

MPA News

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No-Take Areas Created for Galápagos Islands After Long Negotiations

Management of one of the most famous marine ecosystems in the world will now include no-take zones, following last month's conclusion of years of negotiations between managers and fishers in the Galápagos Islands.

The Galápagos Marine Reserve, officially created in 1998 but not zoned until now, will be divided into three basic zone types: strict nature reserves, in which only scientists will be allowed; no-take zones, managed for tourism, recreation, and education; and "extraction zones", in which managed fishing will be allowed.

About 20% of the coastline will be no-take zones. Managers made concessions on scheduling the phase-in of some zones, and offered fishers priority for new tourism activity permits as an incentive to leave the fishing sector.

The conclusion of negotiations follows a decade in which the Galápagos Islands endured steep increases in immigration and fishing pressure, multiple changes in the national government (including a short-lived military coup this January), and even isolated violence — threatened and real — to resource managers. "It's been a rough, rocky road to get to where we are now," said Jerry Wellington, a University of Houston (US) coral biologist who has assisted in Galápagos marine planning since the 1970s.

Now it's up to the fishing community to do its part, said Rodrigo Bustamante, head of marine research and conservation for the islands' Charles Darwin Research Station. "If the no-take zones really stick, then you could call it a breakthrough," he said.

Renowned islands

The Galápagos Islands are known worldwide as much for their history as for their unique biodiversity. Charles Darwin developed his theory of evolution after studying the archipelago's extensive speciation of birds and giant

tortoises. The islands' special place in scientific history contributed to their being named a UNESCO World Heritage site. It also helped them become a global hotspot for ecotourism, with people from around the world coming to walk among the tortoises and dive with sea lions. In 1997, more than 60,000 tourists paid the park entry fee.

The Special Law for Galápagos, passed by the Ecuadorian Congress in 1997, established the Galápagos Marine Reserve the following year. The law banned industrial fishing in the reserve, which involved mostly purse seining for tuna and longlining for tuna, billfish, and shark. "Artisanal fishing" by locals is still allowed.

Since creation of the reserve, the Ecuadorian mainland-based tuna fleet — the largest of its kind in the world — has regularly disregarded the reserve's ban on industrial fishing, according to news reports. The Ecuadorian

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Navy and the National Park Service are responsible for enforcing the ban, although their limited resources — the Park Service has one patrol boat — have made comprehensive coverage difficult.

Those limited resources may be further challenged by the new no-take area designations. The local populace is relatively poor, and Wellington said that for the no-take zones to work, education would be essential. “When people are below the threshold of making a decent living, protecting biodiversity is the last thing they think about,” he said. “I don’t know if there’s an easy solution, aside from gutting it out and educating enough people on why protection is important.”

The Galápagos zoning plan

Details of the Galápagos Marine Reserve zoning plan include:

- * Roughly 20% of the coastline will be designated as no-take zones out to a distance of two nautical miles. Part of the 20% will be in large blocks — measuring up to 12 nm of coastline — in each biogeographic region.
- * In a deal between managers and fishers, two small islands (Darwin and Wolf) will eventually become no-take zones in their entirety, once the tourism-incentive scheme for fishers is created.
- * Of the remaining 80% of coastline, a small portion will be in areas close to main ports, which are to have their own mini-zoning schemes planned by the port communities. The majority of the 80%, which includes all of the islands’ deepwater area, will allow managed fishing.

The 20% figure for no-take zones was based on recommendations from several international fisheries biologists who have cited it as an appropriate precautionary target for the protection of fish stocks, pending further research on fishing’s impacts. It has been used to set policy elsewhere in the world, including in the Bahamas (MPA News 1:5) and the US (MPA News 1:6).

Incentives for former fishers

A multi-stakeholder group, called the Participatory Management Board (PMB), developed the zoning plan. Consisting of the park service, the research station, local fishers, tourism brokers, educators, and guides, the PMB agreed that for the no-take zones to work, local fishers would need help. The plan therefore includes provisions to develop economic alternatives, including the encouragement of deepwater fishing and preferential access for former fishers to new permits for marine tourism activities.

Marine tourism in the Galápagos is limited by the number of boats engaged in the industry, each permitted to hold a certain capacity (from 12 to 100 passengers). The research station’s Bustamante said that small-scale marine tourism — e.g., bay tours, snorkeling, and scuba diving — is a market that has not yet been developed, and therefore provides an opportunity for fishers. “So far, there are only three to four serious day-dive tours in the whole archipelago,” he said, “so there is a chance for growth in this area.” He said he expected tourist numbers to increase as former fishers take to the tourism industry.

Resource managers offered a concession to one particular fishing sector: mullet (*lisa*) fishers, who will be allowed temporarily to continue fishing along two beaches that are otherwise in no-take zones. They will be required to discontinue fishing in those zones once an incentive scheme is developed to phase them into the small-scale tourism industry. “In the heat of the arguing and negotiation, it seemed at the time that a small concession would guarantee the achievement of larger no-take areas elsewhere,” said Bustamante. “These were also beaches in which there was no tourist use and no existing monitoring plans.”

Bustamante said he expects much more work ahead, including demarcation, protection, and monitoring of the no-take zones, institution of a pilot plan to encourage deepwater fishing, and research of by-catch problems.

“And there will surely be plenty more arguments to come about the acceptable limits of artisanal fishing in deeper waters, the pressure to give more permits to fishing boats, [the defining of] who is really a fisherman or boat owner, etc.,” he said in a note in March to colleagues in the MPA field. “Ah, and do good science, too! But if we do not blow a fuse, we will stick with it.”

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Australia to Protect Seamount System with Multi-Use Park

Continuing its campaign to develop a nationally representative system of MPAs, the Australian government has announced plans to establish a multi-use marine park around a seamount system that includes one of the southernmost coral reefs in the world.

The proposed protected area, to be called Lord Howe Island Marine Park, would encircle the Lord Howe Island seamount and its associated marine ecological systems, off the coast of the state of New South Wales (NSW). Measuring 3000 km², it would lie within 3 and 12 nautical miles (nm) from the coast of Lord Howe Island, Ball's Pyramid, and their adjacent islands. The zone within 3 nm of the coast is already designated as a state marine park, operated by the NSW government.

Unusual mix of tropical, temperate life

The island group represents the exposed peaks of a large volcanic seamount. Located at the boundary between tropical and temperate water masses, the seamount's waters support an unusual mixture of temperate and tropical organisms, with a high degree of endemism. Its 83 coral species contain a unique association of tropical species at their southern limits of distribution and subtropical species rare or absent from the Great Barrier Reef. The islands and their waters were placed on the UNESCO World Heritage List in 1982.

The only inhabited island in the group — Lord Howe Island — has 320 residents, some of whom fish the waters commercially for island consumption. As the primary stakeholders within the 12 nm boundary, the island community will play a significant role in the planning and management of the marine park, say government officials. Among the planning issues will be the potential division of the park into management and use zones.

Commercial fishing activity by Lord Howe Islanders has increased in recent years and is currently unlicensed. However, local fishers have informally regulated their fishing effort with agreements not to export catch and to supply fish only to the small island resident and tourist populations. "The informal regulations work due to the limited number of operators on the island and the fact that it is more economical to sell catch on the island than to export to the mainland," said Leanne Wilks, Assistant Director of Marine protected Areas for Environment Australia.

Fisheries management to be negotiated

Wilks said the commonwealth government is supportive of continuing island-based commercial fishing and other activities as long as they remain compatible with the biodiversity protection objectives of the proposed park. To help ensure compatibility, the fisheries management

agencies of the Australian and NSW governments are each working with the local community to formalize fishing regulations in the area. Wilks said fisheries formalization would be designed to support sustainable fisheries resources, monitor any adverse fishing impacts, and periodically review biological reference points for major stocks, such as kingfish. The park's proposal document notes that kingfish have been "extensively fished" by islanders in state waters.

Craig Bohm, New South Wales Coordinator for the Marine and Coastal Community Network (an Australian NGO), said that islanders will be challenged in recognizing that "outsiders" will want to have a say in how the marine park, and its fisheries, are managed. Nonetheless, he is confident the planning and management issues can be resolved amiably. Noting that the island is already working with mainland scientists to study the stocks of targeted species, he said, "I believe the community understands that they need to be integrated into the Australian mainland management frameworks if they are to attract fishery research dollars and management assistance in the future."

Local support for the proposed marine park has been high. In fact, the park's proposal document notes "a strong desire" by the island community to extend the park boundary even further than proposed, to 30 nm. (The Australian government holds that there is little evidence to justify a larger area to protect biodiversity value.)

Bohm said the locals appreciate the area's beauty. "Lord Howe Island has long been recognized as the 'jewel in the crown for NSW and Australia' — a location where some are lucky to live, others are lucky to visit, and still others are happy to know it is there and in good condition," he said.

Protecting a pristine environment

The park's proposal document states that the majority of the seamount system exists in an undisturbed, natural condition. Current regulations under the Australian Fisheries Management Authority almost completely prevent fishing by non-island residents within the 12 nm perimeter: There is a single mainland-based commercial fisher with an exemption based on historical reasons. Fishing operators voluntarily agreed to the restrictions in acknowledgement of World Heritage values more than for fisheries management reasons, said Wilks.

The park proposal's public comment period lasts until May 15, 2000. Wilks said that eventually an advisory committee, consisting of local and mainland residents, would be established to advise the commonwealth government on the park's management. The committee will include members representing the interests of marine conserva-

tion, the local community, the tourism industry, commercial and recreational fishers, scuba divers, and the Lord Howe Island Board (a municipal authority).

Under Australia's Environment Protection and Biodiversity Conservation Act, which takes effect July 2000, all commonwealth MPAs must be assigned to a particular World Conservation Union (IUCN) category at the time of declaration. These categories range from protected areas managed only for science ("strict nature reserves") to areas managed for the sustainable use of natural ecosystems ("managed resource protected areas") (MPA News 1:4). The commonwealth government has not yet assigned a category to the proposed marine park nor indicated whether it will be divided into use zones, waiting instead for input on these issues from stakeholders.

The Australian Marine Conservation Society (AMCS), an NGO, has called for a minimum of 15% of the marine park to be set aside as no-take areas. The AMCS would also like for a secondary buffer or longline exclusion zone to be established outside the 12 nm boundary to ensure against the possible drift of tuna gear into the park area.

The proposed park's shared boundary with a state marine park (NSW Marine Park) is expected to facilitate an integrated management and planning process across both MPAs. Bohm, who has met with state and commonwealth officials on this issue, said that once both parks are operational, the daily management will largely be the responsibility of the NSW Marine Parks Authority, with some funding assistance from the commonwealth government. The advisory committee of stakeholder representatives will be used as the primary advisory body for both the NSW and commonwealth marine parks, he said.

Web Site on Lord Howe Island Marine Park proposal

http://www.environment.gov.au/marine/marine_protected/commwealth/lordhowe.html

The above web site summarizes Australia's plan to designate the Lord Howe Island seamount system as a marine park, with photos of the island group and a link to the proposal document.

The Lord Howe Island Group is the second seamount system in the past year to be proposed for protected status by Australia. Last May, the Australian government declared the 370 km² Tasmanian Seamounts Marine Reserve, in which all fishing will be banned below 500 m (MPA News 1:1). Tuna longline fishing will be allowed in shallower waters of that reserve (within the upper 500 m), as scientists have indicated such activity would not have a significant impact on the submerged seamount system. Like Lord Howe Island, the Tasmanian Seamounts are a World Heritage site.

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Three New Publications Guide Decision-Making for Planners, Managers

Note from the editor: The field of marine protected areas is benefiting from an ever-expanding library of books and reports on aspects of planning and managing MPAs. As a service, MPA News will offer brief reviews of publications that may be of special interest to subscribers. Although the geographic focus of each of the following publications is limited to the North and South American continents, the usefulness of each will likely stretch beyond that hemispheric bound of study.

Setting Geographic Priorities for Marine Conservation in Latin America and the Caribbean

By Kathleen Sullivan Sealey and Georgina Bustamante. 125 pp. Arlington, Virginia, USA: America Verde Publications (The Nature Conservancy). Free.

For this report, Sullivan Sealey (a biologist from the University of Miami, US) and Bustamante (a conservation coordinator for The Nature Conservancy, US) have worked to identify the ecoregions in greatest need of protection in waters surrounding Central and South

America and the Caribbean. Their report represents the third and final stage in a project to catalog high-priority conservation areas throughout Latin America and the Caribbean, the first two stages of which focused on terrestrial and freshwater ecoregions. The project was funded by the US Agency for International Development (USAID) and led by a consortium of NGOs. By creating a baseline account of areas that exhibit unique biological value — and whose biological value is under significant threat — the authors aimed to support the decision making of practitioners and policy makers. They

write, "The preservation or restoration of [hydrological or hydrochemical] linkages, the selection of special conservation sites, and effective stewardship action all depend on sound scientific information. We hope that this report serves as an initial step in the provision of this information."

It does. With a team of 28 marine biologists and fisheries scientists from throughout the study area, the authors divided Latin America and the Caribbean into nine "biogeographic provinces", and sub-divided each of these into marine ecoregions. Each ecoregion was ranked according to biological value — measured by such factors as species composition, abundance, and endemism — and conservation status, measured by loss of species, changes in abundance, and potential threats, among other indicators. The report provides examples of the scorecards used, as well as 14 full-color maps.

MPA practitioners and policy makers in the Central Caribbean ecoregion might particularly appreciate the

Integrated Coastal Zone Management of Coral Reefs: Decision Support Modeling

Edited by Kent Gustavson, Richard M. Huber, and Jack Ruitenbeek. 292 pp. Washington, DC, USA: The World Bank. US \$35.

Every budget-conscious MPA manager is in search of the strategy that will offer the most resource protection at least cost. Finding this cost-effective strategy can involve tracking multiple variables, from socio-economic indicators to ecological criteria. With so many factors to consider, the manager's decision-making process can be challenging, at best.

In this report, the World Bank illustrates how modeling of management strategies can be applied to ease that decision-making. Using three coral reef study sites — two in the Caribbean and one in the Indian Ocean — the report measures the value of protecting coral reefs at these sites and indicates the most cost-effective management interventions to attain such protection.

The publication, with 13 chapters written by several North American and European researchers, offers interesting insights into how three coral reef sites — Montego Bay (Jamaica), Curaçao (Netherlands Antilles), and the Republic of the Maldives — can have quite different

Protecting Our National Marine Sanctuaries

By DeWitt John. 118 pp. Washington, DC, USA: National Academy of Public Administration. US \$20 for bound version, or free to download from the Web.

The issue of cost-effectiveness is also at the center of this report, which offers a program analysis of the US National

report's separate, more-detailed case study, in which their ecoregion is subdivided further into 51 "coastal systems". This detailed case study was intended to identify specific sites for marine conservation action and coastal stewardship programs in the Central Caribbean area. Regrettably, the authors were unable to apply this level of resolution to the analysis of other ecoregions, due to funding limits.

Sullivan Sealey and Bustamante emphasize that donors of conservation funds should use this report to strategically target their investments to achieve the greatest conservation good. It goes without saying that other regions of the world could benefit, too, from consulting this publication: The methods used would provide a useful template for the ecoregion-level study of other coastal environments.

To order: This publication is available for free. For a copy, contact Eva Villarubi, America Verde Publications, The Nature Conservancy, E-mail: americaverde@tnc.org.

economic and ecological challenges. Montego Bay, for example, gets its revenues from manufacturing, services, and tourism, making it a more complex economy than the usual "sun, sand, and sea" destination. What may be of greatest use to managers is seeing how the researchers adapted their models to fit each local situation.

The report's editors point out that they don't see these models as the only tools managers will need. "What is clear about decision support tools is that they assist in decision making, but are still an imperfect art," writes Richard Huber, an environmental specialist at the World Bank. "The fields of conservation biology and economics have separately struggled with an inability to provide adequate explanatory links between economic activities and species or ecosystem decline."

Nonetheless, the efforts detailed in this report indicate how decision-support models are improving, including by becoming more user-friendly. Accompanying the publication is a CD-ROM that offers the modeling tools developed for each of the study sites, allowing the user to examine the impacts of various growth scenarios, development choices, and environmental protection options.

To order: This publication costs US \$35. For a copy, contact World Bank Office of the Publisher, E-mail: books@worldbank.org; Web: www.worldbank.org/publications.

Marine Sanctuary Program (NMSP). As MPAs are still a relatively new field, formal program analyses such as this one — anywhere in the world — are relatively rare. What might make this report particularly useful to the MPA manager is that it analyzes the challenges and opportunities faced by a national MPA system as seen through the eyes of experts in the field of public administration.

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The report was published by the National Academy of Public Administration (an independent analytical organization) and commissioned by the US National Ocean Service, which oversees the NMSP. Chief among its findings is that the program, although beginning to show some success with protecting resources, is still leaving some sanctuaries "without defenses": that is, without enough resources, authority, or community support to protect their ecosystems.

One of the NMSP's historic limitations has been its relatively small budget (although a recent, sizeable budget increase is expected to ease the restraints somewhat). In this light, the report calls on the NMSP to focus its funding and attention on results rather than on process. "The first priority should be to demonstrate what the program can achieve with its current sites," the report says. It calls on the program to "sharply reduce the time spent on comprehensive planning, and work in a more incremental way to identify key threats to [each] site, demonstrate the program's capacity to provide this protection, and then address other issues and threats."

According to the report, each sanctuary manager should ask these questions:

- * What do I hope to accomplish this year to protect vulnerable resources with limited funding and personnel?
- * Why have I chosen this approach?
- * What has been learned from last year's efforts, and how are these lessons being applied to this year's work plan?

The report goes on to suggest that the program expand public involvement in the sanctuaries, clarify the role of local stakeholders in planning, and set priorities for education programs. Its appendix section offers profiles of each of the NMSP's sanctuaries, including resources, expectations, and strategic choices that each faces.

To order: This publication can be downloaded for free from the Web, at <http://38.217.229.6/NAPA/NAPAPubs.nsf?OpenDatabase>. A bound version of the report is available for US \$20 plus shipping costs by calling NAPA Publications at Tel: +1 301 617 7801.

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Check out our web site at
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