

Changing Oceans and the Future of the Gulf of Maine: Solutions, Successes, and Sustainability

Friday, March 8, 2013

Colby College, Diamond Building

Managing marine fisheries remains one of the largest environmental challenges faced by coastal communities. Particularly in the Gulf of Maine, which has a long tradition of fishing, identifying solutions for sustainable fisheries is essential to maintaining healthy ecosystems and vibrant coastal communities. These issues are by nature interdisciplinary, so that any dialogue about the future of fisheries requires expertise in marine ecology, history, policy, law, and community development.

1:00 Opening Remarks

1:10pm -- Dr. Carl Safina, Andrew W. Mellon Colby Fellow in Environmental Studies, Blue Ocean Institute, "Beyond the Ocean"

Sustainable marine fisheries have their origin in the way that people value nature. There are many negative changes happening in the ocean, but also many success stories and reasons for hope. This talk will draw on examples from the PBS series "Saving the Ocean" to highlight positive conservation trends for global oceans and fisheries, and reflect on the prospects for sustainable fisheries and fishing communities in the Gulf of Maine.

1:45pm -- Matthew McKenzie, University of Connecticut, "Nostalgia, History, and Responding to Current Fisheries Challenges in New England."

Perhaps more than in any other region, history casts a long shadow over New England's fisheries. For over a century, New Englanders have turned to the past to help guide them through the periodic crises in the region's fisheries. The benefits of such reflection are important and have helped keep New England fisheries' cultural significance in public focus and ensured that "fisheries" have not been defined solely in industrial terms. Those benefits promise to expand, too, as innovations in marine environmental history and historical marine ecology offer new tools to inform analysis and policy development. Historical memory, however, has also proven a problem in addressing New England's fisheries crises. Well-intentioned appeals for cultural continuity often rest more upon nostalgia and myth than an empirically sound vision of the region's fishing past. Furthermore, nostalgia's role in framing fisheries debates often works to mask real and verified contemporary conditions that undermine the rigor of historical comparison. This talk will explore, in broad strokes, the potentials and pitfalls emerging from tight integration of policy and history. There is a place for historical understanding in policy development, but that place needs to be well-considered and well-defined. As much as New England has a long fishing history, it also has an ever adaptive fishing present, and when and how those combine must be thoughtfully examined.

2:10pm -- William M. Balch, Bigelow Laboratory for Ocean Sciences, "The Gulf of Maine: A coastal ecosystem in transition"

The Gulf of Maine is an ecosystem in transition. This talk will describe changes in the base of the Gulf's food web that we documented between September 1998 and December 2010. We took a series of oceanographic measurements along a transect in the Gulf of Maine running from Portland, ME to Yarmouth, Nova Scotia. Through this Gulf of Maine North Atlantic Time Series (GNATS), we have identified a step-change in the physical, chemical and biological characteristics of the Gulf of Maine. Over this time we observed moderately decreased standing stock of phytoplankton in the central Gulf of Maine and sharply decreased carbon fixation and growth by phytoplankton. Our analyses suggest that extremely high precipitation and river flow during this period may have acted in two different ways to lower the GOM primary production, the base of the Gulf's entire food web, by reducing the availability of both light and nutrients to phytoplankton. First, detrital material introduced in high-precipitation years inhibited light absorption by phytoplankton for light absorption. Second, intense river discharge may also have inhibited the inflow of deep, nutrient-rich North Atlantic Slope water into the Gulf of Maine. Most of the Gulf's primary production depends on the supply of this deep nutrient source water. I will

DRAFT CONFERENCE PROGRAM AND ABSTRACT LIST

end the talk showing recent results from 2012 and the most up-to-date trends in the Gulf's primary productivity and discussing the potential implications for Maine's marine fisheries.

2:35pm -- Linda Mercer, Maine Department of Marine Resources, "Marine Science and Maine's Fisheries: A Collaborative Approach"

What do we need to know to properly manage Maine's major marine resources? This talk will examine how the development of research priorities, collaborative research, and new and expanded science programs has contributed to the management of Maine's fisheries. The Gulf of Maine supports significant commercial and recreational fisheries, with more than 16,000 harvester licenses issued in 2012. While fishing has always been important in Maine, dramatic changes have occurred in Maine's fisheries over the past 20 years. Lobster landings ranked number one throughout this period, but there has been an 8-fold increase in pounds landed and 4.6-fold increase in the value of lobster landings. Additionally, the top five species in dockside value after lobster changed from cod, sea urchins, sea scallops, northern shrimp, and herring in 1991 to soft-shell clams, Atlantic herring, elvers, and northern shrimp in 2011, reflecting overall over all changes in Maine's fishing industry.

3:00 Break

3:30pm Peter Shelley, Conservation Law Foundation, "A Tragicomedy of Commons: Thirty-Five Years of Fisheries Management Failure in New England"

Federal management of New England's groundfish has been in place for more than 35 years. Illustrating the challenges of common property management and the prophetic accuracy of Garrett Hardin's *Tragedy of the Commons* paradigm of the consequences of ineffective management, this talk will explore whether the tragedy of the commons that is New England feckless groundfish management regime has finally crossed the line for too many fishermen and conservationists alike into a tragicomedy of the commons where "laughter is the only response left to people faced with an empty and meaningless existence."

3: 55 Philip Conkling, Island Institute, "Maine Fishery Innovations as if Fishing Communities Matter"

Positive interactions between fishing communities, scientists, and managers are necessary for effective management. This talk will focus on three case studies that illustrate the possibility of innovation in fisheries management. First, the Penobscot Bay Marine Collaborative 1996-2001 that brought 150 fishermen together with scientists and managers from 20 institutions in the state to determine whether lobsters were being overfished. The second case study focuses on a collaborative research project with Port Clyde-based fishermen to determine how mesh size affects bycatch, which led to the development of the country's first Community Supported Fisheries (CFS) model called Port Clyde Fresh Catch and to an innovative permit banking program. The third case study will focus on a project called "Mapping Working Waters," to use fishermen's local knowledge in order to provide them with a seat at the table for marine spatial planning (MSP) and offshore wind siting discussions.

4: 20 Panel Discussion