

Sacred MPAs: Where Protected Areas Hold Spiritual Value for Stakeholders, and How This Affects Management

Most of the discussion on marine protected areas focuses on their biological and material worth: how MPAs can be used to restore habitats and maintain biodiversity, make fisheries more sustainable, attract tourism, and so forth. For many people worldwide, however, protected areas are perceived not so much for these values but for something less tangible: as landscapes or seascapes of the Creation. Inspiring awe and appreciation for nature as the work or embodiment of a higher power, the spiritual value of protected areas can play an important role in planning and management — and has done so for hundreds of years in some cases.

Motivated by a session on spiritual and cultural MPAs at the First International Marine Protected Areas Congress (IMPAC1) in October 2005, *MPA News* examines the subject of sacred marine protected areas, including the challenges and opportunities involved in blending traditional beliefs and modern MPA management.

Integrating spiritual values

It has been suggested that the first MPAs were designated centuries ago by traditional fishing cultures in Oceania, who used closure-based practices to protect marine resources (“The original MPAs”, *MPA News* 3:6). The right to fish in a particular area was controlled by a clan, chief, or family, and these authorities would establish permanent or temporary *tabu* or *kapu* areas, in which fishing was not allowed. This prohibition was often tied to a belief system.

Today, countless MPAs worldwide hold spiritual value for stakeholders. Whether a site plays a traditional role in a people’s creation story, or is viewed more generally in terms of the spiritual inspiration and rejuvenation it offers, reverence for the site among stakeholders underlies a desire that it be protected.

In recognition of the sacred value of protected areas and what such value can provide to resource management, the IUCN World Commission on Protected Areas (WCPA) has created a Task Force on Cultural and Spiritual Values. Composed of more than 70 members from 24 countries, the task force aims to help promote the integration of these values into policy, planning, management, and evaluation of protected areas, where appropriate. Among its activities has been the drafting of guidelines for management of sacred natural areas. The draft guidelines — available at <http://www.unesco.org/mab/SNS/guidelines.htm> — focus on traditional sacred natural sites, as opposed to “modern” protected areas viewed simply as offering spiritual inspiration.

The degree of that distinction — between traditional and non-traditional sacred natural areas — is open to some question. In Christianity, the Catholic Church in recent years has urged greater stewardship of the environment, including protected areas: in 2004, seven bishops in the Australian state of Queensland declared the Great Barrier Reef sacred and said any willful harm done to it constituted a diminishment of God (“Catholic bishops declare Great Barrier Reef sacred”, *MPA News* 6:3). In the US, the National Association of Evangelicals, which reportedly represents 30 million Christian Americans, adopted an *Evangelical Call to Civic Responsibility* that urged improved stewardship of “God-given dominion” through the “proper care of wildlife and their natural habitats” (http://www.nae.net/images/civic_responsibility2.pdf).

Allen Putney, who leads the WCPA Task Force on Cultural and Spiritual Values, appreciates this growing environmental concern among Christian churches. He says, however, that such calls for stewardship fall short of recognizing humans’ place within nature, as a part of the natural whole. “While I applaud any movement by Christian churches to urge a greater concern for the environment, I do not see much evidence to indicate that mankind’s stewardship capacity has proven to be up to the challenge of ensuring adequate environmental protection,” he says. (For a full interview with Putney, see box, “We are part of nature...not its steward’: Interview with Allen Putney”, on page 3.)

Dear reader:

This issue of *MPA News* covers the months of December 2005 and January 2006, allowing our staff a year-end holiday. In February, our regular monthly delivery will resume.

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More IMPAC1 coverage to come

This edition of *MPA News* contains several topics that were presented or discussed at the First International Marine Protected Areas Congress (IMPAC1), held in Geelong, Australia, in October 2005. We will continue to report on outcomes from IMPAC1 (<http://www.impaccongress.org>) in future editions.

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The three cases that follow are examples in which traditional sacred values are playing a role in modern MPA management.

Gwaii Haanas: “All things are sacred and deserve respect and care”

Gwaii Haanas is the southern portion of the Haida Gwaii (Queen Charlotte Islands) archipelago on Canada’s Pacific coast. These islands have been the home of the Haida (this term means *the people*) for more than 10,000 years, and continue to be home to about 2,000 Haidas. According to traditional beliefs, supernatural beings arrived in Haida Gwaii before the Haida, making their homes at every headland and mountain and giving birth to the female ancestors of today’s Haida. The supernatural beings are believed to continue to live among the people today.

Since the arrival of Europeans to the islands in the late 18th century, the region’s forests and their abundant resources have been heavily exploited, and the Haida population suffered drastic diminishment from Western diseases. From the mid-20th century, however, the Haida population has grown once more, and has committed to protecting the region’s natural and cultural heritage from further impacts.

In 1985, the Council of the Haida Nation declared the southern portion of Haida Gwaii a Haida Heritage Site. Two years later, the Canadian federal government and the British Columbia provincial government agreed to set aside the area now known as Gwaii Haanas National Park Reserve, consisting of islands down to the high tide line. The two protected areas — the heritage site and the national park reserve — were formally combined in 1993 under an agreement between the Council of the Haida Nation and the federal government. This *Gwaii Haanas Agreement*, creating the Gwaii Haanas National Park Reserve and Haida Heritage Site, provides for an Archipelago Management Board, consisting of two representatives each from the Council of the Haida Nation and the federal government (represented by the Parks Canada agency). Under this co-management regime, board members share in the planning and management of the archipelago’s land-based resources. Equal input from the Haida and the Canadian government is ensured, and the board works to reach consensus on all issues it faces.

Barb Wilson (*Ki7iljuus*), Gwaii Haanas cultural liaison specialist for Parks Canada, is a Haida. “Haida culture in its simplest terms is the relationship of us to these islands,” she says. “Our bodies are nourished by the land and the ocean and, after death, return to nourish land and the oceans. In this way we have kinship with all living things on these islands.” Through the co-management board, she says, Haida values and concerns are an essential part of any management discussion, and spiritual values are protected.

Among her responsibilities, Wilson trains staff and Haida Gwaii Watchmen — Haida stewards — in local history and other traditional knowledge. The Watchmen serve from spring until fall as guardians of culturally significant sites, protecting them and educating visitors on the natural and cultural heritage of Gwaii Haanas. The park reserve and heritage site attracts visitors from around the world. Visitor orientations and maps instruct on the restricted use of certain cultural sites, and the need to be respectful. “We accept the visitors to be a positive thing, as their experience will affect their own relationship with the lands,” says Wilson. “More people will be motivated to act to protect the lands and waters.”

Provisions have been made in the *Gwaii Haanas Agreement* to designate the surrounding waters as an MPA — the proposed Gwaii Haanas National Marine Conservation Area. A collaborative management system similar to that of the park reserve and heritage site will be created to manage it. Negotiations between the federal government and Haida Nation are underway. “As with the terrestrial areas, the priority will be to look after those things that give us life,” says Wilson. “All things are sacred and deserve respect and care.” The website for Gwaii Haanas National Park Reserve and Haida Heritage Site is <http://www.pc.gc.ca/pn-np/bc/gwaiihaanas>.

Sinub Wildlife Management Area: Spirits will deal with the rulebreakers

The traditional *tabu* or *kapu* areas used as part of customary marine tenure systems in Oceania, noted earlier, largely disappeared with the arrival of Western influences that centralized governance and downplayed the authority of traditional (village- or clan-level) leaders. However, in response to modern fishing pressure, some cultures in the region are reinstituting them, particularly in nations where elements of traditional authority are being re-established. In Fiji in 2001, for example, local leaders established a new *tabu* site where a traditional one had once been — around a sacred point where Fiji’s paramount chief is said to have descended (*MPA News* 3:6).

In Papua New Guinea, wildlife management areas (WMAs) may be designated and managed by local-level groups under the country’s *Fauna (Protection and Control) Act*. Of the WMAs that have been designated, several contain traditional sacred sites, or *tambu* in the local language. The Sinub WMA in the biodiverse Madang Lagoon on Papua New Guinea’s northeast coast features an island with a rock that locals believe has healing powers. When someone is ill or has wounds, he or she need only swim in the water surrounding the rock, then touch it, to be healed. The rock has been worshipped for centuries.

Rebecca Samuel of WWF, who has worked with local stakeholders on the conservation of Sinub WMA, says

More information on sacred protected areas

WCPA Task Force on Cultural and Spiritual Values
<http://www.iucn.org/themes/wcpa/theme/values/values.html>

PARKS magazine, June 2000 issue on “Non-Material Values of Protected Areas”
http://www.iucn.org/themes/wcpa/pubs/pdfs/PARKS/Parks_Jun00.pdf

Note: Although *MPA News* uses the terms *sacred* and *spiritual* interchangeably, the WCPA Task Force on Cultural and Spiritual Values differentiates them. *Sacred* is associated with formal religion, it says, whereas *spiritual* allows for expression both inside and outside of a religious context.

this and another WMA in Madang Lagoon were mainly established to help rebuild once-abundant fish stocks. Protecting the healing rock or other sacred sites was not a primary motivation. Nonetheless, she says, at Sinub it is the healing site within the WMA that engenders the most respect among locals, rather than the remainder of the WMA. With no patrols, there is poaching inside the WMA at night, and blast-fishing remains prevalent in the lagoon, although not as common as in the past. The sacred site remains safe, despite its regular visitation for healing purposes.

“At this stage we are still experiencing difficulty in trying to penalize people who do not observe the WMAs, because people do not really understand the WMAs’

existence,” says Samuel. “But in terms of people breaking the rules of a sacred site, it is commonly believed that the spirits will deal with the culprits. So when something awful happens to someone, community members try to find out if that person has broken any rules of the sacred area. Usually the clan leaders offer some kind of gifts or a special speech to the spirits for forgiveness.” Samuel is involved with the LMMA Network, an initiative to help locally managed marine areas (LMMAs) in the Western Pacific benefit from the collective experience of their practitioners (“Building ‘Learning Networks’ Among MPAs”, *MPA News* 5:8). A LMMA Network report on WMAs in Madang Lagoon, from February 2005, is available at http://www.lmmanetwork.org/Site_Page.cfm?PageID=28.

Bijagos archipelago: Protection through culturally limited access

The Bijagos archipelago — a 10,000-km² region of mudflats, mangroves, savannah grasslands, and islands off the coast of Guinea Bissau in West Africa — is home to

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“We are part of nature...not its steward”: Interview with Allen Putney

Allen Putney has more than three decades of international experience in the planning, management, and financing of protected areas. He leads the Task Force on Cultural and Spiritual Values for the World Commission on Protected Areas (WCPA). He also co-edited, with David Harmon, the book *The Full Value of Parks: From Economics to the Intangible* (Rowman & Littlefield Publishers, 2003). Below, *MPA News* speaks with him about religion, protected areas, and the place of humans in nature.


MPA News: In *The Full Value of Parks*, you write that religious traditions that developed in the Middle East tend to view nature in *anthropocentric* terms — relating to human welfare and concerns — whereas Eastern religions and the cosmologies of traditional and indigenous peoples often relate to nature in *ecocentric* terms, viewing the ecology of humans and nature as a whole. Does this mean that in Western societies anthropocentric arguments will always outweigh ecocentric ones? Or, conversely, that non-Western societies will favor ecocentric approaches?

Putney: I think you are on slippery ground if you try too directly to relate spiritual traditions anywhere with specific approaches to government policy. Indeed, the evidence would seem to suggest that the western anthropocentric approach has dominated government policy in countries with eastern spiritual traditions, and few would argue that decisions on protected areas in western countries are made based on a specific spiritual tradition. However, I would not argue either that cultural traditions have no influence on government policy. Perhaps the best way to look at it is that cultures have a propensity to see the world in a way that is consistent with their spiritual traditions. Whether that propensity is expressed in a given government policy depends on the context at any given point in history. At the same time, the more the environmental movement integrates cultural and spiritual values into the array of values that argue for the establishment and management of protected areas, the more successful that movement will be.

MPA News: You write in the introduction to your book that “...we are part of nature, not its master, not its steward.” The Catholic Church has been urging greater stewardship of environmental resources in recent years, as have a growing number of evangelical Christians in the US. Do you believe that these stewardship-related developments in Christianity fall short of what is needed to ensure adequate environmental protection?

Putney: While I applaud any movement by Christian churches to urge a greater concern for the environment, I do not see much evidence to indicate that mankind’s stewardship capacity has proven to be up to the challenge of ensuring adequate environmental protection. We seem to be able to measure environmental destruction with great precision (for example, the rate of coral reef die-off) but in general are unable to do anything serious about it. I see little indication that man understands enough, or has the systems and will to act in a way that would come close to qualifying him to be nature’s steward.

MPA News: One of the greatest challenges faced by protected area managers is compliance with site regulations. In your view, how do the various kinds of values on which a site is protected — spiritual, cultural, scientific, economic — affect the level of compliance?

Putney: My experience is that compliance with regulations varies enormously according to the local context, and no one set of values can be isolated as “the” reason for compliance everywhere. Certainly there are many excellent examples of cultures protecting places for spiritual reasons over long periods of time, but similar examples can be found where other cultural, scientific, or economic values have been the driving forces. However, I would say that the more we acknowledge and integrate cultural and spiritual values into protected area establishment and management, the more successful we will be in achieving their protection, and the protection of the environment in general. 

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25,000 people. The vast majority belong to the Bijago ethnic group, whose culture revolves around a number of holy places — inlets, capes, and islands — used for ceremonies and initiation rites. Traditionally, these sites have afforded *de facto* protection to the islands' biodiversity, including such symbolically important species as sea turtles, manatees, and hippopotamus, which are central to the Bijagos' belief system.

"Only people who have gone through the initiation ceremonies are allowed to access a sacred site," says Pierre Campredon, who coordinates an international program responsible for implementing a regional MPA strategy in West Africa. (The program is known as PRCM by its French acronym, and involves IUCN, WWF, Wetlands International, and Fondation Internationale du Banc D'Arguin, a French NGO.) Campredon co-authored a paper with Augusta Henriques for IMPAC1 on the sacred value of Bijagos. "The society is divided in age classes, and to go from one class to the next you have to complete a series of ceremonies," he says. Only advanced males have the right to disembark on Poilao Island, for example, site of the largest green turtle nesting area in the eastern Atlantic. The relatively low visitation to the island over time may be one reason why there is still such a high number of turtles there, says Campredon.

This sacred connection and the related natural and cultural heritage have been acknowledged through establishment of two national parks in Bijagos, and designation by UNESCO of the Boloma Bijagos Biosphere Reserve in 1996. Despite these protective efforts, however, the

recent influx of migrant fishermen from elsewhere in West Africa and industrial fishing vessels from Europe and China are depleting fish stocks, and the potential introduction of offshore oil drilling and shipbreaking yards is posing additional challenges to these protected areas.

In this context, within the biosphere reserve, a community-based MPA has been designated to improve local living conditions and protect coastal resources from outside pressures. Comprising three islands of the archipelago, the 545-km² Urok Islands Community Protected Area has several co-management bodies (village committees, island assemblies, and the Urok Assembly, in addition to a Council of Elders) and a set of regulations, including a zoning plan decreed in 2005. Two of the three zones allow access (and limited fishing) by local residents only; the third zone allows commercial fishing by outsiders under specific conditions. Enforcement is via a joint system: fishermen serve as patrols, and inform local authorities when violators are seen.

The Urok Islands Community Protected Area, combining terrestrial and marine components, has several sacred sites in its upland areas, says Campredon. He hopes the example of this protected area will assist other communities in the region that face similar threats to their natural, cultural, and spiritual heritage. "The consultation and participatory management process that led to the creation of this community MPA are an experience in governance from which many valuable lessons can be drawn, to the benefit of Guinea Bissau and other West African coastal societies alike," he says. 🌊

Notes & News

Funding available for mooring buoy programs in Gulf of Mexico, Wider Caribbean

Projects to install and maintain mooring buoys for conservation of coral reef ecosystems in the Gulf of Mexico and Wider Caribbean Region are eligible for grants through the *Anchors Away!* program, administered by the National Fish and Wildlife Foundation (NFWF) through the Coral Reef Conservation Fund. Applications will be accepted from US or international non-profit organizations, academic institutions, and government agencies (except U.S. federal agencies). US federal agencies are encouraged to work collaboratively with non-federal partners. Pre-proposals are due by 31 January 2006. More information is available online at http://www.nfwf.org/programs/anchors_away.cfm.

New Zealand approves three marine reserves

The New Zealand government has approved three new no-take marine reserves, which, when formally gazetted, will bring the total number of marine reserves in the nation

to 31. All together, the reserve system will cover roughly 7.5% of New Zealand's territorial sea. The new reserves have been under discussion for 10 years or more. "It is terrific to see them finally reach fruition," said Conservation Minister Chris Carter in a press statement.

The 12.9-km² Volkner Rocks (*Te Paepae Aotea*) Marine Reserve in the Bay of Plenty features particularly clear waters, a combination of subtropical and warm temperate fishes and invertebrates, and emergent rock stacks that are a sacred site for nearby tribes. The 17.59-km² Parininihi Marine Reserve contains distinctive sponge gardens and is the southern limit for Maui's dolphin, a species endemic to the northwest coast of the North Island of New Zealand. The 2.31-km² Whangarei Harbour Marine Reserve comprises two sites with different habitats — a mangrove forest and a rocky reef — and was proposed by a local secondary school, whose students studied the harbor as part of their curriculum from 1990-2002. "It is a great example of 'bottom-up' action by young people who wanted to

safeguard their local environment,” says Kathy Walls, senior technical support officer for marine protected areas with the New Zealand Department of Conservation.

Four more marine reserve applications await decisions from ministers under New Zealand’s current Marine Reserves Act. Once decisions are made on those, a new system for locating MPAs — based on regional planning and consultation prior to proposals proceeding to the ministerial level — will be introduced. The press statement from government ministers is available at <http://www.beehive.govt.nz/ViewDocument.aspx?DocumentID=24558>.

AU\$50 million paid so far to those impacted by Great Barrier Reef re-zoning

The Australian Government reports it has paid roughly AU\$50 million (US\$38 million) so far as part of a “structural adjustment package” to assist fishermen and fishery-related businesses that have been impacted by re-zoning of the 344,000-km² Great Barrier Reef Marine Park. More than 500 individuals and businesses have received assistance through the program. The re-zoning, which took effect 1 July 2004, expanded no-take zones from 4.7% to over 33% of the entire marine park (“Australian Parliament Passes Re-Zoning Bill...”, *MPA News* 5:10). The deadline for applications for assistance was recently extended from 31 December 2005 to 30 April 2006. The structural adjustment package is the first major application of the Australian government’s policy statement on *Marine Protected Areas and Displaced Fishing*, released January 2004 (<http://www.deh.gov.au/coasts/mpa/displaced-fishing.html>). More information on the Great Barrier Reef Marine Park Structural Adjustment Package is available at <http://www.qraa.qld.gov.au/productitem.jsp?product=305>.

Report: Successes, challenges in managing coral reef MPAs

A report published by the UN Environment Programme features 13 case studies of coastal coral-reef management initiatives worldwide, with lessons learned from each. Several of the cases described in the 100-page *People and Reefs: Successes and Challenges in the Management of Coral Reef Marine Protected Areas* were presented at the International Tropical Marine Ecosystem Management Symposium 2 (ITMEMS2), held in Manila, Philippines, in March 2003. The report is available in PDF format at <http://www.unep.org/regionalseas/Publications/itmems2reportfinal.pdf>.

Handbook available on reef fish spawning aggregations

The Society for the Conservation of Reef Fish Aggregations (SCRFA), an NGO, has released a handbook to educate managers and stakeholders on the phenomenon of reef-fish spawning aggregations and the need for their

conservation. The handbook accompanies an earlier-released methods manual detailing how research and conservation of spawning aggregations can be carried out. Both publications are available in PDF format at <http://www.scrfa.org/server/educational/manual.htm>.

Correction


The May 2005 edition of *MPA News* misidentified the position of Frank Prokop at Recfishwest, a recreational fishing organization in Western Australia (“Sportfishing, MPAs, and the Debate Over Management”, *MPA News* 6:10). He is executive director of the organization.

Tips on public consultation: Jason Simms, Department of Fisheries and Oceans, Canada

Jason Simms of the Department of Fisheries and Oceans (DFO), Canada, oversaw a seven-year process to plan the Gilbert Bay Marine Protected Area, designated in October 2005 as one of three new federal MPAs in Eastern Canada (*MPA News* 7:5). With DFO as the lead federal agency on the project, Simms was required to consult with federal and provincial agencies, aboriginal stakeholders, environmental NGOs, and other groups, including those represented on a multi-stakeholder steering committee for the MPA. Ultimately, there was near-total overlap between the steering committee’s final recommendations and the regulations for the MPA, which allows limited fishing depending on zone. Community support for the Gilbert Bay MPA (<http://www.gilbertbay.com>) is high.

MPA News: How can resource managers decide the right amount of public consultation to provide as part of MPA planning? In other words, how much consultation is too much or too little?

Jason Simms: Ultimately, the timing and amount of consultation will depend on good advice, planning, and your gut feeling as a MPA manager. It is important not to consult on management measures too early, as you may have to repeat consultations if major changes occur — although, obviously, the process of consultation may result in adjusting some management measures. During our consultation sessions we remained focused on the regulations and avoided spending a lot of time discussing non-regulatory activities: i.e., public awareness, science, etc. The support of our multi-stakeholder steering committee helped address most areas of public concern.

We also took a page from the re-zoning process for the Great Barrier Reef Marine Park in Australia. That is, we avoided holding evening public meetings with long presentations attempting to address all possible questions related to the MPA. Instead, we held community information sessions in which DFO representatives and steering committee members were available in the communities for 3-4 hours, and invited the public to come and discuss their concerns or questions. Instead of having to sit through a 30-minute presentation, people could drop by and have their questions addressed in 5 minutes. This approach helped to diffuse the negative “grandstanding” that often occurs at public meetings and presented a less intimidating environment for discussion. 

For more information

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Alan White is president of Coastal Conservation and Education Foundation, a Philippine NGO, and Anna Meneses is coordinator of the organization's Marine Protected Area Project, described in this essay. The project is supported by the Pew Fellows Program in Marine Conservation (an initiative of the Pew Institute for Ocean Science) as well as the David and Lucile Packard Foundation, (US) National Oceanographic and Atmospheric Agency, and the Fisheries Improved for Sustainable Harvest Project of the United States Agency for International Development (implemented by Tetra Tech EM Inc. in the Philippines).

MPA Perspective Paper Parks in the Philippines: Improved Information Tells a New Story

By Alan T. White and Anna Blesilda T. Meneses

Since the 1970s, more than 600 MPAs have been designated throughout the Philippines. Past studies on the effectiveness of these sites have suggested that many were failing to achieve their goals. One figure in particular — that less than 20% of Philippine MPAs are fully enforced — has been cited widely as evidence of an epidemic of “paper parks” in the Philippines.

However, new monitoring research on MPAs nationwide indicates that the percentage of ineffective sites in the Philippines is actually lower than that figure. In fact, there appears to be a trend underway toward effective MPA management in the country.

The new findings come from the Marine Protected Area Project (MPA Project), launched in 2001 by the Coastal Conservation and Education Foundation, or CCE Foundation, a Philippine conservation NGO. With a goal to help increase the number of functional MPAs in the Philippines, the project provides a framework to monitor and evaluate MPAs based on several specific and standardized indicators of success, related to such factors as implementation of management programs and public compliance. This framework, embodied in the project's MPA Database and Rating System, promotes good governance, collaborative effort, and better understanding of the functions and benefits of MPAs (“Rating system available for MPA management in Philippines”, *MPA News* 6:3).

Following an initial pilot test of the system in 16 MPAs, it has been applied to 360 MPAs throughout the Philippines, in collaboration with national government agencies, NGOs, academic institutions, and development projects in the field of coastal resource management.

The great majority of these sites (93%) are small MPAs designated by municipal or city governments; the others are larger sites designated by the Philippines Department of Environment and Natural Resources. Management systems vary from site to site, including management by local governments, local people's organizations, NGOs, multi-sectoral boards, and/or dive resort operators.

The project rates MPAs based on a five-level scheme:

- Level 1: *Initiated phase* — MPA has been initiated but no management activities have begun
- Level 2: *Established phase* — MPA is legalized and management has begun, but no enforcement is underway
- Level 3: *Enforced phase* — MPA regulations are implemented and enforced, and management

- activities are maintained for two years or more
- Level 4: *Sustained phase* — MPA is well-enforced over the years, and participation/support from local government and community is consistent
- Level 5: *Institutionalized phase* — MPA management and enforcement are consistently maintained and assured by additional legal support

Percentage of non-enforced MPAs


Since 2001, 61% of the MPAs assessed using this rating system were at Level 1 (20%) or Level 2 (41%), meaning no enforcement activity was yet occurring. Although this figure is still unacceptably high, it is significantly below the commonly cited 80% figure for paper parks in the Philippines. Furthermore, the sites that were enforced, sustained and/or institutionalized accounted for more than one-third of all Philippine MPAs assessed: 29% were at Level 3; 6% were Level 4; and 2% were Level 5.

The fact that most MPAs have some degree of management in place (Levels 2-5), and that the average degree of management is somewhat better than expected, reflects a very positive trend in the management of MPAs in the Philippines. We believe this can be attributed to the increasing number of capable local governments and communities, and the increasing use of monitoring and evaluation.

As observed by the project, the challenge for many sites lies in sustaining management operations after the establishment phase. In some cases, especially for older MPAs (more than 10 years old), enforcement activities and program implementation tends to become sporadic and inconsistent. MPAs have difficulty in sustaining management efforts due to the lack of technical support, insufficient budget, and weak law enforcement.

A few key lessons from the project:

- The database and rating system helps communities and local governments to gauge their management efforts and what is needed to improve management effectiveness.
- A stable source of financing and strong political support and partnership with key government agencies to enforce the law are essential for well-managed MPAs.
- Local government capacity and empowered communities ensure longer term and stable management.
- Having a management plan builds sustainability when coupled with regular monitoring and evaluation to provide focus on the desired goals for the MPA.

- The database and information system puts in perspective — for all involved, from field level to national government — what is being accomplished and what to focus on next; it also determines which MPAs should be undesignated due to ineffectiveness. 

For more information

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A Year After the Tsunami: Surin Marine National Park, Thailand

Prior to the Indian Ocean tsunami in December 2004, Surin Marine National Park had a reputation for offering some of the best shallow-water reef diving in Thailand. Located northwest of Phuket, the 135-km² park attracted 30,000 visitors each year. Park management had a zoning plan that protected the park's area of highest biodiversity, and an information center that instructed visitors about the ecosystem they were experiencing.

The tsunami changed the park. The reef area with the strictest protection was heavily damaged, and the information center was washed away. One year later, park management is still working to respond to the disaster. Suchai (Yo) Worachananant, a lecturer in the Department of Marine Science, Kasetsart University, Thailand, who has studied Surin for seven years and advises on its management, addressed the First International Marine Protected Areas Congress in October 2005 on the status of this work. *MPA News* spoke with him afterward about lessons to be learned from Surin's experience, and what the future holds for the park:


MPA News: Prior to the tsunami, the zoning plan for Surin Marine National Park was primarily based on biodiversity: the most biodiverse area of the park was assigned the strictest protection zone. That reef area was heavily impacted by the tsunami, making the zoning plan largely irrelevant. How can park managers plan zoning schemes to anticipate such catastrophic events, including tsunamis or storms?

Worachananant: Reefs with high resilience should be given strict protection so that they may serve as re-spawning areas following such an event, even if such reefs might not have the highest diversity. Other criteria to consider include the direction of currents (upstream "source" reefs should be protected) and natural areas of shelter from strong currents, such as reefs in enclosed or semi-enclosed bays. Meanwhile, reefs that are dominated by "tolerant" coral types — massive (e.g., *Porites lutea*), submassive (e.g., *Pocillopora damicornis*) and encrusting (e.g., *Favia* sp.) — can be opened for general use to reduce pressure on places that have been selected for strict protection. It is about getting the right balance of protected sites and use sites to account for possible perturbations and user pressure.

MPA News: Following the tsunami, remaining dive tourism in Surin flocked to the less-affected areas, which increased the pressure on those sites. How has park management responded to this?

Worachananant: Management has applied a temporary zoning system based on several criteria, including damage level, coral types, tourist safety, accessibility level, and biodiversity. In zones that are open to users, mooring buoys are being used to reduce crowding. Dive organizations have responded positively to this system since we still provide opportunities for them to do business. There is also a proposal to create a man-made dive attraction outside the park — potentially involving the intentional sinking of Thai cultural statues — to draw diver activity there and reduce pressure inside the park. This attraction would still be within easy traveling distance for tourism operators. The decision now is what management strategies can and should be carried into the future.

MPA News: In light of the tsunami's impacts on the most biodiverse parts of the Surin marine ecosystem, some of the original rationale for protecting Surin has been lost. Do you believe the park should still exist?

Worachananant: Yes. Although my surveys in January 2005 showed extensive reef damage, the March 2005 survey revealed recovery was already occurring. I believe this recovery, or lower than expected impact, is partly the result of Surin's diversity: the park has inherent qualities to resist the perturbation and heal itself. In addition, there seems to be evidence that the macro scale of the tsunami affected the park's reefs on a macro scale as well. That is, rather than killing a lot of individual reef elements, the tsunami simply moved whole colonies of corals, which have managed to survive in their new locations. And shifts in substrate that covered large areas of reef have returned to pre-tsunami condition, minimizing long-term impact. 

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Letters to the Editor

Distinction between "socio-economics" and human dimensions

Dear *MPA News*:

As managers and scientists increasingly realize that resource management is driven by social values, the roles of social science and its practitioners become more established — if not yet adequately represented — in natural resource management. As Graeme Kelleher points out, social science factors are a major force behind the eventual acceptance, or rejection, of MPAs ("Letter: Socio-economic factors determine MPA fate", *MPA News* 7:1).

However, the term "socio-economics" — used widely to refer to the social science factors warranting consideration — is an incomplete descriptor of the full range of social science capabilities in resource management. The term "human dimensions" is better in that it represents a much larger repertoire of social science disciplines. Human-dimensions specialists can offer much to assist managers, such as:

- Normative approach — investigation of the normal behavior of different user groups (e.g., fishermen, divers, birdwatchers, personal watercraft enthusiasts) in various situations to evaluate the appropriateness of alternative management actions;
- Stated choice models — which yield insights into the relative importance of different use restrictions and the tradeoffs stakeholders are willing to make regarding management options;
- Procedural justice — the perceived fairness associated with the process of determining how a resource will be allocated;
- Distributive justice — the perceived fairness associated with the actual allocation of a resource;
- Elaboration likelihood modeling — communication effectiveness, which differs from simply "educating the public";
- Integrative complexity — which tells us that the knowledge one holds about a particular resource issue is not necessarily correlated to her attitude or position on the issue;
- And a host of other theories and concepts that are directly applicable to how people can be expected to operate.

Sociology and economics are just two parts of a much larger human-dimensions puzzle that includes anthropology, social psychology, political science, law, outdoor recreation, and geography. There is much literature from the recreation, fisheries, and wildlife management fields illustrating this, but fewer examples from the marine and coastal management arena. My concern is

that the use of the term *socio-economics* will lead to a superficial understanding and appreciation of the extended and holistic nature of social science as it pertains to resource management. There is great power in the collaboration between the ecological and social sciences to protect and enhance coastal and marine ecosystems, but we must ensure it is widely recognized that there are many relevant social science disciplines in addition to sociology and economics.

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Global MPA network to vary from region to region**Dear *MPA News*:**

Regarding the finding that the MPA field is not on pace to meet the target of establishing a global representative network of MPAs by 2012 ("Global Targets for MPA Designations Will Not Be Met; Experts Respond", *MPA News* 7:5), the issue of what is "a global representative network of MPAs" depends to some extent on the scale of division of the marine environment. At an extremely broad scale — where a biogeographical division might cover an entire sea — such a system might be achievable.

That said, if a representative system or network is established by 2012 (at whatever scale), it will vary enormously, both in representativeness and completeness, from one marine region to another. There are some seas where powerful neighboring countries strongly oppose high seas MPAs, for example — or almost any limitation on those countries' freedom of action.

Nonetheless, the setting of such targets remains highly desirable. Without them, nations and international organizations have almost no incentive to strive to achieve measurable outcomes (e.g., Kyoto).

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