

MPA NEWS



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Research Spotlight: Project Seeks Answers to What Makes an MPA Effective, Among Other Questions

An international project is underway to find scientific answers to some of the biggest questions in the MPA field. Operated by Conservation International (a US-based NGO) at its Center for Applied Biodiversity Science, the project seeks to distill the ecological and socioeconomic factors that determine MPA success or failure, among other questions (see box at end of article).

The Marine Management Area Science, or MMAS, Program is designed around two central goals: to assess if marine management areas (a term that encompasses MPAs) are working, and to use science to improve site effectiveness. The program is ambitious. Not only does it seek to answer some of the main questions challenging the field, but the program has also outlined more than 30 specific research activities, from establishing baseline monitoring programs at project sites, to measuring larval spillover and gene flow, to studying MMA cost-effectiveness.

If it succeeds, the MMAS Program will be invaluable. Leah Bunce is senior director of the MMAS Program, and oversees the team of Conservation International staff, university researchers, and NGOs working together on it. Below, she discusses the program with *MPA News*.

MPA News: Why is the MMAS Program focusing on marine *management* areas rather than marine *protected* areas?

Leah Bunce: "Marine management areas" implies a more holistic and comprehensive set of areas. The term "MPAs" allows us to include a wider breadth of sites established for protection reasons or otherwise. We are also able to avoid political implications of the often-controversial term "marine protected areas".

MPA News: The program will be focusing on four priority sites - in Brazil, Fiji, Belize, and the Eastern Tropical Pacific - all of which happen to be tropical. Do you anticipate that the lessons learned from the program will also apply to temperate sites?

Bunce: Tropical developing nation sites were selected as the focal areas because they generally face the most urgent threats, have highest marine biodiversity, and are in greatest need of research assistance to assess and improve MMA effectiveness. About two-thirds of the studies will be conducted in the four priority sites. The other third of the studies are global studies that will be based on tropical cases worldwide. For example, we will be assessing alternative enforcement technologies used around the world to determine which are most effective under which conditions.

That said, the MMAS Program was established and designed to address questions critical to MMAs worldwide, and the research - both the protocols and the results - should be applicable across a range of habitats, both tropical and temperate. The insights on different enforcement technologies, for example, will be applicable to more than just tropical sites.

MPA News: Your program emphasizes the importance of science in site planning and management. One of its secondary goals is to establish the capacity for scientific research as the basis for adaptive management - in other words, to help sites conduct research that informs management over time. What happens if site management does not have the capacity to perform such scientific research?

Bunce: Building scientific capacity in-country is one of the central goals of this program. We are placing a major emphasis on working with local communities to appreciate what good science can and cannot do to address their needs and interests. We are also building local teams to conduct this science and interpret and communicate the results to decision-makers and other stakeholders.

For all research activities, we have prioritized engaging local managers, fishermen, and other stakeholders in the science, such as including fishermen or other "stakeholder scientists" on the local research teams. We have also prioritized hiring, training and/or mentoring in-country scientists. In terms of long-term capacity building, we are interested in establishing networks of colleagues, interactive discussion-oriented websites, and MMA science centers of information, among other efforts.

MPA News: What is the timeline of the MMAS Program?

Bunce: We have four years of funding from the Gordon and Betty Moore Foundation (GBMF) to achieve the 31 specific research activities. However, the GBMF support is only the beginning, and we are currently fundraising for additional support to continue and expand this program as a permanent function within Conservation International's marine conservation program.

For more information

Leah Bunce, Center for Applied Biodiversity Science, Conservation International, 1919 M Street, NW, Washington, DC 20036, USA. Tel: +1 202 912 1238; E-mail: l.bunce@conservation.org

A fact sheet on the MMAS Program is available in PDF format at http://portals.conservation.org/downloads/storedfile/Document/mmassheet_Mar31_2006.pdf.

BOX: Questions addressed by the Marine Management Area Science (MMAS) Program will include:

- How do different types of MMAs affect socioeconomic and ecological conditions, and how do these conditions in turn affect MMA success?
- What role do MMAs play in making ecosystems resilient to local and global threats?
- How can functional links between different habitats - such as deepwater and shelf - be incorporated in MMA design?
- What are the values of marine goods and services provided by MMAs?
- What are the financial costs of MMAs?
- How and when are financial incentive programs for stakeholders effective in furthering MMA goals?
- What are the most effective community enforcement programs?

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