



MARINE PROTECTED AREAS NEEDS ASSESSMENT

EXECUTIVE SUMMARY

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**Prepared by the NOAA Coastal Services Center
in cooperation with the
National Marine Protected Areas Center**



NOAA Coastal Services Center
LINKING PEOPLE, INFORMATION, AND TECHNOLOGY

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During the period from May 2001 to February 2002, the National Oceanic and Atmospheric Administration's (NOAA) Coastal Services Center (CSC) conducted a needs assessment to support the newly created National Marine Protected Areas (MPA) Center. The assessment aimed to identify information, skills, tools, and processes needed to foster effective MPAs. The results of the needs assessment will guide the National MPA Center as it begins to design services and products to support a national network of MPAs.

Overview of the Marine Protected Areas Needs Assessment

A 12-member planning team of individuals from NOAA and the Department of the Interior (DOI) advised CSC on the MPA needs assessment. Although numerous audiences may look to the National MPA Center for information and assistance, the team agreed that this initial, nine-month assessment should focus on the needs of coastal and marine resource managers. This target audience included both site managers and their staffs, as well as state, regional, and federal managers. A wide range of MPA stakeholders was consulted, since input from groups such as fishing interests and tourism providers gave important perspectives on management issues and processes. The assessment examined the gap between current and desired knowledge, skills, and tools needed for effective MPA management, and identified potential strategies and tools for filling those gaps.

Four objectives were defined for the assessment:

- *What:* Identify overall challenges surrounding MPA management, as well as specific gaps in existing knowledge and skills of marine resource managers regarding key MPA issues.
- *Why:* Determine attitudes, motivations, and disincentives that could impact managers' capacity to benefit from new information, training, or technical assistance.
- *Who:* Identify subgroups of MPA managers that may benefit most from information, training, and technical assistance.
- *How:* Identify formats and distribution methods that will maximize the utility of information, products, and services.

Recognizing the multidisciplinary, multijurisdictional nature of marine resource issues, the MPA needs assessment looked at needs across levels of government, across marine uses, and across the categories of science, education and outreach, and training and technical assistance. Similarly, identified needs cover multiple disciplines and call for action by different levels of government.

Methodology

Although a number of needs had been identified by the National MPA Center before this project began, a formal assessment provided a systematic approach to identifying and documenting managers' needs. Certain issues and stakeholder concerns have received a great amount of attention during individual MPA efforts, but the needs assessment provided an opportunity to hear from a wide range of stakeholders on a variety of MPA-related issues.

Multiple methods were used to gather information for the needs assessment, but the majority of ideas came from focus groups and phone interviews, since these formats allowed targeted, in-depth discussion of management needs. A traditional literature review was also performed, and CSC staff gleaned information from MPA-related meetings and from electronic discussion list

postings over the nine-month period. Finally, a computer-assisted content analysis of news media from the previous six years examined public opinion and awareness surrounding MPAs.

Results

Needs assessment results were organized under the three broad headings of 1) MPA-related policy and legal issues/responsible authorities, 2) MPA-related science and technology, and 3) MPA program implementation. Together these categories address 23 individual topic areas, and each is summarized briefly below:

Section I: MPA-related policy and legal issues/responsible authorities

- *Identifying MPA goals and defining MPA terminology:* Individuals across stakeholder groups repeatedly called for an articulation of MPA goals, and for clear and consistent definitions of MPA-related terminology. Site managers need clear direction from upper-level management on agency goals and involvement regarding MPAs.
- *Integrating management across jurisdictions:* MPA efforts are hindered by the current lack of integration and cooperation between agencies involved in different aspects of marine resource management. Integration is needed across levels of government, across the land/sea interface, and across pieces of ocean policy legislation.
- *Information sharing and management:* Managers need accessible, comprehensive information about coastal and marine resources and management.
- *Intra- and interagency coordination and cooperation:* Many MPA efforts are under way at local, state, national, and international levels, and there is an overwhelming need for coordination between the various public entities involved.
- *Fisheries management issues:* Long-standing fisheries issues were raised both as a reason why MPAs are needed, and as a reason why MPA development is incredibly complex and demands careful planning, stakeholder consultation, and adaptive management.

Section II: MPA-related science and technology

- *Inventorizing and monitoring:* Existing MPAs need more resources for inventorizing and monitoring, and any new MPA must incorporate these activities from the beginning.
- *Mapping and spatial analysis:* MPA managers need maps and spatial analysis tools to define boundaries and resource locations, to help with planning processes, and to contribute to public outreach and education efforts.
- *Natural science needs:* Four needs were raised repeatedly – comprehensive habitat information, larval transport research, evaluation of current closures, and modeling work.
- *Social science needs:* Social science work related to MPAs is extremely limited. Research is needed on topics such as socioeconomic impacts, public opinions, and cultural values.
- *Science in management:* To ensure that research is *applied*, scientists and managers need to collaborate, and managers need improved mechanisms for accessing research findings.
- *Climate change:* Sources felt managers are not dealing sufficiently with the topic of climate change, and recommended both more research and planning for potential impacts.

Section III: MPA program implementation

- *Public education and outreach:* There is an overwhelming need for public education about MPAs and about marine resources in general.
- *Planning methods for identifying MPAs:* Sources stressed the need for improved planning methods. Zoning and geographic information system (GIS) technology were highlighted as two specific tools that should be used in future planning efforts.
- *Stakeholder/community involvement:* Community participation needs to be made more meaningful by including more stakeholders and extending beyond a few public meetings.
- *Working with indigenous peoples:* Indigenous peoples' traditional connections to and knowledge of marine resources make them critical, valuable participants in MPA processes.
- *Working with fishermen:* Fishermen's reliance on marine resources demands that they be included in MPA processes and that efforts be made to enhance communication with them. Fishermen also can contribute unique and detailed natural and social science information to management efforts.
- *Managing visitor impacts:* MPA managers need to consider and address the ecological and social impacts of increasing marine and coastal recreation.
- *Historical and cultural issues:* Resources with historical and cultural significance need to be inventoried, monitored, and protected. Cultural knowledge is crucial to working effectively with users.
- *Enforcement:* Current managers need more resources to deliver adequate enforcement, and any new MPA efforts must plan for enforcement. New technologies need to be explored, and agencies must join forces to maximize the impact of existing enforcement resources.
- *Evaluating MPA effectiveness:* Current and future MPAs must be evaluated to see if they are meeting established goals, and to quantify impacts. Regional- and national-level evaluations are needed to examine the efficacy of MPA networks.
- *Funding:* Site and regional managers need more resources to address gaps identified throughout the assessment. Sustainable funding is a prerequisite for new MPA efforts, and it is essential to pursue innovative sources.
- *Growth and land-based threats:* Several sources raised growth as an important issue, and said that marine resource managers need to focus more on land-based threats.
- *Site- and sector-specific issues:* This final section presents several issues that did not receive extensive discussion but that bear mentioning as current challenges that were identified by individual areas, management entities, or user groups.

Two stand-alone sections of the report discuss managers' information sources and the results of the computer-assisted content analysis of MPA media. The needs assessment revealed that managers utilize a wide range of information sources, which in turn means that new information should be delivered in multiple formats. Content analysis findings reinforced the need for public education and outreach on MPAs, and demonstrated that marine areas are important for a host of environmental, social, commercial, and recreational values.

Discussion

The report concludes with a brief summary of overarching, crosscutting needs, followed by several possible areas for further assessment. (Please note that these topics are not in any priority order.)

Crosscutting needs

- *Partner wherever possible:* The results of the assessment demonstrate that a network of both public and private support must be identified, fostered, and coordinated to provide effective assistance to the resource managers who are working to protect our nation's marine resources. Collaboration is essential both to address existing conflicts and duplications of effort, and to maximize the resources directed toward long-term protection of marine ecosystems. Enhanced intra- and interagency cooperation are needed, and partnerships with stakeholders are important both to build trust and to take advantage of the skills and resources of various groups.
- *Pay attention to the human dimension:* Social science regarding MPAs is desperately needed, and there is universal agreement across the MPA community that stakeholder/community involvement is critical to success.
- *Connect managers with information, technical assistance, and funding that already exist:* Extensive information, technical assistance, and funding opportunities exist to help address management needs, but mechanisms are needed to identify and coordinate these resources for managers.
- *Take time to define MPAs and associated boundaries and authorities:* Managers and stakeholders alike are calling for more definition of MPA terms and goals. Beyond a basic definition of the concept, there is a need to clearly delineate authorities and boundaries of individual MPAs.
- *Learn from past processes:* There is much to be learned from existing MPAs and MPA planning processes. Case studies can demonstrate effective tools and techniques for achieving MPA goals, providing models for future development and management efforts.
- *Institute program evaluation:* Evaluation is essential to determine if MPAs are achieving identified goals, to identify and quantify impacts, and to allow adaptive management. Evaluation is needed both within individual sites and at regional and national levels.

Potential areas for future assessment work

- *Needs assessment targeting indigenous peoples:* Working with indigenous peoples is at once a critical and extremely complex component of MPA efforts. A targeted needs assessment could examine ways to create more meaningful involvement in MPA processes and to incorporate indigenous knowledge into marine management.
- *Needs assessment targeting recreational and commercial fishermen:* This initial assessment only scratched the surface of the particular concerns, desires, and knowledge of fishermen. A targeted needs assessment would examine how to better address fishermen's fears and involve them in MPA processes, as well as how to access fishermen's extensive knowledge of marine resources.
- *Review of MPA-related technology:* It would be valuable to identify current and potential uses of technology in MPA planning and implementation. A review might also examine managers' capacity to use technology and identify sources of technical assistance.
- *Review of stakeholder/community involvement processes:* Managers recognize the need for enhanced stakeholder/community involvement in MPA processes, but are unsure how to create this. Identifying "lessons learned" from past participatory processes is important both to avoid repeating mistakes and to document effective techniques.
- *Areas for further analysis within the computer-assisted content analysis:* Existing data could be used to examine how attitudes and issues vary across different types of management areas, and developing trends could be tracked by rerunning the content analysis in future years.