

With Global MPA Coverage Falling Short of 10% Target, Biodiversity Summit Extends Deadline

The global MPA field has been given more time to reach the target of protecting 10% of all marine and coastal ecoregions in protected areas. The target, set in 2005 by a subsidiary body of the UN Convention on Biological Diversity (CBD), was supposed to be met by 2012. But the latest calculations of global MPA coverage show the world falling far short of the goal with just 1% of marine waters currently in MPAs. Although some coastal countries have surpassed the goal in their own waters, the great majority of nations has not.

In October at the 10th Conference of the Parties to the CBD (held in Nagoya, Japan), delegates from 193 countries reached agreement on extending the 2012 deadline to 2020. The eight-year extension is in hopes that lagging nations will use the extra time to expand and strengthen their MPA systems. The decision was welcomed by some MPA professionals who saw the original 2012 deadline as too difficult to meet. Others, in contrast, viewed the extension as bowing to national-level failures and setting the bar too low for ocean protection. (See article “Views on Global MPA Coverage and the 10% Target”, page 2.)

Reaching agreement on the extension was not easy, and took until the final day of the 12-day conference. Over the preceding days, China had lobbied to lower the target — to just 6% coverage in MPAs by 2020. EU delegates countered by calling for 20% of coastal and marine areas to be protected. Ultimately the parties agreed simply to keep the 10% target and extend the deadline.

Current MPA coverage

Looming over the meeting was a new report co-published by IUCN, UNEP, The Nature Conservancy and other organizations that documented current global MPA coverage at 4.2 million km², or just 1.17% of the oceans. The report *Global Ocean Protection: Current*

Trends and Future Opportunities concluded that to reach the 10% target, the world will have to set aside an additional 32 million km² — an area roughly twice the size of Russia. (The report is available at www.iucn.org/dbtw-wpd/edocs/2010-053.pdf.)

Furthermore, only 12 out of 190 nations and territories with marine jurisdictions have MPA coverage of 10% or more. It is clear there is a lot of work to do, even to meet the extended goal.

However, there is good news, too. The report finds that the MPA coverage is very patchy, and some areas and habitat types are far ahead of the curve on protection. One-quarter of all mangroves, for example, fall within MPAs. And nearly one-fifth of shelf ecoregions in the world have greater than 10% MPA coverage.

It is also clear that the 2012 CBD target helped spur multiple major MPA designations in recent months, including in the weeks leading up to the October CBD meeting. The *Global Ocean Protection* report, in fact, does not include in its calculations the new 150,000-km² Sala y Gómez Marine Park in Chile, which was designated in October and announced in Nagoya (see page 4 this issue). It also leaves out the UK's new 544,000-km² Chagos Marine Protected Area in the Indian Ocean, which took effect on 1 November, as well as six high seas MPAs totaling 285,000 km² announced by OSPAR in September. Designation of large MPAs similar to these has played a major role in doubling global MPA coverage since 2003, when it was just 0.5%.


Now that the 2012 deadline has been extended to 2020, it remains to be seen what effect the extension will have on MPA designation rates. Notably, the CBD goal was not the only international MPA target with a 2012 deadline. At the 2002 World Summit on Sustainable Development, national leaders agreed to create representative networks of MPAs worldwide by 2012. And at the 2003 World Parks Congress, IUCN members called for a global system of MPA networks to exist by 2012, including “strictly protected areas” amounting to at least 20-30% of each habitat. 

Table of Contents

With Global MPA Coverage Falling Short of 10% Target, Biodiversity Summit Extends Deadline	1
Views on Global MPA Coverage and the 10% Target: Interview with Mark Spalding and Kristina Gjerde	2
More Outputs from the Convention on Biological Diversity Meeting: Publications, Awards, Debt Swap	3
Large New MPAs Designated in North Atlantic, South America, Western Australia	4
Five-Year Study Releases Findings on Effects of MPAs	5
Letters to the Editor	6
Notes & News	7
Study: Program to Help Displaced Fishers Ends Up Costing 25 Times More than Planned	8
<i>Reef Resilience: Management Tips to Prepare for Ocean Acidification</i>	8

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Our newsletter is now available in Spanish. Go to mpanews.org and click on “Issues”.

Views on Global MPA Coverage and the 10% Target: Interview with Mark Spalding and Kristina Gjerde

Mark Spalding and Kristina Gjerde were principal contributors to the report *Global Ocean Protection: Current Trends and Future Opportunities*, which analyzed global MPA trends in preparation for the October biodiversity meeting in Nagoya. Spalding, a senior marine scientist with The Nature Conservancy, was one of the report's editors. Gjerde, high seas policy advisor to IUCN, co-authored two chapters of the report. Here, they discuss with MPA News the implications of the new Convention on Biological Diversity (CBD) agreement to extend the 10% target deadline from 2012 to 2020, and other outcomes from Nagoya:

MPA News: The CBD meeting gave the world an additional eight years to meet the 10% MPA coverage target for each coastal and marine ecoregion. Was that extension a good idea?

Mark Spalding: Targets are tricky things. They have to be realistic and achievable, but also have to set down a challenge. Look at the numbers: we have only 1.17% of the global ocean surface protected. A target of 10% by 2012 was probably way too ambitious and 2020 is perhaps more realistic.

Personally I think 10% is a useful target only if it is seen as a waypoint, not an endpoint. For those countries that are ahead of the curve on MPA coverage: don't stop. And for critically important habitats on which people depend, even 25% coverage in MPAs may not be enough. We also need to think about the remaining percentage of the ocean that is not in MPAs, because what we do there will either make sense (or a mockery) of MPA policy. Eventually our target should be to have 100% of the oceans managed actively and sustainably.

Kristina Gjerde: The 10% target agreed in Nagoya was a disappointment. It does not come close to what is scientifically required to sustain highly migratory species, let alone maintain vital ecological processes or support commercially important fisheries. Higher levels of protection are essential to meet the mounting intensity of human activities as well as the twin threats of climate change and ocean acidification.

Thus we are faced with three challenges by 2020:

1. To develop the capacity and political will to achieve at least the 10% MPA target for all coastal and marine habitats, including their effective management;
2. To scale up and integrate conservation goals and targets into sectoral management for the other 90%; and
3. To stimulate efforts to go beyond the 10% MPA target wherever possible, both within and beyond national jurisdiction.

This is no easy task, but doable. We are already seeing acceleration in the designation of open ocean and deep sea protected areas. We are also seeing greater willingness to cooperate regionally in the development of MPA networks. Initiatives such as the Micronesia Challenge, the Caribbean Challenge, and the Coral Triangle Initiative that are striving for 30% coverage in coastal and/or marine protected areas are testament to what enlightened leaders can achieve.

MPA News: Were there specific outcomes from the CBD meeting for high seas MPAs?

Gjerde: Discussions on high seas MPAs were tough because many countries thought the political process to enable high seas MPAs must take place through the United Nations General Assembly (UNGA) or regional agreements, rather than the CBD. So the most important discussions with regard to the future of high seas conservation took place in the Working Group on the coastal and marine program of work, not the Working Group debating the strategic targets.

The CBD Conference of the Parties affirmed and elaborated the role of the CBD in providing scientific and technical advice relating to areas beyond national jurisdiction that are in need of protection. The Conference of the Parties took the following measures:

- It approved a series of regional and sub-regional workshops to facilitate the description of areas of ecological or biological significance;
- It established a repository to make related data, information, and experience widely available;
- It created a process for the CBD Conference of the Parties to officially endorse areas that meet the criteria for ecological or biological significance and to convey the endorsement and associated information to other competent intergovernmental organizations, including the UNGA, for further action;
- It urged the UN ad hoc Working Group on Biodiversity Beyond National Jurisdiction to expedite its consideration of issues related to MPAs beyond national jurisdiction;
- It invited the GEF, other donors, and funding agencies to extend support for capacity building in order to identify areas of ecological or biological significance and to develop appropriate protection measures in these areas; and
- It authorized the development of guidelines for environmental impact assessments and strategic environmental assessments. Prior assessments can ensure that management measures are based on the

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best scientific information available and take proper precautions to prevent significant harm. This could provide the cornerstone for integrating biodiversity concerns into decision-making processes affecting biodiversity beyond national jurisdiction.

MPA News: The *Global Ocean Protection* report found that the median size of MPAs worldwide is 1.6 km² and that nearly half of MPAs are less than 1 km². Will it be difficult to meet the 2020 target if the median size remains this small?

Spalding: I don't think small sites are a problem — quite the opposite. The rapid growth of community supported MPAs and of locally managed marine areas (LMMAs) is a really healthy trend. Apo Island in the Philippines, and hundreds of other sites, bear witness at very local levels to the potential of MPAs. The spread of LMMAs in some Pacific Island nations has been indigenous, not NGO-mediated, as local villages look over their shoulders and see the success of their neighbors. By contrast the designation of large sites in areas with high levels of human use can be a huge challenge to establish and manage. If such large sites cannot be made to work, there is still the potential to increase the numbers of smaller sites and to evolve toward a more systematic

approach — of building not only a “network” but also improving management of the spaces in between.

This brings me to another observation: the report shines a light on a fascinating dichotomy. While the median size of MPAs is 1.6 km² (that is, if all MPAs were arranged in order of size, the middle one would be 1.6 km²), the mean average size is much bigger: 741 km². A few very large sites are responsible for a major part of the global statistics. We've shown a recent, rapid acceleration in MPA coverage, giving us some hope that 10% may be within our grasp, but this trend is largely driven by just a handful of sites. The report lists 24 MPAs greater than 30,000 km², which is larger than Belgium.

Such mega-MPAs are really important, but they must not throw us off course. Although they can help protect the last pristine areas, provide refuges, and work at large ecosystem scales, they might not provide the per capita benefits to people that small local MPAs provide. They also don't offer the opportunities to support resilience and recovery in places where the threat levels are highest. There is a slight danger that people working in the international MPA community become “stamp collectors”, thrilling at the latest massive addition and not realizing that critical action is also going to have to take place close to home. We need both. 🌊

More outputs from the Convention on Biological Diversity meeting: Publications, awards, debt swap

As is typically the case with major international conservation meetings, each day of the CBD Conference in Nagoya, Japan, featured a whirlwind of announcements on new policies, publications, and other initiatives. Here are some announcements of interest to the MPA community:

Nagoya Oceans Statement

“Oceans Day” at the Nagoya meeting brought together 150 participants from 35 countries for a series of marine-themed presentations and events. Organizers of the day's activities drafted the “Nagoya Oceans Statement”, which called on governments participating in the CBD meeting to consider multiple actions to protect ocean biodiversity. Among these was a call for a new process of setting marine biodiversity targets at the next CBD Conference of the Parties (in 2012) and the next UN Conference on Sustainable Development (also 2012). The statement, which is not an official agreement of the CBD, is at http://globaloceans.org/sites/udel.edu.globaloceans/files/Nagoya_Oceans_Statement.pdf.

UNEP assessment of global marine biodiversity

The UNEP Regional Seas Programme released a report featuring a global assessment and forecast of marine biodiversity. The report's outlook is grim: it predicts that by 2050, ocean productivity will have decreased in nearly all areas, with parallel declines in fish catches. Meanwhile climate change and rising sea surface temperatures will

have significant negative implications for coral reefs and other temperature-sensitive marine organisms. To address these and other threats, governments will need to engage in cross-sector and transboundary ecosystem-based management, according to the report. The *Global Synthesis Report* is available at www.marinebiodiversityseries.org.

Costa Rica and US announce debt-for-nature swap that includes coastal protected areas

Coastal mangrove swamps and other protected habitats in Costa Rica will benefit from a debt-for-nature swap between the country's government and the US. Under the mechanism, US \$27 million in debt that Costa Rica owed to the US government will instead be paid into a special fund to support tropical forest protection in the Central American country. The Nature Conservancy is also contributing \$3.9 million to the fund. Among the Costa Rican protected areas to benefit is the Terraba Sierpe National Wetlands, a RAMSAR site that includes extensive mangrove swamps. An article on the swap, with links to press releases from the Costa Rican and US governments, is at http://bit.ly/Costa_Rica_US.

Spain and UNEP partner to support protected areas

The government of Spain announced a donation to UNEP of US \$6.8 million to support projects aimed at linking protected areas and poverty reduction in developing nations. Arranged under the

UNEP LifeWeb Initiative, the donation will finance projects involving multiple terrestrial and marine protected areas, including MPAs in West Africa, the Caribbean, and Asia. A UNEP press release is at <http://bit.ly/LifeWeb>.

Booklet on marine Important Bird Areas

BirdLife International, an NGO, released a booklet that summarizes methods used to identify Important Bird Areas (IBAs) in the marine environment and how these areas can contribute to the improvement of MPA coverage. The booklet *Marine Important Bird Areas: Priority for the Conservation of Biodiversity* outlines how seabirds use the marine environment in different ways, including for collecting food, for moulting, or for resting during migration. BirdLife International has identified more than 2000 candidate marine IBAs, from 158 countries and territories. The booklet is available at http://bit.ly/marine_IBAs.


Book on how to finance biodiversity and ecosystem services

A new publication titled *The Little Biodiversity Finance Book* highlights many ways for policy makers to generate funding to support biodiversity and ecosystem services. The authors, Charlie Parker of the Global Canopy Programme and Matthew Cranford of the London School of Economics, advise readers to embrace Proactive Investment in Natural Capital — or “Think PINC,” as they say. They walk readers through dozens of options for generating

financing, delivering the financing to the people who need it (resource managers, fishers, local communities), and governing the financing via institutional arrangements. “Inside this book you will find the seeds of a new economy,” states the book. “This new economy could see the emergence of ‘biodiversity superpowers’ rich in natural capital and able to bargain their ecological muscle for aid or trade.” The book is available at <http://bit.ly/financebook>.

Awards for Seaflower MPA, Great Barrier Reef Marine Park

Two MPAs were recognized in Nagoya with high-profile awards for conservation:

- Coralina, a regional Colombian government agency that manages the 65,000-km² Seaflower Marine Protected Area in Colombia’s San Andrés Archipelago, received the Countdown 2010 Biodiversity Award from IUCN. The award cited Coralina’s biodiversity protection successes with the Seaflower MPA. More information on the award and Coralina are at <http://bit.ly/Coralina>.
- The law that established the Great Barrier Reef Marine Park (the *Australian Great Barrier Reef Marine Park Act of 1975*) received the Future Policy Silver Award 2010 from the World Future Council. The council is a charitable foundation that encourages long-term policies that promote sustainable living. More information on the award and the Great Barrier Reef law are at www.worldfuturecouncil.org/3474.html. 

Large New MPAs Designated in North Atlantic, South America, Western Australia

The past two months have seen significant changes in global MPA maps. In addition to the 544,000-km² Chagos Marine Protected Area taking effect on 1 November (see page 6), substantial new MPAs have been designated in the North Atlantic, South America, and Western Australia that redraw marine protection in these areas.

North Atlantic: First network of high seas MPAs

In September the intergovernmental OSPAR Commission designated a network of six MPAs to protect unique and ecologically sensitive areas in the North-East Atlantic, beyond the jurisdiction of coastal states. Totalling 185,000 km², the new MPAs comprise waters around seamounts and sections of the Mid-Atlantic Ridge, and host a range of vulnerable deep-sea habitats and species. OSPAR delegates said the six MPAs, which will take effect in 2012, represent the first network of MPAs on the high seas.

Regulations for the new MPAs have not been set yet; they could include a fishing ban. An OSPAR press

release on the new MPAs is at http://bit.ly/OSPAR_MPAs. The OSPAR Commission represents 15 governments and is responsible for protecting the marine environment of the North-East Atlantic.

Four of the new sites were designated in cooperation with Portugal, and consist of the waters directly above seabed MPAs that Portugal designated last March (MPA News 11:6). The four MPAs are on Portugal’s extended continental shelf, more than 200 nm off the coast of the Azores. Under permission from the United Nations, Portugal has jurisdiction over the seafloor at these sites, whereas OSPAR manages the resources of the corresponding water column, which is still considered the high seas.

Chile: Hundred-fold increase in nation’s MPA coverage

In October, the Chilean government designated a 150,000-km² no-take marine reserve around Sala y Gómez Island in the Pacific Ocean. The new Sala y Gómez Marine Park expands Chile’s total marine

protected area by more than 100 times, from the previous 0.03% to 4.41% of the nation's waters.


Located 3200 km west of the Chilean mainland, Sala y Gómez Island is tiny and uninhabited, consisting of two rocks measuring just 15 hectares (0.15 km²) in area. The island is part of a chain of seamounts, several of which are included in the new MPA. Conservation organizations Oceana and National Geographic conducted a scientific expedition to the island last March and found abundant populations of vulnerable species such as sharks and lobsters in the surrounding waters, as well as high biodiversity in deeper waters. They advocated protection of the entire EEZ around the island, which would have comprised nearly 412,000 km². A National Geographic press release on the new MPA is at http://bit.ly/Chile_MPA.

(On the other side of South America, the Argentine government also announced new protection for its waters in October, designating three MPAs totaling 4000 km². The three new marine parks — in Patagonia, Makenke, and Penguin Island — bring the

nation's total MPA coverage to 1.18% of its waters, according to officials.)

Western Australia: Tripling MPA coverage in state waters

Also in October, the state government of Western Australia announced the designation of a network of interconnected terrestrial and marine protected areas. The marine portion of the network includes four new MPAs spread across 26,000 km². This nearly triples the area of marine parks and reserves in Western Australia.

Two of the new MPAs — Camden Sound and North Kimberly Marine Parks — will be managed jointly as the Great Kimberly Marine Park, and together comprise 17% of Western Australian state waters. The MPAs will include a mix of recreational fishing zones and sanctuary (no-take) zones. Management planning processes are underway. A government press release on the new MPAs is at www.dec.wa.gov.au/content/view/full/6171/2183. 

Five-Year Study Releases Findings on Effects of MPAs

A five-year study on the ecological, social, and economic dimensions of MPAs worldwide has released a series of three booklets on its findings. Aimed primarily at policy-makers, the concise reports present lessons gathered from more than 70 sites in 23 tropical countries. The publications recommend how to implement MPAs to maximize benefits for people and nature.

The study involved more than 400 scientists and 75 partner institutions, and was led by Conservation International's Marine Management Area Science Program. "Marine managed areas (MMAs)* benefit not only biodiversity, but people," says Leah Bunce Karrer, the study's project director. "For example, based on 18 MMAs in Ecuador, Fiji, Belize, and Panama, we found that income is higher — and livelihood options are greater — for people associated with MMAs than for those who are not."

She says that because MMAs focus governance efforts on a particular area, the sites tend to become a catalyst for an array of local community benefits. Across the full range of study sites, marine managed areas were found to improve food security, community empowerment, environmental awareness, human health, and community engagement. They also reduced user conflicts and provided greater recognition of traditional user rights such as fishing. "All of these benefits contribute to greater social and economic resilience in the face of a changing global economy and climate," says Karrer.

She notes, however, that the full benefits can take decades to be realized, and successful MMAs require sustained management and community compliance over that span.

The three booklets are:

- *People and Oceans* — exploring the role of people in marine managed areas, including benefits to human well-being and how socioeconomic conditions can affect MMA success.
- *Living with the Sea* — examining the role of MMAs in restoring and sustaining healthy oceans, particularly the importance of local management efforts.
- *Marine Managed Areas: What, Why, and Where* — defining MMAs and the challenges of implementation.

These and other publications are available at the Science-to-Action partnership website: www.science2action.org. 

* Editor's note: The study defined the term *marine managed area* as "a multi-use ocean zoning scheme that usually includes various degrees of protection." It used the terms *marine managed area* and *marine protected area* interchangeably, but preferred the former. "Despite the IUCN definition of MPAs as multi-use, MPAs are often assumed to be no-take and, consequently, are often highly controversial and difficult to get established and implemented," says Karrer.

MPA News

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Letters to the Editor

Many Chagossian refugees support the new MPA

Dear MPA News:

The September-October 2010 issue of MPA News was brought to my attention due to the article on MPAs and indigenous people, including its mention of the new Chagos Islands Marine Protected Area. I was born on the island of Diego Garcia in Chagos in 1970. When I was one year old, my family and all other remaining Chagossians were evicted from the islands to make way for a US/UK joint military base on Diego Garcia. We moved to Mauritius, and I now live in the UK.

While it is true that some islanders, notably the Mauritius-based Chagos Refugee Group, oppose the Chagos MPA, it is wrong to

assume the 4000-strong worldwide population of original islanders and their descendants are united on every one of the complex issues facing them.

As chairman of the Diego Garcian Society, which represents a 2000-strong community, I want to clarify that we are dedicated to the preservation of our homeland and we backed the British Government on its decision to create a marine reserve. We believe the reserve is an entirely separate issue from resettlement in Chagos.

[Former UK Foreign Secretary] David Miliband and the current UK Coalition Government have made it clear that the establishment of the MPA is “without prejudice” to the current European

Court of Human Rights case in which islanders are fighting the British Government over their right to return. Without protection, Diego Garcia and the outer islands would have continued to be vulnerable to the effects of commercial fishing and the islands’ natural resources would be threatened. Not only will protection benefit Diego Garcians and other islanders should we return one day; it will also help us maintain our cultural and ancestral heritage, as well as benefit millions of people who rely on the Western Indian Ocean for their daily needs.

Allen Vincatassin

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With marine spatial planning, MPA terminology will be more important than ever

Dear MPA News:

I am becoming weary of picking up the latest paper or report on MPAs and seeing, yet again, another term being added to the all-too-long list of what we are calling our protected sites. There are many terms for place-based managed areas in the ocean, and we are all painfully aware of the lack of consistency and transparency. While this discussion has gone on for many years, our community of practice might benefit greatly from embracing some broadly accepted system of terminology.

More than ever this is the case as nations embark toward comprehensive coastal and marine spatial planning. Such planning, because of its breadth, will affect even more stakeholders than MPAs do. To do it effectively will require predictability and transparency. When terminology is unclear, the affected public isn’t sure what planners are trying to do, and they will always presume the worst outcome for them. As a result they push back. While some rationalizing of our terminology is not the entire answer, it is a step toward transparency and clarity in what we are asking the public to accept and embrace.

A more universal terminology should be simple and straightforward. For example, it could embrace three of the terms currently in use:

- 1) Marine protected area (MPA);
- 2) Marine conservation area (MCA); and
- 3) Marine managed area (MMA).

MPAs would be focused on “protection”, identifying fully protected marine reserves. MCAs would be areas that allow some extractive uses, but generally focus on resource conservation as their primary goal. Lastly, MMAs would be areas where the primary goal is effective multiple-use management, largely dealing with the many issues related to balancing uses of the ocean. Such a system for area-based management terminology would be far more transparent to the public.

The benefits arising from this undertaking would be worth the time and effort. We are all wedded to what we call our sites, and in many cases the terminology is embedded in legislation. But if we could develop some “Rosetta stone” for binning these existing terms into such a naming system, sort of like we do with the current IUCN categories, we could retain the familiar while achieving the much needed consistency and clarity we currently lack.

Brad Barr

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[Note: The opinions expressed in this letter are those of Brad Barr alone, and are not official policy of the National Oceanic and Atmospheric Administration, Department of Commerce, or US Government.]

Chagos closed to commercial fishing

The last remaining commercial fishing licenses in the Chagos Islands expired at midnight on 31 October, following the April 2010 decision by the British Foreign & Commonwealth Office to designate an MPA around the Indian Ocean archipelago. With the licenses’ expiration, there is currently no commercial fishing allowed in the 544,000-km² Chagos Marine Protected Area. This effectively makes it the world’s largest no-take marine reserve, as long as no licenses are reissued. The UK’s new Coalition Government has not committed to permanent closure of the MPA, although it says it has “no plans to issue any more fishing licenses.”

Enforcement of the current no-take area is being funded by a donation from the Switzerland-based Bertarelli Foundation. In September, the foundation provided £3.5 million (US \$5.6 million) to operate a patrol vessel responsible for covering the entire Chagos MPA. The donation will also help offset the UK’s loss of £750,000 (\$1.2 million) per year in tuna fishing license revenues. For more information, go to <http://bit.ly/Bertarelli-Chagos>.

Notes & News

Seychelles announces “world’s first carbon-neutral nature reserve”

The government of Seychelles in the Indian Ocean has named Cousin Island Special Reserve the “world’s first carbon-neutral nature reserve”. The carbon-neutral status reflects a desire by the protected area’s management (Nature Seychelles, an NGO) to offset the greenhouse gases produced by tourists to Cousin Island each year. This includes thousands who fly to Seychelles from Europe. To achieve carbon neutrality, Nature Seychelles purchased carbon credits from a project in Sudan that is actively reducing greenhouse gas emissions by distributing efficient cook stoves. The total cost of the purchased credits was £8169 (US \$13,000).

“We wanted our eco-visitors to come to Cousin Island conscience-free, knowing their carbon footprint has been neutralized,” says Nirmal Shah, Nature Seychelles Chief Executive. The credits were purchased with revenue from the Cousin Island entry fee, which is 500 Seychelles rupees per person (US \$42). Nature Seychelles will purchase carbon credits each year to maintain carbon-neutral status. The offset process is audited by an independent firm to ensure its reliability. “International standards and benchmarking are important in this field [of offsets], where there may be many schemes on offer that are not accredited or verifiable,” says Shah. Cousin Island Special Reserve comprises a 27-hectare island and surrounding waters up to 400 meters from shore. For more information on the carbon-neutral status, go to www.natureseychelles.org/~naturese/index.php.

Malaysian state calls for phaseout of plastic bottles at marine parks

The tourism and environment minister for the Malaysian state of Sabah has directed his state’s MPAs to reduce and ultimately ban the use of plastic bottles at their sites. MPA officials are now holding meetings with tour and diving companies to see how the phaseout could be implemented. In September, a dive team collected more than 800 kg of plastic material — much of it plastic bottles — from one MPA. “We have had enough of plastic bottles being dumped indiscriminately around the islands,” said Minister Datuk Masidi Manjun. A Sabah government article on the problem of plastic waste in MPAs is at <http://insightsabah.gov.my/article/read/590>.

Lessons from French-funded MPA projects in developing nations

The French Global Environment Facility (*Fonds Français pour l’Environnement Mondial*, or FFEM) has published a review of MPA projects it has supported in developing nations worldwide. An institution of the

French government, the FFEM has co-financed projects involving more than 70 MPAs. The review shares lessons learned from the sites, including on MPA design, economic assessment, sustainable financing, alternative livelihoods, and management of fisheries and tourism, among other topics.

The report also uses a unique “compass card” approach to track how each MPA project has met a series of developmental criteria; the resulting scores are illustrated in a round, compass-like chart. “We consider the compass card concept to be a platform that all MPA practitioners should be free to use and adapt to their specific cases,” says Julien Calas, who coordinated the study. FFEM would like to learn of experiences elsewhere in which compass cards have been used and what results they delivered. Feedback can be e-mail to Calas at ffem@afd.fr.

The FFEM report is available at http://bit.ly/FFEM_review.

Guidance drafted to apply IUCN categories to MPAs

IUCN has released draft guidelines for improving application of its protected area management categories to the marine environment. The six IUCN categories range from “Strict Nature Reserve” to “Protected Area with Sustainable Use of Natural Resources”, based on the primary management objective of each site.

The draft guidelines feature a table that compares the IUCN categories against various activities that may occur in an MPA. They specifically clarify which IUCN categories are appropriate for fishing and/or collecting activities, and also provide examples of MPAs that fit each IUCN category.

The draft guidelines are open for public comment through December 2010, and are downloadable at www.protectplanetocean.org/docs/supplementary_marine_guidelines.zip. Comments on the draft guidelines should be e-mailed to guidelines@protectplanetocean.org.

Honduras and Palau call for countries to designate shark sanctuaries

Honduras and Palau, two countries that banned commercial shark fishing in their waters, have challenged other countries worldwide to work together to save the world’s shark species. In a joint statement released in September, the presidents of the two countries called on coastal nations to designate shark sanctuaries, where no shark fishing would be allowed. They also called on fishing nations to stop the practice of shark finning and the global overfishing of sharks. A press release on the statement, along with an audio recording of the presidents’ joint press conference, is at www.pewtrusts.org/news_room_detail.aspx?id=60905.

Journal issue on 100th anniversary of Parks Canada

A new issue of *The George Wright Forum* is devoted to the 100th anniversary of the Parks Canada Agency, including the ongoing development of Canada’s system of National Marine Conservation Areas. The issue (Vol. 27, Number 2) also features an article on Parks Canada’s co-management of multiple national parks with indigenous (First Nation) peoples. *The George Wright Forum* is the journal of the George Wright Society, an NGO dedicated to the protection and management of cultural and natural parks. The Parks Canada issue is available at www.georgewright.org/forumcurrent.

Every two years, the George Wright Society convenes an international conference on parks, protected areas, and cultural sites. The next one will be held 14-18 March 2011 in New Orleans, Louisiana (US). The conference website is www.georgewright.org/gws2011.

This "Building Resilience" feature is contributed by the Reef Resilience program of The Nature Conservancy (www.reefresilience.org). The program provides reef managers with tools to build resilience into management activities.

Reef Resilience: Management tips to prepare for ocean acidification

By Rebecca Cerroni and Stephanie Wear,
The Nature Conservancy

The chemistry of the ocean is dependent on the chemistry of the atmosphere. As the amount of atmospheric CO₂ increases due to the burning of fossil fuels, the amount of CO₂ that dissolves in the ocean also increases. Since CO₂ and water combine to form carbonic acid, "ocean acidification" (meaning a lower pH level for the sea) occurs when more than the usual amount of CO₂ is dissolved.

Water that is more acidic has fewer available carbonate ions, an essential ingredient in the calcification process used by corals, shellfish, and other creatures. As the supply of carbonate declines, these organisms' ability to build reefs and shells is weakened. The survival of larval marine species, including commercially valuable fish, may also be reduced.

Here are management tips to prepare for ocean acidification:

- Prioritize protection of habitats that are likely to be resistant to acidification. These include reefs in naturally carbonate-rich areas (such as sites with carbonate-rich sediments), well-flushed reefs, and seagrass meadows. Due to their photosynthesis, seagrasses actually benefit from increases in CO₂ and can serve to absorb CO₂ from neighboring habitats.
- Review management plans to incorporate the latest research on acidification, since knowledge of its ecosystem impacts is evolving quickly. A list of recent science is at www.reefresilience.org/Publications.html.
- Integrate ocean management with land use planning and coastal zone planning to help reduce pollutants that can also increase the acidity of local waters. These pollutants include ammonium compounds, nitrogen oxides, and sulfur oxides.

For more information on ocean acidification, go to www.reefresilience.org/Toolkit_Coral_COA_OceanAcidification.html.

Study: Program to Help Displaced Fishers Ends Up Costing 25 Times More than Planned

When the Great Barrier Reef Marine Park was rezoned in 2004, boosting its no-take percentage from 4.7% to over 33%, policymakers anticipated that some adverse impacts would be felt by commercial fishermen. The new closures would displace fishermen from some of their accustomed fishing grounds, and the displacement could lead to lower catches and/or higher costs from their having to fish elsewhere. In turn, these impacts could have financial ripple effects on fishing-related businesses (wholesalers, processors) and communities on shore.

To account for this, the Australian Government launched an aid initiative in 2004 to help the impacted fishermen and businesses. The Structural Adjustment Program (SAP) provided payments for multiple types of assistance: fishing license buyouts, business restructuring grants, direct payments to people who lost their fishing-related jobs, and more. The program was coordinated by the federal Environment Department — completely separate from the Great Barrier Reef Marine Park Authority, which had managed the rezoning process. When the SAP was announced, the Government allocated roughly A\$10 million for it, which was more than what analysts estimated the financial impact of the closures would actually be.

The program ended up costing much more. Over the course of five years of implementation (2004-2009), SAP expenditures ballooned to A\$250 million, according to one estimate. That figure comes from a new independent study published in the journal *Ocean & Coastal Management*, which analyzed the SAP based on a review of more than 300 government documents.

How did an assistance program grow to be 25 times its original expected size? The authors of the study, led by Andrew Macintosh at Australian National University, say the program became a tool for appeasing industry and currying political favor among affected communities. The Government's criteria to determine who was eligible for assistance, and how much they could receive, were continually loosened. The cap on business restructuring assistance was removed completely in 2006. Closing dates for applications were extended. And to pay for all of this, additional financial allocations were made again and again. Although some elected officials, as early as 2005, began warning of the program's spiraling cost, the blowout of funds only got worse.

Macintosh and his team suggest this is a cautionary tale for policy makers in Australia and beyond who are considering setting up assistance programs. "If robust structures are not put in place that minimize the opportunities for political interference and industry influence, there is the potential for excessive payouts to be made that undermine the social benefits of MPAs," they write. "[T]here will always be a temptation for governments to use assistance programs to solve their own political problems and quell industry and community concerns."

The article "Dealing with interests displaced by marine protected areas: A case study on the Great Barrier Reef Marine Park Structural Adjustment Package" is in *Ocean & Coastal Management*, Vol. 53, Issue 9, pp. 581-588 (September 2010). Lead author Andrew Macintosh is available at macintosh@law.anu.edu.au. 