



Marine Spatial Planning: Case Studies

With marine planning developing in many parts of the world, especially the E.U., U.S. and Australia, it is important for industry to be part of the creation of a shared vision for a marine area and the necessary elements (e.g., outreach, funding, boundaries) of such an effort. World Ocean Council, with funding from the Gordon and Betty Moore Foundation, undertook a project to inform and, as appropriate, engage a diverse range of ocean industries on marine planning and encourage the use of credible science and risk assessment.¹ The project identified industry sectors and business categories and researched industry perspectives on marine planning in part through the following five case studies.

These case studies were selected to provide a broad range of regions across the globe and MSP examples at different stages of design, implementation, monitoring and adaptive management. The case studies are based on interviews with many private sector and government sector participants of planning processes, online documents, maps and available information, and a review of MSP literature. Stakeholder feedback, benefits and challenges from these five case studies are incorporated into the WOC report *Ocean Industries and Marine Planning*.²

So as not to duplicate information available online, the case studies offer succinct background of the efforts and analysis of MSP from the perspective of the private sector with links to more thorough descriptions online. The case studies include the following sections:

Overview

MSP Status

Geography

Background

Stakeholder Engagement

Achievements and Challenges

Additional Information

¹ The Gordon and Betty Moore Foundation had no role in the research, interviews or analysis, nor in the writing of this paper. Information about the Foundation's Marine Conservation Initiative is available at <https://www.moore.org/initiative-strategy-detail?initiativeId=marine-conservation-initiative>.

² World Ocean Council, OCEAN INDUSTRIES AND MARINE PLANNING (2016), available at http://www.oceancouncil.org/site/pdfs/Ocean%20Industries%20and%20Marine%20Planning_22%20Mar%202016.pdf.

Contents

Coral Triangle (Pacific)	page 3
Great Barrier Reef (Australia)	page 9
North Sea Region (Europe)	page 16
Oregon (U.S.)	page 24
Rhode Island (U.S.)	page 30

Acknowledgements

WOC wishes to thank those who provided support and feedback for this work, including the WOC MSP Working Group and WOC Members and partners.

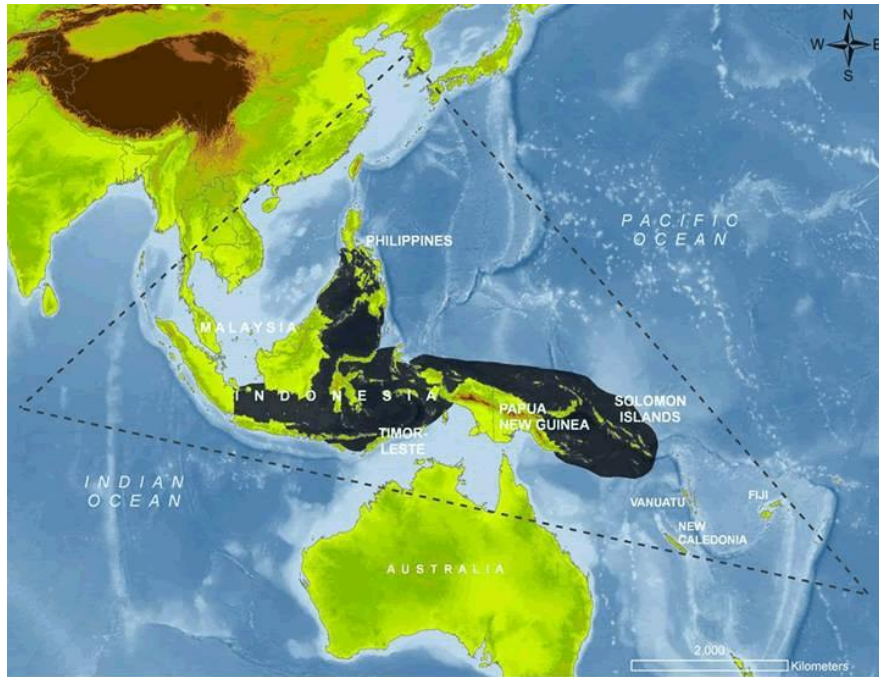
More MSP information is available from World Ocean Council at:

<http://www.oceancouncil.org/site/planning.php>.

Case Study:

The Coral Triangle Initiative

<http://www.coraltriangleinitiative.org/>



Overview

The Coral Triangle (CT) has been called the “Amazon of the seas” as it is an epicenter of marine life abundance and diversity. As a global center for marine biodiversity, the CT is a major conservation priority. The CT’s environmental diversity and economic value are threatened by climate change, urbanization, overfishing, and other impacts. With these threats affecting six countries in the region, leaders created the Coral Triangle Initiative (CTI). Officially titled the Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security, the CTI is a multilateral partnership of six countries formed in 2007 to address the urgent threats facing the coastal and marine resources of this biologically and ecologically rich region. The CTI is managed through a Secretariat based in Jakarta, Indonesia.

MSP Status

Organizing the process (pre-planning)

Organizing stakeholder participation

Defining and Analyzing existing conditions³

³ Based on Steps of Marine Planning: Step 1 - Defining need and establishing authority; Step 2 - Obtaining financial support; Step 3 - Organizing the process (pre-planning); Step 4 - Organizing stakeholder participation; Step 5 - Defining and Analyzing existing conditions; Step 6 - Defining and Analyzing future conditions; Step 7 - Developing and approving the spatial management plan; Step 8 - Implementing and enforcing the spatial management plan;

Geography

The Coral Triangle (CT) is defined by a roughly triangular area that passes through the tropical marine waters of six countries: the Philippines, Malaysia, Indonesia, Papua New Guinea, Solomon Islands, and East Timor. It is located at the junction of the Western Pacific and Indian Oceans, and includes all or part of the six countries' exclusive economic zones (EEZ). The CT consists of portions of two regions, the Indonesian-Philippines Region and the Far Southwest Pacific Region. This area, known collectively as CT6, covers 6 million square kilometers of ocean, or 1.6% of the world's ocean area, and is recognized as a global epicenter of marine biodiversity.⁴

Background

The CT area has the highest coral reef diversity, with 15 regionally endemic species. There are more than 605 coral reef species, which is 76% of all coral reef species and 53% of the world's coral reefs.⁵ These coral reefs act as nurseries, feeding grounds, and shelters for the CT's marine life. There are single coral reefs in the CT that contain more marine species than the entirety of the Caribbean.⁶ Climate change, including rising seawater temperatures and levels and ocean acidification, is threatening and bleaching the coral reef habitats.

The CT is home to more than 2,500 species of fish, or 37% of the world's coral reef fish species. The area is threatened by overfishing and specific types of fishing including explosive and cyanide fishing. The CT also provides habitat for 6 of the 7 marine turtle species.⁷ These species are all vulnerable to the same threats as coral reefs and fisheries.

The CT's marine and coastal resources sustain 120 million people in the region. Over one third of the 120 million are fishermen and aquaculture now accounts for 13% of the regional fish production. The CT produces 40% of the world's tuna market and reef fish are valued at US \$1 billion annually.⁸ Ecotourism has been valued at US \$12 billion annually.⁹

Due to population and economic growth in the area, there has been a surge in urbanization, industrialization, and demands on natural resources. With the growing needs of the population and so

Step 9 - Monitoring and evaluating performance; Step 10 - Adapting the marine spatial management process; available at http://www.ioc-unesco.org/index.php?option=com_content&view=article&id=147&Itemid=76.

⁴ More information is available at http://wwf.panda.org/what_we_do/where_we_work/coraltriangle/, <http://www.coraltriangleinitiative.org/about-us>.

⁵ More information is available at http://wwf.panda.org/what_we_do/where_we_work/coraltriangle/.

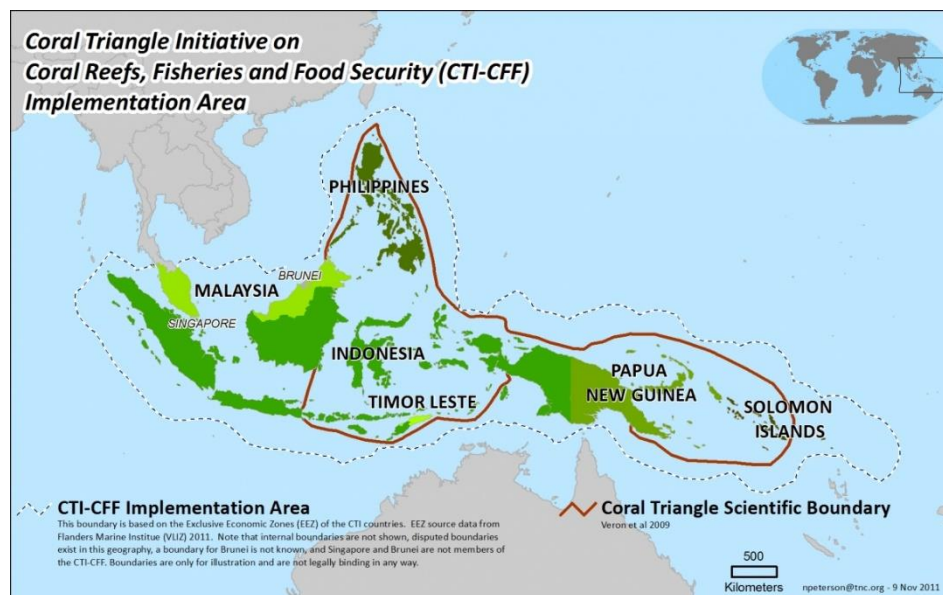
⁶ More information is available at <http://www.thecoraltriangle.com/about>.

⁷ Id.

⁸ Nazir Foead, *The Coral Triangle – A New Geography, A New Age*, The Jakarta Post, 7 October 2013, available at <http://www.thejakartapost.com/news/2013/10/07/the-coral-triangle-a-new-geography-a-new-age.html>.

⁹ World Wildlife Fund, Coral Triangle Facts, available at http://wwf.panda.org/what_we_do/where_we_work/coraltriangle/coraltrianglefacts/.

many directly and indirectly dependent on the resources, the risks to biodiversity and productivity of the CT were major drivers in the formation of the Coral Triangle Initiative and interest in marine planning.



In August 2007, President Yudhoyono of Indonesia proposed that he and the other five countries' leaders form a multilateral partnership to protect the biological resources of the Coral Triangle. This partnership became known as the Coral Triangle Initiative on Coral Reefs, Fisheries, and Food Security (CTI-CFF). At the CTI Senior Officials Meeting in December 2007, leaders agreed upon nine Guiding Principles, a shared understanding of the CT's resource value, and a framework for a Regional Plan of Action (RPoA) roadmap.¹⁰ At the CTI Summit in Manado, Indonesia in May 2009, the CT6 leaders signed an inter-state agreement adopting a 10-year Regional Plan of Action (RPoA).¹¹ These six countries then established their own National Plans of Action to be adopted by their regional governments to focus on their specific local conditions.

The RPoA creates marine protected areas (MPAs), fisheries, and climate change targets with five goals: protect threatened species, improve climate change resiliency, institute and strengthen MPAs, encourage the use of ecosystem based fisheries management, and improve seascape management. Monitoring and evaluation is ongoing as the RPoA goals are implemented. The intent is for the RPoA to implement actions to improve the health of the ecosystem's resources, while ensuring food security and livelihoods. In October 2011, the CTI-CFF held a Ministerial Meeting, where the CT6 endorsed legal

¹⁰ In April 2008, the Global Environment Facility contributed a program of \$63 million to endorse biodiversity, climate change adaptation activities, and international waters. This, so far, is the largest contribution to the CTI. Information is available at <https://www.thegef.org/gef/CTI>.

¹¹ Coral Triangle Initiative, REGIONAL PLAN OF ACTION (2009), available at http://www.coraltriangleinitiative.org/sites/default/files/resources/CTI%20Regional%20Plan%20of%20Action_June%2023%202009.pdf.

documents implementing operations of the CTI organization. From this, a Regional Secretariat was created to execute the RPoA.

Commitments of the CTI include:

- Prioritizing the sustainable management of marine and coastal resources on national agendas;
- Mobilizing high-level public and private sector leadership;
- Achieving enhanced regional collaboration;
- Implementing needed economic, policy and legal reforms;
- Establishing a system of sustainable funding and orient these financial resources toward achievement of the CTI Plan of Action;
- Achieving a rapid improvement in institutional and human capacity;
- Leading effective, highly participatory multi-stakeholder alliances;
- Integrating conservation, management and development; and
- Promoting public/private partnerships.¹²

The CTI-CFF operates through core decision-making and implementing bodies, including the CTI-CFF Council of Ministers, the CTI-CFF Committee of Senior Officials, and the CTI-CFF National Coordinating Committees, all of which are supported by the CTI-CFF Regional Secretariat. The Secretariat is the primary body that coordinates the implementation of the CTI Regional Plan of Action. The CTI National Coordinating Committees (NCC) are the national interagency committees responsible for guiding and ensuring implementation of the CTI Regional and National Plans of Action in their respective countries.

Planned future actions include coordinating the development of guidelines for sustainable marine tourism in the Coral Triangle, ensuring appropriate regulatory and investment related provision of incentives, and identifying and removing any associated regulatory or investment related disincentives.

Stakeholder Engagement

With stakeholders from six countries, numerous governmental agencies, the business community, private organizations, and local communities, the CTI is a large umbrella under which they can work together. In this way, the CTI enables multi-stakeholder involvement from national governments to local communities, the private sector's involvement to implement long-term interests, and collaborative partnerships.¹³

There are an estimated 120 million people living in coastal communities who are directly dependent on the Coral Triangle's resources for their food and livelihoods and are considered the most direct beneficiaries of CTI-CFF's coastal and marine resource management programs. There are many constituencies that can be targeted at the local level and development partners and international NGOs

¹² More information is available at <http://www.protectplanetoocean.org/regions/eastasiansea/coral-triangle-initiative.html>.

¹³ Coral Triangle Initiative News Release (2014) available at <http://www.coraltriangleinitiative.org/news/cti-cff-%E2%80%9Cmodel-success%E2%80%9D-says-world-economic-forum-report>.

have directly engaged and worked with coastal communities across the Coral Triangle through their community-based programs. These partners are developmental and non-governmental organizations who support the CTI by providing technical and scientific expertise, funding for priority conservation and sustainability projects, preparation of reports and studies, and communications support.

Local government leaders are engaged through the CTI Local Government Network, composed of roughly 100 mayors, premiers, and governors in the Coral Triangle countries. The network aims to improve the capacity of local government leaders in addressing various coastal and marine resource sustainability issues in their localities. Each of the leaders of the six countries comprising the CT have formed a multi-lateral partnership.

The CTI engages with the private sector through an annual CTI Regional Business Forum. This forum allows business and industry leaders to establish new sustainable solutions and creates an opportunity to form partnerships with the CT6 governments, business community, NGOs, institutions, and communities.¹⁴ The CTI has held four regional business forums (2010, 2011, 2013, and 2015). The most recent forum, held in August of 2015, engaged the private sector in developing economical and sustainable tourism solutions through three activities: the Coral Triangle Sustainable Marine Tourism Conference, the Coral Triangle Marine Tourism Investment Forum, and the Coral Triangle Marine Tourism Expo. Apart from the forum, Development Partners and NGOs working to support the CTI have developed partnerships with businesses to support programs and projects at the site level.

Achievements and Challenges

Researchers suggest that the CTI is “best viewed as a nascent, collaborative policy subsystem wherein there is strong support for the CTI objectives among stakeholders, convergence in policy beliefs and preferences, and instances of collaboration.”¹⁵ A nascent policy subsystem is one where the impacts of policy and actors’ beliefs are uncertain and networks are still in the formative stages.¹⁶ In other words, the CTI process is young and its impacts have not materialized. Given the large number of policies and actions outlined in the Regional Plan of Action and based on the experience of more mature planning efforts, it is likely that conflicts will arise as actions are taken.

However, even with multi-sector stakeholder engagement, there are elements which risk undermining the effectiveness and long-term sustainability of the Initiative. Researchers note disparities between the founding documents and subsequent institutional structure of the CTI that call for a regional-scale plan, while the social, political and economic factors of the CTI countries have led many implementation decisions to focus on local perspectives.¹⁷

¹⁴ More information is available at <http://www.coraltriangleinitiative.org/faq>.

¹⁵ Fidelman, Pedro; Evans, Louisa; Foale, Simon; Weible, Christopher; von Heland, Franciska; and Elgin, Dallas, *Coalition Cohesion for Regional Marine Governance: A Stakeholder Analysis of the Coral Triangle Initiative*, 95 OCEAN AND COASTAL MANAGEMENT 117-128 (2014).

¹⁶ Id.

¹⁷ Id.

One recommendation from all sectors was the establishment of a Business Advisory Council to coordinate interests including representatives from marine tourism and other industries, government agencies, local communities, and NGOs. It is notable that CTI partners have worked to build stakeholder support from the business community in an effort to protect the economic value of the region. For example, the World Wildlife Fund has held the Coral Triangle Initiative Business Summit bringing together members of the CTI countries and leaders of the business community with the purpose of creating “opportunities for sustainability as the future of economic health and profit in the region.”¹⁸

Finally, a major source of potential challenges for the CTI is the extensive number of actions and goals that need to be implemented under the Regional Plan of Action. With over 250 actions in the Regional Plan of Action to be taken by 2020, it reveals a large number of ‘clearance points’ or ‘veto points’ simply from coordination among government and nongovernment entities. The large number of actions and clearance points associated with the Regional Plan of Action raises concerns over the ability of the CTI to successfully implement all actions.

Additional Information

Coral Reef Initiative Regional Plan of Action

<http://www.coraltriangleinitiative.org/library/cti-regional-plan-action>

Partner Organizations of the Coral Triangle Initiative

Conservation International:

<http://www.conservation.org/projects/Pages/Coral-Triangle-Initiative-pacific-ocean-islands.aspx>

The Nature Conservancy:

<http://www.nature.org/ourinitiatives/regions/asiaandthepacific/coraltriangle/overview/coral-triangle-initiative.xml>

Global Environment Facility: <https://www.thegef.org/gef/CTI>

U.S. Agency for International Development:

<https://www.usaid.gov/asia-regional/fact-sheets/us-coral-triangle-initiative>

¹⁸ World Wildlife Fund, CORAL TRIANGLE INITIATIVE BUSINESS SUMMIT REPORT (2010), available at <http://www.wwfpacific.org/?188321/Coral-Triangle-Initiative-Business-Summit-Report>.

Case Study:

Great Barrier Reef Marine Park

<http://www.gbrmpa.gov.au/>



Overview

The Great Barrier Reef Marine Park represents one of the most mature examples of zoning in marine waters. It differs from other examples of MSP in that it is primarily regulatory in nature; however, established in 1975, it offers lessons from over forty years of zoning, planning, implementation, monitoring and adaptive management. With a great deal of literature available on the Park, this case study focuses on the formal and informal stakeholder engagement and rezoning efforts as key elements to the management regime and highlights user conflicts and resource degradation as remaining challenges.

MSP Status

Adapting the marine spatial management process¹⁹

¹⁹ Based on Steps of Marine Planning: Step 1 - Defining need and establishing authority; Step 2 - Obtaining financial support; Step 3 - Organizing the process (pre-planning); Step 4 - Organizing stakeholder participation; Step 5 - Defining and Analyzing existing conditions; Step 6 - Defining and Analyzing future conditions; Step 7 - Developing and approving the spatial management plan; Step 8 - Implementing and enforcing the spatial management plan;

Geography

Australia's Great Barrier Reef Marine Park (GBRMP) is located off the northeastern coast of Australia, encompassing and stretching along 2,300 km of coastline and includes one of the world's richest and most diverse marine ecosystems. The area of the GBRMP is approximately 344,400 km², making it one of the largest marine protected areas in the world.

Background

The Great Barrier Reef Marine Park Act of 1975²⁰ established the GBRMP in response to degradation of the reef and threats from mineral extraction, pollution and increased fishing and tourism activity. The GBRMP is a federal park up to the low water mark; complementary state marine parks exist in inter-tidal waters. The Great Barrier Reef attracts an estimated 16 million visitors a year, and was designated a UNESCO World Heritage Area in 1981.²¹

The park is managed by the GBRMP Authority with the goal to “provide for the long-term protection, ecologically sustainable use, understanding and enjoyment of the Great Barrier Reef through the care and development” of the park.²² Spatial planning and zoning are the cornerstones of the management strategy to maintain biological diversity and to manage impacts of an expanding tourist industry, effects of fishing, and impacts of pollution and shipping. Management plans exist for intensively used or vulnerable islands and reefs and a permit system implements zoning plans.

Since its inception, the GBRMP has been a multiple-use marine protected area.²³ As the GBRMP is a large area, the scale of management is important; i.e., the same level of high protection for the entire area is not possible. The multiple-use zoning system provides high levels of protection for specific areas, while allowing a variety of other uses to occur in certain zones. GBRMP spatial management is based on eight zones from the least restrictive “general use zone,” in which shipping and most commercial fishing are allowed, to the most restrictive “preservation zone,” in which virtually no use is permitted. The park allows commercial and recreational activities, including some extractive industries, though not mining or drilling for oil. Other uses include shipping, commercial fishing, recreational fishing, aquaculture, tourism, boating, diving, dredging, and military training. The Representative Areas Program, a rezoning process that occurred from 1998-2003, increased the no-take areas from approximately 4.5% up to about a third of the GBRMP.

Step 9 - Monitoring and evaluating performance; Step 10 - Adapting the marine spatial management process; available at http://www.ioc-unesco.org/index.php?option=com_content&view=article&id=147&Itemid=76.

²⁰ Great Barrier Reef Marine Park Act of 1975 Amendments and subsequent legislation is available at <https://www.legislation.gov.au/Series/C2004A01395>.

²¹ UNESCO, Great Barrier Reef World Heritage Area, available at <http://whc.unesco.org/en/list/154>.

²² Outcome Statement, GMRMPA Objectives and Strategies for 2010-2014, available at <http://www.gbrmpa.gov.au/about-us/strategic-plans/statement-of-expectations>.

²³ Jon C. Day, *Protecting Australia's Great Barrier Reef*, 2:1 SOLUTIONS 56-66 (2011), available at <http://www.thesolutionsjournal.com/node/846>.

A variety of management regimes are used throughout the park including: zoning areas, plans of management, permits, special management areas, spatial management tools, temporal closures, economic instruments, other environmental legislation, and codes of practice.²⁴ Management and monitoring includes an Outlook Report every five years to document the condition of the GBRMP, effectiveness of management and adaptive management efforts. The Australian government kept the 2003 Park Zoning Plan in place for at least seven years without amendment to provide stability for business, communities, and biological systems.

Management of the GBRMP remains jurisdictionally complex. The GBRMP Authority cooperates with the State of Queensland and local agencies as part of the adjacent jurisdictions. The GBRMP Authority is the primary adviser to the Australian government for management of the marine park and the GBR World Heritage area. A range of Australian (federal) and Queensland (state) government agencies are involved including the Queensland Parks and Wildlife Service, Queensland and federal police, Queensland Boating and Fisheries Patrol, Customs Coastwatch, Customs Marine Unit, and state and federal marine safety agencies.

Key elements of the GBRMP management regime include:

- Governance and legislative framework, including state and federal legislation;
- Ecosystem management, including management influence over a wider context than just the federal marine park;
- Integrated management with relevant federal and state agencies, including formal and informal arrangements with Queensland as the adjacent jurisdiction;
- Substantial expertise accumulated within the managing agencies and staff; and,
- Research and monitoring programs, prioritized to information necessary for management.²⁵

Stakeholder Engagement

The GBRMP Authority works with a number of stakeholder groups in formal and informal capacities that span a variety of major users, including tourism and recreation. Among those who work on key issues relating to tourism and recreation are community groups, recreational users, Local Marine Advisory Committees²⁶ and Reef Advisory Committees²⁷ (specifically the Tourism and Recreation Reef Advisory Committee).²⁸ Members include owners, operators, and sector associations including the Association of

²⁴ Jon C Day, *Zoning – Lessons from the Great Barrier Reef Marine Park*, 45 OCEAN & COASTAL MANAGEMENT 139-156 (2002), available at https://mcbi.marine-conservation.org/publications/pub_pdfs/Day_2002.pdf.

²⁵ Id.

²⁶ Great Barrier Reef Marine Park Authority, Local Marine Advisory Committees, available at <http://www.gbrmpa.gov.au/about-us/local-marine-advisory-committees>.

²⁷ Great Barrier Reef Marine Park Authority, Reef Advisory Committee, available at <http://www.gbrmpa.gov.au/about-us/reef-advisory-committee>.

²⁸ Great Barrier Reef Marine Park Authority, Tourism Reef Advisory Committee, available at <http://www.gbrmpa.gov.au/about-us/reef-advisory-committee/tourism-reef-advisory-committee>.

Marine Park Tourism Operators.²⁹ Tourism operators also participate in industry-led partnership programs to encourage sustainable tourism. A key role for the Reef Advisory Committees is to advise GBRMPA on actions that can be taken to address the risks to the Great Barrier Reef Marine Park that are identified in the Great Barrier Reef Region Strategic Assessment Report³⁰ and the 2014 Great Barrier Reef Outlook Report.³¹

The Local Marine Advisory Committees are voluntary, community-based committees that advise the GBRMP Authority on management issues at a local level. Established in 1999, they enable local communities to offer input into managing the Great Barrier Reef Marine Park and provide a community forum for interest groups, government and the community to discuss marine resource and user issues.

The GBRMP Authority also provides public notice of permit applications and proposed developments. A list of current plans, applications and assessments for public consultation are maintained online as part of the outreach process.³² All proposals for development within or partly within the Great Barrier Reef Marine Park must be assessed for a permit under the 1975 Act. If the proposal is likely to have a significant impact on a matter of national environmental significance, including the Marine Park and World Heritage Area, then the proponent must also seek approval from the Federal Environment Minister under the Environment Protection and Biodiversity Conservation Act 1999.³³

In addition to tourism and recreation, other major industries include the following.

- Military Training: Training activities are undertaken in a few designated areas of the reef, covering approximately 4% of the GBRMP.
- Fishing: Commercial, recreational, Indigenous and charter fishing target a range of species including fish, sharks, crabs and prawns.
- Commercial shipping: There are 10 major trading ports and two minor ones along the Great Barrier Reef coast; the waters surrounding most of these ports fall within the Great Barrier Reef World Heritage Area, but not within the GBRMP.
- Scientific research: Under the GBRMP Zoning Plan, scientific research is permitted in relatively undisturbed areas called Scientific Research Zones.
- Traditional uses: Traditional use of marine resources by Traditional Owners is allowed under all zones in the GBRMP Zoning Plan.

²⁹ Association of Marine Park Tourism Operators, available at <http://www.ampto.org/>.

³⁰ Great Barrier Reef Marine Park Authority, GREAT BARRIER REEF REGION STRATEGIC ASSESSMENT REPORT (2014), available at <http://www.gbrmpa.gov.au/managing-the-reef/strategic-assessment>.

³¹ Great Barrier Reef Marine Park Authority, 2014 GREAT BARRIER REEF OUTLOOK REPORT, available at <http://www.gbrmpa.gov.au/managing-the-reef/great-barrier-reef-outlook-report>.

³² Information on current proposals is updated regularly and available at <http://www.gbrmpa.gov.au/about-us/consultation/current-proposals-under-assessment>.

³³ Environment Protection and Biodiversity Act of 1999, available at <https://www.legislation.gov.au/Details/C2011C00369>.

Achievements and Challenges

The more than 40 years of experience of the GBRMP offers a number of achievements and lessons learned including the benefit of conducting marine management in a continuous manner, monitoring and evaluating initial plans and adapting them to changing circumstances, and ensuring stakeholder involvement and sustainable financing over time.

The rezoning process shows the GBRMP adaptive management and stakeholder involvement. During the 5-year rezoning period (from 1998-2003), the public consultation program included some 1,000 formal and informal meetings and information sessions with people in over 90 centers along and beyond the GBR coast.³⁴ These meetings included local communities, commercial and recreational fishing organizations, indigenous people, tourism operators, and conservation groups. Meetings were held with representative organizations such as Sunfish, the Association of Marine Park Tourism Operators, World Wildlife Fund Australia, and the Queensland Seafood Industry Association. In November 2003, the revised zoning plan was presented to the federal minister along with a regulatory impact assessment. When the new zoning plan was tabled in the Australian Parliament, the federal government introduced a Structural Adjustment Package (SAP) to assist fishers, fishery related businesses, employees, and communities adversely affected by the rezoning.

The SAP provided \$213.7M in financial support to 1,782 fishers and fishery-related businesses affected by the GBRMP rezoning. It included business restructuring assistance and fishery-related business exit assistance (license buyout). The value of the SAP has been debated, particularly as the rezoning process was conducted by the GBRMPA and the SAP was handled by another government agency. Some critics note that, “there is the potential for excessive payouts to be made that undermine the social benefits of MPAs.”³⁵

Monitoring and the gathering of data continue to evolve as well. The Integrated Eye on the Reef program is a partnership between tourism operators, researchers and the Great Barrier Reef Marine Authority.³⁶ It provides data through a weekly monitoring program, the Sighting Network, and surveys. The program helps to keep track of the reef health, the appearance or disappearance of species and unusual occurrences.

³⁴ Over 30,000 written public submissions were received during the rezoning period which required the agency to develop a web-based query tool in order to manage them, marking it as one of the most comprehensive processes of community involvement and participatory planning for any environmental issue in Australia’s history. Innes, J et al. MANAGING, ANALYZING AND PRESENTING PUBLIC SUBMISSIONS TO ACHIEVE MARINE PARK PLANNING OUTCOMES: AN EXAMPLE FROM THE GREAT BARRIER REEF MARINE PARK (2004).

³⁵ John Gunn, Greg Fraser and Brian Kimball, *Review of the Great Barrier Reef Marine Park Structural Adjustment Package*, June 2010, available at <http://www.environment.gov.au/system/files/resources/4b3d907c-a200-40ce-88b0-c377c371357f/files/gbrmp-sap-review.pdf>.

³⁶ Great Barrier Reef Marine Park Authority, *Eye on the Reef* (2016), available at <http://www.gbrmpa.gov.au/managing-the-reef/how-the-reefs-managed/eye-on-the-reef>.

Long-term challenges remain for the GBRMP. The 2009 Outlook Report identified those challenges as climate change,³⁷ declining water quality from land-based sources, loss of coastal habitats from development, and impacts of legal and illegal fishing and poaching.³⁸ More recently, the Queensland and Australian governments created the Reef 2050 Long-Term Sustainability Plan, a framework of protection and management of the Great Barrier Reef from 2015 until 2050. The vision of the Reef 2050 Long-Term Sustainability Plan is that “in 2050 the Great Barrier Reef continues to demonstrate the Outstanding Universal Value³⁹ for which it was listed as a World Heritage Area and supports a wide range of sustainable economic, social, cultural and traditional activities.”⁴⁰

Recent public debate over energy and the state of the GBRMP also present challenges to management and conflict resolution. The increase in coal exports is driving a coal port expansion (and associated dredging) near the reef and placing environmentalists and the fossil fuel industry at odds. This type of conflict also lends itself to the public debate about the state of the GBRMP and the recent threat by UNESCO to put the Reef on the In-danger designation list.⁴¹ The GBRMP Authority and its stakeholder committees were not designed to include conflict resolution mechanisms, leaving the current debates to occur via the media and political avenues.

Additional Information

Zoning Plan:

<http://www.unesco-ioc-marinesp.be/uploads/documentenbank/9aa65b186a4c2ec4f858e43991ab25b7.pdf>

2014 Great Barrier Reef Outlook Report:

<http://www.gbrmpa.gov.au/managing-the-reef/great-barrier-reef-outlook-report>

Strategic Assessment:

<http://elibrary.gbrmpa.gov.au/jspui/handle/11017/2861>

UNESCO Summary: Key elements of Marine Spatial Planning in the Great Barrier Reef

http://www.unesco-ioc-marinesp.be/spatial_management_practice/australia_great_barrier_reef

Authority: Great Barrier Reef Marine Park Act of 1975

Lead Planning Agency: Great Barrier Reef Marine Park Authority

³⁷ See Mathieu Mongin, et. al., *The Exposure of the Great Barrier Reef to Ocean Acidification*, NATURE COMMUNICATIONS, 23 February 2016, available at <http://www.nature.com/ncomms/2016/160223/ncomms10732/full/ncomms10732.html>.

³⁸ 2009 Outlook Report is available at <http://www.gbrmpa.gov.au/managing-the-reef/great-barrier-reef-outlook-report>.

³⁹ Outstanding Universal Value means the Great Barrier Reef has an exceptional natural worth from a global perspective.

⁴⁰ Australian Government, Queensland Government, REEF 2050 LONG-TERM SUSTAINABILITY PLAN, (2014), available at <http://www.environment.gov.au/marine/great-barrier-reef/long-term-sustainability-plan>.

⁴¹ Joshua Robertson, *UNESCO spares Great Barrier Reef 'in-danger' listing but issues warning*, THE GUARDIAN, July 1, 2015, available at <http://www.theguardian.com/environment/2015/jul/01/great-barrier-reef-spared-unesco-in-danger-listing-un>.

Financing: The annual budget of the GBRMPA is about AUS\$ 50 million.

Size of Planning Area: 344,400 km²

Time required to complete the plan: Initial zoning plans, initiated in four sections, were developed between 1981-87; rezoning of the entire GBRMP was completed between 1998-2004

Drivers of MSP: Original concerns in 1970s about phosphate mining and oil and gas exploration on the Great Barrier Reef, overfishing, and anticipated declines in environmental quality; current concerns about climate change and the cumulative effects of coastal development and port expansions to accommodate coal and gas exports to China and India

Stakeholder participation: Limited in original zoning plan, but extensive in the “re-zoning” planning process (1998-2004)

Sectors included in planning: All

Relation to coastal management: Problematic in early years, but improved significantly because of need to deal with effects of agricultural runoff; faces ongoing challenges due to jurisdictional divides between federal and state governments

Relation to marine protected area management: The GBRMPA is the acknowledged “gold standard” of MPA management

Plan approval: Statutory review of re-zoning plan completed in both houses of Parliament in 2004

Legal Status of Plan: No overall comprehensive management plan for GBRMP has been developed since it was established; a 25-year Strategic Plan developed in 1994 has been largely ignored; zoning plan is regulatory and enforceable

Plan revision: The key recommendation from a 2012 UNESCO World Heritage Centre mission to inspect the Great Barrier Reef World Heritage site and a subsequent decision that was adopted at the World Heritage Committee meeting in June 2012 is for a comprehensive Strategic Environmental Assessment to be undertaken and completed by 2015, after which a new strategic plan will be implemented.

Performance monitoring and evaluation: Major research and monitoring activities to measure and evaluate the ecological effects of the Representative Areas Programme

Case Study:

Marine Spatial Planning in the North Sea Region



Overview

The North Sea is a marginal sea of the Atlantic Ocean bordered by the United Kingdom, Norway, Denmark, Germany, the Netherlands, Belgium and France. The region is highly industrialized and considered to be a crucial region of the European Union (EU) maritime economy. In terms of marine resource management and planning, the North Sea presents a particular challenge due to the number of maritime states, the number and intensity of marine activities, and their cumulative impacts which cross international boundaries. In most North Sea states, the push for MSP has become urgent given the rise of new uses requiring ocean space, including offshore wind farms and marine protected areas (particularly in Germany, the Netherlands and UK). Increasing demand for renewable energy is driving the development of offshore wind energy. While some ocean uses will remain at their current level, considerable growth is forecasted for mineral extraction, water sport recreation, offshore wind farms, nature protection and mariculture. Other industries include oil and gas extraction, shipping, defense exercise areas, carbon storage, sand extraction, and underwater cultural heritage. Growing concerns of sea level rise affecting North Sea states have further stimulated the MSP discussion.

North Sea states are pursuing development of MSP processes and are each at a different stage of implementation. Approaches also vary, in terms of drivers of the process, governance, quality of data available, involvement of stakeholders, and development priorities. While processes need to be appropriate and suitable to the local socio-political, cultural and environmental conditions, some level of harmonization is also necessary in order to address key elements at an appropriate scale. This case study focuses on these efforts in the context of regional energy demands.

MSP Status

Varying stages between Steps 3 – 8⁴²

- Organizing the process (pre-planning)
- Organizing stakeholder participation
- Defining and Analyzing existing conditions
- Defining and Analyzing future conditions
- Developing and approving the spatial management plan
- Implementing and enforcing the spatial management plan

Geography

As noted above, the North Sea is a marginal sea of the Atlantic Ocean and is bordered by the United Kingdom, Norway, Denmark, Germany, the Netherlands, Belgium and France. It connects to the Atlantic Ocean through the English Channel in the south and the Norwegian Sea in the north. It is more than 970 kilometers (600 mi) long and 580 kilometers (360 mi) wide, with an area of around 570,000 square kilometers (220,000 square mi). Historically, the North Sea has featured prominently in geopolitical and military affairs, particularly in Northern Europe but also globally. The coast of the North Sea presents a diversity of geological and geographical features. In the north, deep fjords and sheer cliffs mark the Norwegian and Scottish coastlines, whereas in the south it consists primarily of sandy beaches and wide mudflats.

Background

Due to the dense population, heavy industrialization, and intense use of the sea and coastal areas, there have been a number of environmental issues affecting the sea's ecosystems. Environmental concerns including overfishing, industrial and agricultural runoff, dredging, and dumping, have led to a number of efforts to prevent degradation of the sea while still making use of its economic potential.

⁴² Based on Steps of Marine Planning: Step 1 - Defining need and establishing authority; Step 2 - Obtaining financial support; Step 3 - Organizing the process (pre-planning); Step 4 - Organizing stakeholder participation; Step 5 - Defining and Analyzing existing conditions; Step 6 - Defining and Analyzing future conditions; Step 7 - Developing and approving the spatial management plan; Step 8 - Implementing and enforcing the spatial management plan; Step 9 - Monitoring and evaluating performance; Step 10 - Adapting the marine spatial management process; available at http://www.ioc-unesco.org/index.php?option=com_content&view=article&id=147&Itemid=76.

In the EU, the 2014 Maritime Spatial Planning Directive⁴³ requires the development of marine spatial plans by maritime Member States as soon as possible, at the latest by 31 March 2021, and is a recognized tool for enabling development of the Blue Economy and pursuing the European Commission's Blue Growth Strategy.⁴⁴ In March 2015, the EU Committee published a report entitled *The North Sea under Pressure: Is Regional Marine Co-operation the Answer?*⁴⁵ which highlights the concentration of activities near the coast and the need to minimize conflicts between existing and new offshore uses and interests.

Cooperation in the North Sea basin is not new. OSPAR is the key organization promoting regional co-operation for the North East Atlantic marine environment.⁴⁶ In 2010, Ministers attending OSPAR affirmed its role in facilitating the coordinated and coherent implementation of the Marine Strategy Framework Directive to lead to a regional implementation framework. The MSP Directive also calls for cooperation between Member States.

The North Sea is one of the busiest maritime areas in the world. Countries bordering the North Sea each have spatial claims, cross-cutting ecosystem boundaries, a variety of user groups, different governing systems, a shortage of cross-boundary mechanisms for settling disputes, and pressing demands for environmental protection. There are a number of legal, regulatory and policy obstacles to the development of a region-wide marine spatial plan. For example, there are conflicts between national laws and regulation, multiple requirements exist for permits and environmental impact assessments and legal questions exist regarding states' rights to undertake activities and exercise jurisdiction.

As stated by the European Commission in 2009, despite these challenges, "...each country's territorial or jurisdictional waters are part of a dynamic global system connected by shifting winds, seasonal currents and migrating species. Therefore analysing the processes that govern the present state and future

⁴³ Directive 2014/89/EU of the European Parliament and of the Council, Establishing a Framework for Maritime Spatial Planning, 23 July 2014, available at http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2014.257.01.0135.01.ENG.

⁴⁴ Commission Communication 494 of 13.9.2012, *Blue Growth: Opportunities for Marine and Maritime Sustainable Growth* (2014).

⁴⁵ European Union Committee, 10th Report of Session 2014–15, *The North Sea under pressure: is regional marine co-operation the answer?* (2015), available at <http://www.publications.parliament.uk/pa/ld201415/ldselect/ldcom/137/137.pdf>.

⁴⁶ OSPAR is the mechanism by which 15 Governments & the EU cooperate to protect the marine environment of the North-East Atlantic. The fifteen Governments are Belgium, Denmark, Finland, France, Germany, Iceland, Ireland, Luxembourg, The Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom. OSPAR started in 1972 with the Oslo Convention against dumping and was broadened to cover land-based sources and the offshore industry by the Paris Convention of 1974. These two conventions were unified, up-dated and extended by the 1992 OSPAR Convention. OSPAR is named from the original Oslo and Paris Conventions. More information is available at <http://www.ospar.org/>.

behaviour of these waters cannot rely exclusively on data collected within a country's own jurisdiction. Cooperation across borders is needed."⁴⁷

Context: Offshore Renewable Energy

In 2014, the EU 2030 Framework for Climate and Energy reaffirmed its support to the development of renewable energy, including marine renewable energy. A new target regarding the share of renewable energy in the total consumption of EU electricity has been set at 27% for 2030.⁴⁸ As of 1 July 2014, over 2,300 offshore wind turbines from 73 wind farms in 11 countries were connected to the European electricity grid for a total capacity of 7,343 MW.⁴⁹ By 2020, the offshore wind total installed capacity is projected to be 43 GW, representing 3% of EU's total electricity consumption.⁵⁰

Offshore renewable energy includes energy produced from wind, wave, current, tidal, temperature or salinity sources. These technologies are at different development stages and relate to different offshore environments. While each renewable energy source requires specific devices, which will have different spatial characteristics, offshore renewable energy industries do face similar challenges. Production is variable and its integration in the general energy market is challenging, partly because of transmission issues and partly because of the difficulty in storing surplus electricity when generating conditions do not match up with consumption needs. In order to address the problem, some solutions are being studied such as the possibility of transforming electricity into gas and incorporating it in gas-powered energy systems. These innovations will have an impact on sea space occupied.

Given the number of countries involved, the type of energy planning process raises its own set of challenges. For example, the responsibility of Federal and State Ministries and authorities require intensive exchange and coordination between all parties involved. In order to move forward, the planning process must provide adequate time, information, and transparency to empower decision-making location and technology.

⁴⁷ European Commission Staff Working Document, *Building a European marine knowledge infrastructure: Roadmap for a European Marine Observation and Data Network* at 9 (2009), available at http://ec.europa.eu/dgs/maritimeaffairs_fisheries/consultations/emodnet/roadmap_emodnet_en.pdf.

⁴⁸ European Commission, 2030 FRAMEWORK FOR CLIMATE AND ENERGY POLICIES (2014), available at http://ec.europa.eu/clima/policies/strategies/2030/index_en.htm.

⁴⁹ European Wind Energy Association, *THE EUROPEAN OFFSHORE WIND INDUSTRY - KEY TRENDS AND STATISTICS 1ST HALF 2014* (2014), available at <http://www.ewea.org/fileadmin/files/library/publications/statistics/EWEA-European-Offshore-Statistics-2015.pdf>.

⁵⁰ Communication from the Commission to the European Parliament, *Blue Energy, Action needed to deliver on the potential of ocean energy in European seas and oceans by 2020 and beyond* (2014), available at <http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1396419828231&uri=CELEX:52014DC0008>.

Stakeholder Engagement

While the MSP Directive calls for stakeholder engagement early in the planning process,⁵¹ regional stakeholders consistently express the need for a more unified outreach, especially for plan preparation, implementation and enforcement.⁵² Specifically, many in the region are seeking models to engage a user-led MSP approach across borders.

Engaging stakeholders at various scales is important, especially in a multi-jurisdictional region like the North Sea, from local communities to national stakeholders and from sectors, scientists and governments at the regional seas level. Coordination of Member State plans also requires engagement across sectors and countries. Some planning bodies maintain stakeholder liaison groups that enable stakeholders to join pre-planning events, receive information quickly, and pursue opportunities to network with other stakeholders.

Even with these opportunities, a remaining challenge for Member States is that the region lacks formal mechanisms for the States to coordinate. The benefit of formal interactions can be seen from the MASPNOSE project which encouraged cross-border cooperation on MSP in the Thornton Bank.⁵³ The MASPNOSE project was initiated to facilitate cross-border cooperation between neighboring Member States; the Thornton Bank between Belgium and the Netherlands was one of the areas identified where increased cross-border cooperation was needed. The MASPNOSE project increased informal cross-border cooperation between governmental stakeholders in order to find common development objectives.

Informal networks also exist which can help to bridge the stakeholder engagement gap. For example, the Celtic Seas Partnership (UK, Ireland & France) offers new opportunities for stakeholders to engage more directly in cross-border marine management.⁵⁴ It highlights the role of voluntary participation facilitated alongside the statutory consultation requirements for the MSP Directive. Partnerships with a neutral Secretariat have been created to bring people together at the local and project-level over recent

⁵¹ See MSP Directive, Article 9, *Public Participation*, which states “Member States shall establish means of public participation by informing all interested parties and by consulting the relevant stakeholders and authorities, and the public concerned, at an early stage in the development of maritime spatial plans, in accordance with relevant provisions established in Union legislation.” Legislation is available at http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2014.257.01.0135.01.ENG.

⁵² Summary of Maritime Spatial Planning in the Atlantic: learning from experiences and future opportunities, Atlantic Stakeholder Platform Conference 20 January 2015, available at http://ec.europa.eu/maritimeaffairs/policy/sea_basins/atlantic_ocean/atlanticforum/events-2015/porto/doc/workshop-report-msp-d2_en.pdf. See also OURCOAST initiative available at <http://ec.europa.eu/ourcoast/>.

⁵³ See Saskia Hommes, Report on cross-border Maritime Spatial Planning in two case studies (2012), available at https://www.wageningenur.nl/upload_mm/7/6/2/92fbfd4c-5b01-4e8e-9a82-de877fa6d515_MASPNOSE%20D1.2%20MSP%20in%20case%20studies.pdf.

⁵⁴ More information is available at <http://celticseaspartnership.eu/>.

decades; one such example is engaging coastal communities through Local Coastal Partnerships in England.⁵⁵

Other information groups include the MSP Research Network, an informal grouping of scientists, policy-makers and practitioners who wish to contribute to the development of marine spatial planning through academic-based research.⁵⁶ Additionally, the ICES Working Group Marine Planning and Coastal Zone Management (WGMPCZM) discusses current developments around Marine Spatial Planning (MSP) and Coastal Zone Management in the ICES area.⁵⁷

Early stakeholder engagement can secure a more appropriate and balanced outcome for sectors, provide an understanding of user needs, clarify actual versus perceived conflicts, and provide early insight into planning implications of MSP, enabling user input and feedback.⁵⁸ Using the momentum from the informal networks can help to create more formalized mechanisms for the region as a whole.

Achievements and Challenges

The leadership shown at the EU and Member State levels to initiate and implement MSP in the North Sea region has enabled a strong network of MSP efforts. Those efforts are helping to provide more certainty for investors, particularly for projects which require many years of lead time for planning. In addition, existing MSP efforts are encouraging the colocation of uses such as tourism and offshore developments like wind farms in order to optimize benefits. Adding other uses within existing situations or the realization of a co-location project is often difficult; to achieve spatial synergies, long-term options for multiple uses need to be presented at an early stage in the planning process and discussed with stakeholders. An example of such synergies between the offshore wind and tourism sectors is in the Scroby Sands wind farm located in the United Kingdom at 2.5 km from the east coast. The wind farm was one of the first to be operational in the UK (2005) and consists of 30 turbines with a capacity of 2MW.⁵⁹ Seasonal boat tours take place to observe wind farms and marine mammals.

MSP in the North Sea Region can also benefit from common information bases. Different regulatory bodies and sectors can use MSP data to make decisions including biophysical and ecological information, human use aspects, distribution of activities and planning for future activities. Ocean industries also make contributions to data and information gathering, sharing and analyzing. For example, EMODnet,

⁵⁵ More information is available at <http://www.coastalpartnershipsnetwork.org.uk/>.

⁵⁶ More information is available at <http://www.msprn.net/>.

⁵⁷ More information is available at <http://www.ices.dk/community/groups/Pages/WGMPCZM.aspx>.

⁵⁸ For a variety of regional responses regarding stakeholder engagement, see European Commission, *Stakeholder Consultation on MSP and ICZM Summary Results* (2011), available at http://ec.europa.eu/dgs/maritimeaffairs_fisheries/consultations/msp/summary-results-of-msp-questionnaire_en.pdf.

⁵⁹ Greater Yarmouth Tourism, Wind Farms, available at <http://www.grat-yarmouth.co.uk/things-to-do/wind-farms.aspx>.

the European Marine Observation and Data Network, consists of more than 100 organizations assembling marine data, products and metadata to make these fragmented resources more available.⁶⁰ EMODnet is currently in its second development phase with the target to be fully deployed by 2020.

The MSP Directive requires that Member States bordering marine waters shall cooperate with their neighbors across the marine region when establishing their maritime plans.⁶¹ Cooperation aimed at sharing knowledge, skills development and experience is crucial for balancing current and future development. In the case of offshore wind energy, experiences show that cross-border cooperation in MSP can deliver cost reductions.⁶²

Cooperation on MSP also can facilitate the alignment of timing and the sharing of intentions concerning necessary infrastructure. New management measures in one Member State may also have an impact on navigation patterns and safety in another one. Early cross-border consultation allows the sharing of best practices and gathering information to be considered in national plans.

Challenges remain in bringing these multi-sector and multi-jurisdictional efforts together. Regional ocean industries seek clarity of the relationship between MSP and other governance mechanisms. The numerous jurisdictions and layers of authority complicate MSP processes and MSP needs to take into account existing regulatory and management regimes rather than planning separately. Questions also remain about the appropriate roles for EU Member States and the EC. The EC has tried to initiate a number of preparatory projects for cooperation and harmonization but there is still a question around who will lead MSP in the region. In this region in particular, MSP needs to move toward consistency as much as possible.

Additional Information

MSP in the North Sea Region, Webinar Summary, World Ocean Council, Scottish Association for Marine Science (2016), available at

http://www.oceancouncil.org/site/pdfs/MSP_North_Sea_Webinar_Summary.pdf

UNESCO Summaries: Marine Spatial Planning Efforts in the North Sea

European Commission:

http://ec.europa.eu/maritimeaffairs/policy/maritime_spatial_planning/index_en.htm

⁶⁰ More information is available at <http://www.emodnet.eu/>.

⁶¹ MSP Directive, Article 11, available at http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2014.257.01.0135.01.ENG.

⁶² South Baltic OFF.E.R, OFFSHORE WIND ENERGY IN THE SOUTH BALTIC REGION - CHALLENGES & OPPORTUNITIES (2013), available at http://www.southbaltic-offshore.eu/reports-studies/img/OFFER_FINAL_PUBLICATION_FINAL_VERSION.pdf.

Belgium:

http://www.unesco-ioc-marinesp.be/spatial_management_practice/belgium

France:

http://www.unesco-ioc-marinesp.be/msp_around_the_world/france

Germany – North and Baltic Seas:

http://www.unesco-ioc-marinesp.be/msp_practice/germany_north_baltic_seas

The Netherlands:

http://www.unesco-ioc-marinesp.be/spatial_management_practice/the_netherlands

Norway – Norwegian Seas and North Sea:

http://www.unesco-ioc-marinesp.be/msp_around_the_world/norway_norwegian_sea

United Kingdom:

http://www.unesco-ioc-marinesp.be/msp_around_the_world/united_kingdom

Case Study:

Oregon Territorial Sea Plan

www.oregon.gov/LCD/OCMP/Pages/Ocean_TSP.aspx



Overview

The focus of Oregon's Territorial Sea Plan (TSP) is to conserve and protect marine habitats and biodiversity through clear management procedures and standards for decision making. The plan's goal is to set a balance between protecting the current ocean health and uses, such as conservation, fishing, and recreation, and planning for new ocean uses, such as renewable energy. Through this package of policies and maps, the TSP's objective is to provide a clear regulatory pathway for developers to promote new renewable ocean industries in state waters, while protecting Oregon's coast.⁶³

MSP Status

Implementing and enforcing the spatial management plan

Monitoring and evaluating performance⁶⁴

⁶³ Specifically, Part Five of the Territorial Sea Plan addresses renewable energy development. Available at https://www.oregon.gov/LCD/docs/rulemaking/tspac/Part_5_FINAL_10082013.pdf.

⁶⁴ Based on Steps of Marine Planning: Step 1 - Defining need and establishing authority; Step 2 - Obtaining financial support; Step 3 - Organizing the process (pre-planning); Step 4 - Organizing stakeholder participation; Step 5 - Defining and Analyzing existing conditions; Step 6 - Defining and Analyzing future conditions; Step 7 - Developing

Geography

The Oregon Territorial Sea Plan covers an area of 2,600 km² extending 3 nautical miles from the coastal baseline, located on the western coast of Oregon State in the United States, running north-south along the Pacific Ocean.

Background

The TSP comes from a long history of ocean planning in Oregon. In 1971, Oregon adopted its Beach Bill which created a public easement across all privately owned coasts and beaches and established its first coastal management policies under the Oregon Coastal Conservation and Development Commission. This commission ultimately created a plan for managing the Oregon coast; these policies and goals were then integrated into Oregon's land-use planning program. In 1973, the legislature established a statewide land-use program, with policies on the management and protection of all coastal resources, and created the Land Conservation and Development Commission (LCDC), to guide the local government planning and state agency programs. By 1976, LCDC was based on 19 statewide planning goals, which set standard requirements on how local governments and state agencies made land-use decisions.

Most notably, Goal 19, the Ocean Resources Goal, was adopted by LCDC in 1976. Goal 19 required 1) a primary concern for renewable ocean resources and protecting ocean habitats and biodiversity and 2) a decision-making process which involves scientific information to measure the effects of management and policy on the renewable ocean resources.

The 1990 Oregon Oceans Management Plan addressed state marine management within the US Exclusive Economic Zone of 200 miles. Stemming from this, the Ocean Plan created Oregon's "Ocean Stewardship Area," an area from the shoreline to the continental slope, including both state and federal waters. As an outcome of the Ocean Plan, the Ocean Policy Advisory Council (OPAC) was established in 1991 to prepare an interagency and multi-organizational plan for managing the resources and activities in the state's territorial sea. The OPAC created the Territorial Sea Plan (TSP) in 1994, which was then submitted to the LCDC for review to become a part of the State's Coastal Management Program. The OPAC's responsibility was to bring together a framework of all of the management laws and programs into one, known as the TSP.

Within the "Ocean Stewardship Area," the TSP applies to the state jurisdiction. In 2002, attention turned to the marine reserves, and in 2007, Oregon passed the State renewable energy portfolio standard which required that 25% of the total electrical load come from renewable energy sources, including

and approving the spatial management plan; Step 8 - Implementing and enforcing the spatial management plan; Step 9 - Monitoring and evaluating performance; Step 10 - Adapting the marine spatial management process; available at http://www.ioc-unesco.org/index.php?option=com_content&view=article&id=147&Itemid=76.

wave and wind, by 2025. Oregon completed the designation of five marine reserve sites in 2012 (Cape Falcon, Cascade Head, Otter Rock, Cape Perpetua, and Redfish Rock). Each site consists of a no-take marine reserve area and includes one or more restrictive marine protected areas.

On January 24, 2014, the state adopted a new Territorial Sea Plan (Part 5) that describes the process for making decisions concerning the development of renewable energy facilities (e.g. wind, wave, current, thermal, etc.) in the state territorial sea, and specifies the areas where development may be sited. In April 2014, NOAA approved Part 5 of Oregon's Territorial Sea Plan for Renewable Ocean Energy.⁶⁵

Stakeholder Engagement

Interagency and inter-sectoral coordination and involvement are a cornerstone goal of the TSP. The Ocean Policy Advisory Council and the Oregon Coastal Zone Management Association are two examples of these management systems that require both state agencies and stakeholders to participate and coordinate. This integration aims to open communication and interaction, which allows for sharing views, reducing conflicts, raising awareness, and ultimately forming a shared goal for the long-term management of the territorial sea.

Oregon created a website to compile all territorial sea planning and management information.⁶⁶ This website provides stakeholders with scheduling, reports, documents, and spatial planning data.

In the recent "Part 5: Use of the Territorial Sea for the Development of Renewable Energy Facilities or Other Related Structures, Equipment or Facilities," stakeholder participation was intended to be frequent and regular through the planning process. They used a variety of methods for participation including workshops, Town Halls, public hearings, formal Advisory Committees, public comment processes, and conferences to invite scientific, technical, community and industry participation. In all, over 100 public meetings were held.⁶⁷ Collecting data and information also was centered on a public process, including input from stakeholders to conduct a spatial analysis of existing ocean uses and ecological resources to identify and designate specific areas within the territorial sea that may be appropriate for renewable energy development.

Mapping data projects included the following.

- Fishing Effort Maps: Ecotrust conducted this project asking approximately 600 fishermen and fishing communities, including commercial, charter, and recreational efforts, to provide data and knowledge in order to compile aggregate maps of fishing grounds.

⁶⁵ Letter from NOAA to Oregon Coastal Management Program, April 2014, available at https://www.oregon.gov/LCD/OCMP/docs/RPCs/TSP_Part_5_Approval_4.11.14.pdf.

⁶⁶ The website is available at <http://www.oregonocean.info>.

⁶⁷ Stakeholder meeting minutes are available at http://www.oregon.gov/LCD/docs/meetings/lcdc/012413/Item_2_Attachment_C_Public_Comment.pdf

- Marine Ecosystem Maps: Oregon Department of Fish and Wildlife acquired data about marine areas that are important to the preservation of marine habitats, biodiversity, and ecosystem function from research programs, universities, and state and federal agencies.
- Seafloor Mapping: NOAA and the Oregon State University worked to map the Oregon seafloor, providing data on the territorial sea's bathymetry and geological makeup.
- Recreational Use Survey: A survey, led by the Surfrider Foundation and Ecotrust, surveyed approximately 4,000 individuals to identify where and what type of non-fishing related recreational activities occurred along the Oregon coast.
- Existing Beneficial Uses: The Department of Land Conservation and Development put together maps with overlays of the existing locations of navigational channels and aids, cables, pipelines, dredge disposal sites, and scientific instrumentation in the territorial sea.
- The Oregon MarineMap: A web-based tool for open and participatory spatial planning in the marine environment was developed to support Goal 19 of Oregon's Statewide Planning⁶⁸ and to share data with stakeholders.

Finally, the GIS Map shows the adopted framework areas for managing applications for marine renewable energy within the Oregon Territorial Sea.⁶⁹ The six areas⁷⁰ are:

1. Renewable Energy Permit Area
2. Renewable Energy Facility Suitability Study Area (REFSSA)
3. Resources and Uses Management Area (RUMA)
4. Resources and Uses Conservation Area (RUCA)
5. Proprietary Uses and Management Area (PUMA)
6. Renewable Energy Exclusion Area (REEA)

Achievements and Challenges

The primary drivers behind the TSP effort were applications for renewable energy projects along the Oregon coast. With a strong publicly-held belief in beach access and multi-generational fishing communities along the coast, these applications sparked concerns that could have led to years of litigation. In addition, the applications revealed a lack of clarity in governmental legal authority. The TSP process provided a more organized approach than litigation or individual business practices.

Stakeholders also noted that the TSP adequately struck a balance between protecting the ocean and its users while promoting development, particularly in regards to renewable energy. One result was a clearer regulatory pathway for new renewable energy users while accounting for other livelihoods that

⁶⁸ The MarineMap tool is available at <http://www.coastalatlantlas.net/index.php/tools/planners/64-oregon-marine-map>.

⁶⁹ GIS Map is available at <https://www.arcgis.com/home/item.html?id=5a0352512335412b85802f667b5e3c2b>.

⁷⁰ Descriptions of the areas are available at http://www.oregon.gov/LCD/docs/rulemaking/tspac/Part_5_FINAL_App_B_10082013.pdf.

depend on the coast. With Oregon's commitment that 25% of its electricity will be generated by renewable sources by 2025,⁷¹ some view this as an economic opportunity for the state.

Marine reserves and protected areas remain to protect some of the most fragile habitats and breeding grounds for indigenous species such as pacific herring, yellow eye rockfish, canary rockfish, marbled murrelet, steller sea lions, and northern elephant seals that thrive in Oregon's waters. The state has created and enforces many "marine reserves," which protect from extractive activities; seven intertidal "marine gardens," which forbid taking marine invertebrates and shellfish; seven intertidal and sub-tidal "research reserves," which only allow taking certain species for scientific research; one "habitat refuge," which does not allow the taking of any fish and invertebrates; two shellfish preserves; and seasonal closures.

Oregon's TSP was built on an existing and well-established land use plan for the state.

Some industries still have concerns; fishing interests remain worried that productive fishing grounds will be threatened by development of wave energy. Potential wave energy development also threatens whale migration which can affect eco-tourism operators. Conservationist still worry about overbearing the ocean ecosystem with overfishing, pollution, development, acidification, and ocean warming.

Leading up to the amendment of the TSP, adding in Part 5, in January 2013, Oregon held public meetings and received many comments in which stakeholders expressed support and concerns. The DLCD compiled a list of the common response themes as follows.

- Concerns about impacts to fishing, navigation, viewsheds, tourism
- Support adaptive, phased, precautionary approach
- Initiate plan for renewable energy testing and research
- Support flexible plan with large Development Areas
- Ensure adequacy of financial bonding requirements
- Concern over the pace of the process and lack of public input
- Data Gaps
- Seabird and marine mammal foraging and migration
- Effects of anchors on soft sediment
- Salmon and effects of Electromagnetic Fields⁷²

⁷¹ Gus Gates, Surfrider Foundation, *Oregon's Territorial Sea Plan Approved*, 24 January 2013, available at <http://www.surfrider.org/coastal-blog/entry/oregons-territorial-sea-plan-approved>

⁷² Attachment C, Oregon Territorial Sea Plan, Part 5, PUBLIC PROCESS REPORT 2008 – 2013, available at http://www.oregon.gov/LCD/docs/meetings/lcdc/012413/Item_2_Attachment_C_Public_Comment.pdf

Throughout its MSP process, Oregon identified four suitable areas for renewable wave energy: Cap Rilea, Nestucca River, Reedsport and Lakeside. These sites, which include both near-shore and deep-water wave energy, add up to approximately 2% of Oregon's Territorial Sea. More coastal waters may become available to energy technologies in the future; however, there is a 3% cap for renewable energy development of the territorial sea. Most importantly, these locations avoid sensitive ecological areas and areas important for recreational use.

While completed, there is pending litigation in Oregon over the final version of the TSP.⁷³

Additional Information

Web-based Maps

Oregon Territorial Sea and Coastal Zone Map:

http://www.oregon.gov/LCD/OCMP/docs/ocean/otsp_1-c.pdf

Territorial Sea Plan Map:

[http://www.oregon.gov/LCD/docs/rulemaking/tspac/Part 5 FINAL App B 10082013.pdf](http://www.oregon.gov/LCD/docs/rulemaking/tspac/Part_5_FINAL_App_B_10082013.pdf)

Plan Documents

https://www.oregon.gov/LCD/OCMP/Pages/Ocean_TSP.aspx

UNESCO Summary: Key elements of Marine Spatial Planning in the State of Oregon

http://www.unesco-ioc-marinesp.be/msp_around_the_world/united_states_oregon

Authority: Oregon State Legislation and Coastal Zone Management Act of 1972

Lead Planning Agency: Oregon Department of Land Conservation and Development

Size of Planning Area: 2,600 km²

Time required to complete the plan: Four years

Drivers of MSP: Offshore renewable energy, particularly wave energy

Stakeholder participation: Extensive

Sectors included in planning: All

Relation to coastal management: The Territorial Sea Plan will be part of the Oregon Coastal Management Program

Plan approval: Anticipated in 2012

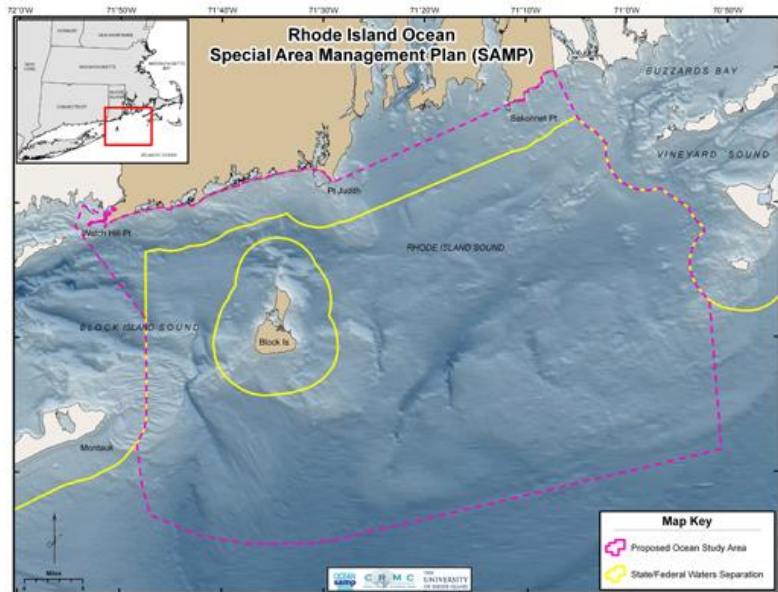
Legal Status of Plan: Regulatory and enforceable

⁷³ For background information on the legal challenges to renewable energy projects in Oregon, see Kristina G. Schmunk Kraaz, *The Legal Landscape of Wave Energy Pilot Projects on the Oregon Coast*, 30 J. ENVTL. LAW AND LITIGATION 341 (2015), available at <https://law.uoregon.edu/images/uploads/entries/Kraaz.pdf>.

Case Study:

Rhode Island Ocean Special Area Management Plan

seagrant.gso.uri.edu/oceansamp/



Overview

The Rhode Island Ocean Special Area Management Plan, or Ocean SAMP, came about from a research and planning process that integrated science with stakeholder involvement. Adopted in 2010, the resulting plan serves as a federally recognized coastal management and regulatory tool. Beginning in 2015, the revision of the Ocean SAMP began including a Recreation and Tourism Chapter, stakeholder engagement, and the creation of a summary report.

MSP Status

Adapting the marine spatial management process⁷⁴

Geography

The Ocean SAMP area extends 30 miles off the coast of Rhode Island in the Northeast region of the U.S. Its approximately 1,500 square miles consists of portions of the Block Island Sound, Rhode Island Sound,

⁷⁴ Based on Steps of Marine Planning: Step 1 - Defining need and establishing authority; Step 2 - Obtaining financial support; Step 3 - Organizing the process (pre-planning); Step 4 - Organizing stakeholder participation; Step 5 - Defining and Analyzing existing conditions; Step 6 - Defining and Analyzing future conditions; Step 7 - Developing and approving the spatial management plan; Step 8 - Implementing and enforcing the spatial management plan; Step 9 - Monitoring and evaluating performance; Step 10 - Adapting the marine spatial management process; available at http://www.ioc-unesco.org/index.php?option=com_content&view=article&id=147&Itemid=76.

and the open Atlantic Ocean. The Ocean SAMP area includes state and federal waters and abuts the state waters of Connecticut, Massachusetts, and New York.

Background

The Rhode Island Coastal Resources Management Council (CRMC) is authorized under the federal Coastal Zone Management Act of 1972 (CZMA) to develop and implement Special Area Management Plans (SAMPs) to address specific regional issues. SAMPs are broadly defined in the CZMA as “plans which provide for increased specificity in protecting significant natural resources, reasonable coastal-dependent economic growth, improved protection of life and property in hazardous areas, including those areas affected by land subsidence, sea level rise, or fluctuating water levels of the Great Lakes, and improved predictability in governmental decision making.”⁷⁵ CRMC describes these plans as “ecosystem-based management strategies that are consistent with the council's legislative mandate to preserve and restore ecological systems.”⁷⁶ The CRMC coordinates with local municipalities, as well as government agencies and community organizations, to prepare the SAMPs and implement the management strategies.

Led by CRMC, government agencies, university scientists and stakeholders participated in a multi-year process to develop the Ocean SAMP. In 2010, the Ocean SAMP was adopted as a comprehensive plan for the state to ensure the management and protection of its ocean resources and activities. It was adopted by the National Oceanic and Atmospheric Administration (NOAA) on May 11, 2011.

CRMC describes the Ocean SAMP process as an ongoing research and planning process to define how Rhode Island's waters can be best utilized. The initial driver for the plan was wind farm development; however, that narrow focus was expanded to zone for management of the diverse activities happening in both state and federal waters. In 2010, following extensive research and stakeholder engagement processes, the two volume Ocean SAMP document was formally approved by the CRMC.⁷⁷ Through collaboration with stakeholders and a number of different agencies and organizations, the Ocean SAMP process identified the following goals and principles.

Goals:

1. Foster a properly functioning ecosystem that is both ecologically sound and economically beneficial.
2. Promote and enhance existing uses.
3. Encourage marine-based economic development that meets the aspirations of local communities and is consistent with and complementary to the state's overall economic development, social, and environmental needs and goals.

⁷⁵ 16 U.S.C. § 1453 (17) (2015).

⁷⁶ Information regarding Special Area Management Plans in Rhode Island is available at <http://www.crmc.ri.gov/samps.html>.

⁷⁷ All CRMC process documents are available at http://www.crmc.ri.gov/samp_ocean_archive.html.

4. Build a framework for coordinated decision-making between state and federal management agencies.

Principles Guiding SAMP Design and Development included the following.

1. Develop in a transparent manner.
2. Involve all stakeholders.
3. Honor existing activities.
4. Base all decisions on the best available science.
5. Establish monitoring and evaluation that supports adaptive management.

The Ocean SAMP document calls for regular assessment of the Ocean SAMP process and plan in order to facilitate adaptive management and informed decision making. In 2015, the University of Rhode Island Coastal Resources Center, which facilitated plan development for the CRMC, engaged partners and the public in an Ocean SAMP process to update the original document with new policies and scientific data. The work is focused on long-term enhancement of shared ocean resources, including fish stocks, transportation channels, and the siting of offshore renewable energy facilities.⁷⁸

Importantly, the Ocean SAMP accomplished a streamlined regulatory approach; near the end of the planning process, the federal agency NOAA approved the state's extended consistency review over federal waters under the Coastal Zone Management Act.⁷⁹ As a result, the SAMP is applied out to 30 miles off the coast and users know what regions are zoned for their proposed use. By following the SAMP, specific uses receive expedited reviews through the state's Coastal Management Plan, as well as federal consistency review over many federal activities within the Ocean SAMP area.

Stakeholder Engagement

Ocean SAMP Stakeholder engagement occurred in a three-phase process with 17 stakeholder meetings during the 20 month period of October 2008 through June 2010.⁸⁰ In Phase I, the Stakeholders Process was designed and convened. A stakeholder list was established to include a comprehensive range of parties, though there was no distinction between the public and formal stakeholders. During Phase I, from October 2008 through February 2009, the stakeholders became familiar with the Ocean SAMP and the schedule to produce a draft of the Ocean SAMP, concurred in a process for meetings, and received background issues and uses in the Ocean SAMP area.

During Phase II, from February through October 2009, stakeholders learned about the Ocean SAMP area and were provided information about physical conditions, human uses (fishing, marine transportation, naval activity, recreation and tourism), submerged historic sites, and fauna (birds, marine mammals and

⁷⁸ Kate Mulvaney, *First Biennial Assessment of the Rhode Island Ocean Special Area Management Plan Process* (November 2013), available at http://seagrant.gso.uri.edu/oceansamp/pdf/documents/doc_osamp_evaluation.pdf.

⁷⁹ 16 USC §§ 1451-1465 (2015).

⁸⁰ Ken Payne, *Report of the Ocean Special Area Management Plan Stakeholder Process* at 3, 30 June 2010, available at http://seagrant.gso.uri.edu/oceansamp/pdf/appendix/22-Payne_stakeholders.pdf.

turtles, and fish stocks). Phase III, reviewing draft Ocean SAMP chapters, commenced in October 2009 and included a nine-step public review process for chapters of the Ocean SAMP.

Internal analysis of the RI Ocean SAMP revealed little contention regarding the content of the document.⁸¹ Since it was never in the purview of the stakeholder process to formally accept, reject or modify the Ocean SAMP or its individual chapters, no action for or against the Ocean SAMP was taken. It was clearly communicated that “it would not be a function of the stakeholder process to subsume minority views in a consensus position on any issue. The process would rather be guided that the principle that all views would be fairly heard and taken into account.”⁸² Beyond the public review of the Ocean SAMP, stakeholders also contributed to resolving how fisheries issues could be handled should there be future development in the Ocean Area affecting fishing, a valuable contribution to future collaboration.

Accomplishments & Challenges of MSP

Familiarity with the process of the Ocean SAMP helped to establish comfort and trust early in the process. The Ocean SAMP was based on an existing planning mechanism; users were familiar with the CRMC, the state agency and the process of Special Area Management Planning which had been used in Rhode Island for several decades.

In addition, the CRMC worked with federal agencies throughout the process which led to transparency and helped the process evolve toward concrete policy changes. For example, the regulatory process for the installation of offshore wind turbines was clarified, while planning for minimization of impacts on natural systems and existing activities. The Ocean SAMP identifies a 13 square-mile renewable energy zone in state waters that directs development to a location with the least conflict between existing uses and the natural environment, while streamlining the regulatory process.

The integrated stakeholder approach used throughout the Ocean SAMP process included a variety of public and private stakeholders. The framework constructively engaged major stakeholders including fishermen, alternative energy proponents, environmentalists, scientists, federal and state agencies, the Narragansett Indian tribe, and concerned citizens in the implementation of the Ocean SAMP. The process culminated in the development of both a Fishermen’s Advisory Board and Habitat Advisory Board, which facilitated continued participation by relevant stakeholders and acted as a mechanism for updating Ocean SAMP information.

A continuous challenge for the Ocean SAMP is the lack of formal commitment for funding the ongoing Ocean SAMP refinement and implementation. In addition, recent stakeholder engagement has decreased. Many cited participation fatigue because of the high number of meetings and noted that combining meetings may be an option in the future. Private sector participants highlighted that

⁸¹ Id.

⁸² Id.

participation requires sacrifices in time or resources and that participation needs to be worthy of those sacrifices.

Furthermore, the perception of wind farm development as the main driver for the process may have negatively affected the perceived transparency of the process. Internal analysis revealed that “the overlapping timeline for choosing a preferred developer by the State of Rhode Island with the Ocean SAMP planning process impacted some stakeholders' perceptions of the transparency of the process. This made some interview participants feel like wind development was a ‘done deal,’ and that the Ocean SAMP planning process was an effort to rubber stamp projects to accelerate wind development.”⁸³

Finally, the large number of involved agencies and organizations and their relationships led to a lack of clarity in understanding the specific roles of each agency within the Ocean SAMP process. Clarity of the process can be improved with better communication across agencies and between the different stakeholder groups. Increasing clarity of the relationships among agencies and the responsibilities of those agencies within the Ocean SAMP process would also benefit the overall transparency of the process.

Additional Information

Web-based Maps

http://www.narrbay.org/d_projects/OceanSAMP/LiveMap/index.html

Plan Documents

<http://seagrant.gso.uri.edu/oceansamp/documents.html>⁸⁴

UNESCO Summary: Key elements of Marine Spatial Planning in the State of Rhode Island

http://www.unesco-ioc-marinesp.be/msp_around_the_world/united_states_rhode_island

Authority: Coastal Zone Management Act of 1972 and a 2007 request by Governor's Energy Office

Lead Planning Agency: Rhode Island Coastal Resources Management Council

Size of Planning Area: 3,800 km² (State waters of Rhode Island), although for planning analyses, the “analytical boundary” was extended into federal waters to 20 nautical miles

Drivers of MSP: Wind farm siting

Stakeholder participation: Extensive throughout the MSP process, and will continue through implementation phase; an Ocean SAMP stakeholder group has been an integral part of both determining the scope and contents of the plan as well as refining its policies and management measures

Sectors included in planning: All, including fishing

Relation to coastal management: The Ocean SAMP is integrated into the Rhode Island Coastal Resource Management Program

Relation to marine protected area management: Existing MPAs were considered as “constraints” in the MSP process, i.e., their boundaries would not be changed; no new MPAs suggested as part of process

⁸³ Mulvaney at 32.

⁸⁴ http://www.oregon.gov/LCD/docs/rulemaking/tspac/Part_5_FINAL_App_B_10082013.pdf

Plan approval: Approved by Rhode Island in May 2011; approved by U.S. National Oceanic and Atmospheric Administration also in May 2011

Legal Status of Plan: Regulatory and enforceable

Plan revision: Major review required every five years

Performance monitoring and evaluation: One of the principles of the plan is to establish monitoring and evaluation that supports adaptive management; however, monitoring discussions in plan focus on ambient monitoring or monitoring effects of specific programs or projects unrelated to management measures of plan