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Marine Spatial Planning: International Lessons for Canadian Development

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MARINE SPATIAL PLANNING:
INTERNATIONAL LESSONS FOR CANADIAN DEVELOPMENT

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EXECUTIVE SUMMARY

Marine spatial planning (MSP) is a promising tool for comprehensive marine management. It is designed to balance competing interests and activities and, based on predetermined goals for a given marine area, determine the optimal spatial and temporal distribution of marine activities. In order for MSP to be successful, all decisions regarding marine activities must be made in compliance with the marine spatial plan; this is the greatest challenge to MSP. This paper examines the approaches taken by the MSP regimes in Belgium and the United Kingdom in order to learn from their experiences and to make recommendations for a possible MSP regime in Canada.

The Belgian and UK MSP regimes are two of the most well developed programs in the world and the two nations have attempted to establish MSP through very different mechanisms. In Belgium MSP was initially given strong political support and rather than creating new legislation for MSP, the government chose to create a new Federal Minister responsible for coordinating a marine spatial plan. The Minister was not given marine licensing authority or significant power to enforce the creation of marine spatial plans. This resulted in Belgian MSP stalling almost immediately after Belgian scientists had completed the background work necessary for a comprehensive marine spatial plan. In the United Kingdom new legislation is being debated in the UK Parliament that would avoid this sort of outcome by making marine spatial plans binding upon marine management authorities. The *Marine and Coastal Access Bill* currently being debated (**editor's note: in 2009**) has been slow to develop but it should guarantee a regime where marine spatial plans are created, implemented, and enforced. The UK's proposed regime is not without its shortcomings: the legislation does not make the creation of marine spatial plans mandatory, nor does it bind decision makers to comply with them under all circumstances; but it is a much stronger regime than that of Belgium.

Based on the Belgian and UK experiences, as well as Canada's unique political design, there are at least three promising options for creating a successful MSP regime in Canada: (i) amending the *Oceans Act*, (ii) reinterpreting the *Oceans Act*; and, (iii) using a *Cabinet Directive*. Any of these methods will require significant political consensus; as will the long-term application of any marine spatial plan. An MSP regime established by the Canadian federal government will also have to address their inability to manage the governing competencies granted to the provinces by Canada's Constitution Act. This paper considers some of the complexities associated with creating marine spatial plans in three specific Canadian marine areas: the Gulf of St Lawrence, the Eastern Scotian Shelf Integrated Management (ESSIM) area and the Canadian Arctic. It concludes that, due to Canada's political structure, it may be impractical to create functional marine spatial plans in certain areas even though they may appear ideal for MSP.

The purpose of this paper is not to design an MSP regime for Canada but rather to extract useful lessons from two of the most detailed international MSP regimes. Both the Belgian and UK experiences have strengths and weaknesses that Canada would be wise to adopt and avoid respectively. Combined, the Belgians and British have worked on establishing marine spatial plans for over a decade and Canada would be wise to learn all that it can from their experiences.

SOMMAIRE EXÉCUTIF

La planification spatiale marine (PSM) est un outil prometteur en ce qui a trait à une gestion marine intégrale. Elle est conçue pour équilibrer les intérêts divergents et les activités et, en fonction des objectifs prédéterminés pour une zone marine donnée, déterminer la distribution spatiale et temporelle optimale des activités marines. Afin d'assurer le succès de la PSM, toutes les décisions sur les activités marines doivent être prises en respectant le plan spatial marin ; c'est là le plus grand problème associé à la PSM. Ce document examine les approches adoptées par les régimes de PSM en Belgique et au Royaume-Uni dans le but de s'inspirer de leurs expériences et de formuler des recommandations pour un régime de PSM possible au Canada.

Les régimes de la Belgique et du Royaume-Uni sont deux des programmes les mieux élaborés au monde ; de plus, ces deux nations ont tenté de mettre sur pied une PSM en utilisant divers mécanismes. Ainsi, en Belgique, la PSM a obtenu un appui politique important et, au lieu de rédiger une nouvelle loi pour la PSM, le gouvernement belge a choisi de créer un nouveau poste de ministre fédéral pour voir à la coordination d'un plan spatial marin. Cependant, le ministre n'avait pas l'autorisation de délivrer les licences ou ne détenait pas le pouvoir requis pour mettre en vigueur la création de plans spatiaux marins. Par conséquent, la PSM belge a bloqué presque immédiatement après que les scientifiques belges aient terminé le travail de préparation requis dans l'élaboration d'un plan spatial marin intégral. Au Royaume-Uni, une nouvelle loi fait actuellement l'objet d'un débat au Parlement, afin d'éviter ce type de répercussion en rendant les plans spatiaux marins obligatoires pour les autorités de gestion marine. Le *Marine and Coastal Access Bill* (Projet de loi sur l'accès côtier et marin), qui fait actuellement l'objet d'un débat (**ndlr : en 2009**), a mis du temps à se développer, mais il devrait garantir un régime où les plans spatiaux marins sont créés, implantés, et mis en vigueur. Le régime proposé par le Royaume-Uni comporte tout de même des lacunes : les lois ne rendent pas obligatoire la création de plans spatiaux marins ou ne forcent pas les décideurs à s'y conformer dans toutes les circonstances ; toutefois, ce régime est beaucoup plus rigoureux que celui de la Belgique.

En se basant sur les expériences de la Belgique et du Royaume-Uni, et sur le plan politique unique du Canada, il y a au moins trois options prometteuses pour la création d'un régime de PSM efficace au Canada : (i) modifier la *Loi sur les océans*, (ii) réinterpréter la *Loi sur les océans* ; et (iii) utiliser une *directive du Cabinet*. Chacune de ces méthodes nécessitera un consensus politique considérable, tout comme la mise en application de tout plan spatial marin. Un régime de SPM établi par le gouvernement fédéral canadien devra également se pencher sur leur incapacité de gérer les compétences fédérales accordées aux provinces par la Loi sur la Constitution. Ce document tient compte de certaines des complexités associées à la création de plans spatiaux marins dans trois zones canadiennes précises, soit le golfe Saint-Laurent, l'est du plateau néo-écossais et l'Arctique canadien. On arrive à la conclusion qu'en raison de la structure politique du Canada, il pourrait s'avérer non pratique de préparer des plans spatiaux marins fonctionnels dans certaines zones, en dépit du fait qu'elles semblent idéales pour la PSM.

L'objectif de ce document n'est pas de concevoir un régime de PSM pour le Canada, mais plutôt de tirer des leçons utiles de deux des régimes internationaux de PSM les plus détaillés. Les expériences de la Belgique et du Royaume-Uni comportent des forces et des faiblesses que le Canada devraient adopter ou éviter respectivement. En fait, les Belges et les Britanniques travaillent depuis plus de dix ans à établir des plans spatiaux marins ; il serait judicieux pour le Canada d'en apprendre le plus possible sur leurs expériences.

1.0 INTRODUCTION

1.1 Marine Spatial Planning

Marine spatial planning¹ is a mechanism for the integrated management of marine areas in which a central vision for the future of the marine area, in conjunction with knowledge of activity interactions and impacts, guides the location, timing, intensity and future development of all activities in the marine space. A comprehensive understanding of the marine environment is crucial for successful MSP, as is a thorough understanding of how marine activities impact each other and the environment. This knowledge is used in conjunction with specific ecological, economic and social objectives to decide which activities should take place in the marine area as well as how, when and where.² In order for MSP to provide this sort of “big picture” management, it is necessarily an iterative process involving significant initial research and ongoing monitoring of the impacts of marine activities.³

1.2 Purpose

This paper provides recommendations for future development of MSP in Canada based on the experiences of two case studies: the MSP regimes of Belgium and the United Kingdom. These two regimes were chosen since: (1) both nations have devoted significant resources into developing marine spatial planning regimes for their seas; and (2) the legislative designs for the two MSP regimes are drastically different, thereby increasing the potential for Canada to learn from these experiences. It should be noted that neither nation is currently managing their marine waters using a comprehensive marine spatial plan. However, this does not detract from their quality as case studies since they serve as two of the most developed MSP regimes in the world. From the MSP programs in Belgium and the UK, conclusions can be drawn as to which elements will contribute to a successful MSP and which conditions may stall MSP progress. Furthermore, these case studies provide an indication of the political and financial investment required for MSP.

1.3 Methodology

Research sources for this paper include national publications available on the internet and a small number of peer reviewed articles published on MSP in general and specifically on the Belgian and UK MSP regimes. Both MSP regimes are relatively new, having begun within the last decade and the majority of relevant documents are available on their governmental websites. Some limitations were encountered in this review due to some of the early documents relating to MSP in Belgium existing only in Belgian national languages. However, this problem was limited to only a few preliminary documents which are adequately referred to in the English language literature. Recommendations for Canadian MSP have been based on the analysis of these two regimes, knowledge of the present approach to marine management in Canada, and the recent document *Marine Spatial Planning: A Step-by-Step Approach*.⁴

¹ The term “maritime spatial planning” is used interchangeably with “marine spatial planning” in much of the European Union literature, but in order to be consistent, this paper will exclusively use the term “marine spatial planning”.

² Fanny Douvere, “The Importance of Marine Spatial Planning in Advancing Ecosystem-Based Sea Use Management” (2008) 32 *Marine Policy* 762 at 766.

³ *Ibid.*

⁴ Charles Ehler & Fanny Douvere, *Marine Spatial Planning: a Step-by-step Approach toward Ecosystem-based Management* (UNESCO, Paris: 2009).

1.4 Format

This paper has been divided into five sections: the first provides an introduction to marine spatial planning, the purpose for this paper and its methodology. The second section describes the MSP regime in Belgium including a brief history of marine management, their approach to MSP, current application and the challenges faced. The third section broadly repeats the topics of the previous section but focuses on the MSP regime in the United Kingdom. The fourth section discusses possible approaches to MSP in Canada, including both legislative options and possible locations for marine spatial plans. The final section provides some general conclusions about MSP and the future of MSP in Canada.

2.0 THE BELGIAN PART OF THE NORTH SEA

2.1 Geography

The Belgian Part of the North Sea (BPNS) is a relatively small area of sea with a maximum width of roughly 66km and maximum distance from shore of only 87km. The entire area of the BPNS is roughly 3600km² which is about the size of a Belgian province or 1/100th of the Eastern Scotian Shelf planning area.⁵ A map situating the BPNS in relation to its neighbouring nations can be found at Figure 1 in the Appendix.

The area is characterized by its particularly shallow water, having an average depth of only 20m and a maximum depth of 35m. In these shallow waters is a complex sandbank system which the Belgians divide into five distinct areas of banks and channels. These areas are relatively large with banks measuring 15-25km long by 3-6km wide and having underwater peaks just below the water surface.⁶ The small size of the BPNS and the high demand for its spatial and natural resources has made it an obvious choice for detailed marine spatial planning.

2.2 History of Marine Management in the BPNS

Belgium, like the UK, is a parliamentary democracy with a monarch as the head of state and elected Prime Minister as the head of government. Belgium is a Federal state with three levels of government: federal, regional and linguistic community; in which the three have a complex division of authority.⁷ Although the regional governments have a significant number of authorities under the Belgian system, they primarily deal with land-based activities within those regions, while the federal government has wide authority over BPNS and the activities which occur within it. Exceptions to this division occur along the coast where the coastal Flemish region frequently has authority over activities. Fisheries is one such example of this shared competence where fisheries at sea are a Flemish competence, but the issuing and controlling of technical standards for fishing vessels is a federal competence.⁸ In reviewing and proposing a marine spatial plan for the BPNS, policymakers have had to closely consider which is the

⁵ Frank Maes, *et al.*, *Towards a Spatial Structure Plan for Sustainable Management of the Sea* (Belgian Science Policy, Brussels: 2005) at 343 & Fisheries and Oceans Canada, "Eastern Scotian Shelf Integrated Management Plan: Strategic Plan" (Oceans and Habitat Branch of Fisheries and Oceans Canada, Dartmouth, NS: 2007) at 15.

⁶ Frank Maes, *et al.*, *A Flood of Space: Towards a Spatial Structure Plan for Sustainable Management of the North Sea* (Belgian Science Policy, Brussels: 2005) at 33.

⁷ CIA World Factbook online at < <https://www.cia.gov/library/publications/the-world-factbook/geos/be.html> >

⁸ Frank Maes, *et al.*, *Towards a Spatial Structure Plan for Sustainable Management of the Sea* (Belgian Science Policy, Brussels: 2005) at 137.

competent authority for each marine activity and, in order for the plan to be effective, each of these authorities must comply with the plan.

Before developing marine spatial planning, Belgium managed its sea in a similar fashion to many other nations: on an issue by issue, *ad hoc* basis.⁹ Management was solely based on two Acts which regulated the usage of the BPNS based on mandatory licensing and environmental impact assessments. The first of these Acts was the *Act on the exploration and exploitation of non-living resources in the TS and the continental shelf (Continental Shelf Act of 13 June 1969)*.¹⁰ This was followed by the *Act on the protection of the marine environment under Belgian jurisdiction (Marine Protection Act of 20 January 1999)*.¹¹ These two acts, in conjunction with various Royal Decrees, created a detailed licensing regime for almost all ocean related activities.¹²

A major part of this licensing regime is mandatory environmental impact assessments which are required before the license or authorization is granted for almost all marine activities. Accompanying these assessments are monitoring programs which require license holders to pay for continuous environmental impact surveys. If at any time these surveys find previously licensed activities to be more harmful to the marine environment than expected, the activities can be suspended and the licenses can be revoked.¹³

Although detailed, this licensing regime is complicated with licensing for some activities falling under the *Marine Protection Act of January 1999* and others falling under various Royal Decrees. Article 25 of the *Marine Protection Act of January 1999* requires licensing for: civil engineering projects; excavation of trenches and raising the sea bed; use of explosives or high-power acoustical devices; abandonment or destruction of wreckage; industrial activities; and activities of advertising or commercial enterprises.¹⁴ However, it does not require licensing for: commercial fishing; marine scientific research; shipping activities not related to activities listed in Article 25; activities relating to the exploitation of non-living resources as per the *Continental Shelf Act of 13 June 1969*; non-profitable individual activities; and activities necessary for exercise of competence of the Flemish Region.¹⁵ Commercial fishing is exempted from the licensing regime and is instead managed partially through the European Common Fisheries Policy, and partly by the Flemish regional authority.¹⁶ Similarly, shipping activities are regulated

⁹ Fanny Douvere, *et al.*, "The Role of Marine Spatial Planning in Sea Use Management: the Belgian Case" (2007) 31 *Marine Policy* 182 at 183.

¹⁰ *Act on the exploration and exploitation of non-living resources in the territorial sea and the continental shelf (formerly "Continental Shelf Act")*, 13 June 1969, posted in English on the United Nations' *Oceans and Law of the Sea: Division for Ocean Affairs and the Law of the Sea* webpage, available at < http://www.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/BEL_1969_Act.pdf >.

¹¹ *Act on protection of the marine environment and ocean space under Belgian jurisdiction (Marine Protection Act of 20 January 1999)*, *Moniteur belge*, 12 March 1999, Ed.2, F. 99-712, pp. 8033-8052, reprinted in English in (2001) *Law of the Sea Bulletin* No. 45 (United Nations, New York) page 47.

¹² Fanny Douvere, *et al.*, "The Role of Marine Spatial Planning in Sea Use Management: the Belgian Case" (2007) 31 *Marine Policy* 182 at 184.

¹³ *Ibid.*

¹⁴ *Act on protection of the marine environment and ocean space under Belgian jurisdiction (Marine Protection Act of 20 January 1999)*, *Moniteur belge*, 12 March 1999, Ed.2, F. 99-712, pp. 8033-8052, reprinted in English in (2001) *Law of the Sea Bulletin* No. 45 (United Nations, New York) page 47 at Article 25.

¹⁵ *Ibid.* at Article 26

¹⁶ Frank Maes, *et al.*, *Towards a Spatial Structure Plan for Sustainable Management of the Sea* (Belgian Science Policy, Brussels: 2005) at 137.

by international conventions and International Maritime Organization regulations and have therefore not been subject to the licensing regime.¹⁷ Activities relating to the *Continental Shelf Act of 13 June 1969* do require environmental assessments and licensing, but this is mandated by a Royal Decree of 1 September 2004,¹⁸ thereby adding to the complexity of Belgian marine management.

The Belgian system of licensing with complex environmental impact assessment and monitoring, while arguably thorough, was complex and seen as unable to properly manage the increasing demands being placed on the BPNS.¹⁹ MSP was first proposed as a mechanism for improved management of the BPNS in 1999²⁰ but it was not until 2003 that MSP was seriously considered by the Belgian government and the design for a 'Master Plan' for management of the BPNS began.²¹ This response followed Belgium's participation at the Fifth International Conference on the Protection of the North Sea, Bergen, Norway, where Belgium and other North Sea nations discussed future management mechanisms for the North Sea.

2.3 Why Belgium Pursued MSP

Simply put, Belgium created MSP in order to deal with the high demand for resources and space in the BPNS. Before Belgium began to consider MSP, the tiny BPNS was already home to many varied activities including: wreck salvage, military training, shipping, commercial fisheries, sand and gravel extraction, dredging, recreation and beach tourism, aquaculture and scientific research.²² MSP and the Master Plan were proposed at a time when existing user conflicts were becoming more severe. Among these conflicts was an increase in demand for sand extraction due to a ban having been placed on sand extraction from land. As well, new demands for space in the BPNS were arising from those promoting offshore renewable energy facilities. Demand for space in the BPNS was also coming from conservationists who promoted the creation of marine parks and areas to protect migratory birds.²³ Compounding these conflicts were claims from fishers who argued that they were the "owners" of the sea and its fish.²⁴

In 2005, it was estimated that the sum of demand for space in the BPNS was 2.6 times higher than the actual BPNS, a situation only capable of existing because certain activities could occur at the same time in the same space and because some activities were not using all of their legally allocated space.²⁵ An estimate in 2005 placed the total economic value of the main

¹⁷ *Ibid* at 118.

¹⁸ Fanny Douvere, *et al.*, "The Role of Marine Spatial Planning in Sea Use Management: the Belgian Case" (2007) 31 *Marine Policy* 182 at 184.

¹⁹ *Ibid* at 185.

²⁰ Cathy Plasman, "Implementing Marine Spatial Planning: A Policy Perspective" (2008) 32 *Marine Policy* 811 at 811.

²¹ Fanny Douvere, *et al.*, "The Role of Marine Spatial Planning in Sea Use Management: the Belgian Case" (2007) 31 *Marine Policy* 182 at 185.

²² Frank Maes, *et al.*, *Towards a Spatial Structure Plan for Sustainable Management of the Sea* (Belgian Science Policy, Brussels: 2005) at ii – viii.

²³ Cathy Plasman, "Implementing Marine Spatial Planning: A Policy Perspective" (2008) 32 *Marine Policy* 811 at 813.

²⁴ *Ibid* at 812.

²⁵ Frank Maes, *et al.*, *Towards a Spatial Structure Plan for Sustainable Management of the Sea* (Belgian Science Policy, Brussels: 2005) at 412.

human activities in the BPNS at 12.6 billion euros (almost 20 billion \$Cdn) or roughly 3% of their GDP.²⁶

The variety and magnitude of demands on the BPNS created a situation where the existing licensing regime, which dealt with each licensing request based on its individual merit, could not adequately balance these competing interests. Marine spatial planning was seen as a mechanism for addressing this problem by harmonizing the licensing system so that spatial allocations could be made in light of all activities occurring in the BPNS.²⁷

Helping to generate political will to undertake MSP came in part from Belgium's participation in the European Union (EU). EU members are not directly obligated to undertake MSP but MSP can be used as a mechanism for facilitating compliance with a variety of EU Directives. For example, the European Birds and Habitats Directives require the Belgian government to create various marine protected areas, an integral part of their MSP.²⁸ Similarly, the Renewable Energies Directive²⁹ has required that Belgium increase its renewable energy generation. While this does not necessarily have to occur offshore, Belgium has favoured offshore wind as a source of energy and MSP was seen as the best way to determine where to locate offshore wind facilities.

2.4 Marine Spatial Planning in Belgium

The move towards a Belgian marine spatial plan began in 2002 when a new Federal Minister was appointed to manage the BPNS and given the title of Minister of the North Sea.³⁰ With the creation of this Ministry, the government was specific in stating that the Federal authorities in control of specific parts of the existing marine licensing regimes would not be changed and that the new Minister would simply have a coordinating role in the BPNS.³¹ According to a recent article by Plasman, the creation of a coordinating Minister in Belgium was all the incentive required for the relevant institutions and administrations to begin working together.³² She describes the atmosphere as "contagious" with relevant authorities taking a particularly positive view of the opportunities of MSP in the BPNS and politicians giving it a high priority.³³ While the reason for this level of acceptance was not explicitly given it most likely arose from the increasing numbers of conflicting situations confronting government coupled with the retention of each agency's legislative authority.

Development of MSP in Belgium is characterized by two key factors. The first is the role played by the Minister of the North Sea and the lack of legislative authority given to the documents

²⁶ Fanny Douvere, "Socio-Economic Value of the Human Activities in the Marine Environment: the Belgian Case" in Frank Maes (ed.), *Marine Resource Damage Assessment, Liability and Compensation for Environmental Damage*, (Springer, Dordrecht: 2005) at 268.

²⁷ Fanny Douvere, *et al.*, "The Role of Marine Spatial Planning in Sea Use Management: the Belgian Case" (2007) 31 *Marine Policy* 182 at 185.

²⁸ Cathy Plasman, "Implementing Marine Spatial Planning: A Policy Perspective" (2008) 32 *Marine Policy* 811 at 813.

²⁹ *Directive 2001/77/EC of the European Parliament and of the Council of 27 September 2001 on the promotion of electricity produced from renewable energy sources in the internal electricity market*, 27.10.2001.

³⁰ Fanny Douvere, *et al.*, "The Role of Marine Spatial Planning in Sea Use Management: the Belgian Case" (2007) 31 *Marine Policy* 182 at 186.

³¹ Cathy Plasman, "Implementing Marine Spatial Planning: A Policy Perspective" (2008) 32 *Marine Policy* 811 at 812.

³² *Ibid.*

³³ *Ibid.*

produced under his or her mandate. Giving the Minister a coordinating rather than authoritative position has meant that any produced MSP documents or strategies will only act as persuasive guides toward sustainable spatial management. Therefore, as the Belgian MSP does not give the Minister of the North Sea authoritative power, it is clear that the effectiveness of the Belgian MSP will depend on the value afforded to the marine spatial plan by each agency as evidenced by cooperation between, and concessions from, the licensing agencies. A second key factor in the progress of Belgian MSP is the tripartite relationship between the size of the BPNS, the demand for its resources and the resources available to Belgian authorities to study and manage the space. The high demand for the resources of the tiny BPNS, combined with Belgium's relative economic wealth, has allowed the nation to pursue particularly rigorous marine spatial planning designs.

The Master Plan was published in 2003 and consisted of two phases.³⁴ Phase 1 focused on two priority use issues, involving the delimitation of sand and gravel extraction zones and zones for possible offshore wind farms. Phase 2 required the delimitation of zones for marine protected areas.³⁵ Unfortunately, the Master Plan is only referred to in a few academic papers discussing Belgian MSP and is not readily available. Douvere's 2007 article on the MSP in Belgium provides the best description of the application of the Master Plan. For each case, Douvere does make it clear that the Master Plan's zoning did drastically improve the situation in the BPNS by making extraction more sustainable and of lower environmental impact through rotation of extraction areas and strict quotas on total annual extraction volume; streamlining the development of wind farms by specifying to developers exactly where to propose new wind farms; and creating marine protected areas.³⁶ However, the article fails to go into depth regarding the methodology used by the Master Plan. Nor does it explain explicitly why sand extraction, wind farms and marine protected areas were the activities chosen for zoning, although other documents suggest these to be increasing areas of demand and conflict in the BPNS. Her article also fails to emphasize that the Master Plan is not really MSP as it does not produce a singular spatial plan for the BPNS, a point made by Frank Maes in a presentation to the Bencore Conference.³⁷

Maes served as the coordinator for the document produced by the Belgian government which most closely resembles holistic marine spatial planning: *Towards A Spatial Structure Plan for Sustainable Management of the Sea* (The GAUFRE Report).³⁸ This document provides a detailed analysis of the BPNS and the interactions between the activities within it. The report then produces six sets of maps which illustrate six possible marine spatial plans. The authors provide six plans instead of just one on the basis that each plan is based on a different objective for the development of the BPNS and they argue that it is the role of government, not scientists, to determine what that objective should be.³⁹

³⁴ Fanny Douvere, *et al.*, "The Role of Marine Spatial Planning in Sea Use Management: the Belgian Case" (2007) page 186; the Master Plan does not appear to have been published in English so all references to it have been based on the works of Douvere, Plasman and Maes.

³⁵ Fanny Douvere, *et al.*, "The Role of Marine Spatial Planning in Sea Use Management: the Belgian Case" (2007) 31 Marine Policy 182 at 186.

³⁶ *Ibid.*

³⁷ Frank Maes, "The Marine Spatial Planning Problem and the Current Situation in Belgium" (Presented at the Bencore Conference in Leuven, Belgium, April 26, 2007) [unpublished] available at < <http://www.vliz.be/imisdocs/publications/120377.pdf> > at 31.

³⁸ Frank Maes, *et al.*, *Towards a Spatial Structure Plan for Sustainable Management of the Sea* (Belgian Science Policy, Brussels: 2005).

³⁹ Frank Maes, *et al.*, *A Flood of Space: Towards a Spatial Structure Plan for Sustainable Management of the North Sea* (Belgian Science Policy, Brussels: 2005) at 122.

2.5 The GAUFRE Report

Belgium does not have a singular holistic document which outlines its marine spatial plan. The closest attempt is *Towards a Spatial Structure Plan for Sustainable Management of the Sea* (the GAUFRE report) and the accompanying policy document, *A Flood of Space*. These documents illustrate the scientific half of a marine spatial plan which would need to be accompanied with political will to put it into action. *A Flood of Space* is a more accessible version of the GAUFRE report as it omits some of the scientific background and the methodological details of the longer GAUFRE report and it will therefore not be discussed in this paper. The GAUFRE report is designed in part to aid licensing authorities in determining the ideal locations for given activities to take place in the BPNS. To do this, it relies heavily on scientific analysis regarding the interaction of activities and GIS mapping which 'zones' the BPNS and illustrates where specific activities are best suited, depending on the licensor's goals. However, the document is not legally binding and does not provide a singular vision of the future development of the BPNS. Instead, it provides recommendations for various avenues of MSP and the scientific data to support them.

The GAUFRE report is a 545 page document representing two and a half years of research into the natural environment and human impacts on the BPNS.⁴⁰ The first 300 pages of the document, the *Analysis* section, describe in detail the natural environment, human infrastructure and human usage of the BPNS. The second section of the document, *Interaction*, studies how the topics in the *Analysis* section relate to each other; specifically looking at how uses of the BPNS affect the environment and how users of the BPNS interact with each other. The final section provides different scenarios for possible spatial plans within the BPNS and is seen by the authors as the section which sets their work apart from previous scientific studies of marine areas.⁴¹

The first chapter of the *Analysis* section describes the environment of the BPNS, dividing its analyses into descriptions of the area's legal zonation, geophysical zonation and ecological zonation. Each subsection describes and maps the distribution of the BPNS through different criteria: the legal zonation defines the EEZ, Contiguous Zone and Belgian Territorial Sea;⁴² the geophysical zonation divides the BPNS based on the location of its sand banks and the distribution of fine, medium and coarse grain sands;⁴³ and the ecological zonation describes the distribution of four macrobenthos communities and three transitional species assemblages.⁴⁴

After describing the physical environment, the *Analysis* section provides a lengthy and detailed description of the existing and potential human infrastructure in the BPNS. Topics specifically considered include: cables and pipelines, energy production, coastal defence and radar and weather stations. Analysis of each of these infrastructure types not only includes detailed descriptions of their existing facilities but also, especially in the case of wind farms, the expected impact of their future development. The impacts of increased development of each infrastructure category were reviewed in relation to other user groups, the environment and the socio-economy. The research attempted to consider various types and intensities of future development so as to provide the broadest possible range of scenarios.

⁴⁰ Frank Maes, *et al.*, *A Flood of Space: Towards a Spatial Structure Plan for Sustainable Management of the North Sea* (Belgian Science Policy, Brussels: 2005) at 1.

⁴¹ *Ibid* at 2

⁴² *Ibid* at 11

⁴³ *Ibid* at 16-17

⁴⁴ *Ibid* at 23; mapped on 28.

The third chapter of the *Analysis*, describing the human uses of the BPNS, is by far the longest chapter of the GAUFRE report. This is due to the wide variety of human activities in the BPNS and the fact that these uses require licenses and are intended to be balanced by marine spatial planning. Uses considered by the report include: wreck salvage, military activities, shipping, commercial fisheries, sand extraction, dredging and disposal, recreation at the coast, recreation at sea, aquaculture, scientific research and nature conservation. Each usage is described in detail with regard to where it occurs; the legislative framework under which it operates; its impact on other users, the environment and the economy; and the implications of its expansion. This chapter, like the other chapters of the *Analysis* section, is strictly scientific and technical. It does not overtly incorporate the opinions of the researchers and simply attempts to provide a scientific foundation for the following two sections of the report.

The second section of the GAUFRE report, *Interaction*, moves the discussion from strict scientific research to integrated management. The main focus of this section is on 'suitability analysis' which is designed to indicate which zones of the BPNS are suitable for different types of activities.⁴⁵ This analysis is based on a variety of criteria including the scientific data obtained in the *Analysis* section along with jurisdictional, economic and social considerations. The primary outcomes of this section are (1) a selection of matrices which compare the relative impacts of the activities described in the first chapters and (2) various maps indicating the locations of both the positive interactions and predicted conflicts between given activities. To produce these matrices and maps, the impacts of activities are ranked qualitatively. Inadequate data and lack of comparability of impacts prohibited quantitative comparisons, so the quality of these rankings is dependent on expert judgment instead. As such, a large portion of this section describes the mechanisms and justifications the authors used for their qualitative rankings. The purpose of the *Interaction* section is to provide a basis for and lead into the final section of the GAUFRE report. This final section, *Integration*, is where the document moves from description and analysis of data to interpretation, forecasting and marine spatial planning.

The third section takes the information gathered in the previous two sections and creates various spatial visions for the BPNS. The section does not provide a singular marine spatial plan for the BPNS but rather six different development scenarios based on three "core values" of the North Sea. The authors expect that these six scenarios will guide future decisions in the BPNS.

To create their six scenarios, the authors first summarize three "core values" of the BPNS which appear to have been determined based on the area's primary usage. The "core values" are: (1) Well-Being – meaning recreation; (2) Ecology and Landscape – meaning environment; and (3) Economic Value. The authors then describe three development scenarios for the BPNS, each focusing solely on one "core value", and three more scenarios which intend to balance two different core values.⁴⁶ The written descriptions of the six scenarios are actually very brief and generic and would be highly unsatisfactory if they were not accompanied with multiple maps illustrating their differences. These maps are as close as the GAUFRE report comes to marine spatial planning; they provide detailed outlines for the ideal distribution of activities in the BPNS based on the six scenarios but do not state which scenario should be followed. In fact, the authors note that their six scenarios are "extreme" and that management of the BPNS needs to be based on a scenario which balances all three "core values".⁴⁷ Curiously, the GAUFRE report did not provide a scenario attempting to balance all three core values.

⁴⁵ *Ibid* at 333.

⁴⁶ *Ibid* at 414.

⁴⁷ *Ibid* at 414.

2.6 Challenges for MSP in Belgium

Before considering the political challenges to MSP in Belgium, it should be noted that Belgium faces various practical constraints to MSP. If MSP is to manage the marine environment using an ecosystem approach, then the managers of the marine spatial plan need to have control over as many activities in the marine environment as possible. However, as was previously mentioned, Belgium does not have the ability to independently control either shipping or fishing in the BPNS. Fishing is regulated in Belgium, as in all EU Member States by the Common Fisheries Policy which sets quotas for the total allowable catch of each Member State and, crucially, it also allows certain EU countries unlimited fishing rights in the BPNS. Specifically, Dutch fishing vessels have unlimited fishing rights beyond 3 nautical miles; French fishing vessels have a fishing right to herring between 3 and 12 nautical miles; and all other Member States, save Spain, Portugal and Finland, have free access to fishing in the BPNS beyond 12 nautical miles.⁴⁸ An inability for Belgium to independently control the zones for fishing and quantities of fish caught in the BPNS undermines its ability to effectively undertake MSP. Similarly, the Belgian government has little control over shipping in the BPNS; an area considered to be one of the busiest shipping routes in the world.⁴⁹ Shipping routes and regulations have been set by the International Maritime Organization and based on the discussion in the GAUFRE report, it does not appear that proposing alterations to these routes is an idea which Belgium will entertain.⁵⁰ Finally, at a larger scale, management of the BPNS is hindered by its proximity to so many other nations. Pollution in the bordering seas of England, France or Holland is likely to affect the BPNS. The impacts which neighbouring nations could have on the BPNS are not considered in the GAUFRE report. There is no reason given for this omission in the GAUFRE report as it seems to treat the BPNS as if it were isolated from the actions of its neighbours. This is a major omission since, notwithstanding the fact that the Belgian government does not have control over the ways their neighbours manage their seas, the Belgian marine spatial plan should provide mechanisms for adjusting the plan based on changes in the BPNS due to influences from neighbouring states. Even though Belgian MSP faces some practical challenges related to regulating actions in the BPNS, these constraints pale in comparison to the more daunting political challenges.

The Belgian approach to MSP which fails to consolidate authority with a single government body is seen to be its greatest obstacle to its success. Plasman's references to cooperation as being 'contagious' in the early stages of Belgian MSP refer to either the Master Plan, where cooperation on a few specific issues has occurred, or to some short-lived cooperation relating to holistic MSP in the BPNS. The GAUFRE report appears to have been left on the desks of Belgian policy makers and there is no literature in English indicating otherwise. The GAUFRE report concluded by implicitly calling upon decision makers to provide scientists with a policy for BPNS development, which they could then use to design a seventh MSP scenario which could be put into action.⁵¹ This does not seem to have occurred.⁵²

Cooperation does seem to have occurred in Belgian marine management with respect to the Master Plan. GIS maps are available which outline the locations where sand and gravel

⁴⁸ *Ibid* at 138.

⁴⁹ *Ibid* at 117.

⁵⁰ Frank Maes, *et al.*, *Towards a Spatial Structure Plan for Sustainable Management of the Sea* (Belgian Science Policy, Brussels: 2005) at 118.

⁵¹ *Ibid* at 422.

⁵² See Frank Maes, "The Marine Spatial Planning Problem and the Current Situation in Belgium" (Presented at the Bencore Conference in Leuven, Belgium, April 26, 2007) [unpublished] available at < <http://www.vliz.be/imisdocs/publications/120377.pdf> >

extraction, renewable energy development and marine protected areas are allowed. However this is not MSP.⁵³ The Master Plan simply zoned three marine activities; it was not intended to manage all marine activities. Certainly some cooperation occurred during the establishment of zones and more cooperation between licensing agencies will be required to enforce these zones, but this cooperation would be minor in comparison to that necessary for long-term management of all marine activities in the BPNS.

Maintaining long-term cooperative relationships is difficult but necessary in a marine spatial planning regime where decision-making authority is not centralized. In Belgium, where the Minister for the North Sea only has a coordinating role, MSP progress is dependent on the Minister's ability to persuade licensing authorities that long-term cooperation is best for all parties. The challenge remains that a functional MSP regime is unlikely to actually provide optimal outcomes for all marine activities. Ideally, a marine spatial plan will result in an optimal outcome for the marine space and society at large but some marine activities may actually be restricted by MSP. The inability for Belgium's licensing authorities to commit to long-term cooperation agreements may be the reason why no obvious progress has been made since the GAUFRE report was published. However, this is a speculative conclusion as little information exists as to why MSP in Belgium seems to have stalled. In his 2007 presentation to the Bencore Conference, Maes cites "time and money constraints" as reasons why the authors of the GAUFRE report did not continue their work and create a singular marine spatial plan for the government to follow. If this is true it could mean that comprehensive MSP, even for a small area such as the BPNS, is prohibitively expensive. However, it is difficult to definitively make that conclusion when the costs of the MSP program in the BPNS are not available. Furthermore, it seems surprising that "time and money" constraints stopped the program after so much work, arguably the majority of work necessary for creating a marine spatial plan, had already been completed. The GAUFRE report leaves the reader with the feeling that the researchers were well prepared to quickly create a marine spatial plan for the BPNS given a few pages of guidance from the Belgian government. This request for guidance seemed to have been ignored. It may not have come for economic reasons, but it seems more probable that the program was halted for a mix of both economic and political reasons. For instance, while simply writing a marine spatial plan may be relatively inexpensive, defining the long-term relationship between the economy, environment and recreational use of the BPNS could have major political and economic repercussions – repercussions too politically and/or economically expensive to have been taken on by the Belgian government.

Belgium has come very close to designing a comprehensive marine spatial plan for the whole BPSN but their reliance on cooperation seems to have undermined its ultimate success. The GAUFRE report proposed the creation of a singular marine spatial plan for the BPNS and relied on the Belgian government to produce a document which would describe how economics, the environment and human enjoyment should be balanced in the BPNS. This sort of document would be complicated to produce as it would require politicians to clearly prioritize certain uses over others, something they are often reluctant to do. However, without making these sorts of prioritizations, MSP cannot function and will falter, despite the large amount of scientific input into the planning process, as evidenced in Belgium. Currently, the Belgian government avoids reference to the future of the GAUFRE report and, in regard to MSP, focuses on the Master Plan and the progress made there. This approach creates a false image of MSP in Belgium as the Master Plan is not really MSP. Unlike MSP, the Master Plan does not consider all or even the majority of marine activities in an attempt to sustainably manage their impacts. Instead the Master Plan simply considers three marine activities and mitigates their impacts by zoning them

⁵³ See Figure 2 in Appendix

spatially and temporally. The failure of the Belgian government to actively pursue MSP after the GAUFRE report was published can likely be attributed to a variety of factors, including political reluctance to provide a definite statement of how the BPNS should be used. The lack of political fortitude to pursue comprehensive MSP in Belgium may be a result of their MSP regime being highly reliant on political cooperation rather than explicit legislation mandating MSP. The UK's approach to MSP attempts to avoid this situation by passing legislation which clearly makes MSP a priority and the primary mechanism for the future management of their seas.

3.0 THE UK SEAS

3.1 Geography

The UK seas are significantly larger and more complex than their Belgian counterpart as illustrated by the map in Figure 3 of the Appendix. The total area of the UK seas is 764,071km² making it over 200 times larger than the BPNS or roughly 2.35 times larger than the ESSIM area.⁵⁴ The border of the UK EEZ is restricted on various sides by the UK's proximity to neighbouring nations including France, Belgium, Norway and the Republic of Ireland. However, off the North-western Scottish coast, the EEZ extends out to the limits of the continental shelf. This gives the UK a comparatively oddly shaped sea which devolution has further complicated by splicing up jurisdiction within UK waters.⁵⁵ While the UK government maintains authority over the majority of the UK seas, the Welsh Assembly, the Scottish Parliament and the Northern Ireland Assembly each have independent control over marine conservation within their 12 nautical mile territorial waters as illustrated by Figure 3.⁵⁶

Due to its large size, UK waters are significantly more diverse than the BPNS. The depth of the UK seas vary greatly depending on which sea is considered; the southern North Sea (shared with Belgium) has a maximum depth of only 50m but off the west and northern coasts of Scotland, the sea can reach depths of over 1000m.⁵⁷ Similarly, depending on location and season, water temperature in UK seas can vary from 5°C to 22°C.⁵⁸ A detailed description of the UK seas is not provided in this paper. However it is important to illustrate how much larger the UK seas are than the BPNS.

3.2 History of MSP in the UK Seas

The creation of MSP in the UK began at the beginning of the millennium, just as it did in Belgium. However, unlike Belgium's initial quick embrace of the idea of MSP, the UK experience has been more gradual. As with Belgium, the UK was encouraged to begin MSP due in part to its participation in the Fifth International Conference on the Protection of the North Sea in Bergen, Norway. This conference stressed the importance of protecting the North Sea and called upon all the nations with jurisdiction over the sea to take a responsible role. To do this, the conference recommended a "cross-sectoral, integrated approach to environmental

⁵⁴ According to VLIZ (2009). Maritime Boundaries Geodatabase. Available online at < <http://www.vliz.be/vmdcdata/marbound> > accessed on September 1, 2009

⁵⁵ "Devolution" is the term used for the granting of various legislative authorities to Scotland, Ireland and Wales; a process which took place in the late 1990s.

⁵⁶ Department for Environment, Food and Rural Affairs, "Safeguarding Sea Life: The Joint UK Response to the Review of Marine Nature Conservation" (DEFRA, London: 2005) at 3.

⁵⁷ Department for Environment, Food and Rural Affairs, *Charting Progress: An Integrated Assessment of the State of the UK Seas* (DEFRA, London: 2005) at 10.

⁵⁸ *Ibid.*

management⁵⁹ which started Belgium toward MSP and started a review of the UK's current ability to manage their seas. To determine the status of the UK seas and their ability to manage them, the government proposed a pilot project in the Irish Sea. The pilot served to review the ability of the existing legislation to undertake marine nature conservation and to create a wider strategy for sustainable development in the marine environment.⁶⁰

3.3 The Irish Sea Pilot

The Irish Sea pilot project was proposed in 2001 by the UK's Department for Environment, Food and Rural Affairs (DEFRA) as a means to demonstrate a "Regional Seas" approach to management and marine conservation in UK waters.⁶¹ The Regional Seas approach was intended to divide the UK seas management along biogeographical⁶² borders so that it could better target the priority issues pertaining to each individual region.⁶³ The pilot project was not initially a pilot for MSP but rather one to: test this Regional Seas approach; provide recommendations for future marine management in the UK; and to guide future legislative and administrative actions.⁶⁴ The pilot project was created on May 21st, 2002 when DEFRA signed a Service Level Agreement with the Joint Nature Conservation Committee (JNCC), allowing the JNCC to begin its research.

The first phase of the Irish Sea pilot project carried out an extensive analysis of the Irish Sea, in particular its environment and human usage. The Irish Sea as defined by the project is illustrated by Figure 3 in the Appendix and covers an area of 58,000km², making it significantly larger than the BPNS but still less than 1/5th of the ESSIM area.⁶⁵ The initial project lasted 21 months and had a budget of £469,400⁶⁶ (roughly \$1M Cdn). It produced a variety of documents, including a major 2004 report outlining its progress and providing 64 recommendations for improved marine conservation and management.⁶⁷ This 2004 report is similar to the Analysis chapter of the Belgian GAUFRE report in that it primarily describes the existing environment both natural and human based, of the Irish Sea. It goes further than the Analysis section in that it provides recommendations for how to improve the existing conditions in the Irish Sea, but most of these are simply suggestions to increase research in particular areas. One major recommendation was the adoption of MSP as the ideal mechanism for UK marine management.⁶⁸ This recommendation sparked a second phase of the Irish Sea project which consisted of, *inter alia*, a literature review for MSP, a proposed design for new UK MSP legislation and a pilot project that would simulate the creation of a marine spatial plan for part of the Irish Sea.⁶⁹ The simulated marine spatial plan is a similar document to the third section of

⁵⁹ Anon., *Progress Report from the Fifth International Conference on the Protection of the North Sea* (Bergen, Norway, March 20-21, 2002) available at < <http://www.regjeringen.no/md/html/nsc/progressreport2002/hoved.html> > at 10.

⁶⁰ M. Vincent, *et al.*, *Marine Nature Conservation and Sustainable Development - The Irish Sea Pilot: Report to DEFRA by the Joint Nature Conservation Committee* (JNCC, Peterborough: 2004) at 8.

⁶¹ *Ibid.* at 9.

⁶² A biogeographical division of UK waters seems to have given way to simple geographical divisions based on devolved national jurisdictions.

⁶³ M. Vincent, *et al.*, *Marine Nature Conservation and Sustainable Development - The Irish Sea Pilot: Report to DEFRA by the Joint Nature Conservation Committee* (JNCC, Peterborough: 2004) at 5.

⁶⁴ *Ibid.*

⁶⁵ *Ibid.* at 26.

⁶⁶ *Ibid.* at 12.

⁶⁷ *Ibid.* at 4.

⁶⁸ *Ibid.* at 121.

⁶⁹ *Ibid.* at 2.

the GAUFRE report and provides a reasonably detailed marine spatial plan for the Irish Sea.⁷⁰ Unlike the GAUFRE report, the simulated plan does provide a singular plan for the development of the Irish Sea based on the objectives of the UK's Sustainable Development Strategy.⁷¹ This singular plan is largely based on the information gained from the first phase of the Irish Sea Pilot and uses GIS mapping and specific sustainable development and conservation goals to guide the future development of the Irish Sea. The scope of the simulated MSP was significantly narrower than an actual MSP due to time restrictions,⁷² but the project still resulted in important conclusions which guided the development of MSP in the UK.

The simulated plan considers a wide variety of activities in the Irish Sea and avoids making any obvious omissions in this respect. On the other hand, it does not provide the in-depth analysis of the interactions between activities as provided in section 2 of the GAUFRE report. Instead, it simply provides guidelines for the future development of activities in the Irish Sea. Many of these guidelines do refer to restricting development where it will "conflict with other uses" but the simulated plan fails to make these conflicts explicit. In this way, the simulated plan provides a good, but not comprehensive, basis for MSP. It provides a marine spatial plan in that it provides recommendations for future development of all marine activities based on predetermined principles. However, it fails to inform decision makers of the consequences of particular developments thereby failing to provide an adequate basis for long-term planning.

The authors of the second phase of the Irish Sea Pilot admitted that designing a marine spatial plan for the Irish Sea was not an easy process. In the final report of the second phase of the Irish Sea pilot, the authors comment that the volume of information obtained from the first phase meant that the Irish Sea was one of the most highly studied parts of the UK seas but even so, there were gaps and weaknesses in the available information.⁷³ Particularly, the existing information was criticised as overly reliant on interpolation of limited data sets and was lacking sufficient detail on, *inter alia*, the distribution of key economic resources such as marine sand and gravel and the seasonal distribution of migratory species including marine mammals.⁷⁴ The report concluded that this lack of information did not prohibit the development of MSP but it did make it necessary for any MSP to be highly flexible and adaptable as further information was obtained.⁷⁵ On the other hand, the report also acknowledges the correlation between the available information and the quality of the marine spatial plan, noting that more convincing data will be required to justify controversial elements of the plan, such as the exclusion of one activity in a given area in favour of another.⁷⁶

Arguably, the most important element of the Irish Sea Pilot was not the detail or quality of the simulated plan, but rather the Pilot's recommendations for new marine management legislation. The conclusions of both phases of the Irish Sea Pilot called for a nearly complete legislative overhaul of marine management in order to properly create an MSP regime in the UK. Specifically, the Pilot recommended the creation of a statutory legal process for MSP which combines national planning guidelines with more specific regional management plans.⁷⁷ The

⁷⁰ MSPP Consortium, "Irish Sea Pilot Regional Plan" (DEFRA, London: 2005) available at <http://www.abpmer.net/mspp/docs/finals/final_pilot_plan.pdf>.

⁷¹ *Ibid* at 17.

⁷² *Ibid* at 13.

⁷³ MSPP Consortium, "Marine Spatial Planning Pilot: Final Report" (DEFRA, London: 2006) available at <http://www.abpmer.net/mspp/docs/finals/MSPFinal_report.pdf> at 30.

⁷⁴ *Ibid* at 17.

⁷⁵ *Ibid* at 18.

⁷⁶ *Ibid* at 8.

⁷⁷ *Ibid* at 121.

legislature has taken this recommendation and is currently (2009) debating the *Marine and Coastal Access Bill*⁷⁸ which would, *inter alia*, create a complex system of regional marine spatial plans in the UK.

3.4 The Marine and Coastal Access Bill

The *Marine and Coastal Access Bill* serves three major purposes: (1) it creates a legislative regime for MSP in the UK; (2) it creates a legislative regime for marine protected areas (which are called Marine Conservation Zones by the Bill) and (3) it ensures the right of people in the UK to have access to their coast. This paper will only consider the first of these purposes.

The design of the UK marine spatial planning regime is complicated and involves multiple layers of government and the creation of a new government body known as the Marine Management Organization (MMO) to oversee MSP.⁷⁹ The process is somewhat complicated by devolution but not overly so, since the recommendations from the Irish Sea pilot promote a regional approach to marine management which is easily divided along national boundaries.

At the highest level of the planned MSP in the UK are Marine Policy Statements. These statements are produced either by the Secretary of State or the Secretary working in conjunction with one or more of the complement authorities in Scotland, Wales or Northern Ireland.⁸⁰ The Marine Policy Statement will apply to all UK waters and outline the government's general policies for contributing to the achievement of sustainable development in the UK marine area.⁸¹ Public participation is a mandatory part of the writing of a Marine Policy Statement, but while stakeholders, including the general public, are necessarily informed of how and when to comment,⁸² there is no obligation to hold public meetings.⁸³ The Marine Policy Statement can set broad or narrow guidelines for the development and management of UK seas and is binding upon regional marine plans.⁸⁴

Regional marine plans are the core of MSP in the UK. Crucial to the design of MSP in the UK is the division of their seas into regions. Eight regions are proposed by the Bill; an inshore and offshore region for each of the four countries.⁸⁵ These regions will each be managed by a different marine plan authority. However, only six marine plan authorities will be created, leaving out the Scottish and Northern Irish inshore regions which have already been placed under regional authority through devolution.⁸⁶ The six marine plan authorities will then be able, but not obligated, to create marine plans for the management of all or part of their marine planning region.⁸⁷ These marine plans will be detailed, long-term management plans which are the foundation of MSP.

Creating a marine plan is a major task which requires significant consultation among stakeholders. Before preparing a marine plan, the marine planning authorities must inform related planning authorities of their intention.⁸⁸ These authorities include: the Secretary of State; any marine planning authority whose region is adjacent to or relates to the proposed marine

⁷⁸ Bill 108, *Marine and Coastal Access Bill* [HL] 2008-2009 Sess., 2009.

⁷⁹ *Ibid* at s.1

⁸⁰ *Ibid* at s.43

⁸¹ *Ibid* at s.42(1)(a)

⁸² *Ibid* at Schedule 5(4)(3) & 5(4)(4)

⁸³ *Ibid* at Schedule 5(5)(3)

⁸⁴ *Ibid* at s.49(5) except when "relevant considerations indicate otherwise"

⁸⁵ *Ibid* at s.47(1), the nations being: England, Scotland, Wales and Northern Ireland

⁸⁶ *Ibid* at s.48

⁸⁷ *Ibid* at s.49

⁸⁸ *Ibid* at Schedule 6 s(1)(1)

plan; or any local or regional land-based planning authority whose area adjoins or is adjacent to the proposed marine plan.⁸⁹ Furthermore, the planning authority must also inform “interested persons” of their intention to create a marine plan, a category which includes members of the general public.⁹⁰

Sustainable development has been included by the drafters of the Bill as an important part of creating marine plans. When writing a marine plan, the marine plan authority must carry out an “appraisal of sustainability” regarding the proposed plan and can only proceed with the plan if the appraisal indicates that it is appropriate to do so.⁹¹ Certainly a possible conflict arises here where the marine planning authority ‘proposes’, ‘appraises’ and ‘approves’ the sustainability of its own plan. Ideally this conflict will be resolved by the statutory obligation on the marine authority to publish the results of the appraisal before public consultation and final approval of the plan.⁹² Realistically the impact of the sustainability appraisal will only be seen once it comes into practice.

The Bill does not go into great detail regarding the specifics of the marine plan. This is likely to occur in policy documents or delegated legislation. However, the Bill does state that marine plans must be made while taking all reasonable steps to make them compatible with the marine plans of any related marine planning area and with any relevant elements of the Planning Act.⁹³ An indication of the content of marine plans is also given by the obligation on the marine plan authorities to continuously review elements of their marine planning region. These elements would include the identification of new marine plan areas and the preparation, adoption, review, amendment or withdrawal of existing marine plans.⁹⁴ For these purposes, the planning authorities must review: (1) the physical, environmental, social, cultural and economic characteristics of the authority’s region and the living resources which the region supports; (2) the purposes for which any part of the region is used; (3) the communications, energy and transport systems of the region; (4) any other considerations which might affect 1, 2 or 3; (5) any reasonably expected changes in 1, 2 or 3; and the effect such changes may have in relation to the sustainable development of the region, its natural resources, or the living resources dependent on the region.⁹⁵ While all of these elements are not necessarily part of the marine plan, they must be continually reviewed by the marine planning authority and are therefore likely to be reflected in marine plans.

Once marine plans have been created, they will have a noticeable impact on marine management. All public authorities are obligated to make decisions in accordance with the Marine Planning Statement and any relevant marine plans.⁹⁶ Furthermore, the Bill’s architecture dramatically streamlines the marine management process. The Bill begins by creating the MMO to which it then transfers a wide variety of marine licensing authorities. Among these authorities are: licensing of various fishing vessels;⁹⁷ licensing the killing or taking of seals;⁹⁸ the granting

⁸⁹ *Ibid* at Schedule 6 s(1)(2)

⁹⁰ *Ibid* at Schedule 6 s(5)

⁹¹ *Ibid* at Schedule 6 s(10)

⁹² *Ibid* at Schedule 6 s(10)(3) & s(10)(4)

⁹³ *Ibid* at Schedule 6 s(3)

⁹⁴ *Ibid* at s.52(1)

⁹⁵ *Ibid* at s.52

⁹⁶ *Ibid* at s.56

⁹⁷ *Ibid* at s.4-8, an authority taken from the Secretary of State; also, it should be noted that the EU Common Fisheries Policy deals primarily with the quantity and location of fish caught while Member States still have control over the licensing of national fishing vessels.

⁹⁸ *Ibid* at s.9, taken from the Secretary of State

of a wide variety of licenses pertaining to wildlife conservation;⁹⁹ and, granting licenses for offshore energy generation stations and the banning of navigation in those areas.¹⁰⁰ The authority granted to the MMO certainly does not cover all offshore activities – shipping, mineral, and natural gas extraction are notably absent from the list. However, the fact that the *Marine and Coastal Access Bill* transfers actual licensing authority to the MMO clearly distinguishes MSP in the UK from that in Belgium.

The *Marine and Coastal Access Bill* also proposes alteration to the existing local fisheries management regime. Currently, fishing within 6nm of the English and Welsh coasts is managed by 12 Sea Fisheries Committees, but the *Bill* proposes their abolishment¹⁰¹ in favour of new Inshore Fisheries and Conservation Authorities (IFCA).¹⁰² These new authorities will be created at the discretion of the Secretary of State and, where created, will be responsible for ensuring that fisheries within their 6nm jurisdiction are managed in a sustainable way.¹⁰³ Decisions of the IFCAs will be subject to any relevant Marine Policy Statements and regional marine plans so as to maintain overall MSP regime. The IFCAs will have authority to create by-laws regulating fishing in their area, particularly with respect to permits, fishing methods, temporal and spatial fishing activities and overall catch.¹⁰⁴ However, the IFCA's authority is restricted to the 6nm area. This gives them authority over the region of English sea which is outside the jurisdiction of the EU Common Fisheries Policy, but leaves the licensing regime for activities beyond this region to the MMO as discussed in the previous paragraph.

Along with being given specific licensing authorities, the MMO will likely be the lead organization for the majority of MSP in the UK. This is because the *Marine and Coastal Access Bill* gives the Secretary of State the ability to transfer more of its authority to the MMO, so that “the Secretary of State may enter into an agreement with the MMO authorizing the MMO to perform any marine function of the Secretary of State”.¹⁰⁵ The MMO is designed to work closely with and for the Secretary of State and provide he or she with any advice or assistance requested.¹⁰⁶ Based on the design of the *Marine and Coastal Access Bill*, it seems likely that the MMO will play a major role in the creation of the Marine Policy Statements, either in an advisory role to the Secretary of State or having been granted explicit authorization by the Secretary or State to completely or partially design the policy. Furthermore, since the Secretary of State also has the role of marine plan authority for the English inshore and offshore regions, there is a chance that the Secretary of State will delegate the management and design of the marine plans in these regions to the MMO. The MMO would then be a very powerful government organization with licensing authority over the majority of UK waters, major influence over the UK's Marine Policy Statement and the operation of the marine plans in English waters.

3.5 Challenges for MSP in the UK

The different structure of MSP in the UK, as compared to Belgium, means that the UK will certainly face different challenges when implementing MSP. However, MSP in the UK will face similar issues relating to a lack of control over fisheries since, like Belgium, the UK is a Member State of the EU and subject to the European Common Fisheries Policy. Similarly, the UK will not

⁹⁹ *Ibid* at s.10

¹⁰⁰ *Ibid* at s.12

¹⁰¹ *Ibid* at s.178

¹⁰² *Ibid* at s.146

¹⁰³ *Ibid* at s.149

¹⁰⁴ *Ibid* at s.152

¹⁰⁵ *Ibid* at s.14

¹⁰⁶ *Ibid* at s.24

have control over shipping routes in their waters as they have been designated in international agreements. Finally, the UK seas, like the BPNS, border seas under the jurisdiction of other nations so the condition of the UK seas could be greatly affected by the actions of its neighbours. These challenges aside, the major issues facing MSP in the UK are decidedly different from those in Belgium.

The main challenge faced by the UK, which Belgium has now overcome, is the gathering of adequate data/information regarding their seas and the interactions of activities within them. As previously discussed, the BPNS is much smaller than the UK seas, making it significantly easier to study. The greater depth and area of the UK seas mean that significantly more time and resources will be required if the UK is to develop comprehensive scientific data to the level of detail present in the GAUFRE report. The Irish Sea Pilot provided an example of the detail to which the UK has studied its seas. However, even though the Irish Sea was admittedly one of the most thoroughly studied seas in the UK,¹⁰⁷ the level of detail in the Pilot was not to the level of the GAUFRE report. The GAUFRE report does not necessarily provide a baseline for what information is necessary for successful MSP, but it does provide a reasonable point of comparison. Since a marine spatial plan is necessarily predictive, its success is dependent on the detail and accuracy of the scientific data which is used to make such predictions. If the UK is to make MSP the primary method of managing its seas, it would appear that considerable research will have to be done well before the drafting of marine spatial plans begins.

By making the creation of marine spatial plans optional, the *Marine and Coastal Access Bill* addresses the challenge of amassing adequate information on the UK seas. Marine spatial plans, or 'marine plans' as they are called in the Bill, can be created by marine planning authorities at their discretion and can exist for all or any part of those authorities' marine planning regions.¹⁰⁸ Making the creation of marine plans optional alleviates some of the informational challenge related to creating marine spatial plans in the UK as it allows regions to focus their efforts on areas of greater importance and/or greater knowledge. On the other hand, making MSP optional may result in MSP being used less frequently.

With no part of the *Marine and Coastal Access Bill* enforcing the creation of marine plans, there is no guarantee that such plans will be created in the UK or that marine management will shift dramatically from business as usual. The Bill does not contain obvious incentives for the creation of marine plans which raises the question as to why marine planning regions will go through the effort of creating marine spatial plans. In theory, the Bill does not guarantee a change in the UK's marine management. High level Marine Policy Statements will be binding upon marine plans and the decisions made under them, but these statements are not binding on marine management decisions in general. If marine plans are not created, the Marine Policy Statements will have no authority. However, this is an unlikely scenario and in all likelihood there will not be a reluctance to create marine plans. For example, the Scottish Parliament has already commissioned a marine spatial plan for the Pentland Firth and Orkney Waters,¹⁰⁹ Ireland can achieve substantial benefit from the existence of the Irish Sea Pilot's research; and, the English part of the MMO's mandate will almost certainly result in the creation of marine spatial plans. In English waters, the MMO will most likely have wide authority to write Marine Policy Statements and marine plans and since the MMO will have been created precisely to serve those purposes, it seems unlikely that it would choose not to do so. Similarly, after the

¹⁰⁷ MSPP Consortium, "Marine Spatial Planning Pilot: Final Report" (DEFRA, London: 2006) available at < http://www.abpmer.net/mspp/docs/finals/MSPFinal_report.pdf > at 30.

¹⁰⁸ Bill 108, *Marine and Coastal Access Bill* [HL] 2008-2009 Sess., 2009, s.49(1)

¹⁰⁹ See <http://www.scotland.gov.uk/News/Releases/2009/01/28095052>

work put into the Irish Sea Pilot, it would seem likely that one or more marine plans would be created for all or parts of the Irish Sea. Scotland and Wales also seem broadly in favour of MSP and are unlikely to undermine the purpose of the Bill. However, devolution and the division of the regional marine authorities has meant that the Welsh, Scottish and Irish seas have their own regional marine authorities, will incur their own costs and may not be as quick to embrace marine spatial planning. The UK's approach of making marine plans optional may have been a reasonable solution to the problems relating to the size and scope of creating marine spatial planning for all of the UK seas, but time will tell if this approach will undermine the country's adoption of MSP through the reduction in the number of marine plans actually created.

3.6 Summary of Lessons from the Belgian and UK experiences

Belgium	The United Kingdom
An MSP regime does not necessarily need to be created through complex legislation and, as illustrated by the GAUFRE report, the science exists which allows researchers to make predictions regarding the impacts and interactions of marine activities.	Creation of an MSP regime through new legislation can allow for a more detailed and specific MSP regime. It also creates a good opportunity to make marine spatial plans authoritative, but the legislative process can also be slow and, if rushed, could produce an MSP regime which is imperfect and difficult to change.
Assigning the role of coordinator for MSP can facilitate many of the preliminary steps for creating a marine spatial plan but it does not guarantee the plan's adoption.	Combining MSP legislation with legislation which holds strong public support can facilitate its overall passage.
Even though MSP may initially be given strong political support, the program can still stall if it relies wholly on voluntary political support.	Careful consideration must be made for where MSP will occur and what mechanisms will be used to ensure it is implemented.
In both cases, MSP was potentially hindered by international marine agreements and treaties which, for practical purposes, override the nation's authority over activities occurring within their national waters. At the same time, the cases illustrate that marine spatial planning can be initiated based on national priorities for a subset of marine activities and interactions.	
Similarly, both cases illustrate how MSP is typically best suited for marine spaces subject to a high intensity of activities so as to justify the high costs associated with creating marine spatial plans.	

4.0 MSP IN CANADA

The Belgian and UK experiences, along with Canada's current progress in marine management, provide good insight into possible avenues for MSP in Canada. This section discusses both legislative and spatial consideration for MSP in Canada and proposes various steps which could be taken to ensure that MSP in Canada will be successful.

4.1 Possible Legislative Options for MSP in Canada

Based on the Belgian and UK examples, as well as the IOC/UNESCO document *Marine Spatial Planning: A Step-by-step Approach Towards Ecosystem-based Management* (MSP Step-by-step guide),¹¹⁰ there are three basic ways to bring about MSP through legislation:

¹¹⁰ Charles Ehler & Fanny Douvère, *Marine Spatial Planning: a Step-by-step Approach toward Ecosystem-based Management* (UNESCO, Paris: 2009).

- create completely new legislation as the UK is attempting to do with the *Marine and Coastal Access Bill*;
- re-interpret or amend existing legislation; or,
- attach provisions for MSP onto proposed or currently debated legislation

4.2 Creating new legislation

There are certainly some advantages to the UK's approach of creating completely new MSP legislation. First and foremost, it allows an MSP regime to be designed from scratch which can ensure that the program is authoritative and functional. For example, the *Marine and Coastal Access Bill's* consolidation of marine licensing authority in the MMO should streamline MSP decisions and reduce conflicts between government bodies. As well, the Bill specifically requires that where a marine plan exists, decisions in the marine area conform to both the relevant Marine Policy Statement and applicable marine plan, thereby making marine spatial plans legally binding documents. The UK's approach also allows them to be very specific with regard to, *inter alia*, the role of stakeholders and public participation in marine spatial planning; the transfer of authority and licensing powers relating to marine activities; and, the establishment, functioning and review procedure of their marine spatial planning regime. Notwithstanding the strengths of the UK's approach, there are disadvantages to creating completely new legislation and these, in conjunction with the prospect of simply amending existing Canadian legislation, mean that creating completely new legislation for advancing MSP in Canada would not be the most favourable option.

The MSP Step-by-step guide gives various arguments against creating an MSP regime via new legislation;¹¹¹ two of which are particularly relevant in the Canadian context. One of these arguments is that drafting and gaining legislative approval for new legislation can be very time and resource consuming. In the UK, work arguably began on the *Marine and Coastal Access Bill* in 2002 with the publishing of the Marine Stewardship Report, *Safeguarding our Seas*, and was clearly well underway by 2006 when the Marine Bill Consultation¹¹² was published. The UK Parliament is currently on recess and will return in October, 2009 but the Bill is still open to further debate in the House of Commons and House of Lords before it receives Royal Assent.¹¹³ The Bill is unlikely to become law before 2010, following a 4 to 8 year development.

The second argument posed by the MSP Step-by-step guide against the creation of new MSP legislation is the need for long-term political support. The guide cautions that it can be difficult to maintain political momentum for MSP due to the typically long period of time between initially drafting MSP legislation and the final application of marine spatial plans. During this period, multiple elections may be held and the political landscape may change so that MSP becomes a lower political priority. Furthermore, politicians may be more reluctant to invest significant resources into long-term projects such as MSP when short-term accomplishments may be perceived as more valuable to voters.¹¹⁴ In line with these concerns are broader issues of finding the necessarily wide political support for MSP. The UK's *Marine and Coastal Access Bill* proposes to make significant changes to that country's current marine licensing regime and the

¹¹¹ *Ibid* at 28.

¹¹² Department for Environment, Food and Rural Affairs, *A Marine Bill: A Consultation Document* (DEFRA, London: 2006).

¹¹³ Department for Environment, Food and Rural Affairs, "Marine and Coastal Access Bill Completes Latest Stage in Parliamentary Process" (2009) 11 *Marine and Coastal Access Bill* Newsletter, available at < <http://www.defra.gov.uk/marine/pdf/legislation/marine-news11.pdf> >.

¹¹⁴ Charles Ehler & Fanny Douvère, *Marine Spatial Planning: a Step-by-step Approach toward Ecosystem-based Management* (UNESCO, Paris: 2009) at 28.

passing of the Bill will be indicative of MSP having strong political support there. Aiding the Bill's passage will be the fact that it does not only create a regime for MSP but it also establishes marine protected areas and will provide public access to almost all of the UK's coastline. These complementary components of the Bill, especially the latter, enjoy significant support from the UK public¹¹⁵ and therefore make the passage of the Bill more appealing to legislators – an approach to legislation which Canada would be wise to implement.

4.3 Reinterpreting or amending existing legislation

Canada could potentially pursue MSP through the creation of new legislation, using the UK's *Marine and Coastal Access Bill* as a model. However, even with strong political support, creating new legislation would take an *unnecessarily* long time. Furthermore, Canada already possesses marine management legislation which potentially could be altered to incorporate MSP.

The *Oceans Act*¹¹⁶ could function as the foundational legislation for MSP in Canada. The Act already gives the Minister of Fisheries and Oceans a coordinating role with respect to oceans management¹¹⁷ and a few amendments to the Act could give Canada a MSP regime which possesses the benefits of both the Belgian and UK systems.

The Belgian regime for MSP began by giving the Belgian Minister of the North Sea a similar coordinating role as that given to the Canadian Minister of Fisheries and Oceans. This role does not alter the existing authority structure in marine management, but still allows for the creation of functional MSP. It is not entirely clear why MSP in Belgium seems to have halted since the publication of the GAUFRE report, but it is clear that a couple of elements included early on in the legislative process could have avoided the stalling which appears to have occurred.

With the creation of the Minister of the North Sea, the Belgian government could have mandated the creation of a holistic marine spatial plan for the BPNS and, once created and approved, they could have created a mechanism which promoted or mandated adherence to it. The coordinating role of the Minister of the North Sea would not have changed and existing licensing authorities could have maintained their autonomy during the creation of the marine spatial plan and, to a reasonable degree, after its implementation. A functional marine spatial plan does not necessarily mandate precisely what activity will take place in every square meter of sea. The plan can operate as a guide to which licensing authorities must adhere when they determine which proposed activities are best suited for given areas, thereby maintaining the autonomy of existing authorities. This design could work well in Canada.

Currently, the Minister of Fisheries and Oceans has a coordinating role over the creation of a national strategy for the management of the Canadian oceans¹¹⁸ and the creation of plans for the integrated management of all activities in or affecting Canadian oceans.¹¹⁹ These provisions provide a good basis for the creation of MSP in Canada and could be utilized using one of three approaches, namely (i) amending the *Oceans Act*, (ii) reinterpreting the *Oceans Act*; and, (iii) using a *Cabinet Directive*.

¹¹⁵ Department for Environment, Food and Rural Affairs, *Marine and Coastal Access Bill Policy Document* (DEFRA, June 29, 2009) available at < <http://www.defra.gov.uk/marine/pdf/legislation/mab-policy.pdf> > at Part 9.14

¹¹⁶ *Oceans Act*, S.C. 1996, c. 31.

¹¹⁷ *Ibid* s. 29 & s. 31

¹¹⁸ *Ibid* s. 29

¹¹⁹ *Ibid* s. 31

(i) Amending Canada's Oceans Act

The first approach, would involve amending the *Oceans Act* to include provisions for the mandatory creation and implementation of a marine spatial plan. Amending the *Oceans Act* to extend the Minister's role to coordinate an MSP regime in Canada could be done relatively simply and quickly in comparison to writing entirely new MSP legislation. In such an amendment, it would be important to consider the degree of detail to which MSP is defined. A very specific definition of MSP and the MSP regime would promote certainty with respect to its application, but it may be more difficult to attain politically and, if too narrow, it could create an ultimately undesirable and inflexible MSP regime. Overly rigid definitions outlining the process for creating a marine spatial plan and its implementation could raise concerns from existing marine authorities that MSP will threaten their authority. Similarly, mandatory timescales for the creation of marine spatial plans or a specific list of areas requiring marine spatial plans could see the costs of MSP rising above expectations and result in a political backlash against the program. On the other hand, a lack of specific guidance for MSP in Canada could undermine the program by allowing for the creation of overly simplistic and ineffective marine spatial plans. Attaining the ideal balance between the specifically legislated elements of an MSP regime and the parts of the regime which remain flexible and at the discretion of the given MSP authority is one beyond the scope of this paper. However, it is clear that an amendment to the *Oceans Act* regarding MSP should include mandatory language for, at a minimum, the creation of marine spatial plans and the implementation and enforcement of said plans, otherwise the program could fail after major investments of time, energy and money.

(ii) Reinterpreting Canada's Oceans Act

Another approach to using the *Oceans Act* in order to begin MSP in Canada is to reinterpret the existing legislation without amendment. The *Oceans Act* obliges the Minister of Fisheries and Oceans to lead and facilitate the development and implementation of plans for the integrated management of all activities or measures in or affecting estuaries, coastal waters and marine waters that form part of Canada or in which Canada has sovereign rights under international law.¹²⁰ This provision has some shortcomings. Arguably it does not oblige the Minister to sign integrated management plans into effect, only to develop them and then facilitate their implementation if they are signed. However, legally this concern would likely fail a purposive interpretation of the legislation. That is to say that, following *Rizzo & Rizzo Shoes Ltd. (Re)*, [1998] 1 S.C.R. 27, legislation must be interpreted not as individual phrases but as entire documents; an Act must be read in its entire context and must be interpreted based on the object of the Act and the intention of Parliament. It would be difficult to argue that with the *Oceans Act*, Parliament intended that integrated management plans be written, that the Minister would facilitate their development and that he or she would implement these plans if signed but, at the same time, Parliament did not intend that the Minister would have an obligation to sign such a plan. That said, assuming the Minister was in favour of MSP, the lack of an explicit definition of "integrated management" in the *Oceans Act*, could allow MSP to occur under the pretext that it is clearly a form of integrated management and therefore within the scope of the Minister's existing authority. Supporting this interpretation is the section of the MSP Step-by-step guide which compares MSP to Integrated Coastal Zone Management (ICZM), a form of integrated management. The guide notes that both management systems are "integrated, strategic, and participatory – and both aim to maximize compatibilities among human activities and reduce conflicts both among human uses and between human activities and nature."¹²¹ The guide distinguishes ICZM from MSP simply by stating that internationally, ICZM tends to only

¹²⁰ *Ibid* s. 31

¹²¹ Charles Ehler & Fanny Douvère, *Marine Spatial Planning: a Step-by-step Approach toward Ecosystem-based Management* (UNESCO, Paris: 2009) at 22.

consider the activities which occur within 1-2km from the shoreline¹²² whereas MSP considers the usage of entire marine spaces: beginning with coastal watersheds and extending into and beyond a nation's exclusive economic zone.¹²³ Aside from an expectation that ICZM deals with a different area of sea, the guide does not provide any functional differences between ICZM and MSP.

Returning to the *Oceans Act*, we can see that the language does not limit the Minister's authority over integrated management to the marine environment. Instead, the Act specifically states that integrated management plans should cover the activities taking place within Canada's sovereign waters¹²⁴ and the plans should cover the activities or measures affecting these waters, a clause which may allow plans to address the coastal watersheds which affect these waters. Therefore, it could be argued that integrated management, as described by the *Oceans Act*, includes management via marine spatial planning and that no amendment to the legislation is necessary. This approach, however, is only viable with strong political support as successful MSP would require support from the current Minister of Fisheries and Oceans along with support from all other Ministries with authority in Canada's marine affairs and, crucially, ongoing support from all of these Ministries in the future. A successful marine spatial plan could only exist under this approach if all interested parties were willing to commit to it now and in the future – a politically unlikely scenario. Therefore, even though this approach may be theoretically possible, it is not prudent as the support necessary for its successful undertaking is the same support necessary for an amendment to the *Oceans Act* and an amendment would be preferable as it could ensure long-term commitments.

(iii) Using a Cabinet Directive

A third approach would be the creation of a Cabinet Directive which, although not strictly legally binding, could facilitate MSP in Canada without requiring major legislative action. A Directive could be structured which referenced Parliament's previous support for integrated oceans management as per the *Oceans Act*. Then, based on Parliament's clear support for integrated oceans management, the Directive could state that best practices dictate that relevant Ministries comply with all integrated management plans created under the *Oceans Act*, including any marine spatial plans. The Directive could go on to state that Ministers with mandated authorities for activities occurring within the plan area must demonstrate how decisions being made by them are consistent with the objectives of the marine spatial plan. Precedence for the use of a Cabinet Directive obliging Ministers to explicitly state efforts to minimize the impacts of their policy, plans or programmes on the environment can be found in the Cabinet Directive on Strategic Environmental Assessment.¹²⁵ Such a Directive for marine spatial plans would not be legally binding, but it would have significant political influence and would provide a relatively quick mechanism for strengthening MSP and integrated marine management in Canada.

If an amendment or Cabinet Directive were to be used to create a Canadian MSP regime, it is prudent to consider where MSP is best suited. As illustrated by the Belgian and UK examples, MSP requires significant initial research into the natural and human environment of a given marine area, as well as long-term monitoring and management. MSP is arguably best suited for

¹²² *Ibid*

¹²³ *Ibid* at 23.

¹²⁴ Excluding interior waters as per s.28

¹²⁵ Government of Canada, *Strategic Environmental Assessment: The Cabinet Directive on the Environmental Assessment of Policy, Plan and Proposals* (Privy Council Office and the Canadian Environmental Assessment Agency, Ottawa: 2004)

areas with high intensity of activity and potential for conflict, thereby requiring detailed management, and areas with unique characteristics in need of protection, but where a simple marine protected area is unsuitable. Creating a marine spatial plan for a given area is a large investment and should only be done where both the current and future human and ecological benefits for MSP outweigh the costs. The following section discusses benefits and possible challenges facing the creation of marine spatial plans in three distinct regions: the ESSIM area, the Canadian Arctic and the Gulf of St Lawrence.

4.4 Sample Locations for MSP in Canada

There are multiple locations in Canadian waters which could benefit from marine spatial plans. Three locations are considered in this section; chosen for their distinct characteristics both in relation to the benefits and challenges associated with creating marine spatial plans in these areas. As previously discussed, MSP is typically used to manage areas with high levels of activity in order to balance competing activities and ensure sustainable use of the oceans. Based on this, the Gulf of St. Lawrence is a particularly promising location for a marine spatial plan. In contrast, the Canadian Arctic presents an area where activity levels are currently low, but the likely increase of activity in the region, specifically shipping, fishing and cruise ship tourism and the potential to negatively and irreversibly affect its fragile ecosystem (natural and human subsystems) also make it a good candidate for MSP. In the case of the Arctic, MSP could be used to manage activities before the area is put at risk due to increased human activities and overexploitation. Thirdly, the ESSIM area is an obvious candidate for MSP partly due to the wealth of existing knowledge of the area and because the existing ESSIM Plan is similar to MSP and could benefit from further adoption of MSP principles. These three areas provide promising locations for MSP in Canada but there are challenges associated with creating and implementing these plans.

The challenges and the benefits associated with creating marine spatial plans in these regions are discussed in this section based on a hypothetical situation where the Canadian federal government creates an MSP regime following one of the previously discussed methods. For the purpose of this analysis, it does not matter if such a regime were to make marine spatial plans *authoritative*, for example through a legislative amendment making them legally binding documents, or *persuasive* as they would be if an MSP regime were created using a Cabinet Directive. For these purposes, it is only important that under either type of regime, federal authorities are willing to create and comply with the marine spatial plans, as well as all users of the marine environment affected by the plan.

4.4.1 The Gulf of St Lawrence

The marine area known as the Gulf of St Lawrence is an obvious choice for MSP in Canada due to the high intensity of human activity in the area, combined with its unique ecosystem. The area has been classified by *Canada's Ocean Action Plan* as a priority Large Ocean Management Area¹²⁶ for which MSP would be an ideal management mechanism. Furthermore, significant research necessary for establishing a marine spatial plan has already been done and presented in the document *The Gulf of St. Lawrence: A Unique Ecosystem*.¹²⁷ This document provides a good start for the necessary understanding of the area's environment and human activities, but does not provide the same detail and content as the GAUFRE report. Specifically, *A Unique*

¹²⁶ Fisheries and Oceans Canada, *Canada's Oceans Action Plan: For Present and Future Generations* (Communications Branch of Fisheries and Oceans Canada, Ottawa, ON: 2005) at 14.

¹²⁷ Fisheries and Oceans Canada, *The Gulf of St Lawrence: A Unique Ecosystem* (Oceans and Science Branch of Fisheries and Oceans Canada, Moncton, NB: 2005) available at < <http://www.glf.dfo-mpo.gc.ca/os/goslim-gigsl/index-e.php> >.

Ecosystem lacks the breadth and depth of the GAUFRE report with respect to its analysis of the environmental and human activities present in the area. However, more detailed knowledge may exist in internal or unpublished works relating to the Gulf of St Lawrence. More importantly, *A Unique Ecosystem* lacks an analysis of the interactions between activities in the Gulf and the way in which those activities impact the environment. Creating a comprehensive analysis of activities and interactions in the Gulf of St Lawrence would be a large undertaking and an obvious challenge to pursuing comprehensive MSP in that region. However, as discussed in *The Gulf of St. Lawrence: A Unique Ecosystem*, holistic management of the area is overwhelmingly complicated by the number of government agencies claiming authority in that region.

The Gulf of St. Lawrence: A Unique Ecosystem states that one of the greatest challenges to any form of integrated management in the Gulf is creating a management regime which can adequately synthesize the existing authority structure.¹²⁸ Currently, the Gulf area is governed by federal, provincial, municipal, and aboriginal governments and this may be an insurmountable challenge to MSP in the region. The federal government in Canada could mandate that federal government departments comply with marine spatial plans, but it is unable to mandate that the provincial governments also comply. The Canadian Constitution and a variety of Supreme Court decisions have created a complex relationship between the federal and provincial governments with respect to Canadian marine management which requires cooperation between the two levels of government if comprehensive MSP is to take place. Memoranda of Understanding (MOU) are the most common mechanisms for ensuring this sort of cooperation; however, the Gulf of St Lawrence is an area with so many governing bodies that successful creation of an MOU to facilitate comprehensive MSP must be sufficiently innovative and responsive to the interests of the various parties to the agreement.¹²⁹ Theoretically, the intense usage of the Gulf of St Lawrence and its unique ecosystem make it an ideal candidate for MSP, but the political reality of the Gulf with its multiple government actors make it a challenging location for a large singular marine spatial plan.¹³⁰

4.4.2 The ESSIM Area

In contrast to the Gulf of St Lawrence, the ESSIM Area is a good candidate for marine spatial planning in Canada both theoretically and practically. The region is primarily governed by the Government of Canada and the Government of Nova Scotia, making the creation of an MOU for management in that area much more likely than one in the Gulf. Furthermore, like the Gulf, the ESSIM area benefits from being extensively researched with much of the necessary information on the environment, human activities and stakeholder interests already accumulated. In some ways, the ESSIM Initiative already resembles MSP and has been referred to as MSP in the MSP Step-by-Step guide.¹³¹ However, the ESSIM Initiative refers to its work as creating an “Integrated Ocean Management Plan”¹³² and although, as discussed in the previous section, it

¹²⁸ *Ibid* at 2.4.1

¹²⁹ In theory the Gulf of St Lawrence could be divided into regions which could independently choose to adopt MSP. This would reduce the complexity of any individual federal-provincial relationship but would likely reduce the effectiveness of any given marine spatial plan as it would not have control over the constant flow of neighbouring waters.

¹³⁰ On the other hand, MSP might be applicable at a subregional level within the Gulf of St Lawrence, such as in the Northumberland Strait, and might even be adaptable to the developing integrated management structure.

¹³¹ Charles Ehler & Fanny Douvère, *Marine Spatial Planning: a Step-by-step Approach toward Ecosystem-based Management* (UNESCO, Paris: 2009) at 36.

¹³² Fisheries and Oceans Canada, *Eastern Scotian Shelf Integrated Management Plan: Strategic Plan* (Oceans and Habitat Branch of Fisheries and Oceans Canada, Dartmouth, NS: 2007) at 3.

may be possible to blur the distinction between integrated management and MSP when interpreting the *Oceans Act*, there are distinctions which can be made between the ESSIM Initiative and MSP as it has been pursued in Belgium and the UK.

One major distinction between the approach taken by the ESSIM initiative and MSP has been the role of stakeholders in the creation of the ESSIM Plan. Although the ESSIM Stakeholder Advisory Council (SAC) was not technically given authority over the ESSIM Plan, the SAC was given a substantial advisory role and, at least initially, the work of the SAC was intended to have a highly influential role in the creation of the ESSIM Plan. The ESSIM Plan was to be written using a “Collaborative Planning Model” where the SAC would have significant authority over the design and implementation of the plan.¹³³ In the end, the SAC’s role may have been more advisory with limited influence than was the original intention of the ESSIM Initiative. Integrated Management is frequently defined as management led by the concerns of stakeholders but, in contrast, the role that stakeholders play in the actual development of an MSP is often very limited.

For example, in the UK, it currently appears that stakeholders will not have any authority in the creation of either Marine Policy Statements or regional marine plans. The *Marine and Coastal Access Bill* does mandate that the public and relevant stakeholders be informed and given the ability to comment on the creation of these documents, but there is no pressure on the relevant authorities to meet with stakeholders, seek stakeholder input or act in accordance with stakeholder’s recommendations – even if there is consensus among major stakeholder groups. The MSP Step-by-Step guide states that stakeholder involvement is an important part of a successful marine spatial plan,¹³⁴ but it also notes that stakeholder involvement can come in many forms and does not necessarily mean giving actual authority to stakeholders.¹³⁵ The guide also cautions that too much stakeholder involvement can make MSP unmanageable if stakeholders are given authority but cannot reach consensus or sufficient agreement on issues, thereby leading to deadlocked discussions.¹³⁶

There are challenges associated with creating a marine spatial plan for the ESSIM area, but these are not of the same magnitude as those in the Gulf. Some practical challenges exist relating to acquisition and analysis of data but the primary challenges for a marine spatial plan in the ESSIM area relate to jurisdictional concerns and public opinion. As previously discussed, a marine spatial plan in the ESSIM area created independently by the federal government could not bind the Nova Scotia or Newfoundland provincial governments to exercise their competencies in accordance with it. Although almost all of the ESSIM area is geographically under the jurisdiction of the federal government, it is clear that onshore activities, under the competency of the provinces, have a major impact on the marine environment. In order for a marine spatial plan to function in the ESSIM area, not only would federal departments need to coordinate their approaches to ocean management, but it would require mutual recognition by the two levels of government of the benefits arising from collaboration. A formal acknowledgement of this agreement and associated terms could then be negotiated, most likely in the form of MOUs.

¹³³ *Ibid* at 21.

¹³⁴ Charles Ehler & Fanny Douvère, *Marine Spatial Planning: a Step-by-step Approach toward Ecosystem-based Management* (UNESCO, Paris: 2009) page 43.

¹³⁵ *Ibid* at 47.

¹³⁶ *Ibid*.

Another challenge relating to the creation of a marine spatial plan in the ESSIM area would be distinguishing it from the ESSIM Plan itself and persuading stakeholders that MSP is preferable to the existing collaborative process. Properly designed, MSP should be more efficient than stakeholder collaboration and it should produce truly sustainable management decisions rather than decisions based on appeasing all stakeholders. On the other hand, this sort of approach is more likely to upset certain stakeholders who feel alienated or disadvantaged by the process. To partially combat this, MSP in the ESSIM area should appear to flow dynamically from the existing management regime; the obvious next step in managing the marine area. One way to do this would be to explicitly use elements of the ESSIM plan in the creation of the policies which will guide MSP in the area, thereby infusing the marine spatial plan with agreed upon principles set out by stakeholders.

The challenges associated with creating a marine spatial plan for the ESSIM area are relatively minor in comparison to the benefits associated with creating and implementing a plan for that region. The existing scientific knowledge of the area would provide a strong foundation for MSP and the moderate to high intensity of activity in parts of the area make it a great candidate for MSP. Furthermore, the area has already received a considerable amount of stakeholder input and buy-in through the ESSIM Stakeholder Forum and Stakeholder Advisory Committee. MSP would be a particularly efficient way to advance the management of the ESSIM area as it would build on the significant previous participatory effort while focusing future effort on holistic management of all marine activities based on scientific data, without necessarily relying heavily on further stakeholder involvement in MSP decision making.

4.4.3 The Canadian Arctic

The Canadian Arctic is another good potential location for a marine spatial plan but the purpose of such a plan would likely differ from plans in the ESSIM area or the Gulf of St Lawrence. In the majority of cases, MSP is used to manage a nearly overwhelming number of activities in an insufficient amount of space – this would not be the case in the Arctic. Instead, MSP in the Arctic could be employed pre-emptively to create a management structure for activities before spatial conflicts become a major problem. This approach could clearly benefit the fragile Arctic ecosystem since it is likely that uncontrolled development in that area could have particularly negative effects on both the environment and the people in the region. Furthermore, a comprehensive marine spatial plan in the Arctic would also strengthen Canada's assertion of sovereignty in the region. Finally, the prospect of creating a marine spatial plan in the Arctic is particularly attractive since it could be done with a significantly smaller initial assessment of activities and interactions than other regions.

One of the largest investments of both time and money in the creation of a marine spatial plan is the scientific interaction research which precedes the writing of the actual marine spatial plan. Belgium's GAUFRE Report is an example of this type of research, but this culmination of two and a half years of research is arguably much more extensive than what would be required for MSP in the Canadian Arctic. Even though the Arctic is a much larger area than the BPNS, the significantly lower variety and intensity of activities could provide for a relatively simpler assessment. In the BPNS, activity levels are high as is demand for space; therefore it was necessary for researchers to provide a report which detailed the entire BPNS and the interactions between all activities. In contrast, the initial research and corresponding marine spatial plan for the Arctic could limit itself by considering only the interactions which occur between existing and proposed activities and the specific marine spaces in which they operate or will likely operate. In this way, an MSP for the Arctic would not necessarily have to consider the entire marine area but only the places where human activities exist, while being cognizant of the fact that impacts arising from human activity can be felt some distance away from where the

activity is taking place. Taking the specific intensity and the likely locus of impact from these activities into account in the Arctic, the detail and scope of interaction research can be increased or decreased accordingly.

The Arctic also presents far fewer jurisdictional conflicts since the Northwest Territory and Nunavut poses the same independent competencies as Yukon or the provinces. Cooperation from Aboriginal bodies and the governments of the territories would be an advantage to any marine spatial plan in the Arctic, but the sparse population in that region means that human impacts from activities onshore are likely to be much lower, thereby decreasing the likelihood of potential conflict and increasing the potential cooperation with the territorial governments in the MSP initiative. A marine spatial plan which primarily addressed federal competencies in the Arctic would likely be sufficient, at least initially, to provide sustainable management of that marine area.

The Arctic provides an opportunity for establishing a marine spatial plan which would help to protect this area before major use conflicts or major damage due to overexploitation occur. The plan could be altered and amended as future uses for the Arctic space are proposed, but an initial plan capable of managing development in the Arctic could be created at a relatively low cost (i.e. both the expected tangible and intangible benefits to be achieved clearly outweighing the costs) and be done before the area is overwhelmed by marine activities.

5.0 CONCLUSIONS

Marine spatial planning is a promising tool for comprehensive marine management. It is designed to balance competing interests and activities and, based on predetermined goals for a given marine area, determine the optimal spatial and temporal distribution of marine activities. In order for MSP to be successful, all decisions regarding marine activities must be made in compliance with the marine spatial plan; this is the greatest challenge to MSP. This paper examined the approaches taken by Belgium and the United Kingdom in their pursuit to use MSP in their jurisdictional waters. Important lessons from these two experiences were then used to make recommendations for a possible MSP regime in Canada.

In Belgium, MSP began with strong political support but once the program progressed to the point where the next step would result in the creation of a binding marine spatial plan, the project seemed to falter. The Belgian approach did not create a strong legislative foundation for MSP; instead it focused on using a collaborative approach where a new Ministerial position would coordinate marine management in the BPNS. Fundamental to the Belgian approach was maintaining the *status quo* with respect to the existing marine licensing regime. This policy left the new Minister with the task of coordinating MSP without sufficient authority to do so. When Belgian researchers produced the GAUFRE report which clearly laid out the final steps for creating a comprehensive marine spatial plan, the government did not respond with the guidance that was requested. MSP in Belgium has stalled without explanation. There are likely multiple political factors which caused this but ultimately, MSP in the BPNS could fail because of the regime's reliance on government cooperation to facilitate MSP rather than mandatory legislation.

In contrast, MSP in the UK seems likely to be based wholly on the proposed *Marine and Coastal Access Bill* which is currently being debated in their Parliament. The Bill will create an MSP regime where marine spatial plans are legally binding on decision makers and where the majority of marine licensing authorities will be consolidated into the new Marine Management Organization. This approach has been slow to develop but it should guarantee a regime where

marine spatial plans are created, implemented, and enforced. The UK's proposed regime is not without its shortcomings. The legislation does not make the creation marine spatial plans mandatory, nor does it bind decision makers to comply with them under all circumstances. However, it is a much stronger regime than that of Belgium. It is important to note that the UK's approach has required significantly greater political support than Belgium's as evidenced by the likely passage of this massive new statute and by the willingness of the UK government to reorganize various marine management authorities. That said, the drafters of the UK Bill made the wise decision to combine MSP legislation with other politically popular legislation, including the creation of marine protected areas and improved coastal access, thereby increasing the likelihood that the Bill will be supported in Parliament.

In Canada, the ideal MSP regime would take elements from both the Belgian and UK experiences. Canada can follow the Belgian example and avoid drafting completely new and dedicated MSP legislation, but it would also be wise to follow the UK's policies which make marine spatial plans binding. Canada has at least three options for creating a functional MSP regime: (i) amending the *Oceans Act*, (ii) reinterpreting the *Oceans Act*; and, (iii) using a *Cabinet Directive*. However, any of these methods would require significant political consensus, as will the long-term application of any marine spatial plan. An MSP regime established by the Canadian federal government will also have to address its inability to manage the governing competencies granted to the provinces by the *Constitution Act*. This can be done through the creation of MOUs with the provinces but, as discussed above, their necessity may make marine spatial plans in some regions impractical. For example, while in theory the Gulf of St Lawrence would be an ideal location for MSP based on its ecology and high usage, the need to coordinate management between multiple federal, provincial, municipal and aboriginal governments and government agencies make successful MSP in the region unlikely. On the other hand, areas like the ESSIM area and the Canadian Arctic are likely better candidates for successful marine spatial plans in Canada.

In summary, the key lessons which Canada should learn from the MSP experiences in Belgium and the UK are:

- i) Creating marine spatial plans requires large amounts of time and money making their application best suited for areas where the activity to space ratio is high or areas with fragile, interdependent natural and human ecosystems that can be negatively and irreversibly affected by unplanned human activities;
- ii) A successful MSP regime should be designed that seeks to require the creation and application of marine spatial plans and ensures mandatory compliance from all relevant agencies and stakeholders;
- iii) In order to create marine spatial plans, significant intergovernmental political support is required both at the time of creating the regime and when plans are in operation.

A Canadian MSP regime will benefit greatly from heeding the lessons of Belgium and the UK. Both nations have spent significant resources, both time and money, in their pursuit of MSP and have not always achieved the expected results. There are various avenues Canada can take to create an MSP regime; all of which require significant political support and should be developed with significant attention to the lessons learned from other jurisdictions and a sound knowledge of the consequences of poorly thought through decisions. MSP may be the ideal mechanism for managing certain Canadian marine spaces, but failure to establish an effective and functional Canadian MSP regime could result in useful resources being expended to create marine spatial plans which run the risk of never being implemented.

6.0 References

6.1 Legislation

Act on protection of the marine environment and ocean space under Belgian jurisdiction (Marine Protection Act of 20 January 1999), *Moniteur belge*, 12 March 1999, Ed.2, F. 99-712, pp. 8033-8052, reprinted in English in (2001) *Law of the Sea Bulletin No. 45* (United Nations, New York) page 47.

Act on the exploration and exploitation of non-living resources in the territorial sea and the continental shelf (formerly "Continental Shelf Act"), 13 June 1969, posted in English on the United Nations' *Oceans and Law of the Sea: Division for Ocean Affairs and the Law of the Sea* webpage, available at < http://www.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/BEL_1969_Act.pdf >.

Bill 108, *Marine and Coastal Access Bill* [HL] 2008-2009 Sess., 2009.

Directive 2001/77/EC of the European Parliament and of the Council of 27 September 2001 on the promotion of electricity produced from renewable energy sources in the internal electricity market, 27.10.2001.

Oceans Act, S.C. 1996, c. 31.

6.2 Secondary Material: Monographs

Anon., *Progress Report from the Fifth International Conference on the Protection of the North Sea* (Bergen, Norway, March 20-21, 2002) available at < <http://www.regjeringen.no/md/html/nsc/progressreport2002/hoved.html> >.

Charles Ehler & Fanny Douvere, *Marine Spatial Planning: a Step-by-step Approach toward Ecosystem-based Management* (UNESCO, Paris: 2009).

Department for Environment, Food and Rural Affairs, *A Marine Bill: A Consultation Document* (DEFRA, London: 2006)

Department for Environment, Food and Rural Affairs, *Charting Progress: An Integrated Assessment of the State of the UK Seas* (DEFRA, London: 2005).

Department for Environment, Food and Rural Affairs, *Marine and Coastal Access Bill Policy Document* (DEFRA, June 29, 2009) available at < <http://www.defra.gov.uk/marine/pdf/legislation/mab-policy.pdf> >.

Department for Environment, Food and Rural Affairs, *Safeguarding Sea Life: The Joint UK Response to the Review of Marine Nature Conservation* (DEFRA, London: 2005).

Department for Environment, Food and Rural Affairs, *Safeguarding Our Seas: A Strategy for the Conservation and Sustainable Development of our Marine Environment* (DEFRA, London: 2007).

Fanny Douvere, "Socio-economic Value of the Human Activities in the Marine Environment: the Belgian Case" in Frank Maes (ed.), *Marine Resource Damage Assessment, Liability and Compensation for Environmental Damage*, (Springer, Dordrecht: 2005).

Fisheries and Oceans Canada, *Canada's Oceans Action Plan: For Present and Future Generations* (Communications Branch of Fisheries and Oceans Canada, Ottawa, ON: 2005).

Fisheries and Oceans Canada, *The Gulf of St Lawrence: A Unique Ecosystem* (Oceans and Science Branch of Fisheries and Oceans Canada, Moncton, NB: 2005) available at < <http://www.glf.dfo-mpo.gc.ca/os/goslim-gigsl/index-e.php> >.

Fisheries and Oceans Canada, *Eastern Scotian Shelf Integrated Management Plan: Strategic Plan* (Oceans and Habitat Branch of Fisheries and Oceans Canada, Dartmouth, NS: 2007).

Frank Maes, *et al.*, *A Flood of Space: Towards a Spatial Structure Plan for Sustainable Management of the North Sea* (Belgian Science Policy, Brussels: 2005).

Frank Maes, *et al.*, *Towards a Spatial Structure Plan for Sustainable Management of the Sea* (Belgian Science Policy, Brussels: 2005).

Frank Maes, *The Marine Spatial Planning Problem and the Current Situation in Belgium* (Presented at the Bencore Conference in Leuven, Belgium, April 26, 2007) [unpublished] available at < <http://www.vliz.be/imisdocs/publications/120377.pdf> >.

Government of Canada, *Strategic Environmental Assessment: The Cabinet Directive on the Environmental Assessment of Policy, Plan and Proposals* (Privy Council Office and the Canadian Environmental Assessment Agency, Ottawa: 2004)

M. Vincent, *et al.*, *Marine Nature Conservation and Sustainable Development - The Irish Sea Pilot: Report to DEFRA by the Joint Nature Conservation Committee* (JNCC, Peterborough: 2004).

MSPP Consortium, "Irish Sea Pilot Regional Plan" (DEFRA, London: 2005) available at < http://www.abpmer.net/mspp/docs/finals/final_pilot_plan.pdf >.

MSPP Consortium, "Marine Spatial Planning Pilot: Final Report" (DEFRA, London: 2006) available at < http://www.abpmer.net/mspp/docs/finals/MSPFinal_report.pdf >.


S. Boyes, *et al.*, *Regulatory Responsibilities & Enforcement Mechanisms Relevant to Marine Nature Conservation in the United Kingdom: Report to JNCC* (Institute of Estuarine & Coastal Studies, University of Hull, Hull: 2003).

6.3 Secondary Material: Articles

Cathy Plasman, "Implementing Marine Spatial Planning: A Policy Perspective" (2008) 32 *Marine Policy* 811.

Charles Ehler, "Conclusions: Benefits, Lessons Learned, and Future Challenges of Marine Spatial Planning" (2008) 32 *Marine Policy* 840.

Department for Environment, Food and Rural Affairs, "Marine and Coastal Access Bill Completes Latest Stage in Parliamentary Process" (2009) 11 *Marine and Coastal Access Bill Newsletter*, available at < <http://www.defra.gov.uk/marine/pdf/legislation/marine-news11.pdf> >.



Fanny Douvère, “The Importance of Marine Spatial Planning in Advancing Ecosystem-based Sea Use Management” (2008) 32 *Marine Policy* 762.

Fanny Douvère, *et al.*, “The Role of Marine Spatial Planning in Sea Use Management: the Belgian Case” (2007) 31 *Marine Policy* 182.


Frank Maes, “The International Legal Framework for Marine Spatial Planning” (2008) 32 *Marine Policy* 797.

Jane Taussik, “The Opportunities of Spatial Planning for Integrated Coastal Management” (2007) 31 *Marine Policy* 611.

Juan Suárez de Vivero, *et al.*, “Geopolitical Factors of Marine Policies and Marine Spatial Planning: State, Regions, and Geographical Planning Scope” (2009) 33 *Marine Policy* 624.

Oran Young, *et al.*, “Solving the Crisis in Ocean Governance: Place-based Management of Marine Ecosystems” (2007) 49:4 *Environment* 20.

Paul Gilliland & Dan Laffoley, “Key Elements and Steps in the Process of Developing Ecosystem-based Marine Spatial Planning” (2008) 32 *Marine Policy* 787.



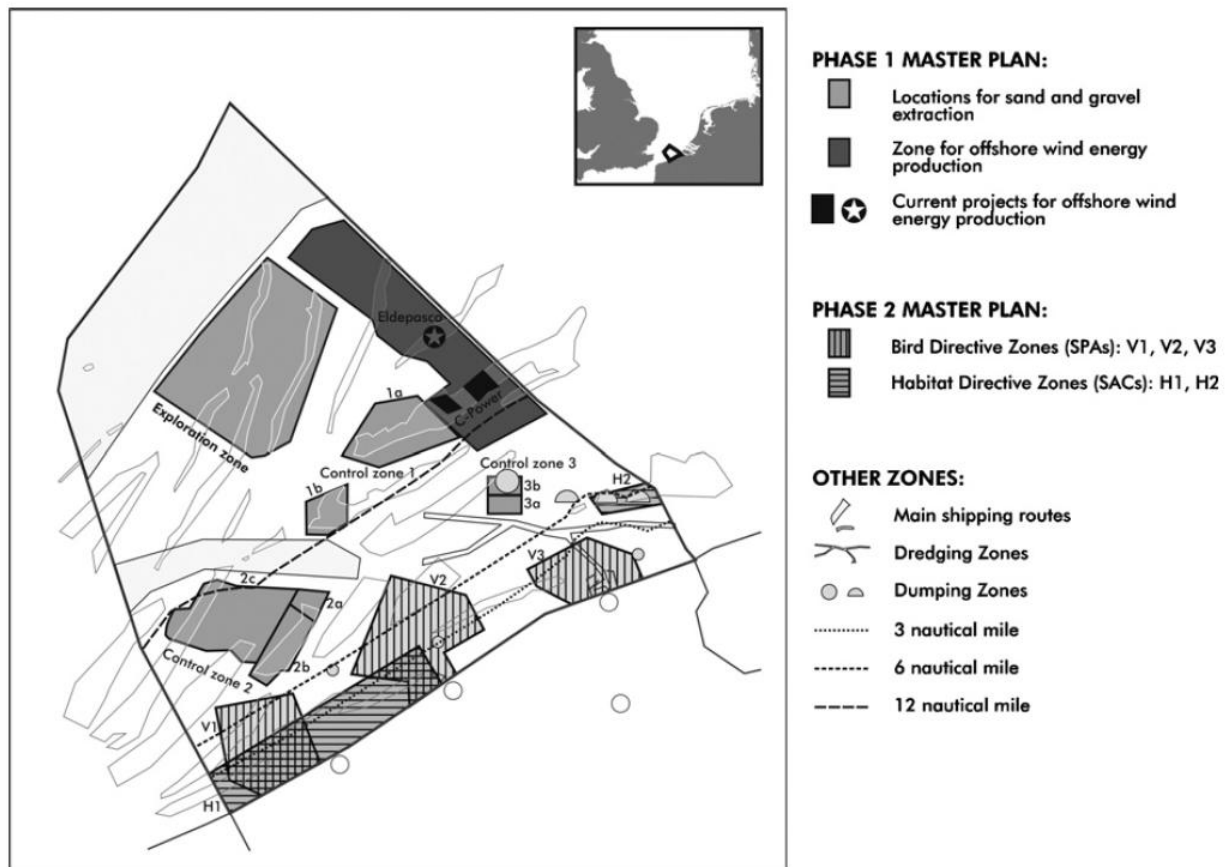
APPENDIX

Figure 1. The Belgian Part of the North Sea



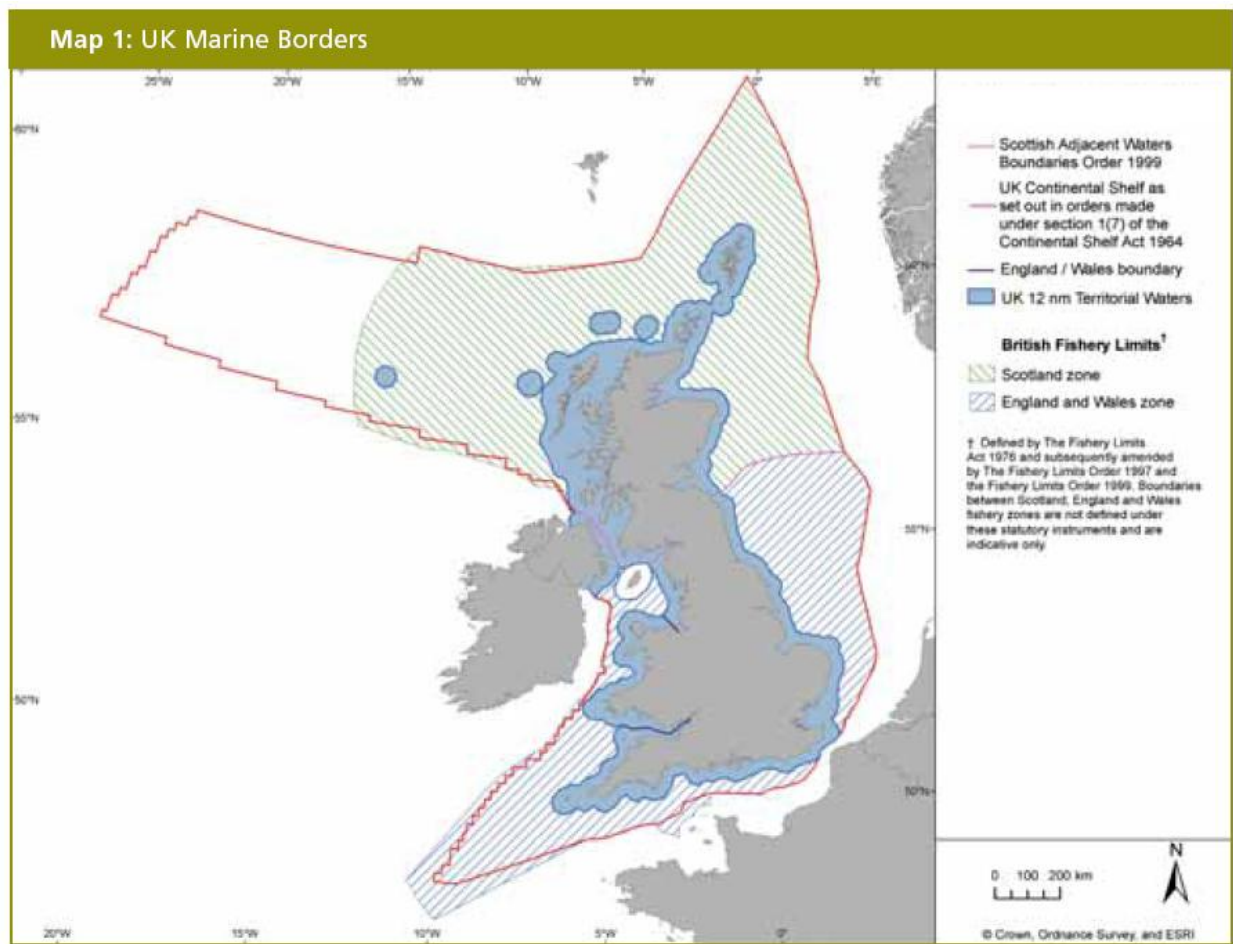
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Figure 2. The Zoning Map from the Belgian Master Plan Phases 1 & 2



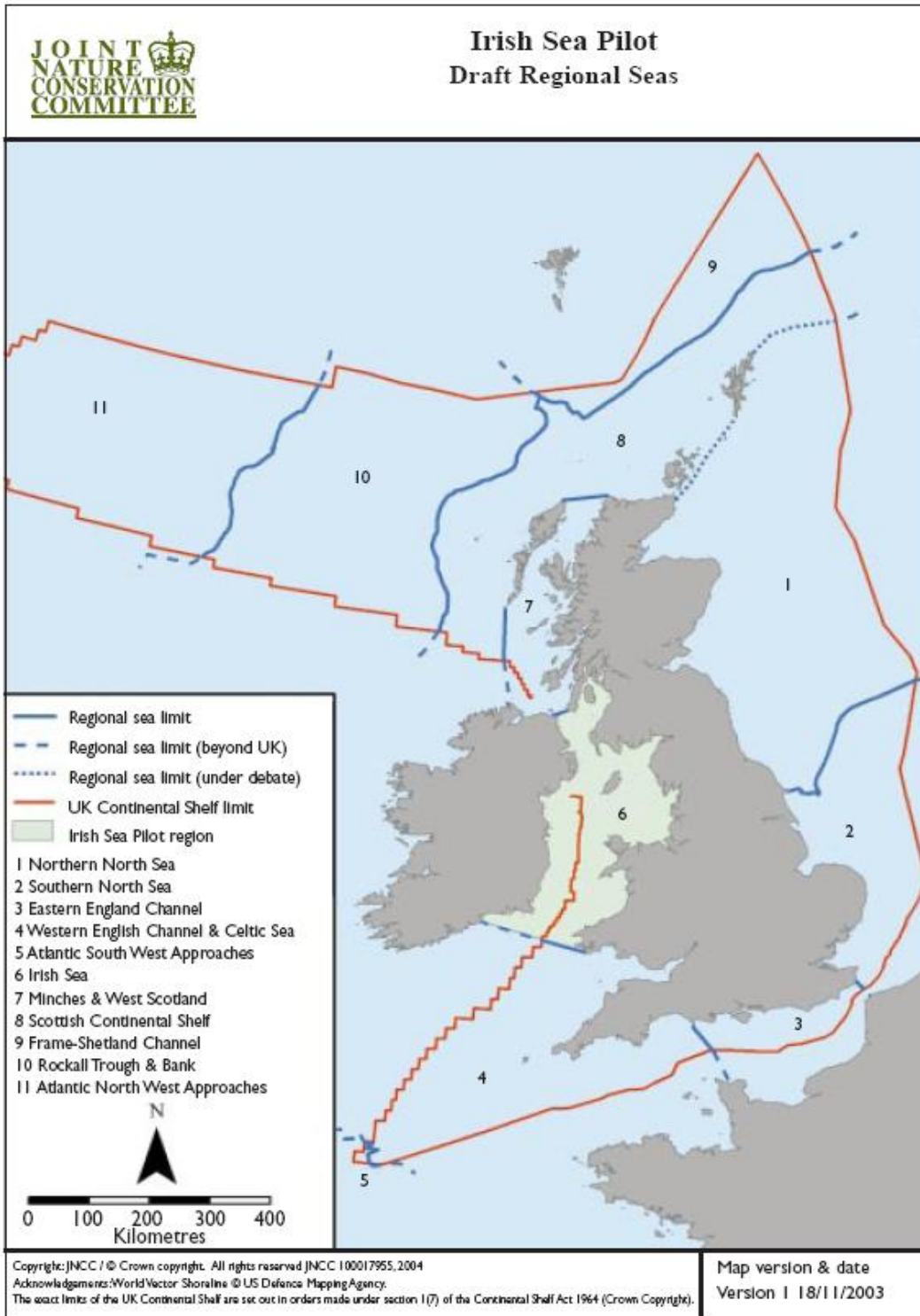
Source: Fanny Douvere, *et al.*, "The Role of Marine Spatial Planning in Sea Use Management: the Belgian Case" (2007) 31 *Marine Policy* 182 Page 186.

Figure 3. The Jurisdictional Sea of the UK



Source: Department for Environment, Food and Rural Affairs, *Safeguarding Sea Life: The Joint UK Response to the Review of Marine Nature Conservation* (DEFRA, London: 2005) Page 3.

Figure 4. The Irish Sea Pilot



Source: M. Vincent, *et al.*, *Marine Nature Conservation and Sustainable Development - The Irish Sea Pilot: Report to DEFRA by the Joint Nature Conservation Committee* (JNCC, Peterborough: 2004) Page 76.