

**An Evaluation of the Establishment Processes for
Marine Protected Areas in the Gulf of Maine:
Understanding the Role of Community Involvement and
Public Participation**

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Executive Summary

The process by which a marine protected area (MPA) is established often plays an important role in nominating and designating a site. This report examines the importance of community involvement and public participation in establishing MPAs in the Gulf of Maine. It argues that direct involvement by user groups and other interested parties in the decision-making process can increase the level of understanding and support for marine protection. Participation at the beginning of a project enables local communities to acknowledge the benefits of a protected area, take credit for the designation, and enforce the regulations they establish. Such an approach also allows decision makers to more easily incorporate local ecological knowledge into the planning phases which can facilitate the protection and management of marine resources. For these reasons, a "bottom-up" approach that addresses the needs of the surrounding community can be viewed as a desirable model to adopt when establishing MPAs.

In this report, existing MPA establishment processes in the Gulf of Maine are first evaluated with regard to their level of community involvement and public participation. Although each process is different, three basic phases are identified and described: 1) Site Identification, 2) Evaluation/Selection, and 3) Designation. Several case studies are then presented to outline the use of public participation and community involvement in establishment processes and understand which aspects of this approach are most helpful in designating future MPAs. Based on lessons learned from these examples and others described throughout the report, the following guidelines are suggested to most effectively incorporate participation and involvement into the MPA establishment process:

- I. Representation of All Stakeholders*
- II. Early Participation in the Establishment Process*
- III. Participation Over Consultation*
- IV. Incorporation of Local Knowledge*
- V. Emphasis On Communication and Education*
- VI. Presence of A Committed Individual*
- VII. Establishment of An On-Site A Committee*
- VIII. Design of A Well-Structured Establishment Process*
- IX. Careful Consideration of the Role of Scientific Inventory*

Issues specific to establishing MPAs in the Gulf of Maine are also addressed. In considering a network of sites, it is determined that: a) MPA initiatives must be based on existing programs and processes; b) some level of ecosystem analysis and review is necessary when taking an ecosystem approach to MPA establishment; and c) because marine resources and habitats in the Gulf of Maine are often transboundary and of regional significance, the level of participation may be broader than in instances where resources are more localized. That is, the scope of community involvement and level of interest may extend well beyond a local area.

A final recommendation pertains to nominated sites that are reviewed by an organization with Gulf of Maine or regional representation. The Gulf of Maine Council on the Marine Environment (GOMC) (or some expanded form of it) is suggested as the most likely body to assume such a role. While the Council could not infringe upon the authority of existing jurisdictions and establishment processes, its input would lift the review of candidate MPAs to an ecosystem level, allowing regional concerns to be addressed. The GOMC would not want to delay establishment processes with lengthy reviews, but could provide a research and information component that articulates an important ecosystem viewpoint. Through this scenario, locally driven, "bottom-up" approaches to marine protection could be effectively tied into a broader planning framework that allows for ecosystem analysis and review. Locally driven MPA projects could be evaluated for their significance to the Gulf of Maine in addition to their specific region. In this way, an ecosystem approach to the establishment of MPAs can be achieved without altering existing laws and programs. Involving a body such as the Council also broadens the concept of community by enabling those with interests outside a local area to become involved in designating specific sites. By directly incorporating those relying most on marine resources into the decision-making process, a coherent network of MPAs can be effectively established in the Gulf of Maine.

The appendix of this report includes a roster of candidate MPAs in the Gulf of Maine. The list is not exhaustive but includes the most significant sites considered in recent years. The MPAs described have varied levels of support and are at different stages in the establishment process. Some sites have been nominated through official government channels, while other nominations are the result of informal discussions and may never reach the designation stage. The roster provides insight into where in the Gulf of Maine future MPA initiatives may take place.

1. Introduction

An important factor in the establishment of marine protected areas (MPAs) is the process by which they are nominated and designated. There is no one formula for creating a site. Instead, the planning process will vary according to the level of government involvement, the goal of protection, the resource in question, and the views of local communities, resource users, or other interested parties. One aspect of marine protected area (MPA) establishment where there has been growing emphasis is the level of community involvement and public participation (Wells and White, 1995). Involvement can range from locally initiated marine reserves to government-led planning exercises in which key stakeholders participate in the decision-making process. The term "community" is used frequently throughout this report. It is meant to include not only those living adjacent to or relying on resources in need of protection, but extends to all of those interested in or affected by a MPA designation. "Community" often refers to local people, but when taking a Gulf of Maine perspective, the term may include a broader set of interests.

Direct involvement of user groups in each stage of decision making has several advantages when establishing a MPA. Specifically, participation by parties with a stake in the resource increases the level of understanding and support for marine protection, thereby reducing potential conflicts and the need for heavy enforcement. Involvement of interest groups ensures that all issues are identified and addressed before a site becomes law, increasing the likelihood that it will cater to the needs of the people relying most on the resource being protected. Furthermore, this approach enables decision makers to account for local ecological knowledge in the planning phases which can facilitate the protection and management of marine resources (Gilman, 1997; Graham, et al. 1992). For these reasons, a "bottom-up" approach can be viewed as a desirable model to adopt when establishing MPAs. While community involvement and public participation can help designate a site that accommodates the interests of those with a stake in the marine resources, it will not always lead to strict levels of protection or successful resource management.

Considering a network or system of MPAs in the Gulf of Maine requires an understanding of the various nomination and designation processes. There are several formal MPA programs in the Gulf of Maine region driven almost exclusively by a federal designation process which, in the past, has stressed public consultation, rather than active participation. Recent initiatives have demonstrated a shift toward greater community and public input (Department of Fisheries and Oceans, 1998). However, taking a Gulf of Maine approach to the establishment of MPAs, and to marine conservation in general, will demand a high level of involvement not only by local resource users, but by those interacting with the larger ecological system.

2. Importance of Public Participation and Community Involvement

2.1 *Top-down v. Bottom-up Approach*

Traditional approaches to resource protection are dominated by a "top-down" model, where scientific inventory leads the process of identifying and designating specific areas (Kelsey, Nightingale, and Solin, 1995). The main goal of such an approach is often to impose regulations or laws on resource users, sometimes with little regard for competing uses or human components of the ecological system (Nightingale and Kelsey, 1994). A "top-down" model of protection is an approach to planning that usually entails a centralized government setting restrictions on local resource users. While this model is scientifically the most logical approach, in a democratic society, it often leads to controversy or opposition because stakeholders are not formally brought into the establishment process and, as a result, have little understanding of or support for a site proposal. Without communication between government and the public, opposing parties may attempt to undermine the establishment process, or fail to adhere to the regulations of a designated site. As a result, establishment processes may produce "paper parks" in which natural resources continue to degrade because rules are not followed and enforcement measures are ineffective (Gilman, 1997).

In contrast, a "bottom-up" approach to resource protection emphasizes a need to acknowledge and adapt to prior use patterns (Fiske, 1992; Brechin, et al. 1991). This model combines scientific knowledge with informal environmental knowledge of customary users to understand and accommodate how people rely on the coastal zone (Graham, et al. 1992). A "bottom-up" approach to designating MPAs focuses on direct involvement of all stakeholders and interested parties during the planning and decision-making stages of establishing an MPA. Involvement during the establishment process by those relying most on the resource being protected is often considered a desirable approach because it incorporates the interests of the community in the final designation and creates a sense of responsibility for protecting marine resources. This model fosters support for a site proposal by including affected parties, rather than excluding them from the establishment process.

One example of a "bottom-up" approach to the establishment and management of a MPA is the Balicasag Island Municipal Marine Park in the Philippines. This small island of 30 ha is home to approximately 600 people who make their living primarily from fishing and shell collecting. In 1985, the local community, with guidance from Silliman University, established a MPA that included an 8 ha sanctuary prohibiting commercial harvesting and a marine reserve regulating fishing activities surrounding the entire island (Wells and White, 1995). Because community members were involved throughout the planning process, the reserve was established relatively quickly and with "no-take" areas. It is

believed that if local participation had not been given priority, harvesters would never have relinquished access to important fishing areas. While this example involves only a small community and geographic area, it has important ramifications for MPA establishment in any situation.

2.2 Benefits of Public Involvement

As described above, community involvement and public participation is considered beneficial to the process of establishing MPAs because it creates support for protection through communication and education. Such an approach creates a sense of ownership over the proposal, and fosters an appreciation for the habitat or ecosystem being protected (Kelsey, Nightingale, and Solin, 1995). The result is, in many instances, lasting marine protection based on partnerships between resource users and government officials. Resource users who take part in the establishment of MPAs will more readily understand the objectives of protection and perceive its benefits. For example, a MPA can generate economic benefits for local people through visitor facilities, tourism, increased employment, and improved yields in commercial fisheries. These benefits can positively affect both direct users and surrounding communities.

Participants who clearly understand the reasons for siting a MPA and its potential outcomes will more likely support regulations over the long term. In this sense, direct involvement can reduce conflicts that often arise where the best sites for conservation are also the most economically valuable (Kenchington, 1988). For example, the proposed La Parguera, Puerto Rico National Marine Sanctuary (NMS) was never designated, primarily because local fisherman felt they were left out of the planning process and interpreted the sanctuary as restricting their access to traditional fishing grounds (Fiske, 1992). More involvement of local interest groups and better communication throughout the establishment process may have increased understanding and reduced opposition to the proposal, resulting in the successful designation of the NMS. Ownership over the decision-making process can also help to increase compliance with the rules and avoid the need for costly enforcement measures. By actively participating, local communities, interest groups, and the broader public acknowledge the benefits of a protected area, take credit for the designation, and support and enforce the regulations they establish (Gilman, 1997; Fiske, 1992; Brechin et al. 1991; Wells and White, 1995). A “bottom-up” approach to MPA establishment also allows site planners to better take advantage of local or traditional ecological knowledge (TEK). The use of such knowledge can assist decision makers in identifying, managing, and protecting important marine resources (Neis, 1995). Following this model can often (but not always) lead to successful site designation and sound resources management.

It is difficult to generalize about how community and the public should be involved in the process of establishing MPAs. The methods and types of involvement will depend on the purpose of the MPA, the resources it contains, the structure and composition of the community, and the nature of the government agencies implementing policy (Wells and

White, 1995). Depending on the circumstances, an effective establishment process may not be entirely “bottom-up,” but also entail aspects of “top-down” models. Community involvement and public participation is most useful when the area in question is used by humans for multiple purposes or is economically valuable. An area where there are multiple users prior to protection will necessitate an inclusive establishment process based on compromise. A “bottom-up” approach is also more effective when stakeholders are easily identified and well-organized, where there is a history of conservation activities, and where there is a well-educated constituency. “Top-down” approaches tend to be more effective in systems planning or for identifying critical habitats over a large, scarcely utilized area. Components of both approaches can be used simultaneously to achieve various conservation goals.

Community-based reserves tend to focus on community involvement. These situations are most appropriate for small sites where the community is heavily dependent on the marine environment (for fishing or tourism). While these types of MPAs are initiated by the community, they usually need some level of government support in the long run. The most prominent examples of community-based reserves are located around the islands of Balicasag, Pamilacan, and Apo in the Philippines.

In the Gulf of Maine, community involvement and public participation will most likely occur through collaborative arrangements during government establishment of MPAs. It may be more appropriate for government to take a lead role if the area is large, spans a number of different communities, and has a history of conflicts among resource users. In this instance, participation of local parties should still be emphasized throughout the planning process. For example, in the Great Barrier Reef Marine Park in Australia (the world's largest MPA), the Marine Park Authority involves communities in the creation of zoning plans, as well as in a variety of public education, interpretive, and recreational activities (Kenchington, 1990). In the Soufriere region on the west coast of St. Lucia, growing conflicts between user groups threatened the successful designation of a marine reserve. A process of negotiation and participatory planning was initiated to allow stakeholders to oversee the implementation and management of the area. In both examples, community involvement was used to generate public support for resource protection.

In some instances, public involvement may be unnecessary. MPAs established in remote areas where there is no human presence would most likely not benefit from a participatory process. Since most MPAs are designated for habitats endangered or threatened by human activities, however, almost every case will affect and therefore involve stakeholders.

2.3 Challenges of a “Bottom-up” Approach

While a participatory, “bottom-up” approach to establishing MPAs has its benefits and is advocated throughout this report, it is not always the easiest course to take. Extensive

community and public involvement tends to be extremely time consuming and may delay much needed action to protect threatened resources. Including all stakeholders in the planning process will also increase the number of people involved, which demands a high level of financial resources and staffing that are often unavailable at the site level. A process where input is obtained from a variety of interests will not always lead to a MPA which entails strict protection or results in sound resource management. In fact, community involvement and public participation can at times reduce the level of protection extended to a final site designation. Opposing viewpoints can dilute what begin as strict regulations and generate plans which involve little or no protection measures.

For example, an inclusive and lengthy planning process to establish the Florida Keys National Marine Sanctuary yielded a final management plan with far less protection than its original version. In this case, a process based on collaborative decision making and extensive cooperation removed initially proposed areas of strict protection for coral reefs to allow for more multiple-use activities. While a “bottom-up” approach to planning will cater best to those affected by a site designation, as described above, it may not result in the highest level of protection for the resource. Including all stakeholders in the decision-making process could even result in a collective decision to not designate a MPA proposal under review. In this instance, a participatory process could lead to no protection whatsoever. In general, the potential costs of including important stakeholders and other interested parties in the MPA establishment process must be weighed against the risks of leaving them out.

2.4 The Gulf of Maine Community

It is essential to clearly define the community and its characteristics before successful involvement in the establishment of MPAs can take place. The type of community that uses or is adjacent to a marine resource has an important bearing on the level of involvement and the way a MPA is designated. The Gulf of Maine community is unique for two reasons: a) the marine ecosystem is a relatively large, international body that spans multiple jurisdictions (three states, two provinces, and an international boundary) and attracts the interests of many organizations; and b) the fluid and mobile nature of the ecosystem creates habitat linkages and environmental issues which are transboundary in nature.

Taking a Gulf of Maine or ecosystem approach to establishing MPAs may be difficult because the potential community can be so large and diverse. Parties interested in or affected by a MPA designation include government agencies, non-government organizations (NGOs), scientists, industry representatives, and local residents. Private-sector interests, which are sometimes excluded from government-driven processes, are also important members of the Gulf of Maine community. The region has a long-standing commercial fishing industry and is a place of increasing tourism and recreation. Other industries, such as aquaculture, shipping, and oil and gas development also have a growing presence in the Gulf of Maine. The establishment of a MPA for any one area may require the involvement of, among others, subsistence fisherman, marina owners, NGOs, scientific

research institutions, municipal governments, tourist operators, transportation officials, oil companies, summer tourists, and residents who live on the coast primarily for its scenic value.

Of course, not every MPA will call for the involvement of every stakeholder, organization, or local resident in the Gulf of Maine region. Each site will have its own set of issues and interested parties; a MPA will impinge on the interests of these people in different ways. Because of the transboundary nature and regional significance of many of the resources in the Gulf of Maine, the scope of involvement may be broader than in cases where resources are only of local importance. For example, a whale sanctuary designation in Massachusetts may require the participation of and input from parties in New Brunswick, because these marine mammals inhabit both areas. The same is true for the protection of other highly mobile species, such as groundfish and sea birds. Defining and incorporating such a broad spectrum of interests can be costly and time consuming, but is necessary for a “bottom-up” approach to marine resource protection to be effective.

3. Existing Nominations/Designation Processes in the Gulf of Maine

There are several different MPAs programs and establishment processes in use in the Gulf of Maine. Programs geared specifically to nominating and designating MPAs are, for the most part, federal in nature and include the following: NOAA's National Marine Sanctuary (NMS) Program, NOAA's National Estuarine Research Reserve System (NERRS), Parks Canada's National Marine Conservation Areas (NMCAs) program, Environment Canada's National Wildlife Areas (NWAs) and Marine Wildlife Areas (MWAs), and the Department of Fisheries and Oceans' Marine Protected Areas Program (establishment process is in development). More informal or related programs that support the protection of marine areas, such as fishery closures and land acquisition methods, exist at various government levels throughout the Gulf of Maine. In addition, international agreements, such as the Ramsar Convention, can facilitate the establishment of MPAs. Except for a few cases (Areas of Critical Environmental Concern (ACEC) program), these initiatives do not have well-established processes for nominating and designating MPAs and are difficult to evaluate. For this reason, almost all of the processes analyzed in this report are federal.

This is not to say that other programs, laws, or initiatives that protect discrete areas in the marine environment do not emphasize community involvement and public participation. In fact, the stakeholder involvement will most likely occur at the local level rather than through federal programs. For a thorough discussion of these and other MPA-related programs, refer to *Report #1, An Evaluation of Legal and Institutional Mechanisms For Establishing Marine Protected Areas in the Gulf of Maine*.

There is no single method for establishing MPAs in the Gulf of Maine. Almost all of the programs officially slated for MPAs establishment are federally driven, but each has its own process for nominating and designating a specific area. Since these processes provide only general frameworks, even within each program, there is great variation in procedures and levels of public participation. A specific process will often depend on the resource being protected, the structure of the community, and the nature of the conflicts between stakeholders. Despite the differences across programs, three common phases can be discerned: identification, evaluation/selection, and designation.

I. Identification: The first step in the MPA establishment process is to nominate or identify a specific site. In most instances, the initial part of this phase is driven by a scientific review process ("top-down" model) in which experts locate an area of interest based on certain ecological characteristics. For example, in the NMS Program, initial sites are identified by regional resource evaluation teams that identify, evaluate, and recommend to NOAA sites for consideration (Sanctuary Programs Office, 1982). Similarly, a National Estuarine Research Reserve is nominated by a state-appointed "site-selection committee" and NWAs are usually nominated by Canadian Wildlife Service staff. However, sites can also be nominated by community groups, NGOs, academic institutions,

the fishing sector, aboriginal groups, and individuals (Canadian Wildlife Service, 1994). Even if the nominations process is, in general, led by federal government agencies, the general public can begin the process by identifying and proposing the initial site, as well as play an active role in influencing which sites are selected for further review. For example, both the Great Bay and Wells NERR were initiated by local community organizations.

II. Evaluation/Selection: Once candidate sites have been identified, they are evaluated against selection criteria to determine whether they meet the objectives for protection and are suitable for designation. Criteria provide standards for assessing the value of a potential MPA and ensure consistency throughout the planning process. Each set of criteria is different, but usually includes ecological, social, economic, and pragmatic characteristics with which to evaluate a particular site. For a complete review of selection criteria and the site selection process, refer to *Report #2, Evaluating the Role of Site Selection Criteria for Marine Protected Areas in the Gulf of Maine*. The evaluation/selection phase is also a time for public consultation and discussion. In both the NMS and NERR programs, candidate sites officially undergo some level of public review. Massachusetts' ACEC process requires adequate public notice and a public hearing where the public may make their views known (301 CMR 12.00). Parks Canada initiates discussions with local communities and affected user groups to seek their cooperation in conducting a feasibility study of a potential National Marine Conservation Area. The level of public input at this stage is often determined by the location of the site, the level of interest on the part of the community, and the commitment of the individuals leading the process.

III. Designation: The final stage in the establishment process is to solidify a proposal for a particular site and to establish a MPA as a legal jurisdiction. In both the NMS and NERR programs, environmental impact statements are prepared and distributed. This step allows the general public and interested parties to make final comments on and react to a proposal. NOAA received over 860 written comments to the draft environmental impact statement for Stellwagen Bank NMS (Sanctuaries and Reserves Division, 1993). The remainder of this phase is mostly a formality, where notice of the designation is officially announced and printed into law in the *Federal Register* or *Canada Gazette*.

The establishment processes evaluated in this report serve as only a general guide for site designation. There is flexibility within each program with regard to the level of community involvement and public participation. As a result, major programs in recent years have increased and emphasized local participation, state/provincial and federal partnerships, co-management arrangements, and communication between stakeholders and government agencies. Despite this shift, the establishment processes for the major MPA programs in the Gulf of Maine remain primarily "top-down" models of protection that call for public consultation, as opposed to public participation and decision making. While there are exceptions, community and public involvement can be characterized as typically reactive in that interested parties have the opportunity to comment only after sites have already been identified. Several attempts to designate MPAs in the Gulf of Maine and elsewhere have failed due in part to a lack of community involvement and public

participation, poor communication, and a feeling by stakeholders that they are excluded from the decision-making process (Walters and Butler, 1995). Lessons learned from past initiatives are valuable for understanding the role of public and community involvement and can provide insight into how it can be effectively incorporated into the process of establishing MPAs in the Gulf of Maine.

4. Case Studies: Community and Public Involvement in MPA Initiatives

There are many examples of MPA establishment in the Gulf of Maine and around the world. The following case studies demonstrate the role of community involvement and public participation in nominating and designating MPAs (Figure 1). It should be noted that these are just a few examples in or near the Gulf of Maine where participation was a factor. In different examples, participation may not have a positive effect on the outcome of a MPA establishment process. The purpose of this section is thus not to prove that public participation and community involvement will always lead to a successfully established and managed MPA. Rather, it is to outline which aspects of this approach are most helpful to the establishment process. In this way, these examples can help us form a better understanding of how public participation and community involvement can be most effectively incorporated into the process of establishing future MPAs in the Gulf of Maine. Lessons learned from these case studies are presented and described in Section 5.

4.1 Fundy-West Isles National Marine Park

Discussions on the creation of a national marine park for the Fundy West-Isles area of the Bay of Fundy on Atlantic Canada's east coast began in the mid 1970's between the New Brunswick Department of Tourism and Parks Canada (then called Environment Canada Parks Service). In the early 1980's, the two governments undertook a pilot study entitled "A National Marine Park Concept - West Isles New Brunswick," which recommended that consideration be given to the pursuit of a feasibility study for park designation. By 1983, the Fundy West Isles Marine Feasibility Study was initiated in an attempt to create what would have been the first National Marine Park in Canada. The study was comprised of three phases. Phase 1 was an assessment of the technical feasibility of establishing the park from the perspective of Parks Canada and the Province of New Brunswick; Phase 2 would involve extensive public consultation so the public would have the opportunity to give input on the proposal; and Phase 3 would analyze the two previous phases and prepare recommendations for a future course of action (Interdepartmental Committee on Marine Policy, 1998).

After the completion of phase 1 in 1985, the results of the study were made available to the public for review and discussion. Due to strong local opposition to the project, the process was halted and phase 2 was never initiated. The Fundy-West Isles National Marine Park was never designated in part because of minimal dialogue between government officials and local stakeholders, as well as the fact that there was no local "storefront shop" in the communities (Interdepartmental Committee on Marine Policy, 1998; Neil Munro, telephone conversation with author, 19 March 1998). Without a local presence by the federal government and involvement by the community from the beginning of the project, resource users feared that the park would impose upon their livelihoods. The strongest opposition came from aquaculture interests, which were concerned that the

park would interfere with the future growth of their industry. While the establishment process did include stakeholders, in general, it is believed that if it involved these parties at the outset and stressed communication of the perceived benefits of marine protection, the park proposal may have proceeded to later phases (Walters and Butler, 1995; Neil Munro, telephone conversation with author, 15 April 1998).

The possibility of establishing a marine park in the Fundy West Isles region was revisited in 1991 by the Province and Parks Canada. An advisory report was completed on the feasibility of a marine park and recommended that the area be designated. While the Province decided for a second time not to move forward on this initiative, the region is still considered as a potential site for a MPA in New Brunswick and may be examined again in the future.

4.2 Stellwagen Bank National Marine Sanctuary

The Stellwagen Bank National Marine Sanctuary, a 638 square nautical mile area of biologically productive waters between Cape Cod and Cape Ann, Massachusetts, was Congressionally designated in November 1992. This MPA is meant to protect important habitats for fish, whales, and other forms of marine life. Exploration for and mining of sand, gravel, and other minerals is prohibited within the Sanctuary. Other restrictions include ocean dumping, alteration of the seabed, taking of marine mammals, and placing submerged pipelines (Eldredge, 1993).

The Sanctuary was first nominated by Defenders of Wildlife, Inc. and Dr. Charles Mayo of the Center for Coastal Studies for consideration by the North Atlantic Regional Resource Evaluation Team. The nomination was subsequently recommended by the evaluation team to NOAA for placement on its Site Evaluation List (SEL). Following public comment, the final SEL was published in August, 1983. After elevating the site to Active Candidate Status in April, 1989, NOAA conducted four scoping meetings to gather information and comments from interested parties on the strength of the proposal. Attendees were asked to comment on identified management issues, to suggest additional issues for examination, and to provide information useful for NOAA's evaluation of the site's potential as a National Marine Sanctuary. The public also had the opportunity to comment on the draft environmental impact statement in written form and during 5 public hearings held in March, 1991. During this period, 225 persons attended the public hearings and over 860 written comments were received by NOAA (Sanctuaries and Reserves Division, 1993).

Initial opposition to the Sanctuary proposal by development interests and the commercial fishing industry was quieted once it was realized that the site would not pose a major threat to their activities. The design of the Sanctuary was due, in part, to the support of Congressman Studds and Senator John Kerry, who acted as champions for the proposal as it passed through Congress. In this sense, political persuasion played a strong role in eventually designating the Sanctuary. The efforts of the Center for Marine Conservation (CMC), which formed a coalition and played a strong communication role, also enhanced the potential of the proposed project.

Much of the success attributed to the designation of Stellwagen Bank NMS can be, however, attributed to select individuals who were committed to the project and demonstrated leadership throughout the designation process. Despite limited time and resources, a few NOAA representatives and supporting individuals were able to bring numerous parties together, carry-out an extensive consultation process, and keep communication lines open (Sherrard C. Foster, telephone conversation with author, 26 March 1998). The presence of a few trusted leaders who were committed to the success of the project was an important factor in creating Stellwagen Bank NMS and is a point that should be stressed when attempting to understand when public participation and community involvement is most beneficial to the establishment process.

Despite the relative ease of the designation of Stellwagen Bank NMS, the establishment process could have done more to inform and include interested parties at the beginning stages of the proposal (Sherrard C. Foster, telephone conversation with author, 26 March, 1998). As previously described, early participation is considered beneficial because it often leads to greater understanding and support for a site, reducing opposition over the long run. Such an approach was made difficult in part, due to the structure of the federal process, which does not encourage early involvement of stakeholders in agency decision making. Much of the public input was in the form of consultation and reactive comments to what was an existing proposal. It should be noted, however, that the site was initially nominated by a local organization and a member of the public. The task of "getting the word out" and fostering public participation was hindered not only by the nature of the federal process, but by the level of resources available to complete the designation of the site (Sherrard C. Foster, telephone conversation with author, 26 March, 1998).

4.3 Sea Urchin Council Research Conservation Zones

In response to declining commercial stocks, the Sea Urchin Zone Council in mid-coast Maine unanimously voted to close areas to harvesting for a 3-4 year period. The Council is comprised of industry representatives and is part of a co-management arrangement with the state Department of Marine Resources (DMR). Encouraged by managers and scientists, Council members decided to designate closed areas to generate important scientific information on the benefits of MPAs in enhancing sea urchin populations. It is believed that certain closures will increase settlement and growth of sea urchin communities over the long term (Bob Steneck, telephone conversation with author, 23 March 1998). The concept was initially discussed in the summer of 1997 and was recently approved by a Council vote. Now that industry is supportive of the management tool, DMR must enact state regulations to give the sites legally binding status. While specific sites have yet to be identified, participants hope to designate areas by November, 1998.

The Sea Urchin Zone Council proposal provides an excellent example of a locally based, "bottom-up" approach to marine management. The concept of designating MPAs was initiated by industry with participation from scientists and government officials. While scientists will help to identify sites, industry representatives will make the final decisions

and no proposal will move forward without full industry support (Bob Steneck, telephone conversation with author, 23 March 1998). The full involvement of the Sea Urchin Zone Council during the nomination and designation stages has played an important role in gaining support for research conservation zones and incorporating harvester's knowledge into the proposal. Continued Council involvement and sense of ownership over the establishment process will help to maintain support for future closures and reduce the need for strict enforcement once they are designated.

4.4 Whytecliff Park

Whytecliff Park, a small seashore edge region located in West Vancouver, British Columbia, has been declared Canada's first "no take" marine protected area (Kelsey, Nightingale, and Solin, 1995). While this protected area is not part of the Gulf of Maine region, it provides an excellent example of a "bottom-up," participatory approach to marine protection and a shift in the way sites have been established in Canada. Whytecliff was first designated as a marine park in 1973, but afforded no protection to marine life. The idea of actually extending protection measures to the Park began with informal discussions during a series of BC-wide focus groups. This dialogue grew into more formalized monthly meetings among government representatives, NGOs, local residents, and other interested parties. Participants were able to openly discuss scientific issues, the use of protective mechanisms, marketing, public education, and other topics. These meetings ensured a steady flow of information among various committees and provided a forum for new participants to become involved. This inclusive process based on collaboration and local involvement reduced use conflicts and made it easier for government agencies to establish an area of strict protection. By addressing the concerns of a diversity of stakeholders and focusing on a common goal, the initiative quickly achieved results. In July of 1993, the federal government made the commitment to establish Whytecliff as a "no-take" area. Consequently, the legal status of the water adjacent to the Park was changed pursuant to the *Fisheries Act* to prohibit fishing activities.

The fact that Whytecliff Park was already a designated park and that people assumed it was previously protected reduced many of the use conflicts present in other areas. The Park was also very small in size and did not pose a major threat to the fishing industry or other resource users. Nevertheless, Whytecliff's success is based on a "bottom-up" approach which included all stakeholders throughout the entire decision-making process. Through their involvement, the public was able to gain a sense of ownership over the park proposal and perceive the benefits of protection over the long-term. While scientific issues were discussed during local meetings and were considered an important part of site designation, the establishment process was not led by rigorous scientific classification (Nightingale and Kelsey, 1994). Instead, it was the efforts of project participants acting on anecdotal scientific information that moved the proposal forward. While this method of designation was less precise than "top-down" models, it allowed local communities and stakeholders to more effectively buy into and support the Park concept. Through education, personal involvement, and the creation of strong partnerships, there emerged a

strong interest in protecting the marine resource. As a result, Whytecliff is now considered by many to be Canada's first true MPA.

4.5 Western Gulf of Maine Closure

In January 1998, the New England Fishery Management Council (Council) approved a year-round fishing closure for an area that encompasses portions of Jeffrey's Ledge and Stellwagen Bank in the Gulf of Maine. Representing one of the most aggressive protection efforts to manage the commercial fishery in recent years, the action essentially prohibits any gear-type used to catch groundfish in a 900 square mile area. The measure is put forward in Framework Adjustment 25 to the Northeast Multispecies Fishery Management Plan (FMP) as part of the Council's efforts to rebuild declining Gulf of Maine cod stocks. Also included in the Adjustment are sequential one-month closed areas ("rolling closures") which begin in Massachusetts Bay in March and carry through to June as far east as Penobscot Bay in Maine. The decision to close such a large area to groundfish fishing was driven by recommendations made by the Council's Multispecies Monitoring Committee, which suggested that fishing mortality rates for Gulf of Maine cod must be reduced by 48% from 1997 levels to achieve rebuilding goals set by the Council in Amendment 7 to the FMP (Multispecies Monitoring Committee, 1997). The Western Gulf of Maine Closure, which in many ways acts as a sanctuary for groundfish, went into effect on May 1, 1998 (NEFMC, 1998).

The area closure initiated by the Council is of interest because it was driven by a process that heavily involved the commercial fishing industry and other interested parties as mandated by the *Magnuson-Stevens Fishery Conservation Act*. The Council (one of eight regional fishery councils in the U.S.) is a seventeen member voting body comprised of government, industry representatives, and other interests that make decisions on fishery management issues. Assisting the Council are sixteen standing committees and various subcommittees that focus on specific issues (e.g., marine mammals or herring).

The concept of closures in the Gulf of Maine under Framework 25 was initially proposed by the Area Closure Subcommittee, which is made up entirely of industry representatives. This Subcommittee reported to the Groundfish Committee, which is also comprised in part of fishing industry members. In sum, those using the resource most are heavily incorporated into the process of designating closures and managing the fishery in general. To further encourage participation in the management process, the Council recently reconstituted its formal advisory panels made up of industry representatives, scientists, and other interested parties. Members of the panels provide their expertise to various oversight committees and are either engaged in or have knowledge of fishing in New England.

The Council's decision-making process is also made open to the general public for comments. All meetings are announced to the public so that interested parties can give testimony on proposed actions. For framework adjustments to fishery management plans, the Council must consider public comments made at a minimum of two Council meetings

before making recommendations to the National Marine Fisheries Service Regional. In the case of Framework 25 development, mailing lists for meeting notices numbered 900 for the Groundfish Committee and 1,600 for Council meetings, allowing ample opportunity for the public to provide input on the closure proposals (NEFMC, 1998).

The unsuccessful management of Gulf of Maine groundfish stocks in the past has led to criticism of foxes having too great a role in guarding the henhouse (McCay, 1994). However, in the case of Framework Adjustment 25, it appears that a process inclusive of industry has resulted in the establishment of what could be termed a marine protected area. While scientific reports demonstrating a severely over-fished cod stock and the threat of having to shut down the fishery were the catalysts for Council actions, the measures actually implemented to rebuild the fishery were first proposed by fishing industry members.

There was and will never be 100% consensus over the proposal and it is unclear whether the closure will remain in effect beyond the three years called for in the regulations. It is difficult to say that industry involvement made the difference in designating the Closure. Lack of participation, in this case, could have resulted in a designation with even more protection. In fact, many argue that industry representatives should not play a role in making decisions on the management of marine resources. However, a site that is created in part by those relying on the resource being protected will more likely be understood, supported, and respected over the long term. The final action by the Council was in this way a negotiated compromise based on a series of meetings, testimony, and public discourse between those most interested in the sustainability of an important marine resource.

5. Guidelines For Using Public Participation & Community Involvement In MPA Establishment

Based on lessons learned from the case studies described in Section 4 and other examples listed in this report, the following guidelines are suggested for the use of public participation and community involvement in establishing MPAs in the Gulf of Maine and elsewhere. These guidelines are meant to incorporate community involvement and public participation most effectively into the MPA establishment process.

I. Representation of All Stakeholders: When a marine area is considered for protective status, all important users of the resource in question, as well as other affected parties, should be involved in the decision-making process. Excluding a stakeholder from discussions, even strong opponents of the proposal, can lead to greater conflicts or weak protection measures. Such was the case in attempts to designate La Parguera National Marine Sanctuary. Artisanal fisherman felt left out of the planning process, and as a result, opposed and ultimately prevented the sanctuary from becoming established (Fiske, 1992). Government officials made no attempt to even consult with user groups when designating the Kagman Conservation Area, a coastal area in the Commonwealth of the Northern Mariana Islands. This lack of representation reduced support of or interest in the conservation area's rules. As a result, the site is considered a "paper park" because it receives no actual protection (Gilman, 1997). Providing a place for every interested party at the negotiation "table" can be an arduous task, particularly in multiple-use situations. However, with proper representation, the MPA nomination/designation process will be far more successful in the long term.

II. Early Participation in the Establishment Process: User groups and interested parties should be involved in the MPA establishment process at its earliest stages. Participation in the beginning of a proposal will help local communities build a sense of ownership over the project and result in a protected area that better accommodates the concerns of those relying most on the resource. Early involvement will also help to reduce conflicts during the later stages of MPA designation. For example, the designation process for the Fagatele Bay National Marine Sanctuary in American Samoa was highly successful in part because federal program officials met with local people at the very beginning of the project, rather than during the later stages (Fiske, 1992).

III. Participation Over Consultation: Successful MPAs establishment will rely on the active participation (as opposed to only consultation) of affected parties. Participation in most MPA programs throughout the Gulf of Maine takes the form of consultation at public hearings and comments on existing proposals. Stakeholders, in this case, are reacting to plans already developed, rather than playing a major role in creating them from the start. Successful involvement entails more than simply having interest group representatives attend meetings. Interested parties should instead be given responsibility for making decisions and taking credit for the final rules of the protected area (Gilman,

1997). A MPA must be based on the interests of local resource users and the broader public as much as those of government resource managers. Participation helps ensure that people do not perceive they are losing control over their livelihood and access to marine resources. It also helps communities benefit from the economic opportunities associated with protected area designations (Graham, et al. 1992).

IV. Incorporation of Local Knowledge: The incorporation of local knowledge into the nomination/designation process can be an important ingredient in the development of MPAs. Those relying on the marine environment for their livelihoods have a great deal of information that could increase our limited understanding of marine ecosystems and facilitate the protection and management of declining resources. In the case of commercial fisheries, anecdotal knowledge tends to be considered less than scientific research generated by trained scientists (Neis, 1995). However, Traditional Ecological Knowledge (TEK) is beginning to be recognized as vital to understanding and protecting marine resources, particularly when designating MPAs. Using TEK in the MPA establishment process entails involving local people in the early stages of a proposal and increasing their ability to make decisions on the fate of marine resources. In this sense, TEK is an excellent vehicle for fostering stakeholder participation and gaining public support for MPA designations.

V. Emphasis On Communication and Education: It is critical that an MPA proposal be communicated clearly to affected parties and that they are educated on the potential benefits of marine protection. The concept of a new protected area should be introduced carefully to local communities and, if possible, in such a way that it appears the idea was initiated by the community itself (Wells and White, 1995). If communication lines are established early and information about a site is constantly relayed back to community members and other interested parties, a greater understanding will form for designating a site. Communication is best achieved through local involvement and is part of an ongoing education process to explain the benefits related to MPAs. Resource users who understand the need to protect marine resources and the objectives of MPAs will more likely support the concept over the long run. For example, during the establishment of the San Salvador Islands Marine Park in the Philippines, educational projects on the value of marine reserves to commercial fishing harvests resulted in the community's supporting and actively managing the reserve (Buhut, 1994). In contrast, even though the area around Fathom Five National Marine Park in Canada's Great Lakes Region was declared a Biosphere Reserve in 1990, several years after that time, the federal government had yet to discuss with the public the concept of a Biosphere Reserve and its role in the planning and management of the area (Graham, et al. 1992).

VI. Presence of A Committed Individual: Strong leadership from one or several individuals committed to the concept of MPAs can be essential to a successful establishment process. Community workers or appointed individuals who have intimate knowledge of local cultures and natural resources can be an asset in what is in many instances a contentious situation. Trusted leaders can reduce conflicts by bringing together opposing parties to work on common goals. They can also act as a conduit for

communicating the advantages of MPAs. In many instances the actions and words of a single person are responsible for moving a MPA proposal from its initial development to designation. In general, local user groups are much more responsive to someone who is knowledgeable, sincere, and dedicated to meeting the needs of all those involved.

VII. Establishment of An On-Site Committee: The establishment of an on-site committee representing various interest groups and affected parties will facilitate local participation throughout the MPAs establishment process. The membership of these bodies should include individuals who can speak for a constituency and make decisions on its behalf. Committees are most easily formed when the surrounding community is well organized such that representatives can be quickly identified. Allowing these committees to coordinate the nomination and designation of MPAs is important because it gives responsibility to the community for managing its marine resources. The establishment of committees also helps to form partnerships by ensuring all interests are represented in the final proposal even when every interested person cannot feasibly play a central role. Public meetings may be sufficient in some cases, but usually do not lead to the same level of community involvement (Hough, 1988). Marine management committees comprised of community groups were central to coordinating the process to establish marine reserves in Visaya, the Philippines (White, 1989). Similarly, an advisory committee was established during the creation of the Saguenay Marine Park in Canada to integrate the expectations of local communities and non-governmental groups (Dionne, 1995). This committee comprised representatives from regional municipalities affected by the project, as well as members of interested NGOs. In both examples, representative committees acted as a lynch pin for community-based decision making for establishing MPAs.

VIII. Design of A Well-Structured Establishment Process: User groups and interested parties will be better able to participate in a well-structured MPA establishment process. Clearly defined stages of decision making with regularly scheduled, accessible meetings makes it easier for individuals to become involved. If local parties know how and when they can provide input, they will be more willing to participate in the establishment process. For example, the effort to designate Whytecliff Park in British Columbia, Canada entailed regular monthly meetings where local communities knew exactly what to expect. Such a well-structured process helped incorporate the ideas of affected parties into the decision to designate the Park. In contrast, an erratic, poorly defined establishment process that is slow to evolve can frustrate local communities and foster opposition to a candidate site.

IX. Careful Consideration of the Role of Scientific Inventory: While scientific inventory and review is important to the establishment of MPAs, it should not always lead the process. Traditional "top-down" models, where science dictates site designation and the regulatory actions to be taken, fails to address adequately the human element of habitat protection (Kelsey, Nightingale, and Solin, 1995). A process dominated by rigorous ecological classification can exclude the people who will be most affected by the designation of a MPA. Scientific investigation in selecting sites and monitoring their effectiveness should be balanced with decisions made by communities and the general

public. Since MPAs regulate human behavior, it is humans who should guide the process from nomination to designation. Whytecliff Park provides an excellent example of the use of scientific understanding in establishing a no-take MPA through a "bottom-up" process (see Section 4.4).

6. Issues Specific to the Gulf of Maine

In addition to the guidelines described in Section 5, some issues concerning the MPA establishment process are specific to the Gulf of Maine. Considering a network or system of MPAs will involve the collaboration of several jurisdictions and marine protection initiatives, each with its own goals and objectives. New projects must build on the existing programs and processes evaluated in this report rather than replace them. Entirely new processes are less feasible from a political standpoint and will only further complicate the administrative landscape. Although most of the MPA programs in the Gulf of Maine are inherently "top-down models" of protection, there is ample opportunity to increase the level of participation and community involvement within existing frameworks. Recent discussions and efforts to establish MPAs indicate a shift toward incorporating resource users and other interested parties into the nomination and designation process (Department of Fisheries and Oceans, 1998). While existing programs have the ability to take a regional approach to MPA establishment (particularly Canada's Department of Fisheries and Oceans emerging MPAs program), there is no formal initiative that can focus on the Gulf of Maine as a whole. For this reason, an ecosystem approach to establishing MPAs will inevitably involve the coordination of existing processes.

Taking an ecosystem approach to the establishment of MPAs makes it difficult to maintain a completely "bottom-up" or locally driven process. While it is important to involve local communities and stakeholders throughout each stage of decision making, protecting an entire marine ecosystem will require some type of regional review or systems planning exercise. The Gulf of Maine is a relatively large region covering multiple state/provincial jurisdictions and an international boundary. The open and fluid nature of this water body, and marine ecosystems in general requires a broader level of participation than would be the case where resources are more localized, such as on coral reefs. Due to the transboundary nature and regional significance of many resources, the scope of community involvement and the level of interest may extend well beyond a local area. As described in Section 2, a whale sanctuary in Massachusetts may affect parties as far away as New Brunswick, since the same whale species inhabits both areas. Similarly, since it is believed that lobster populations in Maine are seeded by brood stock in New Brunswick, efforts to protect lobster habitat in the region may call for the collaboration of parties in both jurisdictions. In this sense, the term "community" must be broadened beyond the local level.

Not every MPA proposal in the Gulf of Maine will involve highly mobile resources and an expanded level of participation. There may be cases where a site involves only a small set of stakeholders and a sedentary species in need of protection. Each designation will have its own set of issues and affected parties. Nevertheless, to achieve a network of MPAs, every initiative should be tied into a broader framework at the ecosystem level.

For the reasons described above, a network of MPAs in the Gulf of Maine will need to be based in part on broad-scale thinking and analysis that often extends beyond the scope of local communities and user groups. In many ways, a comprehensive network of MPAs cannot be derived solely through a "bottom-up" establishment process. There must be some mechanism or process which ties individual MPA initiatives into a larger ecosystem framework. Regional bodies, such as the Gulf of Maine Council on the Marine Environment (GOMC) can play a major role in developing a MPAs network based on local efforts by initiating or coordinating regional overviews. MPA establishment processes can thus involve local communities from the beginning, but still be a part of a broader ecosystem-based initiative.

6.1 Scenarios for Establishing MPAs

Given the issues specific to establishing MPAs in the Gulf of Maine, there are three basic scenarios for increasing the level of participation and involvement in the nomination/designation process:

A. *Status Quo* - Establishment of MPAs would be based entirely on existing processes. While no changes would be made to current approaches, community involvement and public participation would be emphasized within each program.

B. *Network Through Existing Processes* - Under this scenario, regional bodies such as the GOMC and other interested parties would have the opportunity to review and provide input on MPA nominations. MPA establishment would be based on existing processes, but the review of candidate sites would be extended to organizations or agencies with regional interests. This approach would effectively raise the level of participation in the MPAs establishment process to an ecosystem level. While the GOMC (or other organizations with regional representation) would be able to comment on a MPA proposal in an advisory capacity, the authority of governments or jurisdictions could in no way be infringed upon.

C. *Formulation of A New Process* - A new process driven by a Gulf of Maine Review Committee would be established so that candidate MPAs could formally be assessed at an ecosystem level. Membership on this committee would include a diversity of interests, but be based on representatives from existing programs. Final MPA designations would be subject to Committee approval.

In light of the problems and issues raised in this report, scenario B would be the most desirable option for creating an effective MPA establishment process in the Gulf of Maine. Under this approach, MPA programs would rely on their existing nomination/designation processes, but would send a candidate site to the GOMC (or some expanded form of it) for comment. While a body such as the GOMC could not interfere with existing processes with lengthy reviews (and possibly delay action), it could provide a research and information component that would articulate an ecosystem viewpoint. As stated above,

this procedure would effectively lift the review of a potential MPA to an ecosystem level, enabling regional concerns to be addressed. It would more formally establish a process of collaboration and participation without infringing on existing processes and authorities.

By involving the GOMC (the only body with representation from all jurisdictions in the Gulf of Maine that is focusing on the concept of MPAs) in MPA establishment processes, the concept of community is broadened and those with interests outside a local area can more easily become involved in designating specific sites. Even if ecosystem level participation is unnecessary for a particular site, some type of involvement by the GOMC would help form a better understanding of the site's overall significance to the Gulf of Maine. This scenario would also enhance communication and the sharing of information between different MPA initiatives. Participants would learn about other efforts, then apply vital information to their own programs and approaches to marine protection. In general, this scenario would solidify what is already being done on an informal basis in the Gulf of Maine.

Although the involvement of the GOMC during the establishment process would facilitate the development of a MPAs network, its current membership does not accurately reflect the Gulf of Maine community. The Council is comprised primarily of state and provincial representatives, who represent only a small segment of the larger community (e.g. harvesters, NGOs, etc.). The Council could be a catalyst for ecosystem-level consideration of MPAs, but it would need to convene a more diverse committee to represent Gulf of Maine interests more fully and accurately.

7. Conclusion

The way in which a site is established is an important consideration when developing a MPA program. A process where local communities and other interested parties are involved from the beginning has certain benefits when nominating and designating a MPA. "With involvement comes understanding, with understanding comes public support and commitment" (Kaza, 1988). Instilling a sense of local ownership over the establishment process reduces potential conflicts between user groups and promotes a sense of responsibility for protecting and managing a specific habitat. For these reasons, a "bottom-up" approach to establishing MPAs, where stakeholders play a central role in decision making, is a desirable model to adopt when one is attempting to achieve long-lasting protection of marine resources. In many instances, participation by those relying most on the resources being protected improves the likelihood of site designation and of long-lasting and enforceable protection measures.

There are numerous examples which suggest that a MPA proposal initiated by a government agency will not succeed without the participation of those who rely most on the resource being protected. It is important to consider not only whether stakeholders are involved, but how, at what level, and under what conditions. Following certain guidelines can ensure that community involvement and public participation is most effectively incorporated into the nomination/designation process. Involvement in decision making should, of course, not end at site designation. Local interests and resource users should also play an active role in the ongoing management of an established MPA.

The nature of community involvement varies from site to site. It will depend on the purpose of the MPA, the resources it contains, the type of government policy guiding the project, and the structure of the community. Before effective involvement in the establishment of MPAs can take place, it is important to define clearly the community and its characteristics. In this sense, the community may be comprised of stakeholders in a very localized area, or be characterized more broadly to include regional or geographically dispersed interests. Protecting resources that are transboundary or are significant to an entire ecosystem may require the involvement of a larger community.

A successful network of MPAs in the Gulf of Maine should emphasize an establishment process that encourages local, "bottom-up" approaches to marine protection while allowing for ecosystem-level analysis and review. Each MPA initiative should stress community involvement and local decision making, but must in some way be tied into a broader planning framework. By sending nominated sites to the GOMC (or a similar body with regional representation) for comment or input, locally driven MPA projects could be evaluated for their significance to the Gulf of Maine in addition to their specific region. In this way, an ecosystem approach to the establishment of MPAs can be achieved without altering existing laws and programs. A process based on existing MPA initiatives would prevent further complication of the administrative landscape and maintain the authority of

jurisdictions. Furthermore, such an approach would broaden the concept of community to include a wide range of interests and affected parties in the establishment process. By directly incorporating those relying most on marine resources into the decision-making process, a coherent network of MPAs can be effectively established in the Gulf of Maine.

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Appendix A: Candidate MPA Site Roster

The following sites have been proposed for marine protected area (MPA) designation in the Gulf of Maine. This roster is not exhaustive, but includes some of the major candidate areas selected by conservation organizations, government agencies, and individuals in recent years. Sites have either been officially nominated through government channels, or have grown out of informal discussions and analysis. It is important to note that each candidate MPA summarized in this appendix has a varied level of support and is at a different level of development. Some proposals may never move beyond the initial nomination stage. The roster, however, provides insight into where future MPA initiatives may take place and for what reasons.

- 1) **Name:** Hague Line Marine Protected Area
Nominating organization/individual(s): Martin Willison and Richard McGarvey, Dalhousie University
Law/program nominated under: N/A
Date of nomination: 1994
Location: 5 km on each side of the ICJ boundary (the “Hague line”) separating U.S. and Canadian Atlantic waters.
Objectives: To preserve benthic biodiversity; enhance benthic fisheries, notably scallops; provide a buffer zone to reduce encroachment of scallopers and trawlers from one nation into the waters of the other; provide untrawled bottom for benthic ecological study.
Special resources being protected: A representative cross section of benthic habitats - kelp forests inhabited by urchins and lobsters, mud flats with marine worms and snails, rocky ledges with various crustaceans, great flats rich in scallops, a water-blown sandy desert, and forests of sponges and corals in the deeper canyons.
Other Information: The Hague line proposal has received increasing support since 1994. By taking advantage of an existing regulated international boundary, it would be relatively easy to enforce regulations in the area. The proposal is of great interest to a Gulf of Maine initiative because it would involve the cooperation of two countries to protect a resource of regional value. It is unclear at this time, however, what law or program on each side of the boundary would be used to designate the protected area. Greater industry participation would be needed before this proposal proceeded further.

- 2) **Name of site:** Fundy/Maine Biosphere Reserve
Nominating organization/individual(s): U.S. and Canadian Biosphere Reserve Selection Panel
Law/program nominated under: UNESCO’s Man and Biosphere Reserve Program (MAB)
Date nominated: September, 1986
Location: Entire mouth of the Bay of Fundy from Campabello Island, NB to Brier Island, NS, and south to include Grand Manan Island, Machias Seal Island, a portion of Jeffery’s Bank, and Mt. Desert Island, ME. 700 square nautical miles.

Objectives: To protect a large area that comprises major portions of the Bay of Fundy/Gulf of Maine ecosystem; to include areas with differing degrees of human use and legal protection; to focus on the protection of areas of special interest due to their high level of biodiversity; to stress research, monitoring, and public education. The Biosphere Reserve model promotes a harmonious combination of resource use and protection through the establishment of core, buffer, and transition areas.

Special resources being protected: Regions of significant tidal mixing, marine areas of high species diversity, coniferous forests, peat bogs, mud flats, and rocky high intensity shorelines.

Other information: The Biosphere Reserve model is attractive because it includes human resource use in its scope of protection. However, the area nominated is extremely large and would require intense bilateral cooperation to designate and manage. No official actions have taken place to date since the initial nomination.

3) **Name of site:** Cape and Banks Biosphere Reserve

Nominating organization/individual(s): U.S. and Canadian Biosphere Reserve Selection Panel

Law/program nominated under: UNESCO's Man and Biosphere Reserve Program (MAB)

Date nominated: September, 1986

Location: An arc of land and water extending from Cape Cod Bay to the northern limits of the Scotian Shelf. 180,000 square nautical miles.

Objectives/purpose for protection: To protect a large area that comprises major portions of the Cape Cod Bay/Gorges Bank ecosystem; to include areas with differing degrees of human use and legal protection; to focus on the protection of areas of special interest due to their high level of biodiversity; to stress research, monitoring, and public education.

Special resources being protected: Stellwagen Bank, an inshore area of great importance to cetaceans as a feeding site, important seabird colonies in Cape Cod National Seashore and Monomoy Refuge, productive fisheries areas on Nantucket Shoals and Georges Bank, etc.

Other information: The Biosphere Reserve model is attractive because it includes human resource use in its scope of protection. However, the area nominated is extremely large and would require intense bilateral cooperation to designate and manage. No official actions have taken place on the initial nomination to date. While the site is not entirely within the Gulf of Maine, its protection/management would have impacts on the larger region.

4) **Name of sites:** Mary's Point, Shepody Bay, Chignecto NWA, Southern Bight Minas Basin Ramsar Sites.

Nominating organization: WWF Canada

Law/program nominated under: Ramsar Convention

Date nominated: September, 1997

General location: Mary's Point - head of the Bay of Fundy, NB, 40 km south of the city of Moncton (45° 44' N, 64° 45' W); Shepody Bay - Head of the Bay of Fundy,

NB, 50 km south of the city of Moncton (45° 47'N, 64° 35'W); Chignecto NWA - Cumberland Basin at the head of the Bay of Fundy, NS (45° 48'N, 64° 16'W); Southern Bight Minas Basin - southern extension of Minas Basin (45° 13'N, 64° 16'W).

Objectives: To protect wetlands of international importance, particularly as Waterfowl Habitat.

Special resources being protected: Unique or representative examples of wetlands; rare, vulnerable or endangered species or subspecies of plants and animals; substantial numbers of individual species of waterfowl indicative of wetland values, productivity or diversity.

Other relevant information: These sites have already been designated under the Convention on Wetlands of International Importance, but do not necessarily have legal protection. WWF Canada has suggested that these sites could be considered and designated as part of an Atlantic-wide network of MPAs where more stringent protection measures are employed.

5) **Name of site:** Browns Bank/Baccaro Banks

Nominating organization/individual (s): Regional working groups under the Commission on National Parks and Protected Areas (CNPPA), IUCN in cooperation with the Great Barrier Reef Marine Park Authority and the World Bank.

Law/program nominated under (if applicable): N/A

Date nominated: 1995

General location: Browns/Baccaro Bank/Sable Island area

Objective: Protection of marine biodiversity within the Browns Bank/Scotian Shelf Biogeographic Zone.

Special resources being protected: Areas of upwelling particularly important for marine mammals and seabirds; major feeding and breeding area for Northern Right Whales; major breeding population of grey and harbor seals on Sable Island.

Other relevant information: This and other sites appeared in *A Global Representative System of Marine Protected Areas, Volume I*, which was produced by the IUCN, Great Barrier Reef Marine Park Authority and the World Bank. The report was part of a worldwide inventory and analysis of existing MPAs and identification of national and regional priority areas for conserving marine biodiversity. The site is considered to be a “national and regional priority.” This site coincides with the Parks Canada Cape Sable and Offshore Upwelling proposal (see candidate site #13 in this appendix).

6) **Name of site:** Deer Island

Nominating organization/individual(s): Regional working groups under the Commission on National Parks and Protected Areas (CNPPA), IUCN in cooperation with the Great Barrier Reef Marine Park Authority and the World Bank.

Law/program nominated under: N/A

Date nominated: 1995

General location: Maine/New Brunswick border (44° 90'N, 66° 90'W)

Objective: Protection of marine biodiversity within the Acadian Biogeographic Zone.

Special resources being protected: High productivity and important concentrations of species including: harbor porpoise, fin and minke whales, Bonaparte's gulls, Arctic and common terns, phalaropes, and benthic communities.

Other relevant information: This and other sites appeared in *A Global Representative System of Marine Protected Areas, Volume 1* which was produced by the IUCN, Great Barrier Reef Marine Park Authority and the World Bank. The report was part of a worldwide inventory and analysis of existing MPAs and identification of national and regional priority areas for conserving marine biodiversity. The site is considered to be a "national priority."

7) **Name of site:** Mid-coastal Maine

Nominating organization/individual(s): Regional working groups under the Commission on National Parks and Protected Areas (CNPPA), IUCN in cooperation with the Great Barrier Reef Marine Park Authority and the World Bank.

Law/program nominated under: N/A

Date nominated: 1995

General location: Mid-coastal Maine area (43° 75'N, 69° 50'W).

Objective: Protection of marine biodiversity within the Acadian Biogeographic Zone.

Special resources being protected: Scenic fjord-like coastline with a wide diversity of marine habitats including estuarine, coastal and marine communities; high productivity evidenced by algal and kelp populations and significant fisheries; seabird and shorebird nesting and feeding areas; waterfowl wintering areas; islands that serve as gray seal haulouts; endangered species including bald eagles, humpback and right whales and shortnose sturgeons.

Other relevant information: This and other sites appeared in *A Global Representative System of Marine Protected Areas, Volume 1* which was produced by the IUCN, Great Barrier Reef Marine Park Authority and the World Bank. The report was part of a worldwide inventory and analysis of existing MPAs and identification of national and regional priority areas for conserving marine biodiversity. The site is considered to be a "national and regional priority."

8) **Name of site:** Mid-Coast Maine National Marine Sanctuary

Nominating organization: NOAA Resource Evaluation Team

Law/program nominated under: National Marine Sanctuary Program

Date nominated: Final Site Evaluation List, August, 1983

General location: Mid-Coast Maine (43° 35' to 43° 57'N, 69° 15' to 69° 50'W). The site covers 430 square nautical miles, including both State and Federal waters adjacent to the coast of Maine. Included in the site are the mouths of three major estuaries, two bays, several offshore islands, and a large inshore region.

Objectives: Protect a representative, highly productive portion of the Maine coast containing diverse habitats and biological populations; promote and coordinate research to expand scientific knowledge of marine resources; enhance public awareness and understanding of the marine environment; provide for optimum compatible public and private use of special marine areas.

Special resources being protected: Natural features including wetlands, estuaries, marshes, intertidal mud flats, subtidal granite ledges, offshore rock islands, and deep-sea habitats; biotically rich and diverse areas of macro-fauna, phyto- and zooplankton, and microalgae; fisheries, such as alewife, eel, salmon, cod, lobster, and shrimp; endangered species, such as the bald eagle; shorebird populations; unique feature, such as a bubbling freshwater spring.

Other information: Listing this site on the SEL does not mean it is a proposed sanctuary or that it will be considered as an active candidate for sanctuary designation. However, with limited exceptions, NOAA will only consider sites on the SEL for further review as active candidates for sanctuary designation. The SEL is not presently active and NOAA has no immediate plans to designate new sanctuaries.

- 9) **Name of site:** Research Conservation Zones
Nominating organization: Maine's Sea Urchin Zone Council
Law/program nominated under: By ruling of the Department of Marine Resources, 12 MRSA 6171
Date nominated: Spring, 1998
General location: Mid-coast Maine (specific sites have yet to be determined).
Objectives: To determine the behavior of an un-fished sea urchin population.
Special resources being protected: Sea urchin populations; sea urchin habitat.
Other relevant information: This site nomination has evolved over a year of Zone Council meetings and is still in the formulation stages. The designation is considered to be experimental to determine if a protected area will increase sea urchin populations and resulting commercial harvests.
- 10) **Name of site:** Port Joli
Nominating organization/individual (s): Port Joli Basin Conservation Society
Law/program nominated under: Oceans Act
Date nominated: 1996
General location: South shore of Nova Scotia, between Shelburne and Liverpool in Queens County.
Objective: Scientific research; education; protection of biodiversity.
Special resources being protected: Wide range of undisturbed coastal habitats for birds and fish.
Other relevant information: In the Fall of 1997, the Port Joli Basin Conservation Society invited fisherman, DFO, relevant government agencies, and Dalhousie University to two meetings to explore the role of a MPA designation. Consensus was reached that any future discussion or actions must originate from the community and that the project remain a community-led exercise. In particular, it was emphasized that DFO should not take any actions without the involvement and participation by all interested parties.
- 11) **Name of site:** Grand Manan Basin
Nominating organization/individual (s): DFO; other interested parties include East Coast Ecosystem and various U.S. and Canadian researchers.

Law/program nominated under: Oceans Act

Date nominated: 1998

General location: The entrance to the Bay of Fundy between Nova Scotia and New Brunswick, east of Grand Manan.

Objective: Conservation and protection of: fisheries including marine mammals, threatened species, and unique habitats.

Special resources being protected: Right whale habitat; summer habitats for humpback, fin and minke whales; major upwelling and vertical mixing areas; feeding grounds for a variety of birds and fish.

Other relevant information: The protection of right whales has received considerable media attention in recent years and has become a priority for the public. The area is designated by DFO as a Whale Sanctuary and is currently the focus for a Right Whale Recovery Plan. Due to these factors, there is great support, both within government and in the broader public arena, for designating an MPA. Despite growing support, discussion of a MPA for this region has been preliminary at most.

12) **Name of site:** Cape Sable and Offshore Upwelling National Area of Canadian Significance (NACS); also known as Roseway Basin.

Nominating organization/individual: Parks Canada

Law/program nominated under: National Parks Act, National Marine Parks Policy

Date nominated: 1992

General location: Boundaries extend offshore from port La Tour and Blanche Point southeasterly to Roseway Bank, southward along the 64° 30'W longitude to latitude 42° 50'N, then westward to longitude 65° 48'W, and north to Pubnico Point.

Objective: Protect outstanding features in the marine environment that are representative of the Scotian Shelf Region.

Special resources being protected: Persistent upwelling; high plankton and fish productivity; spawning areas for fish species and lobster; waterbird colonies; largest breeding concentration of the Piping Plover; center for North Atlantic Right Whale; 17th century fortifications and habitations.

Other relevant information: The Cape Sable and Offshore Upwelling NACS was identified by Parks Canada during a comprehensive review of the Scotian Shelf Region in an effort to identify areas to be considered for park status. The NACS was one of three candidate sites chosen, but no subsequent actions were taken by Parks Canada.

13) **Name of site:** Fundy West-Isles National Marine Park

Nominating organization/individual (s): Parks Canada; (Gulf of Maine Council Interest).

Law/program nominated under: National Parks Act

Date nominated: First nominated in 1985; reconsidered in 1991.

General location: Southwestern, New Brunswick, adjacent to Deer Island and Campobello Island.

Objective: To preserve marine areas that are representative of the region; to provide opportunities for education and tourism.

Special resources being protected: Areas of high biodiversity and productivity for all forms of life; critical feeding and breeding areas for seabirds; critical feeding and staging areas for whales; resident group of harbor porpoise; open sea habitats for herring populations.

Other relevant information: Parks Canada conducted a feasibility study in 1983 and subsequently recommended the site for park status. The proposal was halted due to strong opposition from local interests. The site was reconsidered in 1991 during which an advisory report recommended that the park be established. Parks Canada, however, decided not to move forward on the proposal at that time (for a complete description, refer to Section 4).

14) **Name of site:** Passamaquoddy Bay (see Fundy West-Isles)

Nominating organization/individual (s): International Marine Mammal Association (IMMA); (Gulf of Maine Council interest).

Law/program nominated under: Oceans Act

Date nominated: 1997 (by IMMA)

General location: Passamaquoddy region, southwestern, New Brunswick

Objective: Protection and conservation of: fisheries habitat, marine mammal habitat, endangered marine species, unique habitats, areas of high biodiversity and biological productivity.

Special resources being protected: Populations of herring; populations of the northern right whale; tidal upwellings; areas important to scientific research.

Other relevant information: Passamaquoddy Bay has been of interest for some time due to the area's species diversity and biological productivity. However, no actions are expected to be taken at this time under Canada's Oceans Act or any other legislative vehicle.

15) **Name of site:** Scallop Fishing Area 29

Nominating organization/individual (s): DFO, Ellen Kenchington and M.J. Lundy, Invertebrates Working Group (IWG).

Law/program nominated under: Fisheries Act

Date nominated: 1995

General location: Western Nova Scotia at approaches to Bay of Fundy - German Bank/Lurcher Shoal/Brier Island System.

Objective/purpose for protection: Protect and conserve important commercial fisheries.

Special resources being protected: Scallop brooding areas.

Other relevant information: Scallop Fishing Area 29 and the northern edge of German Bank below 43° 40'N has been identified in a recent study as an important scallop brooding area. The IWG recommended a 10-mile protected area through German Bank. SFA 29 and northern German Bank closure is also suggested. The idea of broodstock protection has been supported by some of the inshore scallop fleet sectors. For example, Fundy North Fisherman's Association has discussed short-term closure areas along the New Brunswick coast to protect the Mid-Bay and Grand Manan stocks.

16) **Name of site:** Lower Minas Basin

Nominating organization/individual (s): Canadian Wildlife Service

Law/program nominated under: Canada Wildlife Act

Date nominated: 1994

General location: Southern extension of Minas Bay and immediately north of the town of Wolfville, Nova Scotia.

Objective: Protection of critical bird habitat.

Special resources being protected: The largest numbers of mixed species of shoreline birds during fall migration in all of North America, including Semi-palmated Sandpiper, Semi-palmated Plover, Black-bellied Plover and Short-billed Dowitcher.

Other relevant information: Minas Basin was designated a RAMSAR site in 1987 for its wetlands of international importance. In 1988, it became part of the Bay of Fundy Hemisphere Shorebird Reserve under the Western Hemisphere Shorebird Reserve Network (WHSRN). Also, in 1977, the federal government established the Boot Island National Wildlife Area (NWA) to protect an area of key bird habitat. The area's critical bird habitat and value to scientific research make it a prime location for a protected area under the Canadian Wildlife Service. In 1994, the Canadian Wildlife Service and the Nova Scotia Department of Natural Resources drafted a management plan for the area to further protect important shorebird habitats.