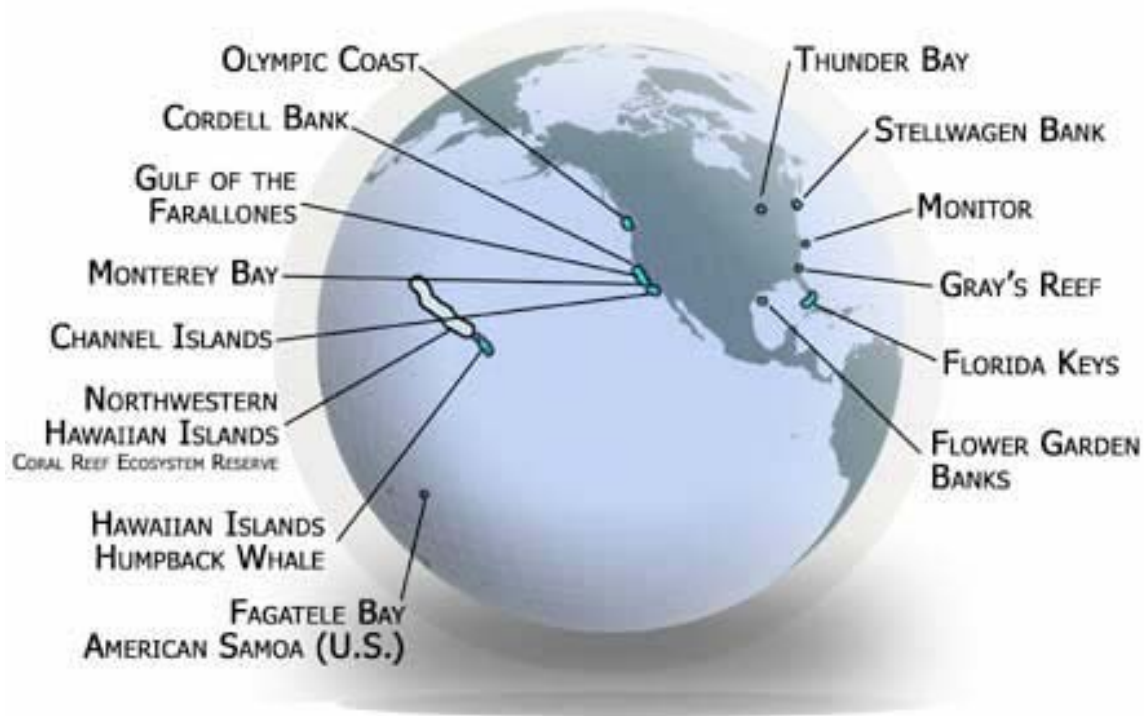


Figure 1.
Locations of the Fourteen National Marine Sanctuaries and Reserves



Source: NOAA, <http://sanctuaries.noaa.gov/>

Significant Activities in the Florida Keys and Monterey Bay: 1990s

When three commercial ships ran aground on coral reefs in the Florida Keys in seventeen days in 1989, Congress created the Florida Keys National Marine Sanctuary to force ships to stay outside an “area to be avoided” off the Florida Keys. But Congress also directed the sanctuary to address other threats, and to consider zoning some portions of the sanctuary to protect the reefs, as well as to conserve other marine resources in the Keys.

Thus, the Florida Keys sanctuary was the first NMSP site to prepare a full-scale management plan, establish an advisory committee of local residents, and receive funding sufficient for hiring a substantial staff. It was also one of the first sites to arouse vocal opposition from local fishermen, and the first—and so far, the only—to have its sanctuary manager changed in effigy. From that rocky start, however, the sanctuary has grown into a substantial enterprise, creating the first network of large federal marine protected areas in the United States—areas that do not allow commercial or recreational fishing—and recruiting a large number of volunteers to help enforce sanctuary rules as members of “Team Ocean.” The sanctuary has developed a broad base of community support; indeed, many advisory council meetings draw a larger audience than meetings of the local county commissioners.

In 1992, Congress officially designated the Monterey Bay National Marine Sanctuary, the largest sanctuary to date. The motivation was primarily to forestall offshore oil and gas leasing, but for a variety of reasons (including the influence of a local congressman and the organizational muscle of local citizens who had fought for 15 years to win designation for the site), the sanctuary also received enough resources to hire a substantial staff; establish a large advisory council; and create active programs, including a multiagency water quality program led by the sanctuary. That program has won recognition and awards from Congress, the governor of California, and environmental and citizen groups.

In the 1990s, NOAA, the National Ocean Service (NOS)—of which NMSP is a small branch—and NMSP directors made the conscious decision to invest most of the program’s tiny budget in the Florida Keys and Monterey Bay sanctuaries. Since other sanctuaries had minimal staff, and thus lacked the ability to do much to protect resources, those managers thought that if the Florida Keys and Monterey Bay sanctuaries showed positive results, the executive branch and Congress might be willing to build effective programs at all sanctuaries. In 2000, however, a National Academy of Public Administration report labeled some of those sites “sanctuaries without defenses.”²

Building out the System: 2000-2005

The resource allocation worked in NMSP’s favor. As the Florida Keys and Monterey Bay sanctuaries demonstrated that NMSP and its sites could perform effectively, the annual operating budget for the national program rose more than threefold: from \$14.35 million in FY 1999 to \$51 million in FY 2005. (See Figure 2.)

Those new funds came as part of a much larger package, the so-called CARA-lite Act passed in 2001.³ The House of Representatives approved legislation that would permanently bypass the appropriations process, and divert annually for 15 years some \$3 billion of offshore oil and gas leasing to a long list of terrestrial and marine resource management programs. While the full Senate never considered the proposal, appropriations committees and Congress sharply increased the annual appropriations for many programs using funds from general revenues.

The new funds were part of a broader process of change at the sanctuary program. When Congress reauthorized the program in 2000, it amended the National Marine Sanctuary Act to call for a national system of sanctuaries. Also in 2000, the sanctuary program got its first long-term director, Dan Basta, who still holds the position.⁴ Basta is an engineer who had led planning activities at another NOS office, including preparation of the first Florida Keys management plan.

² National Academy of Public Administration, *Protecting Our National Marine Sanctuaries* (2000), 26-27. The small sanctuary on an isolated bay in American Samoa did prove to be “without defenses” against dynamite fishing, which has destroyed a large part of the coral formations in the small bay.

³ The Land Conservation, Preservation and Infrastructure Improvement trust fund (“CARA-lite”) was established by the FY01 appropriations bill for the Department of Interior and related agencies. In it, appropriators guaranteed money would be available for five more years for nine conservation programs. The Conservation and Reinvestment Act (CARA) would have established a 15-year, \$3 billion per year program.

⁴ Previous directors of the national program had held the position for short periods, or had been NOAA Corps officers who rotate in and out of positions in NOAA agencies.

Upon assuming NMSP's directorship, Basta took several steps toward building a larger, more fully operational program. He worked to build formal planning and budgeting procedures in the national office organized around the theme of "building out the system." Basta used his budget authority to push the program to become a system with shared goals, procedures, and standards. (Prior to Basta's leadership, individual sanctuaries had functioned as quasi-autonomous units with managers who stayed in their positions far longer than program directors.⁵) A new "life cycle" model for sites illustrated how individual sanctuaries might move from a study phase to full operational status:

- Phase 1: Pre-Designation and Designation (approximately 1-3 years)
- Phase 2: Start-Up and Early Operations (approximately 2-5 years)
- Phase 3: Transition—First Management Plan Review (approximately 1-2 years)
- Phase 4: Mature Operations (approximately 3-5 years)
- Phase 5: Recalibration—Second Management Plan Review (approximately 1 year)
- Phase 6: Adaptive Management (approximately 2-4 years)

Basta also sought to elevate the program to become a separate office within NOS, placing it at the same level as the Office of Coastal Resources and Management, which is the home of both the Coastal Zone Management program, and the National Estuarine Research Reserve System—and was NMSP's home until 2000. NOAA allowed the sanctuary program to function as a separate office, but Congress has not taken action to formalize the change.

In 2005, the program created four regional offices, each with between two and four staffers in charge of managing issues that cross sanctuary lines, working on new sites, and supervising some aspects of sanctuary-level operations. As it did with the issue of making NMSP a separate office, NOAA allowed the program to create regional offices on an informal basis—with temporary regional slots, but no new permanent positions.

As the program was building its capacity, the non-profit National Marine Sanctuary Foundation, established in 2000, began raising funds to support activities at the sanctuaries, and giving awards to site volunteers and national leaders. The foundation also co-sponsored events on Capitol Hill and at the sites, where the renowned members of its board of directors talked with officials and citizens about ocean governance in general, and the sanctuary program in particular.

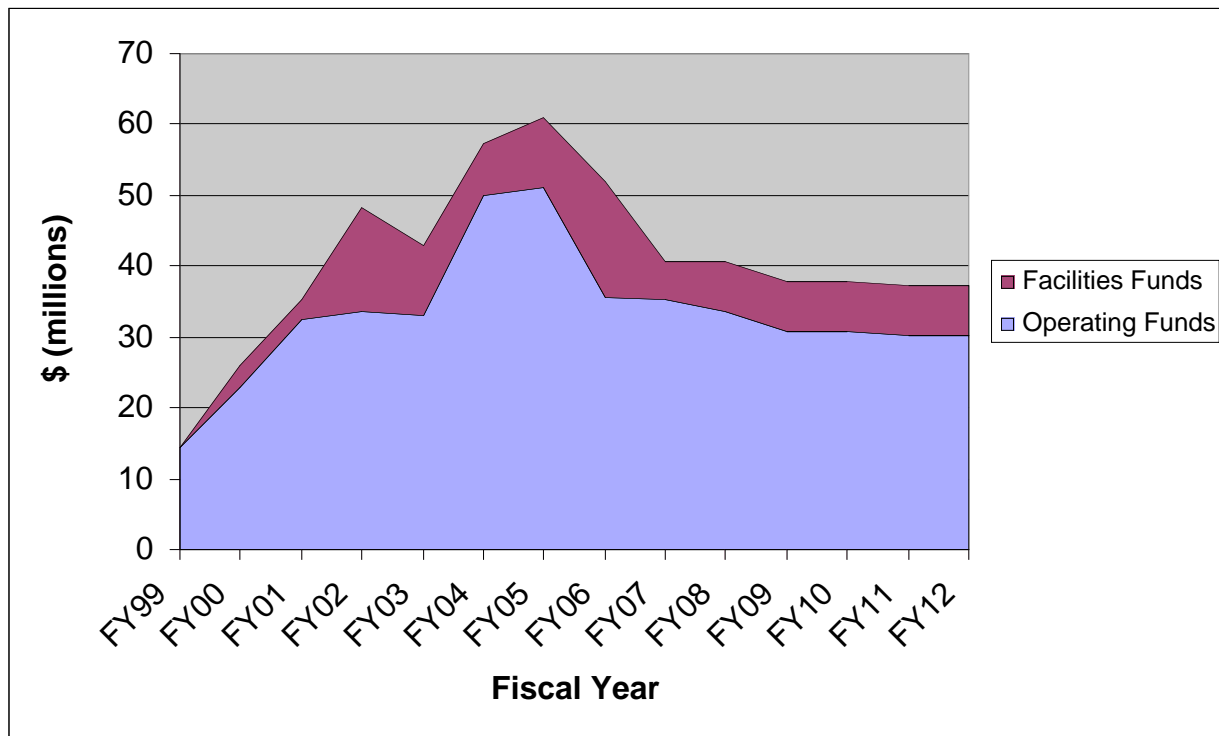
The final element of building out the system would be the addition of new sites. In 2000, a small sanctuary was created around historic shipwrecks in Thunder Bay, Michigan, and the program began planning for what is now the Northwestern Hawaiian Islands Marine National Monument. The monument is a 1200-mile arc of coral atolls, reefs, and very small islands, mostly uninhabited, stretching to Midway Island in the central Pacific Ocean. It is more than seven

⁵ In the late 1990s the program functioned as a collection of sites; the program director before Basta called the sanctuary managers the program's board of directors. See National Academy of Public Administration, *Protecting Our National Marine Sanctuaries* (2000), 30. One of Basta's first acts was to require that all travel by staff at the sites be approved by headquarters.

times larger than all the sanctuaries taken together, and about the same size as Australia’s Great Barrier Reef, which is the world’s largest protected area.⁶

There have been expressions of interest in establishing new sanctuaries in several other states, including Alabama, New York, Ohio and Oregon—where the governor recently suggested designating the state’s entire coastline as a sanctuary.

Figure 2. NMSP Budget, 1999-2012*



* FY07 figures represent the President’s Request; FY08-12 figures are projected funds based on NOAA’s Planning, Programming, Budgeting, and Execution System.

⁶ President Clinton had established a marine reserve in the area toward the end of his term. President George W. Bush decided to have the sanctuary program, rather than the National Park Service, plan for permanent management of the area. In June 2006, he designated the area as a national monument, avoiding the need for preparation of an environmental impact statement and congressional approval, which could have taken a year or more. The Department of the Interior’s Fish and Wildlife Service will continue to manage relatively small land and marine portions of the monument, and the sanctuary program will have lead responsibility for managing marine areas. As is usual, the state of Hawaii also retains jurisdiction within state waters. See the presidential proclamation of June 15, 2006 at <http://www.whitehouse.gov/news/releases/2006/06/print/20060615-18.html>.

Demonstrating Performance: 2006-future

It is unlikely that NOAA or Congress will allow the sanctuary program to expand to full build-out until it can demonstrate that it is performing effectively. The first sign of that reluctance was a 2000 amendment to the National Marine Sanctuary Act requiring that the program attest that it could complete “adequate” site characterizations for all existing sanctuaries within ten years at

. . . it is unlikely that NOAA or Congress will allow the sanctuary program to expand to full build-out until it can demonstrate that it is performing effectively.

current levels before creating new sanctuaries.⁷

In 2005, Congress cut NOAA’s budget sharply, including a reduction in the sanctuary program’s operating budget from \$51 million to just under \$36 million—a 30 percent drop. It is expected that NOAA’s budget will continue to be under pressure. In summer 2005, NOAA’s long-range Planning, Programming, Budgeting

and Execution System (PPBES) projected that the program’s operating budget will decline gradually from \$35 million to \$30 million in 2010. Funds for investments in facilities are peaking in FY 2006 at \$16.2 million, and are projected to drop to one-third that level. (See Figure 2.)

The future of the sanctuary program depends on its ability to do the following:

- leverage resources from other federal agencies, state and local governments, and not-for-profit organizations
- convince Congress, the Office of Management and Budget (OMB), and the leadership of NOAA that it deserves stable funding—or perhaps even a growing share of federal spending on marine issues—even if other marine programs are cut back.

How can NMSP make its best case for continued support?

⁷ In September 2004, the program reported to Congress that it could meet that requirement by preparing a first-stage site characterization at all sites by FY 2010 at current levels of funding. However, it also reported that its FY 2005 appropriations provided the program with only 65 percent of the resources needed to implement current sanctuary management plans. Thus the program implicitly asked that its appropriations be restored to about \$50 million per year for operating expenses. NMSP, *Report to Congress as Required by the National Marine Sanctuaries Act* (September 2004), 3-5.

CHAPTER TWO

PLANNING AND PERFORMANCE-BASED MANAGEMENT IN THE NATIONAL MARINE SANCTUARY PROGRAM

THE 2004 PART REVIEW

The Office of Management and Budget's new performance-assessment rating tool (PART) is the latest in a series of efforts to link budget and management decisions to performance. Other examples are benefit-cost analysis, and various efforts to link planning and budgeting such as the Planning, Programming, and Budgeting System (introduced in 1966), management by objective (1969), zero-based budgeting (1977), and the Government Performance and Results Act (1993).

Such systems give policy officials and managers tools to assess agency performance, and to counteract the complacent assumption that if an agency or program is conducting activities on schedule without major mishaps, it must be making progress towards the goals set forth in authorizing legislation, and thus deserve steady or incrementally larger funding.⁸

PART measures performance by tracking a suite of metrics, and comprises a list of 25 questions grouped in four categories:

- Program purpose and design (purpose clarity, need, targeting, and no duplication or design flaws)
- Strategic planning (performance measures, baselines, targets, links to budgets, partnerships, and evaluation)
- Program management (data, accountability of contractors and grantees, coordination, and budgetary, financial, and regulatory management)
- Program results/accountability (progress towards long-term and annual targets, cost-effectiveness, outside evaluations, and comparisons with other programs)

PART strongly emphasizes metrics that measure outcomes or impacts—not just outputs:

- Outputs: completed agency tasks such as financial assistance, services, enforcement actions, or the delivery of information
- Outcomes: changes in the behavior or condition of places, people, or organizations that are directly affected, assisted, served, regulated, or informed by the program.
- Impacts: changes in broad social, economic, or environmental conditions that are attributable to the program, net of other influences.

Outcomes and impacts are similar, but impacts can be assessed only through rigorous evaluations that isolate the effects of the program from other influences.

To win a top score on its PART assessment, an agency must demonstrate with sound data and independent evaluations that its activities have led to the improved outcomes or impacts outlined

⁸ Office of Management and Budget, "Rating the Performance of Federal Programs" in *Budget of the United States Government: Fiscal Year 2004* (2003), 48.

in its authorizing legislation. As OMB gives final scores on PART, it works with agencies to develop recommendations for improvements in measuring, assessing, and managing for performance. And if a score is low, and improvements not forthcoming, sooner or later OMB may recommend budget cuts.

In January 2004, OMB began a PART review of the sanctuary program, based on evidence provided by program staff and from other sources. NMSP's initial rating (the OMB passback) was "ineffective" or perhaps "results not demonstrated."⁹

Over the next several months, the program worked hard to reform its planning and management systems to change the grade. The final PART score for NMSP was 68 or "adequate." OMB gave full marks—100 percent—for having an adequate mission statement, strategic plan, performance indicators, and management systems, but found that the program lacked adequate data to demonstrate results.¹⁰ (See Table 2.)

Soon after OMB approved the final draft of NMSP's PART, NMSP asked the Academy to assess its capacity for performance-based management. The inquiry raised four questions.

1. How realistic is it to try to measure progress towards complex goals like protecting valuable places in the ocean, or educating the public about ocean ecosystems?
2. What steps could NMSP take to ensure that it will do well on the next PART assessment?
3. Can PART and other planning systems help NMSP to manage its activities more effectively, and also enlist support from other agencies, stakeholders, and the public?
4. What distinctive contribution can NMSP make to the overall performance of the nation's system of marine governance?

This chapter addresses the first three questions. The fourth question is more fundamental, and is discussed in Chapter Three.

⁹ In the PART review process, the first passback is not a final mark for the program under review; rather, it is expected that a score would change—for better or for worse—with the second (and final) passback, as the program under review is given the opportunity to respond to the evaluation presented by OMB in the first passback.

¹⁰ Because there are number of small, separate programs at NOAA, and OMB lacks the resources to write an individual PART for each of them, the National Marine Sanctuary Program was rated together with the Center for Marine Protected Areas, which is an entirely separate, much smaller, and newer program. In some respects, the center brought down the joint score.

**Table 2. 2004 PART Assessment for NOAA Protected Areas
(NMSP and Marine Protected Areas Center)**

<p>Assessment Rating: <i>Adequate</i></p> <p>Summary: <i>The program uses the best available science and public involvement to protect both significant natural and cultural marine resources.</i></p> <p><i>The program has begun collecting long-term monitoring data within the sanctuaries to allow the program to better evaluate changes in ecological environmental conditions, and assess progress in achieving positive results toward meeting its mandates.</i></p> <p><i>The program has a clear purpose and is well managed, but could cooperate better with other coastal and marine area management programs to achieve their common goals.</i></p>	
Section	Score
Program Purpose & Design	100%
<p>Strategic Planning</p> <p><i>Problem area:</i></p> <ul style="list-style-type: none"> <i>OMB found neither NMSP nor the MPA Center had independent evaluations of sufficient scope and quality conducted on a regular basis, or as needed, to support program improvements and evaluate effectiveness.</i> 	89%
Program Management	100%
<p>Program Results/Accountability</p> <p><i>Problem areas:</i></p> <ul style="list-style-type: none"> <i>Progress has been demonstrated for some of the annual performance measures; others are new measures and progress has not yet been measured, and in some cases the programs have fallen short of their targets.</i> <i>NMSP has improved its efficiency and effectiveness in permit issuance, but fell short of the set target.</i> <i>There is a lack of existing analyses that specifically compare the effectiveness of NMSP with similar programs, hindering the assessment of whether program performance compares favorably.</i> <i>NMSP has limited formal information on whether program regulations maximize net benefits.</i> 	39%
<p>Overall Score</p> <p><i>The PART sections “Strategic Planning” and “Program Results/Accountability” account for 10% and 50% of the overall PART score, respectively. “Program Purpose & Design” and “Program Management” combine to account for 40% of the overall score.</i></p>	68%

Source: Office of Management and Budget, www.whitehouse.gov/omb/expectmore

WIDGETS?

In early discussions with the program, the Academy Panel and staff learned that some NMSP staff members were skeptical that performance-based management could be useful in agencies like theirs. As one program leader put it, “NMSP does not make widgets.”

Whether they sell life insurance, serve hamburgers, or make widgets, private businesses manage for the bottom line—profit. The most successful firms do so by tracking a variety of measures that will influence current and future profits. Some metrics focus inside the firm (*e.g.*, sales, various kinds of costs; the number of new or improved products; research and development spending; debt; future financial obligations to current and former employees; condition of physical facilities and equipment; and the safety, skills, and performance of the workforce). Other metrics focus outward on competitors, or on demographic, social, and technological trends in product markets. An increasing number of firms also monitor the potential for public criticism of socially or environmentally irresponsible behavior, because such criticism may result in sales declines, or in costly legal actions.

Government agencies, however, face challenges that are different from those faced by private businesses. They must rely on other federal agencies, other levels of government, and perhaps independent non-governmental actors to “co-produce” the results that their statutes require. But a federal agency has limited leverage over other agencies and actors. How can the costs, benefits, and uncertainties of interagency collaboration be measured? Nonetheless, federal managers and oversight agencies have searched for ways to measure their “bottom lines.”

NMSP is a microcosm of the problems and challenges inherent in that search. It is responsible for an ocean area larger than the state of Montana, but its annual budget is only about \$50 million. NMSP has some regulatory powers, but its authority over commercial fishing is hotly disputed by two of the eight Fishery Management Councils, which primarily comprise fishermen, and often by the National Marine Fisheries Service as well. And because its financial resources are limited—especially compared with those of other agencies with which it works—it can be effective only by building working relationships with a network of those other agencies, private organizations, and community leaders. In all cases, it can protect sanctuaries only by catalyzing joint action.

How can NMSP—or any other agency that works in systems of networked governance—make a credible case to higher officials, and to the public, for the resources it needs to meet its statutory goals?

A second problem that many agencies face is that Congress has asked them to address problems beyond their control. For example, social programs seek to improve economic conditions in poor communities, and to help people find meaningful employment, stay healthy, and find adequate housing. But progress toward those goals depends in significant measure on the strength of the economy, over which social programs have no control. As another example: NMSP is supposed to protect the health of coral reefs in the Florida Keys, Hawaiian Islands, and American Samoa, but those reefs are subject to the stresses of global climate change, over-fishing, and polluted runoff.

Many government agencies face both dependence on networked governance, and a lack of control over myriad factors, and some have found good ways to cope with those challenges.

How can NMSP—or any other agency that works in systems of networked governance—make a credible case to higher officials, and to the public, for the resources it needs to meet its statutory goals?

For example, several federal agencies share responsibility for addressing homelessness. The cabinet-level Interagency Council on Homelessness coordinates the federal commitment to end chronic homelessness, a goal announced in 2002. Several agencies—including the Departments of Housing and Urban Development (HUD), Health and Human Services, and Veterans

Affairs—make grants to networks of local governments and not-for-profit agencies for specific activities to reduce homelessness. HUD, which has the broadest responsibilities to address homelessness, and whose secretary chairs the interagency council, scored very well on a PART review of its homeless grant programs.

The system of performance-based management of programs for combating homelessness features the following:

- a clear statement of a federal goal (*i.e.*, to end chronic homelessness)
- a functioning interagency council at the national level that has helped to coordinate among the federal agencies, and has also conducted outreach efforts to communicate the federal goal, and to mobilize state and local governments to develop parallel efforts to end chronic homelessness in their jurisdictions

The agencies, working together and through the council, have:

- developed common definitions of different categories of homelessness
- developed a shared understanding of the “technology” that can be used to reduce chronic homelessness
- harmonized reporting requirements of different grant programs and measures of performance
- supported high quality independent assessments of innovative approaches to reducing chronic homelessness, which have helped demonstrate the cost-effectiveness of different approaches
- encouraged the development of state councils and 10-year plans to guide parallel efforts in more than 100 large cities

HUD has developed and implemented a “continuum of care” approach to provide incentives for coordination at the community level, and ensure that, through its annual competitive awards process, focus remains on federal goals.

The challenge of protecting valuable resources in the ocean is different from the task of reducing homelessness. To cite only one instance, the national effort to combat homelessness is far

larger—in dollars, work hours, volunteer participation, and statutory mandate—than the efforts to manage the ocean. Total federal spending on homelessness is about \$5 billion¹¹—20 percent more than the budget for NOAA, and 100 times as large as NMSP’s resources—and federal funds for homelessness are matched by state, local, and private dollars. Nonetheless, those efforts can provide lessons for NOAA and NMSP in managing networked governance for performance. The remainder of this chapter examines the ways in which NMSP is doing so already, and offers suggestions for future endeavors.

NMSP’S SYSTEMS FOR PERFORMANCE-BASED PLANNING AND MANAGEMENT

As its PART score indicated, NMSP has made important steps towards performance-based management. What systems for performance-based planning and management are already in place at NMSP? What steps should the program take to improve those systems?

Stripped to its essentials, performance-based management is a process of setting broad strategic goals; measuring whether those goals are being achieved; and, if they are not, writing a strategic plan to improve performance; allocating resources to activities that will lead to improvements; measuring whether improvements occur; revising the strategic plan; then starting over again. Performance-based management is thus a circular, self-reinforcing process.

NMSP has already made important steps towards performance-based management.

The National Marine Sanctuaries Act sets broad national goals for the program.

The program has both a national strategic plan and management plans at each of the 13 sanctuaries. The national strategic plan sets out specific goals and 19 performance measures that, together with the National Maritime Sanctuaries Act, and other legislation written specifically for sites, as well as information about conditions at the sites, drive individual sanctuary management plans.

NMSP has used a variety of systems to gather and report information about conditions nationally, and at each site. It has drafted an initial condition report for one sanctuary, and can now create a system of condition reports to monitor whether key performance measures are being attained at all sites.

The program also is building its budget—called an annual operating plan¹²—into a tool for allocating resources towards specific goals and performance targets.

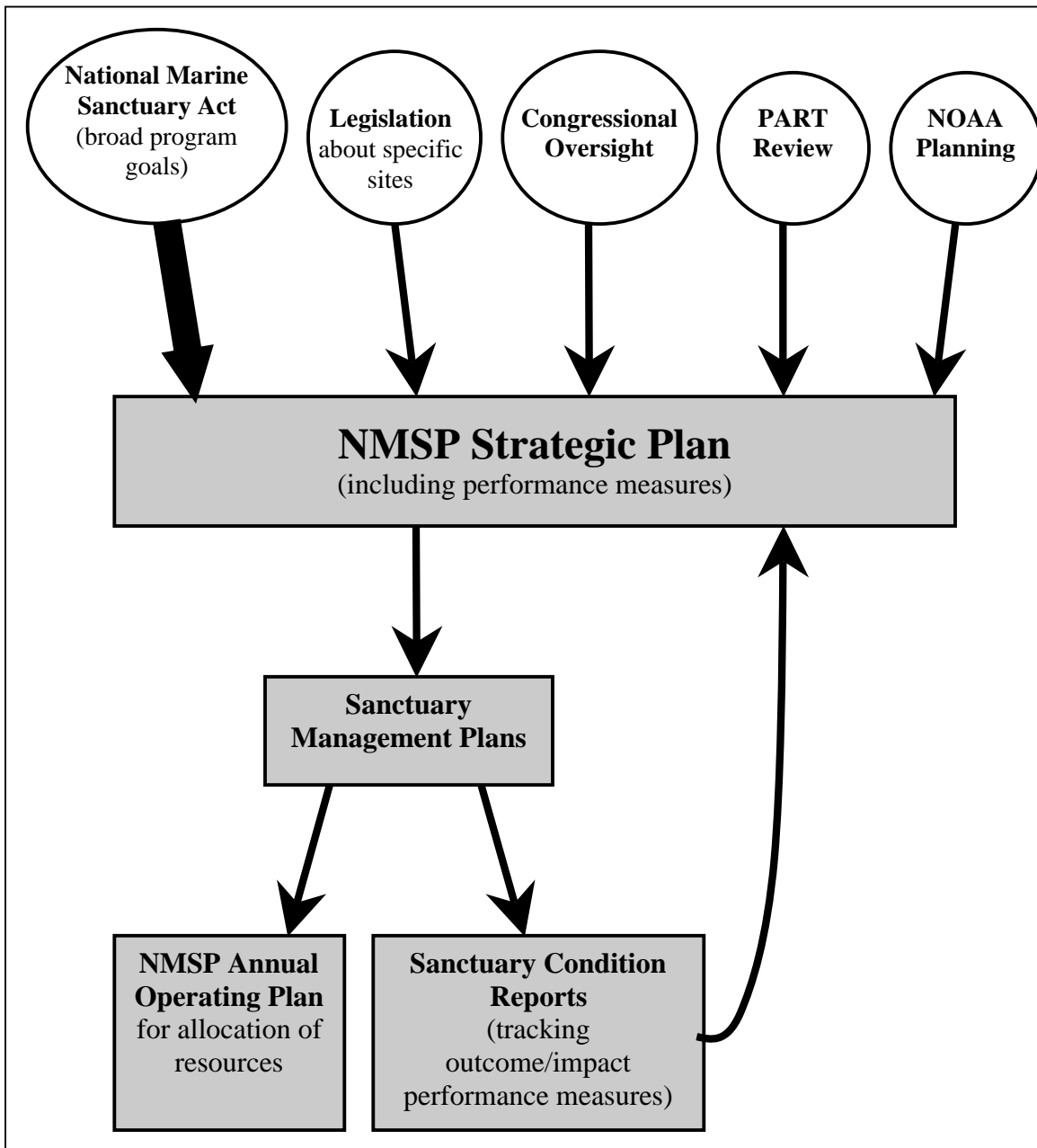
¹¹ That figure does not include spending received by homeless persons through entitlements, or through other federal programs for which they are eligible as part of a broader class of persons, and which are not specifically targeted to homelessness.

¹² Some congressional appropriations subcommittees require agencies to submit annual operating plans for committee approval. NMSP’s annual operating plan does not require such approval; the program established its own plan after 2000 as part of its internal efforts.

Thus, there are four essential elements of performance-based planning and management at NMSP: (See Figure 3.)

- NMSP Strategic Plan
- Sanctuary Management Plans
- Condition Reports
- Annual Operating Plans

Figure 3. Performance-Based Planning and Management at NMSP



NMSP's Strategic Plan

NMSP has always seen its role as broader than merely protecting the sanctuaries. Its staff believes that its mission is also to foster a public appreciation for all oceans. In the final analysis, however, the conditions in the sanctuaries depend not only on what happens at the sites, but on national attitudes, and broader public engagement.

As the current director says, “The sanctuaries are not the end; they are a means to the end. Our audience is 300 million Americans.”

The national mission is clear in NMSP's first strategic plan, a very brief document—only 300 words—published in 2000. The plan begins by identifying public appreciation for its sites as the key to the program's future. Its vision is that “People value marine sanctuaries as treasured places for future generations.”

The plan goes on to say that NMSP's mission is to conserve, protect, and enhance the sites. The plan identifies three goals:

- protection of the sites
- that the national system of sites increases the value of the sanctuaries
- that people value and respect ocean and coastal resources nationally, not just at the sites

The plan does not include specific direction about how to achieve those goals; neither is there mention of authorizing legislation. There is a list of 11 priorities for FY 2000, all stated in terms of agency activities, but no clear strategy for that year, or the future. As OMB staff told NMSP staff during the first meeting to discuss the PART review in 2004, it was not a complete strategic plan.

Immediately after that meeting, NMSP began working on a new 10-year strategic plan. The 11-page result is far more detailed than the original. It begins by explaining the context for NMSP planning, including the broad guidelines in the National Marine Sanctuary Act, NOAA's strategic plan, and the recommendations of the U.S. Commission on Ocean Policy and the Pew Oceans Commission.

Like the 2000 strategic plan, the new plan sets the ambitious goal of asking all Americans to think differently about the oceans—“to adopt a new ethic of marine stewardship,” echoing the Pew Commission's call for a new ocean ethic. It specifies seven goals derived from the National Marine Sanctuary Act—the first two of which align with NMSP's efforts to build out the system—and 29 specific objectives. Four of the goals are outcome- or impact-oriented; the other three focus on NMSP activities and outputs. (See Table 3.)

Table 3. Seven Goals of the NMSP Strategic Plan

<u>Outcome- or Impact-Oriented Goals</u>	<u>Activity- or Output-Oriented Goals</u>
<ul style="list-style-type: none"> • Protect the sites • Facilitate human uses that are compatible with protection • Enhance nationwide public awareness, understanding, and appreciation of the oceans and Great Lakes • Enhance scientific understanding to support management of the sites and other marine ecosystems 	<ul style="list-style-type: none"> • Build a nationwide system of sanctuaries • Build the operational capability and infrastructure to manage sites effectively • Work internationally to improve management and protection of marine areas

The strategic plan also includes 19 performance measures, and OMB staff took special interest in seven of them, three of which are impact measures:

- number of sites where **water quality** is being maintained or improved
- number of sites where **habitat** is being maintained or improved
- number of sites where **living marine resources** are being maintained or improved

Two performance measures address whether adequate scientific data are available—contributing to an outcome of more complete information about environmental conditions at the sites.

- By 2010, 100 percent of sites are adequately characterized.
- By 2015, 1200 additional shipwrecks will have sufficient data to be included in a NOAA database.

Two performance measures are program output measures:

- By 2007, 100 percent of permits are handled in a timely and correct manner .
- By 2010, 100 percent of sites with marine zones have implemented an evaluation methodology.

OMB has less interest in the other performance measures, which monitor program outputs or activities, seeing them useful primarily to NOAA and NMSP as indicators of good management. (See Table 4 for a complete list.) Three of those measures could be seen as measuring progress towards the goal of public education and understanding:

- 25 percent increase in volunteer hours by 2010

- 20 percent increase in public awareness of sanctuaries by 2015
- Significant input by sanctuary advisory councils on 150 priority projects by 2010

The Academy Panel believes the measures for the program’s educational activities should be strengthened. The program is proud of many of its educational activities, including innovative programs like its long-standing, bilingual school programs in Santa Barbara, California; as well as national efforts to improve the ocean literacy of all Americans, such as a Jean-Michel Cousteau series about the sanctuaries that will be released later this year. In addition, the program’s sanctuary-level planning activities (described in the following section) give large numbers of community leaders the opportunities to become involved in a very practical way: by making decisions about how sanctuaries should be managed.

It should not be difficult to find colleges and universities that could survey students, community leaders, and others, about what they have learned from participating in sanctuary activities, and whether their behavior has changed as a result.¹³ (The only current performance measure (#10) that addresses education applies only to K-12 schoolchildren, and asks only that activities be evaluated, not that the evaluations show that students gained useful information, or changed their behavior.)

Findings:

- The 2005-15 Strategic Plan and its 19 performance measures represent a major step towards performance-based management.
- The plan places a high priority on public education, and the managers of the program have for some time been committed to a national vision of the program’s role—that it should make a significant contribution to ocean literacy—*i.e.*, to public understanding of oceans and ocean governance. But the performance measures for educational activities are much narrower, and do not address expected outcomes or impacts.

Therefore, the Panel recommends:

- As NMSP continues to refine its performance measures, it should develop a new performance measure for its educational activities. The measure should address the outcomes of the program’s extensive efforts, and, if possible, its impacts—including changes in behavior, or more understanding.
- Other than that change, NMSP should not revise the 2005-15 Strategic Plan at this time. The program should put its energies into using the plan to guide priority-setting, budgeting and managing; and into collecting data necessary to measure

¹³ In fact, a team of graduate students working with University of Michigan Professor Julia Wondolleck recently surveyed the sanctuary advisory councils. Council members reported a high degree of personal satisfaction with their experience and were “able to accept and ‘buy into’ decisions even if they run counter to their personal interests.” (Kathy Chen, Camille Kustin, Joshua Kweiler, Carolyn Segalini, and Julia Wondolleck, “Sanctuary Advisory Councils: A Study in Collaborative Resource Management,” University of Michigan School of Natural Resources and Environment (June 2006): 235.) Similar surveys could be conducted to assess changes in behavior as a result of council participation.

progress on the performance measures—especially the first five outcome/impact measures, and new measures for the outcome or impact of educational activities.

Table 4. NMSP Performance Measures

	Measure	Type
1	Number of sites in which water quality , based on long-term monitoring data, being maintained or improved.	Impact
2	Number of sites in which habitat , based on long-term monitoring data, is being maintained or improved.	Impact
3	Number of sites in which select living marine resources , based on long-term monitoring data, are being maintained or improved.	Impact
4	By 2010, 100% of the System is adequately characterized .	Outcome
5	By 2015, 1200 additional shipwrecks identified and evaluated within national marine sanctuaries demonstrating historic potential for the existence of shipwrecks.	Outcome
6	By 2007, 100% of NMSP permits are handled timely and correctly.	Output
7	By 2010, 100% of sites with marine zones in place have implemented a methodology for assessing their effectiveness.	Output
8	By 2010, all sites have implemented a cooperative enforcement program and are able to demonstrate results based on stated goals and objectives.	Output
9	By 2010, increase by 25% the number of volunteer hours dedicated to NMSP science, public awareness and resource protection activities.	Outcome
10	By 2010, all education programs implemented in national marine sanctuaries will be assessed for effectiveness against stated program goals and objectives and National Science Education Standards.	Output
11	By 2007, NMSP is assessing the effectiveness of all significant partnerships across the sanctuary system.	Output
12	By 2015, increase by 20% public awareness of national marine sanctuaries and the sanctuary system.	Impact
13	Complete final management plans for all sites currently in management plan review by 2008.	Output
14	By 2010, decrease the average length of time to complete a draft revised management plan to 24 months.	Output
15	By 2010, Sanctuary Advisory Councils will provide significant input on 150 priority projects across NMSP.	Outcome
16	By 2015, all infrastructure needs are funded to adequately support safe and effective operations .	Output
17	By 2010, five new collaborative projects with either new or existing international partnerships will be initiated and demonstrating protection of the marine environment.	Output
18	By 2006, all national marine sanctuaries (excluding Monitor NMS) will trained in the use of Sanctuaries Hazardous Incident Emergency Logistics Database System (SHIELDS) and its components.	Output
19	By 2010, 100% of sanctuaries will have an ocean-observing system component within their site-monitoring program.	Output

Source: NMSP, *Our National Marine Sanctuaries Strategic Plan 2005-2015* (April 2005).

Sanctuary Management Plans

The National Marine Sanctuary Act mandates NMSP to prepare a sanctuary management plan before a site can be officially designated as a sanctuary. The statute also requires that the management plan be reviewed and updated every five years. NMSP must complete environmental impact statements on the initial management plan, and on updates, to comply with the National Environmental Policy Act. Each plan and its impact statements are bound as a single document.

Sanctuaries use the process of writing management plans as opportunities to engage key local leaders, educate the public about the site, explain the complexities of ocean management, and win public support.

The advisory council to the Florida Keys Sanctuary set a precedent in the late 1990s. Many local residents strongly criticized the first draft management plan, which was prepared by agency staff. The advisory council responded by organizing ad hoc working groups to discuss the most contentious issues, and then dictating line-by-line revisions of the plan, which were accepted by NMSP. But the state needed to approve the plan, because more than half the sanctuary is in state waters. Opponents persuaded Monroe County, which includes the Florida Keys, but has no jurisdiction over the sanctuary, to hold a non-binding referendum opposing the creation of the sanctuary. The members of the advisory council spearheaded a campaign to approve the sanctuary, and garnered 47 percent of the vote. The governor and his cabinet then decided the issue was a matter of state interest, and voted to approve the plan.¹⁴

Learning from that experience, NMSP established advisory councils at all its sites, and has given them a central role in preparing sanctuary management plans.

The Monterey Bay Sanctuary, the largest of the sanctuaries, operates in communities with very strong citizen interest. It has perhaps set the standard for bottom-up planning with advisory councils at the helm. Sanctuary staff worked with council members who represented different local stakeholder groups—commercial and recreational fishermen, divers, environmentalists, business leaders, farmers, scientists, and others. They gathered 12,000 public comments on the scope of the new management plan, and turned out audiences for 20 scoping meetings over eight months.

Then the advisory council helped NMSP staff prioritize issues, and create 27 working groups on the issues. More than 400 people participated in the working groups supported by sanctuary program staff. The working groups developed action plans over the course of five months. Each of the action plans had clear performance goals (not related to the 19 performance measures because they did not exist at that time), but similar enough that it will be possible to make many linkages as the sanctuary management plan is implemented. In addition, there is a separate action plan for performance measurement within the draft management plan.

The council worked with sanctuary staff to adjust and prioritize the action plans; staff from the national office advised and assisted. Many of the goals and activities in the plan cannot be

¹⁴ See National Academy of Public Administration, *Protecting Our National Marine Sanctuaries* (2000)

completed without substantial contributions by other agencies, non-profit organizations, stakeholder groups, or citizens themselves. The plan lists those goals and activities, and briefly describes current and potential levels of cooperation. At the end of the process, which took 19 months, the council chair told the public that the advisory council was the real author of the management plan.¹⁵

Then the plan went to Washington for review by top officials in the sanctuary program's national office, and by NOAA. As this writing, two-and-a-half years later, the draft plan has not yet been released.

Although the Academy did not study the Monterey process, or planning at other sanctuaries in detail, Academy staff heard a variety of explanations for delays in completing the plans, such as the complexity of legal issues raised by regulations proposed in the plans, and competing demands on the time of high-level officials.

(It was beyond the scope of the Academy's work to determine whether other agencies and actors in Monterey are following up on the promises that their representatives on the working groups made. As the plan is put into effect, the site and its advisory council might gather data to measure both how well the public and working group members understand the importance of such commitments, and how fully they have been met. Such data could be an excellent foundation for a new performance measure for NMSP's educational efforts.)

Some sanctuaries have been able to revise their management plans in two or three years, or are planning to do so now. Most of these sites are small, and have far fewer people, agencies, and issues with which to work than other sites. On the other hand, six sanctuaries have been working on new management plans for more than five years, and have not yet published draft plans. (See Figure 4.)

At Monterey Bay and Stellwagen Bank, at least, delays have done great damage to the program. (Academy staff did not conduct interviews at other sites.) NMSP's inability to get headquarters approval of the plans developed by local citizens and agency staff has sent the clear message that the sanctuary program is ineffectual. Interviewees reported unanimously that public interest in the sanctuaries has declined, and representatives of an important stakeholder group said their organization had decided that further involvement in the sanctuary program is not a good use of its resources.

¹⁵ Two recent studies of the sanctuary advisory councils have been quite positive. The first reported that the councils "have been an effective tool for management" (Tracey Morin, "Sanctuary Advisory Councils: Involving the Public in the National Marine Sanctuary Program," *Coastal Management*, 29 (2001): 338). The second, by students at the University of Michigan, found that the experience of the sanctuary advisory councils has been "overwhelmingly positive" from the perspectives of both council members and sanctuary staff. In particular, staff reported that the councils "help to identify issues, enhance the staff's understanding of issues, inform the public of sanctuary activities, and build support and awareness for the sanctuary, by having important connections with governments and citizen groups" (p. 233). The report credits the councils with helping make decisions to restrict discharges from cruise ships in Monterey, change shipping lanes to avoid whales in Stellwagen Bank, and designate marine protected areas in Channel Islands. (Chen, *et al.*, 2006)

Planning at the Northwestern Hawaiian Islands Reserve moved somewhat more quickly. Perhaps that is because it takes less time to write a plan for official designation than one for long-term management. In addition, President George W. Bush expressed a personal interest in the site, and his Council on Environmental Quality instructed federal agencies, including the Department of Commerce and NOAA, to submit their comments on the draft plan and environmental impact statement within one month.

NMSP staff members have explored ways of expediting the planning process in the future. They are taking steps to ensure that top headquarters staff makes substantive comments on early drafts of plans, so that local staff can identify, and resolve, concerns before a draft arrives for headquarters approval.

In addition, the program is weighing whether to consider new, potentially controversial federal regulations outside the management plans. An action plan for developing those new regulations would be included in each management plan, and the action plan executed after completion of its review. Minor revisions to regulations, or simple new regulations, would still be included in the management plans. Leaving controversial regulation out of management plans might make it possible to simplify NEPA review of the plans, and could also reduce the need for NOAA legal counsel to examine the draft management plans in any detail. Some staff say that as much as 90 percent of the activity proposed by the delayed management plans does not involve any regulation, but consideration of the remaining 10 percent holds up enactment of entire plans.

The downside would appear to be that the public might be much less interested in helping to write plans that do not use regulations to enforce action. Some might ask whether a site deserves the title of “sanctuary”—a word that can imply prohibition or restriction through regulation of some sort—if it will not include controversial regulations in its management plans.

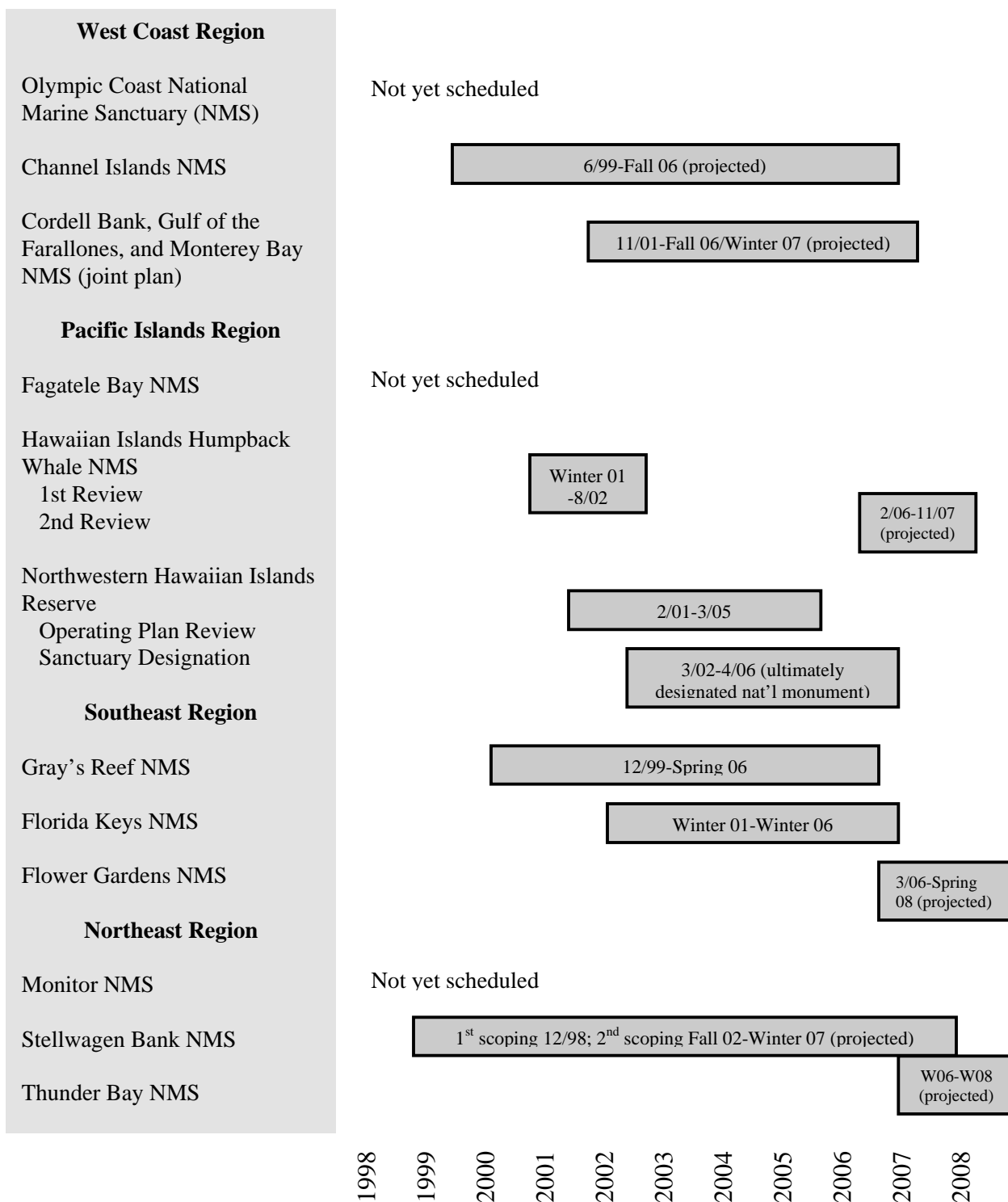
Findings:

- The process of drafting sanctuary management plans has proven a powerful way to engage the public, and to increase citizen understanding of the ocean, and of ocean governance.
- Sanctuary staff can work constructively to help advisory councils and working groups negotiate agreements about how best to protect resources in the sanctuary system.
- The sanctuaries have demonstrated that they can work closely with advisory councils, working groups, and the public during management plan reviews, without causing the process to become too time-consuming.
- The inability of NMSP headquarters and NOAA to take timely action on draft sanctuary management plans has damaged the reputation of the program, and persuaded many citizens, community leaders, and observers that the program is ineffectual, and that NOAA leadership has no interest in the sanctuaries.

Therefore, the Panel recommends:

- The sanctuary program should continue to involve advisory councils and working groups in revising management plans.
- The program should develop a performance measure that addresses whether public education about management-plan review, and the activities of working groups in drafting the plan, lead to improved understanding about marine conditions and marine governance.
- The sanctuary program should not make a practice of excluding regulatory matters from the management plan review process. The process should consider all topics, and all management tools that are within NMSP's scope and authority.
- Congress, the White House, and top officials in the Department of Commerce and NOAA should take effective steps to ensure that draft management plans be approved, or returned to the sites with specific direction about necessary changes, within one year of submission by the sites. Congress could include such a stipulation in its annual appropriations bill, and the Council on Environmental Quality, or OMB, could instruct NOAA and other agencies as well.

**Figure 4. Management Plan Review Timespans
(Scoping to Completed Management Plan)**



System-Wide Monitoring and Condition Reports

As NMSP manages its sites and headquarters operations, is it gathering the data needed to demonstrate progress toward the 19 performance measures? Will the data be available in time for the next PART review?

Data Available Now

Data are readily available for most of the performance measures that address program outputs and activities. (Several measures relate to tasks that are accomplished in the process of writing sanctuary management plans, so those measures are fulfilled when all sanctuaries have up-to-date plans, which are valid for five years.)

Sanctuaries produce annual *State of the Sanctuary* reports that aim to pique the interest of the general public, and encourage those individuals to be mindful of the need to protect the sites. The reports are handsome, well illustrated, and consist mainly of brief, well-written descriptions of scientific discoveries and interesting activities at the sites. Some sanctuaries also publish annual updates about their ongoing research.

But until recently, there has been no concerted effort to gather and report on measures of outcome or impact, and there still is no system-wide series of reports on outcomes and impacts. NMSP has been gathering data about environmental conditions at the sanctuaries for many years: from initial studies of whether a site qualifies for designation, to ongoing monitoring of key issues at different sites. In the past, most monitoring has been organized “on a site-by-site basis, with independent development of monitoring programs tailored to address some, but not all, priority information needs . . .”¹⁶ That will change as NMSP’s system-wide monitoring (SWiM) effort is in effect.

How SWiM Works

One of the challenges of designing program-wide monitoring is the diversity of the sanctuaries. The West Coast and Florida sanctuaries cover relatively large areas, and their staffs are responsible for managing a full range of program goals and activities. The Stellwagen and Hawaiian Humpback Whale sanctuaries are also relatively large, but are not designed for comprehensive resource protection. (Stellwagen covers only a portion of an ecosystem facing serious threats, and the Hawaiian sanctuary focuses, as its name indicates, on one species.) The other sites are quite small, with a much narrower range of resource values and threats.

Furthermore, issues vary across sanctuaries. For example, whales are important resources at seven sites—but not at others—coral reefs are of concern at eight sites, and historic shipwrecks at six. Water quality is an issue at all sites; but at coral reefs the issue is nitrogen and phosphorous, while at shipwrecks the issue is visibility. At sites with beaches the issues include sewage, storm-water drainage, and beach closings.

¹⁶ NMSP, “A Monitoring Framework for the National Marine Sanctuary System” (July 28, 2004), 6.

SWiM, therefore, does not prescribe specific data to be gathered at each site, but establishes common design, implementation, and reporting principles for all monitoring at all sanctuaries. The SWiM framework covers the same three topics as the first three performance measures—water quality, habitat, and living resources—and specifies for those topics 14 questions to guide monitoring. SWiM also offers a process to design a monitoring program to track specific relevant issues at any given site.

In brief, at each site, sanctuary staff meet with scientific advisers, researchers, and others with expertise in conditions at the site. Together they develop a requirements matrix that identifies the data needs specific to the site. For example, one site might track the density of kelp that provides cover for fish and other living marine resources, while another might monitor a key species of alga on coral reefs.¹⁷

Next, the group considers currently available data, and develops specific requirements and protocols for integrating that information, and for conducting additional research needed to address the top-priority management issues at the site. (Given the sanctuary program's small budget, however, it must rely on other agencies and research enterprises to gather most of the data that managers need.)

The results of that analysis can first be used to suggest directions for further research that can make important contributions to management of the sites, and to scientific understanding. Secondly, the results can contribute to reports about the best current understanding of conditions at the sites. The SWiM process establishes a standard format for those reports. They will address the same 14 questions and follow the same process, but are custom-designed to the water quality, habitat, and living marine resource issues at each site. For each of the 14 questions, the reports will give two grades: overall quality (conditions good, fair, or poor); and state of progress (conditions improving, holding steady, or declining). The reports will also include rationales for each of the grades.

The First Condition Report

The Stellwagen Bank Sanctuary published the first draft condition report in 2005. It is 32 pages long, and was written by experts for managers, and interested members of the public. It describes the history and resources of the sanctuary; pressures on the site (*e.g.*, shipping, underwater cables, recreational and commercial fishing, climate change); what is known about current conditions with what level of certainty; and what the sanctuary is doing to address the problems that have been identified. Properly, it is neither celebratory nor despairing, but a sober analysis and open disclosure about threats, conditions and uncertainties. (See Appendix C.)

The Stellwagen report addressed not only the three SWiM issues—water quality, habitat, and living marine resources—but also included three questions about a fourth variable—maritime heritage resources (primarily shipwrecks).

¹⁷ The requirements matrix concept is similar to an approach that has been used by the National Park Service. *Ibid.*, 12.

How to Use Condition Reports

Behind the scores and the prose of the condition reports stands a great deal of scientific analysis, data, and human judgment. The publication of condition reports will not end debate, of course. When the draft condition report was shown to the Stellwagen Sanctuary Advisory Council, its members immediately challenged the analysis. They were upset because they had just finished two years of work developing the sanctuary management plan. Still, leaders of the Stellwagen council, along with managers at other sites, agreed that a condition report at the beginning of the planning process would have been an excellent place to start discussion. Thus a condition report can structure initial debate.

Therefore, a complete set of condition reports for the sanctuaries will have two uses: as the foundation for management plan review; and as a baseline for measuring progress toward the three impact-oriented performance measures.

Condition reports: the foundation for management plan review, and a baseline for measuring progress toward the impact-oriented performance measures.

One might imagine reports that could be more useful to managers, advisory councils, and OMB staff than condition reports. The questions might be more satisfying if they focused on compliance with regulatory standards, but for many variables there are no such standards. The grades might be more useful if they were numerical. For example, the Stellwagen Bank condition report gives the following grades for biodiversity:

Condition:	<i>Fair and improving.</i>
Basis for judgment:	<i>Long-term changes in fish diversity.</i>
Description of findings:	<i>Selected biodiversity loss has caused, or is likely to cause, severe declines in some, but not all, ecosystem components, and to reduce ecological integrity.</i>

It would be helpful to managers and evaluators if the answer to a question about the status of biodiversity were something like “biodiversity has increased by 17 percent since the last report, but is still 25 percent below the level of biodiversity four hundred years ago.” That level of specificity is, of course, beyond the reach of current science and data, and is likely to remain so for quite some time. Unavoidably, then, a great deal of professional judgment and personal opinion is necessary to measure the performance of marine sanctuaries. The role of performance measures and condition reports is to help scientists and sanctuary managers express their best judgment clearly enough to be useful to program managers and the public, and to provide an informed basis for further discussion and decisionmaking.

The leap from 13 condition reports (one for each sanctuary) to single grades on performance measures for the program as a whole is even more clearly a matter of professional judgment and policy. If water quality is improving rapidly in one sanctuary, but deteriorating slowly at five

others, and holding steady elsewhere, what is the summary grade? Such issues are not matters of sound science; they demand policy choices on priority setting. Before the next PART review, the NMSP director will have to decide how the condition reports have added up to an overall rating of progress on each outcome measure. Higher officials, Congress, and the public can then debate those judgments and, if they choose, take steps within their authority to push for changes in the program to adjust priorities.

Federal law may require that future condition reports be subject to peer review, which would be a useful way of engaging other agencies in preparing the reports.¹⁸

Sanctuary advisory councils at each site could play an active role in reviewing condition reports, as a form of lay peer review of the social, economic, and political dimensions of condition reports.

Findings:

- NMSP currently does not have comparable information about resource conditions at its 13 sites, so it has no baseline from which to measure performance consistently across sites.
- The SWiM system and the condition reports have the potential to provide a baseline for measuring progress on performance measures 1, 2, 3, and 4.
- The condition reports are an excellent way to structure discussion about management goals and performance.
- The condition reports are based on best available science, but they also include judgments about which specific environmental data are most useful in measuring water quality, habitat, and living resources at the site in question. There is plenty of room for debate about the proper interpretation of the underlying scientific data.
- The condition reports can be expanded to include performance measures for maritime heritage resources, such as shipwrecks and cultural sites, and possibly for other outcomes beyond water quality, habitat, and living marine resources.

Therefore, the Panel recommends:

- NMSP should make preparing condition reports for all sites within the next two years a top priority. .
- Condition reports should be available at sites at the start of all future management plan reviews.

¹⁸ The OMB Peer Review Bulletin applies to “influential scientific information” and “highly influential scientific assessments,” as defined in the Information Quality Act.

- By the time of the next PART review, condition reports should be available to provide baseline data about performance at all sites, and to provide measures of progress at some sites. The reports should use a consistent format and, to the extent practical, given the different problems and priorities at the sites, use similar condition indicators.
- It should be the responsibility of each sanctuary manager to make the final decision on the condition report for his or her site, in consultation with NMSP scientists, members of the site's SWiM team, and the sanctuary advisory council. Similarly, the NMSP director, in consultation with program staff and the chairs of the sanctuary advisory councils, should make final decisions about how to transpose the condition reports into grades for each performance measure, as well as for the program as a whole.

Annual Operating Plans

Until the early 2000s, NMSP budgeting was done incrementally, and without written guidance or policy. In recent years, however, the program has been developing an internally consistent format and approach to its budget—an annual operating plan (AOP)—to enable it to set its priorities most effectively. Sanctuary AOPs have become specific, and NMSP is now monitoring its spending monthly and quarterly. If performance management is to be real, however, AOPs must be tied tightly to the strategic plan, sanctuary management plans, and performance measures

The design of budget sheets is not particularly important. The real issue is whether program managers think in terms of performance—and performance measures—rather than in terms of incremental adjustments to business as usual. Thus it is noteworthy that the AOP for FY 2007 will be the first to refer to the 19 performance measures explicitly.

As the budget was being prepared, an early draft was given to the sanctuary managers, regional managers, and headquarters program managers, so that they might prepare the first estimates for spending for the upcoming year. The next step will be for the director and his aides to review those requests, and accept those that seem most promising, within the limits of available funds.

One table in the draft AOP is for making suggestions about how to spend funds that are not yet allocated to any specific activity or program. For the first time, that table lists program priorities that will guide decisions. The table also includes a column listing the performance measures that the priorities address. So this year, when program staff make requests about where to spend these available funds, they will have to specify which performance measures they would be addressing.

But other portions of the budgeting process at NMSP are not linked so clearly to performance targets. For example, most of the budget has already been divided among the sanctuaries and headquarters offices. The draft AOP states that if budgets are cut by 15 percent, then the base budget for all sanctuaries and headquarters programs will also be cut by 15 percent. For those

funds, the system is the same as in the past—cuts across the board with no explicit provision to consider how cuts might affect program performance.

Finding:

- The program is taking significant steps to ensure that budgetary decisions will be made with performance—and specifically the 19 performance measures—in mind.

Therefore, the Panel recommends:

- The program should minimize new initiatives that are not directly focused on key performance measures, especially in times of tight budgets, which are likely to prevail in the future.

ENSURING THAT PLANNING IS A BENEFIT, NOT A BURDEN

Some NMSP staff told Academy staff that they felt performance-based management is simply a burden that NMSP must bear in order to please its masters in Congress, OMB, and NOAA. As one NMSP staffer complained, “We seem to spend a lot of time planning rather than getting things done.”

Clearly, sanctuary management plans take a great deal of time and effort. Those processes, however, involve more than planning, and do produce important benefits: outcomes in the form of greater understanding on the part of active citizens and staff at other agencies, as well as agreements to work together.

The OMB PART process was also time consuming: when OMB sent its first PART “passback” to the program, staff had to suspend other work to reply. But the products—a new strategic plan and progress towards the first condition report—were worth the investment of time and energy.

In addition to the sanctuary management plans, strategic plan, condition reports, and AOPs, NMSP has produced a large number of other plans, protocols, policy statements, and written guidelines. (See Table 5.) Many of those documents are still in draft, even though they are years old. It is apparent that the program is still experimenting with how to carry out performance-based planning and management, and with how to design useful planning tools.

For example, the program has at least three plans that seem directed towards the goal of “filling out” the program. There are two “10-year requirements” studies: one to guide decisions about which sanctuaries should get new boats; and one to set standards for decisions about facilities, real property, signage, and exhibits. (Requirements studies for eight other areas are planned.)

In addition, education specialists in headquarters, and at the sanctuaries, wrote a plan in 2000 outlining the key elements of program-wide educational activities. It describes staffing levels, skills, and training needed, as well as plans for annual conferences, an advisory board, working groups, and relationships with other NOAA agencies. Those three plans could be useful in

allocating funds among different sanctuaries—who gets the money this year for a new boat or visitor center? The plans may also help encourage staff to think of a national system of sanctuaries, rather than a collection of autonomous units.

(What is missing from each of the plans, however, is a discussion of how new boats, signs, buildings, and meetings would help the sanctuaries achieve statutory goals. For example, the plan for boats is based on the assumption that all sanctuaries should have as much ready access to boats as the Florida Keys sanctuary, which had far more boats than other sites five years ago. The plan for facilities does not say anything about how big facilities should be, leaving open the decisions about how many staff and visitors they would accommodate. In addition, though they were completed in 2005, the boats and facilities plans include no discussion of performance.)

Another tool that may be useful in improving performance measurement is the “report card” each sanctuary is asked to fill out. The most recent version, completed in 2004, and set aside when the PART process began, asks each site to rate itself on 69 categories. Most categories measure outputs, such as whether the site regularly reviews the effectiveness of training and workshop materials; whether a national communications plan has been reviewed and meets current needs; and whether the site has highly developed biological and habitat monitoring programs that meet current needs.

The report card system is aimed at encouraging the sites to see themselves as part of a national system. It is designed to be filled in during a “performance day” where staff at every site meet to evaluate their progress, before developing their proposals for next year’s budget. In addition, the report cards help the NMSP program director get a detailed picture of what is happening at the different sites, with more clarity and specificity than is possible in written reports, or at the regular meetings of top program leaders.

There are also numerous other policy statements and protocols in various stages of draft. Quite possibly they would be useful in recording decisions that will set precedents for the program.

Taken as a whole, though, it is clear that the program could streamline its planning processes, and reduce the burden of paperwork by focusing on the four key planning tools listed in the previous section, while eliminating others. Not all plans and policies need to focus on the 19 performance measures. And it is true that often the process of writing a plan can be more useful than the plans themselves. The process can be a way to train staff, and to build stronger working relationships among staff, or with other agencies, or the public.

It is also, true, however, that agencies that lack funds, regulatory authority, or political clout to make things happen often spend their energy planning for what they would do if they obtained either funds or power. Such activities are not plans for performance, but plans in lieu of performance.

Finding: NMSP continues to produce a large number of plans, policies, protocols, and other documents. In many cases, it is not clear how those documents and processes will contribute to more effective performance.

Therefore, the Panel recommends:

- The top priority for the NMSP should not be more planning, but using existing data, and gathering additional data, to manage for performance.
- NMSP should sharply reduce the number of planning activities, so it can invest its energies in those plans and systems that will make the biggest contribution to performance management—specifically in producing first-rate sanctuary management plans, and getting them approved on time; writing accurate condition reports on all sanctuaries; and ensuring that the budget process becomes a tool for letting performance goals and measures of results drive decisions.
- Plans for crosscutting programs like education, science, and historical resources should focus on NMSP’s comparative advantage within each field, and on how NMSP can use that advantage to entice others to help the program improve its scores on the 19 performance measures.

Table 5. NMSP Planning and Guidance Documents

Document	Description
Strategic Plan, including 19 performance measures	Outlines mission, vision, goals, objectives and program performance measures that together define how NMSP will address the requirement of NMSA.
Sanctuary Management Plans	Sanctuary-specific; lay out and prioritize goals, roles, and responsibilities for upkeep of the sanctuary.
System-Wide Monitoring (SWiM) Framework, including Condition Report	Framework establishes common design, implementation and reporting principles for monitoring at all sanctuaries. ----- Condition report details the condition of the sanctuary, including a scoring table with status and trends.
Annual Operating Plan	Links program activities to budget.
NMSP Draft Report Card	Collection of tables based on 25 managerial functions within NMSP's AOP; each row of the table presents an activity on which NMSP is graded; grading is conducted internally, and through review by the NMSP leadership team and the site managers.
State of the Sanctuary Reports (national and sanctuary-specific)	Aimed at annually informing general public of NMSP's work; describes achievements in a graphically rich layout.
10-Year Requirements Studies	Two studies completed so far: small boats and facilities. eight others forthcoming. Studies evaluate current status, and identify resources needed to meet existing and forecasted requirements of the program.
Education Plan	Identifies a plan of action for the next ten years based on the program's education mission.
System Development Plan	Describes history of program and roughly outlines future activities.
Sanctuary Science: Evaluation of Status and Information Needs	Identifies the most important science and information needs for natural resource management in the sanctuaries, and evaluates how well those needs are being met by current and planned activities.
Various NMSP Draft Protocols	Instructions for developing planning documents in areas that include facilities and vessel acquisition, congressional outreach, public education, heritage activities, policy formation, science development and implementation, and human resources protocols.
Life Cycle Framework	Describes the evolution of a sanctuary from designation to maturation over a six-phase period lasting approximately 10-20 years.

CHAPTER THREE

PERFORMANCE-BASED MANAGEMENT ON A POLICY FRONTIER

The fourth question that this report addresses is the broadest and perhaps the most important: what is NMSP's role in the inchoate, but evolving, field of marine governance?

Two recent blue-ribbon commissions both reported that current marine governance is incoherent and therefore fails. It does not protect the environment adequately, or facilitate new economic uses of the ocean. Neither of the commissions paid much attention to the National Marine Sanctuary Program, and neither offered a vision of its future.

But both commissions proposed as a remedy for today's incoherence a form of "ecosystem management" that is strikingly similar to the statutory language that authorizes the sanctuary program, and to the way that the program functions today at its best.

Could the sanctuaries function as places to test fundamental reforms in marine governance along the lines recommended by the commissions?

THE OCEANS ARE A FRONTIER

The performance-based management systems described in Chapter 2 look for results in the near- and mid-term, and for progress towards goals that are fairly well defined. But marine governance is a policy frontier. There is no widely accepted, well-established way of making decisions; no widely supported, well-established array of institutions; and often not enough available information about how marine ecosystems function to have a detailed understanding of what ecological goals might be, or how those goals could be achieved.

The National Marine Sanctuary Program is just beginning to develop a plan that looks beyond the short- to mid-term focus of PART and performance-based management to address the long-term future of the program. Its recent draft system development plan focuses primarily on the past, tracing the evolution of the program. The draft compares the program to an approaching ship whose features are not yet clearly discernible.

On a frontier, a vivid dream of the future is often helpful.

As America's terrestrial frontier moved west during the 19th Century, there was broad agreement about the general direction of national policy. On the western frontier, the nation purchased—or conquered—land to ensure that borders expanded to the west; opened the country to settlement; plowed lands; dug mines; built towns and industries connected by roads, canals, and railroads; and established political and social communities governed by American law. Those actions inspired national policy and programs for decades, and are still part of our self-image.

The oceans are today's economic and political frontier. Advances in science and marine engineering are making it possible for people to visit, play, exploit, and experience the surface

and the depths of the ocean in new ways. Over a hundred years ago, national law reached only three miles offshore (the distance from which cannon-fire from a 17th Century warship could reach towns on the shore). Nations have extended their jurisdiction into the ocean incrementally to 12 miles, the 200-mile exclusive economic zone, and the outer continental shelf. Now they are building a structure of international law to govern the high seas piece by piece.¹⁹

Congress created the United States Commission on Ocean Policy in 2000, citing the “pressing need for a coherent national system of ocean governance.”²⁰ Both that commission and the Pew Oceans Commission, which was financed by the Pew Charitable Trusts, and had a similar mission, began their reports by explaining how the lack of adequate governance was causing serious problems. The Pew Commission pointed to environmental problems such as coastal habitat loss, harmful algal blooms, overfishing, and invasive species. “The root cause of this crisis is a failure of both perspective and governance.”²¹ The Commission on Ocean Policy agreed, adding that the oceans are an important part of the national economy and arguing that inadequate governance is hampering the growth of new uses of the ocean that, if carefully regulated, could be environmentally sustainable. For example, no agency has clear authority to guide offshore wind-power farms, or deep-water aquaculture.

HOW TO GOVERN THAT FRONTIER

The two commissions had very similar recommendations about how to improve ocean governance. They both argued that the major flaw of marine governance in the United States today is that it is oriented toward narrow goals, and thus is highly fragmented. The Pew Commission said the problem is “a hodgepodge of ocean laws and programs that do not provide unified, clearly stated goals and measurable objectives.”²²

The Commission on Ocean Policy said the problem is that the statutes passed in the 1970s, and which still guide governance, “lacked an overarching vision critical to a coherent national ocean policy.”²³ It also explained that in the past five decades federal ocean policy has “zigged and zagged” from a focus on science in the 1960s, to many creative but uncoordinated efforts in the 1970s to address a diversity of issues, to skepticism about regulation in the 1980s.

“The dominant trend in the 1990s was a growing sense of dissatisfaction with the ad hoc approach . . . On many key ocean issues, debate was leading not to consensus, but rather to heightened disagreements that could not be resolved under existing laws and arrangements, and often to litigation.”²⁴

¹⁹ Working through the United Nations, nations negotiated the Law of the Sea Treaty to establish a broad framework for governance of the oceans beyond the exclusive economic zone, but the United States has refused to ratify it.

²⁰ Commission on Ocean Policy, *An Ocean Blueprint for the 21st Century* (2004), 55.

²¹ Pew Oceans Commission, *America's Living Oceans: Charting a Course for Sea Change* (2003), v-vii.

²² *Ibid.*, viii.

²³ Commission on Ocean Policy, 52.

²⁴ *Ibid.*, 54.

The two commissions recommended not the abolition or consolidation of the nation's 55 congressional committees, 20 federal agencies, and at least 140 statutes governing coastal and ocean management, but a new management system with four features.

- **Ecosystem-based management.** Virtually all federal agencies responsible for the ocean should be authorized to address a specific use (*e.g.*, fishing or transportation); problem (*e.g.*, pollution); or activity (*e.g.*, scientific research, defense, or education). The Pew Commission said that, henceforth, agencies should work in tandem to “maintain the health of the whole as well as its parts.”²⁵ The Commission on Ocean Policy said that “Ecosystem-based management looks at all the links among living and nonliving resources, rather than considering single issues in isolation . . . Instead of developing a management plan for one issue (such as a commercial fishery or an individual source of pollution), ecosystem-based management focuses on the multiple activities occurring within specific areas that are defined by ecosystem, rather than political, boundaries.”²⁶
- **A National Ocean Council.** To set national policies and guide coordinated, multiagency ecosystem management, both commissions recommended a National Ocean Council comprising the heads of key ocean agencies, and operating within the Executive Office of the President.
- **A Stronger NOAA.** The National Oceanic and Atmospheric Administration should have a larger budget, and should be an independent agency rather than a part of the Department of Commerce, according to the Pew Commission.
- **Regional Ocean Councils.** Coordinated marine policy would be ensured by forming regional councils, including officials of state and federal agencies, that would work collaboratively with stakeholder groups like fishermen, divers, marine transportation, environmental advocates, and others. The councils would not take over the responsibilities of existing agencies, but would write regional ocean management plans, and coordinate the implementation of the plans.
- **Top-Down Approach.** The president and Congress would take the lead in boosting budgets and bringing agencies together.

As of this writing, neither Congress nor the president has taken the bold steps that the commissions recommended. The president did issue the Ocean Action Plan, which does not promise a new ocean council, or large budget increases. It does, however, mention the designation of a sanctuary in the Northwestern Hawaiian Islands, among other items.²⁷ The Joint Ocean Commission, a committee co-chaired by the chairs of the two commissions, issued a report that awarded a grade of D+ for the federal response to their reports.

The slow pace of implementation does not mean that the commissions' recommendations will never be heeded. The underlying concepts in the commission reports have been slowly gaining

²⁵ Pew Oceans Commission, 8.

²⁶ Commission on Ocean Policy, 63.

²⁷ The president's Ocean Action Plan is available at <http://ocean.ceq.gov/actionplan.pdf>

strength for many years, and are likely to have staying power. NOAA has adopted ecosystem-based management as one of the four central focuses for planning its future programs and budgets, for example.

The sanctuary program is unique among marine agencies—or very nearly so—in having authorizing legislation and active programs along the lines suggested by the commissions. The National Marine Sanctuary Act directs sanctuaries to consider the full range of environmental values at the sites, and also to facilitate human uses as long as they are consistent with resource protection.²⁸ The act gives the program authority to promote science and public education as well. It also states explicitly that the sanctuaries should coordinate with other agencies and not duplicate their work, which would seem to be a mandate to think and act in terms of ecosystem-based management.

And the commissions' concept of regional councils is similar to the way that the sanctuary program has been working successfully for years. As detailed earlier, sanctuary advisory councils—comprising community leaders, staff from other agencies, and representatives of

A civic approach to ocean governance—participatory, multi-purpose, and locally based with clear national goals—may be the key to governing effectively on the ocean frontier.

different stakeholder groups—have played a central role in writing sanctuary management plans. And in some sanctuaries, working groups from those councils have begun to function as useful venues for collaboration and negotiations about issues of concern to multiple agencies—even on such contentious topics as protected marine areas.

The sanctuaries are much smaller, of course, than the regional systems that the commissions envisioned. Both commissions endorsed large marine ecosystems (LMEs) as the best size for regional governance. (See Figure 5.)

Marine scientists have been developing the LME concept for some years. From a scientific point of view, there are vitally important interactions at the level of the entire West Coast, the Northeast Coast from Virginia to Maine, and the Gulf of Mexico. But the term “ecosystem” as used by the commissions includes more variables than those measured by oceanographers and marine biologists. Human activities are an integral part of an ecosystem, so presumably human interconnections are as important as environmental links. But there are few political or social links at the scale of LMEs.

So the smaller size of sanctuaries may be an advantage. Perhaps the sanctuaries—at least the larger ones in Florida, along the California coast, and in Hawaii—are a set of marine ecosystems at a level where citizens and agencies can find common cause more easily, and can communicate and collaborate more effectively than at the scale of LMEs. A civic approach to ocean

²⁸ The Coastal Zone Management program and the National Estuarine Research Reserves have goals almost as broad as those of the sanctuaries, but their responsibilities focus mostly on the terrestrial coast and near-shore waters, and they operate through state governments whose authority extends only three miles offshore.

governance—participatory, multipurpose, and locally based with clear national goals—may be the key to governing effectively on the ocean frontier.

Perhaps national marine sanctuaries are best understood as places where citizens, stakeholders, and agencies can experiment with ways to make ecosystem-based management work in the real world of contentious issues, agency rivalries, and limited resources. Sanctuaries are places where there is a clear national interest in a healthy environment, and a strong economy—as expressed in statutes and in performance measures—but where all politics (or at least a lot of politics) is local.

Figure 5. Large Marine Ecosystems of the United States



Source: University of Rhode Island Data Center, Department of Natural Resources, in *An Ocean Blueprint for the 21st Century: Final Report of the U.S. Commission on Ocean Policy* (2004), 64.

HOW NMSP CAN CONTRIBUTE TO OCEAN GOVERNANCE

In some quarters, NMSP is considered weak and ineffective. As mentioned earlier, that perception is at least in part a holdover from the days when both the program's staff and budget were quite small.

But the failings that do occur are the result of a lack of either internal discipline or clout. NMSP's inability to get final approval of sanctuary management plans is one example. Furthermore, along the Atlantic Coast, sanctuaries seem too small to be an important force in protecting ocean ecosystems: the sites include only a small part of larger ecosystems that are in peril, or are small spots centered on shipwrecks.

Probably the most important reason for the program's weak reputation is that many people have unrealistic expectations about what the program can do. The very name "sanctuary" suggests that marine life in all parts of the area will be in no-take areas—safe from commercial fishing—even though Congress clearly never intended that.

In 1966, an advisory committee to President Lyndon Johnson called for a marine wilderness protection system. Congress rejected that path when it created the sanctuary program in 1972. The law's list of purposes and policies says that the program should:

. . . facilitate to the extent compatible with the primary objective of resource protection, all public and private uses of the resources of these marine areas not prohibited pursuant to other authorities.²⁹

Many environmentalists consider that policy a mistake, and have argued ever since that the sanctuaries should be managed as wilderness. In a 2005 report, for example, the Marine Conservation Biology Institute said:

Today, hundreds of marine scientists around the world call for the creation of nationwide networks of fully protected conservation areas to help protect and restore degraded ocean ecosystems.

Although existing sanctuaries do offer some protection to nationally significant marine areas, they fail to add up to a complete preservation system . . . The fundamental flaw of the Sanctuaries Act is its lack of a singular focus on preservation.

The Wilderness Act provides a compelling and successful model for establishing a system of areas managed to protect their inherent wild character by generally prohibiting commercial uses, while allowing low-intensity activities to continue.³⁰

In recent years, many environmentalists and marine scientists have advocated for a somewhat different approach to marine conservation: rather than wilderness, they recommend the creation of networks of marine reserves, or no-take areas. In marine reserves, commercial fishing is forbidden, or at least very much restricted.³¹

When some sanctuaries were designated in the 1980s or early 1990s, local fishermen sought assurances that NMSP would not attempt to regulate or prohibit commercial fishing. In a few cases, statements in the original management plan appear to make that promise, at least for the life of that plan. Proposals by the California sanctuaries to establish marine reserves (prohibiting commercial and perhaps recreational fishing) have been particularly contentious. Some regional

²⁹ See 16 U.S.C. 1431(b)(6).

³⁰ William J. Chandler and Hannah Gillelan, *The Makings of the National Marine Sanctuary Act: A Legislative History and Analysis* (Marine Conservation Biology Institute, 2005), 5, 20, 30.

³¹ Motor vehicles, roads, buildings, mines, and forms of human development are not permitted in terrestrial wilderness; marine reserves usually forbid commercial fishing and may also prohibit sport-fishing and other intensive human activities.

offices of the National Marine Fisheries Service, and some Fisheries Management Councils (which draft the plans that regulate commercial fishing for approval by NMFS), have stoutly resisted any effort by sanctuaries to create marine reserves.

On the other hand, the Keys Sanctuary has worked closely with NMFS and the regional Fishery Management Council to designate marine reserves. And in the Channel Islands, the sanctuary's advisory council played a central role in designing a system of marine reserves in state waters, after an effort by the state had failed to reach any decision.

In a recent editorial about the proposed Northwestern Hawaiian Islands Sanctuary, the *Washington Post* echoed sentiments for marine reserves, and skepticism about sanctuaries that do not prohibit fishing.

The oceans are under enormous stress; overfishing is one predominant cause, and these areas are national treasures. If a large expanse of remote water with limited extant human investment and huge ecological significance does not qualify as a true sanctuary, it will be a sign that the political will to save the oceans just isn't there.³²

Published academic literature about NMSP is sparse, but equally critical. A recent article, "The Disappointing History of the National Marine Sanctuary Program," argues that the National Marine Sanctuaries Act is symbolic legislation, and that the program "fall[s] short in several ways of the comprehensive vision that Congress set forth in 1972 act."³³ The author says that Congress had in mind something like the National Park Service, or the U.S. Forest Service. He argues that NMSP is disappointing because the National Marine Sanctuaries Act did not specify procedures and guidelines for planning, as the National Forest Management Act does in great detail, or give citizens legal standing to sue if the program does not do its job, as in the National Environmental Policy Act, and in some Environmental Protection Agency legislation.

All those criticisms of marine sanctuaries are misleading in two ways.

First, an increasing number of sanctuaries have established marine reserves within their borders. The Florida Keys Sanctuary was the first to do so, and a few years later the Channel Islands Sanctuary won state approval to set aside 16 percent of the state waters within the sanctuary as marine reserves. For several years, NMFS and the regional Fishery Management Council had resisted creation of marine reserves in the federal waters there, or in three other California sanctuaries. In late 2005, the NOAA administrator approved marine reserves proposed by the sanctuary program in some areas, but said that in the other areas proposed, NMFS and the Fishery Management Council should create marine reserves under their own authority. The council refused to do so.

³² "Keep the Islands Pure," *Washington Post* (March 17, 2006): A18.

³³ Dave Owen, "The Disappointing History of the National Marine Sanctuary Program," *NYU Environmental Law Journal* 11 (2003): 746.

Second, the Forest Service and the Park Service may not be the best model for evaluating the performance of NMSP. Managing the oceans is a far different task than managing terrestrial ecosystems.³⁴

One difference is that ocean management is a four-dimensional problem, not two-dimensional as on land. Biological, chemical, and physical conditions are very different at different depths in the ocean. Time is a fourth dimension. On land, animals and birds move, but vegetation does not. Oceans are fluid, and can move significantly in relatively short periods of time. Currents can bring new food and new species in a matter of days or weeks; tides change twice daily.

The second difference in ocean governance is that it has a weaker knowledge base for collective action. There are no human settlements on the ocean. Few people experience more than a mile or two of near-shore waters on a daily basis. Most who visit oceans regularly have a narrow range of purposes—to fish, boat, swim, dive, or operate a ship—and thus have a limited experience of what happens on oceans. There is no private property—or at least there was not until a few recent experiments with granting individual fishermen permanent rights to fish for certain species in particular places. There is no local government, so there is little social interaction or community building, and thus a weaker sense of the common weal. And, finally, enforcement is more difficult.

The task of governing marine ecosystems is to manage a four-dimensional world that is hidden from most people, and has no citizens.

The task of governing marine ecosystems is to manage a four-dimensional world that is hidden from most people, and has no citizens. We know much less about that world than we do about the land.

In that four-dimensional world, the sanctuary system plays a role that is quite unlike the roles played by the National Park Service, the U.S. Forest Service, or other federal agencies that manage resources on land. Governance in national marine sanctuaries is organized around cooperative problem solving—managing complex, uncertain, multifaceted situations with active involvement of citizen leaders, rather than through systematic planning and regulation by federal experts. That may not be the only way—or the best way—to govern the oceans, but it is a new model worthy of close attention.

THE PATH AHEAD

As Chapter 1 explained, the National Marine Sanctuary Program has been working hard since 2000 to build out the system. It has added staff and sites; encouraged sanctuaries to collaborate; developed a national identity and visibility; and performed with competence.

³⁴ The Pew Commission says that American “stewardship of the land, though flawed in practice, nonetheless offers useful insights for improving ocean governance.” It suggests that land-use zoning and national parks could be adapted to the ocean. There is no discussion of the differences between the ocean and terrestrial ecosystems. Pew Oceans Commission, 31-32.

To a great degree, then, the last five years have devoted to building NMSP's internal capacity, and external visibility. The next steps will require different activities. Instead of planning, developing systems, and winning recognition, the central task will be to execute effectively. Over the next few years, the sanctuary program has the opportunity to demonstrate that its distinctive approach to managing ocean and coastal waters is a key to governing oceans effectively.

On the West Coast, new sanctuary management plans will finally be released in the next year or two. The sanctuaries will then have to collaborate with communities, stakeholders and other agencies to implement those plans. Advisory councils, the members of working groups, and the media will be watching their progress closely. The situation offers an excellent opportunity to learn how the sanctuaries' success in collaborative planning can continue and grow as their plans are implemented.

The Northwestern Hawaiian Islands Marine National Monument will be another place to test new approaches to marine governance in the next few years. Managing the monument will provide an unprecedented challenge. How will NMSP monitor conditions in a chain of islands 1200 miles long? How will it enforce rules limiting commercial fishing and other regulated activities? The islands are far away from centers of population, but it will take a substantial staff of managers and scientists, along with a small fleet of boats and airplanes to keep track of conditions. NMSP will have to work closely with other entities that have resources the program lacks. And it will have to keep in touch with the citizens and elected leaders of Hawaii, who will be watching very carefully.

The sanctuary program has the opportunity in the next few years to demonstrate that its distinctive approach to managing ocean and coastal waters is a key to governing oceans effectively.

The Florida Keys sanctuary will also focus on implementation, with data coming in about the effectiveness of both no-take marine reserves, and Everglades restoration upstream from the Keys. Other sites will follow the new agenda of protecting, exploring, and publicizing valuable shipwrecks. And over the next two to three years, the Olympic Coast Sanctuary, the smaller Hawaiian Islands

Sanctuary, the Flower Gardens Sanctuary in the Gulf of Mexico, and the tiny site in American Samoa will focus on updating their management plans and addressing new issues.

Indeed, all the sanctuaries offer new approaches to ocean governance. Congress, the Council on Environmental Quality, and NOAA can all learn whether the sanctuaries' model of civic ocean governance—participatory, multipurpose, and locally based with clear national goals—will produce results. NOAA will also be interested in how sanctuaries can be models for its “one NOAA” strategy of integrated, cooperative work by the many different programs inside the agency.

The sanctuary program could take two important first steps in that direction. The first would be to commission an independent evaluation of the effectiveness of its work in implementing its management plans at the California sanctuaries, the Northwestern Hawaiian Islands, and other

sites. Such a study would give solid evidence to top policymakers about the effectiveness of NMSP's distinctive approach to ocean governance; address head-on the lingering, widespread skepticism about the effectiveness of the program; and raise the program's score on the next PART review.

The second step would be to work with other NOAA programs to expand successful examples of collaborative planning and management at individual sanctuaries to other sites, and to national activities. For example, NMSP might work with the Coastal Zone Management Program, the National Estuarine Research Reserves, and NMFS to adapt NMSP's condition reports to other places. Agencies might also work together to develop new performance measures for public education. And lessons from effective multiagency research and regulatory activities could be models for replication elsewhere.

NMSP's Future

Findings:

- NMSP is one of the few marine agencies—and the only marine agency working in the open ocean—that is explicitly charged with protecting the full range of marine resources, as well as facilitating uses, and with assisting with research and public education. NMSP thus has the authority for—and is developing the capacity to do—the kind of ecosystem-based management called for by two national ocean commissions.
- In one way, NMSP takes a different approach to ecosystem-based management than the two commissions suggested. The commissions suggested realignments at the top of the governance systems as the next step; the sanctuaries are showing how bottom-up approaches work—front-line staff from multiple agencies working with local stakeholders and community leaders in advisory councils and working groups to protect each sanctuary's resources. The two approaches should be complementary and mutually reinforcing.
- There will be many opportunities in the next few years for Congress, the Council on Environmental Quality, NOAA and other agencies to use the sanctuaries as places to test the effectiveness of civic ocean governance—participatory, multipurpose, and locally based with clear national goals.

Therefore, the Panel recommends:

- Congress, the Council on Environmental Quality, and NOAA should use national marine sanctuaries, and the national program itself, as places to test NMSP's promising approach to regional marine ecosystem governance—a civic approach based on networked governance and citizen participation, rather than on central planning by expert professionals.
- The sanctuary program should reach out to other agencies, especially the Coastal Zone Management program, National Estuarine Research Reserves, National Marine Fisheries Service, and other NOAA agencies with important responsibilities for protecting ocean ecosystems, to implement and measure the effectiveness of new

approaches to ocean and coastal governance. Specific projects might focus on engaging the public in making judgments about the condition of marine areas, and priorities for action, performance measurement, and multiagency collaboration in networked governance.

- NMSP should use its sites to experiment with new civic approaches to governance, grouping them into two or three categories (small sites focused on protection and use of specific resources vs. larger sites with a combination of protection and multiple-use management); and allowing substantial innovation and discretion by individual sites, as long as they have sanctuary advisory councils, management plans and condition reports; and focus their work on the 19 performance measures.
- NMSP should commission an independent evaluation of its operations.

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Stellwagen Bank NMS Condition Summary



Status:
▲ Conditions appear to be improving toward one of the higher categories
— Conditions do not appear to be changing
▼ Conditions appear to be declining toward one of the lower categories

#	Questions/Resources	Rating	Basis for Judgment	Description of Findings
WATER				
1	Are specific or multiple stressors, including changing oceanographic and atmospheric conditions, affecting water quality?	—	Numerous contaminants at low levels	Selected conditions may preclude full development of living resources assemblages and habitats, but are not likely to cause substantial declines
2	What is the eutrophic condition of sanctuary waters and how is it changing?	—	Results of ongoing monitoring	Conditions do not appear to have the potential to negatively affect living resources or habitat quality.
3	Do sanctuary waters pose risks to human health?	—	Results of ongoing monitoring	Conditions do not appear to have the potential to negatively affect human health.
4	What are the levels of human activities that may influence water quality and how are they changing?	—	Vessel discharges MWRA outfall discharge	Some potentially relevant activities exist, but they do not appear to have had a negative effect on water quality.
HABITAT				
5	What is the abundance and distribution of major habitat types and how is it changing?	▲	Alteration of microhabitat due to bottom dragging & dredging	Selected habitat loss or alteration may inhibit the development of assemblages, and may cause measurable, though not severe declines in living resources or water quality.
6	What is the condition of biologically-structured habitats and how is it changing?	▲	Fishing gear impacts	Selected habitat loss or alteration has caused or is likely to cause severe declines in some, but not all living resources or water quality.
7	What are the contaminant concentrations in sanctuary habitats and how are they changing?	—	Limited monitoring results	Selected contaminants may preclude full development of living resource assemblages, but are not likely to cause substantial declines.
8	What are the levels of human activities that may influence habitat quality and how are they changing?	▲	Fishing gear impacts	Selected activities could cause or have caused severe impacts, and cases to date suggest a pervasive problem.
LIVING RESOURCES				
9	What is the status of biodiversity and how is it changing?	▲	Long-term changes in fish diversity	Selected biodiversity loss has caused or is likely to cause severe declines in some, but not all ecosystem components, and reduce ecological integrity.
10	What is the status of environmentally sustainable fishing and how is it changing?	▲	Published literature	Extraction has caused or is likely to cause severe declines in some, but not all ecosystem components, and reduce ecological integrity.
11	What is the status of non-indigenous species and how is it changing?	▼	Recent invasives discovered	NIS exist, precluding full community development and function, but are unlikely to cause substantial or persistent degradation of ecological integrity.
12	What is the status of key species and how is it changing?	—	Cod (keystone species) Sand lance (key species)	The reduced abundance of selected keystone species has caused or is likely to cause severe declines in some, but not all ecosystem components, and reduce ecological integrity, or, selected key species are at substantially reduced levels, and prospects for recovery are uncertain.
13	What is the condition or health of key species and how is it changing?	—	Whale strikes & entanglements	The diminished condition of selected key resources may cause a measurable, but not severe reduction in ecological function, but recovery is possible.
14	What are the levels of human activities that may influence living resource quality and how are they changing?	—	Stable levels of activity	Selected activities have caused or are likely to cause severe impacts, and cases to date suggest a pervasive problem.
MARITIME HERITAGE RESOURCES				
15	What is the integrity of maritime heritage resources and how is it changing?	▼	Fishing gear impacts	The diminished condition of selected archaeological resources has reduced, to some extent, their historical, scientific, or educational value, and may affect the eligibility of some sites for listing in the National Register of Historic Places.
16	Do maritime archaeological heritage pose an environmental hazard and is this threat changing?	—	Lack of hazardous cargo	Maritime archaeological resources pose few or no environmental threats.
17	What are the levels of human activities that may influence maritime heritage resource quality and how are they changing?	—	Fishing gear impacts	Selected activities warrant concern and action, as large-scale, persistent, and/or repeated severe impacts have occurred or are likely to occur.

Source: NMSP, Stellwagen Bank National Marine Sanctuary Condition Report (2005) 2.





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