

MPA News

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President Clinton Calls for Representative Network of MPAs in US Waters

In response to calls from conservationists and scientists, President Clinton has ordered US federal agencies to establish a comprehensive national network of marine protected areas throughout US marine waters. Executive Order #13158, delivered May 26, calls for expansion of the nation's MPA system to include examples of all types of US marine ecosystems.

Clinton's action represents the first official US directive to coordinate the nation's unsystematic array of MPA-related initiatives. The Department of Commerce's National Oceanic and Atmospheric Administration (NOAA) — which oversees the US National Marine Sanctuaries, among other MPAs — will be in charge of developing a single framework to manage the national system. The framework will be intended to support, rather than limit, agencies' independent exercise of their existing authorities.

To set the framework, NOAA will team with the Department of the Interior, which oversees National Parks and

National Wildlife Refuges. Following Clinton's announcement, NOAA Administrator James Baker remarked that the order will improve the US' current fragmented MPA system. "We don't have a master plan that says, 'This is how this all fits together scientifically,'" he said. "That's what we're trying to put together here."

Directions to authorities

The executive order directs each federal agency with authority to establish or manage MPAs to "enhance and expand protection of existing MPAs and to establish and recommend new MPAs." To achieve this, the order calls for each agency, as appropriate, to incorporate:

- science-based identification and prioritization of natural and cultural resources
- integrated assessments of ecological linkages among MPAs
- biological assessment of the minimum area for which a ban on consumptive uses would be necessary to preserve representative habitats
- assessments of protection gaps and threats
- identification of user conflicts affecting MPAs and possible solutions, with the economic effects of these solutions
- identification of opportunities to improve linkages with, and technical assistance to, international MPA programs.

In carrying out the requirements of this section, the departments of Commerce and the Interior will seek the advice of non-federal scientists, resource managers, and other interested persons and organizations through an MPA-related federal advisory committee, to be established by the Department of Commerce.

The order also calls on the US Environmental Protection Agency to propose new science-based regulations, as necessary, to ensure appropriate levels of protection for the marine environment.

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Inspired by a letter

According to officials involved in its drafting, the executive order was inspired by a letter from scientists and conservationists to Clinton in February. Spearheaded by the Marine Conservation Biology Institute (MCBI), a US-based NGO, the letter urged Clinton to create a permanent interagency council to set standards and seek opportunities for the establishment of MPAs in the country (MPA News 1:4). Officials from Commerce and the Interior worked with MCBI on some details of the executive order.

MCBI's call for an interagency council has been matched by Clinton's directive to NOAA to create a "Marine Protected Area Center." In cooperation with the Department of the Interior, the center will develop a framework for a national MPA system and provide federal, state, local and other governments with a clearinghouse of information, technologies, and strategies to support the system. The secretaries of Commerce and the Interior will also jointly manage a website with information on MPAs.

Drafters of the executive order, however, did not adopt MCBI's recommendation that the US set aside 20% of each ecosystem type as no-take reserves by 2015. "We felt we needed to do a scientific assessment first to come up with a target," said co-drafter Stephen Saunders,

US Defines "MPA"

Until last month, the US had no official definition for "marine protected area." Now, under President Clinton's executive order, the US has set a definition for MPA that closely mirrors the definition offered by the IUCN, or World Conservation Union, in 1992 (MPA News 1:4).

According to the executive order, marine protected area means "any area of the marine environment that has been reserved by federal, state, territorial, tribal, or local laws or has regulations to provide lasting protection for part or all of the natural and cultural resources therein."

The Secretaries of Commerce and the Interior will share responsibility for cataloging all areas in the US that fit the above definition of marine protected area. Depending on interpretation of this definition, the catalog could list thousands of MPAs already designated by all levels of government in the US.

Text of Executive Order

The text of President Clinton's Executive Order #13158 is available online at:

<http://www.pub.whitehouse.gov/uri-res/12R?urn:pdi://oma.eop.gov.us/2000/5/26/24.text.2>

assistant deputy secretary for fish and wildlife and parks in the Department of the Interior. Earlier this year, the US Coral Reef Task Force called for setting aside 20% of US coral reef habitats (MPA News 1:4).

MCBI Director Elliott Norse said that even without the 20% target, the executive order represented a significant step forward. "Fifty years from now, I believe that this will be considered the biggest environmental legacy of the Clinton administration, and the most important step taken so far in US marine conservation," he said.

NW Hawaiian Islands singled out

In a separate move timed to coincide with his executive order, Clinton directed the secretaries of Commerce and the Interior to develop a plan in 90 days to permanently protect the coral reefs of the Northwest Hawaiian Islands, which represent more than 60% of coral reefs in US waters. The plan is to be drawn with the input of state representatives and fishery managers.

Located west of the main Hawaiian Islands, the northwest chain consists of eight islands, stretching over 1,200 miles (1,931 km). The reefs extend from nearshore areas just beneath the surface to a depth of 100 fathoms (600 ft./183 m).

The islands' reefs are not heavily fished. The most significant commercial activity involves a rock lobster fishery that fishery managers have limited to harvesting 13% of the exploitable population. There is some bottom-fishing in the area by a small fleet, although it doesn't occur on the reefs. The Western Pacific Fishery Management Council, which oversees fishing in the region and reports to NOAA, proposed a plan this year to ban all fishing in the Northwest Hawaiian Islands from 0-10 fathoms (0-18 m). Furthermore, the council proposed to ban all fishing from 0-50 fathoms (0-91 m) around islands with significant populations of endangered Hawaiian monk seals.

Saunders, who helped craft Clinton's Northwest Hawaiian Islands directive, said that although the Western Pacific

Fishery Management Council is moving forward, its authority is limited to controlling the impacts of fishing. Other impacts on reefs — including from the anchoring of non-fishing boats — still needs to be guarded against. “There is a risk [to the Northwest Hawaiian Islands’ reefs] in terms of things that could happen in the future,” said Saunders, listing climate change and tourism growth as having impacts in coming years. “Our intent is to get out there ahead of time to protect the reefs.”

Kitty Simonds, executive director of the Western Pacific Fishery Management Council, is nonetheless concerned about the aim of the directive. “I’m sure there will be a recommendation [made during the 90-day review process] to make the Northwest Hawaiian Islands a no-take area, even though these are healthy fisheries,” she said. “Fishing is our culture, our livelihood. Why shut the fisheries down if there are no threats?”

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Resolution Adopted for North American MPA Network

Attendees of the Fourth International Conference on the Science and Management of Protected Areas (SAMPAs), held 15-19 May in Waterloo, Ontario (Canada), adopted a resolution calling for creation of a representative network of MPAs throughout the marine waters of North America.

The resolution — citing the need for an “integrated, effective, and fully representative system of marine protected areas, to be established by the year 2010” — was adopted by the assembly of scientists, protected-area managers, and conservation advocates. The conference also adopted a resolution calling on Canada to conduct an assessment of the Canadian marine environment and current means for protecting it.

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Representative Systems of Protected Areas: A Short Guide for Planners

President Clinton’s executive order places the US in a group with Australia, New Zealand, the Bahamas, and a small number of other nations, with each having stated its intent to create a “representative” national network of MPAs.

The word “representative” regularly appears in protected-areas planning, and designation of representative networks has long served as a goal in terrestrial land management. Building a network of protected areas representing a variety of ecosystems is intended to ensure protection for biodiversity.

But at what scale should planners implement such representativeness? And what does “representative” really mean? For guidance, MPA News consulted the literature and queried some experts.

A function of scale

In his new book *Bioregional Planning: Resource Management Beyond the New Millennium* (Harwood Academic Publishers, 2000), David Brunckhorst suggests

that “representativeness” refers to the extent that existing or proposed protected areas sample known biodiversity, ecological patterns and processes, and physical features at a variety of spatial scales. “Any measure of representativeness will be a function of scale,” writes Brunckhorst, director of the UNESCO Institute for Bioregional Resource Management.

Brunckhorst writes that the first step in establishing an ecologically representative protected area system is to agree on how to interpret the environment in a way that indicates what should be represented. In other words, planners must decide at what spatial scale they want to work.

In the mid-1990s, a group co-sponsored by the IUCN (World Conservation Union) proposed the creation of a worldwide representative system of MPAs. Dividing the world’s marine waters into 18 large biogeographic zones — e.g., Antarctic, Caribbean, Northwest Pacific — the group analyzed each zone’s existing MPAs and the potential need for additional protection.

As summarized in *A Global Representative System of Marine Protected Areas* (IUCN, 1995), the group noted that most of the biogeographic zones included a range of different ecosystems. "More detailed information on the range of ecosystem types present in each zone and in each MPA would be required to determine the extent to which the biodiversity of each zone is 'represented,'" the group concluded.

Challenges

For the terrestrial environment, several biogeographic systems are available and generally accepted: One of the best-known was developed in 1975 by Miklos Udvardy, who divided the terrestrial world into eight biogeographic realms, based on geographic and historic elements. The marine environment, however, is much more difficult to categorize, owing in part to its dynamic nature and other factors, including depth, types of coastline, salinity, and light.

Despite the challenges, practitioners have worked to stake out regional planning systems. Kathleen Sullivan Sealey (a biologist from the University of Miami, US) and Georgina Bustamante (a conservation coordinator for The Nature Conservancy, US) directed a team of scientists on a project to divide the marine and coastal environments of Latin America and the Caribbean into nine "biogeographic provinces" (MPA News 1:7). Each province was subdivided into marine ecoregions. The Central Caribbean ecoregion was further subdivided into 51 "coastal systems" for the purpose of identifying specific sites for marine conservation action.

Three Principles for Networks

David Brunckhorst suggests that three principles can be useful in developing representative reserve networks:

Complementarity refers to the contribution each new protected area makes to existing areas in terms of representing features not found elsewhere.

Flexibility acknowledges that within a given spatial context, different combinations of sites may be available to form a representative network.

Irreplaceability provides a way of measuring the conservation value of any site. "An irreplaceable site," Brunckhorst writes, "will appear in every analysis of alternative combinations of sites."

From: Brunckhorst, D.J. 2000. *Bioregional Planning: Resource Management Beyond the New Millennium*. Harwood Academic Publishers, Singapore. 162 pp.

How far down the spatial hierarchy should planners go? The IUCN report suggests that the approach should depend on the region or country applying it. "The biogeographic system used...in developing a representative MPA system need not be universally applicable but must suit the region or country's existing scientific heritage and information base," according to the report.

In the Bahamas, where the national government called for the creation of a representative system of MPAs, scientists responsible for proposing the network incorporated their understanding of the archipelago's critical ecosystems. "For the Bahamas, 'representative' in the most fundamental sense means to me: coral reefs, mangroves, seagrass beds, algal plains, and marine blue holes," said Mark Hixon of Oregon State University (US). "I would further subdivide reefs into various categories based on dominant corals and other benthos, depth, proximity to other habitats, and any critical features, especially spawning aggregation sites of grouper and other species."

Representative vs. distinctive

Mark Zacharias, an analyst with the Land Use Coordination Office of British Columbia, Canada, said that the words "representative" and "distinctive" can sometimes cause confusion. If you are given a choice, he proposes, between preserving a truly representative area of abalone habitat — similar to other abalone habitat — or an area of distinctive (exceptional) abalone habitat, should you choose the representative habitat or the distinctive one?

"Where a number of similar areas are encountered, the most distinctive area — as usually measured through comparisons of biophysical attributes — is generally advanced as the candidate MPA," said Zacharias. "The phrase 'representative system of MPAs' is therefore somewhat misleading."

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Letters to the Editor

MPA News received several letters in response to the article in our May 2000 issue, "Closing 20% of the Ocean: Pro-Reserve Target is Finding Way into Policies." Some readers supported the use of percentage targets in setting aside no-take zones, while others questioned the merits. We print some of their responses below:

Targets provide certainty

Dear MPA News:

I like the idea [of percentage targets] and have been suggesting 30% in informal discussions with practitioners. Targets really caught on in terrestrial protected area management and have for better or worse stimulated provincial governments [in Canada] to develop protected areas strategies that set aside approximately 12% of the province.

There are, of course, physical and biological problems with such targets — a species or ecological system may require 80% of the remaining habitat protected for viability — but for the most part it has resulted in about a three- to four-fold increase in terrestrial protected areas in many parts of Canada.

Targets as a concept have caught on for many reasons. I think some of them have to do with the certainty that governments and industry are seeking. They are tired of debating every hectare and welcome the idea of a broader strategy that provides finite targets for protected areas and, by extension, more certainty over the remaining space for other uses.

In the marine environment, much science and discussion centers on defining boundaries of spawning grounds, upwelling zones, unique habitats, etc., in order to maximize the benefits from very small protected spaces or small areas connected via corridors. I just returned from the Science and Management of Protected Areas Conference [see p. 3] and I have the impression that many in attendance shared frustration over the lack of action taken to set aside MPAs. Many seem to be endorsing the position of using the best available information to design a network of MPAs and adjusting it as needed to improve the system when better information becomes available. Some workers seem to be caught in a program of very difficult analysis to try and definitively determine boundaries that will minimize the area set aside while maximizing benefits.

Intuitively, I think our analysis will fail on some levels due to the complexity of natural systems that we can only hope to partially understand or model. To counter our fallibility we need to set aside many large marine areas in offshore and coastal areas to ensure we capture processes we cannot fully understand but

Philippines has 15% target

Dear MPA News:

The Philippines in 1998 passed a new Philippines Fisheries Code which sets a goal of 15% of municipal waters (out to 15 km) be set aside as fish sanctuaries. These are defined essentially as no-take zones. Seems the Philippines are a bit ahead of the US and most other nations with respect to legislation. Meeting that goal, on the other hand, will be a challenge, but may be possible by 2010 or 2020.

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nonetheless depend upon for ocean health and the survival of all species, including our own.

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Brian Reader's comments above are solely those of the author and are not meant to represent any interest, position or policy of Parks Canada.

Cookie-cutter approaches have failed

Dear MPA News:

Thanks for opening this particularly slimy can of worms. I get very nervous when a management convention gets thrown around as "the thing to do." Most cookie-cutter approaches to resource management have failed miserably. In order to ascertain whether 20%, 40% or 100% of an area should be closed, significant knowledge about stock status, interactions with habitat components and forage and predator species, migration and life history must be gained. It will be very site- and species-specific.

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In the case of Puget Sound [in northwestern Washington, US], so many fish stocks are declining that perhaps the whole thing should be closed for a period of years to gauge recovery potential. Most fish depend on various habitat types throughout their life history. Closing an area of spawning habitat while allowing significant impacts on the juveniles from water quality, for example, may hurt chances of success and unfairly label the closure response as an ineffective strategy. In the case of many MPAs, the recovery of the habitat from destructive fishing methods such as trawling may be infinitely more important to fisheries recovery than reduced harvest.

I will concede that sometimes, in order to start the dialogue and set a baseline by which adaptive management will be based, this requires setting an arbitrary management convention. I urge those who do this, however, to write it into the policy that such a convention is experimental and to be conducted in conjunction with other management strategies that preserve and enhance the entire ecosystem. The convention and other management strategies will be studied programmatically to determine their effectiveness, and adjustments will be made.

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MPA size should be based on good science

Dear MPA News:

In your last issue, you referenced the position of fishermen in the reworking of California's MPA system under the Marine Life Protection Act. *[Editor's note: This legislation did not include a percentage target.]* Our organization — the Pacific Coast Federation of Fishermen's Associations, or PCFFA — was involved in the development of that legislation.

Our concern with the 20% target is that from what scientific material we can find, the number seems to have been picked out of someone's nose. In some instances, such as with coral reefs, the area needed for protection may be much greater than 20%, while for other areas 20% appears excessive. The critical issue for us is that the amount (size) and nature (protected habitats, no take zone, etc.) of any MPA should be based on good science. The problem we have had is that a lot of the Ph.D.s and others seem to have forsaken science for celebrity.

As the late Nat Bingham once testified to the California State Legislature, "I do not see much benefit in 'locking up' vast areas of the ocean, such as the suggestion of 20%, merely for the sake of prohibiting fishing. Protected areas to be effective do not have to be large necessarily, but carefully selected for their attributes and well placed."

People who want to see our full comments on MPAs can go to our website at <http://www.pond.net/~pcffa>.

Zeke Grader

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The PCFFA is the largest fishermen's organization on the West Coast of the US.

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