

Fisheries educational workshop series continue with MPAs as focus.

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The Rhode Island Sea Grant Program, in partnership with Sea Grant Programs from Maine, New Hampshire and Connecticut, have continued their series of educational workshops with a session on Marine Protected Areas (MPAs) as they relate to fisheries management. Members of the recreational and commercial fishing communities, scientists from NMFS, staff from the New England Fisheries Management Council, environmentalists, fisheries consultants, students and researchers gathered at Weaver Auditorium on Saturday March 1, 2003 to hear both general overviews and assessments of current MPAs and their impacts on fisheries. The Rhode Island workshop was preceded by a similarly structured workshop at the Maine's Fishermen's Forum in Rockport, Maine on February 27 and followed by one in Portsmouth, NH on March 7 and one in New London, CT on March 8.

The term Marine Protected Area means different things to different people, and the differences seem to be centered on the concepts of permanency and function. An MPA, as defined by Presidential Executive Order 13158 is "any area of the marine environment that has been reserved by Federal, State, territorial, tribal, or local laws or regulations to provide lasting protection for part or all of the natural and cultural resources therein," and current discussions appear to be focused on what is meant by "lasting protection." The national MPA Center has defined the term "lasting protection" in draft terms to mean longer than 4 months and permanent (every year), a definition that would eliminate many of the current spawning closures in New England waters from being considered MPAs. A Federal Register Notice is about to come out to ask for public input on how to define the phrase "lasting protection."

Collectively there are a variety of terms in use in addition to marine protected area such as marine reserve, marine sanctuary, marine management area, closed area and no-take zone depending on how the area will be managed and/or regulated. Therefore it is necessary for people to define the timeframe and regulatory stipulations they envision being associated with an MPA when in the process of designing one.

Dr. Tracy Morin, an associate professor from the University of Rhode Island, began the workshop with a general description of marine protected areas, the reasons for MPA establishment, what considerations must be taken into account when designing an MPA, as well as examples of MPAs in the U.S. Steve Murawski of NMFS summarized the use of large-scale closed areas for fisheries management and biodiversity protection. His presentation focused on the effects of current closures on groundfish and scallops in portions of Georges Bank and how these areas have been integral to species recovery. Murawski further pointed out the positive effects that have occurred because of the rotational closures such as evidence of improved recruitment, the importance of displaced effort for some species and the potential to reduce habitat impacts and bycatch. He also noted that there is potential for an increase on fishery effects outside of the MPA as well as fishery displacement and loss of yield. Finally he emphasized that MPAs are not a panacea and that other measures such as effort reductions and controls and gear restrictions are needed if reserves are going to work to their full potential.

Deirdre Valentine, speaking on behalf of Paul Howard, Executive Director of NEFMC, agreed that closed and restricted areas have been an important element of most fishery management programs in the Northeast and their continued use demonstrates that the concept of an MPA is not new to fisheries managers. She also explained that comprehensive MPAs should address all activities with potential to adversely affect marine biodiversity, fish populations, and habitats, and that NEFMC and NMFS are currently granted narrow authority to regulate only commercial and recreational fishing. She emphasized that MPAs are not just about fishing and

other concerns to be addressed are sand and gravel mining, ocean dumping, oil, gas and mineral exploration and extraction, channel dredging, dredge material disposal, pipeline/cable installation, and pollution. Control and or regulation of these activities are critical to the overall success of any proposed MPA.

Dr. Dennis Heinemann of the Ocean Conservancy discussed the beneficial biological effects of a properly designed “no take zone” or marine reserve. He explained that after management action is put into place and fishing activities cease, what typically occurs is what is commonly called the “reserve effect.” This includes greater densities and biomass of populations in addition to increased reproductive potential. The reserve will also provide an improved quality of habitat for spawning which may lead to higher larval settlement and increased survival of juvenile animals. He further noted that there is the potential for a “spillover” effect in which there is movement of adults out of the reserve and therefore increased density and local catch surrounding the MPA. Dr. Heinemann did stress that design and implementation is essential to the success of the reserve and that reserves do not work for all species and ecosystems. It is imperative to integrate management and enforcement outside the reserve in order to facilitate success.

Richard Allen, a Fisheries Consultant from Rhode Island also spoke about no take zones but in a different context. He spoke of the economics involved with a no-take reserve as well as the fishery benefits. He pointed out that here is a tendency to equate high resource abundance with fishery benefits and most of the literature concerning no-take reserves looks at what happens to fish inside the reserve. But fishery benefits are determined by what happens outside the reserve. Allen offered the idea of a “biomass reserve” that would be more conducive to true fisheries management. He emphasized that fishery management targeted at maximum economic yield (MEY) automatically creates biomass reserves that do not require the exclusion of any use from any negotiated area that will never be appropriate for all species and all uses. He concluded by saying that the widespread establishment of no-take reserves poses more of a threat to the productivity of marine fisheries than does overfishing because it is his belief that society is on its way to improving fishery productivity by reducing fishing effort.

Jonathan Fisher from the University of Pennsylvania, but formerly associated with Dalhousie University in Nova Scotia, reported on research done on the closed areas on the Scotian Shelf. He highlighted two areas, the Emerald and Western Banks, whose closures were initiated by the fishing industry (trawling) in 1987 in an effort to help the failing haddock fishery. Fisher pointed that data collected on trawl surveys has indicated that not only has the haddock fishery improved, the overall community structure has deviated from one that supported an active haddock fishery into a multi-species community. Fisher also reported on a rectangular area on Brown’s Bank, an offshore area that is part of an annual migration pattern for inshore lobsters, which was established in 1979 to protect large concentrations of reproductive females. In this study, lobster distribution, movements and water circulation patterns were more complex than originally thought and although the closed area is protecting lobsters it maybe not the ones originally envisaged in 1979. Fisher concluded with the fact that fishery closures are not meant to be permanent yet re-opening criteria are rarely discussed at the outset. He further pointed out that displacement of fishing effort from closed areas can create problems for stocks in other areas and that increases in abundance of different species may or may not be a direct result of the closed area, with design of evaluation being critical.

The take home message for the day seemed to be that the process to consider the designation of MPAs needs to include all the major stakeholders and interested parties early on, and needs to be one that participants are confident in. MPAs are not a panacea and should be considered as one tool to accomplish fishery management goals to be used in combination with

other management measures. MPAs can be designated for a variety of purposes so the goals of the involved parties and the mechanisms for assessing whether or not those goals are being reached need to be clearly identified from the start. Furthermore, when addressing the question of whether or not an MPA should be designated in a particular area, there is a need to build a sense of trust among interested parties in order to develop working relationships. Fishermen (commercial and recreational) are a major group that will be impacted by the designation of an MPA whether the purpose is for attaining fisheries management goals or other ecological or cultural goals. They need to be part of the process, along with state, regional, and federal fishery management entities. Lastly, in addition to ecological and biological impacts, social and economic impacts need to be considered when designating an MPA, and information needs to be continually updated in order to monitor the effectiveness of the area.

We thank everyone for attending and hope it shed some light on all the different types of MPAs that exist!!!!



Dr. Dennis Heinemann of the Ocean Conservancy discussed the beneficial biological effects of a properly designed “no take zone” or marine reserve. Photo courtesy of Laura Skrobe.

Both of these photos are courtesy of Anne Kane Rheault for Commercial Fisheries News.

