Marine Protected Areas Social Science Strategy

National MPA Center

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Presented by Sarah Lyons, Marine Policy Analyst, National MPA Center, Science Institute, NOAA in September 2002. I'm going to talk to you today about a project of the MPA Center, developing a social science research strategy for marine protected areas.

First, I'll talk about the goals and the processes we've used to develop the strategy. Then I'll present the results of a workshop; a lot of good project ideas came out of the workshop and might spur some ideas about some educational activities. The proceedings are posted on mpa.gov under the workshops section, including a participant list. Finally, I'll give you a sneak preview of the draft of our social science strategy.
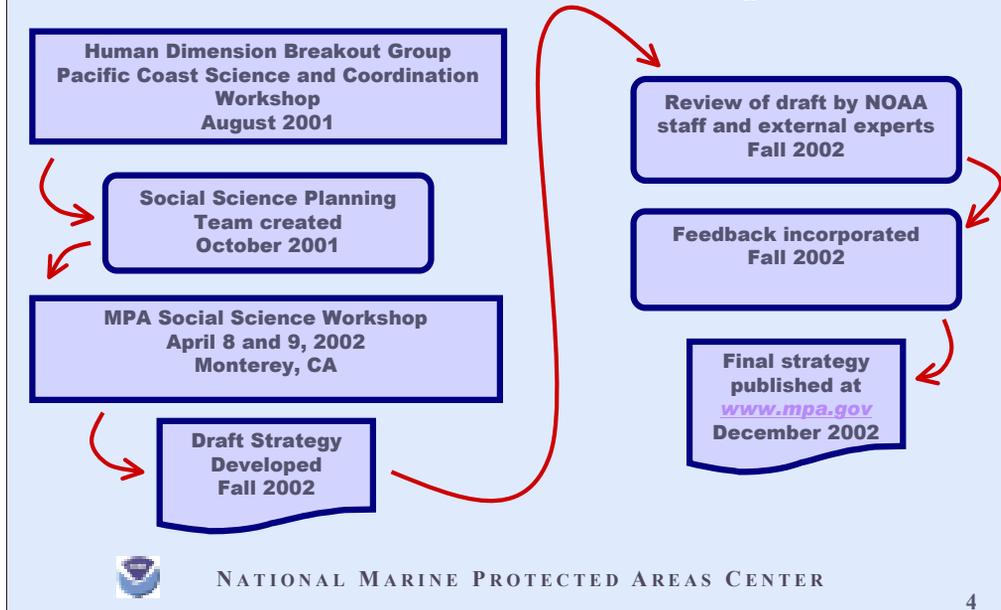
- **Purpose**: to strengthen the human dimension in MPA design and management
- **How:** increase allocation of resources and effort toward MPA social science and capacity building
- **Targets**: agencies, funders, Congress and academia
- **When**: Fall 2002 (draft)

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We began the strategy because the social sciences have been largely overlooked in the planning, implementation, design, and evaluation—in every aspect of marine protected area management. We'd like to have this strategy widely available in order to increase the allocation of resources and effort towards MPA social science and capacity building. Our audience for the strategy is not just managers, but also the people who have the money—the funders and Congress. It's also the researchers who do the work and academia. The draft should be available December 2002.

Social Science Research Strategy Process

Human Dimension Breakout Group Pacific Coast Science and Coordination Workshop August 2001

Social Science Planning Team created October 2001

MPA Social Science Workshop April 8 and 9, 2002 Monterey, CA

Draft Strategy Developed Fall 2002

Review of draft by NOAA staff and external experts Fall 2002

Feedback incorporated Fall 2002

Final strategy published at www.mpa.gov December 2002

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This is the process for the development of the strategy. In August of 2001, we hosted a workshop in Monterey, California called the Pacific Coast Science and Coordination Workshop. At that conference people were divided into four different break-out groups. One of the break-out groups focused on the human dimension of marine protected areas. The workshop total was probably close to 80 people; in this break-out group there were around 20. One of the recommendations that came out of that group was a social science strategy. In October, we created a social science planning team comprised of people from across NOAA and academia.

In April 2002, we held a social science workshop that focused just on MPA social science. Attendence was limited to 80 people, largely composed of academics but with a representation of protected area managers to provide a reality check to the outcomes. We took the results from that workshop as recommendations and are developing the draft strategy. In addition to the information from this workshop, we've reviewed other models and the literature, looking at what the USDA and USGS and different DOI offices have done to try to guide this process on the land. Finally, we'll have the strategy reviewed this fall by NOAA staff and external experts, incorporate their feedback, and publish the completed Social Science Research Strategy on mpa.gov.

Pacific Coast MPA Science and Coordination Workshop

- Goal
  - Develop practical strategies and partnerships to fill key info gaps for designing and improving MPAs
- Process
  - Places
  - Coordination
  - Ecosystems
  - ⭐ Human Dimension

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First, a review of the Pacific Coast Workshop results. The goal of this workshop was to develop practical strategies and partnerships to fill key information gaps for designing and improving MPAs. The four different break-out groups include places (siting issues), coordination, ecosystems, and finally, the human dimension, discussed here.

Human Dimension Breakout

- Identify info needs and tasks in 3 areas
  - Designing
  - Implementing
  - Networking
- Needs and Tasks Sorted
  - Regional scale
  - Site/Community scale projects
  - Guiding principles
- Prioritization

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The break-out group was asked to brainstorm ideas about information needs and tasks in three different areas: designing marine protected areas, implementing marine protected areas, and networking marine protected areas. The resulting list of ideas was sorted into needs and tasks for the regional scale, and site-specific needs and tasks. The group was then asked to identify the most important issues.

Guiding Principles

- Interdisciplinary/integrated
- Address driving forces and impacts
- Sensitivity to cultural, economic and social equity and diversity
- Design socioeconomic work to build trust

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This process also generated a few guiding principles. The social science research needs to be inter-disciplinary and integrated; it needs to address driving forces and impacts; there needs to be a sensitivity to cultural, economic and social equity and diversity; and socio-economic work must be designed to build trust.

The projects were sorted into three different priority levels, unranked within each priority tier. The ranking was based on effort and impact along with some cost considerations. The groups were then requested to ignore the effort, impact and cost and just identify what really needs to be done, but the ranking came out the same. We had three different groups rank the lists, took all the results and combined them together.

Site/Community Scale Projects

- Baseline socioeconomic assessment

- Monitor over time

- Economic valuations of resources

- Social impact assessments that consider temporal scale of needs and impacts

- Socioeconomic impacts of NOT establishing MPA

First, base-line socio-economic assessments should be done at both the site and community scale, because we don't know what's out there—we won't know what needs to be done until we know the state of things. Once this is completed, we need to monitor it over time to see how it changes. We need valuations of economic resources, social impact assessments, and need to consider the temporal scale of both the needs and impacts. In addition, we need to perform socio-economic impacts of not establishing marine protected areas.

Regional Scale

- Learn from studies and models
- Warehouse of information
- Criteria for success
- Common terms
- Clarify federal and state regulatory requirements

- Network of MPA social scientists
- Developing and evaluating MPA processes*
- Regional study of resource uses and communities
- Regional cost and earning studies

This gives an idea of what this group considered the priority projects, information, needs and tasks for the regional scale.

MPA Social Science Workshop

- **Goal** -- Identify and prioritize economic, social and cultural aspects of MPA issues and information needs
- **Details**
  - 75 people – experts and practitioners
  - Theme-based breakout groups
    - Topics
    - Projects
    - Tools and existing information
  - Synthesis

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The goal of the subsequent social science workshop was to identify and prioritize economic, social, and cultural aspects of MPA issues and information needs. The results of this workshop form the basis for the social science research strategy.

The break-out groups were tasked to brainstorm topics for one of six themes, and then for each topic come up with priority projects and tools that could be used to complete these projects. The groups were also asked to identify the level of existing information for these different topics.

Priority MPA Social Science Themes

- Use patterns
- Economics of MPAs
- Community organization
- Governance and institutional structure
- Attitudes, perceptions and beliefs
- Cultural heritage and resources

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This is a review of the draft strategy that came out of this workshop. The first section deals with these priority social science themes; it defines the theme and then lists the priority areas for the theme. The next section considers cross-cutting issues and needs—issues that cut across all of the themes. Finally, the strategy addresses building the national capacity—we've identified all of these issue, how are we going to address them? What's next?

Use Patterns

- Definition:
  - The way stakeholders use resources in MPAs
- Topics:
  - Baseline data on patterns of use and the impacts of use
  - Political ecology of MPA-related use patterns
  - Historical ecology

The first theme was use patterns. The social science planning team defined use patterns as the way stakeholders use resources in MPAs.

The group working on this theme came up with three main topics: baseline data on patterns of use and impacts of use; the political ecology of MPA use patterns; and finally, historical ecology, combining historic biological data and use pattern data. Political ecology is defined as the research of political and economic principles controlling relations of humans to one another and to the environment. The projects under political ecology address the legal and historic frameworks around the rights and responsibilities of use.

Economics of MPAs

- Definition:
  - Economic conditions and trends associated with MPAs
- Topics:
  - Baseline information
  - Cost benefit analysis
  - Variability and economic theory and tools
  - Non-market values (use and non-use)

Economics of MPAs: economic conditions and trends associated with MPAs. Baseline information recurred throughout the themes. Other topics include cost benefit analysis, variability, economic theory and tools, and non-market values—both use and non-use. For variability, the projects included ways to incorporate variability, both temporal and spatial variability, into the economic theory and tools used for MPAs. The projects for non-market values asked for methods to incorporate non-market values into the current economic theory used with MPAs.

Community Organization

- Definition:
  - Characteristics and function of social and geographic communities
- Topics:
  - Capacity and skills
  - Management structures and processes
  - Socio-economic conditions
  - Information flow and use among communities
  - Historic social construction of MPAs

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Community organization: the characteristics and function of social and geographic communities, emphasizing both the social and geographic. This considers groups of people, such as a group of fishermen, either formal or informal, and also geographic groups, as with geographic communities.

The topics included increasing the capacity and skills of the community; management structures and processes, including outreach and compliance; socio-economic conditions, including more descriptive information; information flow and use among communities; and historical social construction of MPAs, including property relations and reviewing lessons learned to look at successes and failures.

Governance and Institutional Structure

- Definition:
  - Capacity, funding sources, jurisdiction, management and interactions of institutions that manage MPAs
- Topics:
  - Jurisdictional structure
  - Institutional analysis
  - Public participation and stewardship
  - Planning and establishment
  - Management and evaluation

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Governance and institutional structure: this theme addresses capacity, funding sources, jurisdiction, management and interactions of institutions that manage MPAs. The topics discussed include jurisdictional structure, institutional analysis, public participation, partnership, and stewardship, planning and establishment of networks or sites, and finally, management and evaluation of networks and sites.

Attitudes, Perceptions and Beliefs

- Definition
  - Underlying motivations that influence human preferences, choices and actions
- Topics:
  - Natural world and state of the environment
  - Traditional ecological knowledge
  - Uncertainty and attribution
  - Aesthetics
  - Environmental ethics

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Attitudes, perceptions and beliefs addresses the underlying motivations that influence human preferences, choices and actions. The first topic, the natural world and the state of the environment, addresses how people *perceive* the natural world, not what *is* the biological state of the environment. Other topics include traditional ecological knowledge, uncertainty and attribution (the extent to which individuals take responsibility for their actions and how they perceive the cause and affects of their actions), aesthetics and environmental ethics, and cultural heritage and resources.

Cultural Heritage and Resources

- Definition:
  - Historical and submerged cultural resources of MPAs
- Topics:
  - Protection
  - Characterization

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The group working on cultural heritage and resources addressed the historical and submerged cultural resources of MPAs. There are only two topics, condensed from their discussions. Protection is of both the resources and the data—not just designating a protected area to protect a shipwreck, but also protecting the data regarding the shipwreck. The second topic, characterization, involves inventorying what's out there and also evaluating it—noting what the state of it is.

Cross-Cutting Needs and Issues

- Data management - architecture
- Data confidentiality and access/use
- Baseline data
- Monitoring (long and short-term)
- Evaluation

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The next section of the strategy deals with cross-cutting needs and issues. Data management is the first issue, and architecture is the focus of data management. The group called for a central national database for the data or a way to better coordinate the data that exists. Currently, the existing data is in very different areas and different formats, not necessarily compatible with each other. Next, data confidentiality and access or use. There are ethical issues associated with social science data. We need to have rules about how the data can be used and how it's managed. For baseline data, the issue is that, first, there's very little. Secondly, the data needs to be quantitative and qualitative, there needs to be monitoring after obtaining the baseline data, and the monitoring needs to be both short-term and long-term. And finally, we need to have evaluation.

Building the National Capacity

- Building the national MPA social science program
- Building agency expertise and commitment
- Integrating the social and natural science of MPAs

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The third section of the strategy will address building the national capacity. The three main points are building the national MPA social science program, including research agendas, coordination, and stakeholder engagement; building agency expertise and commitment, including staffing, training, and budget initiative; and finally, integrating the social and natural science of MPAs, identifying areas of overlap and synergy such as use patterns, and performing pilot studies.

Next Steps

☞ October 2002 – draft strategy

☞ Fall 2002 – review by NOAA and external experts

☞ December 2002 – final strategy on www.mpa.gov

☞ '03 and '04 – regional workshops

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We hope to complete the draft by the end of October, have it reviewed over November by NOAA and external experts, and have the final strategy by December. Following that, we will have a series of regional workshops to develop regional action plans for incorporating social science into marine protected areas, planned for 2003 and '04.

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If you'd like to be involved in the further development of the strategy, send me an email and I'll put you on the list to review the draft.