

**A BOTTOM-UP APPROACH FOR DESIGNATING
MARINE RESERVES AND PRESERVING OPPORTUNITIES
FOR SUSTAINABLE FISHING**

(Originally published in 1999)

The use of Marine Protected Areas, also called marine reserves, as a fishery management tool is a hot topic of discussion amongst the marine conservation community. Overfishing, and the continued failure to satisfactorily control this widespread problem, is driving support for the use of reserves, including areas where all fishing is prohibited. Unfortunately, the ongoing debate has polarized the issue, holding up a constructive process for examining the utility of MPAs.

The MPA concept embraces a range of management options, many of which are already in use. It is wrong to perceive it as simply establishing areas where all forms of fishing are prohibited. The National Coalition for Marine Conservation (NCMC) believes the time is ripe for a more focused discussion to define the purpose of MPAs and to describe a process for developing and establishing areas of special protection in the ocean.

NCMC believes reserves should be considered as a solution to a specific problem or to achieve a specific purpose and designed with that goal in mind. We are opposed to the use of blanket no-take zones, under the belief that activities should not be restricted unless they are demonstrably causing a specific conservation problem. No-fishing zones, and NCMC's solution to developing fair and effective MPAs, are discussed in detail below.

No Panacea

First, a cautionary note. Proponents of MPAs like to point to our country's National Parks and Wilderness Areas and argue that similar kinds of "preserves" are needed in the ocean. The underlying assumption is that the parks and wilderness system has been an effective way to conserve ecosystems on land. Before we seek to replicate this type of "zoning" at sea, however, we must ask ourselves if we really want management of our oceans to mirror a system wherein we give extraordinary protection to a few prescribed areas while allowing helter-skelter land-use beyond their borders.

Vast areas of land in this country are overrun with development, from sprawling metropolitan and suburban areas to poorly managed grazing, mining, and forestry practices in more rural areas. The system of National Parks and Wilderness Areas has only resulted in isolated pockets of nearly pristine wilderness surrounded by relatively uncontrolled human development. Underdeveloped areas outside this system remain vulnerable to potential

misuse or abuse. NCMC firmly believes that such a system will be inadequate to maintain and propagate our vast marine ecosystems.

What we should be striving for is a more conservative approach to managing the oceans as a whole. Methods of harvesting our ocean resources that are selective and sustainable should be encouraged and promoted, while non-selective fishing methods and destructive fishing gears should be phased out. It is these unsustainable fishing practices that are largely responsible for the overfishing and other problems that are driving support for the use of reserves in the first place. It is these practices that should be restricted, not fishing *per se*.

Indeed, while it is true that most human activities are excluded from wilderness areas, including all commercial enterprises and development, it is only those that threaten their integrity. The Bob Marshall Wilderness in western Montana, for example, is the largest and arguably the wildest - grizzly bears thrive there - in the lower 48 states. Fishing, hunting, camping, hiking and other recreational activities are not only allowed, they are encouraged - within strictly defined rules, of course.

The wilderness concept on land, therefore, is not a closed-door policy. Even our most sheltered wilderness areas allow some human activities, including certain kinds of fishing, because they are entirely compatible with the wilderness experience. Why should ocean wilderness be any different?

Promote Sustainable Fishing

The problem with advocating blanket no-fishing zones as a solution to our fishery management ills is that it presumes that all fishing methods and gears are equally harmful. It removes the incentive for a shift to the use of more selective, sustainable and habitat-friendly fishing methods throughout our oceans.

NCMC's suggested process for designating areas for special protection advances this shift to sustainability. By identifying specific conservation problems and their direct causes, destructive activities can be excluded from areas where they are causing problems. At the same time, fishermen who use selective and low-impact fishing gears and methods can be rewarded with continued access to fishing grounds. Not only will this process result in reserves that are managed fairly and equitably, it will create incentives to move away from destructive fishing practices, thus benefiting the entire ocean and not just isolated areas.

Having said that, no-fishing marine reserves may be necessary under certain circumstances. If it can be demonstrated that all fishing activities are

causing a conservation problem in a specific area, then it is justifiable to exclude these activities. NCMC could also support fully protected reserves, select in number and relatively discrete in size, for research purposes to help define a benchmark marine ecosystem useful for comparing and evaluating human impacts in ecologically sensitive areas.

Goal-Oriented Use of Reserves

Development of any MPA should be a bottom-up process beginning with the identification of sensitive areas where species or critical habitats need protection and ending with the specific regulations necessary to provide that protection, not visa versa. Up to this point, discussion of MPAs has tended toward a top-down approach. In other words, the process begins with the idea that a fully protected reserve might benefit many species and habitats that have been adversely impacted by overfishing and moves from there. Using such a top-down approach may result in unfairly restricting access to user groups who are not responsible for causing or contributing to any specific conservation problem.

Whether we are talking about commercial or recreational fishing activities, NCMC prefers that activities be restricted or prohibited strictly on the basis of their causing a demonstrable problem. Identifying problem activities should be the governing criteria for prohibitions in an MPA. In the same way, we do not believe that all user groups should be excluded from an MPA simply to achieve "fairness." The only truly fair MPA is where problem activities are restricted and benign activities are not.

Reserves Done Right

Several positive examples already exist of this bottom-up approach to developing reserves. One is the set of seasonal area closures to longline fishing in the Atlantic to reduce bycatch of overfished pelagic species. In this case, fishery managers began with a specific conservation problem - large numbers of juvenile swordfish, marlin and sharks being killed on indiscriminate longline gear in areas where they concentrate - and ended with a type of reserve where the activity causing the problem (longlining) is prohibited when and where the problem is most acute.

Another example is the Dry Tortugas reserve in the Florida Keys. The confluence of currents in this area where the Gulf of Mexico meets the Straights of Florida has produced a highly unique ecosystem with abundant marine life. A limited part of this area is designated as no-take and lesser restrictions apply in adjacent sections. The uniqueness of this relatively small area and the research benefits stemming from it being reserved warranted the restrictions.

Reserves Done Wrong

The most notorious example of the reserve movement gone awry is in California waters. The state legislature passed the Marine Life Protection Act (MLPA), which mandated that a certain percentage of waters be closed to various types of fishing. This is a top-down approach, where managers started not with the goal of solving a specific conservation problem, but with the specious goal of closing down large swaths of ocean to fishing, without sufficient justification or rationale. The result is that commercial and recreational fishermen have lost access to popular fishing grounds, with little consideration given to whether their activities were damaging or that specific problems would be solved as a result of sweeping closures. California's process of developing reserves under the MLPA was fundamentally flawed; backward, unfair, arbitrary and ultimately counterproductive to obtaining improved conservation. Yet the closures were recently put into effect.

In another case, the Gulf of Mexico Fishery Management Council proposed a closed area to protect spawning aggregations of gag grouper. The Council originally recommended closing the known spawning area to all types of fishing. But the specific problem was that gag grouper were being caught during the spawn by bottom-fishermen; surface fishing for marlin, tuna, dolphin and mackerels occurred in the area without a remote chance of hooking grouper. Excluding these surface fisheries would have resulted in no additional protection to gag grouper and was thus unjustifiable. The Council lost a legal challenge to its arbitrary closure and now the spawning area is closed to bottom fishing only.

RECOMMENDATIONS

We believe that four basic questions should be the basis for determining the boundaries and fishing restrictions in a Marine Protected Area. These are:

1. Is there a specific conservation problem, and are traditional management measures unsuited and unable to provide the needed protection for this problem?
2. What is the specific geographic area where significant problems exist and where a reserve would be most effective at providing needed conservation for an adversely impacted species or habitat?
3. What specific activities, fishing or non-fishing, are causing adverse impacts to the species or habitat in this area?
4. What specific activities, fishing or non-fishing, are not causing adverse impacts to the species or habitat in the area?

Providing answers to these questions, using the best scientific information available, will facilitate the development of fair and effective reserves. In addition, any MPA regulations should:

- include specific measurable criteria upon which the conservation benefit and the effectiveness of the reserve can be judged and evaluated
- be subjected to periodic review and to a restoration timetable, including the possible sunset of any regulations that could be lifted if targeted goals are reached.

In conclusion, we believe Marine Protected Areas can serve as a useful tool for effective marine fisheries conservation if properly and judiciously employed. We believe it is important to define and adhere to a specified development process for any future MPAs, and the criteria outlined above should serve as a basis for formulating such a process. In the end, we will be fostering a more conservative approach to managing the oceans as a whole, encouraging the use of selective and sustainable fishing gears and practices while eliminating the use of those that aren't.