

## UK Designates MPA around Chagos Archipelago, But No Decision Yet on How Much Will Be No-Take

On 1 April, the UK Government announced its designation of a marine protected area around the Chagos Archipelago in the Indian Ocean, also known as the British Indian Ocean Territory (BIOT). The 636,600-km<sup>2</sup> MPA, which comprises the archipelago's Exclusive Economic Zone and territorial waters, has been touted as the largest MPA in the world.\*

However, despite international news reports that the entire MPA will be a giant no-take zone, the degree to which fishing will be restricted at the site remains unclear. At the time of designation, UK Foreign Secretary David Miliband stated the MPA “will include” a no-take marine reserve where commercial fishing is off-limits, but officials would not confirm how much of the MPA the no-take zone will comprise. A spokesperson for the Foreign & Commonwealth Office (FCO) would say only that the BIOT territorial administration “has been tasked with taking the establishment of an MPA forward in order that this is achieved in a realistic, sustainable, and affordable way.”

### Change in UK government could become factor

The Chagos MPA designation was criticized by many members of Parliament, citing concern for the rights of Chagossian islanders who are fighting in court for the right to return to the archipelago. The UK forcibly removed the islanders from Chagos in the late 1960s in favor of building a UK/US joint military base there (*MPA News* 11:5). The displaced islanders currently live in Mauritius, Seychelles, and the UK. The concern of supporters is that any ban on fishing in Chagos would restrict any returning islanders from catching fish for food or livelihood.

Recent changes in the UK government could influence the management of Chagos. Following the country's general election on 6 May, the previously ruling Labour Party stepped down and the opposition Conservative Party and Liberal Democrat Party formed a coalition government. Senior Conservative leaders have indicated a willingness to consider allowing Chagossians to return to the islands, and Liberal Democrat leader Nick Clegg

outspokenly favors the idea (see [www.chagossupport.org.uk](http://www.chagossupport.org.uk)). If Chagossians do return, the move will increase pressure to allow some amount of fishing in the MPA.

The FCO conducted a public consultation from November 2009 to March 2010 to solicit input on the designation idea, and received more than 250,000 responses. A large majority of respondents favored creating a no-take zone across the entire area (to view the consultation report, go to <http://bit.ly/aRQ2LN>). IUCN submitted a letter to the FCO in support of full no-take status, saying the islands' extremely low direct impacts of human activities have created “unrivaled ecosystem health” and that its reefs are “the healthiest, most resilient coral reefs in the world.”

For the time being, the Chagos MPA will be patrolled by a single vessel — the *Pacific Marlin*, operated by a private contractor (MRAG Ltd.). To this point, the vessel has been responsible for monitoring commercial fishing in BIOT waters for skipjack and yellowfin tuna. 

\* Which MPA is largest depends on one's interpretation of the term “marine protected area” (*MPA News* 8:2 and 8:3). Although the Chagos MPA may be the largest area that fits the archetype of an MPA, there are marine areas under various forms of management that are bigger. These include, for example, the 35 million-km<sup>2</sup> marine area managed under the Convention on the Conservation of Antarctic Living Marine Resources (CCAMLR).

### The MPA News reader survey How are we doing? Please let us know.

At MPA News, we work to serve the global field of MPA professionals. To make sure we are doing that effectively, we need your feedback. What is MPA News doing well? How could the newsletter be more useful to you? Please tell us.

The 2010 MPA News reader survey, consisting of seven quick questions, is available online at [www.mpanews.org](http://www.mpanews.org). Three respondents will be selected at random to receive an official MPA News canvas tote bag.

We look forward to your comments. Thank you!

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# Special Section: Experiences in MPA Enforcement, Part II:

## More Tools and Strategies

Having to enforce an MPA's regulations is more expensive than having the public comply voluntarily with those rules. Hence, public education about the need for an MPA — and the various benefits the MPA could provide to stakeholders over time — can be invaluable for both protecting the site and lowering management costs. In general, where there is broad public support for an MPA's goals, the odds of its success are greatest.

Unfortunately, there are few if any MPAs where 100% compliance with regulations is the case. So some degree

of enforcement becomes necessary to stop illegal or simply negligent activity. Our previous issue (*MPA News* 11:5) featured several examples of tools and strategies developed for MPA enforcement — from high-tech methods of monitoring vast offshore closures...to building the ideal ranger station...to training rangers to serve as frontline educators. In this issue, we continue our coverage of MPA enforcement.

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### A. Investigating underwater crime scenes: Interview with Hector Cruz-Lopez

When rules or laws are broken in a park on dry land, the rangers there often use the same crime scene investigation (CSI) techniques that regular police do. The techniques — such as dusting for fingerprints or conducting ballistics tests on firearms — enable investigators to search for clues, collect evidence, and build legal cases against lawbreakers.

But in cases where illegal acts have been committed underwater, including in marine protected areas, the investigations have typically been more challenging. It is one thing for investigators to process a secured crime scene on land; it is something different to process a crime scene underwater in SCUBA gear amid a strong current.

But the field of underwater CSI is progressing quickly. Hector Cruz-Lopez, professor of forensic science at the Palm Beach State College Criminal Justice Institute in the US, has investigated dozens of underwater crime scenes in MPAs and elsewhere, and teaches courses on the subject. He says that nearly anything crime scene investigators can do on land, they can do in the water, too:

**MPA News:** What is the range of environmental crimes that could be investigated through underwater CSI?

**Hector Cruz-Lopez:** The types of environmental crimes typically investigated include poaching, physical damage to sensitive marine communities (i.e., coral reefs, seagrass beds, mangrove communities), illegal dumping, harassment of legal traps used to harvest commercial fisheries resources, collisions with marine mammals in no-wake zones, and use of illegal methods to harvest commercially and recreationally important species. In addition, underwater investigative techniques are used to search for and recover evidence that ends up in the water in connection with boat accidents, or is simply dumped in the water in an attempt to get rid of what can constitute evidence.

**MPA News:** Can you describe an investigation you conducted in an MPA?

**Cruz-Lopez:** In one case, I documented a trail of scars caused to a coral head and was able to match it to a particular propeller. In addition, measurements obtained from the underwater site were used to reconstruct the incident and determine that the operator of the boat was also speeding in a no-wake zone. In another case, a determination of how long a lobster trap had been submerged was used to demonstrate that a suspect had been harvesting lobster before the season opened.

**MPA News:** What are the limits of underwater CSI — for example, are there forensic techniques that work on land but not underwater?

**Cruz-Lopez:** In my opinion, the limits of underwater CSI in comparison to conventional techniques used on dry land are related to lack of knowledge and training. Unfortunately, typical underwater investigations have relied primarily on search-and-recovery instead of the methodical and proper crime scene investigation procedures implemented on land. It is actually possible to obtain and recover fingerprints and other types of sensitive evidence underwater if proper evidence collection procedures are applied. Water preserves different types of evidence as long as it is not displaced during the process of removal. A gun, for example, may contain gunpowder residue and biological evidence in its barrel until the moment the water in it is displaced. Therefore, in cases where firearms or other metal objects (spears, knives, harpoons) are found underwater, it is important that these pieces of evidence be packed in the same water in which they are found. In addition, trained underwater CSI will collect debris, mud, or sand immediately surrounding the pieces of evidence. Corrosion is the result of exposure to oxygen, so keeping metal objects in water actually prevents the process of oxidation from destroying important pieces of evidence such as fingerprints. 🌊

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## B. MPA Perspective: Enforcement advice from an enforcer

### By Jayson Horadam

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Virtually every MPA will possess natural resources and unique features that set it apart from others around the globe. Size, location, prevailing weather conditions, funding, proximity to land, and surrounding socio-economic factors dictate the type and amount of enforcement protection applied. A successful enforcement program is designed around a system that utilizes all assets available to MPA management. While there may never be a “one size fits all” approach to MPA enforcement, there are standard concepts and applications that should never be overlooked:

**Embrace technology:** MPA enforcement has traditionally revolved around vessel patrols — an invaluable but limited tool. Vessel patrols can be very expensive and are prone to uncontrolled variables, including vessel crew issues (transfers, leave, training days, court days, etc.), vessel maintenance/repair, and associated cost and budget constraints. Advances in surveillance, detection, communication, and navigation can provide some alternatives or enhancement to routine vessel patrol. Conventional radar is a valuable tool, but limited by its relatively short range. New high frequency surface wave radar (HFSWR) is able to detect beyond the horizon and identify targets over 200 nm away.

**Networking:** Learn from other MPAs and enforcement agencies by visiting other sites or having the experts visit yours. Find out what has worked and what has not in their experience. Otherwise, reinventing the wheel is costly and time-consuming.

**Hands-on training:** While the classroom is necessary for learning the basics of enforcement, there is absolutely no substitute for hands-on training. This is why law enforcement agencies around the world employ dedicated field training officers (FTO) and FTO programs. From vessel boarding to evidence collection and documentation, training is the area that yields big results for any enforcement program.

**Leadership:** Leadership is one of the most difficult and ignored aspects of quality management. It is also the cornerstone for any successful enforcement program. Managers need to embrace it as such. Exceptional leadership will produce personnel who constantly look for ways to improve the operation, adapt to obstacles, be proactive, and become more efficient. Can leadership be taught and learned? Absolutely. Effective mentoring and training can prepare young officers to lead by example with honesty, integrity, and fairness.

**Enforcement team:** If at all possible, use dedicated enforcement personnel who are specifically trained and

assigned to MPA enforcement. While memorandums of agreement and other forms of contractual work with outside agencies (such as coast guards) are common, they are not as effective as dedicated personnel:

- In most cases with outside agencies, MPA enforcement will be secondary to their first duties and responsibilities;
- Personnel from the outside agencies may not be trained on the specific rules and regulations of your particular MPA; and
- MPA managers will often have little control over when and where the outside agencies patrol.

Instead, use outside agencies as a supplement to your own dedicated enforcement team. The agencies can still be a valuable asset and should be cultivated whenever possible.

**Ambassadors:** If an MPA has recreational or commercial activities associated with it, often the only contact these user groups will have with your organization will be through your enforcement officers on the front line. In some cases a single officer may make contact with dozens of people in a single day. As a result, your enforcement officers will need to be educators, outreach specialists, and interpreters, as well as enforcers.

Making enforcement more effective does not have to be expensive. Concentrate on the low-cost or no-cost intangibles listed above. Take on the leadership challenge and become a great leader — managers manage what is in place, whereas leaders lead their people to the next level. With all the rapid changes happening in the world’s oceans, all MPA administrators should be pushing their programs to the next level. 

### Editor’s note:

Jayson Horadam has more than 20 years of experience in marine law enforcement and natural resource protection. He began his career in 1989 as an enforcement officer in what was then the Key Largo National Marine Sanctuary, in the US. In 2002, Horadam became the first captain of the Florida Keys National Marine Sanctuary Enforcement Team. He now runs MPA Enforcement International, a consulting firm.

## C. Role of leadership in MPA enforcement success

Research by a team of faculty and students from the Institute of Marine Affairs at Taiwan’s National Sun Yat-Sen University examined the role leadership can play in the successful enforcement of an MPA. In a management study of the 1.8-km<sup>2</sup> Houbihu Marine Reserve, the research team recorded steep declines in poaching at the site in response to vigorous enforcement strategies instituted by a local police captain. The strategies included nighttime ambushes of illegal fishers and seizure of captured fishing gear.

“Although the reserve now is a successful MPA in maintaining its ecological functions, there is still a long-term challenge in preventing illegal activities,” state the researchers. They note that the police captain was transferred to a terrestrial national park in 2009, and poaching events have increased in Houbihu Marine Reserve since then. “MPAs are already armed with formal laws,” says Ting-Yu Lin of the research team. “However, enforcement depends on the capacity of leadership.”

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**Editor's note:** Graeme Kelleher is former chairman of the Great Barrier Reef Marine Park Authority and author of *Guidelines for Marine Protected Areas* (1999, IUCN), available at [www.iucn.org/dbtw-wpd/edocs/PAG-003.pdf](http://www.iucn.org/dbtw-wpd/edocs/PAG-003.pdf).

## D. Letter to the editor

### Self-interest a powerful tool in preventing illegal activity in MPAs

Dear MPA News:

The article on MPA surveillance and enforcement (*MPA News* 11:5) was very good. However, it seemed to me to omit one of the most motivating characteristics of human nature: namely, self-interest. If people who follow the rules of an MPA can benefit in some way — either materially or emotionally — by prevent-

ing or reporting illegal activities, they can contribute to successful management at no cost.

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## Notes & News

### Portugal designates four MPAs on extended continental shelf

In March, Portugal designated four MPAs on its extended continental shelf, beyond the nation's 200-nm Exclusive Economic Zone. Covering a total seafloor area of 120,000 km<sup>2</sup>, the MPAs include vulnerable deepwater communities, including cold-water coral reefs and sponge fields. Portugal will bear responsibility for managing the seafloor at these sites, whereas international bodies will manage the resources of the corresponding water column, which is still considered the high seas. Portugal had previously petitioned the United Nations for jurisdiction over the extended continental shelf areas, which are off the Azores and mainland Portugal.

The designations establish Portugal as a pioneer in international marine conservation. Although other nations have also successfully petitioned the UN for jurisdiction of shelf areas beyond their EEZs (see "Australia gains jurisdiction over large seabed area", *MPA News* 9:10), Portugal is the first to use such extended jurisdiction to designate MPAs. The nation announced its designation of the four MPAs at a meeting of the OSPAR Convention, the intergovernmental mechanism for protection of the North-East Atlantic marine environment. The MPAs are on the southern Mid Atlantic Ridge, Altair Seamount, Antialtair Seamount, and Josephine Bank.

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### Disasters threaten MPAs in US, Australia

An explosion on 20 April on an oil-drilling platform (the *Deepwater Horizon*) in the Gulf of Mexico has led to a massive oil spill that threatens dozens of MPAs in the immediate region, within 50 miles of the coast of the US state of Louisiana. The explosion and subsequent sinking of the platform blew out the seafloor wellhead, more than one kilometer below sea level. The blowout has released thousands of barrels of

crude oil daily into the water column (equivalent to hundreds of thousands of US gallons, or millions of liters). Although efforts to plug the well are underway, it may take weeks or months to do so completely, and the disaster is expected to become the worst oil spill in US history. The slick reached parts of the US coast in early May.

The US National Marine Protected Areas Center has generated a map of MPAs in proximity to the spill, available at <http://mpa.gov>. Depending on ocean currents and weather, it is possible the slick could move down the coast of Florida toward the Florida Keys and even into the Atlantic, although that remains speculative. The Deepwater Horizon Response Unified Command, which involves personnel from multiple US federal agencies as well as petroleum company BP and offshore drilling contractor Transocean, is providing regular updates on the spill, its effects, and containment efforts. The Command website is at [www.deepwaterhorizonresponse.com](http://www.deepwaterhorizonresponse.com). Many links to additional sources of information on the *Deepwater Horizon* spill are available at <http://gulfseagrant.tamu.edu/oilspill/index.htm>.

On 3 April, a Chinese coal tanker (*Shen Neng 1*) ran aground on a shoal in the Great Barrier Reef Marine Park in Australia, and began leaking heavy fuel oil. Although there was danger that the ship would break apart and spill all of its 950 metric tons of fuel oil, it remained intact and was eventually towed off the shoal. The grounding caused extensive damage to the reef, however, leaving a two-mile-long scar and contaminating the ecosystem with antifouling paint. The vessel's master and officer-on-watch face multiple criminal charges in Australian court. The Great Barrier Reef Marine Park Authority website on the grounding is at <http://bit.ly/as5ssx>. The lead agency on the response effort was Maritime Safety Queensland, whose website (with press releases and photos) is [www.msq.qld.gov.au](http://www.msq.qld.gov.au).

### Countries with most visitors to MPA News website

In the first three months of 2010, the countries with the most visitors to the *MPA News* website were:

1. US
2. Australia
3. UK
4. Canada
5. Japan
6. France
7. Italy
8. Indonesia
9. Germany
10. Mexico

[www.mpanews.org](http://www.mpanews.org)  
searchable back issues,  
MPA-related conference  
calendar, and more.

# MPA Perspective: International Challenges for the Establishment of MPAs in the Dutch North Sea

By Ton IJlstra

North Sea coastal states have identified marine protected areas in their offshore areas. This has been done by request of the European Commission (EC) within the context of the increasing importance of nature conservation in the European Union. Within the MPAs, conservation objectives have been established. Fishing activities (especially bottom trawling) constitute the most important threat to these objectives.

However, measures to reduce adverse effects by fishing activities are not simple. Coastal states have to comply with EU regulations and they need the agreement of the EU before adopting any fisheries measures relating to the protection of the marine environment. Gaining international agreement on protection strategies poses challenges for the Netherlands and other coastal states.

The Netherlands has designated — or is in the process of designating — seven MPAs for the purpose of implementing the European nature conservation program Natura 2000. Four sites are in the coastal zone (out to 6 nm from shore) and three sites are in the Exclusive Economic Zone of the Netherlands.

## Management of sites in an international context

The main activities in the international North Sea with regard to nature conservation are extraction of oil and gas, shipping, and fishing. In the coastal areas, recreational use is important. In addition, very large marine areas will be required for wind energy farms.

EU member states may designate their own sites to be protected and may establish their own protective regimes. In doing so, they are not required to account for any MPAs or adopted regimes of neighboring states. Several MPAs designated or planned by the Netherlands border marine areas of other states. One Dutch MPA — Vlake van de Raan — borders Belgian waters, whereas another (Clever Bank) borders UK waters. A Dutch MPA around the country's portion of Doggerbank borders the EEZs of Germany and the UK. (A small part of the Doggerbank is in the Danish EEZ.) In most cases, the corresponding areas on the other side of these boundary lines have not been designated as MPAs. The Doggerbank is the only exception, where Germany has already designated its part of the ecosystem as an MPA. (The UK has announced its intention to do so with its respective portion of Doggerbank, but Denmark has indicated it will not identify its portion as an MPA.) As a result, fishing and other activities in shared ecosystems will be subject to different conservation regimes. This is clearly

undesirable from a management or protection point of view.

A complicating element is the role of the EU in the North Sea with regard to fisheries management. The EU decides on the development of stock management regimes for fisheries. The EU either consents (within a 12-nm zone from shore) or decides (within EEZs) on these measures. Member states of the EU may set environmental protection measures in their MPAs, but the measures apply only to fishing vessels flying their flag. They are not allowed to implement these same measures for vessels flying a foreign flag — unless the EU consents to or decides on such protection. Thus all EU fishing vessels generally have access to, and may fish inside of, MPAs designated by member states. As a result, to protect the MPAs they have designated in their own waters, the states must seek the consent of the European Commission in the coastal zone or an EC decision in the EEZ.

## The Dutch response

The EC has decided that MPA site selection and the adoption of protective measures is a matter for the individual coastal states. It has issued informal procedural rules with which coastal states should comply. Among these, coastal states must:

- Develop a protective regime;
- Ask the EC to agree with that protective regime;
- Consult with international users, other coastal states, regional advisory councils, and socio-economic commissions on the protective regime; and
- Consult with all flag states whose interests may be affected by the measures.

This is a complex procedure since the Netherlands has maritime borders with three coastal states, and some 10 flag states fish in the Dutch part of the North Sea. To coordinate this procedure, the Netherlands has involved the International Council for the Exploration of the Sea (ICES) in this process. ICES was invited to organize an international, science-based, and stakeholder-driven process involving all relevant user groups. This project — FIMPAS (FIsheries Measures in Protected Areas) — involves environmental NGOs, fisheries organizations in Europe, and scientists in a process to identify fisheries management options for the Dutch MPAs in the North Sea. In a series of three workshops (2010 – 2011) ICES' Advisory Committee will advise the Dutch government on what fisheries measures should be taken to achieve the conservation targets. After the third

## Editor's note:

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workshop on management options (January 2011), it will become clear whether this international process will have yielded satisfactory results. (Follow FIMPAS on Twitter: @fimpas.)

Ideally, an international MPA should have one homogeneous set of conservation objectives. This is the main challenge for coastal states. Involving stakeholders successfully in the planning and management of transboundary MPAs also presents many challenging

aspects, including identifying appropriate representatives of user groups.

The strategy of the Dutch government with respect to these issues is to seek international cooperation at an early stage, establish an independent science regime through ICES, and give stakeholders the opportunity to participate at different levels in the management process. The results will be known toward the end of 2011. 

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## Notes & News

### In memoriam: John R. Clark

John R. Clark, an early leader in the fields of MPA management and coastal zone management, passed away of a heart attack on 5 April 2010. Twenty-five years ago, Clark co-authored (with Rod Salm) one of the first books on MPA practice — *Marine and Coastal Protected Areas: A Guide for Planners and Managers*. Known as “the Orange Book” for its distinctive covers, the guide went through three editions (most recently in 2000) and remains a trove of lessons and experience. In the past decade, Clark became a regular source of guidance and encouragement to the staff of *MPA News*, offering tips on making our publication more useful and applause when we did things well. His original comments of support were in response to our third issue, in 1999. His most recent message to us was sent this past March. We will miss him.

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### Phoenix Islands Protected Area starts fundraising; no-take zone to increase over time

The group responsible for building an endowment to support the 408,000-km<sup>2</sup> Phoenix Islands Protected

Area (PIPA) in Kiribati has set a fundraising target of US \$13.5 million to be achieved by the end of 2014. The board of the PIPA Conservation Trust held its first meeting in March, and consists of members from each of the three PIPA partner institutions: the government of Kiribati, Conservation International, and the New England Aquarium.

Although the government’s vision remains that commercial fishing will eventually be phased out in PIPA (*MPA News* 9:8), the rate of phaseout will be tied to the rate of fundraising. Because Kiribati relies on fishing license revenue for a significant portion of its budget (35%), much of the endowment funding will go to compensate the government for lost fishing license revenue as PIPA becomes increasingly no-take. “The more money the Trust is able to get for the endowment, the more of PIPA will become no-take,” says Bud Ris, president of the New England Aquarium and a member of the Trust Board.

Reaching the \$13.5-million target would allow for 25% of PIPA to be closed to fishing, says Ris. So closing PIPA completely to commercial fishing will take some time. “In the long term, continued efforts to increase the endowment will be needed to enlarge the no-take zone,” he says. “In the meantime, Kiribati will implement a newly developed management plan that will enhance the sustainability of the entire MPA.”

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### Egypt designates its first MPA in Mediterranean

Egypt has designated a 383-km<sup>2</sup> marine protected area in the Gulf of el-Salloum near the country’s border with Libya. It is the first MPA along Egypt’s Mediterranean coast. “The goal is to protect endangered species...and encourage ecotourism in the reserve area, putting it on the global ecotourism map,” said Environment Minister Maged George. It is not Egypt’s first MPA: the country designated Ras Mohammad National Park in 1983 along the southern end of the Sinai Peninsula.

### **MPA education spotlight:**

#### **Taking students snorkeling in MPAs**

New Zealand schoolchildren are being taught to snorkel in marine reserves as part of a program to raise awareness of, and appreciation for, the country’s marine biodiversity. The snorkeling program, in operation since 2002, has worked with more than 7000 primary (elementary) school students so far. It is offered by the Experiencing Marine Reserves (EMR) program of the Mountains to Sea Conservation Trust, supported by the NZ Department of Conservation. The EMR program serves to generate community support for the designation of MPAs.

“Marine reserves do a great job of inspiring our students into action,” says Program Director Samara Nicholas. Examples of actions that students have led after their snorkel experience include fundraisers for conservation, letters to politicians, beach monitoring surveys, and more. For more information on the program, go to [www.emr.org.nz](http://www.emr.org.nz) and [www.marinenz.org.nz](http://www.marinenz.org.nz).

## Pacific territory of Tokelau designates whale sanctuary

The government of Tokelau, a territory of New Zealand in the South Pacific, has designated its entire Exclusive Economic Zone as a whale sanctuary. In doing so, Tokelau joins 11 other Pacific nations and territories in declaring their EEZs as off-limits to whaling. Although Tokelau's land area consists of just three coral atolls totaling 10 km<sup>2</sup>, its EEZ covers 290,000 km<sup>2</sup> of ocean.

## Mission Blue Voyage raises US \$16 million for ocean conservation

In April, a four-day conference in the Galápagos Islands raised US \$16.7 million to fund several ocean conservation initiatives, including ones pertaining specifically to MPAs. Called the Mission Blue Voyage, the conference was led by ocean explorer Sylvia Earle and held aboard the National Geographic *Endeavour* expedition ship. The meeting brought together global business leaders, marine scientists, and entertainers, including American actors Leonardo DiCaprio and Edward Norton.

Most of the funds raised by the conference came via donations from the Planet Heritage Foundation and the Oak Foundation. The MPA-related initiatives to be funded include:

- \$500,000 to establish a network of MPAs in the Arctic, including a high seas science reserve;
- \$1 million to help improve protection of the Galápagos Marine Reserve; and
- \$1.1 million to launch a plan to support efforts by the government of Bermuda to protect the Sargasso Sea (as well as commitments to raise an additional \$2.5 million to support the long-term efforts).

For more information on Mission Blue, including a blog of the voyage, go to [www.mission-blue.org](http://www.mission-blue.org).

## Report describes role of no-take areas in marine planning

Commissioned by the Western Australian Government, a new report examines the role of no-take areas in marine planning, including their effectiveness for biodiversity conservation and fisheries management. Authored by a state-appointed panel of three scientists, the report is intended to guide Western Australia's regional marine planning process. It concludes that "empirical evidence for the use of marine sanctuaries for biodiversity conservation is now substantial, [whereas] the evidence for the effects of marine sanctuaries on fisheries, either positive or negative, is less clear." The *Report on the Scientific Basis for and the Role of Marine Sanctuaries in Marine Planning* is available at <http://bit.ly/a766Wa>.

## Report examines indigenous people and MPAs on Canada's Pacific coast

A new publication examines the rights, concerns, and interests of indigenous groups with regard to MPAs along the Pacific coast of Canada. Published by the Canadian Parks and Wilderness Society (CPAWS), the report recommends several approaches to help Canadian government agencies achieve a collaborative MPA network that addresses the concerns of Coastal First Nations (what indigenous groups are called in the province of British Columbia).

"We commissioned this report to provide an introduction to these themes in connection with MPAs, including legal and treaty imperatives, cultural and economic considerations, and past experiences of First Nations with MPAs," says Sabine Jessen of CPAWS. Among the report's recommended approaches are building relationships, tailoring MPAs to address First Nations interests, and encouraging shared authority. The publication was authored by Julia Gardner of Dovetail Consulting Group and funded by the Gordon and Betty Moore Foundation. *First Nations and Marine Protected Areas* is available at [www.cpawbc.org/publications/index.php](http://www.cpawbc.org/publications/index.php).

## UK releases strategy for planning MPA network

The UK Government has released its strategy for delivering a national network of marine protected areas to meet obligations under UK and EU law. The strategy sets out the country's proposed vision and framework for

### MPA Tip:

### On the importance of long time frames for building trust

Designated in 2005, the Urok Islands Marine Protected Area is Guinea Bissau's first community MPA. It is the fruit of 15 years of work by Tinguena, a local NGO, in collaboration with local communities and institutions, the Fondation Internationale du Banc d'Arguin (FIBA), and other national and international partners. Lessons from planning and managing the Urok community MPA are documented in the report *Live from Urok! Urok Islands Community Marine Protected Area: Lessons Learned and Impacts*, available at <http://bit.ly/cVWEux>.

Below is an excerpt of one of the report's key lessons from Urok, on building confidence and trust in the local community:

Local populations need to acquire trust in their own ability to manage their territory; so working with long time frames is important. "One of the project's key words is trust," stresses Augusta Henriques, Tinguena Director. "Tinguena has long been working with the local communities on the Urok Islands. Thanks to this work, people have seen their living conditions improve. It has given them enough faith in themselves and in change to invest in guaranteeing their future. Some MPAs are created by decree and spring up overnight. On the Urok Islands, we took all the time we needed. It's like a gestation period, the time we need to let the baby develop properly before being born. Time is very precious, since our partners and sponsors pressure us to produce very short-term results. On the Urok Islands, we took the time needed for the process to develop fully, so that when the decree was approved it was recognizing a *de facto* situation. There is now a great internal capacity to create solutions, and this is what makes the MPA resilient."

## MPA News

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MPAs in territorial waters adjacent to England, and in UK offshore waters, over the next 10 years. Underlying the planning of MPAs will be seven principles as described in the strategy: representativity, replication, viability, adequacy, connectivity, protection, and best available evidence. The strategy is available at <http://bit.ly/9VRu05>.

### Courses available on Marxan

Two-day courses on how to use Marxan, a software program widely used for the planning of MPA networks, will be provided this July 2010 in Victoria and Edmonton, Canada. The courses will be offered by PacMARA (the Pacific Marine Analysis and Research Association) and will cover key concepts such as creation of planning units, setting parameters, and more. PacMARA is also offering a one-day advanced course in Victoria for experienced Marxan users who are interested in training others on the software. For more information on the courses or to register, go to [http://pacmara.org/marxan\\_courses](http://pacmara.org/marxan_courses).

### US National MPA Center debuts online mapping tool

The US National Marine Protected Areas Center has launched an interactive Web-based application to help users view the boundaries of more than 1600 MPAs in the US and access data on each site. The data include details such as a site's total area, its date of designation, whether it has fishing restrictions, and more. The online mapping tool is available at <http://mpa.gov>.

### Study: Spillover from reserve will offset loss in fishing yields

A team of Spanish and American researchers has measured the number and biomass of lobsters spilling over from a no-take marine reserve, and concluded any loss in fishing yields incurred as a result of the closure will be offset by greater catches within a decade or two. The study, published in the journal *Marine Ecology Progress Series*, used a decade of tag-recapture data from the Columbretes Islands Marine Reserve (CIMR) in Spain. "We showed that during an 8- to 17-yr. protection period, harvested spillover offset the loss of yield resulting from the reduction of fishing grounds set aside in the CIMR, producing a mean annual net benefit of 10% of the catch in weight," write the researchers. The abstract of the paper "Net contribution of spillover from a marine reserve to fishery catches" is at [www.int-res.com/abstracts/meps/v400/p233-243](http://www.int-res.com/abstracts/meps/v400/p233-243).

**Editor's note:** This "Building Resilience" feature is contributed by the Reef Resilience program of The Nature Conservancy ([www.reefresilience.org](http://www.reefresilience.org)). The program provides guidance on building resilience to climate change into the design of MPAs.

## Building Resilience: Put a bleaching response plan on your to-do list

By Rebecca Cerroni, Reef Resilience Project  
Manager, The Nature Conservancy

Over the past six months, from the Great Barrier Reef to the Florida Keys, coral reef MPA managers have held their collective breath as vessel groundings and extreme cold snaps have affected coral reefs within protected areas. In disasters and bleaching situations, what can coral reef managers do?

Managers should prepare for such events by developing response plans ahead of time. The response plans can be applied both to disasters (like ship groundings) and bleaching situations, and include:

- Setting ecosystem monitoring protocols;
- Coordinating monitoring teams among multiple agencies;
- Planning how to communicate about the event; and
- Discussing how to implement management interventions.

In January 2010, this process played out when colder-than-usual (45°F/ 7°C) temperatures in South Florida waters threatened coral reefs with bleaching. This led The Nature Conservancy to mobilize a Disturbance Response Monitoring (DRM) program that had been put in place with partners in the Florida Reef Resilience Program (FRRP). The primary task of the DRM program in South Florida is to conduct dive surveys over an eight-week period, monitoring impacts of an event. Although the surveys have typically focused on warm water coral bleaching, they were also designed for application to other situations such as cold water disturbance. The ability of the FRRP to respond quickly with a well-trained monitoring team underscores the importance of a coral bleaching response plan.

For more information on developing your own bleaching response plans, go to [www.reefresilience.org/Toolkit\\_Coral/C6c2\\_RapidResp.html](http://www.reefresilience.org/Toolkit_Coral/C6c2_RapidResp.html).