Scottish Natural Heritage, and advised that further MSP initiatives be housed in ‘neutral’ premises so as not to discourage some stakeholders from participating.

4.3.4.5 Statutory standing

Producing a legally binding agreement was beyond the scope and competence of the Clyde Pilot as it was tasked with developing and implementing a voluntary stakeholder-regulator partnership approach to MSP. It did, however, try to ensure that its policies and proposals would be taken into account by statutory bodies, such

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as local planning authorities, when they were developing future plans. Participants in the Clyde Pilot were required to think beyond their own narrow mandates, but the non-statutory nature of the Clyde Pilot made this extremely difficult:

When you're in that kind of ad-hoc, voluntary, non-statutory environment it's a bit awkward trying to produce something that organisations that already have, or that may have, a very clear idea of their own requirements because they are set up with statute, with primary statute, it's difficult for them to come together and think in different terms (Clyde Steering Group Member).

4.3.4.6 Coherence with terrestrial plans

The plan contains a number of terrestrially focused policies and proposals. As the plan has no statutory basis, there is no guarantee that these will be taken on board when terrestrial plans are revised. These policies and proposals act as supplementary non-statutory planning guidelines and suggestions for future terrestrial planning decisions. The Clyde Plan also has regard to other plans in the area. For example, there are two regional transport partnerships in the area tasked with developing regional transport strategies. These strategies establish a framework for the development of transport infrastructure and services in the area for the next 15 to 20 years (Donnelly *et al.*, 2010). The Clyde Pilot Plan takes these strategies into account and also highlights specific transport infrastructure requirements of marine sectors (Donnelly *et al.*, 2010). The relationship between the Clyde Pilot and terrestrial plans remained unclear throughout the planning process and although local planning authorities broadly welcomed the general guidance provided through the Clyde Plan, there is no indication of how this will be taken into account in future terrestrial plans (Thompson and Donnelly, 2010).

4.3.4.7 Monitoring and evaluation

A number of sustainable development indicators were created and included in a discussion paper produced for the Steering Group. The proposed indicators included institutional process criteria, marine environment criteria, economic prosperity criteria, and quality of life criteria. Although these sustainable development indicators were discussed by the Steering Group during the planning process, they

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were not further developed or included in the final plan. The plan does include a proposal to develop a suite of indicators for species and habitats that are particularly sensitive to certain activities. There are no proposals to develop indicators by which to evaluate its policies or proposals or to monitor their impacts. The Clyde Pilot, however, does recognise the importance of monitoring the plan and suggests that it could be undertaken by Marine Scotland, a stakeholder-regulator partnership or by the proposed Scottish Marine Region Board (Donnelly *et al.*, 2010).

4.3.4.8 Incorporating data and knowledge

Various studies were conducted during the planning process to fill perceived knowledge gaps. One study investigated sectoral interactions in the Firth of Clyde. The report, however, is largely devoid of spatial data which, according to a number of interviewees, would have enabled the production of a considerably better marine spatial plan. The lack of spatial data included in the planning process frustrated some of the Steering Group:

The first time we went to a meeting where the draft plan was coming, there was amazement, it was like 'where's the maps, where's the plans, you know, where's the spatial element?' ...it was a bit of a shock to members of the steering group (Clyde Steering Group Member).

The dearth of spatial data in the plan is partly attributable to unavailability, to lack of appetite amongst some stakeholder groups for its inclusion, and to the short timeframe with which the project team had to complete their tasks:

There's a huge lack of spatial data, partly because it wasn't available and the team tried to put together everything they could and partly because I don't think there was a big push or desire for people to map spatially. So all the way through there were a few of us saying 'where's the spatial data', because it's not a spatial plan...and it's largely to do with the role the project team were given and the short timescale they were given (Clyde Steering Group Member).

The *State of the Clyde Report* summarises existing environmental information. It describes the current status and trends in key environmental variables. A socio-

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economic review provides an overview of employment and businesses supported by the Clyde but also lacks spatial data. A report on biodiversity collates existing knowledge on the Firth of Clyde. It reveals significant knowledge gaps, both in terms of the quality and spatial coverage of the information. In response, an indicative *Seabed Habitat Map* was prepared using a technique which created a model of the marine environment based on observed correlations between habitats and various data that had been collected, such as water depth and current speed (Donnelly *et al.*, 2010).

One interviewee highlighted that there was a dispute within the Steering Group as to how much data was needed to produce the plan and that they believed that the plan was restricted in its scope due to the lack of available and useable data:

I think the action plan is slightly hampered by the fact that evidence is somewhat difficult to come by in the marine environment, you know the data is not brilliant, when we were developing the plan there was a bit of a conflict, one school of thought was that you need lots of data before you write a plan in order that all the decisions are based upon the best possible information. There's another theory that goes well you just use the information you've got and if you don't have any you just make a decision and if that turns out to be the wrong decision you can change it in the future... we certainly didn't have very good data, it's very difficult to identify real biodiversity hotspots in the Clyde, it's difficult to know what the use of various different bits of the Clyde are...so information was difficult so the plan may not have been as good as it could have been (Clyde Steering Group Member).

Some interviewees criticised the desire to have complete data before beginning the planning process. One interviewee stated that the process was overly skewed towards 'science' and the attainment of 'perfect knowledge' before commencing planning. Another interviewee argued that the emphasis placed on obtaining 'complete knowledge' was a rather unproductive approach to take to marine planning and that there was sufficient knowledge concerning key marine problems readily available:

It's dangerous to wait until you've got every last bit of data you need, we understand the problems that are happening in the marine

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environment, how much data do we really need on every specific issue before we take some action? (Clyde Steering Group Member).

It has been further noted that an issues and opportunities report would have helped the project team identify plan foci from the outset (Marine Scotland, 2010b). Interviewees state that a scoping report should have been prepared before the planning process commenced and that this exercise should have concentrated on identifying what stakeholders perceived to be the main issues and opportunities for MSP in the area as well as associated information and data gaps. Some interviewees allege a dearth of planning expertise within the Project Team, with knock-on negative impacts on the quality of the planning process and the eventual plan. With the project team consisting of just one full-time member and one-part time member, skills gaps could be regarded as inevitable. The Steering Group acknowledge that the project would have benefitted considerably from additional marine and policy development expertise (Thompson and Donnelly, 2010).

There also appears to have been a lack of understanding as to what could be achieved by the participation of stakeholders in the Steering Group. A number of interviewees felt that expertise that resided within the group was not fully exploited during the planning process. It was noted, for example, that the Project Team lacked professional planning expertise; yet the steering committee contained a number of terrestrial planners. The lack of planning expertise in the project was highlighted as one of its major shortcomings:

You definitely need someone with a planning background, I mean I don't have a planning background and my eyes gloss over when you've pages and pages of policy, so you do need someone who knows the language. That was probably the biggest downfall of the project (Clyde Steering Group Member).

It was reported that some members of the Steering Group were frustrated by the amount of time they spent proof-reading drafts of the plan (Thompson and Donnelly, 2010). In referring to this, and other related issues, some interviewees commented

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that that their time and expertise could have been used to better effect but that they understood that the Project team were working with limited resources and had to deliver the plan within an unrealistically short timeframe.

4.3.4.9 Transparency

The plan was developed in a largely transparent manner. Minutes of meetings were made available on the Clyde Pilot project website and a number of public workshops were held for stakeholders at which the planning process was described in detail. COAST, in responding in writing to the draft plan, argued that the planning process lacked transparency and that participation was confined to members of the FCF. Interviewees from the Steering Group stated that they often dedicated the mornings of meetings to FCF business and the afternoons to addressing the Clyde Pilot. The Clyde Pilot and the Clyde Forum were chaired by the same person. These close links between FCF and the Steering Group may have served to conflate the two in the eyes of the public.

4.3.5 Stakeholder participation

The following section presents the findings of the evaluation based on the criteria derived from the collaborative planning literature. These include: a) self or co-design of process; b) shared purpose; c) representation and equality; d) interdependency; e) constructive dialogue; f) consensus based decision-making; g) effective process management; h) high quality agreement; i) reciprocal relationships, new networks and institutions; j) network power; k) increased institutional capacity; and l) learning, changes in attitudes and practices.

4.3.5.1 Self or co-design of process

Although the project was largely designed by Marine Scotland, interviewees felt that they had an input into designing the participation process. In particular, stakeholders felt that they had a large part to play in deciding who was involved in the project:

The four projects were designed by Marine Scotland...however there was a fair amount of opportunity for the steering group to comment on

the degree of engagement...in getting to the precise levels of who you involve at what stages and at what levels (Clyde Steering Group Member).

4.3.5.2 Shared purpose

Some interviewees highlighted the need for a coherent stakeholder engagement strategy to be formulated early in the planning process. Steering Group members and participants at consultation sessions questioned the approach adopted at these events and felt that presentations at such events should have focused more on the draft action plan rather than on the process adopted to produce the draft plan (Thompson and Donnelly, 2010). To assist in developing sectoral policies, subgroups were set up for each of the key sectors on the Clyde: Shipping and Transport; Conservation and Biodiversity; Mariculture; Fishing; Recreation and Tourism. It proved difficult for the project team to assess the future aspirations of some sectoral groups. To overcome this, outside facilitation was used in sectoral workshops to help determine strategic objectives for each sector and these were taken into account in formulating the plan's policies (Donnelly *et al.*, 2010). Steering Group members felt that a lot of time was initially spent on deciding the overall vision for the project but that there was a lack of cross-sectoral engagement during the plan development phase:

We spent a lot of time coming up with what the vision was going to be in the statement, having torturous conversations, but then the planning team kind just got on with and the different sectors, it wasn't until the end when we were trying to pull it all together that we got a feel for what everyone else was doing really (Clyde Steering Group Member).

This sectoral-based approach was criticised by some interviewees who saw it as militating against an integrated holistic outcome. It largely confined dialogue to the various sectoral groups, leading each to focus largely on its own narrow objectives without due regard for what they meant to the other sectors:

Things were developed a little bit in isolation...so there was a point where we had seen different bits of it, so when it came together as one document people were reading bits they hadn't been involved in for the first time going 'hmmm, I'm not sure what you mean by that' ...so there was a lot of time spent going through the wording and trying to

get consensus that it actually made sense (Clyde Steering Group Member).

Some interviewees stated that the roles and responsibilities of the Project Team and the Steering Group should have been specified more clearly from the outset. This lack of clarity contributed to confusion regarding the ownership of the plan and the under-utilisation of stakeholder expertise (Thompson and Donnelly, 2010). One interviewee claims the Steering Group were slow to take ownership of the process and that it was only during the final few months that a sense of mutual obligation to work together to produce and publish an agreed plan materialised.

4.3.5.3 Representation, participation and equality

The Plan was developed by the SSMEI Clyde Pilot project team, with support and guidance from a local stakeholder-regulator steering group and input from sectoral interests. The Steering Group, comprising of the FCF core group, consists of representatives from a wide range of marine industries and regulatory bodies associated with the area. Membership of the Clyde Pilot Steering Group is outlined in Table 4.6. One interviewee commented that the Steering Group was not representative of stakeholders in the Clyde area, particularly as local residents were under-represented. Another argued that it would be impossible to have every community in the area represented on the Steering Group and that the use of the FCF made the process of stakeholder engagement in a short timeframe easier for the Clyde Pilot:

One of the reasons the Clyde was chosen was because of the Forum, in a pilot project it made getting stakeholder engagement running very quick, they were building upon that. Yes there is tension that you have to include other people that weren't in the Forum...you can't include everybody in an area the size of the Clyde, not every local community could ever be fully engaged (Clyde Steering Group Member).

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Table 4.6: SSMEI Clyde Pilot Steering Group Membership (Source: Donnelly et al., 2010)

Argyll & Bute Council	Her Majesty's Naval Base Clyde
Ayrshire Joint Planning Steering Group	Lighthouse Caledonia Ltd
British Marine Industries Federation, Scotland	Clyde Marine Scotland – Science and Strategy Division
Caledonian Maritime Assets Limited	Queen’s Harbour Master
CalMac Ferries Ltd	Royal Society for the Protection of Birds
Clyde Fisheries Development Project	Royal Yachting Association Scotland
Clyde Fisherman’s Association	Scottish Coastal Forum
Clydeport Harbour Master	Scottish Creelers and Divers
Clydeport Operations Limited	Scottish Enterprise
Economic, Planning & Environmental Services	Scottish Environmental Protection Agency
Firth of Clyde Forum	Scottish Natural Heritage
Glasgow and Clyde Valley Structure Plan Joint Committee	Strathclyde Passenger Transport
Glasgow City Council	The Crown Estate
Historic Scotland	University Marine Biological Station

It was also felt that the FCF was broadly representative of interests in the area and that the same groups and individuals would have ended up participating in the Pilot no matter how the Steering Group was formed:

To use any other group, to be honest, it would have turned out being the same people at the table (Clyde Steering Group Member).

COAST claims that they were effectively excluded from participating in the Steering Group and were reduced to providing comments on draft plans and policies. A number of interviewees from the Clyde Pilot Steering Group claimed COAST was excluded from the steering committee, as it is a single issue pressure group,

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concerned only with an extremely localised problem in terms of the overall planning and management of the Clyde area:

I'm aware there are groups who would have like to have been involved, primarily one - Coast- the problem is, although working on a really interesting project and are geographically knowledgeable about one area and linked to one area, but if you start getting those type of people involved, who else do you involve, and you end up with a million and one people at the table and it becomes impossible...you can't have fifty people around the table (Clyde Steering Group Member).

It is noted, however, that some non-FCF bodies, such as Scottish Enterprise and Visit Scotland, sooner or later became involved in the Clyde Pilot and that involvement of outside groups improved the quality of dialogue and debate during the planning process (Thompson and Donnelly, 2010).

The perceived exclusivity of the process was considered to be a major drawback of using the Forum as the *de facto* stakeholder group for the Clyde Pilot and it was thought that this issue should have been acknowledged and addressed early in the project:

The drawback of using the Forum is the perception that it's exclusive... we should have tackled that at the beginning, I'm not sure how we could've though (Clyde Steering Group Member).

It was also argued that, it was impossible to involve all small locally focused organisations, such as COAST, as the Steering Group would become too large and unmanageable:

You couldn't invite all communities with individual pressures to be involved (Clyde Steering Group Member).

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Due to the need to involve ‘representative groups’ rather than individuals in the Clyde Pilot, it was regarded as inevitable that some individual positions and views would not be included in the planning process:

There were some people who felt excluded, however, our view would be that you can't involve everyone in a big area like that, and you have to try and involve representative groups, which is why you have industry representatives not individual developers or boat owners or whatever, you have what's perceived to be the industry groups, inevitably they don't always represent everybody's views (Clyde Steering Group Member).

One interviewee claimed that the Steering Group tried to be as representative as possible but that it was difficult to get representatives of some groups to attend meetings as the timing of these events often conflicted with their work:

the danger with that sort of group is that a number of the people you need to get at from a less formal perspective are often out doing other things or have day jobs that don't allow them to take time off in the middle of Monday to Friday setup and attend meetings...and from a fishing perspective, that was another problem, if it was a good day for fishing it didn't matter that the fishing people said they would be there, if it was a good day for fishing making money came first (Clyde Steering Group Member).

Most interviewees claim that they report back to their constituencies from Steering Group meetings. For example one interviewee reported back to a colleague who was taking an overview of all four pilot projects:

In terms of the SSMEI we were working with [colleagues] who were taking an overview of the other pilot SSMEI...so we would coordinate with them and also seek their views on what they thought of this as a plan etc (Clyde Steering Group Member).

Another interviewee indicated that at the Clyde table they take a wider policy view than normal as they, by and large, represent the views of a broader network to which they belong rather than the views of their own organisation.

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Wide public consultation was also employed during the development of the plan (Donnelly *et al.*, 2010). An initial public consultation exercise focused on defining strategic objectives. Another consultation exercise offered the public an opportunity to review and comment on the draft plan. Nine consultation events were held throughout the Firth of Clyde area. This resulted in only 21 responses from individuals or community groups, 10 of which were from the Isle of Arran. This indicates a generally low level of community engagement despite considerable efforts on the part of the project team to generate local interest in their proposals. Views expressed during the consultation process were considered during the development of the final plan (Donnelly *et al.*, 2010). It was difficult to generate wider public interest in the plan if the plan due to its lack of specificity:

In a way, because the plan doesn't actually show anything spatial yet, it's difficult for the public to get their head around a plan that has lots just lots of policies...it much easier to comment if someone is building a factory next to your house because you can see it on a map but if the policy is to encourage a factory in the general area it's more difficult (Clyde Steering Group Member).

In terms of equality, all interviewees felt that they had equal access to resources and equal opportunity to speak.

4.3.5.4 Interdependency

Due to the sector-based approach to plan development, there were limited opportunities for a sense of interdependency to develop. Interviewees indicated that although relationships between the different sectors had been improved due to their involvement in the Clyde Pilot, many of these relationships already existed as a result of their involvement in the FCF. Interviewees explained that they did not depend unduly on the cooperation of other sectors in the area to further their own goals.

4.3.5.5 Constructive dialogue

All but one interviewee indicated that the relationships formed at the FCF made it easier to engage in dialogue within the Steering Group. For example, one interviewee believed that the carryover of trust from the Forum to the Steering Group enabled participants to engage in planning activities for the beginning of the process:

There was a level of trust and a level of knowledge already there so I think that allowed us to get straight into planning rather than trying to figure out each other's positions, it made it easier that many of the members had work closely together before and knew one another (Clyde Steering Group Member).

The dissenting interviewee was concerned that stakeholders' familiarity with one another inhibited real dialogue:

Not that familiarity breeds contempt, but that sometimes there's baggage that goes along with existing organisations...you avoid talking about issues that might need to be discussed, but you know what they're going to say, know their position, and know it's not going to change (Clyde Steering Group Member).

Most interviewees were happy that the Steering Group promoted dialogue amongst participants, often praising the Chairperson's facilitation skills in this regard:

I think the Steering Group worked pretty well, there was open and frank debate in steering group meetings, the Chair was very good at allowing everyone to have their say but then drawing everybody together to make decisions (Clyde Steering Group Member).

4.3.5.6 Consensus based decision-making

The Steering Group utilised consensus based decision-making. Interviewees stated that the use of outside facilitation proved to be extremely beneficial in overcoming contentious issues:

There were a number of occasions that outside facilitators were needed at key points within the decision-making process...they can be

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incredibly useful where the Steering Group was maybe getting bogged down in detail and entrenched positions sometime getting someone from outside is useful to get you to raise your eyes above the immediate horizon (Clyde Steering Group Member).

Another interviewee stated that although the consensus based approach took time, it fostered dialogue amongst participants:

It was more argument-based decision-making! It wasn't let's sit around and take a vote, it was about having a discussion...it was about discussing and coming to some kind of consensus or compromise...a very slow process (Clyde Steering Group Member).

4.3.5.7 Effective process management

Many interviewees were critical of the manner in which the project was managed, particular the lack of timely communication between the project team and the Steering Group, the disjointed manner in which the plan was developed, and the lack of uptake of their advice and input:

As a steering group we weren't getting information out from the project team on a regular basis and in a format we could deal with. It was all very last minute...we might get the papers the day of the meeting or the day before (Clyde Steering Group Member).

It was very disjointed, and while I'm sure [the project officer] had a relatively clear idea in his head of about how he wanted the plan to be structured and the information to be presented, that wasn't necessarily what the steering group was telling him how it should be done...the feedback that was given from meeting to meeting didn't appear to be followed up and that was very frustrating. We weren't saying what we were saying just because we loved the sound of our own voices, we were saying it because there were planners who were, terrestrial planners who were very used to dealing with the planning mechanism, and they knew how different elements of development plans fitted together and were advising him on something that worked terrestrially and that he may wish to consider as an option for what was going to be proposed for offshore (Clyde Steering Group Member).

4.3.5.8 High quality agreement and implementation of plan

It is unlikely that the Clyde MSP Plan will be implemented in its entirety as it has been overtaken by national marine policy and legislative developments. Most interviewees believed that developing the plan was a constructive exercise but that they did not have sufficient time to produce a useable and useful plan:

It's not successful, we haven't got a plan that can be used but we made the best of what we had available in a short space of time
(Clyde Steering Group Member).

I don't think the work is going to be wasted but I don't think that as a plan it will be adopted for the Clyde for any future Clyde planning region (Clyde Steering Group Member).

It's a useful starting point, but it's not a plan (Clyde Steering Group Member).

It was also considered a success from the viewpoint of the FCF as it gave the Forum a purpose and enabled it to generate some tangible outcomes:

I think it was positive to have a project to work on, because if there's a criticism of the Forum it's that it's a useful mechanism for exchanging information but that it doesn't deliver a huge amount. So having something that was linked to the Forum was positive, so it gave a real purpose to that group, which I think was lacking before
(Clyde Steering Group Member).

One interviewee believed that what had been produced was very beneficial and that even partial implementation should be considered as a worthwhile achievement:

The action plan is quite useful, if we implement some of that action plan over the next five years we'll certainly have achieved something
(Clyde Steering Group Member).

Some interviewees believe that a clear remit and statutory standing would enhance the implementation:

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You have to have a clear remit of how it would be used before you start...a clear remit about how it's going to be used from the beginning would make getting to implementation easier (Clyde Steering Group Member).

Implementation is always tough where you aren't statutorily obliged to do it, and in a tough economic climate, it's hard to get partnerships together to make a difference (Clyde Steering Group Member).

Some interviewees were happy they participated but do not believe the plan will result in change to practices in the area:

There are some things we are quite happy with...such as the wording of the vision...but I would say leading on to delivery and things changing it's difficult at the moment to see how that's going to happen, which is always our goal if you're going to go through a process like this is to make a difference at the end of the day...and I don't see a lot of action coming out of this at the moment (Clyde Steering Group Member).

At the end of the day I'm not sure you can say that there's a huge amount changed, but the problem is if you didn't sit there, it might have been much worse from our perspective (Clyde Steering Group Member).

Interviewees do not believe that the plan will be implemented any time soon, partly because of legislative and economic developments:

We are taking forward three or four projects from within the action plan but there is slight hesitancy to commit to things without having a national marine plan. Which would always be the case where you have a trial plan before you actually got its big brother actually sitting above it, so there's a bit of uncertainty there. And, obviously, no organisation is currently flush with lots of money (Clyde Steering Group Member).

4.3.5.9 Trust, reciprocal relationships, networks and institutions

There was a high level of trust within the Steering Group from the beginning due to it being mainly comprised of stakeholders who already worked close together in another forum. All interviewees believe their participation in the Clyde Pilot helped to strengthen relationships with other sectors, but that most of these relationships already existed as a result of their participation in the FCF:

we were already working closely with many of the other members but we've probably built better relationships with some of sectors to because of this (Clyde Steering Group Member).

We would have worked together already and that didn't change as a result of the pilot (Clyde Steering Group Member).

The Clyde Pilot also provided a forum for sectors, who may not have communicated in the past or who might not have had a good relationship, to come together and discuss general marine planning topics without necessarily talking about contemporary contentious issues within particular sectors:

it almost gives us a purpose to talk to sectors that we may not have talked to in the past...and in a relatively neutral ground, you're not talking about individual cases or bad cases where, you know, something is going badly wrong we're talking about general items of planning. So it's relatively easily for the [our sector] and [another sector] to sit in the same room and exchange views (Clyde Steering Group Member).

Other interviewees commended the Clyde Pilot's success in terms of building relationships and trust amongst participants:

The thing that I would highlight as a great success is bringing stakeholders together that in the past never talked to each other, you know you got us and a group of fishermen in the same room and we can still hold conversations and it doesn't get down to a slagging match, you building trust is important, the fishermen don't see us a bunch of sandal wearing hippies and we don't see them as them as pillagers of the marine environment. So building trust is quite important, especially in areas where you're planning which aren't totally regulated, if you look at terrestrial planning that's extremely regulated and you mightn't need as much trust there, but for areas like marine you need a lot of trust (Clyde Steering Group Member).

4.3.5.10 Increased institutional capacity, learning, changes in attitudes and practices

Participants considered the Clyde Pilot to have been a useful capacity building and learning exercise in terms of future MSP in Scotland:

We've learned a huge amount from participating in this that will really help with the marine plans in the future... we've learned a tremendous amount (Clyde Steering Group Member).

I think it was successful, it was a long process but we've learnt a lot from the exercise that will allow us to improve marine planning in Scotland (Clyde Steering Group Member).

I don't necessarily think that for the Clyde that this plan is the most ideal document because of the issues we've discussed about data and spatial information etc. However, it is the first step in the direction to a much much better plan and it was a step in the right direction for marine planning in Scotland (Clyde Steering Group Member).

None of the interviewees believe the Clyde Pilot has resulted in a significant change in practices or actions in the area.

We were doing some of these things prior to the plan and we would have continued to do them (Clyde Steering Group Member).

Although the plan may have concentrated the activities of one sector into certain areas:

it may have focused our resources into areas that are now agreed as important in the plan but it hasn't really changed what we would have pursued if the plan wasn't there (Clyde Steering Group Member).

4.3.6 Lessons for MSP initiatives from the SSMEI Clyde Pilot Project

To date, the SSMEI Clyde Pilot has largely failed to implement an ecosystem based approach to marine management. A poorly developed understanding of this fundamental concept as it applies to MSP linked to inadequate consideration of its true potential is apparent. It is evident that the Clyde Pilot did not emphasise the place-based nature of the ecosystem approach as a key element in the planning process, resulting in a predominately sectoral approach to policy formulation taking precedence over territorial planning. Attempts at mediating between sectoral interests and at promoting cross-sectoral synergies were largely absent. The place-

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based nature and integrated management dimensions of the ecosystem approach need to be further emphasised in future MSP initiatives.

Grafting MSP onto existing governance structures appeals in terms of administrative and related efficiencies but may serve to frustrate efforts at implementing an ecosystem approach, especially because of a long tradition of sectoral management. This problem is compounded where existing agencies do not have the authority to hold other government departments or agencies to account, or to compel them to comply with an agreed plan. Pre-existing inter-agency conflict may lead to a reluctance to share power or cooperate with other agencies. This makes the adoption of an integrated approach difficult and slow to accomplish (Guénette and Alder, 2007). As illustrated by the Clyde pilot, existing governance entities may also have a history of conflict with some marine stakeholders that may make them reluctant to engage in a process that reinforces the *status quo* and may also raise issues regarding transparency and accountability. Furthermore, participants within existing multi-stakeholder forums should not define who participates in the planning process. These issues require full consideration when deciding whether to create a new administrative agency to lead MSP or to assign the task to an existing entity. It is wise to assess whether the existing institutional arrangement is fit for purpose before entrusting it with the challenging task of MSP.

The effectiveness of MSP in mediating between stakeholder aspirations is greatly influenced by the participatory mechanisms employed in the planning process (Ritchie and Ellis, 2010). While the mechanisms employed by the Clyde Pilot did serve to stimulate participation by key stakeholder groups, it achieved little in the way of mediation between their aspirations. The use of a pre-existing stakeholder forum proved beneficial for the Clyde Pilot especially in terms of fostering stakeholder participation in the planning process. Local coastal partnerships, such as the FCF, have a key role to play in MSP initiatives as they provide a ready-made platform for engaging with diverse networks of stakeholders. Stakeholders in the FCF had developed trusting relationships and were generally comfortable working together. These benefits are offset to some extent by attendant dangers of the Steering Group being perceived as an exclusive club to which new members are not

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particularly welcome and an associated lack of transparency to excluded constituencies. Benefits in terms of fostering broader participation are likely to accrue if a clear distinction is made between pre-existing partnerships and bodies entrusted with MSP initiatives. In certain circumstances, this may necessitate the establishment of new institutional structures. MSP initiatives should build upon the experiences of pre-existing multi-stakeholder forums but make a clear distinction between them and the MSP forum so as to stimulate participation. Although the participants in the Clyde Pilot seemed keen on excluding ‘single issue pressure groups’, these groups need to be accommodated somehow in the planning process.

The planning area of the Clyde Pilot is within what has been described as an *urban* sea; yet within the Clyde Pilot planning area there is considerable variance between intensely used and sparsely used areas. There are also a considerable number of areas that have been identified as being vulnerable to change. A piecemeal approach, characterised by separate and independent plans for each of these areas, would serve to aggravate issues arising from the fragmented governance of this marine environment. To avoid this, MSP guidelines should encourage an approach which would see detailed local level plans for intensely used or vulnerable areas nested within larger area plans, with each having regard for regional and national level plans and policies. It is also clear from the Clyde Pilot that MSP needs to proceed on a statutory basis. This is particularly necessary for marine plans to be properly coordinated with terrestrial and other statutory plans. The Clyde Pilot also demonstrates that clear understanding of how marine and terrestrial plans will be coordinated needs to be developed at the outset.

The objectives of the Clyde Plan are largely aspirational and poorly assimilated into the relevant action plans, if at all. The bilateral approach adopted by the Clyde Pilot does not foster a sense of interconnectedness and shared purpose that is vital to the successful implementation of the ecosystem approach. The Clyde Pilot’s action plans are produced on a sectoral basis with little or no emphasis on implementing cross-sectoral objectives. The inclusion of operational and measurable objectives could remedy this. This may be achieved through the use of the SMART principles when

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designing objectives (Day, 2008; Douvère and Ehler, 2010) and through the use of detailed action plans. It is also vital that plan implementation, evaluation and monitoring are considered during the planning process and incorporated *ab initio* into marine plans.

The dangers of engaging with stakeholders on a predominantly sectoral basis are well illustrated by the Clyde Pilot. A participation strategy based on this approach does not foster dialogue amongst stakeholders, with knock-on adverse implications for the formulation of cross-sectoral policies and strategies. MSP initiatives need to adopt stakeholder participation mechanisms which foster inter-sectoral dialogue throughout the planning process in order to highlight interconnections between marine users and allow them to explore mutually beneficial actions. As the Clyde Pilot demonstrates, MSP initiatives should avoid becoming the forum in which sectoral objectives, goals and policies are developed. The development of which sectoral positions and aspirations is a pre-planning exercise that should be completed before engaging in MSP. Due to a lack of capacity and coherence within sectors, MSP lead agencies may have to assist individual sectors to develop these.

A wide range of data, knowledge and skills are needed to implement MSP. Lack of relevant knowledge, information, and data is one of the most cited obstacles to implementing effective integrated marine management (Douvère and Ehler, 2010). The failure of the Clyde Pilot to adequately meet these needs by drawing on the experience and expertise of the stakeholder steering group, for example, demonstrates a lack of understanding and appreciation of the true potential of meaningful stakeholder participation. MSP initiatives must allow adequate time for the necessary data to be collected if they are to avoid these difficulties. MSP initiatives should gather sufficiently high quality data with adequate spatial resolution, particularly in relation to marine users and their interactions. The Clyde Pilot also demonstrates that MSP takes time, especially if its strong potential for tackling difficult problems is to be realised by moving beyond general and somewhat tokenistic public participation to an iterative and interactive process between key

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actors, including expert and non-expert working together in a relationship of mutual obligation and trust.

The Clyde Pilot highlights the need for the roles of the various institutional elements of a MSP initiative to be clearly defined. Confusion over the role of the project team and the Steering Group delayed the latter taking ownership of the plan. How MSP initiatives fit with existing institutional arrangements needs to be considered. The Clyde Plan is now largely redundant having been overtaken by developments at a national level. This may not be of major consequence in this case as the Clyde Pilot was designed to inform future MSP in Scotland and was operating on a trial basis, with little expectation that the ensuing plan would be implemented in its entirety. However, when implementing statutory MSP careful consideration must be paid to the potential interplay between MSP processes and existing institutions' competencies and working practices.

4.4 The Eastern Scotian Shelf Integrated Management Initiative

Recognised as a leading country in terms of place-based approaches to marine management (Young *et al.*, 2007; Douvère, 2008; Douvère and Ehler, 2009a; O'Boyle and Worcester, 2009, Flannery and Ó Cinnéide, under review) Canada has implemented Large Ocean Management Areas (LOMAs) to plan and manage activities in the marine environment in five separate areas. The ESSIM initiative is the longest running and most developed LOMA and a strategic plan has been produced for the area (Figure 4.2). The place-based plan was developed in collaboration with stakeholders and contains objectives for the future management of the area (Flannery and Ó Cinnéide, under review). The ESSIM initiative falls into the broad category of *MSP based on an ecosystem approach* in Douvère and Elher's (2009) typology of MSP initiatives. Although often referred to as a spatial planning exercise (for example: Young *et al.*, 2007; Douvère, 2008) the ESSIM initiative is more correctly defined as an integrated ocean management process as it lacks specific spatial management strategies. Useful lessons regarding the ecosystem approach, stakeholder participation and other MSP principles can be derived nevertheless from the ESSIM experience.

The policy and legislative context of the ESSIM initiative is outlined in the first instance. This is followed by an account of the ESSIM initiative and its collaborative planning model. The findings of the case study are then presented and discussed, leading to the formulation of lessons for MSP initiatives.

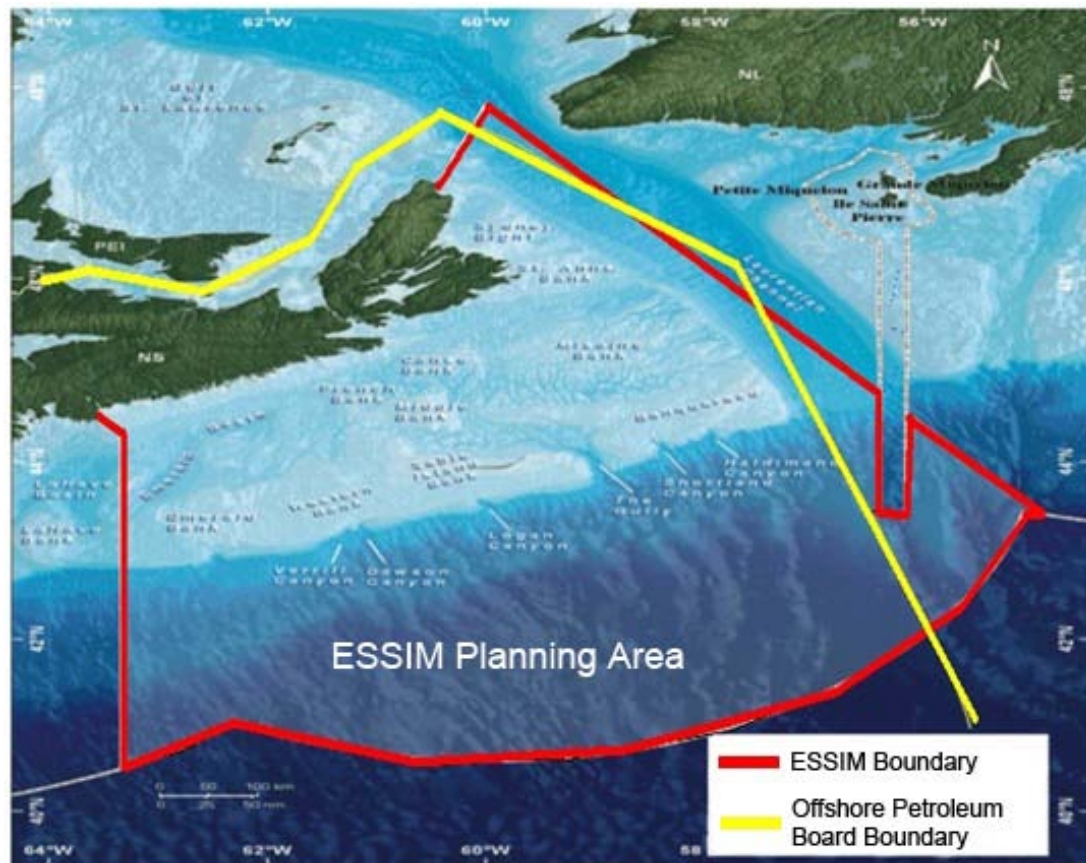


Figure 4.2: ESSIM Planning Area (adapted from DFO, 2007a).

4.4.1 Policy and legislative context

Canada enacted the *Oceans Act* in 1997 as a result of growing concerns regarding the cumulative impacts of human activities on its marine ecosystems and in response to international treaties. The *Oceans Act* mandated Department of Fisheries and Oceans Canada (DFO) to lead and facilitate the development and implementation of integrated management plans for Canada's oceans in collaboration with maritime stakeholders. The ESSIM initiative was the first integrated ocean management project established under this act (Foster *et al.*, 2005). The impetus for the initiative partly emanated from the *Sable Gully Conservation Strategy* (1997) which recommended that integrated management approaches be applied to the offshore area surrounding The Gully Area of Interest (Rutherford *et al.*, 2005). The Eastern Scotian Shelf was also chosen for the application of integrated ocean management because it contains an extensive range of living and non-living resources, has areas of high biological diversity, and has multiple and conflicting human activities (DFO,

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2003; Walmsley *et al.*, 2007). Fisheries, offshore oil and gas, marine transportation, communications and submarine cables, maritime defence operations, scientific research, recreation and tourism, ocean disposal, and marine conservation and protection represent key activities in the area (Walmsley *et al.*, 2007).

4.4.2 Collaborative planning model

The ESSIM initiative is a collaborative planning process which enables regulatory authorities and stakeholders to work together (DFO, 2007a). Adopting a collaborative planning model “allows for a more coordinated, comprehensive and inclusive management approach and helps to prevent conflict among different ocean users and between humans and the environment” (DFO, 2007a, p. 3). Stakeholders include: federal and provincial departments, local municipal and planning authorities, aboriginal communities, ocean industry and resource use sectors, environmental interest groups, coastal communities, and scientists (Rutherford *et al.*, 2005).

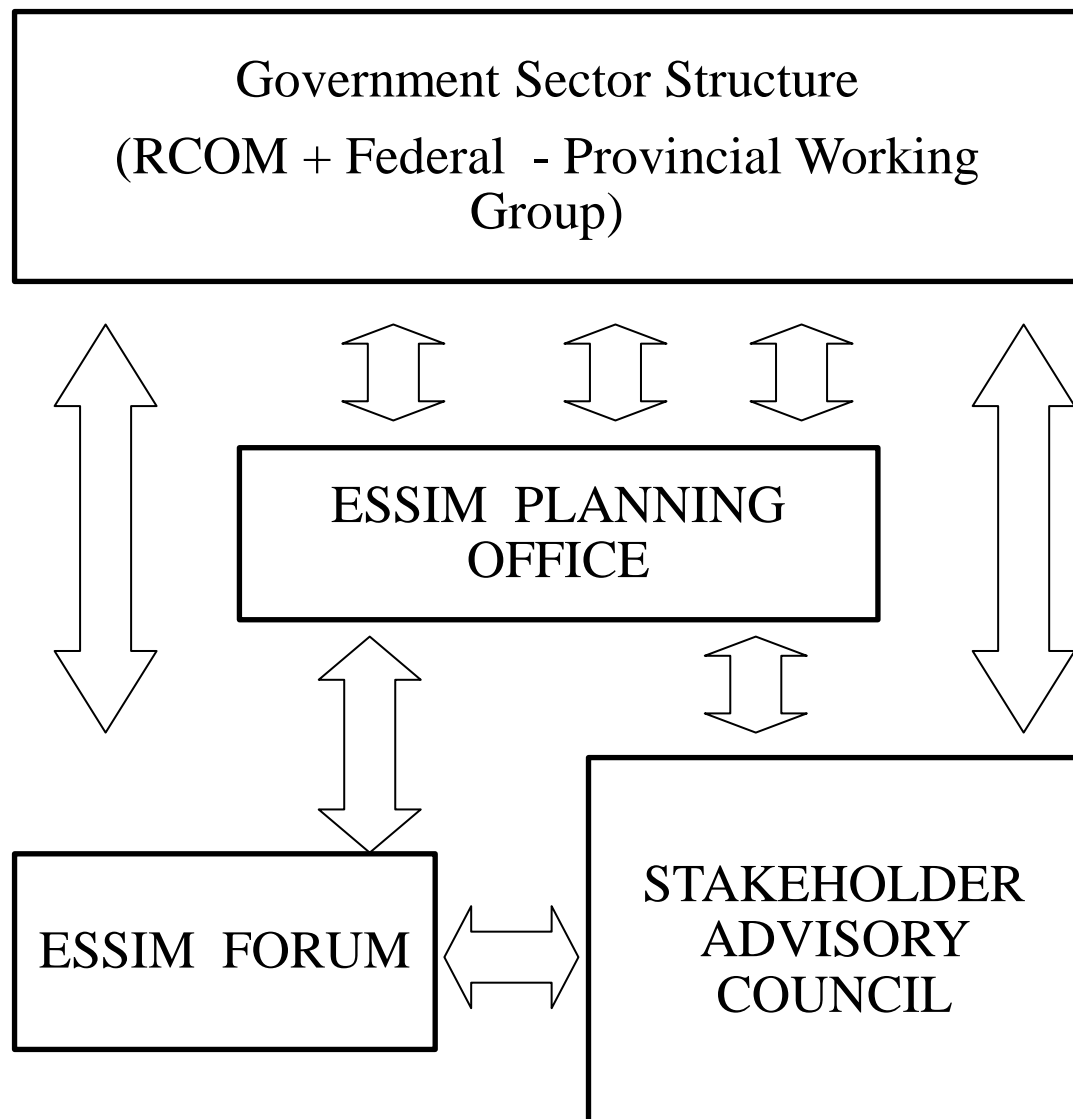


Figure 4.3: ESSIM collaborative planning model

The ESSIM collaborative planning model has four institutional structures (Figure 4.3): the Government Sector Structure; the ESSIM Planning Office; the ESSIM Forum; and the Stakeholder Advisory Council (SAC) (DFO, 2007a). The Government Sector Structure is comprised of two bodies: the Regional Committee on Ocean Management, and the Federal-Provincial Working Group. The Regional Committee functions as the “senior executive level forum for federal and provincial departments and agencies with ocean-related programs’ and is comprised of representatives from federal government departments and provincial government departments and agencies from Nova Scotia, New Brunswick and Prince Edward Island” (DFO, 2007a, p. 25). The Regional Committee coordinates, *inter alia*, the

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intergovernmental and interdepartmental planning, management, and regulatory matters relating to integrated ocean and coastal management (DFO, 2007a). It operates on a consensus basis and makes non-binding recommendations, to be executed by the relevant government departments, agencies and boards as they see fit. Recently, the Regional Committee expanded its geographic scope and is no longer solely concerned with the ESSIM initiative. The Federal-Provincial Working Group is “an intergovernmental forum that focuses on policy, management, operations and regulatory coordination for the ESSIM Initiative” (DFO, 2007a, p. 26). The Group is comprised of representatives of ocean-related federal and provincial departments, agencies and boards that have policy, regulatory, or programme concerns in the ESSIM planning area. The main function of the Working Group is to build government support and cohesion for integrated ocean management (DFO, 2007a). The Working Group meets four to five times a year or more regularly if circumstances dictate, and provides an opportunity for information sharing and dialogue between its members (DFO, 2007a).

The ESSIM Planning Office is managed by DFO. Although the core resources and personnel for the ESSIM Planning Office are currently provided by DFO, its institutional design allows for other government departments and non-governmental groups to contribute, as appropriate, at any future point (DFO, 2007a). The ESSIM Planning Office is tasked with providing leadership and coordination, in cooperation with the SAC and the Government Sector Structure, in the development and implementation of the ESSIM Plan (DFO, 2007a). In contrast with the other ESSIM institutions, which meet intermittently, the ESSIM Planning Office provides ongoing support for the overall collaborative planning process and is charged with organising and facilitating the meetings of the other ESSIM institutions.

The ESSIM Forum is an inclusive assembly which enables stakeholders to participate in the collaborative planning process. It has no decision-making power but functions as a platform for multi-stakeholder communications and information sharing, and allows a wide range of stakeholders to contribute to the ESSIM initiative (DFO, 2007a). The Forum is coordinated by the Planning Office and is

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open to all stakeholders and interested individuals. Not only do Forum meetings present individuals with an opportunity to provide input into the planning process but they also allow for performance and progress of the initiative to be discussed. The Forum also allows for community and sectoral workshops to be convened for “information sharing, topical discussion and feedback, as required” (DFO, 2007a, p. 22).

The SAC is limited to stakeholder representatives and is responsible for providing leadership, guidance and stewardship for the development and implementation of the ESSIM Plan (DFO, 2007a). Stakeholder representation on the SAC is shown in Table 3.6. Membership is balanced by sector as well as by criteria such as group size, capacity, and commitment. According to the ESSIM Plan (DFO, 2007) the optimum size for the SAC approximates 30. The SAC may form sub-committees or working groups to perform specific tasks. Various methods are used to select representatives: for example, environmental non-governmental groups form a caucus to nominate their representatives. SAC members are encouraged to send alternates if they are unable to attend particular meetings (SAC, 2008). The SAC meets quarterly at a minimum. Meetings are co-chaired: one chair from DFO and another drawn from the non-government sectors. SAC operates on a consensual basis where possible and has devised its own set of protocols for resolving difficult issues (SAC, 2008). Resolution mechanisms range from ascertaining what needs to change for dissenting stakeholders to support a proposal to employing a neutral external third party facilitator or mediator (SAC, 2008). Throughout its development the SAC has worked in partnership with the Planning Office to provide input and feedback as the plan evolved (DFO, 2007a). Once finalised, the SAC was tasked with the stewardship of the plan and with monitoring and evaluation functions associated with implementation (DFO, 2007a). The SAC also works collaboratively on an ongoing basis with a variety of stakeholder groups and with the Regional Committee.

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Table 4.7: ESSIM SAC Membership (Source: DFO, 2007a).

Stakeholder Group	Number of Seats
Government of Canada	4
Conservation Groups	3
Government of Nova Scotia	3
Community Groups	2
Academic & Private Sector Research	2
Government of Newfoundland & Labrador	1
Transportation	1
Municipal Government	2
Offshore Petroleum Board	1
Telecommunications	1
Aboriginal Peoples	2
Tourism	1
Fisheries	5
Citizens at Large	1-2
Oil and gas	2
Total	31-32

4.4.3 Evaluation findings

The following section presents the findings from the evaluation based on the criteria derived from the EC's guiding principles for MSP. They include: a) using an ecosystem approach; b) deploying MSP according to area and type of activity; c) defining objectives to guide MSP; d) ensuring statutory standing and coordinated governance; e) cross-border cooperation and consultation; f) coherence with terrestrial plans; g) monitoring and evaluation; h) incorporating data and knowledge; and i) transparency.

4.4.3.1 Ecosystem approach

The ecosystem approach is one of ESSIM's guiding principles. The ESSIM initiative strives to implement this by focusing on three overarching objectives: ecosystem health; sustainable development; and integrated management. The overall goal in respect of ecosystem health is the maintenance or improvement of marine ecosystems by ensuring that their structure, function and quality are not compromised by human use or associated management regimes (DFO, 2007b, p. 63). Adopting this approach, according to the ESSIM plan, means that "the management of human activities should make every effort to ensure the integrity of ecosystem

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components, functions and properties are maintained and/or restored at appropriate temporal and spatial scales” (DFO, 2007a, p.13). To achieve this, the management plan focuses on ensuring human activity does not adversely affect biodiversity, ecosystem productivity, or marine environmental quality (DFO, 2007a). The plan contains a number of strategies to implement this, such as: identifying threats and management options for biodiversity conservation; assessing and reviewing factors influencing productivity; and assessing sources and impacts of wastes and debris (DFO, 2007a).

Collaborative governance and integrated management form an overarching objective for the ESSIM initiative. To implement this objective “the ESSIM planning process considers the ecosystem and all of its users comprehensively” rather than concentrating on individual sectors (DFO, 2007a, p.3). Efforts at adopting an integrated management approach, however, are ultimately undone by the ESSIM plan’s weak implementation strategy which eschews coordinated action planning in favour of sectoral planning. The ESSIM strategic plan does not provide detailed strategies or actions plans to achieve its cross-sectoral objectives. Instead, the plan aims “to augment or enhance existing decision-making processes by linking sector planning and management to an overarching set of goals and objectives” (DFO, 2007a, p.5). Action planning is left to the preserve of the various marine sectors with little or no coordination or integration of these plans. Thus, the implementation of the ESSIM initiative’s ecosystem approach is largely dependent on individual sectors voluntarily adopting this principle and related objectives and strategies in their own plans.

One interviewee argued that what ESSIM is doing at the moment is not integrated management:

we are each doing our own plans...a lot of people are still trying to conceptualise what integrated management is, no one is really sure what that is, it's not really defined, maybe no one wants to define it (ESSIM SAC Member).

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Another interviewee, referring to a situation where the Science Branch of DFO publically questioned the MPA designation process established by the Oceans and Habitat branch, commented that DFO should:

practice integrated management before it preaches it. Look at the MPA process, you've mixed messages coming from different parts of DFO, it's like they don't speak to one another (ESSIM SAC Member).

4.4.3.2 Deploying MSP according to area and type of activity

The ESSIM initiative does not pay particular attention to vulnerable areas, nor does it distinguish between high and low use zones within its overall planning region. DFO, however, recently established a separate planning process for designating MPAs in the ESSIM area. The role of the ESSIM initiative, particularly the role of the SAC, in the designation of the MPAs was briefly discussed at meetings observed for the purpose of this study. The fishing representatives at the meeting indicated that they were particularly unhappy that parts of the ESSIM area had been selected for the implementation of MPAs. They felt that they were 'almost being punished' for participating in the integrated management initiative and claimed that there were areas outside the ESSIM planning area where the MPAs could be located. They argued that the ESSIM plan needed to be implemented first in order to ascertain the necessity for and the optimum location of MPAs in the general area. Another community representative was of the opinion that there should be only one *spatial planning* process for the area, so that if MPAs were deemed to be necessary they should be established through the collaborative planning model rather than through a parallel process. Other representatives argued that the SAC should not have a central role in the designation of the MPAs as they predominately impact on the fishing sector and their designation was therefore a matter for that sector and DFO. One representative felt greater effort should be made at linking the MPAs to the ESSIM plan's objectives as this would have the twofold effect of linking the processes and of demonstrating a tangible outcome from the ESSIM initiative. DFO representatives at the meeting stated they would consult with the SAC, as well as the general public, during the MPA planning process. They explained that though SAC members may comment on the MPAs they have no decision-making powers regarding their location and are not obliged or indeed expected to reach consensus on this issue.

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Table 4.8: ESSIM Integrated Management Objectives (Source: DFO, 2007).

Element	Objective (What)	Strategy (How)
Integrated Management	Collaborative structures and processes with adequate capacity, accessible to community members, are established.	<ul style="list-style-type: none"> • Implement ESSIM collaborative planning model. • Identify and support existing multi-sectoral and inter-governmental coordinating mechanisms and establish new mechanisms where needed. • Facilitate stakeholder involvement and capacity.
	Information and Knowledge Appropriate legislation, policies, plans and programs are in place.	<ul style="list-style-type: none"> • Assess effectiveness and efficiency of current legislation, policies, plans and programs. • Develop mechanisms for evaluating proposed legislation, policies, plans and programs. • Initiate policies, plans and programs and identify the need for new legislation as required. • Assess international obligations and commitments and ensure that they are fulfilled. • Incorporate integrated management objectives into sector management plans. • Clarify jurisdictional relationships and fulfil constitutional obligations. • Ensure adequate resources are in place.
	Legal obligations and commitments are fulfilled.	
	Ocean users and regulators are compliant and accountable.	<ul style="list-style-type: none"> • Develop and implement frameworks for compliance promotion. • Develop and implement frameworks for accountability. • Develop and implement frameworks for performance monitoring, reporting and assessment.
	Ocean stewardship and best practices are implemented.	<ul style="list-style-type: none"> • Review existing guidelines and best practices and improve/adapt as necessary. • Develop new guidelines and best practices as necessary. • Support stewardship through education, training and awareness programs.
	Multi-sectoral resource use conflict is reduced.	<ul style="list-style-type: none"> • Understand existing use patterns and interactions. • Identify and characterize spatial and/or temporal conflicts. • Develop procedures and tools for addressing conflicts.

4.4.3.3 Defining objectives to guide MSP

The goal of the ESSIM Plan is to provide an objectives-based approach to ocean management (DFO, 2007a). The plan contains three overarching objectives: collaborative governance and integrated management; sustainable human use; and healthy ecosystems. These goals are supported by more specific objectives and strategies (see Table 4.8 for examples). These goals and objectives are designed to “underlay the Plan and provide the basis for defining management strategies and measuring progress on Plan implementation” (DFO, 2007a, p. 5). Many of the strategies contained in the plan are very general. For example, one strategy supporting the objective of integrated management is to: *facilitate stakeholder*

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involvement and capacity. The strategy contains no indication about the actions that are to be taken to facilitate this or who is to lead the participation process. None of the plan's strategies contain information regarding lead agencies or implementation bodies.

The plan lacks performance measures or metrics by which implementation of its management strategies may be evaluated. Nor does it contain a timeframe for the implementation of these strategies but it does envisage progress being made through a series of short-term action plans: "the objectives and management strategies contained in the Plan will be undertaken through the regular development and implementation of shorter term action plans (e.g., 2-3 year cycles). These action plans may be sector- or issue-based, or collaborative in nature, involving parties from across sectors or communities of interest" (DFO, 2007a, p. 63).

Sectoral interests are expected to unilaterally develop action plans to implement these strategies and there is little or no evidence of concerted efforts at developing issue-based collaborative action plans. An implementation strategy based on sectoral action plans is likely to inhibit coordinated implementation. A sub-committee meeting observed as part of this study did discuss this issue. The role of the SAC in developing and coordinating action plans was debated. However, it was generally agreed that action planning should be left to sectoral interests. To generate an overview of how the ESSIM plan was being implemented, it was suggested that each sectoral plan might be analysed by theme. Themed papers could then be generated illustrating how the ESSIM Plan's objectives were being implemented. One interviewee who was present at this meeting commented that this would give sectors an opportunity to highlight some positive outcomes:

part of the problem is that people assume nothing is happening, it's largely a communication problem...these sector reports, which should be a combination of action plans and what we've been doing, will really be a chance to show what's been done (ESSIM SAC Member).

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Expressing frustration with the sector-based implementation strategy, two interviewees questioned if it truly represented integrated management. One asked:

are we doing integrated management now, not really, we're each doing our own plans (ESSIM SAC Member).

Another commented that the SAC tends to collaborate on principles and objectives but shuns collaboration when it comes to making decisions which will affect their actions:

Each sector will form their own action plan and this will be presented to the SAC more as information sharing than seeking any input...we collaborate on the easy things, everyone wants sustainable development, less pollution, but don't collaborate on how we're going to get to there (ESSIM SAC Member).

4.4.3.4 Statutory standing and coordinated governance

The 1997 *Oceans Act* assigns DFO as the lead agency to facilitate the development and implementation of integrated management plans. It does not, however, endow DFO with supreme authority with respect to regulating all activities within the integrated management planning areas. The act assigns DFO a largely coordinating role, leaving various other departments with their traditional competencies with regards to regulating their respective sectors. This enables government agencies and departments operating in the ESSIM area to effectively ignore the ESSIM plan if it does not conform sufficiently to their management objectives. It also has impacted adversely on the commitment with which some government departments participate in the ESSIM process and has inhibited efforts at developing dialogue in a spirit of mutual obligation amongst stakeholders. Indeed some departments do not participate purposefully, as evidenced by assigning the role to junior officers who do not have the authority or the experience to speak for their respective departments. One ESSIM Planning Office interviewee felt that the entire process would be improved if there was a requirement that committed other government departments and agencies to the ESSIM process:

If there was a directive that required all departments to be at the table and in order to achieve their mandates they had to participate

fully in this process, it may have helped the whole process work more efficiently (ESSIM SAC Member).

4.4.3.5 Cross-border cooperation and consultation

The spatial boundaries of the ESSIM initiative are based on a combination of administrative and ecological considerations (DFO, 2007a) and have been the subject of much debate and controversy. The planning area as designated corresponds with the Northwest Atlantic Fisheries Organization (NAFO) fisheries management division 4VW (DFO, 2007a). This area, however, encroaches on the jurisdictional area of the Canada-Newfoundland and Labrador Offshore Petroleum Board, who are not party to the ESSIM process. This meant that petroleum development in the overlapping area could be the subject of two separate management processes. This issue was not satisfactorily resolved before the development of the ESSIM Plan, with the result that the Minister of Fisheries and Oceans has refused to endorse it, which in turn has spawned implementation issues and frustrated many stakeholders involved in the process. This may ultimately result in the use of multiple boundaries to define the ESSIM area, with some sectors having different boundaries to others. This may serve to undermine the intention of establishing ecologically based boundaries and create further challenges in terms of implementing an integrated management approach (O'Boyle and Worcester, 2009).

4.4.3.6 Coherence with terrestrial plans

The landward boundary of the planning area has been changed repeatedly. The ESSIM initiative was originally designed to be Canada's first IOM project with an exclusively offshore focus. Later it sought to incorporate coastal waters into the initiative (Rutherford *et al.*, 2005). However, during the process of developing the ESSIM plan the initiative returned to its original remit with the plan focusing exclusively on offshore seas, specifically the area beyond the 12 nmi territorial sea limit (DFO, 2007a).

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The ESSIM plan is not formally integrated with any adjoining terrestrial plans. There are a number of representatives from provincial and municipal planning bodies on the SAC who provide information regarding terrestrial planning initiatives. At the time of writing, the Nova Scotia Government was in the process of designing a coastal strategy. At a SAC meeting observed in the course of this study it was indicated that it might be possible to link the ESSIM initiative with this strategy through a memorandum of understanding between the federal and provincial governments.

4.4.3.7 Monitoring and evaluation

The ESSIM plan is to be reviewed every five years. The “successful implementation of the plan requires an effective and comprehensive program for performance evaluation and reporting” that is regarded as “an integral component of the objectives-based approach and the key to the practice of adaptive management” (DFO, 2007a, p. 63). According to the plan: “the ESSIM Planning Office, working in conjunction with Stakeholder Advisory Council and the intergovernmental Regional Committee on Ocean Management, will encourage, monitor and evaluate the overall implementation of the Plan” (DFO, 2007a). The performance and evaluation programme has two main, interrelated components: plan outcomes; and plan performance. The evaluation of plan outcomes “is the assessment of outcomes resulting from the goals, objectives and management strategies contained in the Plan” (DFO, 2007a, p. 63). This evaluation is to be undertaken through the use of outcome indicators for each of the plan’s objectives, as well as through the evaluation of results from the completion and implementation of the various strategies and actions. The plan, however, does not contain indicators or performance measures for any of its objectives, strategies or actions. The evaluation of plan performance “focuses on the effectiveness of the Plan itself, particularly in terms of the efforts being made to undertake the various strategies, actions and commitments” (DFO, 2007a, p. 63). This is to include assessments of adherence to principles and objectives, as well as undertaking a review of the effectiveness of the collaborative planning model. It is difficult to comprehend how the first part of this process differs from the evaluation of the plan’s outcomes described above. The plan does not elaborate on how ESSIM

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will assess adherence to its fundamental principles; nor does it include indicators to assess the effectiveness of the planning model.

4.4.3.8 Incorporating data and knowledge

DFO has undertaken a significant amount of scientific research and assessment work in support of the ESSIM initiative. In 2002, DFO released *The Scotian Shelf: An Ecological Overview for Ocean Planning* which describes the ecosystem and its components. In 2003, it released *The State of the Eastern Scotian Shelf Ecosystem*, which identifies trends and changing environmental conditions in the planning area (DFO, 2007a). In 2006, DFO published *Implications of Ecosystem Dynamics for the Integrated Management of the Eastern Scotian Shelf*, which provides a description of the dynamics between the marine environment (including physical habitat, species and trophic interactions) and human activities and impacts (DFO, 2007a). As well as these technical reports, DFO has also published a number of discussion papers regarding the planning process. These include: *The Development of a Collaborative Management and Planning Process*, which was designed to stimulate and guide discussion on the structures of the collaborative planning model; *Issues, Challenges and Opportunities: A Discussion Paper prepared for the Federal-Provincial ESSIM Working Group*, which was based on the bilateral discussions between DFO and various ocean sectors and which outlined broad management issues; *A Strategic Planning Framework for the Eastern Scotian Shelf Ocean Management Plan: A Discussion Paper prepared for the ESSIM Forum*, which presented the core elements of the plan and various options for the development of a comprehensive ocean management framework; and *Eastern Scotian Shelf Integrated Management (ESSIM) Initiative: Proposed Collaborative Planning Model – A Discussion Paper*, outlining the proposed collaborative planning model (DFO, 2007a). One interviewee commented that these discursive reports were as valuable as the scientific reports as they helped to structure the planning process. An atlas of human activity in the planning area was also produced. This contains spatial and temporal information about a number of activities in the planning area including: fisheries; conservation; oil and gas; military exercises; research; submarine cables; marine tourism; and

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ocean dumping (DFO, 2007a). All interviewees felt that sufficient data and information were made available to them. One stakeholder commented that:

we actually had really useful data to go beyond what we came up with (ESSIM SAC Member).

All but one interviewee thought their particular knowledge and expertise was brought to bear on the planning process. It was noted by three interviewees that during the planning process the SAC was able to draw on the expertise of a number of its members who had relevant terrestrial planning skills and previous experience of integrated management.

4.4.3.9 Transparency

SAC meetings are closed to the general public and one needs formal permission to attend. The ESSIM initiative has a dedicated website where it makes all its documents and reports available. It publishes the proceedings of ESSIM Forum workshops on this website. There is also an online discussion forum dedicated to the ESSIM initiative. The minutes of the SAC meetings are available on this forum.

One interviewee questioned the transparency of the relationship between DFO and the fisheries organisations represented on the SAC. At a SAC meeting observed in the course of this study, a DFO officer made a presentation on behalf of the fisheries sector outlining its framework for developing an action plan. The interviewee cited this as evidence of DFO having an extremely close relationship with local fisheries. DFO officers who were interviewed for this study expressed a willingness to engage with all sectors and to help them develop action plans. Furthermore, they owned up to a special relationship with the fisheries sector and defended it on the grounds that they are its regulator. The presentation of the fisheries action plan by a DFO staff member was explained on the basis of the fisheries representative being unable to attend the SAC meeting, and it was denied that it was indicative of collusion between DFO and the fisheries sector.

4.4.4 Stakeholder participation

The following section presents the findings of the evaluation based on the criteria derived from the collaborative planning literature. These include: a) self or co-design of process; b) shared purpose; c) representation and equality; d) interdependency; e) constructive dialogue; f) consensus based decision-making; g) effective process management; h) high quality agreement; i) reciprocal relationships, new networks and institutions; j) network power; k) increased institutional capacity; and l) learning, changes in attitudes and practices.

4.4.4.1 Self or co-design of process

The ESSIM initiative offered many opportunities for stakeholders to participate in designing the planning process. As lead agency, DFO consulted widely on the design. Initially, this was done on a sector by sector basis with DFO engaging these stakeholders through informal, bilateral, information sharing and discussion sessions (DFO, 2001a). Two discussion papers were generated from stakeholder analysis and engagement processes: *The Development of a Collaborative Planning Management and Planning Process* (DFO, 2001a) and *Issues, Challenges and Opportunities* (DFO, 2001b). These papers provided the basis for discussion at the first ESSIM Forum Workshop in February 2002. While this workshop focused on many aspects of the ESSIM initiative, the design of the collaborative planning model was extensively discussed. A multi-stakeholder coordinating working group was established in the course of the workshop to collaborate with the Planning Office on design of the planning process as well as on plan design (Coffen-Smout *et al.*, 2002). A draft planning model was included in a subsequent discussion paper and discussed at the next Forum Workshop. At this workshop, a senior member of DFO noted that “clearly people are looking for a slightly different model for governance, a simpler model. I think we can come up with something” (Rutherford *et al.*, 2003, p. 41). This resulted in DFO redesigning the collaborative model. Stakeholders were able to further refine elements of the planning process as it progressed. For example, stakeholders were to the fore in altering the terms of reference of the SAC so as to provide for a non-governmental co-chair. Interviewees commented that DFO’s willingness to engage with them on the design of the process and the redesign of the collaborative model facilitated the building of trust in the department:

they're very open to suggestions, they had a rough idea themselves of what the process should look like but we really worked at it together, like us having a co-chair, they really pushed that idea, it was [another representatives] that delayed that...I definitely trust them more because of the way they've engaged with us (ESSIM SAC Member).

4.4.4.2 Shared purpose

The initial impetus for establishing the ESSIM initiative was top-down, driven largely by developments at federal level, especially Canada's *Oceans Act*. One of the first priorities of the ESSIM initiative was to gain an understanding of human activities in or impinging on the planning area (DFO, 2001a). This was achieved through an overview and use audit of ocean activities, current management practices and issues associated with the eastern Scotian Shelf (Rutherford *et al.*, 2005). In reviewing existing and potential issues and challenges in the ESSIM area (Rutherford *et al.*, 2005) DFO was able to identify stakeholders who might be impacted by future planning decisions, these stakeholders' interrelationships, and their impacts on the ecosystem (DFO, 2001a). DFO was then well positioned to discuss ESSIM objectives with these stakeholders. Again, this was largely done through bilateral meetings, focusing on principles and approaches consistent with the *Oceans Act* and the scope of the initiative. The discussion paper, *Issues, Challenges and Opportunities*, expanded upon issues identified in the overview and use audit and incorporated information gained from these bilateral meetings. Draft objectives for the ESSIM initiative were then presented at the first workshop (Coffen-Smout *et al.*, 2002). In some cases, stakeholders thought that objectives could benefit from stronger wording. Stakeholders also highlighted additional priorities and elements for inclusion among the objectives (Coffen-Smout *et al.*, 2002). Furthermore, once a draft plan was prepared stakeholders were given the opportunity to comment on the vision and scope of the plan.

4.4.4.3 Representation and equality

The SAC members represent a diversity of interests. Although local government departments and municipalities are represented by officials, there are no elected public representatives on the SAC to legitimately represent the interests of the wider

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community. Arising from criticism that the SAC was not sufficiently inclusive (Kearney *et al.*, 2007) and lobbying by certain groups, the SAC was expanded to include representatives of coastal communities. Their inclusion, without a corresponding expansion of the ESSIM area to include the coastal zone, has resulted in tensions within the SAC. Some interviewees question the right of coastal representatives to comment on the ESSIM plan or on action planning, when they themselves are not impacted by it. One stakeholder interviewed still does not regard the SAC as representative of all stakeholders in the area:

Some people did show up in the beginning but don't come anymore; others were never involved so it's not representative of all stakeholders. We still have trouble getting some people to buy into it. And some sectors are so complex, like the fisheries, and some of their sub-sectors are underrepresented (ESSIM SAC Member).

However, one stakeholder from a local environmental non-governmental organisation is reported as claiming at a workshop that the ESSIM initiative is “relative to other processes...a relatively fair, inclusive, and accountable process” (Coffen-Smout *et al.*, 2005, p. 21). To ensure legitimate representation, the process of selecting representatives for the SAC was left to each individual sector.

The majority of SAC members interviewed for this study regularly report to and consult with their constituents. Some e-mail their constituents with brief reports after each meeting while others convene regular meetings to discuss ESSIM matters. One SAC member indicated that as ESSIM is not a ‘hot button item’ for his group he usually updates them about once a year. Another interviewee explained how some SAC members play multiple roles, often engaging with their constituents to help them understand government policy and the impact it may have on them:

Many of my members would not be knowledgeable about how government operates or how integrated management structures operate, so I explain why something might be important to them. So I play two roles, I provide a voice for our community and I also translate back into lay language, what is happening and why they should pay attention to it (ESSIM SAC Member).

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All interviewees stated they consulted extensively with their constituents during the plan design phase of the initiative. Interviewees used a variety of consultation processes. For example, one representative described how she prepared presentations for constituents, held stakeholder meetings, and collated feedback to form a position on the draft plan:

When we were trying to decide whether to endorse the plan, I went through the plan with members of the network, made presentations, highlighted the specific segments which I felt they needed to pay attention to. And I then pulled all the feedback together to develop our position and endorsed the plan (ESSIM SAC Member).

Another stated that he largely engaged with his constituents through e-mail after he had made the draft plan available to them:

I made the document available as we were going through the planning process, e-mailed members about issues being discussed or coming up at the next meeting and tried to get some feedback to bring to the table (ESSIM SAC Member).

Networking is one of ESSIM's operating principles. As demonstrated above, SAC members are well networked within their own constituencies. Many SAC members interviewed for this study were also networked beyond their own immediate community. For example, one interviewee explained how they provided updates to groups not directly involved in the ESSIM process but that were part of a larger network:

I consult within my own community and we work pretty close with [two groups] not directly involved in ESSIM at the moment but we keep them updated (ESSIM SAC Member).

Another interviewee who operated in a similar manner, reported on ESSIM to a network of groups not directly involved in the initiative:

we belong to a broader network, that network is used to share information about issues which effects us individually and as a group, so I often report on ESSIM to the broader group (ESSIM SAC Member).

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All but one interviewee believed that the process was equal and fair. Both interviewees were concerned by, what they believed to be, the preferential treatment of the fisheries sector. As discussed above, this interviewee was concerned with the lack of transparency in the manner in which DFO engaged with the fisheries sector.

4.4.4.4 Interdependency

There is little evidence of these groups becoming increasingly interdependent. Without an explicit shared purpose which requires collaborative action in order to effect progress, many of the groups are able to achieve their limited mandates and agendas without the support of the other stakeholders at the table. One interviewee commented that they use the SAC largely to share information but that it has little or no impact on how they operate:

for us it's really information sharing. It's not directly beneficial to our actions; we do our own consultation process (ESSIM SAC Member).

Furthermore, some of the stakeholder groups, such as the provincial government and municipalities, operate exclusively outside the planning area. Although these groups have an interest in what occurs in the planning area, they do not depend on the cooperation of the other groups to achieve their mandates.

4.4.4.5 Constructive dialogue

Although there may not be a shared sense of interdependency at the SAC table, most SAC members engage in constructive dialogue. All interviewees feel they are able to influence the plan and are respected by most stakeholders at the table. They also feel most of the SAC members are sincere and are willing to engage in dialogue, although one SAC member questioned the commitment of some industry sectors, adding that:

there is a feeling that some people are at the table to make sure something doesn't happen that they don't like rather than championing the approach (ESSIM SAC Member).

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Displeasure at the manner in which some federal government departments engage with the SAC was voiced by four interviewees. One commented that some government departments are not participating sincerely in the process and send junior staff members with no authority to commit on behalf of their departments so as to avoid making any promises:

they've adopted a watching brief where they don't send senior people, they send a junior person who cannot comment or make a commitment to anything being discussed (ESSIM SAC Member).

Another cited an occasion when it appears that a very junior staff member of a government department was sent to a SAC meeting so as to avoid a difficult issue:

all she could do was say sorry I don't know...that's not coming to the table in good faith (ESSIM SAC Member).

The non-participatory and uncollaborative position taken by some government departments was described a major flaw associated with ESSIM and that it inhibits dialogue with these departments:

It might have worked better if there wasn't this non-discretionary voluntary kind of position that been taken by a number of government departments in the whole process. If there was a directive that required all government departments to be at the table and in order to achieve their mandates they had to full participate in this process it may have helped the whole process work more efficiently (ESSIM SAC Member).

4.4.4.6 Consensus based decision-making

The SAC operates on a consensus basis although some stakeholders view consensus based decision-making as an obstacle to progress. One SAC member commented that consensus based decision-making inhibited the development of operational objectives:

for there to be consensus it has to be this high-level stuff, the government and industry are happy with this but not the people who want action, who want tangible change (ESSIM SAC Member).

Another interviewee recounted how one representative who was vehemently opposed to the idea of having co-chairs of the SAC, as he feared that this would grant too much influence over the planning process to community or environmental representatives, managed to frustrate the will of the majority for a considerable period of time. In the opinion of the interviewee, consensus based decision-making effectively granted the dissenting representative the power to veto this proposal even though the overwhelming majority of SAC members were in favour of having co-chairs. Another noted that in order to get consensus the ESSIM plan had to abandon attempts at action planning and focus solely on developing strategic objectives:

Initially we were looking at coming in with a full blown plan, and then we decided it was easier to get consensus on a strategic plan and leave implementation and action planning to the sectors...it's the only way we'd get consensus (ESSIM SAC Member).

It was also claimed that the SAC has been relatively inactive since the plan had been endorsed:

Since then we never really had to make a decision, it's like you make a comment and people are like yeah duly noted (ESSIM SAC Member).

4.4.4.7 Effective process management

All but one of the interviewees praised the manner in which DFO, through the Planning Office, manage the planning process. Interviewees claim the information necessary to develop the plan was made available to them, citing a number of scientific reports and presentations as evidence of this. Interviewees did express concerns regarding the flexibility of the process, noting that the Regional Committee mandate has changed considerably and that:

it is no longer focused on ESSIM issues but has this broader regional focus, since it was expanded it's not that relevant to ESSIM anymore... we've kinda lost our link to the decision makers (ESSIM SAC Member).

4.4.4.8 High quality agreement

The ESSIM Plan represents an agreement achieved through the collaborative planning model. It is a strategic-level plan providing an objective-based approach to integrated ocean management. With such a wide spectrum of interests involved in the SAC, however, reaching consensus on actions plans was regarded as too elusive a goal. Although the plan eschews efforts at action planning, it still represents a considerable achievement that may be regarded as the beginning of a new management paradigm in the area, according to one interviewee:

Although the plan is all intent, not commitment but intent, it still represents the beginning of a new way of doing business (ESSIM SAC Member).

There is considerable disagreement about the implementation of the plan. Some stakeholders believe that responsibility for implementing the plan rests with only a few stakeholders, with most having little or nothing to contribute in terms of action planning and implementation. Two interviewees were distinctly unhappy that coastal communities and the environmental community represented on the SAC would not be contributing to the implementation of a plan they helped to develop. An environmental representative interviewed for this study contested this assertion and commented that the environmental sector was, in fact, the first sector to implement an action plan related to the ESSIM initiative. However, one of these interviewees argues that implementation is still unbalanced with onus lying heavily on industry sectors:

There is too much of a focus on conservation goals and not enough effort at integrated management, the title is integrated management right, I haven't seen a lot of integrated management, there's been a strong focus on industry. What's an action plan from the coastal community group going to consist of? (ESSIM SAC Member).

SAC members are extremely critical of the fact that the plan has not been endorsed by the responsible federal government Minister, adding that lack of federal level support inhibits implementation. Slow implementation is leading to some

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stakeholders regarding the process as unsuccessful and questioning their continued involvement:

if the plan isn't signed off by the government that gave us the mandate to do it, and is not being implemented then what the bloody hell are we all doing at the table (ESSIM SAC Member).

4.4.4.9 Increased institutional capacity

Two interviewees saw participation as a means of increasing institutional capacity. One interviewee commented that participation in the ESSIM initiative was good for their community, saying that it was:

a great exercise for our community, we learned how to participate more accurately in policy discussions, we learned the language to use to participate properly (ESSIM SAC Member).

4.4.4.10 Learning, changes in attitudes and practices

There is also evidence that participation in ESSIM changed attitudes of at least some of those involved. For example, one SAC member commented that participation in the ESSIM initiative provided them with a greater understanding of the interconnected nature of the marine environment and its users:

It's given me a greater appreciation of [other sectors'] perception of issues and decisions...it also allowed us to understand how our decisions impact on others and how working together we can reduce those impacts (ESSIM SAC Member).

Another interviewee described how the information-sharing element of the process benefited her personally and the sector she represented:

There's a wealth of knowledge at the table, and you don't know what you don't know until someone mentions something, a new scientific study coming out or whatever... and in a more specific way you learn what the other sectors are doing, I often come back from the meetings with action items for us, it keeps us in the loop, often we're told about things a couple of months in advance and we get to prepare, clear our desks and rearrange what we're doing if it's a priority. ..it's good for planning (ESSIM SAC Member).

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A SAC member explained how her involvement with the SAC negatively impacted the regard in which some organisations were held:

some of them are acting on emotion and they are not respecting others at the table...they personally insult people...it's not what you need in a group that's about collaboration (ESSIM SAC Member).

This may be largely a matter that relates to particular personnel as it appears to be no longer a major issue due to a change in representatives, although trust and respect have been eroded:

since XXXXX changed who comes to the table to represent them, I'm beginning to respect them again but a lot of damage was done, a lot of respect lost (ESSIM SAC Member).

4.4.4.11 Reciprocal relationships, new networks and institutions

All except one interviewee said that the process has helped build relationships and create new networks. One interviewee claims the process strengthens pre-existing links and gives them opportunities to meet other stakeholders that they might not meet. The ESSIM initiative made building new relationships easier:

it's great to have a forum where you can get to know other industries, where it would take a lot effort to form a relationship otherwise (ESSIM SAC Member).

Relationships formed around the SAC table facilitates the performance of other unrelated activities:

The relationships that you form with people around the table help you to do your own work away from SAC...you know people personally, it's easier to communicate (ESSIM SAC Member).

No new inter-sectoral institutions have been formed as a result of these new relationships. However, a number of intra-sectoral institutions have been established. The aforementioned environmental caucus provides a forum for environmental non-

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government organisations to discuss policy. The ESSIM initiative also has led to institutional building within the fishing industry (O'Boyle and Worcester, 2009). The Scotia-Fundy Fisheries Roundtable has been established to develop a sectoral perspective on marine conservation issues, including EBM, and to address intra-sectoral conflicts arising from the complexity of the fishing sector (O'Boyle and Worcester, 2009).

4.4.5 Lessons for MSP initiatives from the ESSIM initiative

The ESSIM initiative is a pioneering attempt at implementing an ecosystem-based approach to marine management. As such it adopted a 'learning by doing' approach. This assessment of the ESSIM initiative highlights a number of key lessons. Implementation of MSP requires a transition from a paradigm dominated by sectoral thinking, management and action to one of integrated and cooperative enterprise. Lead agencies must make the transition from sectoral to ecosystem-based management. As demonstrated by the ESSIM boundary issue, this transition will require agencies to adopt new ways of thinking. Designating the ESSIM boundaries largely on the basis of a fisheries management area demonstrates that a sectoral world view prevailed within DFO. MSP lead agencies need to make a clear commitment to break with sectoral planning and thinking and to evolve new ecosystem focused work practices. This transition also requires stakeholders to trust the lead agency. The ESSIM initiative demonstrates it is possible to develop these critical elements by early meaningful engagement regarding the design of the process. Future MSP initiatives should strive to engage with stakeholders as early as possible and to actively include them in the design of the process. The transition to MSP also requires stakeholders to trust and understand one another. The experience of the ESSIM initiative illustrates that over time stakeholders engaging in face-to-face dialogue can learn to trust one another and to develop reciprocal relationships. In order to develop similar beneficial outcomes, future MSP initiatives need to embrace stakeholder participation mechanisms that facilitate dialogue amongst participants.

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Although the ESSIM initiative adopted an ecosystem approach as one of its guiding principles, there is little evidence of its practical implementation. Without detailed strategies and action plans, implementation remains very much an aspirational goal rather than something that is been achieved in any tangible or measurable manner. Future MSP initiatives need not only to consider how an ecosystem approach may be incorporated into the planning process but also how this approach is to be implemented once planning has been finalised. Depending on sector-based plans, as ESSIM did to effect ecosystem-based management strategies, is not fruitful as it results in piecemeal, fragmented implementation. This implementation strategy is more likely to further embed a sectoral approach to marine management rather than usher in a new era of ecosystem-based management.

Implementation of the ESSIM plan is also inhibited by a lack of specificity in its objectives and strategies. The ESSIM plan contains three overarching cross-sectoral objectives which are to be achieved through more specific objectives and strategies. These lower level objectives, however, are aspirational rather than operational and, in most cases, are very vague and general. The strategies also are imprecise and do not contain specific, measurable actions. Again, an adherence to the SMART principles for objective design by future MSP initiatives may help overcome these issues (Day, 2008; Douvere and Ehler, 2010). Clear monitoring and evaluation strategies also need to be established in advance of implementation.

Although the ESSIM initiative did not focus special attention on specific areas or types of activities, the parallel process of MPA designation demonstrates the difficulty of marrying spatial planning initiatives that are undertaken at different geographical scales. This experience illustrated some of the difficulties that can arise when implementing uncoordinated spatial planning processes in the same area, particularly in relation to stakeholder participation. The suggestion by one interviewee of linking the MPAs to ESSIM objectives mirrors the suggestion by Flannery and Ó Cinnéide (2008) that MSP should adopt a nested plan approach. In this case, the ESSIM plan could provide steering through regional level guidelines and objectives which would be given practical effect by the MPAs. Coordination of

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spatial planning processes occurring in close proximity to one another or occurring at different scales within the same area, needs be incorporated into future MSP initiatives.

The ESSIM initiative is responsible for building trust and understanding amongst participants. It has not, however, fostered a sense of shared purpose or interdependency amongst stakeholders. Fostering a sense of interconnectedness is a crucial step in implementing an ecosystem approach to MSP, as that approach is fundamentally about recognising connections. Notwithstanding the fact that stakeholders agreed on the plan and its objectives, ESSIM's largely sectoral based implementation strategy means there is little scope or need for stakeholders to collaborate. To foster a sense of interdependency, MSP initiatives need to develop integrated implementation strategies based on the ecosystem as a whole. The fragmented nature of governance in the marine environment has also inhibited the development of a sense of interconnectedness amongst some stakeholders in the ESSIM initiative. Governance fragmentation and socially constructed boundaries may inhibit vital stakeholder groups from fully participating in the planning process and may cause unnecessary divisions and tensions between them, with adverse knock-on impacts on plan implementation. From a participation perspective, the inclusion of coastal community stakeholders in the ESSIM planning process heralds the importance of adequately addressing issues of governance fragmentation before beginning MSP processes.

Consensus based decision-making as exercised by the ESSIM initiative has ensured stakeholder buy-in, but it has excessively prolonged the planning process, led to rather general objectives, and stalled the redesign of the SAC. Other innovative decision-making processes, such as agonism, 'aimed at recognising and living with difference of opinion rather than chasing an unachievable consensus' (Ellis *et al.*, 2007, p.539) might be fruitfully explored in the furtherance of MSP best practice. Flexibility is viewed as a crucial element of effective collaborative planning. However, the flexible nature of the ESSIM process has contributed to its weakening. The capacity of the Regional Committee to expand its geographical focus diluted the

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link between ESSIM stakeholders and decision makers. This has made it difficult for the ESSIM plan to be championed at government level. Although MSP processes require a degree of flexibility, it is also crucial that they remain focused on the task at hand.

Although the ESSIM initiative is a statutory process, it still experienced difficulties in coordinating various government departments and in obtaining Ministerial approval for the plan. Lead agencies for MSP initiatives need to be given the competence to coordinate the actions of other government departments and agencies with briefs in the planning area. As illustrated by ESSIM's 'boundary issue', implementing EBM requires government departments to adopt new ways of thinking. Designating the ESSIM boundaries so as to correspond with an existing fishing institution's territorial domain demonstrates that a sectoral world-view prevailed within DFO. MSP lead agencies need to make a conscious decision to break with sectoral planning and thinking and to evolve new ecosystem focused work practices.

The 'boundary issue' also illustrates that the initiative as a whole lacks sufficient understanding of the implementation challenges that lay ahead. Although the goal is to create a planning process capable of responding to changing environmental, social, economic and institutional conditions (DFO, 2007) the ESSIM initiative's failure to address boundary issues shows that the process lacks adaptive capacity. Potential conflicts resulting from the interplay between existing institutions and the ESSIM initiative, as well as the need for cross-border cooperation, appears to have been poorly understood, creating several obstacles to effective plan implementation. ESSIM's 'boundary issue' demonstrates that MSP initiatives need to be cognisant of other environmental institutions and how the implementation of a MSP process is likely to affect and be affected by these institutions. Creating adaptive institutions is a challenging proposition, as institutions generally demonstrate a tendency to be path dependent and lacking in adaptive capacity (North, 1990). It is therefore imperative that MSP initiatives are put on a sound basis from the outset by understanding the potential for negative institutional interplay in the area.

Finally, the role of government departments and agencies as participants in MSP initiatives may need to be clarified early in the process. As demonstrated by the ESSIM initiatives, some government officials may not have a mandate to make commitments on behalf of their departments. Government departments may also be reluctant to agree to measures that might adversely impact on their own agendas at a future date. In a similar vein, some stakeholders may be drawn to an initiative in order to protect their own interests rather than to find optimal solutions to shared problems. These issues might be addressed by endowing lead agencies with supreme authority for regulating activities within MSP areas or by drafting policies which would oblige all participants in MSP processes to implement agreed plans.

4.5 Conclusion

The three case studies suggest several useful lessons in terms of implementing MSP. These lessons, as detailed above, can be transferred to other domains and incorporated into new and existing MSP initiatives. In the next chapter, these lessons are synthesised and the manner in which they may be brought to bear on marine management in Ireland is proposed.

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5.1 Introduction

MSP is viewed as a practical tool to address contemporary marine management issues. Implementation is strongly advocated by various international bodies, including the EC (CEC, 2010). The EC's principles of MSP are likely to form the basis of any MSP Directive issued by the EU and of any MSP initiative in Ireland. This chapter critically examines the Irish context for implementation of MSP. International policy and legislative frameworks applicable to spatial planning in the Irish marine environment are examined in the first instance. This is followed by an exploration of the national marine policy and planning framework, including the relationship between terrestrial planning and marine planning systems. A roadmap for the successful implementation of MSP in Ireland, incorporating good practice lessons as derived from the case studies reported in the previous chapter and from the earlier review of relevant literature, is then advanced.

5.2 Marine spatial planning policy and legislative framework

5.2.1 United Nations Convention on the Law of the Sea

The current legal framework for maritime governance was established by *The 1982 United Nations Convention on the Law of the Sea* (UNCLOS) (UNCLOS, 1982). UNCLOS delimits the spatial limits of maritime zones, including, baselines, internal waters, territorial seas, exclusive EEZ and continental shelf, and establishes coastal states' rights and obligations in each zone (Figure 5.1).

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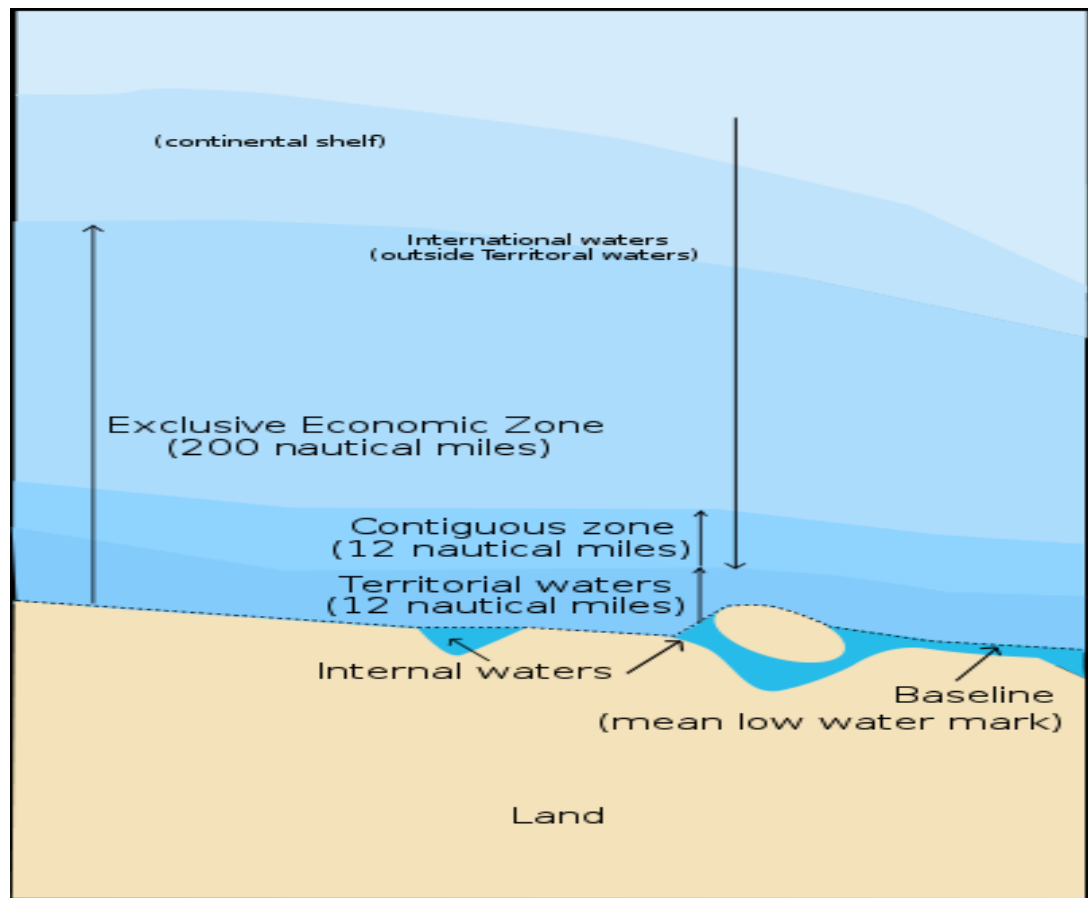


Figure 5.1: Maritime zones under UNCLOS (Source: Historicair, 2006).

The baseline is the line from which the seaward limits of the territorial sea and EEZ are measured, and is the dividing line between the territorial sea and internal waters (Long, 2007). There are two types of baselines: normal baselines, which, essentially, consist of the low-water line around the coast; and straight baselines, which may be used on coasts with specific geographical features, such as deeply indented bays, fjords or islands to avoid projecting irregular outer limits of the other maritime zones (Long, 2007). Areas on the landward side of the straight baseline are known as the internal waters, and, unlike the territorial waters, there is no general right of innocent passage. International practice, however, is that the ports of every state are open to foreign vessels and may be closed only when the vital interest of the State so requires (UNCLOS, 1982).

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Under Article 3 of the UNCLOS, territorial seas extend from the straight baselines out to 12 nmi. Full sovereign rights apply to the territorial seas, providing the state does not hamper the innocent passage of foreign vessels (UNCLOS, 1982). Coastal states may adopt laws relating to innocent passage for, *inter alia*, the protection of facilities, installations, cables and pipelines, for the conservation of living marine resources, and for the preservation of the environment of the coastal State (UNCLOS, 1982). In particular, coastal states can impose the use of specified sea lanes and traffic separation schemes in their territorial seas, taking into account recommendations of the International Maritime Organisation, customary practices and the nature and density of the traffic (UNCLOS, 1982).

Article 33 of UNCLOS provides for contiguous zones, out to 24 nmi from the straight baselines, within which coastal states may prevent infringement of its customs, fiscal, immigration or sanitary laws and regulations. Under Part V of UNCLOS, States may declare an EEZ for the area beyond their territorial seas but it shall not extend beyond 200 nmi from the baseline (UNCLOS, 1982). Within EEZs, States have sovereign rights for the purpose of exploring and exploiting, conserving and managing the living and non-living natural resources of the seabed and subsoil and the superjacent water, including energy from water, currents and winds. In respect of offshore installations, UNCLOS confers exclusive rights to construct, authorise and regulate the construction, operation and use of artificial islands, installations and structures. States may establish safety zones of 500 metres or less around artificial islands, installations and structures. Within EEZs the freedom of navigation, the laying of cables and pipelines and other lawful uses of the sea are protected (UNCLOS, 1982).

Ireland established an EEZ in 2006, allowing it to regulate activities such as offshore renewable energy and marine research in areas beyond the limits of its territorial sea (Long, 2007). It also facilitates the management of economic activities in offshore areas protected under EC Directives, and the participation in other international treaties which make direct reference to EEZs, such as the UNESCO Convention on

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the protection of Underwater Cultural Heritage (Long, 2007). Ireland has also laid claim to areas beyond the 200 nmi limit, and has designated blocks of the continental shelf for hydrocarbon exploration and exploitation purposes (Long, 2007). However, Ireland's right to designate these areas is yet to be determined in accordance with international law (Long, 2007).

5.2.2 OSPAR Convention

The Convention for the Protection of the Marine Environment in the North-East Atlantic, commonly known as the OSPAR Convention, applies to the sea areas under the sovereignty and jurisdiction of contracting parties and some areas of the high seas (OSPAR, 1992). It contains a number of principles and approaches to environmental protection including: the precautionary principle; the polluter pays principle; the best available technology principle; and the best environmental practice principle (Long, 2007). Contracting parties to the 1992 OSPAR Convention, including Ireland, also have agreed to apply the ecosystem approach to managing their marine ecosystems and to pursue strategies that would promote cooperation in spatial planning between competent authorities, especially in the development of spatial planning tools for the maritime area (OSPAR-HELCOM, 2003).

The OSPAR Convention also has been influential in the development of MSP in a European context (Long, 2007). *The Bergen Declaration from the 5th North Sea Conference 2002* invited OSPAR: to improve arrangements for the exchange of information and national experiences in the spatial planning processes of the North Sea States; to investigate the possibilities for further international cooperation in planning and managing marine activities through spatial planning of the North Sea States taking into account cumulative and transboundary effects; and to consider the possibilities for improving environmental assessment of human activities in the marine environment, taking into account existing legal requirements (The Fifth International Conference for the Protection of the North Sea, 2002). Under the *OSPAR Biological Diversity and Ecosystems Strategy* a network of marine protected

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areas will be identified on the basis of the *Guidelines for the Identification and Selection of Marine Protected Areas in the OSPAR Maritime Area* (OSPAR, 2009).

5.2.3 Agenda 21

Ireland also has signed up to Agenda 21, which, commits signatories to the integrated management and sustainable development of the coastal areas and EEZs (UNCED, 1992a). This requires the adoption of new integrated approaches to marine and coastal management and development at national, regional and global levels (UNCED, 1992a). Chapter 28 of Agenda 21 recognises that many of the problems and solutions being addressed by Agenda 21 have their basis in local activities and that the participation and co-operation of local authorities will be a crucial aspect of fulfilling its objectives (UNCED, 1992a). In order to meet these objectives, local authorities are envisaged as entering into dialogue with citizens, local organisations and private enterprises, and through consultation and consensus-building processes to acquire the information needed for formulating the best strategies (UNCED, 1992a). Not only is Agenda 21 a driver of MSP, but it furthers the case for local stakeholder involvement in the production of these plans.

5.2.4 Birds and Habitats Directives (Natura 2000)

MSP is also considered to be an important tool in implementing Natura 2000 in the marine environment. Natura 2000 is the mainstay of the EU's conservation policy and consists of the EC Birds Directive, which provides a framework for establishing Special Protection Areas (SPAs) for rare, vulnerable or regularly occurring migratory species, and the Habitats Directive, which requires Member States to designate Special Areas of Conservation (SACs) to protect certain natural habitats or species of plants or animals (Douvere and Ehler, 2006). SPAs and SACs represent a network of protected areas across the EU, known as Natura 2000. Implementing such a comprehensive network requires the use of spatial planning. The Irish government has been slow to apply these Directives and has been subject to enforcement

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proceedings taken by the European Commission (Long, 2007). It was charged recently in the European Court of Justice of breaking EU law by failing its obligations under Articles 4(1), (2) and (4), and Article 10 of the Birds Directive and under Article 6(2) to (4) of the Habitats Directive (Smyth, 2007). The Court ruled that the Irish government has designated an inadequate number of protected areas and has failed to prevent activities that caused pollution in SPAs. A comprehensive system of MSP has potential in dealing with these challenges.

5.2.5 The Water Framework Directive

The EC Water Framework Directive (WFD) requires Member States to deliver a statutory framework to achieve good ecological status in transitional, estuarine and coastal waters as well as internal river basins (EC, 2000). This process requires an integrated assessment of ecological stresses on water bodies with the overall goal of achieving good water status by 2015 (Tyldesley, 2004). Member States are required to establish a register of protected areas and to develop a management plan, involving spatial planning, for each river basin. In Ireland, the Department of the Environment, Community and Local Government oversees the implementation of the Directive. River Basin Management Plans were finalised for all seven river basin districts in July 2010. The river basin districts are: Eastern River Basin District; Neagh Bann International River Basin District; North Eastern River Basin District; North Western International River Basin District; Shannon International River Basin District; South East River Basin District; South West River Basin District; and the Western River Basin District.

5.2.6 Strategic Environmental Assessment (SEA) Directive

The Strategic Environmental Assessment (SEA) Directive requires Member States to “strategically evaluate and address likely significant environmental effects of certain proposed plans and programmes on the environment” (d’Auria and Ó Cinnéide, 2009, p. 309). It seeks to incorporate environmental considerations throughout the decision-making process and to ensure that the relationships between economic,

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social and environmental factors are understood and addressed (d'Auria and Ó Cinnéide, 2009).

The Department of Communications, Energy and Natural Resources, in conjunction with the Sustainable Energy Authority of Ireland, has begun to develop *An Offshore Renewable Energy Development Plan* for Ireland that requires an SEA (DCENR, 2010b). A number of scenarios in respect of the development of this sector have been formulated with a view to assessing potential impacts associated with each scenario and related policies. The SEA of the development scenarios will inform future marine policy in this area (DCENR, 2010b). The *Offshore Renewable Energy Development Plan* highlights a number of spatial constraints regarding the development of the offshore renewable energy sector but does not make suggestions regarding the possible location of offshore energy zones. From a policy and governance perspective, it emphasises the need for greater coordination between government departments with marine related functions. In particular, it stresses the need for Department of Communications, Energy and Natural Resources to “collaborate with the lead authorities on the MSFD and other statutory requirements that are taking forward requirements relating to collation, management and dissemination of data and information collected for the marine environment so that data is made publicly available so that it may be taken into account by those developers and bodies involved in the siting, design, consenting and permitting of individual projects” (DCENR, 2010b, p. 39). It also calls for the development of a mechanism for greater inter-agency coordination to improve the effectiveness of the delivery of *An Offshore Renewable Energy Development Plan*, arguing that this could be achieved by enhancing the role of the existing multi-body Ocean Energy Steering Committee (DCENR, 2010b).

5.2.7 EU Recommendations on Integrated Coastal Zone Management

MSP is also seen as a key tool to achieve the *EU Recommendations on Integrated Coastal Zone Management* (EC, 2011a). In 2002 the first High-Level Forum on ICZM emphasized the potential to use spatial planning, combined with sea-use

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planning and marine resource management as a means of applying ICZM (MSPP Consortium, 2005b). The Irish coastline is threatened by development, and the protection of the foreshore is just one of the many applications of ICZM (Long, 2007). To date Ireland has failed to make full use of ICZM (O'Hagan and Ballinger, 2010). In 1997, a strategy document, *Coastal Zone Management– a Draft Policy for Ireland*, was published (Brady Shipman Martin, 1997). It highlighted the complex and sectoral nature of Ireland's legislative and administrative framework in the coastal zone and recommended that ICZM be introduced by means of a phased approach to help integrate these. Even though there has been statements supporting the use of ICZM as a management tool within government strategies, including the National Spatial Strategy, there has been little progress in policy or legislative developments for ICZM since the publication of the draft policy (Cummins *et al.*, 2004). Largely due to the absence of an overarching policy, ICZM has been developed in an *ad hoc* fashion through small scale pilot projects, predominately focused on conservation (O'Hagan and Ballinger, 2010).

5.2.8 EU Common Fisheries Policy and Aquaculture Strategy

The Common Fisheries Policy (CFP) is the EU's instrument for the management of fisheries. The CFP requires Member States to apply the precautionary approach to protect and conserve living aquatic resources and aims to implement the ecosystem-based approach to fisheries management (OSPAR, 2009). From a spatial management viewpoint, measures can be agreed that will lead to the conservation and limitation of the environmental impact of fishing (OSPAR, 2009). The CFP applies to all waters within Member States' EEZs except, by derogation, waters within 12 nmi, the administration of which is left to the Member States in question. Traditional access by other nations is permitted up to 6 nmi from the baselines.

The need for spatial planning is also acknowledged by the EC in its *Strategy for the Sustainable Development of European Aquaculture* (CEC, 2002). In this the Commission states that “future aquaculture development should be based on

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Integrated Zone Strategies and Management Plans, which consider aquaculture in relation to all other existing and potential activities and take account of their combined impact on the environment” (CEC, 2002, online).

5.3 National marine governance and planning

Ireland does not have an over-arching national marine policy. Planning in respect of the marine environment in Ireland is pursued by a variety of bodies, making it difficult for a holistic, integrated approach to prevail (Flannery and Ó Cinnéide, 2008). There is, however, a commitment in the current Programme for Government (2011 – 2016) to merge marine responsibilities into one department. Since the formation of the current government in March 2011, some integration has taken place, with much responsibility for development in the foreshore being transferred to the Marine Licensing Unit of the Department of Environment, Community and Local Government. Furthermore, a Planning and Development (Foreshores) Bill is expected to be published in 2011 which will provide for the integration of the foreshore consent process with the existing terrestrial planning system (Department of the Taoiseach, 2011). This will serve to strengthen the integration of marine and terrestrial planning, which is considerably weak at the moment despite the importance of the marine sector and environment to Ireland.

Although there is a commitment in the current Programme for Government (2011 – 2016) to integrate marine responsibilities and although this is beginning to happen in relation to the foreshore, the recent reconfiguration of the Department of the Environment, Community and Local Government has further fractured marine governance. The transfer of the National Parks and Wildlife Service, which oversees the designation and conservation of inshore and offshore Natura 2000 sites, from the Department of the Environment, Community and Local Government to the Department of Arts, Heritage and the Gaeltacht means that administration of marine related functions is now apportioned between five different government departments, as follows: fisheries and aquaculture (Department of Agriculture, Fisheries and

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Food); foreshore activities, and implementation of the WFD and the MSFD (Department of the Environment, Community and Local Government); fossil and renewable energies (Department of Communications, Energy and Natural Resources); transport and ports (Department of Transport, Tourism, and Sport); and Natura 2000 (Department of Arts, Heritage and the Gaeltacht). With considerable fragmentation of marine governance in Ireland, there is recognition for the need for inter-departmental cooperation and coordination due to the cross-cutting nature of marine issues. The Department of the Environment, Community and Local Government, for example, recognises that the successful implementation of the MSFD requires the cooperation and collaboration of the four other departments and of the Marine Institute (DECLG, 2011).

5.3.1 Irish terrestrial planning framework and the marine environment

Terrestrial planning in Ireland is shaped by a number of entities operating at different organisational levels, from the European Union at the supranational level, down to the local authorities at the local level (Figure 5.2). The national terrestrial planning framework as it relates to the marine environment is critically examined in this section.


EU Policies and Directives	European Union	Increasing focus on detailed issues 
National Development Plan	Department of the Environment, Community and Local Government	
National Spatial Strategy		
Regional Planning Guidelines	Regional Authorities	
Development Plans	Local Authorities	
Local Area Plans		

Figure 5.2: Hierarchy of development plans in Ireland (adapted from: d’Auria and Ó Cinnéide, 2009)

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5.3.2 Department of the Environment, Community and Local Government

The Department of the Environment, Community and Local Government is responsible for planning legislation in Ireland. It spearheaded the development of the National Spatial Strategy and the National Development Plan which provide general frameworks for planning in Ireland. Development and local area plans must have regard to the National Spatial Strategy and supporting regional planning guidelines. The import of the marine sector is recognised in a number of documents produced by this Department. The National Spatial Strategy recognises that marine and natural resources have a vital role to play in sustainable development of rural areas, particularly peripheral coastal communities (Government of Ireland, 2002). The establishment of a spatial framework for the development and conservation of key marine and natural resources is included in the National Spatial Strategy (Government of Ireland, 2002). Although The National Spatial Strategy and the National Development Plan outline principles for ICZM, they do not include specific strategies for the adoption of an ICZM process. In the cross-border *Framework for Collaboration on the Spatial Strategies on the Island of Ireland*, published jointly by the Department for Regional Development (UK) and the Department of Environment, Heritage and Local Government, marine-based development is recognised as an important area, and one where cooperation and a coordinated approach through MSP could lead to mutual economic benefits (Department for Regional Development & Department of the Environment, 2011).

5.3.3 An Bord Pleanála

An Bord Pleanála operates primarily as an independent third party appeals board. An appeal can be made to the Board against any planning decision of a local planning authority (Ellis, 2002). As an independent body, it has complete autonomy with regards decision-making (Ellis, 2002). The Board's decisions are final and can be challenged only by judicial review regarding legal and procedural matters.

The Planning and Development (Strategic Infrastructure) Act, 2006, extended the Board's remit by granting it new competencies relating to development control,

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including application to marine related activities. The Act ‘streamlines’ planning procedures relating to Strategic Infrastructure Developments that are considered of national or regional importance (O'Hagan and Lewis, 2011). A Strategic Infrastructure Development is: a) a development of strategic economic or social importance to the State or the region in which it would be situated; or b) a development which would contribute substantially to the fulfilment of any of the objectives of the National Spatial Strategy or any regional planning guidelines in respect of the area, or areas, in which the development would be situated; or c) a development which would have a significant effect on the area of more than one planning authority (O'Hagan and Lewis, 2011). The Act allows for the direct application for planning permission for Strategic Infrastructure Developments to An Bord Pleanála, bypassing the local planning authority. The Act has been criticised for altering the role of An Bord Pleanála from an independent planning appeals authority to a development control body and for by-passing local planning authorities (O'Hagan and Lewis, 2011).

5.3.4 Regional authorities and assemblies

The eight regional authorities (Figure 5.3) were established in 1994 with a mandate to promote co-ordination of the provision of public services in their respective regions (Callanan, 2003). Regional authorities are made up of nominated members of local authorities in each region. The regional authorities develop planning guidelines for their regions after consultation with the local authorities and after inviting submissions from the public on the topic (Callanan, 2003). After regional guidelines have been established the local authorities must review their existing development plans and decide if these plans are consistent with the newly adopted regional guidelines, and amend their plans, if necessary (Callanan, 2003). Regional authorities must review and make new guidelines every six years.



Figure 5.3: Regional Authorities of Ireland (adapted from: Irish Regions Office, no date)

Two regional assemblies were established in 1999 to facilitate application to the EU Structural Fund. The regional assemblies operate as the managing authorities for the delivery of programmes, such as the National Development Plan, which is part financed through this fund. The assemblies were established using the same legislation as the regional authorities and are strictly classified as regional authorities under the Local Government Act, 1991 (Callanan, 2003). The two assemblies are the Border, Midlands and Western Regional Assembly, and the Southern and Eastern Regional Assembly (Figure 5.4). The function of the assemblies is the same as the regional authorities insofar as they are charged with promoting the coordination of the provision of public services in their areas. Where they differ is at the scale at

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which this coordination takes place with the assemblies charged with promoting cooperation between regional authorities, local authorities and other public authorities in the region (Callanan, 2003). The assemblies “must prepare a regional report at regular intervals addressing the development needs of the region, the reviews of the local authority development plans and the co-ordination of public services in the region” (Callanan, 2003, p.437).



Figure 5.4: Regional assemblies of Ireland (Source: Irish Regions Office, no date-b).

Although these regional bodies do not have any competencies directly related to the marine environment, they have expressed an interest in playing a lead role in the implementation of MSP. In its submission on a proposal for a *Commission Communication on Integrated Maritime Policy for the Atlantic Ocean Sea Basin*, the Association of Irish Regions, which is the national representative organisation of the eight regional authorities and two regional assemblies, outlined their preferred

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governance model for the implementation of an integrated marine strategy (Association of Irish Regions, 2010). They posit that MSP should be coordinated at regional level, arguing that it would allow relatively seamless participation in macro regions such as the Irish Sea and the Atlantic Arc (Association of Irish Regions, 2010). They also argue that the inclusion of MSP within the remit of the regional authorities would facilitate the integration of terrestrial and marine based planning within the regions (Association of Irish Regions, 2010).

5.3.5 Local planning authorities

The planning system is implemented at local level by planning authorities. Their primary functions consist of the formulation and implementation of development and local plans; development control; and enforcement (Mahon and Ó Cinnéide, 2009). With respect to development planning and control in the foreshore, the jurisdiction of local planning authorities extends only to the mean high water mark. There is ambiguity over this boundary as it is based, in part, on outdated data (Flannery and Ó Cinnéide, 2008). This compounds the issue of split jurisdiction between terrestrial and marine authorities (Long, 2007). However, the Planning and Development Act, 2000 increased local authorities' powers in relation to foreshore planning and development by providing them with a legislative basis to include objectives regarding development on the foreshore in their development plans (Long, 2007).

5.4 A roadmap for MSP with special reference to Ireland

Recommendations regarding the implementation of MSP, based on the EC's guiding principles, are made in the context of the literature reviewed, the findings of the three case studies and the current legislative, policy and planning framework in Ireland.

5.4.1 Ensuring statutory status and coordinated governance

That MSP needs to be undertaken on a statutory basis is clear from all three case studies. It is difficult to implement non-statutory plans, as the Clyde Pilot

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demonstrates. Although a variety of tools can be used to effect a legally binding process (Schaefer and Barale, 2011) the ESSIM case study demonstrates that a legal obligation to consider certain planning principles and guidelines in the decision process does not automatically result in the successful implementation of these principles. Canada's *Oceans Act* affords the ESSIM initiative legal status; even so it has still experienced difficulties in implementing its plan because it does not imbue DFO with the competence to extract commitments from other governmental departments and agencies or to make them comply with the master plan. This contrasts with the CINMS experience, where plan implementation is progressing satisfactorily due in large measure to NOAA's competency in terms of getting other agencies to comply with the CINMS Plan. Thus, MSP initiatives not only have to operate on a statutory basis but must also be empowered with sufficient authority to govern marine areas. MSP legislation needs to provide the lead agency with authority to hold other government agencies accountable for plan implementation.

Implementation of the ESSIM initiative has been frustrated due to negative institutional interplay between it and other marine resource management regimes. The implementation of MPAs in the CINMS is also delayed due to the complex legislative framework within which it operates. MSP legislation must streamline the complex legislative and governance framework of marine environments and strive to ensure that implementation of MSP is not hampered or undermined by negative institutional interplay.

Although the use of existing governance institutions to implement MSP may be appealing from an administrative and cost perspective (Ehler and Douvere, 2009) these institutions may not be suitable in terms of adopting an ecosystem approach especially if they have a history of conflict with some stakeholder groups. As in the Clyde Pilot, existing institutional groupings may be seen as exclusive or may indeed be disinclined to broaden participation in marine planning beyond their own membership. These issues require consideration when deciding on an agency to oversee MSP and on the appropriate forum for stakeholder engagement. MSP

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legislation should clearly outline the roles and responsibilities of the various institutions involved in the process, and make apparent those institutions that are obligated to implement the plan or are otherwise bound by the plan.

The international evidence, combined with Ireland's experience of ICZM, strongly support the case for the development of an Irish national marine policy and enabling legislation. A lead agency for the implementation of MSP is strongly recommended. Ideally, a Department of Marine should be established to coordinate the integrated management of the marine environment and to oversee the implementation of MSP. This new department would assume all marine related functions and would fulfil the current government's commitment to merge these responsibilities. In the event that the establishment of a Department of Marine is not feasible at this time, it is recommended that the Department of Environment, Community and Local Government, which is currently responsible for the MSFD, the WFD and the foreshore, should lead MSP. This may help mitigate the potential for negative institutional interplay between the MSP process and MSFD and WFD, and may also enable the Department to foster positive synergies between these three environmental processes. The establishment of an inter-departmental body, similar to the ESSIM initiative's Regional Committee on Ocean Management or the United States Interagency Ocean Policy Task Force, to coordinate the implementation of MSP is also recommended. An Inter-Departmental Marine Co-ordinating Group, established under the previous government by the Minister for State for Agriculture, Fisheries and Food (DAFF, 2009) represents a basis for this body. Legislation needs to provide the lead agency for MSP with the competency to hold other departments and agencies responsible for their actions in the planning area and to make them comply with marine plans. It should also clearly define the roles and responsibilities of other participants, including other government departments and agencies, in the MSP process. It is recognised that establishing a statutory MSP process in Ireland will take time, resources and political leadership. It is also likely that the government will wait until the situation regarding the proposed EU MSP Directive is clarified.

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5.4.2 Adopting an ecosystem approach

Several lessons for MSP initiatives may be drawn from the international evidence in relation to adopting an ecosystem approach. First, adopting a sectoral approach to the formulation of management policies and to the implementation of EBM strategies is not compatible with an ecosystem approach. To expedite the transition to EBM, the place-based nature and integrated management dimensions of the ecosystem approach need to be emphasised in MSP initiatives. MSP lead agencies need to break with traditional sectoral planning and thinking and need to evolve new ecosystem focused work practices. They must adopt an ecosystem outlook and have the competence to coordinate at ecosystem level, as illustrated well by the CINMS case study. This may mean that lead agencies need to be invested with the authority to hold other agencies and regulators accountable for their actions and to compel them to comply with fully integrated marine plans. Second, MSP initiatives need to develop a clear understanding of how an ecosystem approach may be incorporated into the planning process and how this approach is to be implemented once planning has been finalised. Both the Clyde Pilot and the ESSIM initiative mirrored the marine EBM projects reviewed by Arkema *et al* (2006) insofar as they experienced considerable difficulties in progressing EBM from abstract concept to practice. The ecosystem approach must therefore be clearly understood and emphasised in the objective setting phase, through the plan development stage and fully incorporated into implementation strategies.

In an Irish context, the new national marine policy should clearly outline the purpose of MSP and the ecosystem approach upon which it should be based. It should also indicate how these concepts are to be implemented. The fundamental importance of the place-based, integrated nature of the ecosystem approach needs to be elaborated. Stakeholder consultation on these matters is vital. The lead agency will need to adopt an ecosystem outlook and work practices that accelerate the transition to EBM. This would be facilitated through the establishment of a Department of Marine or through the Department of the Environment, Community and Local Government assuming coordinating responsibility for all marine governance functions. The latter option may be more feasible in the current financial and political climate.

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5.4.3 Deploying MSP according to area or type of activity

That spatial planning should focus on reducing governance fragmentation and that there needs to be coordination between spatial management strategies operating in close proximity to one another is demonstrated clearly by the evidence presented in this thesis. The piecemeal implementation of MPAs by the CINMS is a direct result of fragmented governance. Fragmented governance and socially constructed, largely arbitrary boundaries also inhibited the development of a sense of interconnectedness amongst stakeholders in the ESSIM initiative. The approach favoured by the EC fails to adequately acknowledge the fact that there may be pockets of densely used or vulnerable areas within relatively localised marine areas. For example, the Clyde Pilot is concerned with the Firth of Clyde; yet within this planning area there is considerable variance between intensely used and sparsely used areas. There are also a considerable number of micro areas that have been identified as being vulnerable to change. Spatial planning of these micro areas in isolation only serves to aggravate issues arising from the fragmented governance. To address these issues, MSP should adopt an approach which would see plans for intensely used or vulnerable areas nested within larger area plans (Flannery and Ó Cinnéide, 2008, 2011).

It is therefore of utmost importance that MSP is undertaken at the correct scale in Ireland. The scale at which MSP is to be implemented should be specified in an Irish national marine policy. A nested plan approach should be adopted, with local plans, for vulnerable or high-use areas, and ICZM plans nested within broader regional plans. Regional scale plans should be designed to enable EBM and to circumvent issues arising from fragmented governance of the marine environment. One way of doing this is to divide the Irish marine environment into three regional planning areas: the Irish Sea; the Celtic Sea; and an Atlantic sea area. Another way is to divide the marine environment into regions broadly corresponding to the coastal areas of the Regional Authorities or Regional Assemblies. This may allow for a better fit between WFD plans and regional marine plans. The regional planning process should identify such areas needing detailed local level plans. These areas might include: biologically sensitive areas; MPAs; high-use density areas; targeted future

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development zones, such as offshore renewable energy parks; coastal zones; and harbours.

5.4.4 Defining objectives to guide MSP

As demonstrated in particular by the ESSIM and SSMEI Clyde Pilot case studies, it is vitally important that proper consideration be given to the manner in which objectives are to be achieved. Both initiatives experienced difficulties in designing strategies to give practical effect to their aspirational objectives and in transitioning to plan implementation. Conversely, the CINMS illustrated the benefit of having specific, measurable objectives and detailed implementation strategies. The use of the SMART principles for objective setting may be useful in ensuring that aspirational objectives are translated into operational objectives (Day, 2008; Douvere and Ehler, 2010). It may also be valuable to adopt the CINMS approach of specifying implementers for each objective. Furthermore, MSP should concentrate on mediating the aspirations and objectives of different stakeholders as opposed to developing sectoral policies.

Irish national marine policy should develop a vision for Ireland's marine environment and economy. To do this the government needs to engage in dialogue with all marine stakeholders. Similarly, on commencement of MSP, clear objectives designed to give practical effect to the agreed national vision, should be formulated by engaging in dialogue with regional and local marine stakeholders. These objectives should be cross-sectoral and should mediate the aspirations of the various marine sectors. Ecological objectives could be tied to the implementation of the MSFD and WFD. The SMART principles should be adopted in developing objectives.

5.4.5 Cross-border cooperation and consultation

The ESSIM initiative's 'boundary issue' illustrates a need to engage in cross-border consultation and demonstrates that border issues can arise within nation states. Its

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failure to reach a satisfactory solution with a neighbouring state over a boundary matter has negatively impacted on plan implementation, leading some stakeholders to question the value of their involvement in the entire process. MSP needs to engage in cross-border cooperation and consultation with neighbouring marine management initiatives, both on national and international contexts as appropriate. Due to their geographic location neither the CINMS nor the SSMEI Clyde Pilot project had to engage in international cross-border consultations. As suggested in various European documents, cross-border cooperation in relation to implementing MSP in Ireland can be facilitated through OSPAR. If a regional approach is adopted, other avenues for cooperation, such as The Atlantic Arc Commission, could also be explored.

5.4.6 Coherence with terrestrial plans

While all three MSP initiatives reported in this thesis display awareness of the need to integrate terrestrial planning and MSP, the Clyde Pilot is the only one to include specific strategies linking to onshore activities. Its failure to achieve significant coherence between the two is largely as a result of its lack of statutory standing, resulting in the Clyde plan effectively being largely ignored by terrestrial planners. To achieve coherence with terrestrial plans, MSP needs to be placed on a statutory footing. Coordinating MSP with other terrestrial based plans, such as transport strategies and plans for the power grids, is also of value as demonstrated by the Clyde Pilot.

To facilitate integration with terrestrial planning, local and regional authorities should participate in the development of marine plans. This would ensure that terrestrial planning objectives are incorporated into the marine planning process. Marine planning objectives should also be incorporated into terrestrial plans and guidelines as they are reviewed. Local authorities, particularly those contiguous to biologically sensitive or vulnerable areas or high-use density marine areas, should be required to prepare ICZM plans in reviewing their development plans. This obligation could be incorporated into the new Foreshore Development Act and could

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aid attempts to integrate foreshore licensing and terrestrial planning. The integration of MSP with other terrestrial-based planning, particularly planning relating to the energy and transport sectors, should also be facilitated.

5.4.7 Monitoring and evaluation

The CINMS demonstrates the benefits of developing performance measures and metrics as part of the planning process and of including these in the plan. The ESSIM initiative and Clyde Pilot, on the other hand, reflect the experiences of other early MSP initiatives which had a tendency to focus attention on the initial stages of the process, with considerably less emphasis being paid to monitoring and evaluation strategies (Schaefer and Barale, 2011). Both initiatives are now experiencing difficulties in relation to monitoring and evaluation. These processes should be treated as an inherent part of the overall planning process and should be developed in conjunction with plan objectives. Performance measures should be developed during the planning process. The lead agency for MSP could be tasked with monitoring and evaluation of the implementation of marine plans. Alternatively, in order to ensure impartial assessment and due to the fact that the government is likely to be reluctant to establish a new agency, a body such as the Marine Institute, Ireland's foremost marine research facility, could be tasked with monitoring and evaluation with regards to MSP.

5.4.8 Incorporating data and knowledge

It takes time to gather the information and data necessary for undertaking MSP. A similar approach to that adopted by the CINMS and the ESSIM initiatives, including analysis of available data and information and research undertaken to fill critical knowledge gaps, prior to embarking on the planning process is recommended. Both case studies demonstrate the benefit of having these data, where possible, in a spatial format. Furthermore, stakeholders in the Clyde Pilot felt a lack of spatial data inhibited their efforts at producing a spatial plan. Therefore, MSP initiatives must

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strive to assemble and represent all necessary data in user friendly spatial format and in timely fashion.

The approach of the ESSIM initiative and that of the Clyde Pilot to gathering human use data could be combined to good effect. The former produced a human use atlas, but did not include data concerning the potential for spatial conflict between users, whereas the latter produced a sectoral interaction matrix but did not include spatial data relating to conflicts. An approach which combines these two techniques would be ideal. MSP initiatives may also benefit from drafting an ‘Issues and Opportunities’ report to help generate management objectives. This proved to be very useful in the ESSIM initiative and participants in the SSMEI Clyde Pilot felt that they would have benefitted from such a report. It is also clear from the Clyde Pilot that attention should be paid to stakeholders as potential sources of knowledge, data and information and to have spatial planning expertise on MSP teams.

In an Irish context, once the scale of the regional areas has been decided, an assessment of available data relating to each region needs to be conducted and research needs to be undertaken to fill any critical knowledge gaps. Human use atlases and interaction matrices should be produced for each region. These should be combined with outputs from the INFOMAR and MeshAtlantc projects to provide ‘maps’ of the socio-ecological marine system in each planning region. Data should be presented in a spatial format, where possible. Expertise in spatial planning needs to be recruited to facilitate MSP. In this regard, the secondment of experienced personnel from planning authorities might be explored.

5.4.9 Transparency

Similar to the National Research Council (2009) findings, the CINMS and Clyde Pilot case studies indicate that transparency in the process by which participants are selected as well as in the planning process is of utmost importance. In Ireland, the

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ESSIM approach to participant selection, which effectively enabled individual sectors to select their representatives, may be more useful than an approach where participants are selected by marine managers or where preferred pre-selected participants decide on who else is to be included. The process of selecting representatives should be left to individual constituencies. One way of selecting representatives of the 'wider public' would be to invite regional assemblies and regional authorities to nominate members. It might also be useful to webcast meetings so that stakeholders unable to attend in person may follow the planning process. Detail accounts of meetings should also be made publically available and meetings should be open to the public.

5.4.10 Stakeholder participation

Stakeholders in all three case studies have indicated that new or better relationships have formed from engaging in face-to-face dialogue. These have resulted in other benefits, such as social learning, changes in attitudes and practices, increased trust and understanding, accruing to the ESSIM and the CINMS initiatives. These benefits are less pronounced in the Clyde Pilot as many of the participants were already familiar with one another and had developed close working relationships through the FCF. MSP initiatives should adopt stakeholder collaborative planning processes which allow repeated opportunities for face-to-face interaction. The usefulness of engaging potential participants in the design of participation processes is also demonstrated in the ESSIM initiative.

Some of the major weaknesses associated with collaborative planning are also evident from the case studies. The Clyde Pilot chimes with Layzer's (2008) argument that collaborative planning initiatives tend to exclude 'difficult stakeholders' insofar as COAST was effectively excluded from participating in the process by other stakeholder groups. Kenney's (2000) assertion that collaborative planning processes can be captured by powerful groups is borne out by the CINMS, as one stakeholder group has been able to further its own agenda, securing funding to undertake its own research, and allowing it to circumvent an agreed work plan.

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Conely and Moote's (2003) argument that stakeholders, faced with little or no progress, question whether the time and resources they are expending on the process is worthwhile, is demonstrated in the ESSIM case study. These situations may be avoided by the lead agency ensuring that processes are fair, equitable, open to all, and conducted in a timely manner.

That there may be limits to the usefulness of consensus-based decision making is evidenced by the CINMS and the ESSIM initiatives. Stakeholders expressed frustration with this form of decision making, believing that it prolonged the planning process, frequently resulting in stalemate and effectively granting veto power to individual stakeholder communities. The CINMS has all but abandoned consensus-based decision making, in favour of a simple voting procedure. As this new approach is unlikely to foster any sense of interconnectedness amongst marine stakeholders, other forms of deliberative decision making, such as agonism and value focused thinking, need to be explored in MSP initiatives.

The CINMS case study demonstrated the benefit of task orientated, purposeful participation. It also demonstrated the need to have stakeholders legitimately represent their constituencies. Similarly, the Clyde Pilot's experience of building on an existing stakeholder forum demonstrated that, although it accelerated the planning process, it effectively excluded the participation of non-forum members. The adoption of a process similar to that of the ESSIM initiative, where constituencies select their own representatives, appears beneficial. Consideration also must be given to how the 'public at large' can be best represented in these processes. The role of government departments and agencies as 'participants' in stakeholder processes needs to be clearly stated as they may not always be in a position to participate in a similar way to other entities.

As there are no existing regional or local stakeholder bodies dedicated to MSP in Ireland, the lead agency needs to support their establishment in each planning region. These should be inclusive of all stakeholder constituencies. Documentation and

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information should be made readily available to all stakeholders. Stakeholder constituencies should be consulted on the design of participation forums. Face-to-face communication and a collaborative planning ethos should form the basis for these forums. As consensus-based decision making can be problematic for various reasons, use of alternative deliberative decision making processes should be considered. Stakeholder constituencies may not be formally organised or suitably prepared for participation in MSP, so the lead agency may need to engage with them initially on a bilateral basis to help them organise and develop capacity to participate. Bilateral processes, however, should not be used to develop overall objectives for MSP. Local authorities may be appropriate bodies to effect MSP at a local level, though there appears to be some antipathy towards them in this regard (Nixon, 2006; Flannery and Ó Cinnéide, 2008). This may need to be addressed by engaging directly with stakeholders and building trust amongst them.

5.5 Conclusion

Putting MSP into practice in Ireland will need political will and support. Without political leadership the concept will have little chance of being implemented. Political leadership is required in the development of a national consensus relating to an integrated marine policy and enabling legislation. This will require the development of mechanisms through which the public can engage in debate about the management of our marine resources. Stakeholder studies (Nixon, 2006; Flannery and Ó Cinnéide, 2008) demonstrate there is a willingness to engage in such a process. A national marine policy needs to be drafted encompassing a vision for the Irish marine economy and environment, specifying the scale at which MSP is implemented, and lead agency. Collaborative planning, involving stakeholder forums with face-to-face communication and deliberative decision-making methods, is an imperative for effective MSP. Legislation which puts MSP on a sound statutory footing and introduces the ecosystem approach must also be introduced. The new legislation must ensure that MSP is undertaken in a transparent manner. It should also introduce the necessary mechanisms to ensure coordination between marine and terrestrial planning and for the monitoring and evaluation of marine spatial plans. It

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should empower the lead agency with the competency to hold other governance bodies in the area to account and make them comply with marine plans. It must also clearly define roles and responsibilities in relation to MSP.

Having already developed some of the necessary datasets to engage in MSP, it is of paramount importance that the outputs of marine related research are exploited to support and inform policy development. In this regard, experiences of good practice from other jurisdictions, as outlined in this thesis and in other studies, as well as good practice distilled from terrestrial spatial planning experiences, must be utilised. Future research on a number of key areas is recommended: mapping human uses of the Irish marine environment; categorising and mapping stakeholder interactions; undertaking a stakeholder analysis; examining the capacity of stakeholders to engage in MSP; developing a set of governance indicators for the EC's principles; developing a clear understanding of how various deliberative decision-making processes could be applied to MSP; and critically examining the capacity of OSAPR and other bodies to promote international cooperation.

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APPENDIX A
SAMPLE INTERVIEW REQUEST

Dear XXXXXXX,

I am a Ph.D student at the National University of Ireland Galway. My thesis is concerned with stakeholder participation in marine spatial planning (MSP). I am interested in conducting a case study on the Clyde Pilot. The study will focus on what Ireland can learn from the Clyde experience of stakeholder participation in the MSP process.

To this end I would like to interview some of the stakeholders that were involved in the Clyde Pilot planning process. I note from the Clyde Pilot Steering Group meeting minutes that you represented XXXXXXX on this group. Your contact details have been passed on to me by XXXXXXXX.

Would you be interested in taking part in a short interview for this project? I plan on visiting the Clyde area later this month or in early November to conduct these interviews. Interviews will take roughly 45mins in length. It is important that I incorporate as many stakeholders' views as possible so as to be able to construct a clear picture of the development of the plan and to be able to make recommendations for similar processes in Ireland. If you require any more information about this project please do not hesitate to contact me.

I look forward to hearing about your experiences of MSP in the future.

--

Wesley Flannery
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APPENDIX B

Sample Interview Schedule

- 1. Who do you represent on the SAC?**
 - Can you describe your role as a member of the SAC?
 - How do you consult with your constituents?
- 2. How did the SAC contribute to the new management plan?**
 - Was your particular expertise drawn upon during this period? In what way?
 - Who provides expert and technical information to the SAC?
- 3. The plan briefly outlines ‘the ecosystem approach’ that was adopted; can you describe what this approach means to you?**
- 4. How was this approach incorporate into the plan?**
 - What impact has this management approach had on your sector?
- 5. How were the objectives for the plan devised?**
 - How is progress towards these objectives being measured?
- 6. Were you involved in the MPA planning process?**
 - How?
- 7. Can you describe the process by which the SAC makes decisions?**
 - Do you think this is an effective way of making decisions?
- 8. What were the major issues/differences between SAC members with regards the plan, and how were these resolved?**
- 9. Did you seek input from your constituents on the draft plan?**
- 10. Are you, or have you been, involved in any of the working groups?**
- 11. Has your involvement in the SAC changed how you view other stakeholders and agencies in the area?**
 - Have you collaborated with any of the other SAC members, including the agencies, on other issues for example the current state wide MPA process?
- 12. What aspects of the SAC worked well?**
 - What is the biggest problem with the SAC process?
 - How can this be improved?
 - Are you satisfied with how the SAC operates and how it contributes to the management strategies?
 - What have you learned from your involvement in the SAC?

Appendices

APPENDIX C

LIST OF ABBREVIATIONS

CFP	Common Fisheries Policy
CINMS	Channel Islands National Marine Sanctuary
CINP	Channel Islands National Park
COAST	Community of Arran Seabed Trust
DFO	Department of Fisheries and Oceans
EBM	Ecosystem-based management
EC	European Commission
EEZ	Exclusive Economic Zone
ESSIM	Eastern Scotian Shelf Integrated Management
EU	European Union
FCF	Firth of Clyde Forum
GNP	Gross National Product
HELCOM	Helsinki Commission
ICZM	Integrated Coastal Zone Management
IMP	Integrated Maritime Policy
IOM	Integrated Ocean Management
MLPA	Marine Life Protection Act
MPA	Marine protected Area
MPSRA	Marine Protection, Research and Sanctuaries Act
MSFD	Marine Strategy Framework Directive
MSP	Marine Spatial Planning
NMI	Nautical Miles
NMSP	National Marine Sanctuary Program
NOAA	National Oceanic and Atmospheric Administration
NPS	National Park Service
NRM	Natural Resource Management
ONMS	Office of National Marine Sanctuaries
OSPAR	Oslo Paris Convention
SAC	Stakeholder Advisory Council
SACs	Special Areas of Conservation
SEA	Strategic Environmental Assessment
SMART	Specific Measurable Achievable Realistic Time-limited
SPAs	Special Protection Areas
SSMEI	Scottish Sustainable Marine Environment Initiative
UK	United Kingdom
UNCLOS	United Nations Convention on the Law of the Sea
US	United States
WFD	Water Framework Directive