

Kiribati Designates Large MPA, to Be Funded by Endowment

The Pacific island nation of Kiribati (pronounced Kee-ree-bahss) has designated one of the world's largest MPAs in a bid to guard against overfishing and climate change. The nearly uninhabited Phoenix Islands Protected Area (PIPA), encompassing 184,700 km² with eight atolls and two submerged reef systems, covers an area more than half the size of Germany. Located midway between Fiji and Hawai'i in the Central Pacific, the PIPA contains near-pristine coral ecosystems, with more than 120 species of coral and hundreds of species of fish, including the world's highest population densities of Napoleon wrasse, according to scientists.

The protected area will be funded through an endowment being initiated with private funding from Conservation International, a NGO. The endowment will finance administration of the protected area and also compensate the Kiribati government for lost revenue suffered from cancellation of fishing licenses to foreign fleets. Although a management plan for the site is not expected to be set for another year or so, it is anticipated that commercial inshore reef fishing, including by foreign vessels, will be banned in the PIPA.

Subsistence reef fishing by the fewer than 50 residents of the Phoenix Islands archipelago will be allowed to continue. The PIPA also includes deep water, and it is unclear yet whether commercial fishing for offshore pelagics, like tuna, will be allowed. The endowment is projected to last in perpetuity, assuming management of the protected area is administered in good faith by the Kiribati government.

"If the coral and reefs are protected, then the fish will thrive and grow and bring us benefit," said Kiribati President Anote Tong, announcing the PIPA designation in March in conjunction with the Eighth Conference of the Parties to the Convention on Biological Diversity (CBD), held in Curitiba, Brazil. "In this way, all species of fish can be protected so none become depleted or extinct." The PIPA announcement was accompanied by commitments from other island nations at the CBD meeting to expand protection for their coastal waters (see box, "The Micronesia Challenge", next page).

The endowment

The geographic isolation of Kiribati and its Phoenix Islands archipelago (one of three island groups in the

nation) has historically insulated the area from outside pressures. But foreign fleets have expressed growing interest in fishing there and the threat of climate change looms: a bleaching event occurred in the Phoenix Islands for the first time in 2003. "With recent advances in the fishing industry and impacts of global climate change, isolation can no longer be relied on to conserve these atolls," says Kiribati Environment Minister Martin Puta Tofinga.

To launch the development of a management plan and the endowment, the Kiribati government signed a memorandum of understanding with two organizations: Conservation International (CI) and the New England Aquarium. CI, through its Global Conservation Fund, is financing the initiation phase of the PIPA and is beginning capitalization of the endowment, to be expanded with matching funds from private and public institutions. The size of the endowment will depend on the value of the fisheries to be closed, as well as projected PIPA administration costs; the final figure is being researched. The New England Aquarium, based in Boston, Massachusetts, USA, has conducted biological surveys in the Phoenix Islands since 2000, and was first to initiate talks with the Kiribati government regarding protection of the ecosystem. The aquarium will continue to provide research support for the PIPA and assist with developing its management plan.

Greg Stone, vice president of global marine programs for the New England Aquarium, says creating the PIPA is the only way to mitigate and protect reefs from climate change. "With climate change, there's not much you can do for reefs to mitigate on-the-ground impacts except for removing all other existing threats,"

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John B. Davis, Editor

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he says. He adds that because of the healthy fish populations and lack of direct human impacts in the Phoenix Islands, the reefs there are recovering quickly from the 2003 bleaching event. In their excellent condition, he says, the Phoenix Islands are essentially a baseline reef — a control site. "They offer a valuable reference point for measuring the impact of climate change on reef systems there and elsewhere," he says.

The endowment will be similar to ones enacted by CI to protect South American rainforests. In an essay in the October 2005 issue of *MPA News*, CI personnel described the application of this tool — termed "conservation incentive agreements" — to MPAs through the provision of continuous, long-term financial incentives to conserve marine resources rather than exploit them for short-term gain ("Conservation Incentive Agreements As a Tool for Developing and Managing MPAs", *MPA News* 7:4). The PIPA endowment will be overseen by a board of managers including CI, the government of Kiribati, and others.

Funding is contingent upon proper PIPA management by Kiribati. "If protection ever stops, the money goes away," says Stone. It is anticipated that other national governments will assist with management. New Zealand, for example, has indicated its willingness to provide flyovers by enforcement aircraft to guard against illegal activity in the Phoenix Islands.

The PIPA will help Kiribati meet international treaty obligations, including the Convention on Biological Diversity's protected area goal to create comprehensive, effectively managed, and ecologically representative systems of MPAs by 2012. The government is also

considering pursuing listing of the Phoenix Islands as a UNESCO World Heritage site.

Depending on how one defines "marine protected area", the PIPA could be considered the world's third largest MPA, behind only the Great Barrier Reef Marine Park (Australia) and Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve (USA). The list would exclude areas closed to certain fishing gear, some of which are several times larger.

The PIPA includes a 60-nm boundary around each of its atolls, which in most cases rise no more than 2 meters above sea level. The protected area comprises 5% of the entire EEZ of Kiribati, the largest atoll nation in the world. Kiribati includes two other, more-populated island groups in addition to the Phoenix Islands.

Websites with more information on the PIPA include:

<http://neaq2.securesites.net/special/phoenixislands/>
<http://www.conservation.org/xp/frontlines/protectedareas/03280601.xml> 

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The Micronesia Challenge

Government leaders in the Micronesia region, spread over 3 million miles of the Western Pacific, have joined together to pledge to protect 30% of their nearshore marine ecosystems by 2020. Termed "The Micronesia Challenge", the commitment is being led by Palau, the Federated States of Micronesia, the Marshall Islands, and the US territories of Guam and Northern Marianas Islands. It was formally announced at the Eighth Conference of the Parties to the Convention on Biological Diversity (CBD), held in Curitiba, Brazil, in March 2006. The pledge also includes a commitment to protect 20% of their terrestrial ecosystems by 2020.

Palau President H.E. Tommy Remengesau said his nation intends in the intervening years to be the first in the world to

achieve, and surpass, having at least 10% of each of its ecological regions effectively conserved. Guam Governor Felix Camacho said conservation would be the key to establishing Micronesia as a world-class tourism destination, and would set an example for the rest of the world. Also at the CBD meeting, the Caribbean island nation of Grenada pledged to put 25% of its nearshore marine resources under effective conservation by 2020.

An IUCN press release on the Micronesia Challenge is available online at http://www.iucn.org/en/news/archive/2006/03/28_pr_islands.htm.

MPA Perspective New Zealand Seafood Industry Proposes Huge Closures — Cynicism or Pragmatism?

By Kevin Stokes

The recent proposal by the New Zealand fishing industry to place 1.2 million square kilometers of the nation's ocean floor off-limits to bottom trawling and dredging (see <http://www.seafood.co.nz>, and *MPA News* 7:8) has drawn both praise and criticism in New Zealand and abroad. While a number of people view the proposals as bold and constructive, others are skeptical, suggesting the industry proposes to close only those areas in which it is not fishing and holds no genuine interest in biodiversity protection. Here, I explain industry's reasoning behind its action.

The proposal, which would create a network of Benthic Protected Areas (BPAs), grew from a project looking at issues and solutions for deepwater fisheries — mostly orange roughy and oreo dory — but was broadened to include all middle-depths fisheries (hoki, hake, ling, and others). It covers all marine areas from 12 to 200 nautical miles offshore. Conceived by the major companies in the industry, the proposal was amended following discussion with the Minister of Fisheries, and will soon be publicly released for consultation. The Minister has indicated his full support for the proposal.

The BPA proposal was developed by quota holders in response to a challenge from the government to (a) ensure economic benefits to New Zealand from a vibrant seafood industry and (b) resolve concerns that bottom trawling was adversely affecting marine ecosystems. In light of the fact that less than 10% of seabed within the New Zealand EEZ is estimated to have been trawled, it made sense to identify large, pristine areas now and close them to bottom fishing to provide durable, long-term biodiversity protection.

The proposed BPAs include examples of the various marine environmental classifications developed by government for MPA purposes ("New Zealand announces new MPA policy", *MPA News* 7:7) and are distributed geographically and by depth. They are also large and feature simple boundaries. As such, they represent a network of representative areas — a stated government goal — with which compliance will be relatively easy. The total area proposed for protection is far greater than the 10% intended by government under its MPA strategy. In fact, the total proposed BPA coverage is more than 30% of the EEZ, and includes 42% of seamounts within the EEZ. It is 1.7 times the entire EEZ of Iceland.

The accusation that the proposal amounts to a cynical move by industry to look good while avoiding real

concessions is not unexpected, but is disheartening. The industry has tried to meet criteria laid down by government to meet biodiversity protection goals. In doing so, it has of course been pragmatic and tried to minimize the impact on its activities. In doing so, it has also delivered a degree of protection far greater than envisaged by government.

From an industry perspective, the proposal has opened up the issue and perhaps revealed the intentions of different parties. It puts conservationists on the spot. Industry critics who are genuinely interested in the long-term protection of marine ecosystems should be generally supportive. Detractors may be revealing an agenda that is not so much focused on protecting biodiversity, as such, but one that is more anti-fishing in general.

The industry proposal would give up a significant part of the development right inherent in its quota. Potentially, this is a huge amount and the decision to give it up was not taken lightly. What the industry will gain in return, if the proposals are carried through, is certainty. Deepwater fishing and international market development require a large amount of capital investment. By squarely facing the near-certainty that MPAs would have been put in place anyway, with or without industry consent, the deepwater quota owners are trying to create a clearer picture of the future. The industry is also intending to avoid a significant amount of money and effort being spent arguing about protection areas and closures. Costs of this type are crippling for business. In a nutshell, in giving up huge potential, the industry is trying to secure a more certain future and to reduce large upfront costs.

There are still a number of steps to be taken before the industry-proposed BPAs are realized. These include a government audit of the industry analyses (just finalized at the time this essay went to press), development of codes of conduct to ensure compliance, formal public consultation, and writing and passing of legislation. The processes will take time but will hopefully be in place by the start of the 2006/07 fishing year, starting this October. 🌊

For more information on the BPA proposal

Please visit the SeaFIC website at <http://www.seafood.co.nz>.

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Editor's note

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Editor's note

Bertrand Cazalet is a Ph.D. student in public law at the University of Perpignan, France. From 2002-2005, he assisted the European Commission-funded CONSDEV project, described in this essay.

MPA Perspective MPA Management Policies in West Africa: Recommended Guidelines for Balancing Conservation and Development

By Bertrand Cazalet

In 2002, the European Commission funded a three-year project to develop options for improving governance of coastal and marine protected areas in West Africa. Called the CONSDEV Project ("Coherence of Conservation and Development Policies on Coastal and Marine Protected Areas in West Africa"), the project studied existing protected areas in the nations of Mauritania, Senegal, and Guinea-Bissau. Partners on the project included IUCN, Banc d'Arguin National Park (Mauritania), the Institute of Research for Development (France), the Parks Directorate of Senegal, the University of Perpignan (France), and the University of Portsmouth (UK).

The project was completed in December 2005, and its findings are available on the CONSDEV project website, <http://www.resed.org/consdev>. These findings are summarized below as a set of four guidelines for optimizing MPA governance in the region:

1. Improve integration of MPA site management with regional and national policies.

MPA management should be aligned with objectives already proclaimed by these West African nations: instituting responsible fishing policies that account for fisheries effects of individual MPAs; harnessing MPAs as a tool to reduce poverty; and acknowledging and embracing linkages between conservation programs and long-term economic sustainability for the region. Conservation and the economy are generally compartmentalized in West Africa, and no state is yet on the path to sustainable conditions.

2. Redefine the role of national governments in MPAs.

International NGOs are playing a growing role in developing and carrying out projects at MPAs in the region, partly in response to decay in the role of state governments. However, governments still retain unique authority that should not be wasted. The authority should be repositioned through administrative reforms and institutional reinforcement: e.g., reducing procedures and bureaucracy; coordinating participative management programs; opening up sites to private financing opportunities; and increasing staff. Governments should also strike a balance between placing fewer limits on economic activity in MPAs and

strengthening regulation of dense, seasonal human migrations along the coast, including across MPA boundaries (a significant phenomenon in the region).

3. Recognize territorial rights-of-use of human populations.

Granting of territorial rights-of-use exists on a *de facto* basis in the region's MPAs, but is neither formally recognized nor guaranteed for the indigenous population. Several legal models could be generalized and implemented on an experimental basis, including a gradual concession by government of marine and terrestrial territory in MPAs, with various terms and conditions. These rights-of-use should be legitimized through a joint traditional/state process to fix concessions according to empirical and legal criteria. The decision process must address issues related to the seasonal human migrations, as well as user conflicts and unsustainable exploitation of fisheries.

4. Develop ecotourism in MPAs.

The use of ecotourism as a means to generate socioeconomic advantages for local populations should effectively be part of national tourism policies, and perhaps even coordinated on a regional basis. It should employ local guides, with tourists being able to stay in village camps inside MPAs, and resulting economic benefits should be shared within communities. For this to be effective, prior improvements will likely be necessary in local public infrastructure for health, hygiene, education, and waste management. 

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Notes & News

Project underway to assess global development of MPA systems

A worldwide project is underway to review advances in the development of MPA systems at different spatial scales (regional, national, and sub-national), with the ultimate goal of distilling lessons learned and speeding progress in the effective designation of MPAs. In line with the target first set by the World Summit on Sustainable Development to establish “comprehensive, effectively managed, and ecologically representative” systems of MPAs by 2012 (*MPA News* 4:3), the project will look at the extent to which such parameters have been incorporated. The project is being led by the UNEP World Conservation Monitoring Centre and the UNEP Regional Seas Programme, in collaboration with the Convention on Biological Diversity (CBD), the World Commission on Protected Areas – Marine, the International Coral Reef Action Network (ICRAN), and The Nature Conservancy.

The first step will involve preparation of an inventory of MPA systems already established or under development, using a questionnaire, literature, web searches, and correspondence with MPA practitioners. The review will help identify common methodologies, approaches, and challenges in establishing MPA systems, and compare findings with existing recommendations and principles. Outputs will include a summary of the inventory and lessons learned, an outline of preliminary guidance, and a range of web-based materials.

The project is on a fast track: data collection is scheduled for completion by June 2006, with the report published by September 2006. To contribute information or participate in the questionnaire, please contact Sue Wells (sue.wells@unep-wcmc.org) or Hanneke Van Lavieren (hanneke.vanlavieren@unep.org) as soon as possible.

New fund providing rapid-response aid to World Heritage sites

A pilot project is underway to test a new fund that provides rapid-response aid to UNESCO Natural World Heritage sites facing threats or emergencies. Launched for a two-year pilot program in October 2005, the Rapid Response Facility (RRF) aims to mobilize small grants of US\$5000–US\$30,000 within three weeks of requested need. Organizers say it is the quickest grant-giving facility for environmental causes in the world, to their knowledge.

The RRF is a joint project of the UNESCO World Heritage Centre, the United Nations Foundation, and Fauna & Flora International, a NGO. Michelle Taylor of Fauna & Flora International says that when emergen-

cies occur to protected sites or their surrounding areas of influence, critical time is often lost organizing and fundraising for a response, during which precious natural heritage may be irreparably damaged. “An example of a large-scale emergency that could have benefited from RRF’s grants would be the *Jessica* oil tanker spill in Galápagos in January 2001 (“Case Study of a Spill Response...”, *MPA News* 2:7),” says Taylor. “It took 10 months for emergency-response funding proposed by the multilateral community to be made available to the site.”

Emphasis for RRF small grants will be on unforeseen events that occur rapidly (such as natural disasters) and holding threats at bay, such as sporadic illegal activity in protected areas. The RRF will make five or six grants a year during its pilot phase. Larger grants could be available in a later operational phase. The World Heritage Convention, adopted in 1972, seeks to protect the world’s most important cultural and natural heritage. Of the hundreds of World Heritage sites designated to date, more than 60 of them target marine and coastal features, including the Great Barrier Reef (“Effort Underway to Expand Use of World Heritage Convention for MPAs,” *MPA News* 5:6).

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Large bottom-trawl closure designated off Western US

In March, the National Oceanic and Atmospheric Administration (NOAA) approved a plan to prohibit bottom trawling in more than 500,000 km² (140,000 square miles) of waters off the US West Coast from Canada to Mexico — extending out to 200 nautical miles in some places. The plan is designed to protect essential fish habitat and replenish depleted groundfish populations, including rockfish, cod, and sole. Several managed West Coast groundfish species are listed as “overfished” by NOAA. Although the plan pertains mainly to bottom trawl gear, it also includes several smaller areas closed to any gear type that contacts bottom, including dredges and beam trawls.

“This is a big deal,” says Steve Copps, senior policy analyst for NOAA Fisheries, about the plan. “We went from zero habitat protection to closing almost half [43%] of federal waters in the region.” NOAA analyses indicate that less than 10% of the region’s commercial fishing revenue comes from the areas that will be closed to bottom-contacting gear. The agency expects that affected fishermen will move their operations to areas that remain open. The plan is based on a proposal developed in 2005 by the Pacific Fishery Management

continued on next page

Council in consultation with environmental and fishing industry groups. The NOAA press release is available online at <http://www.publicaffairs.noaa.gov/releases2006/mar06/noaa06-r104.html>.

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Report available on post-tsunami status of reefs

Most coral reefs in the Indian Ocean escaped serious damage from the December 2004 tsunami and could recover naturally within 5-10 years if human impacts are managed effectively, according to a new report from the Global Coral Reef Monitoring Network (GCRMN) and IUCN. *Status of Coral Reefs in Tsunami-Affected Countries: 2005*, the most comprehensive report to date on tsunami impacts to reefs in the region, says the cumulative effect of anthropogenic stresses on the environment remains the major threat to Indian Ocean coral reefs. These stresses include overfishing, destructive fishing methods, sediment and nutrient pollution, and unsustainable coastal development.

The report raises concern about potential economic and ecological damage caused by ongoing rehabilitation efforts. Many boats that have been sent to replace destroyed fishing vessels use different technology, leading to inappropriate use and increasing fishing effort. "There is a major need to sit back and assess what was successful during the whole rehabilitation process and what needs improvement, what lessons can be taken from this experience, and what still needs to be put into place before the next coastal disaster," says co-editor Clive Wilkinson, global GCRMN coordinator at the Australian Institute of Marine Science. He calls on national leaders, donors, and agencies to convene small, high-level meetings in the affected countries to gather positive and negative lessons from the disaster.

The report's major recommendations call for: establishment of an early warning system; capacity-building in integrated coastal management; improved fisheries management and coral reef monitoring; establishment of more marine protected areas; careful reparation and rehabilitation of tsunami damage; and development of stronger national ocean policies. The report is available online in PDF format (6Mb in size) at <http://www.iucn.org/themes/marine/pdf/scr-tac2005-all.pdf>.

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Research spotlight: Accounting for environmental fluctuations in MPA planning

Research published in the 2 March 2006 issue of *Nature* journal suggests that for ecosystem conservation to be effective in dynamic ocean environments, networks of large MPAs may be necessary. The study, which examined the degree of variability exhibited by local coral communities in the Western Pacific, found that species composition was more random than predicted by "neutral" ecological theory. In fact, similar habitats in the study region exhibited vastly different compositions of coral. This high variability — attributed to the impact of local environmental disturbances like cyclones, bleaching, and crown-of-thorns starfish outbreaks — indicates that attempts to protect particular ecosystems should account for the need to repopulate them following local disturbances.

Maria Dornelas of James Cook University in Australia led the study ("Coral reef diversity refutes the neutral theory of biodiversity", *Nature*, 440:80-82). The research team also included Sean Connolly and Terence Hughes of James Cook University. Below, Dornelas briefly discusses the implications of this research for MPA planning.

MPA News: Your study found coral reefs to be quite variable in composition, despite similarities in habitat. Why was that the case?

Dornelas: We think our results suggest that environmental variability in space and time could be behind these patterns. Let me try to illustrate this. Imagine there are three nearby reefs with similar assemblages. A cyclone hits two of the reefs and destroys most of the branching corals, but the third reef is unaffected. This would make the assemblages less similar on average (due to the differences between affected and unaffected reefs) but also more variable in similarity (due to resemblances between the reefs that were affected). These are exactly the patterns we saw in the data. Because disturbances on reefs are frequent, localized, and selective, we think this is a likely explanation for our results.

MPA News: How do your findings impact the potential planning of MPAs?

Dornelas: Our study suggests that effective coral reef conservation needs networks of large marine reserves that ensure organisms can disperse between reserves. Having only small and isolated reserves is too risky. Sooner or later, every reef is hit by a disturbance. If that reef is isolated, it is unlikely to recover — but if there are nearby healthy reefs, it can be repopulated. I suspect these suggestions are equally appropriate to any ecosystem, not just coral. 

For more information

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