

## Creating MPA Inventories: How Canada and the US Are Meeting the Challenge

As MPAs are designated around the world, keeping track of their locations and what they're protecting becomes increasingly necessary. In order for resource managers to analyze the breadth or effectiveness of a collection of MPAs, they need to know what is already in place.

This is easier said than done. In regions where MPAs have been designated under a variety of regulatory regimes, tracking down all of them can be a painstaking process. Even defining what is meant by "marine protected area" -- and, therefore, what will be included in the inventory -- can be tricky. This month, MPA News examines efforts by two countries to create national MPA inventories, and describes how they are facing the challenges involved.

### Canada: Integrating MPAs and oceans management

Peter Hale, along with Canada's Department of Fisheries and Oceans (DFO), has created what he sees as the tool of the future for planning Canada's coastal and marine environment. Featuring an online GIS database, the Oceans Program Activity Tracking (OPAT) System provides visitors with information on a range of government activities: from MPAs, to integrated coastal management projects, to marine environmental quality initiatives (website address: [www.dfo-mpo.gc.ca/canoceans](http://www.dfo-mpo.gc.ca/canoceans)). OPAT displays each project's geographic location, and provides additional project-related information in text, video and other formats.

Hale is coordinator of the Integrated Coastal Zone Management program for DFO. The OPAT System, he says, was designed to demonstrate how the three programs of Canada's Oceans Act -- MPAs, integrated coastal management, and marine environmental quality -- relate to one another.

Hale says the system's MPA inventory aspect is enhanced by the information on other ocean management activities. In essence, it mirrors the way that integrated coastal and ocean management is carried out. "If you simply establish an MPA but don't manage the surrounding area with that MPA in mind, the MPA could fail," he said.

So far, the MPA inventory displays a subset of the nation's federal-level marine protected areas. Hale hopes to incorporate other federal and provincial MPAs in the near future. "Our goal is to provide consistency in reporting MPAs no matter where they may be," he said. For each MPA, OPAT provides a standardized report with 20 categories of information, including ecozone, objectives, key issues, participating stakeholders, and contact information. MPA site managers are responsible for reporting the information and updating it on a regular basis, which minimizes the workload of the OPAT project team.

The OPAT team has faced some challenges, including making the online tool fully bilingual (English/French) -- a requirement of the Canadian government. Some site managers are not bilingual, requiring the translation of their site information. Hale said it has also been a challenge to design the tool to be as easy to use as possible, both for visitors to the website and for site managers. "It was designed by users for users," he said. "So far, it's worked."

The time required to take OPAT from its concept stage to a working online system was just four months, says Hale. The secret: another federal department -- Natural Resources Canada -- had already developed the applicable technology for its own purposes. Building OPAT has required just five people, including one programmer, and cost less than CDN \$200,000 (US \$130,000). Now, Hale says OPAT could be adapted to fit the needs of other nations, should they be interested.

"What you see now is an early version," said Hale. "Ultimately, I'd like OPAT to be used for the planning of any activity affecting Canada's coastal and marine waters: urbanization, agricultural activities, shipping, natural resource extraction, etc."

## US: Building an accessible inventory

In May 2000, former US President Bill Clinton signed an executive order (EO) to establish a national network of marine protected areas. Among its requirements, the EO ordered the US Departments of Commerce and the Interior to publish and maintain a list of MPAs. The development of a national MPA inventory is now underway.

Dan Farrow of the National Oceanic and Atmospheric Administration (NOAA), within the Department of Commerce, is the NOAA lead on the project. He says that a fundamental principle in building the MPA inventory is to make it as open and accessible to the public as possible. "Regardless of whether you support MPAs or have concerns," he said, "access to a comprehensive, accurate, and up-to-date inventory is an essential prerequisite for a fair and factual dialogue about how best to protect our marine resources."

The website [www.mpa.gov](http://www.mpa.gov), co-managed by the Departments of Commerce and the Interior, profiles the progress of the MPA inventory project. As of mid-August 2001, more than 250 federal and federal/state partnership sites were listed, including 36 federal fishery management areas. Each listing includes information in several categories: type of site, managing agency, legal basis, and others, as well as links to the relevant regulatory code and the MPA's official website. The database is searchable. Farrow hopes that all federal MPAs will be inventoried by early 2002.

The next step will be to add state and territorial MPAs to the list. Farrow estimates that each coastal state and territory in the US has 50-100 MPAs of its own. Added up, that totals 1800-3600 state and territorial MPAs across the country.

Inventoried sites will be a big job, and the project will depend on state and territorial managers to supply and update the information. The project team has developed a standardized data-collection survey -- featuring a set of more than 40 data types -- to assist managers in reporting at all levels (federal, state, territory, and, eventually, tribal and local). For this reporting system to work, says Farrow, it will be key to identify the incentives. "Unless you can show a program the benefits of initially providing, and then keeping timely, the information in the inventory, it is very difficult to compile and keep current this kind of comprehensive database," he said. The biggest benefit of participation, he says, will be the ability for managers to compare their MPAs with other states' and have ready access to a wealth of information on these sites.

One challenge that the project has faced is one encountered by all MPA inventory initiatives: developing a set of criteria for deciding which sites to add to the inventory. The interagency inventory team wrestled with a number of questions, including:

- Should the inventory include estuary sites, and, if so, how far upstream may they extend?
- Under what conditions do protected intertidal areas constitute an MPA?
- How should sites that were designated for other purposes, but which provide significant conservation value, be treated?

The working criteria developed by the team in answer to these questions (and more) are online at [http://mpa.gov:80/mpaservices/building\\_inv/sup1\\_define.html](http://mpa.gov:80/mpaservices/building_inv/sup1_define.html). As with most features of the MPA inventory project, the working criteria are open to public comment, which can be submitted via the website.

In September 2001, the [www.mpa.gov](http://www.mpa.gov) site will be revamped to include such features as clickable zoom maps to show details of individual sites, and a more robust summary of features of each listed MPA. Down the road, Farrow says, the inventory will be linked with other coastal management issues and data layers, similar to the Canadian project. "There are some key data layers that everyone is interested in -- biological, physical, and land-based location data -- and we are working to make these available to combine with the inventory data," he said.

### For more information

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## Box: Canada's OPAT System

To interact with Canada's Oceans Program Activity Tracking (OPAT) System, go to: <http://www.dfo-mpo.gc.ca/canoceans/>

## **The website explains how to download the special software (MapGuide) necessary to view OPAT.**

### **Box: Are fishery closures MPAs?**

Canada's OPAT System does not include temporal fishery closures in its MPA inventory. "We don't consider them to be marine protected areas," said OPAT creator Peter Hale. One of the reasons is consistency. If OPAT included temporal fishery closures, he says, it would have to include other temporal closures, too, such as oil and gas moratoria. Canada's entire Pacific coast is currently subject to federal and provincial moratoria on oil and gas development.

Josh Laughren, marine program director for WWF Canada, an NGO, says fishery closures shouldn't be included because they don't offer permanent protection. To be an MPA, he says, a site must offer long-term, legislated preservation of habitat. "A fishery closure can be changed or removed by bureaucratic order -- it can be here today and gone tomorrow," said Laughren. "That's not to say that closures aren't an effective fisheries management measure. But calling them an MPA is a misnomer." He points out that most every part of the Canadian coastline is subject to some management regime prohibiting some sort of fishery activity at some time of year.

The US MPA inventory, under development by the Departments of Commerce and the Interior, does include some fishery closures. To be in the inventory, closures must provide year-round protection, and must be established with an expectation of -- or at least the potential for -- permanence. The inventory does not include areas subject to emergency closures, sites set aside to avoid gear conflicts, nor areas subject to single-species management measures that do not benefit a broader array of species or habitats.

#### **For more information**

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### **Box: IUCN's global MPA inventory to be updated**

Plans are underway to give the four-volume IUCN report *A Global Representative System of Marine Protected Areas* a thorough update. Published in 1995, the report is the first and only global inventory of MPAs. Its second edition will be a collaboration of the UNEP World Conservation Monitoring Centre, the IUCN World Commission on Protected Areas, regional and local experts, and the US National Oceanic and Atmospheric Administration.

The updating process could take several years, says Bud Ehler, vice-chair (marine) of the World Commission on Protected Areas. It will focus attention on several elements, including the gathering of boundary information for GIS analysis and the incorporation of management-effectiveness information.

The products will include paper-copy reports and an internet-based database, an electronic mapping tool, reporting capability, and MPA assessment tools. "We are now trying to raise the substantial funds required to undertake this project," said Ehler.

The 1995 report was edited by Graeme Kelleher, Chris Bleakley, and Sue Wells. It identified sites of national and regional priority for the conservation of marine biodiversity in 18 regions around the world. In total, it counted 1306 MPAs.

#### **For more information**

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### **Box: Tips on creating an MPA inventory**

Deborah McArdle created what has perhaps been the most influential MPA inventory in the US to date. Her 1997 report *California Marine Protected Areas*, published by the California Sea Grant College System, demonstrated the complex and fragmented nature of the state's MPA system. The report provided a basis for legislative efforts to make the system more

coherent, culminating in the passage of the Marine Life Protection Act by the California legislature in 1999 ([MPA News 1:3](#)). This law requires, among other measures, the recommendation of a master plan to steer the design of existing and future MPAs.

McArdle has since counseled other MPA inventory efforts in the US and Canada. She offered MPA News the following tips:

- Start with a clear definition of what you consider an MPA to be, and stick with it.
- Include the relevant legal code reference for each MPA in the inventory -- this way, stakeholders who need to access the code can gain it easily. This is useful for regulators who are interested in amending the code, and for other stakeholders interested in refreshing their knowledge of regulations.
- In cases of conflicting regulations, get the highest-ranking official in the relevant agency to decide which regulation supersedes which. Lower-level officials may give contradictory answers.
- Be confident. In creating an MPA inventory, you will be interpreting the law to some extent, and you will need to defend your interpretation in public.

#### **For more information**

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