Supporting Knowledge Transfer

and Strengthening the MSP Network

An Initiative of the University of Rhode Island Coastal Resources Center and

Rhode Island Sea Grant College Program

Identifying Marine Spatial Planning Gaps, Opportunities, and Partners:
An Assessment

Summary Report to the Gordon and Betty Moore Foundation

By Jennifer McCann, Tiffany Smythe, Grover Fugate, Kate Mulvaney, and Danielle Turek

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Executive Summary

The University of Rhode Island Coastal Resources Center (CRC) has launched a new initiative, "Supporting Knowledge Transfer and Strengthening the Marine Spatial Planning Network." This Program will provide support and skills to the marine spatial planning (MSP) community both in the United States and abroad to help practitioners demonstrate the success and positive impacts of MSP initiatives, improve MSP implementation, and support the integration of MSP techniques and skills into the existing practice of coastal management. CRC has completed an assessment whose purpose is to:

1) Identify opportunities to expand and strengthen the global network of MSP practitioners by identifying support and skills that are needed but not currently being offered to MSP practitioners; and

2) Begin to recognize opportunities to coordinate with organizations currently providing MSP support in order to increase efficiency and opportunity.

The assessment focused on identifying information, tools and techniques practitioners need to implement MSP, and mechanisms for delivering these materials; organizations which could assist in building MSP capacity; and constituencies who need these materials in order to facilitate MSP implementation. These questions were addressed through a comprehensive review of MSP initiatives; in-depth analysis of a small subset of representative MSP cases in the U.S. and Canada; and consultation with a diverse sample of MSP experts.

To conduct this assessment, the project team developed an MSP Assessment Framework which incorporated elements of the governance baseline approach (the GESAMP Policy Cycle and the Order of Outcomes framework) for evaluating coastal management initiatives. Drawing upon these approaches as well as a comprehensive review of MSP studies and guidance documents, the Assessment Framework focused on the following attributes of MSP initiatives: **Drivers, Goals, and Objectives; Structure (**including **Timeline** and **Plan Development); Capacity (Planning Team, Implementing Institutions, Data and Research, Monitoring/Performance,** and **Conflict Resolution); Commitment (Authority and Funding);** and **Constituencies**. This Framework was also used to design an interview protocol and questionnaires to be utilized for each of the in-depth case studies.

The assessment began with an initial review of 46 MSP initiatives worldwide, which were considered if sufficient information was available and if the initiative was current or ongoing. Using elements of the governance baseline approach, including consideration of how far each initiative had progressed, this list was ultimately narrowed down to 10 MSP initiatives for potential in-depth case study analysis. Following initial outreach to contacts from those initiatives, four were chosen for in-depth analysis: Hawaii; Long Island Sound; the South Atlantic; and Washington State. Information about each of these cases was then gathered through a comprehensive social research process comprising a thorough literature review of websites, reports, and other publicly available information about each effort, as well as interviews and questionnaires with study participants (five individuals total from the four cases, all leaders of their respective efforts). Last, 18 MSP experts were contacted informally for their input on gaps and opportunities for supporting the MSP practitioner network.

Research revealed that Washington State has made great progress on its state-based MSP effort, which is a very strong example of effectively applying the MSP approach in U.S. state waters. From the broad perspective of this assessment, the Washington State case illustrates an example in which MSP is active and robust even though there is no one tangible immediate driver. The state of Hawaii has not yet embarked on a full-fledged MSP effort, but is focused on data collection. Hawaii's case highlights the modest and praiseworthy strategies utilized by many MSP practitioners to advance MSP despite a lack of broad commitment and capacity: the state is taking an appropriate, slow-and-steady approach to MSP that utilizes the available amount of political will and funding. The South Atlantic case, focused on the Governors' South Atlantic Alliance and the states of North Carolina, South Carolina, Georgia, and Florida, is an example of practitioners attempting to advance a regional MSP approach. It raises the question of how coastal resiliency issues can be addressed at a regional level using MSP as a tool, but without being explicitly described as MSP. Long Island Sound is a unique MSP example in that it is a pre-planning initiative with planners working to unofficially advance MSP, and is a bi-state initiative, comprising two states' waters. Additionally, it is being facilitated by a well-organized inter-organizational working group, and much of the leadership for this initiative is coming from one environmental organization. From the broad perspective of this assessment, this case represents many important learning opportunities, including bi-state MSP efforts and the role that non-governmental organizations can play in advancing MSP.

While this assessment considers individual MSP initiatives, it was not intended as an evaluation of individual MSP programs. Rather, the project team used in-depth understanding of individual MSP programs to better understand general MSP practitioner needs. MSP practitioner challenges, gaps and opportunities that were identified through this analysis fall under seven categories: **MSP implementation; commitment to MSP; MSP capacity; MSP and climate change; Tribal, First Nation and indigenous people involvement; stakeholder engagement in MSP;** and **the private sector and MSP**. Regarding MSP implementation, given that many MSP initiatives lack governmental support, practitioners are in many cases working to determine how best to implement plans and achieve stated MSP objectives without clear regulatory authority and/or financial support for implementation. Commitment to MSP is also an issue; clear legal authority, funding, and political will in support of MSP are, in many cases, missing, and practitioners are struggling to "sell" the value of MSP to practitioners and key constituents who they feel do not demonstrate "buy-in" for the approach. Regarding MSP capacity, there is a demand for MSP capacity in the form of trained MSP professionals, as well as experienced professionals who can mentor them and provide appropriate, up-to-date training materials. With regard to climate change, many regions are pursuing or want to pursue MSP but are also very interested in and concerned about climate change and coastal resilience issues, and practitioners often do not know how best to approach climate change issues through MSP. Tribal, First Nation and indigenous people involvement in MSP is critical, yet often complex, and there is a need to learn from successful cases and document lessons learned on how best to engage these important governmental entities. Stakeholder engagement in MSP must be timely, appropriate, and sustainable; some practitioners are struggling with questions of when and how best to engage stakeholders in MSP, while others are struggling to engage specific stakeholder groups. Finally, the private sector represents one such stakeholder group; there is a need to better understand the current and potential future role of industry/the private sector in MSP initiatives.

Based on the findings of this assessment, the project team offers the following seven recommendations to build capacity and facilitate knowledge transfer within the MSP practitioner network. These recommendations are designed to support the MSP practitioner network in order to improve MSP implementation; demonstrate the success and positive

impacts of MSP initiatives; and advance the integration of MSP into mainstream coastal management practice (see Figure 1):

1. Improve MSP Practice Through Implementation and Adaptive Management

2. Communicate the Value of MSP

3. Enhance Collaboration and Engagement with Tribal/First Nation Peoples

4. Develop Curricula to Support the Training of MSP Practitioners

5. Facilitate Improved Stakeholder Engagement

6. Document and Evaluate Existing Decision-Making Tools

7. Improve Integration of Climate Change Adaptation and MSP

Figure 1. Summary Recommendations

1. **Improve MSP Practice Through Implementation and Adaptive Management:** Communicate how advanced MSP programs have established techniques to: 1) enact and implement the plan; 2) ensure adaptive management strategies embodied in the policy cycle, such as monitoring, evaluation, and feedback mechanisms, are implemented; and 3) ensure that plan goals and objectives are honored and strategically positioned to be most effective.

2. **Communicate the Value of MSP:** Systematically collect data, document success, and communicate the value of MSP. The values of MSP may be social, economic, or ecological in scope. Examples of successful MSP should be at different scales and stages of plan development and implementation, in order to show a variety of examples of success, positive impact, and effective implementation, and to illustrate how MSP can be integrated more broadly into mainstream coastal management practice.

3. **Enhance Collaboration and Engagement with Tribal/First Nation Peoples**: Analyze lessons learned and best practices for working with Tribal, First Nation, and indigenous people on MSP. This must include Tribal, First Nation, and indigenous people directly sharing their perspectives on and involvement in MSP, and must acknowledge that Tribal, First Nation and indigenous peoples are in many cases MSP practitioners

themselves. These lessons learned and best practices should then be shared broadly and presented as recommendations to MSP practitioners.

4. **Develop Curricula to Support the Training of MSP Practitioners:** Curricula should address professional audiences as well as graduate student audiences. Professional curricula can be integrated into existing MSP training, such as the one offered by Battelle, and could ultimately be used to develop a MSP certification program. Graduate curricula could be shared with the budding network of university programs who are engaged in MSP capacity-building or who offer degree programs in coastal and ocean management.

5. **Facilitate Improved Stakeholder Engagement**: Use the governance baseline approach to evaluate enabling conditions and to analyze, compare and contrast the various stakeholder involvement strategies used to support MSP in different contexts. Provide analysis of the benefits, challenges, and context of each approach and conclude with recommendations to enhance MSP and other coastal management stakeholder processes.

6. **Document and Evaluate Existing Decision-Making Tools**: Systematically document and evaluate the context and variety of decision-making tools, such as compatibility analyses, ecosystem services valuation indices and other tools that have been developed to support MSP decision-making, site selection, and other processes.

7. **Improve Integration of Climate Change Adaptation and MSP**: Determine how MSP can be used as an effective tool to respond to climate change and resiliency. Create an opportunity for MSP practitioners and climate change and resilience experts to share, compare, and critique tools, techniques and strategies for integrating climate change and resiliency considerations into their MSP efforts. Document and evaluate existing examples of effectively integrating climate and resilience considerations into MSP.

I. Introduction

With support from the Gordon and Betty Moore Foundation and the Rhode Island Sea Grant College Program, the University of Rhode Island Coastal Resources Center (CRC) has launched a new initiative, "Supporting Knowledge Transfer and Strengthening the Marine Spatial Planning Network." This program will provide support and skills to the marine spatial planning (MSP) community both in the United States and abroad to help practitioners demonstrate the success and positive impacts of MSP initiatives, improve MSP implementation, and support the integration of MSP techniques and skills into the existing practice of coastal management.

In an effort to both structure and focus this Program, CRC has completed an assessment whose purpose is to:
1) Identify opportunities to expand and strengthen the global network of MSP practitioners by identifying support and skills that are needed but not currently being offered to MSP practitioners; and
2) Begin to recognize opportunities to coordinate with organizations currently providing MSP support in order to increase efficiency and opportunity.

While this assessment considers individual MSP initiatives, some in great depth, it is not an evaluation of individual MSP programs. Rather, it uses in-depth understanding of individual MSP programs to better understand MSP practitioner challenges, gaps and opportunities. Based on assessment results, the CRC project team, in coordination with identified partners, will implement some of the identified actions to respond to the needs of the MSP community, which includes but is not limited to the specific MSP initiatives and practitioners consulted in this assessment.

This report summarizes the goals, objectives, findings, and recommendations of this assessment. The overarching goal of the assessment is to identify a broad range of opportunities to expand and strengthen the global network of MSP practitioners in order to improve MSP implementation; demonstrate the success and positive impacts of MSP initiatives; and advance the integration of MSP into mainstream coastal management practice. In particular, the assessment was designed to help guide CRC's future MSP capacity-building work.

To that end, this assessment sought to answer the following questions:

1. What *information, tools, and techniques* do practitioners need in order to build their capacity to successfully implement MSP today and in the future, and what *mechanisms* are most appropriate for delivering these materials?
2. What *organizations* could provide this expertise or assist in building the capacity of the coastal management community to implement and mainstream MSP?
3. What *constituencies*, both within the MSP practitioner community and beyond, require information, tools, and techniques to ensure the effective implementation of MSP now and in the future?

These questions were addressed through a comprehensive review of MSP initiatives, in-depth analysis of a small subset of representative MSP cases in the U.S. and Canada, and consultation with a diverse sample of MSP experts. This approach allowed the CRC team to determine MSP practitioner needs both through hearing MSP practitioners' and experts' subjective observations about practitioner needs, and through their own independent, systematic analysis of these needs.

This document references the "CRC project team," which, for this assessment, comprised Jennifer McCann, Grover Fugate, Tiffany Smythe, Kate Mulvaney and Danielle Turek. Jennifer McCann is the Principal Investigator for this project. She is the Director of U.S. Coastal Programs at the URI Coastal Resources Center and Director of Extension Programs for Rhode Island Sea Grant College Program. McCann was the co-leader for the development of the Rhode Island Ocean Special Area Management Plan (Ocean SAMP). She is internationally recognized for her coastal management and MSP expertise and has over 20 years of experience developing coastal management plans and building the capacity of coastal management practitioners. Grover Fugate is the Executive Director of the Rhode Island Coastal Resources Management Council (CRMC), Rhode Island's state coastal management agency. Fugate led the development of the Ocean SAMP and, as agency director, oversees its implementation. Fugate is also internationally recognized for his coastal management and MSP expertise and has over 30 years of experience developing coastal plans and policies and overseeing Rhode Island's coastal management program. Dr. Tiffany Smythe is an independent ocean and coastal policy consultant and scholar.

She was a principal co-author of the Ocean SAMP and has completed dissertation and post-doctoral research on the implementation of marine ecosystem-based management and MSP in the U.S. Dr. Smythe has taught MSP and other coastal management curricula at the U.S. Coast Guard Academy, the University of Rhode Island, and Sea Education Association. Dr. Kate Mulvaney is an environmental social scientist who worked as a consultant on the early stages of this project. Dr. Mulvaney conducted an evaluation of the Ocean SAMP (see Mulvaney, 2013) and contributed to the development of the Assessment Framework and research methodology. Danielle Turek is a Master's of Environmental Science and Management student at the University of Rhode Island, and is this project's Graduate Research Assistant.

II. Assessing Marine Spatial Planning Initiatives

A. Marine Spatial Planning

Marine spatial planning (MSP) (alternatively referred to as coastal and marine spatial planning; marine planning; maritime spatial planning, or ocean planning) refers to a comprehensive planning approach that considers all of the natural resources, processes, and human uses of a given area of ocean or coastal space in order to identify areas that are appropriate for specific uses, resolve conflicts between existing and future uses, and achieve a range of conservation, development, and other objectives (Douvere, 2008; Ehler & Douvere, 2009). Experts describe MSP as a comprehensive, integrated, ecosystem-based planning process that purposefully deviates from the single-sector, single-purpose approach that has historically characterized ocean and coastal governance. In recent years, an increasing number of scientists, policy analysts, and experts in marine science and policy have been calling for the increased use of this planning approach as a way to protect marine resources, resolve use conflicts, improve interagency coordination and collaboration, and prepare for future ocean uses (e.g. Young et al., 2007).

Whereas some might consider MSP to be a new approach, associated specifically with new initiatives that are explicitly labeled as such (e.g. through the 2010 U.S. National Ocean Policy, which calls for the implementation of MSP on a regional basis throughout the U.S.), MSP is not necessarily new. Experts see MSP as a tool for applying marine ecosystem-based management, for integrating planning and decision-making across sectors, for mitigating user-user and user-

environment conflicts, and for identifying areas appropriate for certain types of uses (Ehler & Douvere, 2009). These approaches have been used before. The designation of shipping lanes and establishment of marine protected areas – both of which have been occurring for decades - have all required a planning process that considered, to some extent, the spatial distribution of resources and uses. U.S. Coast Guard waterways managers regularly engage in MSP in local bays and harbors by designating appropriate areas for marine events like regattas and parades. The state of Rhode Island has used water type designations and special area management plans, both spatial management tools, for 40 years (see RI Coastal Resources Management Council, 2010). Scholars also point out that MSP was integral to the development of the Great Barrier Reef Marine Park (Day, 2002; Douvere, 2008); used to designate marine protected areas through the California Marine Life Protection Act Initiative (Collie et al., 2013; Gleason et al., 2010); and to address the impacts of ship traffic on whales in the Stellwagen Bank National Marine Sanctuary (Wiley, Hatch, Schwehr, Thompson, & MacDonald, 2013). Arguably, MSP is simply the next stage in the broader movement within coastal and ocean management away from the sector-based approach toward an integrated, place-based, comprehensive management approach.

In recent years, MSP efforts have been implemented in multiple locations around the world, including Europe, Australia, New Zealand, China, the U.S., and Canada (see e.g. Collie et al., 2013; UNESCO, n.d.). MSP research and guidance documents to date are primarily based on lessons learned from European experience. For example, Douvere and Ehler (2009) report on lessons learned to date from MSP initiatives in the Netherlands, Belgium, Germany, and the U.K. While the assessment presented in this report gives consideration to MSP initiatives throughout the world, it focuses primarily on MSP initiatives in the U.S. and Canada because (a) studies of MSP implementation and associated MSP guidance documents to date have placed less emphasis on MSP implementation in the U.S. and Canada, though there is much to learn from these local examples;[1] and (b) a focus on the U.S. and Canada was considered cost-effective and

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[1] To date, many academic publications and guidance documents that either study MSP implementation, or provide guidance for implementation, highlight European experience with MSP (e.g. Douvere & Ehler, 2009) and provide guidance and advice based on these examples (e.g. Ehler & Douvere, 2009). While U.S. scholars and institutions have issued publications that provide concrete guidance for MSP implementation (Beck, Ferdana, Kachmar, Morrison, & Taylor, 2009; Foley et al., 2010; Gopnik et al., 2012; Halpern et al., 2012), they do not provide in-depth analysis of U.S. MSP initiatives, likely because those examples are so recent. U.S.-based analyses have focused on integrated coastal management and ecosystem-based management, which are foundational to MSP, but lack the explicit spatial component and other elements that make MSP unique.

practical for the research team.

In Canada, MSP initiatives have been promulgated in multiple locations over the past decade pursuant to the Canada Oceans Act of 1997, which called for comprehensive, integrated ocean management. The Act called for planning in five "large ocean management areas." Plans have been completed in two of the regions (Eastern Scotian Shelf in 2008 and the Beaufort Sea in 2009), though not formally implemented. In 2010, a British Columbia initiative, the Pacific North Coast Integrated Management (PNCIMA) planning process, was initiated involving cooperation among a range of stakeholders and interests including First Nations. However, after a year of planning, the Canadian government withdrew from a funding agreement supporting this initiative (UNESCO, n.d.). Planning has continued, though on a local level through a new, collaborative partnership between the Province of British Columbia and 18 member First Nations. This new initiative, the Marine Planning Partnership for the North Pacific Coast (MaPP), involves the creation of four sub-regional plans and an overarching regional priority plans. At the time of this writing, one of the sub-regional plans is available for public comment, and all plans should be completed by October 2014 (Marine Planning Partnership for the North Pacific Coast, 2014).

In the U.S., over the past decade, MSP has been implemented on the local, state and regional scales. MSP initiatives have been promulgated by several states, including Oregon, Washington, Rhode Island and Massachusetts, and in several regions, including the Pacific, the Northeast and the Mid-Atlantic, through intergovernmental agreements made by state governors (e.g. the Governors' Pacific Regional Ocean Partnership (PROP), the Northeast Regional Ocean Council, (NROC) or the Mid-Atlantic Regional Council on the Oceans (MARCO)). Additionally, in 2010 the Obama Administration enacted Executive Order 13547, which accepted the recommendations of the Interagency Ocean Policy Task Force and established the nation's first National Ocean Policy. The Executive Order included provisions for the implementation of MSP on a regional basis throughout the United States. The National Ocean Policy and its 2013 implementation plan calls for the establishment of Regional Planning Bodies who will oversee the development of "Coastal and Marine Spatial Plans" in each large marine ecosystem of the U.S. Per the policy, these plans will be certified by the National Ocean Council, an interagency advisory body also established through the Executive Order (National Ocean Council, 2013; White House, 2010).

B. Developing a Marine Spatial Planning Assessment Framework

This assessment was shaped by a "MSP Assessment Framework" designed specifically for this project. To develop the Assessment Framework and associated social research instruments for use in collecting and analyzing data (see Methodology below), the project team drew upon elements of the "governance baseline" approach for evaluating coastal management initiatives, as well as key MSP studies and guidance documents. These approaches, documents, and the resulting framework are detailed below.

1. The Governance Baseline Approach

The Assessment Framework was fundamentally shaped by elements of the "governance baseline" approach that was designed specifically for evaluating coastal management and governance initiatives like MSP. This approach is detailed in Olsen (2003) and Olsen et al. (2009), and has been used to shape all URI CRC coastal management initiatives, both domestic and international, for the past 25 years, as well as those led by other experts.[2] A governance baseline comprises a two-part analysis that both assesses how a governance system has responded (or failed to respond) to ecosystem change, and outlines a strategy for a new or improved governance program to address key management issues (Olsen et al., 2009). Additionally, it considers both governance processes and their outcomes. Olsen et al. (2011) articulate how a governance baseline can help facilitate MSP implementation by systematically assessing issues that should be addressed through MSP; processes through which MSP planning and policy formulation can be structured to facilitate effective stakeholder participation; and ways to build implementation and adaptive management considerations into the plan. The Assessment Framework and associated data collection instruments were especially informed by Olsen et al. (2009), a handbook for assembling a governance baseline that includes worksheets and questionnaires designed for practitioner use.

Two key elements of the governance baseline approach were used in developing the Assessment Framework. The first is a model of the policy cycle developed by the United Nations Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP). The GESAMP policy cycle breaks the planning and policy process down into five steps: (1) Issue identification and assessment, which includes an analysis of problems and opportunities; (2)

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[2] See e.g. the work of Sustainamatrix, a U.S. firm that supports ocean and coastal management initiatives (www.sustainamatrix.com).

Program preparation, which includes formulating a course of action; (3) Formal adoption and funding, which includes commitments by a range of constituents; (4) Implementation; and (5) Evaluation and re-examination. The iterative nature of the planning and policy process is illustrated in the diagram, thus emphasizing how adaptive management principles are incorporated into the cycle. See Figure 2. The GESAMP Policy Cycle was used to evaluate the progress of individual MSP initiatives.
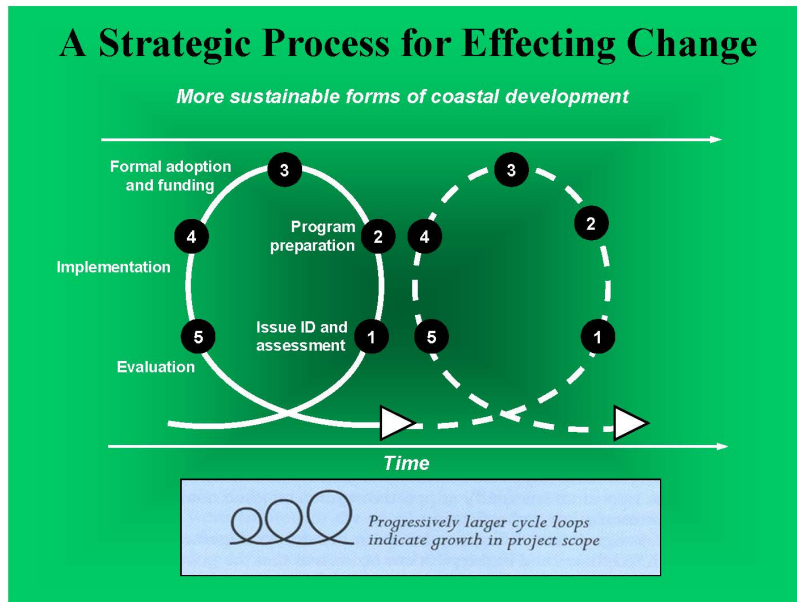
Figure 2. Policy Cycle

As shown in Figure 3, the second element of the governance baseline approach is the "Order of Outcomes" framework (Olsen, 2003), which disaggregates the different outcomes of a coastal management or MSP initiative. These include two intermediate types of outcomes: First Order ("enabling conditions for sustained implementation") and Second Order ("implementation through changed behavior"). These also include two long-term types of outcomes: Third Order ("the harvest," in which environmental and social outcomes are achieved) and Fourth Order ("sustainable development").

The First Order outcomes define those that may be accomplished through steps 1 through 3 of the policy cycle (above), and are most relevant to this assessment. Olsen (2003) identifies four main indicators for use in evaluation of First Order outcomes: (1) unambiguous **goals**; (2) well-

informed **constituencies**; (3) Institutional **capacity**; and (4) formalized governmental **commitment**. "Constituencies" refers broadly to the individuals, groups and institutions that understand and support program goals. It is not synonymous with stakeholders, but encompasses members of the public affected by management as well as the government institutions and business interests needed to support the program. "Commitment" refers to government authority, support, and financial and staff resources necessary for program implementation, and is often referred to as "political will." "Capacity" refers to both institutions and individual staff who are available, flexible and have the appropriate skillsets to implement the program. These four indicators were used to structure the Assessment and the associated questionnaire and interview instruments (see Methodology below).
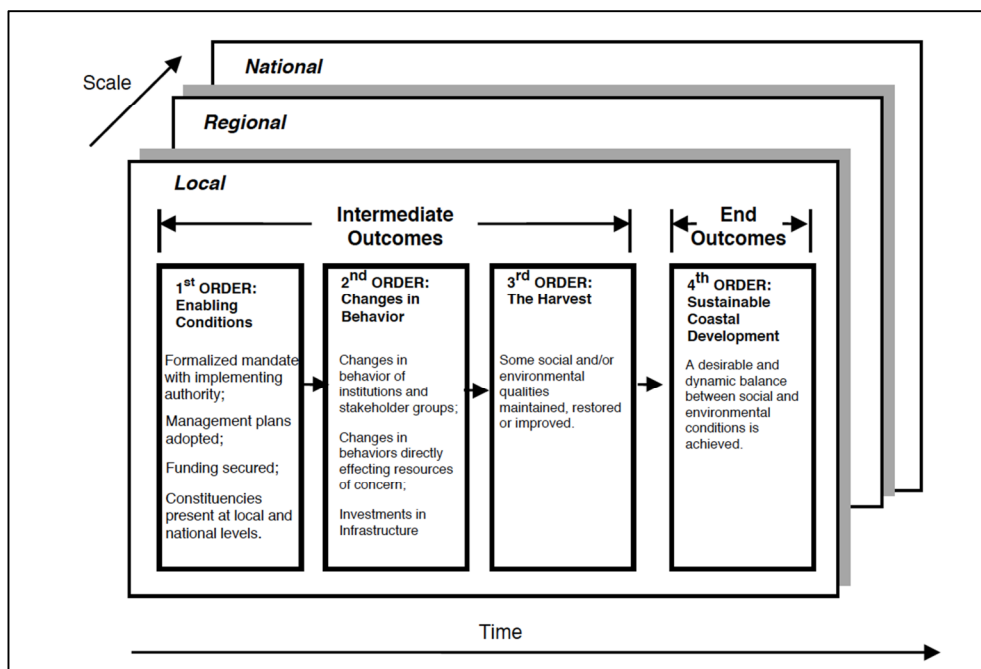
Figure 3. Order of Outcomes (from Olsen 2003)

2. Elements of a MSP Initiative

The Assessment Framework was also informed by in-depth review of select recent MSP studies and guidance documents. While a broader selection of MSP literature was reviewed for this assessment (see "Marine Spatial Planning" discussion above), the project team focused in particular on select recent documents that either represent a comprehensive, detailed review of recent MSP initiatives (Collie et al., 2013; Ecosystem Science and Management Working Group, 2011; McCann, Schuman, Fugate, Kennedy, & Young, 2013; Mulvaney, 2013) or that outline key

components and best practices of MSP efforts (Beck et al., 2009; Ehler & Douvere, 2009; Gold et al., 2011; Halpern et al., 2012; McCann et al., 2013). These documents were chosen because, of the available MSP literature, these provide the most specific, tangible, and credible guidance available to date on the specific elements of an MSP initiative.

Some guidance documents offer general steps or best practices to implement MSP. Ehler and Douvere's (2009) text outlines a prescriptive approach to MSP, identifying 10 steps for MSP implementation: (1.) identifying need and establishing authority; (2.) obtaining financial support; (3.) organizing the process through pre-planning; (4.) organizing stakeholder participation; (5.) defining and analyzing existing conditions; (6.) defining and analyzing future conditions; (7.) preparing and approving the spatial management plan; (8.) implementing and enforcing the spatial management plan; (9.) monitoring and evaluating performance; and (10.) adapting the marine spatial management process. Beck et al. (2009) outlines The Nature Conservancy's recommended MSP best practices, which address several elements of an MSP initiative: establishing planning boundaries, scale and resolution; data collection and management; decision-support systems; and the process of multi-objective planning. Gold et al. (2011), representing the consensus of an international working group, identify a series of best practices for MSP implementation, which include initial conditions (drivers; authority; efficiency; and financing); planning (stakeholder participation, pre-planning, data management, considering future issues; and plan development); implementation; and monitoring and evaluation. Halpern et al. (2012), representing the consensus of 35 MSP expert scholars and practitioners, identified a series of near-term MSP advancement priorities, focusing on specific elements of the MSP process; communications and engagement; tradeoff and valuation analyses; and decision support.

Other documents examine elements of MSP initiatives based on analysis and lessons learned from specific cases. Collie et al.'s (2013) study builds upon the 2011 report of the Ecosystem Science and Management Working Group to the National Oceanic and Atmospheric Administration (NOAA) Science Advisory Board, which offered strategic advice on marine spatial plan design and implementation. Collie and co-authors reviewed 16 marine spatial plans worldwide, and compared them against the attributes of an idealized MSP, as developed through a focused literature review of several key MSP guidance documents (Ehler & Douvere,

2009; Gold et al., 2011; Halpern et al., 2012). The review examined seven general components of MSP plans and processes: objectives; scope; authority; data; participants; tools and decision support; and monitoring and performance measures. McCann et al. (2013) outline the specific steps taken and components included in Rhode Island's MSP initiative, the Ocean SAMP, and then place these plan elements within the context of the governance baseline approach (described above).

Drawing upon this literature, we identify several key components of an MSP initiative that we used to structure the Assessment Framework, and organize these generally under the following categories: Drivers, Goals, and Objectives; Structure; Capacity; Commitment; and Constituents. With the exception of "Structure," these categories were designed to align with the governance baseline approach described above. See below for a more detailed discussion of specific elements of a MSP initiative, and Table 1 for a table summarizing all elements included the Assessment Framework.

Table 1. MSP Assessment Framework Structure

Indicator (Order of Outcomes)	Framework Section	Line of inquiry
Goals	Drivers, Goals, Objectives	Driver behind MSP effort
		Management issues prioritized
		Type and development of goals and objectives
Structure	Structure	Planning area size, boundaries, jurisdiction
		Type of management areas being identified
		Type of future activities and uses being addressed
	Timeline	Timeline and milestones
		Plan update/revision
	Plan Development	Methods used to identify and manage important areas
		Uncertainty and risk
Capacity	Planning Team	Composition of MSP team
		Authority: management and technical decisions
		Team capacity to make decisions/implement plan
		Team relationship with stakeholders
		Team and stakeholder roles and responsibilities
		Work plan
	Implementing Institutions	Institutions responsible for implementation
		Policy changes
		Institutional/organizational changes
		Institutional arrangements for implementation
	Data and Research	Environmental and human use data
		Conflict/compatibility assessment
		Future scenarios
		Staff/funding resources for data/research
		Data storage and review process
	Monitoring/Performance	Monitoring and performance measures
		Testing of new management tools/policies
		Adaptive management
	Conflict Resolution	Mechanism for conflict resolution
		Conflicts to date
Commitment	Authority	Government mandate/authority
		Authority and engagement of institutions
	Funding	Resources – plan development
		Resources – plan implementation
Constituencies	Constituencies	Stakeholders affected by the plan
		Stakeholders involvement and motivations
		Resources for stakeholder involvement
		Public and user group awareness and support
General	General	Particular issues or concerns
		Time-consuming steps in the MSP process
		Biggest successes to date
		Ability to practice adaptive management

A. Drivers, Goals, and Objectives:

Drivers: Some scholars and many practitioners have noted that MSP initiatives are often motivated by a "driver," or the emergence of a new problem, conflict, ocean activity, or use (Collie et al., 2013; Eastern Research Group Inc., 2010; Gold et al., 2011). Gold et al. (2011) offer an explicit discussion of how drivers for MSP have included offshore renewable energy, national security concerns, and climate change adaptation. For example, the prospect of offshore renewable energy development is widely acknowledged to have been a key driver for Rhode Island's MSP initiative. McCann et al. (2013) recommend that an MSP planning team define drivers and their influence early in the MSP process. While a driver has not been proven to be a necessary precondition for MSP, a driver may help motivate both government agencies and stakeholders to come to the table and commit time, resources, and political will to the process.

Goals and Objectives: There is broad agreement that clear goals and objectives are critical for MSP implementation, and that these should be formulated early in the process. McCann et al. (2013) identify setting goals and principles as a critical early stage of an MSP effort, and Ehler and Douvere (2009) note that goals and objectives should emerge from the issues and problems, or drivers, that establish the need for MSP. Collie et al. (2013) discuss the difference between conceptual objectives (those which are broader and more aspirational) and operational objectives (which are more tangible) and note that making conceptual objectives operational is a key part of the planning process.

B. Structure:

Scope and Scale: Clearly defining scope and scale is another widely identified component of an MSP process. In their discussion of MSP best practices, Beck et al. (2009) identify the need to make clear decisions about the geographic boundaries, scope, scale, and resolution of an MSP initiative. Collie et al. (2013) note that MSP can take place at a broad range of scales, ranging from smaller than an ecosystem to a national scale. They also conceptualize "scope" as addressing the range of sectors and current and future spatial uses being considered by the plan.

Timeframe: Ehler and Douvere (2009) also note that timeframe is a key consideration, and recommend that MSP initiatives have both a base timeframe for identifying current conditions as well as a target timeframe for considering future conditions. They further note that MSP

implementation requires a clear end date for plan development as well as a timeframe for adaptation. McCann et al. (2013) recommend identifying a set of planning milestones early, during the pre-planning process. Collie et al. (2013) draw attention to the need for a planning interval that will facilitate plan update and revision – thus implementing adaptive management.

C. Capacity:

Planning team and work planning: An MSP initiative must be led by a planning team with the appropriate skills and expertise that develops a work plan to guide plan development and implementation. Ehler and Douvere (2009) draw particular attention to creating the MSP team who should be multi-disciplinary in expertise and who should include a range of aptitudes and programmatic and administrative skills. They then discuss the recommended elements of a MSP work plan, which should include necessary activities and tasks, a timeframe, and clear delineation of responsibilities. Based on their first-hand experiences, McCann et al. (2013) identify the team's prior experience and sense of trust and camaraderie as critical to the success of an MSP initiative.

Institutions: Institutions and institutional arrangements are critical to plan development and implementation. Collie et al. (2013) draw attention to the importance of involving multiple entities with clearly defined roles and responsibilities in plan development. Both McCann et al. (2013) and Halpern et al. (2012) emphasize inter-institutional coordination among government agencies and other organizations as critical for advancing MSP efforts. They also highlight the importance of institutions having the authority to implement the plan (see "authority" below).

Data and research: Scientific research, spatial data and decision support tools are widely-recognized components of the MSP process. Ehler and Douvere (2009) highlight the need to inventory and map important biological and ecological areas and human activities, and to use these data to assess possible conflicts and compatibilities between and among various human uses and the environment. They then indicate that a trend scenario, alternative use scenarios, and a preferred scenario should be developed based on these data and analyses. Both Beck et al. (2009) and Gold et al. (2011) emphasize the need for data management processes to acquire and integrate data and ensure it is appropriate and credible; and McCann et al. (2013) describe the Rhode Island data and research management process. Collie et al. (2013) and Halpern et al. (2012) place particular emphasis on decision-support tools, tradeoff analyses, and clear criteria

for data inclusion.

Monitoring and adaptive management: Once a marine spatial plan is developed, implementation will require consistent monitoring and evaluation to implement an adaptive management approach and ensure that goals and objectives are achieved. The iterative nature of the GESAMP policy cycle, introduced above, embodies the adaptive management approach. Ehler and Douvere (2009) devote an entire section to monitoring and performance, noting that practitioners should agree on outcomes to measure; identify performance indicators; determine baseline data; select outcome targets; evaluate monitoring data; and report the results of the performance evaluation. Gold et al. (2011) also devote much attention to monitoring and evaluation and specify the need for clear indicators, evaluation and reporting requirements, and transparency. Collie et al. (2013) also identify the need for monitoring and formal metrics of success, and explicitly discuss the need for adaptive management and the extent to which it is incorporated around feedback from monitoring.

Conflict resolution: Capacity to resolve conflict among constituents (discussed below) and interested parties is critical to the success of an MSP effort. McCann et al. (2013) note that a planning team's ability to resolve conflicts is a key component of an institution's capacity to implement MSP. Collie et al. (2013) also draw attention to this, evaluating whether MSP initiatives included a mechanism for resolving conflict.

D. Commitment:
Authority: MSP initiatives require clear authority, whether through existing legal and institutional arrangements or through new arrangements, in order to take effect. Gold et al. (2011), Ehler and Douvere (2009), and Collie et al. (2013) all note the need for clear authority. Ehler and Douvere (2009) note that MSP requires two types of authority: authority to plan and authority to implement the plan. Gold et al. (2011, p. 9) write that an MSP initiative can begin without a legally-binding mandate, but that a clear mandate is needed for effective implementation and in order to keep a plan from a "lowest common denominator" outcome. Collie et al. (2013) identify the need for a high-level government mandate, in particular, and the need for existing institutions to have the authority to implement the plan.

Funding: MSP implementation requires funding: not only for plan development and scientific research and analysis in support of the plan, but also for plan implementation over time and monitoring and evaluation. Ehler and Douvere (2009) draw attention to the need for obtaining financial support early in the process once need and authority have been established, and they provide a useful discussion about identifying and determining the feasibility of alternative funding mechanisms. Collie et al. (2013) incorporate discussion of funding mechanisms throughout their analysis, noting that different funding structures may influence the structure, outputs and outcomes of a MSP process. McCann et al. (2013) describe how the driver for Rhode Island's MSP initiative, offshore renewable energy, helped to address funding needs.

E. Constituencies:

Stakeholders: Stakeholder participation is a critical, integral element of a MSP process, and all guidance documents reviewed for this assessment emphasized this need. Ehler and Douvere (2009) devote an entire discussion to organizing stakeholder participation, including discussion of who should be involved, when, and how. Halpern et al. (2012) framed a series of stakeholder participation needs within the context of improving MSP communication. McCann et al. (2013) describe several useful stakeholder engagement strategies including engaging "nontraditional stakeholders." Collie et al. (2013) raise questions of how stakeholders are identified and whether and how they are included in the MSP process. Gopnik et al. (2012) emphasize that stakeholder involvement is critical early and often to build collaboration among a broad group of constituents, and Pomeroy and Douvere (2008) offer guidance on stakeholder analysis techniques that can facilitate appropriate and sustainable stakeholder involvement.

III. Methodology: Data Collection and Analysis

The MSP Assessment Framework described above informed this assessment in multiple ways. The data collection phase comprised three parts: (a) a preliminary analysis of a number of MSP efforts worldwide; (b) in-depth formal analysis of four representative U.S.-based MSP cases through desktop research and a social research process; and (c) informal meetings and discussions with MSP expert "key informants." The Assessment Framework was applied to varying degrees through each of these processes. Elements of the governance baseline approach were used as described above because this approach both facilitates direct dialogue with MSP practitioners (e.g. directly asking practitioners about MSP successes and challenges)

and collects information that the project team can use to make an independent assessment (e.g. project team evaluating the initiatives' successes and challenges).

Overall assessment recommendations were developed through review of research findings, consideration of expert input, and by drawing upon the CRC project team's extensive professional experience in MSP and coastal management. In addition to informing assessment recommendations, information collected through this process will be used to implement future activities in a variety of ways ranging from identifying future workshop participants to selecting MSP success stories for potential documentation and communication.

A. Selection of MSP Case Study Sites

The project team developed a method to identify the four ongoing MSP initiatives that were selected as appropriate case studies for furthering MSP implementation and strengthening a network of practitioners. The purpose of studying these MSP initiatives in depth was not to focus all future capacity-building work on them, but rather to use them to understand broader needs for MSP capacity and network building.

First, a comprehensive list of MSP initiatives, in various stages of planning, was compiled through review of the UNESCO Marine Spatial Planning Initiative list of MSP efforts around the world (UNESCO, n.d.), Collie et al. (2013)'s assessment of MSP initiatives, the list of regional activities on NOAA's Coastal and Marine Spatial Planning website (NOAA Coastal Services Center, n.d.), and the authors' first-hand professional knowledge of MSP efforts. Through this process, a "Tier I" list of 46 different MSP initiatives was identified. Criteria for inclusion in this initial list were (a) the initiative was current or ongoing, and (b) there was basic initial information available about the effort, whether online or through a team member's contacts. See Table 2 for a summary list of MSP initiatives and Appendix II for a complete Excel workbook summarizing research on each of these initiatives.

Table 2. Summary List of MSP Initiatives

TIER I	TIER II	TIER III (FINAL)
Australia: Great Barrier Reef	Canada: British Columbia	Canada: British Columbia
Australia: Bioregional Plans	Canada: Eastern Scotian Shelf	Canada: Eastern Scotian Shelf
Australia: Moreton Bay	Canada: Newfoundland	Canada: Newfoundland
Baltic Sea (several different efforts)	Canada: Prince Edward Island	Portugal: Azores
Belgium: North Sea	New Zealand: Hauraki Gulf Marine Plan	U.S.: Governor's South Atlantic Alliance
Canada: Beaufort Sea	Philippines: Provincial Planning	U.S.: Hawaii
Canada: British Columbia	Portugal: Azores	U.S.: Long Island Sound
Canada: Eastern Scotian Shelf	Portugal: Mainland	U.S.: Mid-Atlantic Regional Council on the Ocean
Canada: Newfoundland	St. Kitts and Nevis: the Caribbean Pilot Project	U.S.: Texas
Canada: Prince Edward Island	United Kingdom: Irish Sea	U.S.: Washington
China: South China Sea	United Kingdom: Pentland Firth and Orkney Waters	
Denmark, Germany and the Netherlands: Wadden Sea	U.S.: Caribbean Regional Ocean Partnership	
Ecuador: Galapagos Marine Reserve	U.S.: Florida	
Germany: North Sea	U.S.: Governor's South Atlantic Alliance	
Mexico	U.S.: Great Lakes Regional Collaboration	
Netherlands: Bonaire & North Sea	U.S.: Gulf of Mexico Alliance	
New Zealand: Hauraki Gulf Marine Plan	U.S.: Hawaii	
Norway: Barents Sea	U.S.: Long Island Sound	
Philippines: Provincial Planning	U.S.: Maryland	
Poland: Gulf of Gdansk	U.S.: Mid-Atlantic Regional Council on the Ocean/RPB	
Portugal: Azores	U.S.: Northeast Regional Ocean Council/RPB	
Portugal: Mainland	U.S.: Oregon	
St. Kitts and Nevis: the Caribbean Pilot Project	U.S.: Pacific Regional Ocean Partnership	
United Kingdom: Irish Sea	U.S.: San Francisco Bay	
United Kingdom: Pentland Firth and Orkney Waters	U.S.: Texas	
U.S.: California	U.S.: Washington	
U.S.: Caribbean Regional Ocean Partnership	U.S.: West Coast Governors Alliance on Ocean Health	
U.S.: Florida	U.S.: West Coast Tribes	
U.S.: Florida Keys		
U.S.: Governor's South Atlantic Alliance		
U.S.: Great Lakes Regional Collaboration		
U.S.: Gulf of Mexico Alliance		
U.S.: Hawaii		
U.S.: Long Island Sound		
U.S.: Maryland		
U.S.: Massachusetts		
U.S.: Mid-Atlantic Regional Council on the Ocean		
U.S.: Northeast Regional Ocean Council/RPB		
U.S.: Oregon		
U.S.: Pacific Regional Ocean Partnership		
U.S.: Rhode Island		
U.S.: San Francisco Bay		
U.S.: Texas		
U.S.: Washington		
U.S.: West Coast Governors Alliance on Ocean Health		
U.S.: West Coast Tribes		

Second, an initial assessment was conducted of all Tier I sites to narrow this list down to possible candidates for in-depth analysis. This involved collecting basic information about each MSP initiative including the size and boundaries of the planning area; authority; implementing institutions; drivers and status. As part of this analysis, the team applied the GESAMP Policy Cycle to each initiative, ranking each initiative stage 1 through 5, with the goal of identifying initiatives that were early enough in the process (stages 1 – 3) such that capacity-building assistance would be meaningful. This ranking was used to narrow down the "Tier I" list to 28 "Tier II" prospective sites (see Table 2).

Third, further review was conducted of the "Tier II" sites. Based on review of the above information, the authors independently rated each initiative A, B or C. Initiatives rated "A" were considered prime opportunities for learning about MSP practitioner needs, gaps and opportunities based on the status of the effort and practitioners' potential need for capacity-building. Additionally, the CRC project team made an effort to choose MSP cases representing a range of unique attributes - scales; jurisdictions; institutional arrangements/ leadership structures; and funding mechanisms - in order to learn about practitioner needs in a range of different contexts. Last, plan leaders' interest in working with CRC and participating in the assessment was important because the data collection process required MSP practitioners to offer their time and input; moreover, the broader goal of CRC's capacity building effort is to collaborate and coordinate with other organizations, and other MSP practitioners in general, toward the greater goal of facilitating knowledge transfer within the MSP network. Initiatives rated "B" were those that seemed that they could benefit from capacity-building but which had not demonstrated an interest in partnering. Initiatives rated "C" were too far along in the planning process, already had resources and capacity for marine spatial planning, or were foreign initiatives with limited information in English. Based on this, a "Tier III" list of 10 sites was generated.

Finally, team leaders made personal inquiries (phone calls and/or emails) of leaders of each of these ten initiatives to determine their interest in participating in this MSP assessment and resultant capacity-building activities. Additionally, CRC team representatives travelled to the 2014 Coastal Zone Canada conference in part to learn more about the Canadian MSP efforts

being considered in the assessment.[3] Follow-up inquiries were made by phone and/or email in cases where contacts did not initially respond. Leaders of four of the 10 initiatives (the Canadian initiatives in British Columbia, Eastern Scotian Shelf, and Newfoundland, and the Texas initiative) did not respond. Preliminary phone calls were scheduled with each of the remaining six initiatives (the Portuguese initiative in the Azores, and domestic initiatives in Hawaii; Long Island Sound; the Mid-Atlantic region; the South Atlantic; and Washington).

Following initial phone calls with contacts from the Azores and the Mid-Atlantic region, the project team did not further pursue assessing these two MSP initiatives. In the case of the Mid-Atlantic region, after a preliminary discussion with leadership from the Mid-Atlantic Regional Council on the Oceans (MARCO), Mid-Atlantic contacts chose not to participate in this assessment any further as they did not feel it best addressed their needs at this particular time. In the case of the Azorean initiative, the research team spoke with a faculty member from the University of the Azores who has been studying MSP and has developed a MSP master's degree program. Following this call, the research team chose not to involve the Azorean initiative in the remainder of this assessment as it did not fit with the goals of the assessment. However, both initiatives, and many others identified in Tier 1 and Tier 2, will be included in future workshops, projects, and activities related to this Moore Foundation grant and to CRC's MSP capacity-building initiative as a whole. Additionally, as a result of this preliminary discussion, CRC will be hosting an intern from the University of the Azores for six months. The intern, Tom Pavitt, a graduate student in the University of the Azores' marine spatial planning program, is being funded through the Erasmus Mundus program of the European Commission and will support CRC's work on this MSP capacity building initiative.

As a result of this vetting process, the final assessment focused on four initiatives: the Governors' South Atlantic Alliance (U.S. south Atlantic region); Hawaii; Long Island Sound; and Washington State (see Table 3).

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[3] The CRC team also presented a paper on the elements of a successful marine spatial plan: "The Secrets of a Successful Ocean Plan," by J. McCann, K. Mulvaney, G. Fugate, T. Smythe and D. Turek. Presented at the 2014 Coastal Zone Canada conference, Halifax, NS, June 16, 2014. Agenda online at http://www.czca-azcc.org/czc-zcc2014/docs/CZC2014_Program_11June.pdf.

Table 3. Final Assessment Cases

Number	Name	Study Participants	Jurisdictional Scale	Description
Case 1.	Governors' South Atlantic Alliance (GSAA)	Kristine Cherry (Governors' South Atlantic Alliance); Rick DeVoe (SC Sea Grant)	State waters/ Regional collaboration of North Carolina, South Carolina, George and Florida	State-driven regional initiative led by regional ocean partnership
Case 2.	Hawaii	Leo Asuncion (Hawaii Coastal Zone Mgmt. Prgm)	Hawaiian state waters	Island-based state initiative
Case 3.	Long Island Sound	Nathan Frohling (TNC-CT Chapter/ Long Island Sound CMSP working group)	New York and Connecticut state waters	Bi-state initiative co-led by an environmental non-governmental organization
Case 4.	Washington	Jennifer Hennessey (WA State Dept. of Ecology)	Washington state waters	State initiative; expected plan completion 2016

B. Social Research on MSP Cases

A social research approach was then developed to collect data on the remaining MSP cases through use of the Assessment Framework. The full Assessment Framework was separated into two different instruments: a written questionnaire and a series of follow-up questions to be asked during a follow-up phone interview. Questions were developed to pursue the lines of inquiry identified in the Assessment Framework, and in many cases drew upon questions included in above-referenced documents including Olsen et al. (2009) and Collie et al. (2013). The written questionnaire was tested on one MSP practitioner before implementation to ensure clarity. Both the questionnaire and the protocol for the follow-up phone interview underwent a rigorous Human Subjects Research review process through the University of Rhode Island Institutional Review Board.

Study participants to participate in this research were identified from each of the four MSP cases listed above. Each was initially contacted through an email and/or a phone call from the project leader, as described above, to confirm their interest in participating in the Assessment. An informal phone call was then scheduled between the authors and the key informant to introduce the project and to have a preliminary discussion about the key informant's MSP effort.

Following this call, each study participant was sent the Informed Consent form and the questionnaire by email and given the choice of completing the questionnaire on their desktop or by phone in a follow-up phone call. The questionnaire was individually tailored for each study participant to include basic information about the MSP effort that was already available. Participants had the opportunity to review and edit the information already included, and to incorporate their own input. The Long Island Sound questionnaire was administered via phone interview (at the request of the study participant), while the three other initiatives chose to complete the questionnaire digitally and email their responses back to the team. Follow-up phone interviews, which employed a semi-structured interview approach (Bernard, 2011), were then conducted with each key informant to further explore issues reported on the questionnaire. A total of four questionnaires were completed, and phone interviews were conducted with five participants (two from the Governors South Atlantic Alliance and one each from the remaining three initiatives).

C. Key Informant Input: Consultation with MSP Experts

Additionally, the CRC project team met informally, either by phone or in person, with 18 different individuals representing non-profit organizations, consulting firms, government agencies, businesses, and universities in the U.S. and Canada. These MSP experts were selected because they were either (a) identified during the above-mentioned interview process; or (b) were already known to be providing MSP practitioner support. The purpose of these meetings was to better understand gaps in existing and proposed MSP support for practitioners; confirm the team's initial findings of gaps and opportunities for supporting the MSP practitioner network; and identify opportunities for partnering. In each meeting, the project team also provided an overview of CRC's current and future role in supporting knowledge transfer and strengthening the network. While not a formal data collection process, these meetings are included in this report because they greatly informed this assessment and CRC's recommendations.

IV. Findings and Discussion: Assessment of MSP Cases

A. Washington State

Summary: Results reported for Washington State are based on input from Jennifer Hennessey from the Washington State Department of Ecology.

Washington State's MSP initiative is driven by a state law, passed in 2010, that calls for the development of a comprehensive marine management plan. The law called for an interagency team, the State Ocean Caucus (SOC), to conduct MSP and develop the plan. The SOC provides a way for state agencies to work together and coordinate with the Governor's office to prioritize activities and solve problems related to the ocean environment. In addition to the SOC, in May 2013, Governor Inslee signed a bill into law that established the Washington Coastal Marine Advisory Council (WCMAC) in the Office of the Governor. The Council is made up of diverse stakeholder representatives and state agencies and serves as an advisor for the MSP effort. The Dept. of Ecology is the primary staff support for the Council. Currently the state-funded effort is focused on developing a Marine Spatial Plan for Washington's Pacific Coast from Cape Flattery to Cape Disappointment. A key element of the planning process is integrating existing state management plans and authorities into the Plan. The planning process involves and engages the public and local, tribal, and federal governments through mechanisms including but not limited to the WCMAC, public workshops, and a Science Advisory Panel (in the process of being established).

Washington's marine spatial plan is driven by the need to proactively protect and preserve existing uses from other activities, as evidenced by formal goals that were developed through a series of workshops (goals adopted in 2013). Plan development is currently under way (expected conclusion date late-2016). Progress to date includes revising goals, objectives, and geographic scope based on input from above-mentioned groups and stakeholders; conducting research and data collection and analysis; and facilitating interagency coordination and stakeholder engagement through the arrangements described above. Thus far, funds have been secured to continue plan development through 2015. Upon plan completion in late 2016, the coastal program will complete administrative processes and formal submission to NOAA. According to Hennessey, challenges include managing stakeholders' expectations and fears; incorrect assumptions about the WCMAC's authority; differing opinions on what issues and information

should be part of the scope of work; how best to integrate ongoing scientific research into the planning process and plan development; how best to effectively engage the tribes; data management issues; and timing of data collection with plan completion. Successes have included interagency coordination.

Discussion: CRC Team Assessment: Washington State

Goals: This plan has clearly articulated goals that focus on protecting existing uses and communities, fostering ecosystem health, and encouraging economic development and proactive planning. Goals were developed through a rigorous participatory process. The clarity of and consensus around these goals is a real strength of the WA initiative. Moving forward, given the focus on existing uses and stakeholders' fears, WA MSP practitioners might consider further analysis of the present, future, and potential impact of a decline of each of the ocean industries/ use sectors.

Commitment: The WA effort benefits from clear commitment from the Governor's office and from numerous state and federal agencies. The Tribes are a critical constituency for supporting MSP in WA but may not be fully committed to the WA State MSP effort; this is because, as sovereign entities, they may wish to pursue their own planning efforts. Maintaining the commitment of the Governor's office, state and federal agencies, and other stakeholders through plan implementation will be critical for success. One way to do this might be to focus on the state's interest in developing a Geographic Location Description as part of plan implementation, which would give the state unambiguous authority in federal waters. Another approach is to examine techniques that could support agencies' commitment to plan implementation despite the fact that the plan will be non-regulatory (utilizing existing authorities).

Capacity: WA has robust capacity to develop the Plan. Capacity will need to be maintained to support continued progress, after plan completion, in plan implementation and adaptive management. Planning leaders may wish to consider focusing future capacity-building efforts on adaptive management (i.e. a monitoring and evaluation component).

Constituencies: Many necessary constituencies are actively engaged in this MSP process. While a range of constituents is actively engaged through the WCMAC, there may be alternative arrangements (such as a stakeholder advisory group rather than the formal Council) that could help enhance stakeholder engagement during plan implementation without creating unrealistic expectations about stakeholders' roles. Moving into the implementation phase, plan leaders may also wish to continue working to improve coordination and collaboration with academia/the scientific community, perhaps through their scientific advisory panel, a comprehensive MSP research strategy, or through the Washington Sea Grant funding cycle. Additionally plan leaders may wish to continue considering innovative methods of engaging tribal constituencies who, as sovereign entities, merit a special engagement approach.

Overall: Washington State has made great progress on its MSP effort which is a very strong example of effectively applying the MSP approach in U.S. state waters. From the broad perspective of this assessment, this case illustrates an example in which MSP is active and robust even though there is no one tangible immediate driver. The initiative benefits from political will, adequate local funding, and is also driven by constituents' fears of losing traditional uses and environments that they value. Washington's MSP initiative will be a very important one for other MSP practitioners to learn from because it is another successful example of state-based, mature MSP. Moving forward, it will also provide an opportunity to learn about how MSP practitioners incorporate adaptive management techniques into a plan; implement the plan; and ensure that the plan remains dynamic and responsive to new data and stakeholder input.

B. Hawaii

Summary: Results reported for Hawaii are based on input from Leo Asuncion, Planning Program Manager with the Hawaii Coastal Zone Management Program.

The state of Hawaii's MSP effort is being led by the Hawaii state coastal management program and is currently focused primarily on the development of an MSP spatial analysis tool. The purpose of the spatial analysis tool is to help state and county agencies, boards, and commissions make decisions regarding permits or approvals for activities taking place in conservation districts, protected areas, special management areas, or shoreline setback areas. Activities might include aquaculture, wave energy projects, or other activities requiring ocean

leases in state waters. All have decision-making criteria and a spatial component, and the tool would help the planner identify items that require further examination.

The state of Hawaii has hired a contractor to develop an MSP spatial analysis tool in which data will be collected and organized. Data will be collected from universities; federal agencies such as the Bureau of Ocean Energy Management (BOEM) and NOAA through their human use atlas; developers; and other sources. Part of the analysis will be to help identify gaps in information, which is a major management issue. The MSP spatial analysis tool will be reviewed and shared with all stakeholders. Once the MSP spatial analysis tool has been completed, it is expected that the state coastal management program will initiate the development of a marine spatial plan to encourage proactive planning within Hawaii's offshore waters. Asuncion indicated that challenges and needs include additional data and research; enhanced team capacity to move this initiative forward; and help with engaging native Hawaiian constituencies.

CRC Team Assessment: Hawaii

Goals: Hawaii has not yet set clear, formal MSP goals. Its goal for this preliminary step is to develop one clearinghouse for coastal and ocean data that will inform decision-making about future offshore development.

Commitment: While the Hawaii coastal zone management program is committed to MSP and has undertaken this spatial analysis effort as a first step in that direction, a broader commitment to MSP has not yet been made by state leadership, other agencies, and non-governmental partners. The lack of commitment does not seem to derive from political concerns, as was the case with the Governors' South Atlantic Alliance. Experience with MSP elsewhere suggests that strong institutional commitment, and the associated funding, will be necessary to pursue full-fledged MSP. Hawaii's effort to take a manageable step toward MSP, despite the lack of political will and funding, is appropriate. Political will, and/or a driver (such as a renewable energy or submarine cable project) that elevates stakeholder interest in MSP, may be necessary to support a substantial future increase in MSP-related activity; alternatively it may be that existing policy tools and plans are filling the gap of managing conflict.

Capacity: Hawaii has sufficient capacity in its coastal zone management program and the spatial analysis team they have assembled to take this initial step. However they will require increased

capacity to pursue next MSP steps. Hawaii has many potential resources to draw upon in this regard, including Hawaii Sea Grant, university researchers and other resident marine experts and constituents. Hawaiian leaders can continue to build relationships with other partners who may be able to help augment team capacity for the plan development phase. Other partners might include BOEM and NOAA, who are working on collecting human use data for Hawaiian state and federal waters.

Constituencies: Because Hawaii is not yet engaged in a full-fledged MSP effort they have not been actively reaching out to a range of constituencies (though they plan to do so once spatial analysis is completed). When the time is right, Hawaii might consider reaching out to a broad range of constituencies, including other agencies, fishermen and other marine users, Native Hawaiians, and other stakeholders. Building constituent interest in Hawaii's offshore waters through the spatial analysis initiative may help begin building the political will and associated funding that will ultimately be needed to support plan development and implementation.

Overall: Hawaii has not yet embarked on a full-fledged MSP effort, but is taking an appropriate, slow-and-steady approach to MSP that utilizes the available amount of political will and funding. From the broad perspective of this assessment, Hawaii's case highlights the modest and praiseworthy strategies utilized by many MSP practitioners to advance MSP despite a lack of broad commitment and capacity. Additionally, it raises the question of why there is not broader support for MSP in a region where key stakeholders (e.g. the tourism industry) would seem to benefit from MSP. Does this mean that existing management measures are sufficient and that there are no use conflicts? Or that there is insufficient awareness of ocean issues, or of the ways in which MSP can help address these issues? Insights into these questions will help support the MSP practitioner network by helping practitioners understand the barriers to MSP and how best to make progress toward MSP despite such challenges. Finally, Hawaii presents yet another example of MSP practitioners working to determine how best to engage indigenous people so that MSP is enriched by indigenous knowledge, and so this important constituency can utilize MSP to achieve goals of importance to them.

C. Governors' South Atlantic Alliance

Summary: Results reported for the Governors' South Atlantic Alliance (GSAA) are based on input from regional MSP leaders Kristine Cherry, GSAA Regional Coordinator, and Rick DeVoe, South Carolina Sea Grant Consortium, supplemented by desktop research.

The GSAA is a regional ocean partnership that is a collaboration of North Carolina, South Carolina, Georgia, and Florida and their partners, focused on shared ocean and coastal challenges and opportunities promoting environmental sustainability, disaster preparedness, and strong economies. Outside of the states and federal agencies, major GSAA partners include South Carolina Sea Grant consortium, The Nature Conservancy, Southeast Coastal Ocean Observing Regional Association (SECOORA), and the Southeast Regional Partnership for Planning and Sustainability (SERPPAS). One major GSAA project directly relevant to regional MSP is the development of a regional information management system, which established the GSAA's Coast and Ocean Data Portal. Elements of MSP (such as identifying priorities for regional data) are conducted through the GSAA's existing Issue Area Technical Teams.

No southeast Regional Planning Body (RPB) has been formed at this time. The states have accepted invitations from the National Ocean Council to identify points of contact to engage in RPB discussions. The acceptance of these invitations does not indicate that the states will work with federal and tribal entities to form an RPB, but rather that they are discussing (in the fall of 2014) the establishment of an RPB. Cherry and DeVoe reported that there is uncertainty on behalf of the states of the benefits of establishing an RPB as they see most of the coastal issues taking place within state waters and feel that existing vehicles to engage neighboring states and federal agencies are adequate. They also reported that, while they are uncertain, tribal entities in their region do not appear to be interested in collaborating on the establishment of RPB (a requirement for RPBs per the National Ocean Policy).

Additionally, Cherry and DeVoe indicated that one of the major challenges for the GSAA is a lack of funding. Currently the GSAA has received limited federal funds to support their regional ocean partnership. Politics has also impacted progress. That said, they feel many recognize that establishment of an RPB could encourage management efficiencies and enhancement of current

efforts, including working regionally to promote resilient coastal environments, communities and economies.

Discussion: CRC Team Assessment: GSAA

Goals: Currently the goals and drivers that have been suggested are not strong enough to bring the RPB together towards implementing MSP. The concept of the GSAA focusing its regional work on coastal resiliency/coastal hazards issues is a good one as this is clearly a driver for all parties involved and could potentially be resolved using MSP. The CRC team sees this as a powerful and important set of goals that could effectively incentivize regional collaboration. Coastal resiliency issues could be approached by the states and partners on a regional basis, utilizing many of the tools offered by MSP, but without calling it MSP.

Commitment: There is a clear commitment from the states and partners to regional collaboration on ocean and coastal issues through the GSAA, though there is no formal commitment at this time to pursue MSP per se (i.e. through the establishment of an RPB, or on an individual state basis). However the CRC team does not necessarily see this as an insurmountable problem. The region could work collaboratively to pursue issues of importance, like coastal resiliency, while not calling it MSP and without the formation of an RPB - the tools of MSP can still be applied and benefits realized. Existing commitments of state governors and other experts could be leveraged to pursue these goals.

Capacity: Despite the lack of an RPB, the South Atlantic region has a great deal of capacity to draw upon through the GSAA itself, the Sea Grant programs, other coastal management experts in the region (many of whom are involved in the GSAA), and potentially through the U.S. Navy who was identified as an important and supportive partner (despite lack of funding). The Nature Conservancy (TNC) and the Southeast Coastal Ocean Observing Regional Association (SECOORA) have also been critical partners who offer a lot of capacity in MSP, science, and other areas. Many of these entities have already actively contributed toward a regional approach by helping to organize regional efforts and contributing to the development of the region's data portal. This is a real strength of the region.

Constituencies: Engaging key constituencies will be important in order to advance MSP in the region. Existing relationships with the Navy/military community and with the private sector can continue to be cultivated, and the region can continue to work to develop improved relations with the academic/research community. Another key constituency comprises MSP skeptics who are concerned that MSP might represent an additional level of government bureaucracy (i.e. some political leaders' concerns that the National Ocean Policy means additional regulation and so-called "ocean zoning"). Skeptics are concerned with issues of economic impacts and government efficiency and need a persuasive argument that MSP is an appropriate role for government; that regional is the right scale at which to address many important issues; and that this approach can result in efficiencies that benefit the private sector. These constituents might be satisfied by initiatives that focus on issues of importance to the region and that utilize the tools and approaches that comprise MSP, but that are not called MSP. Additionally, constituents might be persuaded through consideration of the Geographic Location Description policy tool, which would give southern states much greater authority in federal waters, though this would need to be clearly explained, perhaps using cases like Rhode Island's marine spatial plan as an example.

Overall: From the broad perspective of this assessment, the GSAA case raises the question of how coastal resiliency issues can be addressed at a regional level using MSP as a tool, but without being explicitly described as MSP. Coastal resiliency is clearly a driver shared by all parties involved, and for which there is available funding, unlike MSP or the establishment of an RPB. This is the case in many locations, not just the South Atlantic. If the GSAA were to continue focusing on coastal resiliency issues, and to approach these issues using elements of MSP, this may minimize political ramifications and, more importantly, help strengthen this important regional approach to coordinating coastal and ocean management. Moreover, other regions can learn from the GSAA's important efforts to address coastal resiliency issues utilizing elements of MSP. Additionally, the GSAA case highlights how broadening understanding of policy tools like the Geographic Location Description (GLD) might help build a case for MSP – GLDs arguably empowers states, and requires a comprehensive understanding of the location being considered, but does not need to be framed as MSP.

D. Long Island Sound

Summary: Results reported for Long Island Sound (LIS) are based on input from Nathan Frohling with The Nature Conservancy's CT chapter; Nathan is a co-lead of the bi-state LIS marine spatial planning working group. Dr. Christine O'Connell from Stony Brook University, who has been advising the LIS effort, provided additional informal input.

Long Island Sound's MSP initiative is an unofficial pre-planning process led by an inter-organizational work group that was formed in mid-2012. The work group is co-led by the CT chapter of The Nature Conservancy (TNC) and Connecticut Sea Grant. TNC is playing a leadership role in this effort because it recognizes that balancing environmental conservation with human activities is the more effective natural resources protection approach.

As an unofficial initiative, the LIS MSP initiative has no real driver and no official public process, although the work group itself comprises both public and private entities representing a range of different interests. Actions primarily take place within the working group which comprises state and federal agencies and academic, non-profit, and private sector organizations. Work group members are interested in developing a comprehensive, publicly supported, science-based plan that protects the natural and human uses of this rich environment, while encouraging compatible future uses. The working group is developing a framework for implementing an official MSP process, identifying existing data sources, data gaps and information-sharing tools, and conducting their own assessment to learn from other MSP initiatives. The work group has also invited Northeast and Mid-Atlantic RPB representatives to participate in working group meetings to provide advice based on their expertise. Frohling reports that when conditions are appropriate (e.g. political support and funding secured and/or a driver generates political will), the working group expects that a formal LIS MSP process will be launched and a plan developed. Depending on the form of the formal process, the working group may continue to contribute its support.

Frohling indicated that challenges include the lack of a driver; the lack of funding; the lack of political will; and the issue of legal authority. While New York states it has the authority to engage in marine planning, Connecticut does not. To address this, many working group

members have supported the passage of CT state legislation (the "Blue Plan") that, if approved, would give the state of CT authority to develop a marine spatial plan, and direct it to do so. While MSP is a widespread priority and is identified as a need in the draft update of the Long Island Sound Study Comprehensive Conservation and Management Plan, both states are not yet prepared to lead a formal MSP effort, and, as a non-governmental organization, TNC cannot do so.

Discussion: CRC Team Assessment: Long Island Sound

Note: Because the LIS MSP initiative is currently an unofficial process taking place within the work group, and is trying to work toward an official process, discussion below is broken down into the "unofficial" and "official" aspects of the process.

Goals: Unofficially, the work group is working toward a set of appropriate, doable short-term goals, including the development of a plan framework and a data and information plan. These products will contain a set of options and recommendations appropriate for LIS that officials can consider when an official process is begun. Additionally, the work group has articulated a set of draft goals and principles that shape their internal work. Official goals have not yet been developed because an official process has not yet begun.

Commitment: There is no official, formal commitment to LIS MSP yet; this would need to be made publicly by the two states and would ostensibly lead to a formal full-fledged MSP process. However, it should be noted that CT leaders are making progress in this regard by working to give the state clear planning authority under its coastal zone management program. The CT General Assembly considered legislation that would establish this authority in 2014 (the "Blue Plan"), and while the bill was not passed, it is expected to be re-introduced during the Assembly's 2015 legislative session. Unofficially, the working group membership, which includes representatives from the necessary state agencies and important non-governmental partners who actively participate in and contribute to the working group, suggests there is broad unofficial commitment to furthering MSP in the Sound. Additionally it is notable that The Nature Conservancy, as an environmental non-governmental organization, has made a strong commitment of both time and resources to jumpstart this process. Moving forward, to maximize

the potential impact of its work, the working group may wish to consider alternative strategies for pursuing elements of LIS MSP - using existing authorities, processes, or mechanisms – in lieu of official state commitments or new authorities for MSP.

Capacity: Unofficially, as with commitment, the diverse membership comprising the working group represents significant latent capacity, in the form of expertise, to support the LIS MSP initiative. This capacity includes the Long Island Sound community's marine scientists as well as existing entities like the Long Island Sound Study (part of the National Estuary Program). Moving forward, working group members may consider broadening its use of this wide range of existing experts and organizations and leveraging concurrent initiatives like the update of the Long Island Sound Study's Comprehensive Conservation and Management Plan. Officially, LIS MSP capacity is limited because there is no official MSP process or the official allocation of staff time and funding for such an initiative.

Constituencies: Officially, the LIS process is not yet focused on engaging with constituencies beyond the working group because it is not yet a formal, full-fledged MSP process. Unofficially, however, numerous constituencies have been involved in the unofficial working group process, through the participation of environmental groups, marine trades organizations, and other key constituencies. The questions this raises are: How long can the work group maintain the active engagement of these governmental and non-governmental constituents, and how will this ultimately segue into a formal, public process? Additionally, how can connecting with these and other constituencies help to broaden political support for official MSP? One way is to consider how MSP can add value to existing regulatory efforts or specific management problems, creating tangible efficiencies and benefits that will appeal to a range of constituencies. Moving forward, working group members may wish to consider participating in MSP trainings to help them further explore these questions and ideas.

Overall: Long Island Sound is a unique MSP example in that it is a pre-planning initiative with planners working to unofficially advance MSP, and is a bi-state initiative, comprising two states' waters. Additionally, it is being facilitated by a well-organized inter-organizational working group, and much of the leadership for this initiative is coming from one environmental organization. From the broad perspective of this assessment, this case represents many

important learning opportunities: Given the goal of integrating MSP into mainstream coastal management practice, what role can and should non-governmental organizations play in leading MSP efforts? How can MSP initiatives proceed despite the lack of clear governmental authority? And how can an MSP initiative maximize its use of existing institutions and processes, such as the National Estuary Programs and Connecticut and New York municipalities, to achieve efficiencies and maximize likelihood of successful implementation?

V. Discussion: Capacity-Building Needs, Gaps and Opportunities

As noted above, while this assessment considers individual MSP initiatives, it is not intended as an evaluation of individual MSP programs. Rather, the project team uses in-depth understanding of individual MSP programs to better understand MSP practitioner challenges, gaps and opportunities. The project team will use this information to improve MSP implementation; demonstrate the success and positive impacts of MSP initiatives; and advance the integration of MSP into mainstream coastal management practice. Discussion presented here regarding MSP needs, gaps and opportunities reflects a synthesis of issues and themes that emerged through the broad review of MSP initiatives; the formal case study assessment detailed above; informal meetings with MSP experts; and the CRC project team's knowledge and experience.

A. MSP Implementation

While many MSP initiatives are under way in the U.S. and Canada, few have entered the implementation stage. Given the issues described above about MSP initiatives lacking governmental support, practitioners are in many cases working to determine how best to implement plans and achieve stated MSP objectives without clear regulatory authority and/or financial support for implementation. In other cases practitioners are working to determine how to implement an adaptive management approach through monitoring and evaluation. To address this, there is a need to document and communicate proposed strategies and actual examples of MSP implementation and adaptive management approaches. (See Recommendation #1 below.)

B. Commitment to MSP

The MSP cases examined in this assessment provide examples of MSP implementation in a range of settings with varying levels of formal commitment to MSP. Despite prominent MSP policy initiatives in the U.S. and Canada, broad commitment to MSP – in the form of clear legal authority, funding, and political will – is, in some cases, missing. Many practitioners are struggling to "sell" the value of MSP to politicians and key constituents who they feel do not demonstrate "buy-in" for the approach. In some cases this is resulting in MSP initiatives that are being led by non-governmental organizations or without clear legal authority, and other cases where MSP initiatives are not full-fledged processes, but rather preliminary data collection or pre-planning activities through which coastal managers are attempting to make progress toward MSP without sufficient resources and political will. All of these issues, and the ways in which practitioners are responding to them, present learning opportunities. These partial, non-governmental MSP initiatives provide examples of practitioners innovating to apply MSP despite these challenges. One need that can clearly be addressed is to help build commitment through improving widespread understanding of MSP. This can be achieved by documenting and communicating MSP success stories and examples of the benefits of MSP. Telling these stories through innovative communication tools, such as films and videos, may help to communicate this information to a wide audience. (See Recommendation #2 below, which includes specific potential stories to be told.)

C. Tribal, First Nation, and Indigenous People Involvement

Tribal, First Nation and indigenous people involvement in MSP is critical, yet often complex. This issue arose in three of the four MSP cases described above. As sovereign nations with legal status as governmental entities, Tribal and First Nation participants are important MSP partners and practitioners in their own right; and in the case of Hawaii, native Hawaiians, though not one Tribal entity, are also important MSP partners and practitioners. In all cases, Tribal, First Nation and indigenous people bring to the table extensive local knowledge and traditional practice. In some cases, Tribal/First Nation entities are engaging in their own MSP efforts or are trying to determine whether or to what extent they should engage in broader MSP initiatives. Coastal managers who have worked with Tribal and First Nation entities on MSP initiatives have found that the best working relationships, characterized by mutual respect and trust, require care and are established over a long period of time. Some existing initiatives in the northeastern U.S. and in British Columbia may be good examples of Tribal/First Nation engagement. There is a need to

learn from these and other examples and to document lessons learned on how best to engage Tribal/First Nation entities in MSP. There is also a need for Tribal/First Nation peoples to directly convey their perspectives on MSP to MSP practitioners. (See Recommendation #3 below.)

D. MSP Capacity

There is a demand for MSP capacity in the form of trained MSP professionals as well as experienced professionals who can mentor them. MSP professionals need a comprehensive understanding of the MSP approach and process as well as a range of skills, including not just science and geospatial analysis, but also planning, program management, and stakeholder engagement. Existing trainings (such as those offered by Battelle and the Conservation Law Foundation (CLF)) meet some of this demand by communicating core MSP concepts. Additional needs in this area include developing new MSP curricula to reflect real life examples, expert knowledge, up-to-date case studies and lessons learned; mainstreaming MSP content into graduate education programs; and facilitating peer-to-peer mentoring and knowledge transfer through a MSP practitioner network. While these trainings are necessary for post-graduate professionals, integrating this material into university curricula is critical in order to mainstream the MSP approach for future generations of coastal and ocean professionals. Additionally, MSP education and training should not be limited to coastal managers; MSP is an approach to planning and problem solving that can benefit professionals from the full range of maritime, ocean, coastal and environmental sectors. (See Recommendation #4 below.)

E. Stakeholder Engagement in MSP

Stakeholder engagement in MSP must be timely, appropriate, and sustainable. In many cases, practitioners are struggling with questions of when and how best to engage stakeholders in MSP efforts. In other cases, practitioners are struggling to engage specific groups of stakeholders. Practitioners would like to understand different models of stakeholder engagement and different strategies for engaging specific stakeholder groups, such as industry/the private sector. There is a need to document and evaluate different stakeholder engagement strategies to provide practitioners with broader guidance on different strategies that may work in different settings. (See Recommendation #5 below.)

F. MSP and Climate Change

Many regions are pursuing or want to pursue MSP but are also very interested in and concerned about climate change and coastal resilience issues, which are a key funding priority now within

U.S. state and federal agencies. MSP practitioners are concerned about climate change but do not know how best to approach climate change issues through MSP. There is a need to better understand specific MSP tools and strategies that can be applied to climate change and coastal resilience issues. Given the lack of a broader dialogue and progress around this issue, this may require developing new MSP/climate change strategies rather than documenting and learning from existing examples. (See Recommendation #7 below.)

G. The Private Sector and MSP

There is a need to better understand the current and potential future role of industry/the private sector in MSP initiatives. As a key stakeholder group, the private sector is not actively involved in MSP because industry constituents do not necessarily see the value or benefit of this approach. Additionally, current MSP initiatives (e.g. regional MSP in the U.S.) are not necessarily focused on solving problems of interest to industry (e.g. achieving regulatory certainty with regard to siting offshore renewable energy). This issue can be addressed in part by developing case studies that examine MSP examples from a business perspective and show how MSP can benefit industry, result in regulatory efficiencies, and promote economic growth. (This issue is addressed through recommendations #2 and #5 below.)

VI. Recommendations

Based on the findings of this assessment, the CRC team offers the following seven recommendations to build capacity and facilitate knowledge transfer within the MSP practitioner network. These recommendations are design to support the MSP practitioner network in order to improve MSP implementation; demonstrate the success and positive impacts of MSP initiatives; and advance the integration of MSP into mainstream coastal management practice. For a detailed breakdown of each recommendation, including potential partners and potential products, see Appendix V. Additional details about recommendations which will be pursued through CRC's work planning process that follows this assessment.

It is important to note that implementing the below recommendations will require extensive collaboration with partners, many already engaged in improving MSP implementation, in order to demonstrate the positive impacts and success of existing MSP efforts; and integrate the practice of MSP into mainstream coastal management practice. Many potential partners were

identified through this assessment process, including but not limited to Open Channels; Greenfire Productions; the Battelle Memorial Institute; the Conservation Law Foundation; the Udall Foundation; SeaPlan; Point 97; the Healthy Oceans Coalition; Duke University; several state coastal management programs, Sea Grant programs, and regional ocean partnerships; and more. Specific examples of organizations that may be appropriate partners for pursuing specific recommendations are included in the table in Appendix V. Specific working arrangements with partners will be developed as part of the work planning process that follows this assessment.

A. Recommendation #1: Improve MSP Practice Through Implementation and Adaptive Management

RECOMMENDATION: Communicate how advanced MSP programs have established techniques to: 1) enact and implement the plan; 2) ensure adaptive management strategies embodied in the policy cycle, such as monitoring, evaluation, and feedback mechanisms, are implemented; and 3) ensure that plan goals and objectives are honored and strategically positioned to be most effective. Additionally, 4) evaluate the context and perceived effectiveness of these techniques.

This recommendation addresses the MSP implementation issue described above, and secondarily addresses issues of MSP capacity and MSP commitment. Successfully implementing an adopted MSP plan requires/benefits from putting into place formal mechanisms, including but not limited to a Geographic Location Description, memoranda of understanding, or evaluation soon after a plan is adopted. Additionally, adaptive management may not take place if appropriate implementation, monitoring and evaluation techniques, strategies, and feedback mechanisms are not appropriately incorporated into the plan.

OUTCOME: MSP practitioners will understand the techniques and formal/informal strategies necessary to put into place policy and technical mechanisms to more efficiently and proactively manage offshore waters despite changing ecological, economic and social conditions.

B. Recommendation #2: Communicate the Value of MSP

RECOMMENDATION: Systematically collect data, document success, and communicate the value of MSP. Value may be social, economic, or ecological. Examples of successful MSP to be documented will include the Rhode Island Ocean SAMP as well as other examples, at different scales and stages of plan development and implementation, in order to show a variety of examples of success, positive impact, and effective implementation, and to illustrate how MSP can be integrated more broadly into mainstream coastal management practice.

This recommendation addresses the commitment issue and MSP/private sector issues described above, and secondarily addresses the MSP capacity issue. Practitioners often have difficulty communicating the value of MSP to audiences such as politicians and industry/the private sector. In particular, it has been challenging to communicate MSP to those who are concerned with job growth and economic development. The Ocean SAMP and several other cases of MSP provide concrete examples of success that can be told through systematic research, data analysis, and effective presentation.

OUTCOME: MSP practitioners will have robust data, information, case studies, and examples to help them communicate the value and efficiencies of MSP. Data and information can include social, economic, or ecological data, or documented examples of MSP success.

C. Recommendation #3: Enhance Collaboration and Engagement with Tribal/First Nation Peoples

RECOMMENDATION: Analyze lessons learned and best practices for working with Tribal, First Nation, and indigenous people on MSP. This must include Tribal, First Nation, and indigenous people directly sharing their perspectives on and involvement in MSP, and must acknowledge that Tribal, First Nation and indigenous peoples are in many cases MSP practitioners themselves. These lessons learned and best practices should then be shared broadly and presented as recommendations to MSP practitioners.

This recommendation addresses the issue of MSP and Tribal/First Nation peoples discussed above, and secondarily addresses issues of MSP commitment and MSP education and training. In the U.S. and Canada, Tribal and First Nation people are engaged in ocean planning but their

approaches are not being shared amongst each other. Additionally, many U.S. and Canadian government representatives do not feel that they have learned the best way to engage Tribal/First Nation people in MSP efforts. Last, there are lessons learned on this issue in both the northeastern and west coast regions of the U.S. that can be widely shared.

OUTCOME: MSP practitioners will have a clearer understanding of how Tribal/First Nation people want to and should be involved in MSP to meet their needs. This can include how best to integrate Tribal/indigenous resource management approaches and traditional knowledge into MSP.

D. Recommendation #4: Develop Curricula to Support the Training of MSP Practitioners

RECOMMENDATION: Develop MSP curricula that can support the training of MSP practitioners. Curricula should address professional audiences as well as graduate student audiences. Professional curricula can be integrated into existing MSP training, such as the one offered by Battelle, and could ultimately be used to develop a MSP certification program. Because graduate students in marine conservation and policy-related programs are not necessarily learning the skills they need to practice MSP, there is an opportunity to improve graduate curricula through the creation of materials that could be shared with the network of university programs who are engaged in MSP capacity-building or who offer degree programs in coastal and ocean management.

This recommendation addresses the MSP capacity issue discussed above. Academic literature confirms that practitioners need training in interdisciplinary collaborative processes like MSP. Several universities are independently putting together MSP curricula, and several have expressed a desire for assistance in sharing what they provide as well as learning from others. Last, peer-to-peer networking, a strong capacity-building technique, needs leadership.

OUTCOME: Practitioners will gain the technical skills, knowledge and professional community to implement MSP.

E. Recommendation #5: Facilitate Improved Stakeholder Engagement

RECOMMENDATION: Using the governance baseline approach to evaluate enabling conditions, analyze, compare and contrast the various stakeholder involvement strategies used to support

MSP in different contexts. Provide analysis into the benefits, challenges, and context of each approach and conclude with recommendations to enhance MSP and other coastal management stakeholder processes.

This recommendation addresses the stakeholder engagement in MSP issue described above, and secondarily addresses the role of industry/the private sector as well as commitment to MSP. MSP practitioners continue to struggle with identifying the appropriate strategies to best engage different stakeholder groups (e.g. researchers, fishermen, government, the public). There are examples of diverse stakeholder approaches at different scales, capacities, etc., but these efforts are not being compared with each other.

OUTCOME: MSP practitioners will be able to compare and contrast different stakeholder involvement approaches to select the best approach for their MSP effort.

F. Recommendation #6: Document and Evaluate Existing Decision-Making Tools

RECOMMENDATION: Systematically document and evaluate the context and variety of decision-making tools, such as compatibility analyses, ecosystem services valuation indices and other tools that have been developed to support MSP decision-making, site selection, and other processes.

This recommendation was developed through the project team's discussions about the assessment and, more broadly, about the evolving practice of MSP. Many different decision-making tools (e.g. compatibility analyses, ecosystem services valuation indices, economic analyses and social impact assessments) have been developed for MSP and coastal management efforts, yet it is not clear whether or how these have been used to make decisions or how effective practitioners have found them.

OUTCOME: MSP practitioners will understand the variety, context and effectiveness of decision-making tools that have been used to support MSP initiatives in order to select the best approach for their MSP effort.

F. Recommendation #7: Improve Integration of Climate Change Adaptation and MSP

RECOMMENDATION: Determine how MSP can be used as an effective tool to respond to climate change and resiliency. Create an opportunity for MSP practitioners and climate change and resilience experts to share, compare, and critique tools, techniques and strategies for integrating climate change and resiliency considerations into their MSP efforts. Document and evaluate existing examples of effectively integrating climate and resilience considerations into MSP.

This recommendation addresses the MSP and climate change issue described above. MSP is a potential tool for responding to climate change and resiliency. Because climate change and resiliency is a high priority for federal agencies, significant amounts of funding and attention is available to allow/support states and regions to respond to this issue. If positioned appropriately, MSP could be the tool that is funded to respond to this issue.

OUTCOME: MSP practitioners will understand how to apply MSP to respond to climate change and resiliency.

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APPENDICES

Appendix I: Acronyms

Appendix II. Excel Workbook: Assessment of Worldwide MSP Initiatives

See separate attachment.

Appendix III: MSP Assessment Framework Questionnaire and Interview Instrument

See separate attachment.

Appendix IV: List of Key Informants and Study Participants

Appendix V: Summary Case Study Data

Appendix VI: Table of Final Recommendations

APPENDIX I.

Acronyms Used in This Report

BOEM: U.S. Bureau of Ocean Energy Management

CLF: Conservation Law Foundation

CRC: University of Rhode Island Coastal Resources Center

CRMC: Rhode Island Coastal Resources Management Council

GESAMP: Joint Group of Experts on the Scientific Aspects of Marine Envt'l. Protection

GLD: Geographic Location Description

GSAA: Governors' South Atlantic Alliance

LIS: Long Island Sound

MARCO: Mid-Atlantic Regional Council on the Ocean

MSP: Marine Spatial Planning

NOAA: U.S. National Oceanic and Atmospheric Administration

NROC: Northeast Regional Ocean Council

Ocean SAMP: Rhode Island Ocean Special Area Management Plan

PROP: Governors' Pacific Regional Ocean Partnership

RPB: Regional Planning Body

SECOORA: Southeast Coastal Ocean Observing Regional Association

SERPPAS: Southeast Regional Partnership for Planning and Sustainability:

SOC: (Washington) State Ocean Caucus

TNC: The Nature Conservancy

UNESCO: United Nations Education, Scientific and Cultural Organization

URI: University of Rhode Island

WCMAC: Washington Coastal Marine Advisory Council

APPENDIX III.

Table 4. MSP Experts and Study Participants Consulted for Assessment

Organization	Contact Name
MSP Experts Consulted for Assessment	
American Littoral Society Regional Marine Conservation Project	Sarah Winter Whelan
Battelle Memorial Institute Ocean and Coastal Solutions	Leslie-Ann McGee
DeepWater Wind	Aileen Kenney
Duke Environmental Leadership Program, Duke University	Allison Besch
Fisheries and Oceans Canada	Danna Campbell
Gordon and Betty Moore Foundation-Marine Conservation Initiative	Mary Turnipseed
	Barry Gold
Greenfire Productions	Karen Meyer
Memorial University Fisheries and Marine Institute	Geoff Coughlan
Mid-Atlantic Regional Council on the Ocean*	Kris Ohleth
Monmouth University Urban Coast Institute	Tony MacDonald
National Resources Defense Council	Sarah Chasis
Open Channels	John Davis
Redstone Strategy Group	Jason Blau
SeaPlan	Andrew Lipsky
	Deerin Babb-Brott
	Stephanie Moura
The Nature Conservancy, Washington State	Paul Dye
Udall Institute for Environmental Conflict Resolution	Brian Manwaring
University of the Azores Department of Biology*	Helena Maria Gregório Pina Calado
World Wildlife Fund Canada	Andrew Dumbrille
Participants Included in Case Studies	
Governors' South Atlantic Alliance	Kristine Cherry
Hawaii Coastal Zone Management Program Department of Business, Economic Development and Tourism,	Leo Asuncion Jr.
South Carolina Sea Grant	Rick Devoe
Stony Brook University Alan Alda Center for Communicating Science	Christine O'Connell
The Nature Conservancy (TNC), Connecticut	Nathan Frohling
Washington State Department Of Ecology	Jennifer Hennessey

Also approached for potential inclusion as case study participants

APPENDIX IV.

Table 5. Summary case study data

	GSAA	Hawaii	Long Island Sound	Washington State
Driver	Resilient coastal environments, communities, and economies	Renewable energy; submarine energy cables	Management of new & proposed uses	Protect & preserve existing uses while considering new uses
Goals & Objectives	Withstand, respond, and recover rapidly from disruptions with minimal government funding; Sustain ecosystem services that natural systems provide	To perform coastal and marine spatial planning in the future	Not yet determined	Create resilient and healthy marine ecosystem that supports sustainable economic, recreational, and cultural opportunities for all
Size of planning area	To be determined	2,983 miles²	1320 miles²	7,700 miles²
Geographic boundaries	Not yet determined	Hawaiian state waters	Long Island Sound	Washington State's Pacific Ocean Coast
Jurisdictional level of planning	On a state basis (4 states)	State	State: NY & CT	State
Future activities	Not yet determined	Renewable energy, submarine cables, conservation	Not yet determined	Dredged material disposal/ reuse, offshore aquaculture, renewable energy, mining & bio-extraction
Technical team composition	Federal: Dept. of Interior, NOAA, Envt'l Protection Agency, Navy, Marine Corps, Coast Guard; State: Coastal Zone Program leads for NC, SC, GA, and FL; Other: SC Sea Grant, TNC, Southeast Regional Partnership for Planning and Sustainability (SERPPAS), Southeast Coastal Ocean Observing Regional Association (SECOORA)	State: HI Office of Planning & Coastal Program; County agencies; Other: Contractors for spatial analysis tool and plan development	Federal: Coast Guard, Navy; State: NY Dept. of State, CT Dept. of Energy and Envt'l Protection, NY Dept. of Envt'l Conservation; Other: URI CRC/RI Sea Grant, Stony Brook University, TNC (CT and LI Chapters), Long Island Marine Trades, CT Marine Trades, NY & CT Sea Grant, Coastal Conservation Association, CT Fund for the Environment, Long Islands Sound Study/Envt'l Protection Agency, NE RPB/NROC, Mid-Atlantic RPB/MARCO	State: Dept. of Ecology, Fish and Wildlife, Dept. of Health, Dept. of Commerce, Dept. of Agriculture, Dept. of Nat'l Resources, Parks and Recreation Commission, Governor's Policy Office, Military Department Emergency Management Division; Other: Sea Grant, Consultant facilitator, Sound Resolutions, Science Advisory Panel

Authority to make decisions	Coastal Zone Program leads for NC, SC, GA, and FL; Federal: DOI, NOAA, EPA, Navy, Marine Corps, Coast Guard; Other: SC Sea Grant, TNC, SERPPAS, SECOORA	State coastal program in coordination with its network of county and state agencies with jurisdiction	Both state coastal management programs	Ecology, DNR, and WDFW all have marine water authorities and management decisions.
Institutions responsible for MSP implement-ation	Will require government at every level (federal, state, and local), as well as universities and NGOs	County and state agencies that have jurisdiction over coastal areas and state marine waters	Not yet determined	WA State Coastal Program, DNR and F&W, Local governments
Government mandate supporting planning efforts	Established by Partnership Agreement signed by Governors of the 4 states (2009)	No specific legislative mandate	None at this point; Proposed Connecticut Blue Plan Legislation	2010 non-regulatory marine planning law

APPENDIX V.

Table 6. Final Recommendations

	Outcome		Issue		Recommendation	Potential Partners/Audience	Possible Vehicles
1	MSP practitioners will understand the techniques and formal/informal strategies necessary to put into place policy and technical mechanisms to more efficiently and proactively manage offshore waters despite changing ecological, economic and social conditions.	a)	Adaptive management may not take place if appropriate implementation, monitoring[4] and evaluation techniques, strategies, and feedback mechanisms are not appropriately incorporated into plan.	i.	Communicate how advanced programs have established techniques to: 1) enact and implement the plan; 2) ensure adaptive management strategies such as monitoring, evaluation, and feedback mechanisms, are implemented; and 3) ensure that plan goals and objectives are honored and strategically positioned to be most effective. Additionally, 4) evaluate the context and perceived effectiveness of these techniques.	Rhode Island, Oregon, Massachusetts, British Columbia, Washington, LI Sound, all RPB's; perhaps also integrate Bud Ehler's forthcoming publication on MSP monitoring and implementation as well as the "Marine Ecosystem-Based Management in Practice" initiative of the University of Michigan and partners, SeaPlan, CLF, Battelle	• Symposium session • Document (part of the Practitioners Guide- Part II) • Short film (Greenfire) • Interviews with Open Channels • MSP implementation/ adaptive management toolkit (web-based, organized for easy search – such as the "Marine EBM in Practice" website http://webservices.itcs.umich.edu/drupal/mebm/) Technical Document
		b)	Successfully implementing an adopted MSP plan requires/benefits from putting into place formal mechanisms, including but not limited to the establishment of a Geographic Location Description, memoranda of understanding, or evaluation soon after a plan is adopted.				

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[4] In this document, "monitoring and evaluation" refers to policy and governance indicators and outcomes (e.g. monitoring of decision-making processes), not to scientific monitoring (e.g. bird or fish surveys).

2	MSP practitioners will have robust data, information, case studies, and examples to help them communicate the value of MSP. Data and information can include social, economic, or ecological data, or documented examples of MSP success.	a) Practitioners often have difficulty communicating the value of MSP to audiences who are concerned with job growth and economic development. b) The Ocean SAMP provides several concrete examples of success that can be told through systematic research, data analysis, and effective presentation.	i. Systematically collect data, document success, and communicate the value of MSP. Value may be social, economic, or ecological. Start with Ocean SAMP example, and integrate and augment results from Redstone Strategy case study and other analyses.	World Wildlife Fund Canada, Redstone Strategy, World Ocean Council, Ocean Conservancy, Center for American Progress. Audience includes government, private sector, and foundations, Natural Resources Defense Council, CLF	• Symposium session • Document (part of the Practitioners Guide- Part II) • Short film (Greenfire) • Interviews with Open Channels • Case Studies of the Block Island Wind Farm and "Area of Mutual Interest" processes
3	MSP practitioners will have a clearer understanding of how Tribal/First nation/ indigenous people want to and should be involved in MSP to meet their needs. Can include how best to integrate Tribal/indigenous resource management approaches and traditional knowledge into MSP.	a) In the US and Canada, tribal, first nation and indigenous people are engaging in ocean planning, however, their approaches are not being shared amongst each other. b) U.S. and Canadian government representatives are not feeling they have discovered the best way to engage tribes/first nations/ indigenous people in MSP efforts. c) There are lessons learned in the northeast and west coast that can be shared.	i. Create an opportunity for tribal, first nation, and indigenous people to discuss their perspective on and involvement in MSP and then share their recommendations with MSP practitioners.	Hawaii, British Columbia, Northeast region (NROC and RPB), Mid-Atlantic region (MARCO and RPB), Washington, TNC, Udall Foundation, Ecotrust, Point 97, All Nations Consulting	• Work with the Narragansett Tribe to invite these key groups to a tribe only event followed by a meeting with MSP practitioners. • Document (part of the Practitioners Guide- Part II)
4	Budding practitioners will gain the skills, knowledge and professional community to implement MSP.	a) Several universities are independently putting together MSP curricula. b) Several have expressed a desire for assistance in both sharing what they provide and also learning from others. c) Undergraduate and graduate	i. Develop a network of university programs engaged in MSP capacity building. ii. Consider integrating a certification program iii. Evaluating coastal management	Duke University Memorial University (Newfoundland) University of Azores (Portugal) University of Rhode Island Urban Coast Institute – Monmouth University The Coastal Society (National) Sea Grant Programs (National) Battelle Memorial Institute	• Face-to –face meetings/peer coaching amongst universities • Research needed skills and share with university contacts • On-line network (email listserv or discussion forum) • Serve as trainers for 3 of the Battelle workshops. • Development of case studies and session plans that can be used in

		students in marine conservation and policy-related programs are not necessarily learning the skills in school they need to practice MSP. d) In a year Duke will be facilitating the Battelle MSP workshops with no internal MSP capacity and a weak connection to the MSP network. e) Academic literature confirms that practitioners need training in interdisciplinary, collaborative like MSP. f) Peer to peer long-term networking, a strong capacity building technique, needs leadership	curricula/education and training needs of coastal managers. iv. CRC MSP team members serve as MSP trainers for the Duke/Battelle MSP workshops.	Udall Foundation	class.
5	MSP practitioners will be able to compare and contrast different stakeholder involvement approaches to select the best approach for their MSP effort.	a) MSP practitioners continue to struggle with identifying the appropriate strategies to best engage different stakeholder groups (e.g. researchers, fishermen, government, public). b) There are examples of diverse stakeholder approaches at different scales, capacities, etc, but these efforts are not being compared with each other.	i. Using the Governance Baseline to evaluate enabling conditions, document (compare/contrast) the different stakeholder involvement strategies in different contexts. ii. Potentially provide recommendations to enhance stakeholder processes.	Rhode Island, Massachusetts, Oregon, Washington, Hawaii, all RPB's, American Littoral Society, San Francisco, California	• Symposium session • Document (part of the Practitioners Guide- Part II) • Short film (Greenfire) • Interviews with Open Channels • Describe/characterize different stakeholder strategies in an easily searchable for • MSP implementation/ toolkit (web-based resources, organized for easy search etc) - U of Michigan (http://webservices.itcs.umich.edu/drupal/mebm/)
6.	MSP practitioners will understand the variety, context, and effectiveness of decision-making tools that have been used to support	a) Many different decision-making tools (e.g. compatibility analyses, ecosystem services valuation indices) have been developed for MSP efforts, yet it	i. Systematically document and evaluate the context and variety of decision-making tools, such as compatibility analyses, ecosystem services valuation indices and other	Massachusetts, Oregon, California, Rhode Island, Island Institute, Gulf of Maine Research Institute	• Symposium session • Document (part of the Practitioners Guide – Part II) • MSP implementation/ adaptive management toolkit

	MSP initiatives in order to select the best approach for their MSP effort.	is not clear whether or how these have been used to make decisions, or how effective practitioners have found them.	tools that have been developed to support MSP decision-making, site selection, etc.		(web-based, organized for easy search – such as the "Marine EBM in Practice" website http://webservices.itcs.umich.edu /drupal/mebm/)
7.	MSP practitioners will understand how to apply MSP to respond to climate change and resiliency.	a) MSP is a potential tool for responding to climate change and resiliency. b) Because climate change and resiliency is a high priority for federal agencies, significant amounts of funding (e.g. $20 million) and attention (e.g. development of National climate centers) is available to allow/support states and regions to respond to this issue. If positioned appropriately, MSP could be the tool that is funded to respond to this issue.	i. Determine how MSP can be used as an effective tool to respond to climate change and resiliency. ii. Create an opportunity for MSP practitioners and climate change and resilience experts to share, compare, and critique tools, techniques and strategies for integrating climate change and resiliency considerations into MSP efforts. iii. Document and evaluate existing examples of effectively integrating climate and resilience considerations into CMSP.	Rhode Island; EcoAdapt. NROC, MARCO, American Littoral Society, CLF, Healthy Oceans Coalition, Ocean Conservancy, TNC	• Symposium session • Document (part of the Practitioners Guide – Part II) • Organize special forum on this topic • Contribute to EcoAdapt decision toolkit and/or include in MSP implementation/ adaptive management toolkit (web-based, organized for easy search – such as the "Marine EBM in Practice" website http://webservices.itcs.umich.edu /drupal/mebm/)