

MARINE RESERVES: FRIEND OR FOE? What Marine Reserves May Mean to You

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Even hard-bitten biologists succumb to the temptations of fashionable ideas. One of the more trendy things these days among marine biologists and many marine conservationists (particularly those who criticize commercial fishing) is the whole concept of 'marine reserves,' or more technically, 'marine protected areas' (MPAs). These are usually thought of as broad areas of the ocean in which there will never again be 'commercial exploitation' (e.g., fishing). Naturally the whole concept, presented that way, sends us ballistic because it looks like nothing more than a thinly veiled attempt to put us out of business.

However, the idea of marine protected areas also has some sound support in science as a way to protect and sustain commercial fishing. At present, only 1/4th of one percent of the ocean environment is protected from exploitation. Many scientists say that is just too little to assure stable populations of many species. In that context, marine protected areas could (if properly placed) be used to protect essential nursery and rearing areas for juvenile fish so that long-term sustainable populations of these fish are always maintained. Since most fish are going to eventually wander outside those areas as adults, such reserves may actually help commercial fishermen in the long run, rather than hinder them, by always maintaining a steady adult population for harvest. Used that way, shouldn't fishermen support them?

PCFFA and most of the Regional Management Councils are now engaged in a great debate on the pros and cons of marine protected areas. Some believe that the U.S. Sustainable Fisheries Act may even require them as part of protecting critical habitat. This column is an effort to bring some sense to the debate as well as point out the pitfalls at either extreme. The one thing that is certain is that we cannot escape the debate itself. The issue of MPAs is already upon us, and it is important that our industry develop a rational and science-based position. Just saying 'no' or denying the pressure to establish MPAs will not get us anywhere, it will only discredit us as reactionary. Likewise a blind endorsement of the no-take MPA concept all over the ocean (20% or more), as some are doing, is equally stupid. Just because the concept is currently in vogue does not mean it will actually work.

Everyone knows the horrors caused by rampant overfishing. Many of our brethren have been thrown out of work in New England and elsewhere when overfishing is allowed to occur. We are also all painfully aware of the serious problems caused by fish habitat destruction, including the impacts of certain types of gear on rocky bottoms and coral reefs. Numerous reports (both nationally and internationally) have also come to the conclusion that whole chunks of the ocean ecosystem are being overexploited internationally, and that the fishing industry itself is badly overcapitalized in many areas. While some of the concern expressed by marine conservation groups may be overly alarmist, there are still plenty of reasons to be concerned about the long-term sustainability of the world's ocean resources. Unfortunately, the public usually blames the poor fisherman for this plight -- like blaming the victim for the crime -- without looking any deeper. Uninformed attacks on commercial fishing by concerned citizens groups are often misplaced or simplistic, and make us all look bad. However, hunkering down into a bunker mentality of denial, and then lobbing press releases and lawsuits at each other until the resource is all gone, has never worked. There are plenty of examples showing that all denial or intransigence leads to is a public backlash that eventually puts us all out of business.

The fact is that economic dislocation caused by the collapse of a fishery always hits fishermen first, longest and hardest. PCFFA has always believed that fishermen, of all people, should be the first to condemn overfishing or habitat destruction and work hardest to prevent it and in that way to continue to earn the public's trust as a user of a public resource. Being out front on admitting the problem of overfishing and habitat loss and actively working to prevent it also gives us credibility no amount of denial could ever produce. However, we also believe the public has a right to demand a science-based approach to creating solutions. We all already know what public policy looks like when there is NO science to support it we have often been the victims of that approach and so it behoves everyone to try to get at potential solutions that are science based as well as sensitive to economic realities.

If properly structured, and if based on sound biological principles of conservation, marine protected areas are worthy of serious consideration. For discussion purposes, we propose the following basic principles to apply to this debate:

(1) The Process of Creating MPAs Should Be Inclusionary: Scientific review of the effectiveness of existing MPAs, as well as the siting and establishment of any new MPAs, must include fishing men and women from both the commercial and sportfishing sectors. This is necessary not only because MPAs will affect or could affect their fishing areas, but more importantly because fishermen have an intimate and working knowledge of the marine environment, including within many areas of the ocean where there has been no organized research.

(2) The Effectiveness of Existing MPAs in the US Should be Assessed: A whole lot of MPAs already exist, particularly in California, but nobody knows whether they are having any impact. A thorough and science-based review needs to take place of all existing marine protected areas and the myriad of already existing 'no-fishing zones' along the California coast and elsewhere to determine their effectiveness for either: a) providing baseline research information; b) protecting critical marine habitats, or; c) protecting specific marine fish or ecosystems. This review should be undertaken by a panel, including marine scientists, appropriate fishery agency representatives, knowledgeable commercial and sport fishermen, and knowledgeable marine conservation representatives. This review should include a report with recommendations for each existing MPA and no-fishing zone as to their effectiveness, whether there should be any changes in regulations or boundaries, and whether each should be maintained, reduced, expanded or eliminated.

(3) The Effectiveness of MPAs in Other Countries Needs to be Scientifically Verified: There is a lot of anecdotal evidence suggesting that MPAs in other countries have had a beneficial effect on fisheries, but very little actual data. A thorough and objective scientific review must be conducted of the types and effectiveness of MPAs in use in other parts of the world. This will provide the government, scientists and the fishing industry guidance on whether new MPAs should even be considered, and if so, what their objectives should be, their appropriate size and the types of regulations there should be on activities within those areas.

(4) The Purpose of the MPA Should be Clear: If, after thorough review, there is a decision to proceed with revising current MPAs or establishing new ones, the objectives of each MPA must be clearly stated, (i.e., whether to provide baseline research, protect habitat, protect particular species, or some combination of these purposes). The MPA should also be periodically monitored to determine whether or not these goals are in fact being met.

(5) MPAs Should Be Crafted to Meet their Specific Objectives: The regulations on the types of use to be permitted in each MPA can and should vary depending on the purposes of the MPA. MPAs could be established for any or all of at least three purposes: protection of habitat; protection of particular species or groups of species, and; those where take of any sort is prohibited (e.g., MPAs established for baseline research purposes).

(6) Restrictions Should be Applied Uniformly and Equitably: Where no-take MPAs are established, not only must all types of fishing be prohibited, but so too must any unpermitted scientific collection or other forms of human disturbance. For instance, there should be no dumping of pollutants permitted in any no-take zone, and human access should be greatly restricted in order to maintain the pristine condition of the MPA and its value for research. MPAs should never be used merely as a way to allocate harvest between one sector of our industry and another this would be a perversion of the very concept.

(7) Siting Factors Should Be Objective and Biologically Based: In the past some MPAs were established primarily for political reasons, not biological ones. Factors to be considered in siting an MPA should include the uniqueness of the area, its biological productivity/diversity or special habitats, the human impacts on that area (including not only fishing but also other types of aquatic harvesting or collection, pollution, and structural changes such as dumping, artificial reefs, oil rigs, etc.). Siting has to be based solely on objective criteria and the scientific evidence without regard to proximity of existing parks, marine sanctuaries, cities or research institutions, or other nonbiological considerations or hidden agendas.

(8) Priority Should be Given to Areas that Maintain Species Productivity and Fishing Opportunities, or are Established in Ways that Provide Appropriate Mitigation for Lost Opportunities: In establishing any new MPA, careful consideration must be given to what, if any, impacts the proposed MPA may have on fishing or on the use of

certain types of fishing gear, what impacts the MPA may have on fishing effort outside the MPA boundary, and what steps can be taken to mitigate any impacts on fishing from the establishment of the MPA. In the selection of any new MPAs, priority should be given to those that may protect or enhance existing fisheries, consistent with the science-based selection of unique or productive habitat areas deserving of some level of protection under an MPA designation.

(9) MPAs Are Not a Substitute for Other Forms of Fishery Management: MPAs should enhance marine ecosystem protections, not be used merely as a convenient way to control fishing. Traditional fishery management techniques such as time and area closures, seasons, gear limitations and quotas should still be used so that fishery management remains flexible and responsive to ocean ecosystem changes. Nor should MPAs ever be used as a substitute for environmental controls on pollution, dumping or the introduction of exotic species. MPAs are a tool, not a panacea.

(10) Scientific Monitoring and Adaptive Management Are Essential: MPAs must be subject to periodic reviews of their regulations, boundaries and effectiveness in achieving their goals, though recognizing that protective measures may not have immediate results. An adaptive management approach, with regular monitoring, is the only effective way to deal with a constantly changing marine environment and the continuing increase in human knowledge.

A creative and science-driven approach to MPAs is undoubtedly the best path. Rather than being just big 'no trespassing zones,' MPAs should be appropriately used as marine replenishment zones to protect important habitat or spawning areas for certain species. If established for this purpose, only activities that would affect that habitat or species need to be restricted. MPAs, for instance, might be designed to protect bottom fish or coral reefs, but this purpose could still allow salmon trolling gear deployed well above the seabed because a salmon fishery could have little or no impact on the protected resource. Thus the underlying purpose of the MPA may make all the difference in terms of what needs to be restricted or controlled within them. All too often in the past, however, MPAs have been imposed for unclear purposes, or (worse) merely to please some political constituency or beach property developer. This is a mistake we must avoid in the future.

A recent report by the National Academy of Sciences (the science policy review arm of the American Association for the Advancement of Science) reviewed the scientific evidence for and against marine protected areas at the request of Congress, and concluded that while MPAs could be a useful tool for protecting and enhancing fisheries there are still far too many unknowns to demonstrate their effectiveness conclusively. That report, "Sustaining Marine Fisheries," is available in hardback from the National Academy Press in Washington, DC (Box 285, Washington, DC 20055, (800)624-6242 or from their Web site bookstore at: <<http://www.nap.edu/bookstore>> looking under "Marine and Maritime Studies"). This report should be required reading for anyone taking on this issue. MPAs are discussed primarily beginning on page 83.

PCFFA is also grappling with this issue in an effort to create a clear policy statement. The above represents our thinking to date. If you have any comments or suggestions for improvements on the above 10 points, please let us know. Information on the ongoing debate over marine protected reserves will be posted to PCFFA's web site at: <http://www.pcffa.org/MPA.htm> for future reference. Check there frequently as new information develops we will continue to add to that site.

In summary, our industry should not approach the marine protected reserves issue with fear and loathing, but as an opportunity to help assure the sustainability of our industry. At present the debate has been carried mostly by various marine conservation organizations as an indirect way to restrict overfishing, rather than by fishermen themselves. However, there is no reason we cannot find a common agenda with them on this issue, nor any reason on land or sea why fishermen of all people should not be taking the lead in making marine protected areas a useful tool for the protection of the ecosystem we depend upon for our livelihoods. Let's lead the way once again rather than be followers.

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