

## 5.0 Case Studies

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### 5.1 San Juan County/Northwest Straits bottomfish recovery zones

Figure 3 shows the location and extent of the bottomfish recovery zones in the Northwest Straits portion of northwestern Washington State.

Figure 3. Location of bottomfish recovery zones in the Northwest Straits.



Source: ([www.co.san-juan.wa.us/mrc/ntz.html](http://www.co.san-juan.wa.us/mrc/ntz.html))

#### 5.1.1 Setting

The Northwest Straits is an area located in the northwestern corner of Washington State that covers approximately 1114 km<sup>2</sup> (430 mi<sup>2</sup>) and includes the San Juan Islands, an island archipelago that supports diverse and abundant natural resources. A world-class tourist destination, the area also supports several active fisheries, domestic and international shipping traffic, and vast recreational opportunities. Over one million people live in the area, which spans 7 counties – Whatcom, Skagit, Snohomish, Jefferson, Clallam, Island, and San Juan – and runs along the southwest border of British Columbia. Home to several federally recognized Indian tribes with U.S. Supreme Court affirmed hunting and fishing rights, the area’s resources are managed by an often confusing patchwork of tribal, federal, state and local government entities.

In 1983, acting through its authority under the 1972 Marine Protection, Research, and Sanctuaries Act (the act), NOAA identified a portion of the Northwest Straits as a potential national marine sanctuary (48 Fed. Reg. 35,568 1983). Six years later, Congress, led by Representative Mike Lowry (D. Wash.), doubled the sanctuary target area and elevated its status to “active candidate;” public scoping meetings were announced, and the formal vetting process was commenced (54 Fed. Reg. 41,481 October 10, 1989).

Located entirely in state waters, the sanctuary proposal almost immediately met with resistance. Although it received strong and sustained support from various NGOs (non-governmental organization) and some community members, the concept of a national sanctuary in the Northwest Straits never took hold with many local elected officials and community groups. As the process unfolded, opposition galvanized as the early to mid 1990s political culture shifted towards a local control, individual property rights perspective. To many, the sanctuary became yet another example of an “outside,” “top down” federal initiative designed to subjugate residents and their ability to decide for themselves how to manage local resources.

The sanctuary initiative floundered in the midst of increasingly strident opposition. Public meetings grew volatile and unproductive as vocal opponents frequently shouted down federal and state officials’ attempts to discuss the proposal. Without a clear understanding of the benefits a sanctuary designation would bring to the area, even supporters began to question the merits of the program and whether they were worth the concept’s divisiveness among community members. Indian tribes, with enormous interests at stake through their treaty rights to many of the area’s fisheries resources, largely sat on the sidelines because (1) they reportedly lacked sufficient resources to prioritize the sanctuary process over other critical issues facing the tribes, and (2) skepticism that the sanctuary would protect and further the tribes’ interests, coupled with a perception that it did not have the sufficient momentum to succeed.

The beginning of the end of the sanctuary proposal came in 1994, when all seven county commissions voted to oppose a national marine sanctuary in the Northwest Straits. Then in 1996, amidst intensive lobbying both for and against the sanctuary, Senator Patty Murray (D. Wash.) and Representative Jack Metcalf (R. Wash.) formed a bipartisan committee that developed an alternative rooted in a local, county-level approach to marine conservation. At the same time, San Juan County established bottomfish recovery zones (BRZs), voluntary measures to protect depleted bottomfish populations. Looking for guidance to San Juan County’s measures and the creation of their Marine Resources Committee – a volunteer body charged with advising the county on marine related issues – the Murray-Metcalf Commission devised a seven county, “bottoms-up,” federally-funded, voluntary program. Integrated through the coordinating leadership of the Northwest Straits Commission, and funded via a direct Congressional appropriation through the National Marine Sanctuary Program, the initiative supplanted the sanctuary concept with county-controlled, non-regulatory activities designed to “drive existing authorities to make reforms that have so far proved elusive” (Murray-Metcalf Report 1998).

The Northwest Straits Commission currently operates in its seven-county coordinating capacity and faces Congressional review and reauthorization in 2004. In April, 2004, the Northwest Straits Evaluation Panel, led by former EPA Administrator William Ruckelshaus, performed a Congressionally mandated five year review of the commission’s accomplishments. Identifying several achievements – including the mobilization of citizens, increased voluntary compliance with conservation goals, and contributions to scientific understanding of the area – the Panel unanimously recommended reauthorization of the commission for eight to ten years. The Panel also recommended a two-fold increase of federal support from roughly \$800,000 to \$1.6 million annually.

The procedural steps taken to create the bottomfish recovery zones are set out in detail in MPA Process Review (NOAA 2003).

### **5.1.2 Major themes**

Several themes emerged through discussions with dozens of individuals who participated in the Northwest Straits marine sanctuary initiative and in its metamorphosis into the establishment of BRZs and the county-led Northwest Straits Commission. Forming the basis for the lessons learned from these efforts, themes are most fully understood by first grounding them in significant factors that influenced the processes and their outcomes. These factors include the following:

- An intensely anti-federal, local control political climate
- A proposed national sanctuary located entirely in state waters
- A proposal that doubled the size of the site
- Federally recognized Indian tribal treaty rights within the area
- Unclear federal goals and several midstream leadership changes
- Local constituencies energized by a failed sanctuary effort.

Against this backdrop, and despite vastly divergent values placed on natural resources, political beliefs, and agendas with respect to the sanctuary, interviewees struck several common chords regarding why the sanctuary effort failed, and, conversely, why the BRZs are widely considered a success. These themes include (1) the importance of clear goals, (2) the appearance of a “top down” approach in a strongly independent community, (3) poor bureaucratic coordination and indecisiveness vs. quick, decisive and popular action, and (4) uncertain need for (and benefits of) a sanctuary vs. clear need for bottomfish protections. It is from these themes that the following lessons learned are derived.

### **5.1.3 Lessons learned**

#### Prepare, prepare, prepare

Several interviewees reflected a perception among participants that federal and state officials charged with responsibility over the sanctuary effort did not have a firm understanding of the affected communities or the local challenges they faced. For some, this underscored the fear that ill-informed “outsiders” were attempting to push an agenda on communities they had no connection to or stake in. Exacerbating these perceptions was the fact that little was done to integrate the process or its state or federal participants into the affected communities. Instead, officials would arrive in communities for public meetings and then immediately leave, or hold meetings in areas, such as Seattle, that sent unintended signals to rural communities that this was a concept invented by urban environmentalists who wanted to “lock up” natural resources simply for their existence value. While the sanctuary office stationed a manager and staff member in NOAA’s Seattle office, their presence did little to counter impressions in affected communities that federal officials were out of sync with local perspectives and concerns.

Perceptions that federal and state officials did not appreciate the depth of local concerns were formed early in the sanctuary process and plagued it throughout. While any proposal of this sort will generate some level of controversy among local residents, far more advance preparation could have been done to minimize the impact of this natural tension. For example, rather than going into the sanctuary process to learn more about perceived resource-related problems and how a sanctuary might address those problems, intensive research should have been done ahead of time so that problems and their potential solutions were understood as much as possible before the first public meeting was held.

Another aspect of preparation is the establishment of a presence in significant local communities. In the Northwest Straits, Friday Harbor, a town on the island of San Juan, was the source of most of the news, both myth and fact, that informed community members about the sanctuary. But rather than make efforts to connect to the community and gain trust, federal and state officials held public meetings and then left, leaving pregnant pauses in the process to be filled by people’s greatest fears. At least one interviewee suggested that opening an office in Friday Harbor would have gone a long way to building trust and inspiring more grass roots support for the initiative. Perhaps the intensity of the anti-federal sentiment would have overwhelmed any effort to establish credibility among local residents, but the lack of a local presence clearly fed the perception, among some, of a top down, “outsider” driven agenda.

The establishment of bottomfish recovery zones in San Juan County, of course, benefited greatly from the years of work that went into the failed sanctuary effort. Not only were the county commissioners who

adopted the measure intimately connected to the affected communities, they also witnessed the public's reaction to the sanctuary and understood what was politically feasible. Moreover, the sanctuary process gathered into one place considerable information about the status and location of important resources in the area, an effort which proved valuable to planning efforts that followed. While largely anecdotal, the commissioners had credible information regarding bottomfish populations and, not coincidentally, broad support for the action. San Juan County was well prepared to act swiftly to protect areas through voluntary measures.

#### Develop and communicate concrete goals

It is telling that the only interviewees who said they understood the goals of a sanctuary designation in the Northwest Straits were the state and federal officials charged with articulating them to the public. Not even enthusiastic sanctuary proponents – whose support appeared to be based on vague desires to bring more attention and potential funding to the area – were able to clearly state what a sanctuary designation would mean for the region. Indeed, the most common criticism (and the most common theory as to why a sanctuary failed to materialize) is that the process lacked a clear statement of goals. According to many, the lack of goals, the lack of a clear vision to capture imaginations and galvanize support, resulted in an “information vacuum” that was filled by those who opposed the sanctuary.

The issue of goals and objectives goes deeper than merely articulating the aspirations of a sanctuary designation process. Clear goals give shape and definition to an otherwise amorphous concept. They allow people to respond and react, to ask pointed questions and work to fashion a proposal into something that will garner support within the affected communities. In this context, several interviewees mentioned a “straw” proposal that was not offered during the sanctuary process, as a tool that could have brought much needed focus to discussions. Without something concrete, the process degenerated into parade of horrors detailing what local residents feared most from a designation: the end of commercial and recreational fishing; the closing of favorite anchorages; the federalization of a place where local communities take great pride in their self-determined lives.

The lack of clearly communicated goals also affected how federal and state officials responded to people's concerns and questions about the impacts of a sanctuary designation. According to many participants, there was little follow-up when questions were asked, especially those related to the scope or practical implications of a sanctuary. Again, without direct answers to questions regarding how a designation would affect the daily lives of individuals who live and work in the area, the sanctuary concept was effectively defined by those already predisposed to oppose it.

The BRZ effort, on the other hand, benefited from clear goals. First, San Juan County – motivated by the outside pressures of the sanctuary initiative – sought to demonstrate that it could, through locally driven efforts, act to protect bottomfish populations without federal or state “top down” involvement. The county also established a clear goal of working to ensure that whatever measures they put into place received broad support, including support from those who opposed the sanctuary. Although several interviewees expressed concern that the goal of popular support came at the expense of the most effective resource protective measures, in terms of the county's goal of politically viable, swift action that demonstrated a deep local commitment to take bold steps, the measures were clearly successful.

#### Ensure interagency coordination

Interviewees both within and outside government agencies pointed to the lack of effective coordination throughout the sanctuary effort, both among state agencies and between state and federal efforts. This lack of coordination, they felt, was a significant factor in why the process never seemed to gain steady momentum. From the outside, the lack of coordination appeared sloppy at best, and at worst reflected a perceived governmental ambivalence regarding an increasingly controversial proposal. Detecting

vulnerability, opponents reported exploiting this lack of unity while supporters of the sanctuary frequently felt out on a limb, with government officials doing little to help them counter growing opposition.

According to government interviewees, outside perceptions were not entirely off base. Federal officials reported being frustrated by mixed signals and an apparent lack of enthusiasm among some state agencies, and frequently experienced delays and lapses in communication around critical issues. For example, questions regarding the legal impact of the sanctuary being located entirely in state waters festered for months within state legal offices. Without guidance or agreed upon policies on this front, federal officials reported being hamstrung when communicating with communities about the proposal. In addition, several state agencies with significant roles in coastal resource management seemed to have diametrically opposing views on the merits of a sanctuary in state waters. This confusing situation hampered effective federal-state collaboration.

The lesson learned here is the importance of active and sustained coordination among state, federal and other agencies charged with shepherding a sanctuary proposal through its public review process. Critical issues must be defined and quickly resolved so that government officials can, as much as possible, respond to community concerns with one voice. Protocols should be in place to address inter and intragovernmental disagreements when they arise, long before they threaten to bog down a process or undermine public confidence in a government-led initiative. Federal and state officials must work in concert to develop a synchronized approach that seeks to energize local bottom-up passion and ownership over the process and its outcome.

The complexities and significance of effective coordination in multi-agency, multi-government efforts stands in stark relief to the county-led effort. Acting virtually alone, the county's establishment of BRZs was not bogged down by endless coordinating efforts with other public agencies. At the same time, however, some Indian tribal representatives maintain the county members sometimes overlook the fact that matters are not as simple as the county would like to believe. While the county's Marine Resource Committee attempts to include tribes and has a representative from one tribe with interests in the area, several other tribes, possessing treaty rights to hunt and fish that are viewed by U.S. courts as the "supreme law of the land," have for the most part elected to stay clear of the MRC for fear that their participation might result in a legal or de facto diminishment of their federal rights. The county is not a legally recognized manager of resources, many tribal and state officials point out, and as such is not an appropriate forum for management activities to occur.

The lesson here is that coordination among public entities, including Indian tribes, must be shaped with a nuanced understanding of the legal and political context within which MPA efforts are playing out. At the county level, where tribes and non-Indian local governments live in the same place but are in many ways distant neighbors, much more could be done to bridge historical gaps and distrust by searching for common ground from which to act. The tribes, through their recently adopted Tribal Policy Statement on Marine Protected Areas, Marine Reserves, Marine Sanctuaries, and Fishery Conservation Zones (June 26, 2003), have established a framework to guide effective coordination in a manner that is consistent with established law and respectful of tribal prerogatives. Working within this framework, perhaps San Juan County and tribes affected by the BRZs and other county initiatives can more effectively coordinate their efforts and work together towards achieving common resource-based goals.

#### Sustain the momentum

A number of interviewees, especially those engaged in the process from the beginning, expressed concern that the sanctuary initiative appeared to follow an on again, off again schedule. As a result, some said, momentum was frequently lost, and the concept developed a reputation for unpredictably "popping up" after sitting dormant for long periods of time. This pattern not only fed the perception that federal and state officials were not serious about a sanctuary, it also allowed opponents of the proposal to fill the

information void with their own anti-sanctuary agenda. This was especially the case when fundamental questions, such as the project's exact geographic scope or practical, day-to-day implications for local residents, went unanswered and lingered indefinitely.

The BRZ measures, by way of contract, were taken swiftly, over the course of just a few months. And where the frequently stalled sanctuary effort fed the stereotype of a lumbering federal government initiative, the county-led initiative, striking while the iron was hot from the fallout of the failing sanctuary, underscored the perception that local government can act with relative lightening speed and lean efficiency.

#### Manage disagreements

Major government actions affecting natural resources often ignite deeply held, value-laden passions that must be considered and accommodated to avoid polarization. In the Northwest Straits, the process followed a very common pattern: early reactions to a somewhat vague sanctuary proposal quickly divided stakeholders into two basic camps, those opposed and those in favor of a sanctuary designation. According to participants, however, discussions rarely went beyond this positional posturing because little effort was made to identify common ground from which to build consensus. Instead, public meetings focused on basic reviews of the sanctuary process and requests for public input, a structure that failed to inspire constructive, solution-oriented dialogue regarding the state of the area's resources. Over time, positions hardened and opportunities for such dialogue diminished, even as information was gathered to support a common understanding of challenges to resources that might be addressed by a sanctuary designation.

A more constructive approach would have been to design a process to seek a common understanding of the challenges facing the area's resources and the ways in which those challenges were not being met by existing management practices. Several interviewees expressed concern that a sanctuary seemed a "solution without a clearly defined problem," a perception that left many unable to articulate a sound reason to support the initiative.

In the subsequent BRZ effort, philosophical disagreements over the effectiveness of voluntary measures took a back seat to the desire to quickly put something into place. This, of course, is an example of how stakeholders often put differences aside when confronted with a perceived common threat (here, the threat of outside control). And as often happens, now that the threat of a sanctuary is (largely) forgotten, differences are again arising over the efficacy of voluntary vs. mandatory measures. But because trust is largely intact from years of working together, because all participants take great pride in their ability to do things themselves, and because the structure and relationships and credible information are in place, the San Juan County groups are poised to manage and even resolve these and other differences as efficiently and gracefully as possible.

#### Provide sustained leadership

Another major critique of the sanctuary vetting process was that it lacked clear, consistent, committed, and decisive leadership. While leadership comes in many shapes and sizes, in the Northwest Straits context there were two areas where leadership was absent. First, with the exception of early political leadership from Representative Lowry that jump-started the process, the process lacked high-level public leadership from state or federal elected or appointed officials. Perhaps because of the growing controversy surrounding the initiative, several interviewees suggested that the sanctuary became a political "hot potato" that high-ranking officials were reluctant to support, either politically or fiscally. But without such support the initiative floundered in the wake of active grass roots opposition.

The proposal also seemed to lack effective leadership at the process level. Here, leadership was required to manage disagreements and add a neutral third party to facilitate a consensus-based approach. Federal

and state officials attempted to play this role, but their claims of neutrality – that they were neither “for nor against” a sanctuary designation – were not trusted by most participants. And while they did their best under difficult circumstances, they were not generally trained in the art and skill of process design and facilitation of large-scale, potentially volatile public initiatives.

#### **5.1.4 Conclusion**

By all interviewees’ accounts the effort to designate the Northwest Straits a national marine sanctuary was a resounding failure. Not only did the designation fail, the process also fueled antigovernment flames and became an issue that divided communities and strained relationships. But while the effects of the effort still echo through the region, like most failures, the initiative and its fallout have inspired some success, at least from a policy and political perspective: the San Juan County BRZs and other county-led programs now in place. With the notable exception of several tribes whose federal rights make them uncomfortable with local resource management, most would say that things are better now because of increased focus brought to resource issues by sanctuary designation efforts.

Whatever the measure of success, however, much can be learned from the almost decade long attempt to establish a sanctuary in the Northwest Straits and its transformation into the Northwest Straits Commission and grassroots county initiatives. Some are obvious – determine ahead of time what problem a sanctuary is designed to address; establish clear goals and straw proposals; exercise effective leadership at the political and process levels – and some are not so obvious, such as the need to transform a distant, federal initiative into a locally-driven effort that inspires broad-based grassroots support. With these lessons in hand, perhaps future processes will achieve more effective, less divisive means of evaluating sanctuary designations.

### **5.2 California Marine Life Protection Act**

See Figure 1 for the general location of this case study. Detailed maps are not provided because the draft MPA network has removed from consideration for the moment. The draft network included a large number of proposed areas along the length of the entire California coast.

#### **5.2.1 Setting**

The current effort to develop an extensive network of MPAs in California state waters was mandated by a specific piece of legislation, Assembly Bill 993 (Shelley), also termed the Marine Life Protection Act (MLPA), introduced in February 1999 and chaptered in October 1999. The language is now included in Chapter 10.5 of the California Fish and Game Code, Sections 2850 to 2863. The bill was sponsored (and largely drafted) by the Natural Resources Defense Council, and supported strongly by conservation, diving, scientific and educational groups. The MLPA was motivated in part by two precipitating events. The first was the release of a California Sea Grant report in 1997 that critiqued the existing system of MPAs in California state waters, concluding it was haphazard and in need of reorganization. The second, which occurred at about the same time, was the shut down of all commercial and recreational fishing in southern California for all six abalone species, following the collapse of these stocks. The scientific and policy discussions surrounding this event suggested that, in addition to improved management, a backup plan, in the form of protected areas, could be useful, particularly for sedentary species like abalone.

The MLPA’s goal is to improve the array of MPAs in the state. However, wording within the act itself contributed to competing interpretations, among different stakeholder groups, about the outcome(s) the act was intended to accomplish. For example, Section 2851(h) states, “...it is necessary to modify the existing collection of MPAs to ensure that they are designed and managed according to clear, conservation-based goals and guidelines...”. Section 2853 states the need to “reexamine and redesign California’s MPA system...” and goes on to define a broad set of goals for the state (e.g., protect biodiversity, the integrity of marine ecosystem, natural heritage). While the act gives the Department of Fish and Game the authority to both implement new MPAs and remove existing ones, it does not

explicitly state that a significantly expanded, statewide network of MPAs should be established. The act also specified that a master plan team should be established to work closely with a range of stakeholder representatives to produce a draft proposal for a new MPA plan.

Following passage of the law, the California Department of Fish and Game (CDFG) empaneled a master plan team, made up of eight marine scientists from academia as well as state and federal resource agencies. The master plan team met periodically for a period of approximately 18 months to develop a draft proposal describing a network of MPAs of various types in state waters, distributed from Oregon in the north to Mexico in the south. It is important to note that, while the act states that the master plan team should work closely with stakeholder representatives, the team worked in relative isolation during the preliminary planning phase until a set of draft MPA proposals was made available on maps. The decision by the CDFG to take this approach set the stage for much of what followed.

The maps summarizing the draft proposal were met with a virtual firestorm of protest from a wide range of stakeholder groups. In a series of meetings throughout the state in late 2001, CDFG staff heard heated comments about the process used to develop the maps as well as detailed criticisms of the design of the MPA network itself. Comments on the process focused primarily on the fact that the scientists worked in virtual isolation from stakeholder groups and without their input. Criticisms of the design focused on the fact that it did not take advantage of detailed site-specific information held by stakeholders about habitat type and distribution or about patterns of recreational and commercial resource use. Even subsequent good-faith efforts to consult with stakeholders and to incorporate their perspectives into the proposed MPAs were overshadowed by the widespread concern over the apparently 'top down' agency process.

In response to these reactions from resource users, as well as to input from conservation groups involved in advocacy for MPAs, the CDFG regrouped and retracted the draft proposal. At the same time, collective action by key stakeholder groups induced the Legislature to extend the implementation timeline, giving the department additional time to develop a modified process. The department in early 2002 then constituted a set of regional stakeholder groups charged with developing MPA networks through a participatory stakeholder process. At present, this process has been suspended due to funding constraints and it is not clear whether or how the regional stakeholder groups will use the potentially useful scientific information collected and organized by the original master plan team. However, participants in the revamped process have stated that, because of the more direct stakeholder involvement, it was proceeding much more smoothly than the department's initial effort.

### **5.2.2 Major themes**

The working out of a legislation-driven MPA designation process in a complex and large-scale policy environment is a major theme of the MLPA case study. The act described desired outcomes in very general terms and was drafted with input from only a segment of potentially affected user groups. A second important theme is that the state agency with responsibility for implementing the act was operating under severe limitations, both in terms of its inherent capacity for managing a complex stakeholder process and the funds available for staffing and support. One aspect of this second theme is that a traditional fish and game agency may face institutional challenges to implementing place-based conservation as an alternative means of achieving management objectives. These two themes contributed to a third key theme, which was the way in which science input in this process engendered intense conflict rather than resolving important design issues. Finally, this case study illustrates how an agency, given time and additional resources, learned from initial difficulties and was able to develop a potentially more productive stakeholder process.



### **5.2.3 Lessons learned**

#### Excluding stakeholders creates resistance and conflict

The master plan team of marine scientists that produced the first set of draft proposals worked in isolation from stakeholders. Their task was not widely publicized and many stakeholder groups throughout the state were only vaguely aware of the master plan team's work. As a result, the publication of the initial draft proposal led to nearly universal feelings of shock and betrayal among key stakeholder groups, especially commercial fisherman. It would be hard to overstate the intensity of this response, which was magnified by the fact that resource user groups had not been consulted during the drafting of the MLPA itself. Fish and Game staff and master plan team members who attended the first set of local meetings following the release of the draft proposal describe this as the most difficult public process they had ever been involved in. While more effective communication between the department and stakeholder groups gradually resumed, all parties acknowledge that the residue of suspicion and bitterness was long lasting.

#### Excluding stakeholders leads to flawed MPA designs

Because the planning process was designed such that the master plan team of marine scientists met alone, they could not avail themselves of detailed information held by stakeholder groups. The master plan team made a good faith effort to gather and assimilate readily available information. However, in multiple meetings held between members of the master plan team and stakeholder groups after the release of the draft proposal, it became clear that the size and placement of MPAs were often based on generalizations and assumptions that were not always accurate. For example, proposed sites did not reflect finer-scale information about patterns of recreational and commercial fishing that could have helped minimize economic impacts while still meeting resource protection goals. As another example, because of the plan team's working assumption that similar habitats had similar populations of fish, proposed sites missed opportunities to maximize potential for recovery and minimize economic impacts. The discussions at these meetings made clear that, as the next point describes, scientists should not be asked to craft MPA designs in isolation from stakeholders.

#### Scientists should not be sequestered

The makeup of the master plan team and the approach it took to developing the initial draft proposal was based on CDFG managers' desire to jumpstart effective stakeholder involvement by presenting a set of maps that could serve as the focus of review, comment, and design. This situation was very different from the role scientists played in the Channel Islands process, where the science panel was tasked with developing overall guidelines that framed the design work of the stakeholder group. However, when scientists are separated from other stakeholders in a context where the product they produce will potentially have direct impacts on other stakeholders, several predictable consequences result. First, as the previous lesson describes, the product can be flawed, lessening the credibility of the process as a whole. Second, awareness that scientists are working alone and out of view can trigger a perception that this is an elitist process, amplifying stakeholders' complaint that their knowledge has been devalued, thus obstructing collaboration. Third, exclusion often leads to anger and resentment which can obscure the value that does exist in the product of the scientists' work. A process with a separate scientific planning team might have worked if the team had been charged with developing a strictly ecological preliminary design, all stakeholders had understood the planning team's role, and there had been a clearly defined process for involving stakeholders in the next steps. However, even this approach would still have failed to incorporate stakeholders' ecological knowledge (see previous lesson).

#### Maps by themselves can provoke conflict

The draft maps produced by the master plan team were released by the department of Fish and Game with little or no preparation of the audience of stakeholder groups. The process by which the maps were created was not sufficiently explained, nor was the fact that the department considered the maps as a starting point for discussion and revision. Instead, all too predictably, stakeholders reacted to the maps as something that was being done to them, as opposed to something they were being asked to participate in.

The fact that the maps clearly did not reflect stakeholders' detailed knowledge of many of the proposed MPA areas merely amplified this perception. Where maps are developed collaboratively, as occurred in the Tortugas and Channel Islands processes, they can contribute to trust building and provide an effective framework for productive negotiation. Where they are developed out of view and presented without adequate preparation, they produce the opposite.

#### Process experts should be involved in process design and implementation

The reaction of stakeholder groups made it clear to many participants that process design experts should have been consulted from the very beginning of the process. In hindsight, Department of Fish and Game staff point out that training as a biologist does not prepare someone to deal with complex and potentially contentious stakeholder processes. Thus, managers appear to have overestimated the capacity of the department to successfully design and administer the necessary planning, consultation, and negotiation activities required by the MLPA. To some extent, a tight budget for the process may have made it easier for managers to assume that department staff could handle the process of soliciting, organizing, and responding to stakeholders' comments and then incorporating these into a revised set of maps. From a strictly technical perspective, this was probably true. However, department staff now acknowledge that professional facilitators would have greatly improved the process by helping to avoid pitfalls and to more quickly reopen productive channels of communication with stakeholders. To their credit, department of Fish and Game managers recognized their lack of expertise and hired professional facilitators to run the second round of meetings with stakeholder groups. By all reports, these meetings were proceeding relatively well before they were suspended due to budget constraints.

#### Be willing to be flexible

The MLPA process is an excellent illustration of the value of flexibility. After the first round of disastrous statewide stakeholder meetings, the Department of Fish and Game pulled back and regrouped. Based on their own first-hand experience and input from key stakeholder groups (primarily conservation groups, commercial fishermen, and ports), the department pulled the original set of maps off the table, redesigned the process, and retained skilled facilitators. Department staff recognized that relationships had been damaged and worked hard to rebuild them. The importance of the department's acknowledgement of the problem should not be minimized. It can often be difficult for institutions, as well as individuals, to publicly admit to problems, recognize the need for policy changes, and then commit to a new approach. The fact that the department did so, even while receiving substantial criticism, was seen by some parties as admirable, although others saw it as a sign of weakness in the face of controversy. In any event, the department's willingness to reassess methods while still pursuing the goals of the MLPA appears to have been a productive strategy. The master plan team also made a substantial contribution to the department's ability to shift direction. Several plan team members (all of whom had volunteered their time from the beginning of the process) attended multiple meetings with stakeholder groups to solicit their input and reopen lines of communication. Without that effort at bridge building, the department's efforts alone may not have been effective. It is important to note, however, that any future role for the master plan team at this point is uncertain. There is little funding to support their continued participation and no formal commitment to use the information they developed.

#### Goals should be clearly and consistently articulated

The goals of the MLPA process were insufficiently explicit in two ways. First, the language in the legislation is somewhat ambiguous. It clearly mentions the need for reorganizing the existing set of MPAs in state waters but is much less clear about the creation of new MPAs. This provided one basis for criticism of and resistance to the process once the draft proposal was released and stakeholder groups obtained their first view of the proposed network of new MPAs. Second, the MLPA refers to both biodiversity conservation and fishery related goals, but does not explain how these are to be implemented and balanced or traded off against each other. While it is not unusual for legislation to leave such details to implementing regulations and/or policies, the Department of Fish and Game did not take control of the

message regarding the specific goals of the MLPA and the network of MPAs. As one example, after the release of the original draft maps, scientists on the master plan team explained in local meetings that the focus of the MPA network was subtidal rocky reef habitats, a focus that stakeholder groups were not widely aware of. As another example, discussion about the goals and merits of the MPA network was often dominated by advocacy groups on one side or another of the issue, while the CDFG's voice was drowned out. The department's lack of message control, combined with the incompletely specified goals, resulted in the relationship between conservation and fisheries goals becoming confused in public discussion and advocacy.

#### Acquiring site-specific information from fisherman can be challenging

While it was clear that master plan team's design efforts could have benefited significantly from detailed site-specific input from resource users, especially fishermen, obtaining such information can be difficult. Many fishermen were quite forthcoming in the various sets of meetings related to the MLPA process, and readily shared information about the specific locations of fishing areas, the distribution and behavior of fish populations, and the relationship between ocean conditions and fish distribution and abundance. However, significant numbers of fisherman are typically extremely reluctant to share such knowledge, for a number of reasons. Fishermen are deeply concerned that such information can be used against them. A frequently voiced suspicion was that information about the location of high quality fishing areas would simply be used to site MPAs that would put these areas off limits to fishing. Another concern is that, where detailed information is not widely known among fishermen, sharing such information in a public process can be a competitive disadvantage. Finally, there is a widespread perception among fishermen that their knowledge is considered, by conservation advocates, scientists, and fisheries managers, to be less valuable or trustworthy than scientists' knowledge. And, in fact, the process by which the master plan team produced the first draft proposal tended to reinforce this perception. As in all complex situations, these concerns were neither all true nor all false, but they did color many fishermen's perceptions and influence their behavior.

#### **5.2.4 Conclusion**

The stakeholder process derived from the MLPA is widely considered to have been a failure in its initial phase but to have set the stage for a potentially more successful outcome in its second phase. The primary proximate causes for the high level of conflict that marked the first phase, following the release of the draft proposal, were:

- The ambiguous nature of the proposed network's goals,
- The exclusion of stakeholders from the master plan team,
- The release of the draft proposal maps without adequate preparation, and
- The absence of trained facilitators and process experts.

These proximate causes stemmed from an underlying set of ultimate causes, primary among them:

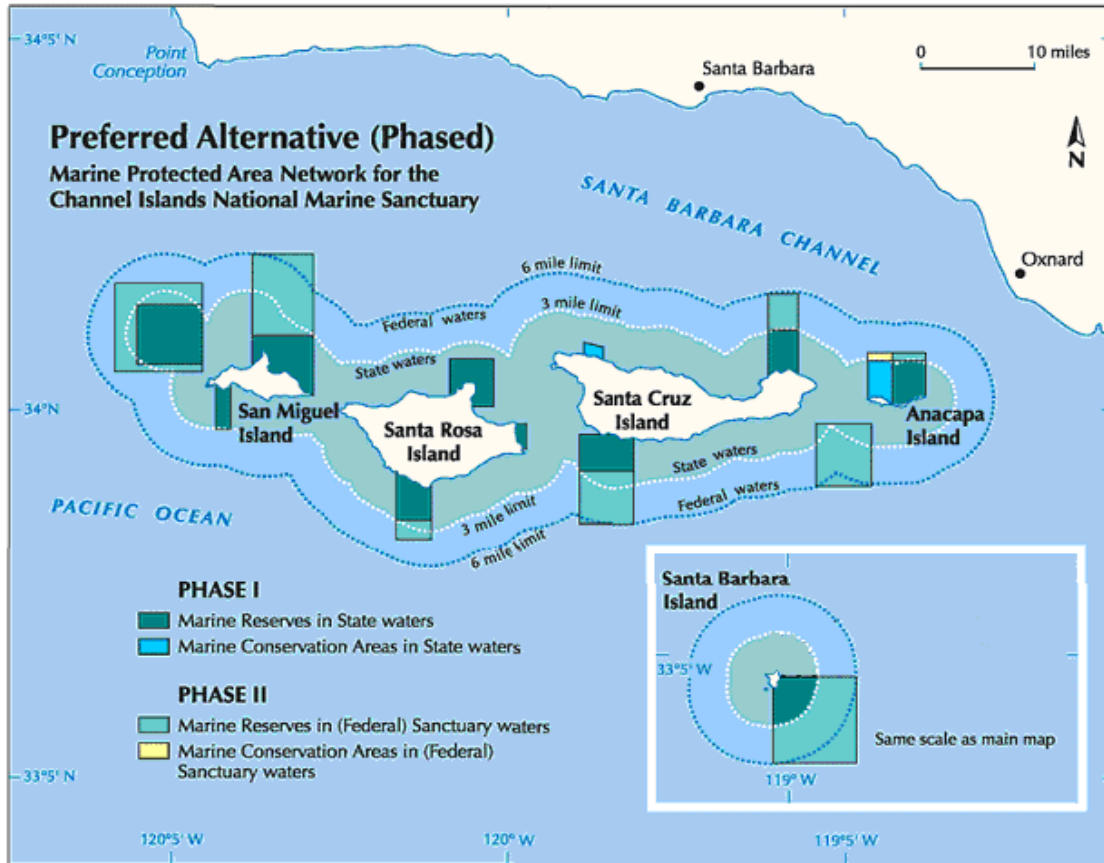
- The short timeframe imposed by the MLPA,
- The mismatch between the institutional capacity of the Department of Fish and Game and the needs of the situation,
- The larger context of adversarial relationships between fishermen and many conservation advocates, and
- Inadequate funding for the department's efforts.

While the MLPA process may yet produce its desired result, namely an integrated and well-designed network of MPAs in state waters, the path it has taken to date has been full of conflict, some of which may have been unavoidable. A key lesson to draw from this is the importance of attention to the human dynamics side of stakeholder processes.

### 5.3 Channel Islands Marine Reserves

Figure 4 shows the location and extent of the marine reserves in state waters off the coast of southern California.

Figure 4. Location of marine reserves around the Channel Islands in southern California.



Source: ([www.dfg.ca.gov/mrd/channel\\_islands](http://www.dfg.ca.gov/mrd/channel_islands))

#### 5.3.1 Setting

The Channel Islands are a chain of islands off the coast of southern California that are home to both the Channel Islands National Park and the Channel Islands National Marine Sanctuary. The islands provide extensive recreational opportunities (e.g., sportfishing, sightseeing) to a large urban population and are also fished commercially for a wide range of species. In addition, the islands are near major transit lanes for shipping in and out of the Ports of Los Angeles and Long Beach, as well as to military training and weapons testing activities at U.S. Navy facilities at Port Hueneme and Point Mugu. The marine resources of the Islands and their adjacent waters are managed by a variety of state and federal jurisdictions, many of which overlap, including the California Department of Fish and Game, the California State Lands Commission, the National Marine Sanctuary Program, the National Parks Service, the National Marine Fisheries Service, and the U.S. Coast Guard.

The effort to designate MPAs in the Channel Islands followed a complex path. It was initiated in 1998 by a group of recreational fishermen who approached the California Fish and Game Commission, concerned about potential overutilization of fish stocks around the islands. They submitted a proposal to close 20 percent of a one-mile (1.6 km) wide zone surrounding the northern Channel Islands to all fishing. After

failing to interest the commission in this initial proposal, they solicited the support of the Channel Islands Marine Resources Restoration Committee, a group of recreational fishermen and other citizens from southern California, as well as the Channel Islands National Park. When informed by the commission that a federal agency (i.e., the National Park Service) did not have jurisdiction over resource use in state waters (a judgment based on a 1978 U. S. Supreme Court decision related to the Submerged Lands Act), the Park Service then joined with the CDFG, recreational fishermen, and conservation groups to resubmit the original proposal to the Fish and Game Commission.

Finally, in late summer of 1999, the commission charged the CDFG to determine how to address the proposal for a no-take reserve. At the next commission meeting, Patty Wolf, a CDFG manager, and Ed Cassano, the Superintendent of the Channel Islands National Marine Sanctuary, proposed a structure for a multi-stakeholder public process that became the Marine Reserves Working Group (MRWG). The process included a multi-stakeholder group, the MRWG, supported by a Science Advisory Panel and a Socioeconomic Advisory Panel. The process envisioned the MRWG making a recommendation on reserves to the Sanctuary Advisory Council, which would then use this as the basis of their recommendation to the sanctuary and the CDFG. These two agencies would then make their recommendation on a preferred alternative to the Fish and Game Commission, which had the authority to make a final decision about implementation in state waters. The development of reserves in state and federal waters was split into two separate processes because of differences in jurisdiction in state and federal waters (the process for federal waters is not yet complete).

It is important to note that the Fish and Game Commission did not provide the MRWG with clear goals or objectives, but rather a very general charge to examine the proposed no-take zone. The MRWG thus spent its first several meetings determining their goals and objectives. While several objectives were agreed on, three tended to dominate subsequent discussion and negotiation about reserve design:

- Protect ecosystem biodiversity
- Maintain long-term socioeconomic viability
- Achieve sustainable fisheries.

(These are shortened versions of the objectives. For the complete statement of objectives, see MPA Process Review (NOAA 2003.))

The MRWG process took place against a backdrop of increased concerns about the status of west coast fish stocks, especially the rockfish complex, and growing interest in and advocacy for the use of no-take MPAs as conservation and fishery management tools. While it came close, the MRWG did not reach complete consensus on a reserve design. However, the alternatives the MRWG developed helped form the basis for the CDFG's and the sanctuary's recommendation to the Fish and Game Commission for a network of reserves in state waters. These were approved and implemented in 2002 and a formal planning process is currently underway to designate a complementary set of reserves in federal waters. However, the Ventura County Commercial Fishermen's Association has filed suit against the California Fish and Game Commission challenging the legitimacy of the reserves in state waters on procedural grounds related to the California Environmental Quality Act (CEQA), as well as statutory and constitutional grounds. In brief, the CEQA claim identifies several points, such as failure to adequately address mitigating negative consequences of the reserve; the statutory claim identifies procedural failures, and the constitutional claim argues that the agency does not have authority to restrict fishing in the manner it did.

The procedural steps taken to create the Channel Islands marine reserves are set out in detail in MPA Process Review (NOAA 2003).

### **5.3.2 Major themes**

The search for consensus among stakeholders in the MRWG process is a major theme of the Channel Islands case study. The attempt to reach consensus was complicated by the concentration of resource use by many user groups within a small area, as well as by the complexity of the institutional setting, which involved multiple state and federal agencies. In particular, a federal agency (the sanctuary) was acting in an advisory role to a state body (Fish and Game Commission) with ultimate decision-making authority for final approval of any proposed reserves. Secondary themes in this case included the high potential for conflict, which stemmed from the lack of “wiggle room” in the relatively small area, and the way in which science advice set the boundary conditions within which the MRWG members negotiated for consensus.

### **5.3.3 Lessons learned**

#### Allocate adequate time for up-front assessment, planning, and goal setting

The original charge to the MRWG to consider the use of marine reserves was somewhat vague and did not provide explicit guidance. However, many MRWG members interpreted this wording to mean that a decision about whether or not to implement reserves had not yet been made and that it was therefore possible the MRWG could decide not to implement reserves. Over time, this goal shifted to a focus on determining where reserves should be placed and how large they should be. While there was general agreement among our sources that the basic goal had shifted, there was no such agreement about how, when, or exactly why this occurred. Some believed the science panel’s conclusion that 35 – 50% of the state waters around the Islands should be protected was instrumental, but others simply expressed puzzlement. This percentage approach was based on estimates of what percentage of fish spawning biomass should be protected to ensure sustainable yields, assuming no effective fisheries management outside reserve boundaries. This approach, and its embedded assumptions, was criticized by fisheries scientists external to the MRWG process, contributing to the skepticism among many stakeholders about the scientific recommendation. Whatever the case, several MRWG members felt the MRWG’s decision-making role had been eroded or usurped, in part because the original charge from the Fish and Game Commission and the MRWG’s own statement of goals had been so vague.

The relationships between the MRWG and its two advisory panels (socioeconomic and science) were quite different and were not clearly defined at the outset (see following). The science panel actually framed the constraints (the percentage of area to be set aside) within which the MRWG found itself operating. To some extent this may have limited the MRWG’s ability to consider incremental approaches that did not immediately meet the science panel’s criterion. The socioeconomic panel, in contrast, did not set boundary conditions but instead developed economic data on fisheries and non-consumptive uses around the Islands and helped create tools to analyze the economic impacts of alternative reserve designs. While it is often useful for the roles of the parties to a planning process to evolve naturally over time, no evidence was found that roles in the Channel Islands process were explicitly considered, evaluated, and adjusted along the way.

#### Provide for ample communication with involved scientists

While much of the discussion about stakeholder planning processes refers to the role of science, the role of scientists themselves, where they fit in the organizational structure and how they communicate with others in the planning process, is also important. The Channel Islands process, in contrast to that in the Tortugas, established a distinct science panel that met separately from the MRWG. Contacts expressed a wide variety of perceptions and opinions on the role and functionality of the science panel. These spanned the range from it was an effective, science-driven process, though it answered questions the MRWG did not ask, to it reflected the viewpoint of a few strong advocates of reserves. This range of opinions reflects, in part, the relatively limited opportunity for communication between the MRWG and the science panel. Most such communication occurred through a single contact point. There were thus very few instances in which MRWG and science panel members met jointly to clarify questions and probe the basis for and

implications of scientific advice, which, over time, contributed to concerns among some stakeholder groups about the nature of the information exchange with the MRWG.

The science panel met separately from the MRWG, by design, in order to enable the scientists to conduct vigorous and highly technical discussions without the need to slow down and explain the issues to laypersons. This benefit was counterbalanced by the perception of many outside the science panel that they were being actively excluded from these discussions.

#### Package key assumptions with science advice

Especially where the science recommendations play a dominant role and where they are developed in a process separate from the stakeholder group, the key assumptions underlying the recommendations should be made explicitly clear and shared widely. This occurred to some extent in written materials developed by the science panel. However, the limited opportunities for MRWG members to interact directly with the science panel restricted the MRWG's ability to probe these assumptions more vigorously. As a result, the science advice became, for all intents and purposes, one-dimensional, i.e., achieve the 35 – 50% set aside goal. The MRWG therefore lost opportunities to develop additional, potentially useful design scenarios. For example, the history of the process through its own minutes and the recollections of participants shows that the MRWG never explicitly examined the implications of relaxing the science panel's simplifying assumption that there was no effective fisheries management outside the proposed reserves.

#### Build experimental evaluation into MPA design

There are three distinct issues related to the evaluation of MPA designs and performance. The first is whether the design properly applies current scientific knowledge to the performance goals in order to maximize chances of success. The second is whether there is adequate monitoring of actual performance, for example, in terms of biodiversity or spawning biomass within the MPA or of fishery yield outside the boundary. The third is the extent to which the management system can adjust MPA design over time as monitoring information becomes available.

In the Channel Islands process, there was no formal examination of the science panel's recommendations during the period when the recommendations were strongly influencing the MRWG's goal setting. Neither these recommendations nor the design itself attempted to explicitly create experimental situations that would, over the course of time, allow for testing key expectations about reserve performance on both conservation and fisheries goals. The size and location of individual reserve areas were left to negotiation among MRWG members, as long as the basic scientific constraints (i.e., percentage of area, representation of habitats) were met. While this allowed for maximum flexibility in dealing with the socioeconomic impacts and other interests of the MRWG members, it also represented a lost opportunity for the reserves to act as a real-world adaptive management experiment. Statements by several MRWG members, as well as the broader literature on environmental monitoring and much of the published discussion on MPAs, emphasize the importance of truly experimental monitoring designs that incorporates key comparisons and controls. Finally, there were no specific features in the longer-term management plan that described how an adaptive management process might operate.

#### Consider outcomes other than consensus

Because of their desire to reach consensus, the MRWG members, at the outset of their work, agreed to a groundrule stating that no single member would hold veto power. Instead, a member would be obliged to suggest an alternative to a proposal he or she objected to or else resign. However, this groundrule proved difficult to consistently enforce, and the MRWG process did not achieve the desired consensus when a key stakeholder group declined to agree to the reserve design supported by the other MRWG members. While a representative of this stakeholder group maintains that there was simply not enough time to resolve their concerns about the placement of closed areas, other MRWG members perceived their

objections as gaming behavior and complained that the key groundrule was not enforced to the degree it should have been. Thus, while consensus is widely considered to be an ideal goal, MRWG members and experts in decision processes pointed out that a goal of consensus can be exceptionally difficult to achieve, can lengthen the process significantly, and opens the door to several kinds of potentially destructive gaming behavior. Thus, alternative endpoints (e.g., majority, super-majority) should be explicitly considered.

#### Clarify dual roles and avoid where possible

The convening agency should think carefully about whether it should also act as a voting stakeholder. In the Channel Islands, these sanctuary convened and staffed the process and was ultimately responsible for providing recommendations to the Fish and Game Commission. However, the sanctuary superintendent also had a voting seat on the MRWG. This led to a perceived conflict of interest, and some stakeholders drew the conclusion that the sanctuary had a particular outcome in mind from the beginning and was working to achieve that by manipulating the process. The sanctuary's dual role led to further resentment among some sectors when, subsequent to the MRWG's failure to reach consensus, the sanctuary then developed a set of recommendations and forwarded them to the Fish and Game Commission. While this was well within the scope of the original agreement between the commission and the sanctuary, the sanctuary's participation as an active member of the MRWG had created an impression among some participants that it was deferring completely to the MRWG process. Thus, when the MRWG did not reach consensus and the sanctuary reverted to its alternate role, some participants felt betrayed. One key participant suggested that the sanctuary should have more frequently reminded MRWG members that it would take on its other role if the MRWG process did not produce a consensus recommendation.

#### Build maps collaboratively

Maps can be a useful and constructive tool for exploring alternate scenarios, especially if they can be created and manipulated directly by stakeholders. The sanctuary developed a GIS mapping tool, populated with actual data on habitats, the distribution of fishing effort, and the economic value of catch in different areas around the Islands. This tool was used by different stakeholder groups to generate additional alternatives in an attempt, late in the process, to bridge gaps between different positions on the MRWG. All the participant groups agreed that this mapping tool was useful, although, in this case, participants primarily talked about the value of the maps as a negotiating tool. They were willing to actively use it for this purpose because the underlying data had been identified and developed through a transparent and collaborative process. However, while the participants agreed they learned a lot through the process of developing the data needed for the maps, only a few referred specifically to this process as having helped to improve trust among the MRWG members and their constituencies.

#### Include the fisheries management system

Whenever an ocean area is set aside from extractive uses, for whatever purpose, there are potential impacts on recreational and commercial fishing activities. This case study emphasizes the importance of integrating reserve design with the fisheries management system. The fact that the analyses underlying the reserve design did not account for existing fisheries management regulations, including other extensive closures, ended up amplifying resistance and undermining the credibility of the reserve design with fishermen, the Pacific Fisheries Management Council, and the state and federal fisheries agencies. Some science panel members explained the general exclusion of fisheries management policies from their analyses by pointing out that catch limits and closures implemented by fisheries management agencies (both state and federal) were not permanent and could be revoked at any time. In response, some MRWG members pointed out that accounting for these policies in some way could have provided the "slack" needed to develop and consider phased or adaptive reserve designs that might could have improved the chances for consensus. Especially where a key goal is to promote sustainable fisheries, it is vitally important to include fisheries management and stock assessment expertise in the relevant working groups and to ensure that fisheries management agencies, who will be responsible in whole or in part for



implementing policies regarding fishing, are fully involved and committed to the process. This was particularly true in the Channel Islands case, where the reserve designation process in state waters was to be followed closely by a parallel process in federal waters, in which NMFS and the Pacific Fishery Management Council would play a central role.

#### Implement monitoring simultaneously with the reserve

Monitoring is crucial for determining if reserves are achieving their expected outcomes and, from a technical perspective, such information is clearly needed for adapting and improving reserve designs. In addition, from the perspective of stakeholder processes, monitoring is essential for assuring stakeholders that the economic sacrifices they are willing to make are ultimately worthwhile. In the Channel Islands, the recreational and commercial fishing stakeholder groups were asked to accept significant losses of near-term income in order to implement the reserves. There was an implied compact in much of the information put forward to support implementation, i.e., that setting aside areas now would lead to “more fish in the future.” While there were several mechanisms suggested for how this might occur (e.g., larval export, spillover of adult fish), neither the functioning of these mechanisms nor the degree to which they in fact would improve stocks have been documented in the Channel Islands or fully validated in the broader scientific literature. In hindsight, some contacts in conservation organizations stated that the potential fishery benefits of the reserves were probably oversold. Thus, fishing constituencies were intent on the use of monitoring to assess reserve performance and many fishermen have expressed bitterness over the fact that an effective monitoring program was not put into place at the time the reserves were implemented. While the Channel Islands National Park has conducted a long-term monitoring program in the nearshore zone around the Islands, this has not included the fishery stocks of interest to recreational and commercial fishermen. After the reserves were established, the CDFG and the CINMS held a workshop to design a comprehensive monitoring program. Both agencies are moving toward implementing the resulting program now.

#### Consider the long term, both past and future

This case extends back at least to 1978, when a U.S. Supreme Court decision gave the state the authority, under the federal Submerged Lands Act, to manage the seabed out to three miles. This was the reason the original impetus for reserve planning originated with the California Fish and Game Commission, and why the final decision about implementing reserves in state waters was made by the commission. In addition, events have continued to move forward since the designation of reserves in state waters in 2002. For example, planning is underway to design a complementary set of marine reserves in the federal waters portion of the CINMS, there are ongoing efforts to find funding for monitoring, local fishermen have both filed suit against the Fish and Game Commission and organized collaborative and community-based data gathering and management initiatives, and new efforts have begun to better integrate reserves science and fisheries management. Thus, while the designation of reserves in state waters is a significant event, it remains a solution in flux in a dynamic scientific, social, and policy context. It is part of an ongoing process that can have unpredictable outcomes or side effects, as well as unintended consequences. It is therefore difficult to judge, within the somewhat arbitrary temporal boundaries of a given stakeholder process, the relative degree of success or failure, or even what success and failure mean and to whom.

#### **5.3.4 Conclusion**

The stakeholder process in the Channel Islands is considered both a success and a failure, depending on which stakeholder group one talks to and on what criteria are used in the evaluation. The following sets of statements summarize these divergent perceptions; while each statement reflects the “success” or “failure” point of view, no statement is either true or false in an absolute sense.

It is considered a success because it:

- Ultimately led to the implementation of a network of reserves,
- Developed new approaches for applying reserve theory to reserve design,

- Used science advice as the basis for the MRWG’s design negotiations,
- Used concrete economic data from stakeholders to estimate the economic effects of alternative reserve designs, and
- Created a mapping tool that helped stakeholders evaluate the biological and economic implications of multiple design scenarios.

It is considered a failure because it:

- Did not adequately consider the complex set of roles and relationships involved in the process,
- Did not reach consensus on a single design alternative,
- Changed goals without the full agreement of all stakeholders,
- Used fishery benefits arguments without fully exploring the full range of fisheries science issues,
- Was driven by science advice that was interpreted as an inflexible goal,
- Limited communication between the MRWG and the science panel, and
- Did not implement an effective monitoring program.

Thus, one important conclusion from the Channel Islands stakeholder process is that identifying consensus as the single criterion of a successful process can promote unrealistic expectations, provide an opportunity for what can be perceived as gaming behavior, and leave the process without the ability to capture the progress toward agreement that has been made.

#### **5.4 Gulf of Mexico grouper closures**

Figure 5 shows the location of the two grouper closures in the Gulf of Mexico off the coast of Florida.

Figure 5. The location of grouper closures in the Gulf of Mexico.



- A: Swanson and Madison site;**
- B: Steamboat Lumps**

Source: ([www.research.fsu.edu/researchr/2000/abstracts/images/gulf.jpg](http://www.research.fsu.edu/researchr/2000/abstracts/images/gulf.jpg))

### 5.4.1 Setting

Gag grouper are among the most economically important fish in the Gulf of Mexico, targeted by both commercial and recreational fishermen. Gag grouper live in sea grass beds as juveniles and on coral and rocky reefs as adults. Two noteworthy characteristics of gag grouper are their spawning aggregations and their change from female to male over the course of their lifetimes. Spawning aggregations occur at the same sites year after year, and can attract thousands of fish. Fishermen have long been aware of this behavior, and have often capitalized on it, catching their quota over a relatively small area. These characteristics make gag grouper particularly vulnerable to fishing, and in 1998 the National Marine Fisheries Service reported the species was approaching an overfished condition. This status triggered a requirement for action to prevent overfishing.

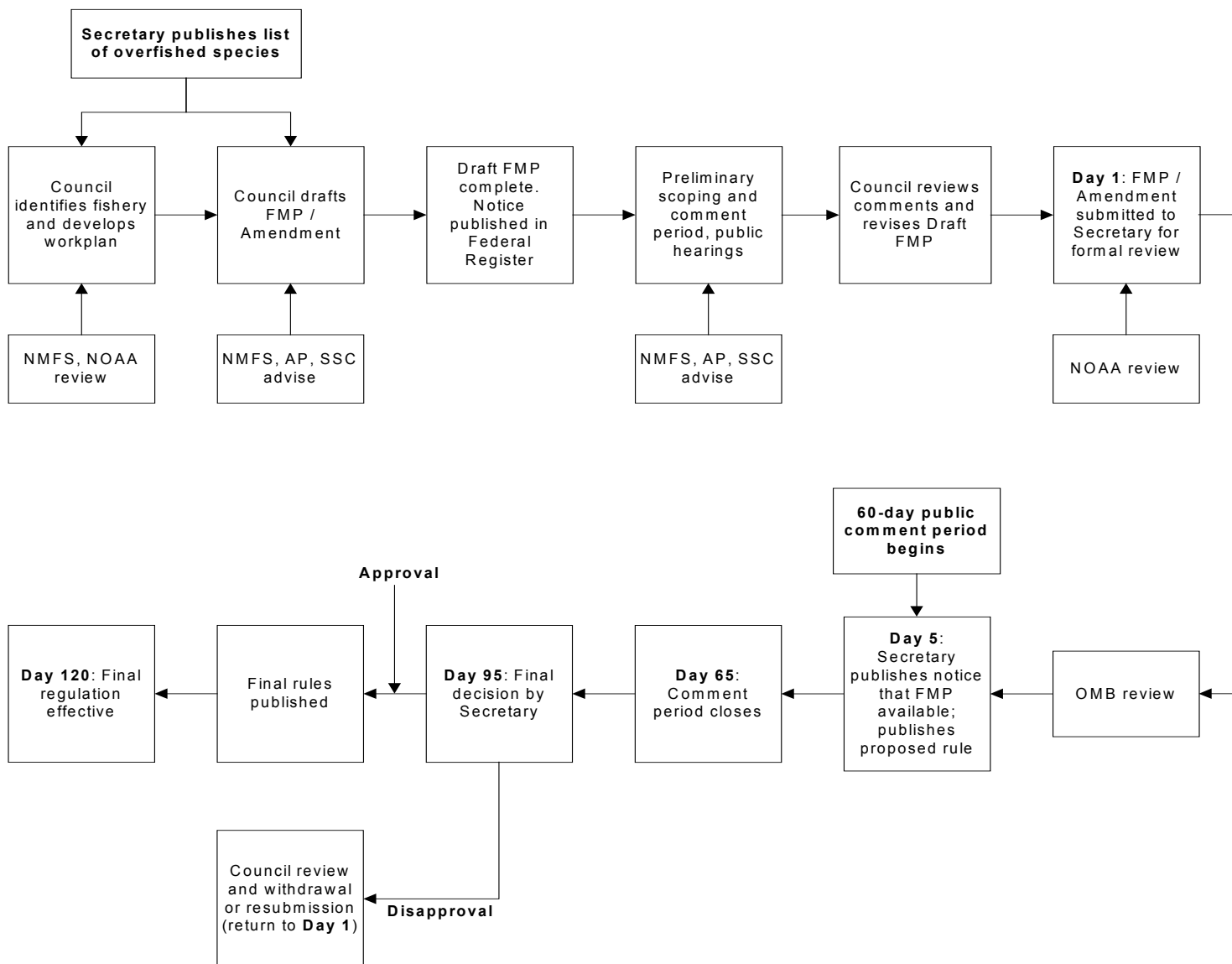
In early 1999, environmental advocates asked the Gulf of Mexico Fishery Management Council to consider protection for spawning aggregation sites, in addition to other management measures the council was considering. Advocates claimed that gag, like other groupers and snappers, came together at identified sites in the Gulf for spawning, and that these sites were targets of intense fishing pressure from both commercial and recreational sectors. The council had already begun consideration of numerous other measures in response to the status designation and an overall decline in the gag population. Proposals included changes in the total allowable catch, minimum size limits, reduction in the recreational bag limit, closures during peak spawning, and closures at aggregation sites. Proponents of closed areas argued that catching adult fish at an aggregation site before they have a chance to spawn would make it more difficult to prevent overfishing, or to rebuild an overfished stock.

Florida State University scientists had conducted long-term studies on several Gulf of Mexico species showing that extensive fishing pressure had caused changes in the ratio of male gag to female gag at aggregation sites. The council had already acted to protect mutton snapper spawning aggregations at Riley's Hump near the Dry Tortugas, and was about to launch a series of public workshops to discuss whether marine reserves would be useful as a fishery management tool in federal waters of the Gulf of Mexico.

Gag grouper are included in a fishery management plan covering all reef fish in the Gulf of Mexico. The plan was first adopted in 1984 and amended numerous times thereafter. The prescribed process for amending a federal fishery management plan is set out in regulation at 50 CFR 600, Part D, and is further explained in guidelines developed by the National Marine Fisheries Service and provided to all fishery management councils. A brief summary of the process is shown in Figure 6. In the gag grouper process in 1999 – 2000, the Gulf Council was proposing a regulatory amendment, rather than a fishery management plan amendment. Regulatory amendments are aimed at amending specific regulations rather than fishery management plans, and are allowed when addressing new information, but still consistent with the overall FMP. This is the process the Gulf Council was using to change the rules relating to gag grouper after it was designated as approaching an overfished condition. Although regulatory amendments can be completed in a shorter time than amending a fishery management plan, they still require adherence to rulemaking procedure. Comment periods are shorter, agency review periods are shorter, and in some cases, certain steps can be waived. The guidelines for the process of a regulatory amendment are set out in Appendix C.

The procedural steps taken to create the Gulf of Mexico grouper closures are set out in detail in MPA Process Review (NOAA 2003).

Figure 6. Graphical overview of the process for amending federal fishery management plans.



After the first presentation of proposed gag grouper measures in January 1999, which included possible area or seasonal closures, the council in March proposed closing one large contiguous area of 1451.5 km<sup>2</sup> (560.4 mi<sup>2</sup>) to reef fishing to protect gag grouper. The recommendation was the result of discussions in the council's science committees that focused on both fish behavior at aggregation sites and overfishing concerns. Initial discussion centered on whether experimental closed aggregation sites could protect male gag grouper. Subsequent consideration brought in concerns about the overfished condition of gag grouper, and centered on seasonal closures to reduce landings. The six contiguous rectangular blocks were cut back from eight potential reserve sites the council had considered, some covering as much as 1868 km<sup>2</sup> (721 mi<sup>2</sup>). The evolution of the closures over time and the perceptions of participants of their purpose, demonstrate the confusion that can arise when objectives are fluid. A council member directly involved in the proposal said the goal of the closures was for information-gathering purposes. A council news release claimed the proposed closures were to protect spawning aggregations. Recreational interests thought the closures were targeted only at commercial longliners. At some point in the process, each of these observations was correct.

The proposal was modified to merge the separate blocks, and at the recommendation of enforcement officers, all fishing—not just commercial longlining—was to be banned. Voting on the proposed amendment was put off from a May meeting until July. Battles on scientific and political fronts heated up over the summer as commercial and recreational fishermen joined forces to lobby against the closures and attack the scientific information on grouper aggregations. By the time the council took up the proposal in July, a council proponent of the measure was denied a second term, the council refused to consider nearly 500 letters and faxes in support of the closure<sup>1</sup>, and the only sites left on the table were two spots—Madison-Swanson and Steamboat Lumps—totaling 682 km<sup>2</sup> (263 mi<sup>2</sup>)—about half what scientists recommended was necessary to protect gag grouper, and what one council member described as “marginal” for protecting gag grouper. They also put a four-year sunset provision on the closure, and applied it to all fishing, not just bottom fishing. Recreational fishermen were angered that the closure applied to them, and eventually sued.<sup>2</sup> Conservation advocates were pleased that the council created a reserve at all, but called the closed areas too small to do any good. By the time the final rule was implemented in June of 2000, new stock assessments indicated not only gag, but also black and red grouper, were overfished and “the commercial season was under way with no protection for the fish during the time they might replenish.”

The procedural steps leading to eventual designation of the Madison-Swanson and Steamboat Lumps area closures are set out in detail in MPA Process Review (NOAA 2003).

#### **5.4.2 Major themes**

When an MPA is considered for a fishery management purpose, such as rebuilding an overfished stock or protecting a vulnerable portion of a population from overfishing, the same interest group considerations and pressures arise as would in consideration of conventional management strategies. What are the potential gear group or fishing sector conflicts? What sectors will be closed out of the fishery? Will there

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<sup>1</sup> Several conservation groups that advocated the closures requested their members to support the action with letters and faxes to the council. Rather than provide copies of all the correspondence, council staff provided members with only one copy of similar, faxed letters and a notation of the number of similar letters received. At its July 1999 meeting, the council declined to consider the submissions. Subsequently the groups requested the council to adopt a standard procedure by which it would consider faxed and emailed comments.

<sup>2</sup> The recreational interests argued that closure to fishing for highly migratory species was unfair and was not related to protection of the deepwater gag grouper. A settlement agreement between the Coastal Conservation Association and NMFS allowed anglers to troll for highly migratory species (HMS, billfish, sharks, tunas) and required NOAA Fisheries to undertake a research project to investigate the potential impacts of recreational trolling on other, deeper water species.

be a benefit in the mid to long term and has it been demonstrated to user groups to their satisfaction? In the case of the grouper closures, the major themes were ones that are familiar in fishery management decision making:

- Scientific evidence of a problem was presented, but not thoroughly accepted by Council decision makers or user groups
- Proponents of a new idea got too far out in front of conventional practice
- One or more gear groups felt they were unfairly affected by the proposal and opposed it
- When the council process was not going their way, participants stepped outside it and used political tools.

### **5.4.3 Lessons learned**

#### Consider using processes that are already part of fishery management

The regional fishery management councils use numerous mechanisms to engage stakeholders in their decision making.<sup>3</sup> First, councils are by law made up of stakeholders. In addition to voting membership on a council, stakeholders may participate in advisory panels, scientific and statistical committees, and other committees the council may convene for specific purposes. Further, the process by which councils develop and amend fishery management plans or recommend changes in the regulations that implement such plans, encourage stakeholder participation at public hearings, in notice and comment rulemaking and other participation requirements are set out in the Magnuson-Stevens Fishery Management Act (16 USC 1801, Pub. L. 94-265 Oct. 11, 1996) regulations, rules of administrative procedure, guidelines and operating procedures promulgated by the National Marine Fisheries Service and the councils themselves. All these procedures encourage and safeguard the voice of stakeholders in fishery management decisions, thus providing a ready-made framework for addressing MPA planning.

The Gulf Council had been thinking about marine reserves and their application to fishery management well before the warning about the status change in the gag grouper population. They convened a special ad hoc Marine Reserves Scientific and Statistical Committee (SSC), made up predominantly of scientists, in 1998. (See MPA Process Review (NOAA 2003) for details on the results of this committee's work.) This was in addition to the advisory panel and scientific and statistical committees on reef fish, which also had examined closed areas in relation to specific reef species under management. The ad hoc committee, although not directly involved in the gag grouper closure process, did organize a series of workshops on the use of marine reserves as a fishery management tool, and contributed to the discussion of the addition of Riley's Hump to the Tortugas reserve system (see Tortugas case study). The Council did have a history of using area closures in other management efforts, but often it was gear specific (and sometimes to avoid gear conflicts) or to protect very fragile habitat such as coral reefs. No-take marine reserves were not regularly used and had not previously been embraced by the majority of stakeholders. The process for considering marine reserves for gag and other grouper followed the normal regulatory amendment process of the Council.

Environmental group participants in the grouper closure process reported that it was somewhat of a surprise that marine reserves were considered as a management tool for gag at the time of the regulatory amendment, even though for several years there had been reports and concerns about the practice of fishing on spawning aggregations. In contrast, user group participants in the gag grouper deliberations seemed to think that there was a gradual lead-up to the notion, and by the time it was proposed by one of the advisory panel members, the idea was recognized as a viable strategy to address the decline in the stock, even if it did not garner enthusiastic support. "The closures were driven by the Stock Assessment

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<sup>3</sup> It should be noted here that "decisions" at the council are recommendations to the Secretary of Commerce (NOAA Fisheries), who is the decision maker with authority to issue regulations and approve fishery management plans or amendments thereto. The councils, although they "decide" on proposals, are by law advisory to the Secretary.

Panel recommendation. If the council did not go to a closed area, there were going to be other restrictions. It was driven by the stock assessment and the scientific and statistical committee's recommendation that there should be one."

#### Scientific uncertainty is a double-edged sword

Although the earliest formulation of the purpose of the grouper closed area was to investigate scientific questions, scientific uncertainty can also be used as a basis for fighting or delaying an MPA process. Upon closer examination, there was general agreement among scientists, managers, fishermen and advocates that fishing on spawning sites was risky, there was not a clear commitment about whether closed areas were the way to address the overfishing status of the overall gag grouper population or the decline in the proportion of males to less than 10 percent of the population. Members of the council's SSC viewed the closure proposal as a means to explore several unanswered questions. It was anticipated to be a short-term experiment, not a permanent reserve. From this perspective, closing the areas would allow the council to look at three questions:

- Do males stay on the aggregation sites year round? If so, this is a bad thing because the females leave?
- If you close the spawning sites year round, can you recover the sex ratio (*i.e.* build up the proportion of males)?
- If the proportion of males declines, does that mean that females miss spawning opportunities?

Conservation advocates, on the other hand, were convinced that studies on other species that formed spawning aggregations were sufficient evidence on which to proceed to close the grouper spawning sites. They saw the closures as a conservation measure that would protect spawning and contribute to rebuilding.

The science underlying the decision to close the gag spawning areas became a point of contention and challenges to it were used as a delaying tactic to put off the vote on the closed areas. A university scientist upon whose research the sites had been chosen was pitted against a scientist hired by fishing groups opposed to the closures. The two debated in front of an audience at a public workshop. One participant observed that "scientific disagreements occur in every field and can be productive, but allowing the comments of a single dissenting scientist to derail or delay needed management measures was not justified. The information had been published in peer reviewed journals and reviewed by the stock assessment panel."

Upon closer examination, it seems that opponents of the reserve were trying to stake out political ground through the science. Scientific disputes are commonplace in fishery management, especially when interpretation of stock assessment or abundance data means the difference between fishing or not fishing in an area. However, in contrast to cases of comparable disagreement, the council's own SSC was not used as the venue to discuss and argue about the science. They had already looked at the evidence and recommended the closure, and the council accepted and voted on their recommendation. But objections from the minority on the council generated enough momentum to persuade the council to revisit its decision. The claims of the minority had not only to do with "best available science," but with fairness and equity in distribution of socioeconomic impact of the closures. When stakes get this high, no amount of process is likely to prevent an attack on science.

#### Clearly defining objectives may be difficult if circumstances evolve

Different sets of actors in the gag grouper closures had different objectives. As policy changed based on pressure from stakeholder groups, opposition arose to new objectives (stop overfishing) where there had been none to the original proposed scientific investigation into male gag behavior.

The Council's goal—prevent overfishing on gag—was clear from the start, but the means of getting there varied among the SSC, council members, environmental advocates and user groups. Although it was not a foregone conclusion that reserves for grouper would be designated, it was clear that some type of management action was needed to prevent overfishing, particularly of gag and scamp. Once the marine reserve proposal was put forth, the questions on the table were: where, how large, how long, and closed to whom?

As in most resource management disputes, the devil is in the details. The initial proposal to close the area just to commercial bottom fishing was met with opposition unless recreational fishing was prohibited also. Recreational fishermen who were initially in support of the closures when they didn't think their troll fisheries would be affected now became opposed. Although it was not the intent of the council to close the area to surface trolling, enforcement experts made what one member described as a "compelling case" to close the area to all fishing for ease of enforcement. The recreational fishing community felt defrauded by this action and claimed the council was losing sight of the main management goal.

Further complicating the decision to close the area to all fishing was the fact that the council did not have management jurisdiction to regulate fishing for highly migratory species, one of the main activities by recreational users in the proposed areas. This legal reality gave credibility to threats of litigation by recreational interests, and contributed to the council decision to revisit its decision on the closure.

The Council initially voted for one large closure then revoked it at a subsequent meeting because one stakeholder group (commercial fishing) rallied very hard. Many participants considered this susceptibility to political pressure a large fault with the process, which in their view lacked a plan for building agreement among affected parties. The original area (double the size of the existing separate closed areas) was likely more inclusive of the better spawning sites. Now, in retrospect, some feel (including scientists) that at least one of the existing closed areas is not in the right location. As originally envisioned, the closure covered a variety of areas, including some that may now be considered 'better' for the species. A second stakeholder group (recreational fishing) resorted to a lawsuit against NOAA Fisheries because they felt the restrictions on trolling and other recreational fishing was not justified by the science nor enforcement needs. The way the Council came to its decision, at the end of a process, not early on, has further polarized this recreational fishing organization and tainted their attitude toward all marine reserves in the region (including the Tortugas Ecological Reserve.)

#### New tools may require new processes for consideration

Although fishery management processes, whether plan development or regulatory, do have public involvement aspects built in, they are not necessarily analogous to the kind of longer-term, consensus building processes used in some MPA designations. Once the process gets started, there are deadlines and timetables within which decisions must be made. Moreover, public participation (once a proposal is out of an advisory panel and into the council for decision) is in the style of providing comments at a public hearing, or submitting written comments to the council. Ultimately, the voting members—who may be representing a particular gear or interest group—make a choice, and the majority rules. This is in stark contrast to the Tortugas process, which provided a lengthy time period for affected interests to negotiate.

Participants in the gag grouper case used many critical words to describe what they did not like about the process: "haphazard," "fraudulent," "back room," "ill-behaved," "back pedaling," and "fumbling." These words came from commercial fishermen, recreational fishermen, conservation advocates, council members, and scientists. Some suggested that earlier involvement of all the affected parties, a clearer description of what was being proposed, and a mechanism for stakeholders to help develop the proposal rather than just react to it, would all have helped.



Even though all these critics had experienced wins and losses in the council allocation and TAC-setting process over the years, the action on the grouper closures seemed particularly offensive, even though it followed what was normal council procedure—with the possible exception of the vote reconsideration. Process managers may want to consider that participants are accustomed to the adversarial nature of rulemaking and accompanying debate over conventional measures such as allocation disputes. In contrast, the open-ended options for site designations and similar choices in MPA development require longer-term participation and willingness to stay with the process. As such, the positive experience of the participatory process might deserve more attention for no-take reserves than for the application of other management tools. It is also possible that because many of the participants also experienced the Tortugas 2000 process, they were making comparisons and looking for procedural steps such as facilitation, collaborative information gathering or map making, and mediation. It is noteworthy that the outcome of the Tortugas process was able to withstand a last-minute challenge by one interest group.

Instead of working with the competing interests, or using conflict resolution strategies such as mediation, negotiation or facilitation, the council sent all the stakeholders into a side room to “hash it out.” The questions posed were ‘where does it go’ and ‘what makes sense.’ No one facilitated the discussion, and participants reported angry exchanges and near walkouts, though this turmoil led to a bit of progress. This may have been an instance where facilitation or ground rules or appointment of an ad hoc committee would have contributed to a better experience for participants. More importantly, at this stage, there were affected stakeholders who were not only not “in the room,” they were not engaged in the process yet. In the end, the failure to incorporate these views led to a successful challenge, and council decisions were not just attacked, but revisited and changed.

#### Watch for opportunities for collaborative data collection

One positive outcome of the gag grouper closures was the attention to the importance of scientific monitoring. In a subsequent amendment to the Reef Fish Management Plan, not only were the closures continued but the council is conducting studies to determine if the original three scientific questions are answerable. Several research projects have been supported and are allowing scientists to address these questions. In a recent article reviewing these and other Gulf of Mexico closures, scientists writing in Fisheries Magazine note they found few MPA regulations that called for performance evaluation as a condition of implementation. They point out that monitoring is essential to assess whether management measures are effective or need to adapt to new information (Coleman et al. 2004).

More importantly, particularly from the perspective of the participants, the research efforts are encouraging fishermen to work with scientists and have generated positive interaction. From the start, interactions between scientists and fishermen were important. Scientists knew where to look for aggregations based on fishermen’s knowledge. If fishermen had not shared their knowledge, scientists would never have determined where aggregations were occurring, and what type of behavioral interactions were taking place.

Finally, establishing partnerships to collect information and monitor the condition of the MPA once designated can cement support for a site, or at a minimum defuse opposition. Successful methods for designing cooperative data collection projects between fishermen and government agencies have been reviewed by Bernstein and Iudicello (NFCC 2003) and the National Research Council (NAS 2003). Opportunities process managers can watch for include:

- Identifying partners (institutional and non-governmental) and their roles within the proposed area
- Potential for cooperative research or data collection before or after MPA designation processes
- Voluntary monitoring and data collection, or use of fishermen (or other stakeholders) in cooperative data collection projects can contribute to support of the designation as well as provide information for monitoring and evaluation.

#### **5.4.4. Conclusion**

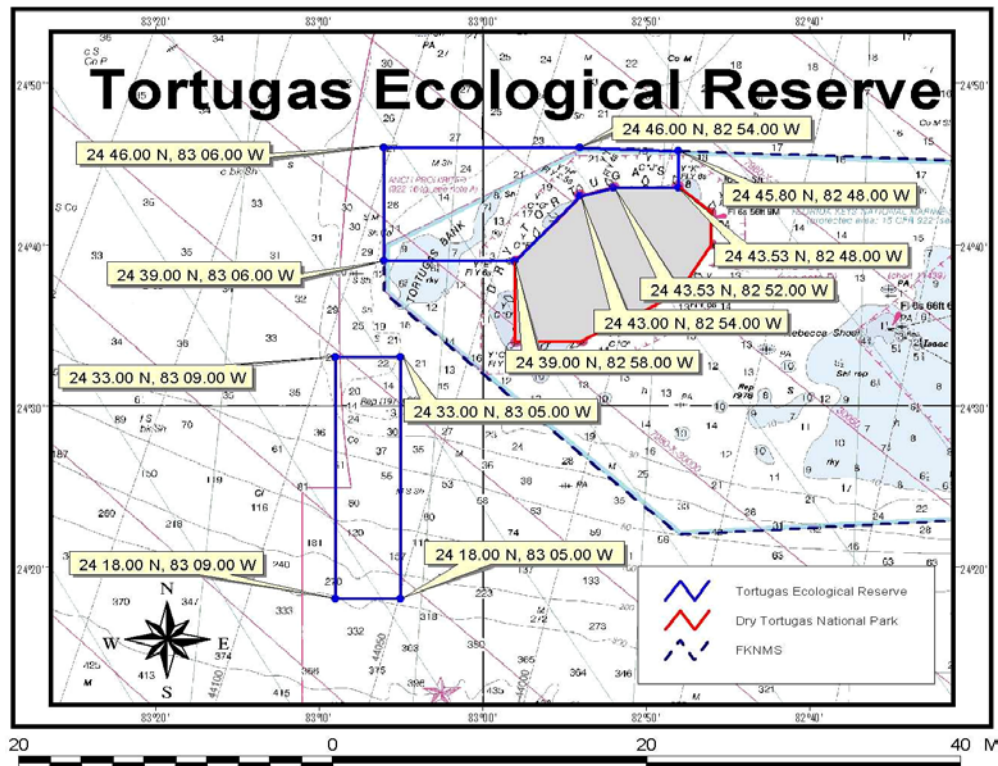
The designation and implementation of the Madison-Swanson and Steamboat Lumps marine reserves for groupers followed the normal amendment process that the Council uses. However, this process, often driven by regulatory calendars and timetables, can be unsatisfactory to many. Although it was a proactive move to consider the potential use of a marine reserves as a management tool for some groupers in response to populations approaching an overfished status, it was not necessarily deliberate or planned. There was a lack of consideration of how to deal with the potential controversy that the proposal might elicit, and not all affected interests were brought into the process at the beginning. As each successive stakeholder group became aware of the effects that modifications in the closure proposals would have on their activities, the process was jolted by a whole new set of players, objectives and tactics.

The Council process is contentious on many fishery regulatory issues, not just creation of marine protected areas. It is a process that operates on its own statutory timetables, involves a lot of “pushing and pulling,” and is politicized. Many stakeholders believe that behind-the-scenes discussions and deal making often occur and that their input is often disregarded. But while these criticisms are made of the councils in general, and arise during every reauthorization of the Magnuson-Stevens Act, there are a few approaches and tactics that could be employed to improve in MPA discussions even if the fundamental nature and structure of the council process remains the same. Clear intent that MPA consideration is on the table, specific proposals for sites or specific requests for information about sites, use of ad hoc groups in protected area discussions that bring in additional stakeholders who are not on the council, or employment of independent third-party convenors or facilitators could all foster processes that occur within the council framework. These actions would not necessarily make consideration of MPAs in the fishery context less controversial, but they could provide tools for managing the controversy and make the process less subject to challenge at the end.

## 5.5 Tortugas 2000 Ecological Reserve

Figure 7 shows the location and extent of the Tortugas Ecological Reserve in the Florida Keys.

Figure 7. Boundary of the Tortugas Ecological Reserve in the Florida Keys.



Source: ([www.fknms.nos.noaa.gov/graphics/maps/tortugas.jpg](http://www.fknms.nos.noaa.gov/graphics/maps/tortugas.jpg))

### 5.5.1 Setting

The Dry Tortugas (the Tortugas) form a cluster of remote islands located in the Gulf of Mexico approximately 113 km (70 mi) west of Key West, Florida. Due to the area's unique and biologically diverse marine habitats, including coral reefs and banks, seagrass meadows, and rookery islands, the islands have attracted visitors for many years. The Tortugas have long been frequented by the diving community and have supported diverse commercial and recreational fishing activities. In 1992, the Dry Tortugas National Park was established to protect a 259 km<sup>2</sup> (100 mi<sup>2</sup>) park of marine resources and islands, as well as preserve historic Fort Jefferson, built on the largest island. Through three tiers of regulations that apply to different areas in the region, various commercial and recreational activities are either prohibited or limited. (For more detailed information on what is and is not allowed in the Tortugas, see <http://floridakeys.noaa.gov/regs/FinalFSEIS/pdf>).

The Tortugas are also located at the western edge of the 9800 square km Florida Keys National Marine Sanctuary (FKNMS or the sanctuary), created by Congress in 1990 (Public Law 101-605). Managed under cooperative agreement between the State of Florida and NOAA, FKNMS is unique in its size and for its first use of a zoning network designed to protect diverse habitats while allowing compatible public use and activities to continue. In 1997, a management plan established and implemented five types of zones throughout the sanctuary, including 'ecological reserves,' which are protected 'no-take' zones in which extractive activities are prohibited.

During the management plan development and consideration, the Tortugas were proposed for an ecological reserve. Highly controversial, the concept was widely rejected for a number of reasons. Chief among these were the fact that significant coral resources were not included in the proposed boundaries and fears that the reserve would cause economic harm to commercial fishing interests and other stakeholder groups. This and other opposition was largely fueled by significant confusion and uncertainty regarding the scope and impact of the reserve. There was also widespread concern among reserve proponents regarding whether and to what extent the jurisdictional boundaries between the National Park Service and National Marine Sanctuary Program would arbitrarily limit the potential extent of ecologically significant areas.

The unsuccessful seven-year effort to garner support for an ecological reserve in the Tortugas was not the end of the story. Committed to some protection scheme for the Tortugas and listening intently to comments received during the vetting process, FKNMS managers worked together with the National Park Service to determine which areas of the Tortugas region would benefit from zoning protection, and what particular management strategies would work best. A FKNMS/National Park collaborative process was initiated in 1998 and became known as “Tortugas 2000.”

Building upon the frequently contentious eight-plus years of experience with FKNMS, Tortugas 2000 was launched with the establishment of a broad-based, 25 member ad hoc Working Group. Authorized by the FKNMS Sanctuary Advisory Panel (SAC), the Working Group was led by a facilitator and worked quickly. Over the course of just five meetings, the Working Group established and weighted criteria to determine the size and location of zoning areas, assessed scientific and economic information in GIS format, and came to consensus on the specific location, size and boundaries of two ecological reserves to recommend for approval by the SAC. Following the approval by the SAC, support for the reserves was also obtained from the Gulf of Mexico Fishery Management Council, Florida Fish and Wildlife Commission, State of Florida, and NOAA. The north and south Tortugas Ecological Reserve was fully implemented in July 2001 (see Process Review (NOAA 2003) for more detail).

The procedural steps taken to create the Tortugas Ecological Reserve are set out in detail in MPA Process Review (NOAA 2003).

### **5.5.2 Major themes**

Several major themes emerge from an analysis of the Tortugas 2000 process. First and foremost, the establishment of the Tortugas Ecological Reserve demonstrates the nearly universal truth that MPA processes can never be viewed separate and apart from the events leading up to them. In this sense the past is never past, it is present, as Tortugas 2000 was shaped by relationships and stakeholder perceptions grounded in earlier failed efforts to establish significant ecological reserves in the area. These already-formed relationships and frames of reference – when combined with shared mandates among various government agencies, broad stakeholder participation, and a skilled facilitator that worked with and built upon this confluence of history, relationships, and government mandates – set the stage for a relatively lightning fast series of decisions that led to a robust, widely supported outcome.

### **5.5.3 Lessons learned**

#### Don't repeat the past – learn from it

Like many similar efforts, the Tortugas 2000 process was defined by what came before: in this case, the highly contentious establishment of the adjacent FKNMS and the failed attempt to include more reserves in the area. As a result, there was time to analyze the missteps that occurred during the initial development of the marine zoning network and to reflect upon the public comments received when an ecological reserve for the Tortugas region was first proposed in 1997.

More specifically, participants reported two major factors that helped to set the stage positively for Tortugas 2000. First, organizers recognized that it was important to establish a Working Group that was as broadly representative as possible – more so than prior advisory or working groups. For example, five separate fishing interests were identified and represented (commercial, handline lobster, Cuban-American, charter, spear, and recreational), ensuring that more nuanced perspectives were fully heard and incorporated into the development of proposals. The absence of some of these groups from the initial effort to designate reserves was reported to hamper that process.

The second factor is directly related to FKNMS, for even though the lengthy effort to adopt a management plan (which required multiple federal and state approvals) did not include all the ecological reserves that were proposed, it did engage most of the affected interest groups and create a placeholder for some kind of area in the Tortugas. Significantly, the original reserves concept was completely withdrawn, providing stakeholders with a virtual blank slate from which to work. The act of “starting over” created significant good will as interest groups now felt empowered by their defeat of the initial efforts, more in control of their destiny, and more confident of their ability to create a reserve derived from stakeholder prerogatives. These carrots, when combined with the perception that the existing placeholder would resurface if the Working Group did not come up with a viable plan, was strong motivation for success.

#### Use a professional facilitator

The Tortugas 2000 process benefited greatly from the participation of a professional facilitator, although the decision to use a facilitator was made after the process had begun, not at the outset. The facilitator was viewed as a “neutral party” by all stakeholders, particularly those on the Working Group. Compared to very large metropolitan areas, the Florida Keys comprise a relatively small community where people know each other and, for better and for worse, inevitably bring those relationships into planning processes. In addition, it was only a few years before this that the same stakeholders were hashing out the details in the overall FKNMS Management Plan, and lines between competing interests were drawn in the sand. Thus it was critical that a facilitator who was not part of the existing institutional structure quickly gain trust and bring a fresh perspective and approach.

The majority of Working Group members and staff expressed support for the role of the facilitator and the structure of their meetings. Bringing to bear his expertise on the process, the facilitator was instrumental in helping participants identify core interests that underlay their stated positions. He also quickly designed and implemented an effective consensus-building process, ensuring that all members were engaged and involved and that decisions were credible and robust. Because he was clearly not identified with any agency history or position, he was able to provide the kind of neutrality (in terms of both process and outcome) that government representatives typically cannot. This combination of factors helped to ensure that the opportunity for collaboration and consensus building was fully exploited.

#### Plan ahead and organize

Ironically, a significant reason for the success of Tortugas 2000 – the use of an outside facilitator – was also a source of challenge because the facilitator was brought in relatively late in the process. The decision to use a facilitator was made after the process had begun, and he was contracted just one week before the first meeting of the Working Group. Because this was hardly enough time for a professional third party to become educated on the issues and the parties involved, he started at a disadvantage and the process lacked an initial assessment by a neutral third party or by someone with process expertise prior to initiation.

The facilitator’s late arrival also meant that he could not participate in developing a thorough process for identifying candidates for the Working Group. As a result, some stakeholders were overlooked and had to be added later in the process. According to many, it was difficult to add new members after the group had been working together and a level of trust had been built. People generally like to “stake out their own

territory” early, particularly on contentious issues, and a skilled facilitator can help avoid positional approaches that can stagnate a process if not addressed early on. Most professional facilitators will not have direct previous experience with stakeholder groups relevant to a specific process. Nevertheless, their knowledge of processes to assess stakeholder interests and ensure broad representation is fundamental to success.

#### Inclusive stakeholder process breeds success

As previously mentioned, the structure and composition of the Working Group was a significant factor in the success of the reserve initiative. The Working Group started with eight members of the SAC, and other individuals were identified to fill the remaining categories. In addition, the Working Group also included representatives from each of seven overlapping jurisdictions involved in the Tortugas, as well as scientists. Rather than organize constituents into separate individual panels or groups, as often occurs in similar processes, participants were integrated to facilitate communication and trust building between factions.

Other aspects of the process also facilitated meaningful stakeholder participation and buy in. For example, multiple representatives were identified if one member could not represent the entire “category.” This meant recognizing that commercial fisherman were not a monolithic interest, but instead had several subgroups that each required a distinct voice. As the process unfolded, several other members were added when additional gaps in representation became evident.

#### Stakeholder representatives must have authority and be accountable

To ensure reliable decisions were made, it was also important that each Working Group member had authority to actively represent his or her stakeholder group. As such, members were identified and acknowledged as leaders to those they intended to represent, and were held accountable for their commitments. Each member was asked if he or she could, in fact, speak for a constituency, and efforts were made throughout the process to ensure that members were interacting and receiving feedback from those they represented.

#### Build trust and sustain it by adhering to agreed upon processes and ground rules

Trust among participants is essential to any successful decision-making process, and, in the words of one participant, “takes time to build and can be lost in an instant.” In Tortugas 2000, trust was stressed as essential to success by everyone interviewed, and the perceived breach of that trust among some participants almost derailed the process.

The challenge to trust in the Tortugas process occurred after a methodical approach had been used to winnow twelve specific geographic proposals down to two, when several Working Group members met separately to attempt to work out differences and develop a new proposal. For those involved it was a positive experience, but for those not involved, the separate meeting represented a significant breach of trust. People felt left out, annoyed that a decision was reached without participation of the larger group and outside the established consensus-building process. The resulting proposal was not significantly different from another one, but because of the deviation from the established process and resulting undermining of trust, achieving consensus to include the proposal in the final deliberations was far more difficult than it would otherwise have been. Though ultimately successful, this experience underscores how critical it is to adhere to established ground rules and avoid behavior or tactics that exclude participants, no matter how innocent or noble the intent may be.

#### Clearly identify and agree on goals early

Quite different from most MPA processes, the premise of the Tortugas 2000 process was that an ecological reserve would be established somewhere within the Dry Tortugas region. The intent was to support other goals such as fisheries management, but always within the context of an “ecological

reserve.” Working Group efforts focused on size, location, and conditions of the ecological reserve, but not whether a reserve was appropriate in the first place. Thus the goal – to designate reserves in the Tortugas – was not questioned because the goal was broadly perceived as mandated by federal law, and, as a result, the process focused on the more productive question of “how” to construct a reserve rather than the often more divisive threshold question of “whether or not” such a reserve was appropriate.

The more focused ecosystem based goal was also achieved through public outreach efforts engaged in by proponents of the reserve. Beginning early with the initial designation of the sanctuary and carrying their message through development of the management plan to local, state, and federal decision makers, the public relations campaign meant that grass roots efforts in support of the broad goal of a reserve were well under way by the time Tortugas 2000 was launched.

Specific instruction was provided early in the process to build upon and refine consensus on this broad goal, and was critical to maintaining a common focus. For example, the Working Group was told to ignore jurisdictional boundaries, ignore existing authorities, and work instead on what was needed to meet established ecological and fisheries criteria. This approach resulted in buy in by all stakeholders, who looked at issues holistically, supported the concept of an ecosystem approach, and focused clearly and collaboratively on resources rather than on which participants might not support their interests.

#### Both traditional science and fishermen’s knowledge were equally important

Everyone agreed that the preparation and presentation of numerous types of technical information was integral to the Working Group’s ability to make sound recommendations. The information included oceanic, biological, socioeconomic, and fisheries information presented by scientists and stakeholders. While the majority of scientific information was provided during two special forum presentations, scientists sat next to fishermen, conservationists, and managers throughout the process. The resulting ability of scientists and stakeholders to continuously interact and provide immediate feedback on issues raised around the table helped to build the sense that scientists were there to help the process rather than merely act as another stakeholder.

The informational forums allowed community members and other stakeholders to share their knowledge and experience with the Working Group, managers, and scientists. This broad-based information exchange was extremely beneficial to the process. In essence, the value of the community input was equal to that of traditional scientists; the fact that anecdotal stakeholder knowledge was used directly and given equal weight was key to subsequent discussions and consensus building. Fishermen reported feeling more involved as compared to other processes, and that their “unscientific” but no less valuable knowledge was respected.

#### GIS is valuable, but manual map making is more appropriate in some cases

GIS was used very interactively during Working Group sessions and was uniformly praised. The ability to quickly and graphically portray new information empowered the Working Group to make decisions. An extensive database was compiled and information was quickly processed for presentation. In particular, for the first time data showed use patterns in addition to biological information. This allowed the Working Group to better identify what needed to be protected, and balance those protections with fishery uses.

When it came to recording individual preferences for potential boundaries, however, the old fashioned approach proved far better than GIS. A manual method using an acetate overlay on top of the grid cell was employed, and resulted in participants working together over paper charts, sharing stories and perspectives and, according to one observer, avoiding the negative effect GIS can have on people’s ability to have a direct sense of ownership over the map building process. Each Working Group member drew out preferred boundary configuration, and the overlays were shared with the group via overhead, or

provided to staff to use in GIS products. This more intimate, hands-on, and interactive technique for recording boundaries proved successful. In the Tortugas process, GIS was useful for sharing and displaying data, but having members draw on hard-copy maps was the best approach for exploring individuals' ideas about appropriate boundaries.

#### Public input was innovative and was solicited throughout the process

Several participants pointed to the interaction between Working Group members and other stakeholders as essential to the consensus-building process. During Working Group meetings, members were able to confer directly with members of their stakeholder group to solicit immediate input when necessary. During break out sessions, the public was invited to sit as a "second tier" around the Working Group members. Or, members could go elsewhere to caucus. Whatever the case, the opportunity for a free and rapid flow of information between members and observers allowed for a full range of perspectives to be incorporated into the discussion. Because of the broad support for this approach – as many as 50 people surrounded Working Group members during their meetings – very little additional work was required to solicit stakeholder buy-in when decisions were made.

The National Park Service had a simultaneous management planning process underway for the Tortugas National Park, that paralleled the Tortugas 2000 effort. It was important to managers that the simultaneous efforts not confuse the public, thus they were coordinated as much as possible. This included holding public hearings jointly. The format was not the traditional one, with one speaker at the podium at a time, each with only three or five minutes to state a position. After initial presentations, the room was divided by topic, and individuals could present comments in one of several ways: they could talk into a microphone, write out comments, dictate their comments to staff, or write them up on newsprint on the wall. Comments could be given anonymously, the public could ask questions, and the entire process was relatively informal and non-threatening to those unaccustomed to or uncomfortable with more structured, formal approaches.

While some fisheries representatives did not like the rather unorthodox process because they were used to speaking at a podium, the majority felt that it was more inclusive, and far less intimidating. The podium format focuses attention on those few who may be more eloquent or feel very comfortable speaking before audiences, and overshadows those less comfortable.

#### Don't start drawing lines prematurely

From the start, many of the users (particularly fishermen) wanted to know where managers thought the ecological reserve boundaries should be. They were familiar with other management processes where several options – with maps – were presented and debated, rather than created with their input. To their credit, the sanctuary managers remained silent, empowering and ultimately compelling stakeholders to do the work of determining the reserve parameters. Managers would not even offer ballpark estimates of the size or location that should be protected, nor what the regulations should contain – in public or private. This approach may not work in other cases where trust is not established and where stakeholders may not be as familiar with the geographic area or relevant resources. Here managers benefited from lessons learned from their earlier efforts, and understood that speculating on the potential boundaries would taint the process and put stakeholders on the defensive, trying to protect what they may have considered their turf or territory.

The majority of stakeholders saw the wisdom in this particular part of the process, while a handful had some misgivings, thinking it protracted the overall efforts. Whatever the perspective, participants unanimously agreed that their input had real meaning and that there was no hidden agenda or predetermined outcome on the part of the managers. Interestingly, the resulting ecological reserve was much larger than any of the managers individually anticipated.



### 5.5.4 Conclusion

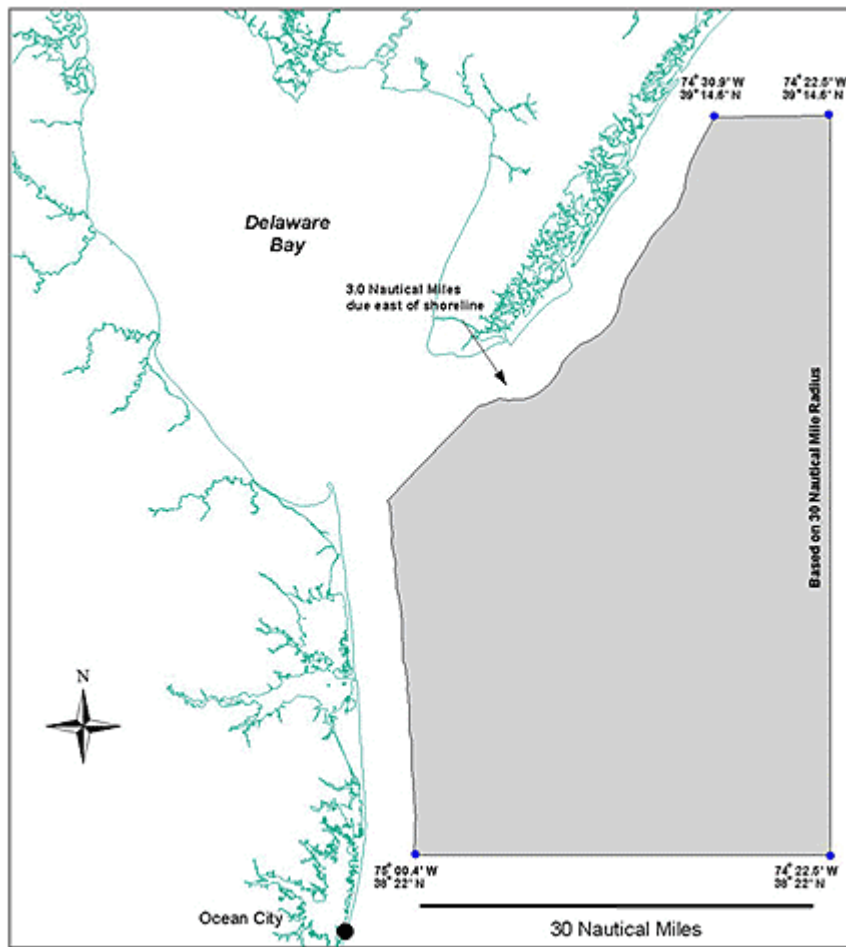
Almost everyone involved agreed that the Tortugas 2000 process represents how a successful consensus building process can work when a skilled facilitator is paired with motivated participants in an environment of trust and empowered by a clear mandate. Building upon efforts leading up to the process and the wise decision among sanctuary managers to not attempt to predetermine or shape the outcome, participants were free to be proactive and creative rather than reactive and defensive.

Success in the Tortugas may also be attributed in part to the fact that most participants had some first hand experience with no-take reserves, and thus perhaps feared the concept less than in other regions. Moreover, trust was established and more positional bargaining avoided with agreements such as the one between fishermen, who agreed not to “whack and hack” proposals, and conservationists who agreed not to “pad and add.” As a result of a successful collaborative process, the building of trust among diverse stakeholders, and demonstrably positive ecological measures, even those who initially opposed reserves are now some of their biggest supporters.

### 5.6 Horseshoe Crab Reserve

Figure 8 shows the location and extent of the Carl N. Schuster Jr. Horseshoe Crab Reserve off the mouth of Delaware Bay.

Figure 8. Location and extent of the Carl N. Schuster Jr. Horseshoe Crab Reserve.



Source: ([www.nmfs.noaa.gov/horseshoecrb\\_map.htm](http://www.nmfs.noaa.gov/horseshoecrb_map.htm))

### 5.6.1 Setting

The Delaware Bay is home to many fish, marine mammal and bird species as well as miles of popular recreation beaches. It also is on the flight path of northward migrating shorebirds, and has been heralded as the second largest stopover location in the western hemisphere. The reason the Bay is so attractive to the birds is that it is the site of one of the largest concentrations of spawning horseshoe crabs along the Atlantic coast. The birds feed on eggs turned up from buried horseshoe crab nests. Thus fueled, migrating birds such as red knots, semipalmated sandpipers, ruddy turnstones and sanderlings are able to continue their long distance flights to the arctic.

Horseshoe crabs are an ancient species, more closely related to spiders or ticks than true crabs. Their glossy brown “shells” (really a chitinous exoskeleton shed during molting) are a familiar feature of Atlantic beaches, where they have been around for 300 million years without much evolutionary change. Horseshoe crabs are found on the ocean bottom from northern Maine to the Yucatan Peninsula, but are most abundant on the Atlantic coast between New Jersey and Virginia, with the Delaware Bay at the center of distribution. In the spring, adult crabs migrate to beach areas to spawn, during high tides of the full moon. They lay their eggs in clusters on protected sandy beaches. Juveniles remain in the estuarine environment until they reach maturity at about 10 years.

A fishery in the 1800s harvested horseshoe crabs in the millions for fertilizer and livestock feed, but demand for those uses waned. By the 1960s, the annual catch was reported at only 42,000 crabs. Catches fluctuated in response to demand throughout the 1970s and 1980s, ranging from lows of 11,900 pounds to highs of 1 million pounds for use as bait for eel and whelk fisheries and for biomedical research. In recent years, these uses have been valued at more than \$50 million annually.

Horseshoe crabs, particularly females, are cut up to bait pots used to catch American eels. A boom in eel prices and the concomitant increase in fishing effort in the 1990s created a related increase in the horseshoe crab fishery along the mid-Atlantic coast. Egg-bearing females for bait were fetching 75 cents to a dollar. In addition, the biomedical industry collects horseshoe crabs for their blue, copper-based blood, which contains a clotting agent. The substance is used to support the production of Limulus Amoebocyte Lysate (LAL), which makes it possible to detect toxins caused by bacteria in human patients, drugs and intravenous devices. Medical collections on the east coast take between 200,000 and 250,000 crabs per year, bleed them, and return them to the ocean within 72 hours of capture. It is estimated that about 10 percent do not survive capture.

As a result of this increased demand, catches quadrupled between 1993 and 1996, reaching highs of 5 and 6 million pounds in 1996 and 1997. Crab landings were reported in states that previously had no horseshoe crab fishery. By 1997, concern over what appeared to be declining crab numbers and the relationship between the crab and eel fisheries led the Atlantic States Marine Fisheries Commission to begin developing management plans for both species. Some scientists reported a decline of as much as 90 percent over a decade.

At the same time, bird watchers and other environmental advocates noticed a decline in the spring shorebird population, and connected it with the horseshoe crab fisheries, which take place mostly during the crabs’ spawning season when they can be caught easily and cheaply—the same season the birds rely on crab eggs. These groups used newsletters, websites and other outlets to make claims about declines in horseshoe crabs and the detrimental effect it had on shorebirds. These groups also encouraged members to attend fishery management meetings, write to government officials, and take other actions to protect shorebird populations by calling for reductions in fishing mortality on crabs. They also collected information on crab abundance, and sponsored studies.

A plan to manage the species along the entire coast was approved by the Atlantic States Marine Fisheries Commission in 1998.<sup>4</sup> Before the interstate plan was developed, the states each managed the species in their waters. Since there was no fishery in federal waters, none of the federal fishery management councils on the east coast had adopted management measures. New Jersey, Delaware and Maryland already had taken action to reduce catches in their waters, and the Fishery Management Plan (FMP) maintained those measures and called for a cap on landings of crab for bait by 2000. While participants in the fishery management planning process were debating proposed measures to reduce catches, the state of Virginia allowed crab landings in its waters in 1999 to climb 26 times higher than the prior average. By this time landings from federal waters were increasing as well.

One of the arguments against catch reductions was the limited amount of information about the status of the stock, so the FMP called for a comprehensive monitoring program to gain better data on both catches and abundance. Despite opposition from the fishing community and arguments that there was not enough information to support cutting back landings, the ASMFC management board approved the state-by-state cap on bait landings in February 2000. They recommended a 25 percent reduction coastwide, and let Maryland, Delaware and New Jersey maintain their more stringent catch reductions. Participants observed that no one was satisfied with the plan. The mid-Atlantic states, conservation groups and bird advocates thought it didn't go far enough. The southern states were not convinced of the need for any catch reduction at all.

It was at the conclusion of this multi-year fishery management planning process, which had included fishermen, the biomedical industry, fish conservation advocates, state managers and—for the first time—bird watchers, that Carl Schuster, a retired professor and horseshoe crab researcher, stood up to remind the board that while they had protected the horseshoe crabs by reducing landings, they had not protected the “heart of the spawning population” at the center of Delaware Bay. He suggested a closed area.

Even though there had been no suggestion of a closed area throughout the multi-year process that led up to the plan amendment, Schuster's proposal during a public hearing on the final horseshoe crab plan amendment was seized by the management board as an opportunity to do more. They handed off the development of the closed area to the federal government, calling for a sanctuary in federal waters outside Delaware Bay.

What started as a straightforward fishery management process to reduce fishing mortality through reduced Total Allowable Catch and allocation took a turn toward place-based management. What started as interstate management in nearshore waters from Virginia to New Jersey took a leap outside three miles and into federal waters. When shorebird advocates began showing up at Atlantic States Marine Fishery Commission meetings they were viewed as outsiders; not really “stakeholders” in the fishery management process. However, not only did these groups continue to stay active at the commission level and develop grass roots support, they developed a campaign at the Washington, D.C. NOAA headquarters level.

The actual designation of the horseshoe crab sanctuary was accomplished through notice and comment rulemaking, an administrative process that unfolds through published notices in the Federal Register and comment periods for public reaction to the proposed action in the notice. Although notice and comment rulemaking often includes public hearings (and in this case did) it is more the playground of lawyers, lobbyists and interest groups than the rough and tumble of the state commission or federal council process. It is governed by strict rules of administrative procedure including deadlines and prohibitions on *ex parte* communication. Nevertheless, the proposal to designate the sanctuary went from the advance

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<sup>4</sup> The Atlantic States Marine Fisheries Commission, made up of the 15 Atlantic states, coordinates among the states and develops fishery management plans for species that occur in more than one state. Eighteen species-specific boards meet four or more times per year, and develop proposals for the Commission, which meets twice a year.

notice of proposed rulemaking to final rule in what could be considered record time for an action of its magnitude: 10 months from start to finish. Between the first proposed rule in May 2000 and the final rule published in February 2001, the rulemaking process carved out an exemption to allow collection of crabs in the closed area for biomedical purposes, and to allow whelk vessels to fish with pots and gillnets in the area while carrying horseshoe crabs as bait. The procedural steps that were taken leading to eventual designation of the Carl N. Shuster, Jr. Horseshoe Crab Reserve are set out in detail in MPA Process Review (NOAA 2003). The reserve, which encompasses nearly 3,900 km<sup>2</sup> (1,500 mi<sup>2</sup>) of federal waters off the mouth of the Delaware Bay, was established on March 7, 2001.

The procedural steps taken to create the Carl N. Schuster Jr. Horseshoe Crab Reserve are set out in detail in MPA Process Review (NOAA 2003).

### **5.6.2 Major themes**

The interplay between conventional fishery management approaches to protect or recover a depleted stock and the use of a closed area as a conservation tool to accomplish that purpose is a major theme of both the horseshoe crab sanctuary and the grouper closures. The horseshoe crab sanctuary process is further distinguished by its beginnings as a state fishery management issue inside coastal waters, and eventual metamorphosis into a closed area in federal waters. Federal notice and comment rulemaking is an unusual course for MPA designation and may result, despite strict procedural rules aimed at guarding the public interest, in a process that is not conducive to engaging the general public. This type of decision process is often marked by formalized exchanges of documents in response to Federal Register notices, constrained responses on the part of agency managers, and conducted by lawyers or association representatives specializing in regulatory decision making. Also noteworthy in this case is that the stakeholder participation was actually developed through the fishery management process, not the MPA designation process. However, the working relationships, knowledge base, and interest group advocacy that evolved through the development of the horseshoe crab fishery management plan and amendment carried over into the rulemaking process. Agency managers took on the role of communicating with interest and constituent groups to get feedback as the proposal took shape, even though there were only three scoping meetings, very sparsely attended, to serve as venues for stakeholder participation. The lack of scientific information on stock abundance, and on the potential for the closed area to contribute to spawning or to reduce mortality, appeared not to matter in this designation. Although the lack of data was a major point of contention in the FMP process and the decision to cut catches to reduce mortality, once the play moved into designation of a closed area, it became a non-issue because the fishery sector in Virginia most opposed to catch limitations was not at all affected by the closure.

### **5.6.3 Lessons learned**

#### Relationships in other venues carry over to MPA process

Motivation and leadership for the designation of an MPA may come from an unexpected quarter. Shorebird conservation groups were new players on the fishery management scene, drawn into the process by the connection between shorebird declines and horseshoe crab declines. They worked in the horseshoe crab management process within the ASMFC for several years. Although at the beginning they were not familiar with the fishery management system, or the way science was used to provide a basis for management actions, they stuck it out and won the respect of “old hands” during development of the amendment to the FMP. This stature won these advocates a place at the table during the subsequent federal rulemaking process. This setting was more familiar to advocacy groups, and they used campaign techniques and grassroots membership activism to muster support for the sanctuary and to push the process. The biomedical industry also was a new player, with a \$75 million product on the line. They came to the table as a highly educated and well-financed interest group. At the outset these groups were strangers to the eel, conch and horseshoe crab fishermen of New Jersey, Delaware, Maryland and Virginia. One state participant noted that the interactions were not pleasant at the outset, with groups of stakeholders having different agendas and goals. But through the open FMP process over a two-year

period, groups began to understand the different points of view and why they were held. “It led to meaningful conversation, compromise, and agreement about where they wanted to go. Stakeholders still had their opinions, but at least they were able to come to a compromise. It was worthwhile to spend the energy up front [in the horseshoe crab plan amendment process] to get to that level.”

#### Science matters, but perception may matter more

In the period between the passage of the ASMFC plan amendment reducing horseshoe crab mortality coastwide and the designation of the sanctuary, Virginia continued to balk at a reduction in its crab catch, with officials claiming there was no scientific basis for the quota. Although the horseshoe crab fishery showed classic signs of a fishery headed for trouble (declining catches in some areas, increase in landings in others, displacement of effort from closed areas to unregulated federal waters) there was no stock assessment showing an actual decline. Only one trawl survey in Delaware Bay showed some declines in catches. Nor was there much evidence of the connection between the crabs and the shorebirds. During the 1990s, data on crab abundance was collected, but “not in a statistical manner. Most of the studies were conducted by nonprofit groups with lots of energy, but not much knowledge about statistically valid design.” But even though stock assessment scientists were not willing to make a definitive call about the status and abundance of horseshoe crabs, or any relationship to the decline in shorebird populations, shorebird advocacy groups were. They published their own studies, made information available on websites, talked to newspaper reporters and circulated newsletters and action alerts. Once the story of the interwoven “crash” of horseshoe crabs and shorebirds was in the public consciousness, it was difficult to undo the perception, even after scientists who reviewed the available data found there was not enough to support any such conclusions. State managers relied on taking a precautionary approach in the face of uncertainty. NOAA’s justification for the sanctuary was based on the precautionary approach as well as the shift of landings from state to federal waters. Not knowing proved as persuasive as knowing.

#### All politics is local

As New Jersey and Delaware reduced catches in their horseshoe crab fisheries in 1997 and 1998, effort moved to Maryland and Virginia. Ports that had never recorded any landings were showing substantial horseshoe crab catches. Maryland reduced its fishery, cutting catches by 72 percent. Despite requests by shorebird advocates to the ASMFC to step in and impose some coastwide discipline on the horseshoe crab fisheries, the commission opted to set a reference period for landings and call for monitoring of catches. In 1999 Virginia catches climbed to 26 times higher than previous averages, eliciting strong criticism from conservation advocates. By the end of 1999, ASMFC put a fishery management proposal on the table, calling for a coastwide quota with state-by-state caps. Virginia opposed catch reduction and the state quota, and even though the commission passed it in 2000, Virginia set its own state quota at more than double what was called for in the plan.

It was against this backdrop that managers in Virginia were able to support the idea of the sanctuary. One participant observes that they seized on the idea because it would not affect their fishery and they could repair relations with the environmental groups that criticized the state so harshly for its refusal to reduce crab catches. “Maryland, Delaware and New Jersey were wondering what happened? They had a cap *and* a reserve, while the other states had neither.”

Meanwhile in Delaware, the governor was pushing hard for the sanctuary. A participant pointed out it was a good issue for the governor’s campaign for the U.S. Senate, both environmentally and economically, since Delaware’s beach-related tourism (including bird watching) is a significant part of the state’s economy. One of the participants in the rulemaking observed that the candidate was the same party as the federal administration at the time, making the Department of Commerce receptive to the proposal. High-level promises and media announcements put the pressure on to get the sanctuary designated.

The governor won his senate race, but the federal administration changed, bringing with it new policies and a moratorium on all pending regulations—especially environmental ones. But the combination of positive public support from the scoping and public comment periods, the exemptions that accommodated economic interests, and the public relations benefit of taking a pro-environmental action all paved the way to allowing the rule creating the sanctuary to be published as final.

#### Follow the rules

Participants in the federal notice and comment rule-making process had different ideas at the outset. Environmental advocates, including Delaware’s governor, wanted the sanctuary created through an emergency action, shortening the timelines for notice, assessment, scoping and comment. But NOAA stuck with the rules of procedure and went through a full rulemaking. Even though they did not prepare a complete environmental impact statement, they prepared a careful and thorough environmental assessment (EA). In the absence of much data from the fishery, the EA incorporated a broad literature review and a socioeconomic study that had recently been done by the U.S. Fish and Wildlife Service, as well as survey data to back up the Delaware Bay information. The agency addressed all the comments received during scoping. They responded to all comments from the comment period. “We resisted doing the rule on an emergency basis and it paid off in the end.” The new administration seized upon the sanctuary as a pro-environmental action, completed with good public process, with little impact on economic interests. It sailed through to much fanfare and positive press.

#### Moving between management regimes requires careful interagency negotiation

The Carl Schuster Horseshoe Crab Reserve was not designated through a fishery management process, though it was clearly for a fishery management purpose—reducing horseshoe crab mortality—and arose in that context at the conclusion of a fishery management plan amendment process. What worked for state managers and federal officials conducting the rulemaking process that created the sanctuary was tight focus, close communication, and careful negotiation. All state fishery managers sit on the ASMFC, as do representatives from the National Marine Fisheries Service and the U.S. Fish and Wildlife Service. Therefore all the key players were participants in the interstate process that led to the horseshoe crab plan amendment and thus had a venue for negotiation. When the commission made its recommendation to the Department of Commerce requesting the closed area in federal waters, the action was handed off, but the players overlapped. In the course of developing the proposed rule, federal agency officials stayed in close contact with state managers, met with state agencies, the Coast Guard and the Fish and Wildlife Service. The size, configuration and location of the reserve were negotiated carefully among all these agencies because those parameters were directly linked to its enforceability and the user groups who would be affected. In addition, the staff developing the rule briefed officials at NMFS, NOAA and even the Secretary of Commerce. There were no surprises as the rule made its way through the process, despite intense advocacy by interest groups. All these actions took advantage of established relationships, recognized and capitalized on overlapping authority and jurisdiction, and cleared the way for approval by the ultimate agency decision maker.

#### Venerable leaders can make a difference

A respected scientist as “leader” can provide a focal point. Dr. Carl Schuster, a retired professor and horseshoe crab biologist was so highly regarded by all parties that no one questioned his proposal for a sanctuary at what would have been, from anyone else, “too late in the process.” Although in this case such leadership came from a scientist, figures from other sectors could provide the “respected elder” role as well.

#### Fair treatment of economic interests can quell opposition

Working with stakeholders to draw boundaries and craft exceptions contributed to acceptance. The crab sanctuary includes exemptions for two affected user groups, but not all. The economic impact on a small group of Maryland watermen who trawled for flounder in the area, and kept horseshoe crabs taken as

bycatch, was seen as too small to justify an exemption. Whelk fishermen who use crab for bait are allowed into the area, as is the fishery for biomedical purposes. The latter activity involves capturing the crabs, bleeding them, and returning them to the water. These exemptions were created in the course of the rulemaking process, through responses to the first proposal and revisions to the final rule.

Though the balance between fairly drawn, rational exceptions and changing an MPA proposal in response to every special interest is a precarious one, process managers ignore economic interests at their peril. In this case, the procedural safeguards of federal rulemaking assured that the quite narrow exemptions were developed with equity and due process.

#### Keep the boundary lines simple and enforceable.

Because the request from the ASMFC to NOAA called for an area “in a 30-mile [48 km] radius” of the mouth of Delaware Bay, originally the agency proposed an arc, using the radius from the center of the mouth of Delaware Bay. But after consultation with the U.S. Coast Guard, they squared up the corners to make the area easier to enforce.

#### Base boundary lines on data

The proposed rule provided three options: one with a 15-mile (24 km) radius, the preferred alternative at 30 miles (48 km), and one at 60 miles (96 km). The agency was able to show with data that most of the crabs were caught along the shelf, and that a 30-mile (48 km) radius would protect them.

#### **5.6.4 Conclusion**

Designation of a protected area for horseshoe crabs in Delaware Bay took a route different than the other cases in this review. Federal notice and comment rulemaking is a tightly constrained process that is not comparable to the more complex and multi-issue negotiations and consensus building that took place, for example, in Tortugas 2000 or the Channel Islands Marine Reserve Working Group. However, it worked in this instance because agency staff who managed the rulemaking process took advantage of several years of stakeholder participation that preceded their action, kept stringently to procedural rules including regulatory and economic review and environmental assessment, took advantage of relationships with other federal agencies and state resource managers, and kept not only stakeholders but decision makers in the loop through the entire process.