

MPAs and Indigenous Peoples: Co-Management as a Means of Respecting Traditional Culture and Strengthening Conservation

An indigenous population is an ethnic group whose ancestors inhabited a place before another, eventually dominant culture arrived. By definition, indigenous peoples are distinct from the prevailing culture that surrounds them.

That non-dominant status — and the associated effort to regain previous rights or places that were lost during the shift of cultures — has caused tensions between indigenous and non-indigenous societies throughout history. A glimpse at the news this year demonstrates the MPA field is not immune to such tensions (see box, page 2). The high-profile struggle over protection of the Chagos Archipelago in the Indian Ocean is just one example.

However, the relationship between indigenous peoples and MPAs can be one of mutual advantage and cultural transfer, rather than conflict. Many indigenous cultures have a history of managing natural resources in a sustainable manner. If MPA practitioners can harness that cultural knowledge — and recognize indigenous peoples as partners in developing strategies — then all sides may benefit.

That partnership is co-management: in this case, indigenous and non-indigenous societies working together to manage MPAs. Co-management can take different forms — from sites where all decisions are made jointly, to sites where partners carry different responsibilities and entitlements. In this issue of MPA News, we examine two distinct cases of co-management.

A. Gwaii Haanas, Canada: “Collaboration is the first move, not the last”

Background: The Government of Canada and the Council of the Haida Nation co-manage Gwaii Haanas National Park Reserve and Haida Heritage Site, a 1470-km² protected area off the Pacific coast of Canada. The protected area encompasses the land portions of an archipelago of 138 islands where the Haida people have lived for thousands of years. Overseeing the management of Gwaii Haanas is a four-member Archipelago Management Board, of which two members represent the Canadian government and two members represent the Council of the Haida Nation. All board decisions are made by consensus.

Now the marine environment of Gwaii Haanas is being added to the protection system. Early this year, Canada and the Council of the Haida Nation agreed on a co-management arrangement for Gwaii Haanas waters that is similar to that for the land. The waters, covering 3500 km², have become the Gwaii Haanas National Marine Conserva-

tion Area and Haida Heritage Site. The Archipelago Management Board, which will oversee both protected areas, is in the process of expanding to include a marine representative of the Canadian government and another Haida representative.

Contributed by: Cindy Boyko

Representative of the Council of the Haida Nation on the Gwaii Haanas Archipelago Management Board (AMB)

On ensuring the management partnership is balanced:

“The decision in 1993 to recognize two distinct authorities for Gwaii Haanas [the Council of the Haida Nation and the government of Canada] set a fundamental and solid base for creating longstanding good management for the area. It created an atmosphere in which the government of Canada can draw on the resources of the Haida Nation, and the Haida Nation can draw on the resources of Canada. It created an atmosphere where collaboration is the first move, not the last.

“The first few years were essentially about building trust in the relationship. The most important thing that we can all bring to the table is honesty. Sometimes it can

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Our newsletter is now available in Spanish. For details, see the editor’s note on page 5.

get uncomfortable, and there are always bumps to smooth out. But as long as there is a committed and solid relationship between the parties at the AMB table, there is always room to find a solution that works for everyone.

“One example was the building of a warden station in Gwaii Haanas. When the government of Canada first expressed interest in building a station, there were no Haida employees yet in the Gwaii Haanas field unit. It

was important to the Council of the Haida Nation that we not have a building created that would represent only the government of Canada and thereby establish a sense of ‘ownership’. The AMB decided to let the issue sit. Over time, Haida employment increased and discussions eventually restarted regarding the station, which has now been built. We also negotiated to have the Gwaii Haanas standard uniforms changed to incorporate Haida logos to reflect the co-operative management of the area.”

Recent global developments with MPAs and indigenous peoples

• Chagos Archipelago

The UK, which owns this island group in the Indian Ocean, designated the waters around Chagos as a massive marine protected area this year, with at least some of the MPA to be a no-take zone (MPA News 11:6). The designation was opposed by Chagossian islanders, whom the UK forcibly removed from the archipelago in the late 1960s in favor of building a military base there. The displaced Chagossians — now living in Mauritius, the Seychelles, and the UK — are suing for the right to return to the islands. They are concerned the new no-take protections will make it difficult for them to live self-sufficiently upon returning to Chagos.

• California

In July, 300 members of California indigenous tribes engaged in a protest to defend tribal marine gathering rights, focusing in particular on the ongoing state process to plan a system of MPAs along the California coast. Charging that the planning process is infringing on their traditional rights, the protesters peacefully took over a meeting of the state-sponsored task force that is managing the MPA-planning process. The following month, tribal representatives joined with other regional stakeholders (including fishing groups and conservation organizations) to submit a unified proposal for a system of MPAs along the state's north coast. The proposal allows for traditional, non-commercial tribal gathering rights. More information is at www.caloceans.org/news/north-coast-mlpa-stakeholders-produce-landmark-unified-plan.

• New Zealand

The nation's Foreshore and Seabed Act of 2004 bars the indigenous Māori people from seeking any customary claims to beaches and waterways. The law, based on parliamentary concerns at the time that Māori would restrict public access to claimed areas, has been called racially discriminatory by Māori groups, who say they have a right to the foreshore and seabed based on historical possession and an 1840 treaty. In September 2010, the New Zealand government introduced a bill to Parliament that would repeal the 2004 law and replace it with a system that allows for Māori claims. Under the bill, public access for all would be guaranteed to claimed areas; however, claimants would have the right to restrict certain human activities there, such as by designating a no-take marine reserve. For more information on the bill, go to <http://bit.ly/94xk3M>.

On employing Haida people in protected area management:
“An AMB goal for Gwaii Haanas’ field unit is eventually to have all positions filled by Haida, from management on down. Some day that will be realized. We are jointly working toward this. [Note: The manager of the park reserve is a Haida.]

“The field unit’s Haida employment rate now is at 50%. There are technical jobs that will take years to build the capacity for — science-based positions that will require university degrees. So we need to start recruiting in our schools to lead people in the right direction. It is a long process.”

On negotiating co-management for the new National Marine Conservation Area:

“A commitment was made years ago when the Council of the Haida Nation and the government of Canada signed the Gwaii Haanas Agreement [for co-management of the land area] that the Gwaii Haanas marine area would also be addressed. If we did not come together to look after our marine areas, we would all lose.

“The Canadian Department of Fisheries & Oceans is facing its own challenges: the dismal, long-term forecasts for the oceans and fisheries are dictating that change is necessary in management. The Haida Nation has been talking about this kind of change for a long time — we are on the ground watching the deterioration. Now we have a partner to help us make change come about.

“In the long run we will learn together about better ways to take care of the lands and waters. As we all know, looking after the lands and waters is important. It is the natural world that makes us who we are.”

For more information:

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Website of Gwaii Haanas National Park Reserve and Haida Heritage Site: www.pc.gc.ca/eng/pn-np/bc/gwaiihaanas/index.aspx

B. iSimangaliso Wetland Park, South Africa: Recognizing the people's right to restitution but the state's role in conservation

Background: What is now a 3280-km² protected area on the northeast coast of South Africa — containing ecosystems from coral reefs to sandy beaches and from dune forest to savannah — was home to rural African tribes for more than 1000 years. The arrival of European settlers and the establishment of the racist apartheid government led to changes. From the 1950s through the 1970s, the white-ruled South African government removed thousands of rural Africans from the region, often forcing them with no warning to climb on government trucks that transported them long distances away. This was part of a nearly century-long process of removing “black spots” from areas in the country desired by the white ruling class. The area later designated as iSimangaliso Wetland Park was desirable at the time as a mining location, tree plantation site, and game reserve.

In 1994, after the fall of apartheid and the country's first free elections, the new South African government passed legislation allowing dispossessed people to file land claims for return of their homelands. When iSimangaliso Wetland Park was designated as South Africa's first World Heritage site in 1999, the entirety of the park's land area was subject to one claim or another.

Contributed by: Andrew Zaloumis

CEO, iSimangaliso Wetland Park, Ezemvelo KZN Wildlife (state wildlife agency)

On land claim settlements at iSimangaliso:

“Nine claims representing 75% of the Park have been settled. The settled claims are for the Bhangazi, Mbila, Mabaso, KwaJobe, Nsinde, Mnqobokazi, Makhasa, Sokhulu, and Mdletshe tribes. [Note: A regional land claims commission, overseen by the national government, rules on the claims.]

“Land use of the iSimangaliso Wetland Park remains conservation, so beneficiaries of the land restitution process may not resettle within the Park. This is in line with the national framework for the settlement of land claims in protected areas. [In non-protected areas of South Africa, land claim settlements do allow for resettlement.] This framework recognizes the rights of people to social redress while affirming that the state's role is to manage protected areas in perpetuity. Successful claimants are awarded title to the land, but no physical occupation of land in a protected area is permitted, no large-scale agriculture, etc.

“iSimangaliso will remain an open ecological system, managed as an integrated part of the protected area by the Simangaliso Wetland Park Authority. Compensation for loss of the use of the land is provided in the form of a household solatium [a compensation payment], and development and planning grants have

How iSimangaliso Wetland Park works with land claimants and local communities

- Successful land claimants gain a seat on the iSimangaliso Wetland Park Board, which oversees Park management. A capacity-building program supports the development of leadership skills among claimant representatives.
- A percentage of commercial revenue from the Park is paid to land claimants, who also hold equity shares in the Park's tourism facilities.
- Local small businesses receive support, including grants, from the Park's Rural Enterprise Support program.
- The Park facilitates tourism skills training for hospitality trainees, assistant chefs, and tour guides.
- The Park supports 26 craft groups and 50 artists, including by developing access to markets for their works.
- The Park has developed 39 food gardens to support local communities, and oversees the sustainable harvest of natural herbs and other plants inside the Park by local communities.
- The Park provides financial and academic support to 10 first-year students studying at area universities, with the goal of developing future park management.

been awarded by the Regional Land Claims Commission to community-led trusts for investment in community projects.

“By disallowing resettlement, the land restitution framework for protected areas avoids the balkanization of the Park, enabling the protected area manager to manage the land as one integrated ecological area. The specific beneficiation package for each of the claims is slightly different depending on the natural resource base, the tourism development potential, and the ecological limitations imposed by the zonation of the park.”


On the nature of co-management at iSimangaliso:

“As part of a land claim settlement, successful land claimants are required to enter into a co-management agreement with the relevant conservation authority — in this case the iSimangaliso Wetland Park Authority. After a claim is settled, co-management agreements are negotiated between the claimants and iSimangaliso. As co-management partners, land claimants have preferential access to revenue sharing, jobs and work opportunities, empowerment, economic ownership of tourism businesses, enterprise development, and natural resource harvesting.” [See box on this page.]

On challenges this co-management system faces:

“A new model for conservation is being implemented in iSimangaliso. It balances biodiversity protection and

ecosystem rehabilitation on the one hand with a genuine commitment to social equity and regional economic development on the other. This integrated approach, which recognizes the value of our natural assets and our people, is uniquely appropriate to South African conditions. It relies on active partnership between all those with an interest in the region to promote both conservation and development.

“While iSimangaliso is an important economic driver for the region, it is not an economic panacea. Although significant tangible benefits have been delivered to land claimants through the co-management agreements, many of iSimangaliso’s 620,000 neighbors are the poorest of the poor. There are high levels of unemployment. One of the biggest challenges we face is that there are unrealistic expectations of what the natural asset and the tourism sector can deliver. While iSimangaliso is committed to fulfilling its development mandate it cannot singly resolve the regional economic issues, including the alleviation of widespread poverty. Multi-tiered economic interventions outside the Park by the state and private sector, to address the economic and poverty-related issues of the region, are needed.” 

For more information:

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Website of iSimangaliso Wetland Park:
www.isimangaliso.com

Additional resources on indigenous peoples and protected areas

- *Indigenous and Traditional Peoples and Protected Areas* (IUCN, 2000): www.iucn.org/dbtw-wpd/edocs/PAG-004.pdf
- Website for IUCN theme on indigenous and traditional peoples: www.iucn.org/about/work/programmes/social_policy/sp_themes/sp_themes_ip/
- Website for IUCN Commission on Environmental, Economic and Social Policy: www.iucn.org/about/union/commissions/ceesp/
- *First Nations and Marine Protected Areas: An Introduction to First Nations Rights, Concerns and Interests Related to MPAs on Canada’s Pacific Coast* (CPAWS, 2009): www.cpawsbc.org/files/First_Nations_MPAs_Full_Report_Oct2009.pdf
- *Protected Areas and Development in Latin America: From Santa Marta 1997 to Bariloche 2007 and Perspectives for a New Decade* (IUCN, 2009 — includes a chapter on indigenous territories and protected areas): <http://data.iucn.org/dbtw-wpd/edocs/2009-046.pdf>
- United Nations Declaration on the Rights of Indigenous Peoples (adopted by the UN General Assembly in September 2007): www.un.org/esa/socdev/unpfii/en/declaration.html

MPA Perspective: Reflections on Resource Management, Native Hawaiian Culture, and Papahānaumokuākea

Editor’s note:

Miwa Tamanaha is executive director of KAHEA, an alliance of Native Hawaiian cultural practitioners and environmental advocates concerned with protecting Hawai’i’s environment, resources, and people. KAHEA and other local and national conservation organizations worked for years to gain protection of the Northwestern Hawaiian Islands, culminating in the designation by former US President George W. Bush of the Papahānaumokuākea Marine National Monument in 2006 (MPA News 8:1).

The Native Hawaiian monarchy that ruled Hawai’i as a sovereign state was overthrown in the 1890s as part of a US government-supported coup. Hawai’i became a US state in 1959.

By Miwa Tamanaha

Hawaiian management of marine resources is a system that has changed over time. As do Western systems, Native Hawaiian policies toward ocean resources have evolved in response to political shifts, environmental changes, and social realities. So when we say “Native Hawaiian management”, we are talking about different things at different times and different places.

However, we can identify a few fundamental principles that characterize Hawaiian resource management systems. In the Hawaiian language, there is no word for “religion” and no word for “nature”. What is fundamental to Hawaiian management of resources is a world in which the sacred is intimately tied to resource management, where the separation of “nature” and “gods” and “man” is not analogous to Western divisions. (For example, a god may be embodied in an animal or landform, and that landform or animal may be an ancestor to a living human.) Also, the rights and responsibilities on which Hawaiian resource management is based are intergenerational. This is such that the rights “belong” to the following generation, for which today’s managers are to be stewards.

In practice, even after overthrow of the monarchy and up until statehood in 1959, there existed in Hawai'i an evolving and complex system of rights and responsibilities through which marine resources in Hawaii were managed. The basic unit of this system was the ahupua'a, a land subdivision that generally runs from mountain to sea, often following from spring to stream mouth to nearshore ocean area. Embedded in this system was the sovereignty of communities to manage resources as a commons, including via closed seasons for species of fish and closed areas for fishing.

The success of Papahānaumokuākea

Planning and management for Papahānaumokuākea Marine National Monument began long before it was designated in 2006.

Uncle Louis “Buzzy” Agard, one of our kupuna (community elders), used to fish the Northwestern Hawaiian Islands many years ago. He tells the story of how he began to see that the fish he was taking did not come back — that there were fewer each trip. On one trip, he looked around and was struck with a revelation of the broad history of exploitation of that place — from sandalwood trade to whaling, from coral harvest to pearl oysters driven close to extinction. He knew, he says, that this was not what the place was for. He turned his boat around and never went back. Similarly, when fishing permits for Native Hawaiian fishers were made available to take boats up to the Northwestern Hawaiian Islands, many who had the skill to go purposefully refused those permits.

Though many individuals and organizations from other parts of our planet brought critical resources to the effort to create an MPA for the Northwestern Hawaiian Islands, this effort was led by Native people and practitioners. The MPA we have in place today was built upon the vision they first articulated in the 1990s, at a time when Federal proposals for the Northwestern Hawaiian Islands were focusing instead on expanded tourism and a new recreational fishery. The no-take protections in place for the Monument are rooted in the protective rules that Hawaiian practitioners put to paper.

There remain challenges, though. To date, the Monument still has no public advisory body. The Federal agencies in charge of the Monument are exercising authority, but with little to no public accountability or transparency. And despite the contribution of cultural practitioners to the establishment of this MPA, public dollars dedicated to cultural access, practice, and research remain a small fraction of the total public funds spent in the Northwestern Hawaiian Islands — less than 1%, according to the Monument Management Plan.

We have come a long way, but we also have a long way to go. Every day we are working toward the realization of accountable, integrated, and cooperative management.

MPAs as part of an eco-cultural system

We must recognize that the damage done to the world's oceans — overfishing, poor water quality, marine debris, coral bleaching, disease, hypoxia — is overwhelmingly the result of unsustainable practices of industrialized societies. Yet the burden of conserving what remains often falls to native peoples and first nations. Efforts to establish MPAs should respect their sovereignty to determine the future of their people, and the future of the natural resources on which their survival depends. Indigenous people are not one of many stakeholders, and should not be treated simply as advisors to a process that is imposed upon them.

In the Northwestern Hawaiian Islands, the effort to create the MPA that became the Monument was led by fishers and other cultural practitioners. Good marine science is imperative, but is not enough. Place matters. Culture matters. MPAs are not a model to be plopped on top of a place and its people. Marine areas, however remote, are part of an eco-cultural system in which people, place, and culture are inextricably intertwined. MPAs must responsibly become part of that eco-cultural system, and when done right, will be appropriate to their place. 🌊

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searchable back issues, MPA-related conference calendar, and more

Notes & News

UK designates 15 MPAs to protect key habitats

The UK government has designated 15 new MPAs to protect an array of reefs, sandbanks, and sea caves, as well as the species that depend on these habitats. Certain activities — including fishing, dredging, and wind turbines — will be banned or restricted at the 15 sites. The MPAs include inshore and offshore waters.

“Today is a major step forward in helping us to achieve clean, healthy, and vibrant seas where marine life can thrive,” said Environment Minister Richard Benyon. The designations follow public consultations conducted by government statutory bodies in late 2009 and early 2010 to collect feedback on proposed sites.

The UK government has submitted the new MPAs to the European commission to be included within the EU Natura 2000 network of protected areas. More information on the new MPAs, including maps and draft conservation objectives for each site, is at www.naturalengland.org.uk/about_us/news/2010/200810.aspx.

Canada designates MPA in Arctic; oil development will be allowed

Prime Minister Stephen Harper designated a marine protected area in Canada’s Arctic waters in August, setting aside 1800 km² to protect beluga whale habitat. The Tarium Niryutait Marine Protected Area consists of three portions of the Mackenzie River Delta estuary in the Beaufort Sea. The area is home to one of the world’s largest summering stocks of beluga whales. The MPA will also protect beluga-harvesting traditions central to the culture of the area’s indigenous Inuvialuit people.

For the past 20 years, the area waters have been managed by the Fisheries Joint Management Committee, a co-management body involving representatives of the Canadian government and the Inuvialuit nation. The committee will continue to handle stewardship responsibilities for the new protected area.

Exploration and development of oil and gas reserves will be allowed, subject to approval, in 1% of the new MPA, called the Special Management Zone. The Canadian government states the purpose of this zone is to recognize pre-existing exploration rights in the MPA. The estimated value of oil and gas reserves in the immediate area is CDN \$6.5 billion (US \$6.3 billion). For more information on the MPA designation go to <http://pm.gc.ca/eng/media.asp?id=3606>.

From the Editor:

MPA News in Spanish; reader feedback

Dear reader,

We are now in the 12th year of producing MPA News and the field of marine protected areas has never been more dynamic. With international agreements calling for networks of MPAs to be in place by 2012, nations are accelerating their designation of protected areas. Likewise, the need for information on planning and managing MPAs shows no signs of letting up: more than 30,000 copies of MPA News have been downloaded from our website during this year alone.

We continue to work to serve the MPA field in new ways. This month marks the launch of MPA News in Spanish, our first non-English version of the newsletter. All issues dating back to January 2008 are now available *en español*. To access these translations, go to www.mpanews.org and follow the link to “issues”. Please give us your feedback on the translations at mpanews@u.washington.edu.

If neither English nor Spanish is your first language, I recommend trying the Google translation service at <http://translate.google.com>. You can cut and paste MPA News directly into it, then translate it into any of 57 languages. The translations are imperfect but usually adequate.

Also, thanks to all of you who participated in our recent reader survey! You offered excellent suggestions for ways to keep improving MPA News, and we will work to implement them. You also gave us very positive reviews: in fact 73% of you said MPA News has actually helped you do your job more effectively, which is the best compliment we can receive.

Please continue to let us know how we can serve you better. Thank you.

John B. Davis, Editor

Malta designates four MPAs to protect seagrass

In July the Malta Environment and Planning Authority designated four MPAs to protect the nation’s *Posidonia* (seagrass) beds. Together the sites cover more than 180 km² and account for over 80% of *Posidonia* habitat in Malta. Permitting of any proposed activity in the new MPAs will be based on assessment of the likelihood and significance of its impact on biodiversity. The Authority’s press release on the new MPAs is at www.mepa.org.mt/news-details?id=617.

Two marine sites added to World Heritage List

The Papahānaumokuākea Marine National Monument in the US and the Phoenix Islands Protected Area in Kiribati were added to the UNESCO World Heritage List in August, expanding the number of MPAs on the prestigious list to 43. In total the list contains more than 900 sites (the rest are terrestrial) and is intended to reflect the world’s cultural and natural diversity of outstanding universal value. Papahānaumokuākea was inscribed for both its cultural and natural value, while the Phoenix Islands Protected Area was inscribed for its natural value. The addition of both sites has more than doubled the marine area protected under the World Heritage Convention.

In other work, the World Heritage Committee made two MPA-related changes to its World Heritage in

Danger List, which is designed to highlight threats to the value of listed sites and to encourage corrective action. The Committee removed the Galápagos Islands from the list in recognition of work by the Ecuadorian government to improve protection of the site. Meanwhile the Committee added Everglades National Park to the list. The Everglades ecosystem, in the southeast US, suffers from diversion of its water to nearby cities.

US seeks nominations for national MPA system

The US National MPA Center has launched the fourth round of nominations for sites to be included in the national MPA system. Eligible federal, state, territorial, and tribal MPA programs are invited to nominate some of their sites by 19 November 2010. Currently 254 federal, state, and territorial sites are members of the national system, which provides coordination, technical assistance, training, and grants to existing MPAs to enhance collaborative stewardship of marine resources. For more information or to nominate an MPA, go to www.mpa.gov.

Handbook offers advice on connectivity for planning reef MPAs

A new guidebook explains the processes involved in connectivity of coral reef ecosystems — i.e., how larvae of reef species disperse from spawning sites to the reefs where they will settle and grow — and offers practical advice to resource managers on how to incorporate this connectivity in MPA planning. Published by the Coral Reef Targeted Research program (CRTR), which is funded by the GEF, the handbook provides tips for estimating and tracking patterns of larval dispersal and exchange. It also answers common questions on MPA connectedness, such as “Are populations within MPAs self-sustaining?”, “What is the output of an MPA to surrounding areas?”, and more.

“If ever there was an area of research that would benefit from scientist/manager partnerships, the effort to pin down precise estimates of connectivity patterns for specific species is it,” write the handbook’s authors. The book is based on the results of research in the Caribbean and Pacific by CRTR researchers. The *Connectivity Handbook: A Guide for Marine Protected Area Managers* is available at www.gefcoral.org. It is also available at www.inweh.unu.edu, the website of the United Nations University’s Institute for Water, Environment and Health, which managed the Connectivity Working Group within the CRTR project.

Book examines science and resource use of MPA in Coral Triangle

A new book offers detailed insights into the science and management of Indonesia’s Wakatobi National Park, a 13,000-km² MPA in the Coral Triangle of southeast

Asia. The park is home to 100,000 people, and issues of human use and sustainability are prominent in its management. The book gathers material from an array of contributors in the natural and social sciences, and presents a holistic overview of the natural and human environment of the region. It also identifies priority areas for future research and conservation activity. Co-edited by Julian Clifton, Richard Unsworth, and David J. Smith, the book *Marine Research and Conservation in the Coral Triangle: The Wakatobi National Park* is available for US\$80 at www.novapublishers.com. All royalties will go to support local NGOs active in marine conservation in the region.

LMMA network releases 2009 annual report

The LMMA Network — a group of practitioners working to improve locally managed marine areas (LMMAs) in the Indo-Pacific through the sharing of experiences and resources — has released its latest annual report, covering 2009. The report provides country-by-country updates, including highlights of accomplishments and descriptions of the challenges each country faces. Countries with LMMAs involved in the network are Fiji, Indonesia, Micronesia (Palau, Pohnpei), Papua New Guinea, Philippines, Solomon Islands, and Vanuatu. The *LMMA Network 2009 Annual Report* is at <http://lmmanetwork.org>.

Promoting consumption as a tool to combat invasive lionfish

The exotic and venomous lionfish, native to the Indo-Pacific and a favorite of aquarists, is quickly colonizing the Caribbean Sea where it has no natural predators. La Caleta Submarine National Park in the Dominican Republic is one of many MPAs in the region where the invasive fish has been spotted by divers. To encourage consumption of the invader as a way to control it, the park recently partnered with Reef Check Dominican Republic Foundation to hold a tasting event, featuring prominent Dominican chefs cooking lionfish in various ways. (The lionfish’s venom is in its spines, which must be removed prior to eating it.) Similarly, the US National Oceanic and Atmospheric Administration has launched an “Eat Lionfish” campaign: www.ccfhr.noaa.gov/docs/EatLionfishPullCard.pdf.

Free journal issue on MPA networks

A special free issue of *Current - The Journal of Marine Education* focuses on networks and systems of MPAs. It was sponsored by the US National Marine Protected Areas Center, and is intended to help educators bring MPA concepts into their classrooms. Topics include what MPA networks are, why they are important, how to manage MPAs in a time of global environmental change, and more. The issue is available at www.mpa.gov.

Database of Mediterranean MPA experts

The Mediterranean Protected Areas Network (MedPAN) and WWF have launched an online database of MPA experts in the Mediterranean region. Users of the database can search for experts by country or by field of expertise (e.g., sustainable financing, enforcement, research). The search results provide information on the experts’ organizations, affiliated MPAs, contact details, and more. The database of Mediterranean MPA experts is at <http://experts.medpan.org>.

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Guide allows immediate coral identification underwater

A new tool is available to help divers identify hard corals by genus, anywhere in the Indian and Pacific Oceans. Called the Indo Pacific Coral Finder, it is a 34-page plastic guide that can be carried underwater. The guide employs a unique visual approach based on coral shape and form, and was designed for use by recreational or scientific divers, survey teams, resource managers, and industry. It costs AU \$72.68 (US \$68). To order the Coral Finder, or for more information, go to www.byoguides.com/coralfinder.

Video: MPA managers explain how sea level rise will affect their site

In a new video released by the US Fish and Wildlife Service, managers of Cape Romain National Wildlife Refuge in the US state of South Carolina describe how sea level rise is already affecting habitats at their site and

what future changes will look like. Less than three minutes long, the brief video offers a concise summary of how management is adapting to change, including managing for what will become a different set of species than the MPA has featured since designation in 1932. The video is at www.youtube.com/watch?v=6H_7FTsNiFk.

Undersea weddings in your MPA?

Dive operators active in Hol Chan Marine Park in Belize offer undersea weddings and dive certifications for entire wedding parties. The practice is termed "wedding bubbly" and has been touted on multiple websites by the Belize Tourism Board, a statutory body within the Belize Ministry of Tourism. A sample website is at www.belize tourism.org/PressReleases/2010/05/Belize-Takes-the-Cookie-Cutter-Out-of-Romance_218.html. The wedding ceremony occurs more than 30 feet (9 meters) below the surface.

Science Spotlight:

Can protected areas change fish behavior?

A new study published in the journal *Biological Conservation* offers evidence that fish could behave differently inside a no-take area compared to outside. A research team in New Zealand studied snapper across an area that encompassed a no-take MPA (Leigh Marine Reserve) and adjacent fished waters, using acoustic telemetry tags to monitor the fishes' movement. In general, the fish exhibited two types of home ranges. One was relatively small (about 900 m in linear distance) and all of the fish tagged within the reserve exhibited this home range behavior. The other home range type was significantly larger (2100 m on average), and half of the fish tagged in non-reserve waters exhibited this home range behavior.

Darren Parsons of the National Institute of Water and Atmospheric Research, who led the study, says it suggests that some aspect of the reserve environment may encourage extreme residency. Perhaps the reserve effectively "selects" for individuals with a predisposition for a smaller home range, he says. In other words, the individuals with larger ranges end up spilling over to the fished areas and are caught.

"The findings of this paper add weight to the use of reserves as biodiversity conservation tools," says

Parsons. "Our findings are more neutral with respect to using reserves for fisheries management." He cautions against interpreting the study as a case against the long-term promise of spillover from reserves as a fisheries tool. "If reserves encourage or select for highly residential individuals, this does not preclude spillover from happening. Spillover is likely to operate via home range shifts. The evidence we present provides no indication of whether home range shifts are more or less likely for residential vs. more mobile animals." He adds that, beyond the spillover effect, reserves offer other significant fishery management benefits, including as insurance against stock collapses and as a fishery regulation tool in areas of otherwise unregulated extraction.

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The paper "Responses to marine reserves: Decreased dispersion of the sparid *Pagrus auratus* (snapper)" is in the September 2010 issue of *Biological Conservation*.