

Massachusetts Fishermen's Partnership Collaborative Research Conference: Preliminary Findings and Future Directions

Draft Meeting Summary

Wednesday, January 24, 2007

9:30 AM – 2:45 PM

Brighton Marine Health Center, Third Floor, Conference Room #1
77 Warren Street, Boston

Participants:

David Bergeron, Massachusetts Fishermen's Partnership
Olivia Free, Massachusetts Fishermen's Partnership
Madeleine Hall- Arber, Massachusetts Institute of Technology
Rhonda Ryznar, Massachusetts Institute of Technology
Captain Bill Lee
Captain Paul Vitale
Brianna Brown, Boston University
Elizabeth Soule, Boston University
Kathryn Ford, MA Division of Marine Fisheries
Mark Szymanski, MA Division of Marine Fisheries
Jeffrey Runge, University of Maine
Roland Samimy, UMass Dartmouth
Chris Glass, Northeast Consortium
Earl Meredith, National Marine Fisheries Service
Carolyn Woodhead, National Marine Fisheries Service
Leila Hatch, Stellwagen Bank National Marine Sanctuary
Captain Ed Barrett
Captain Phil Michaud
Captain Ron Borjeson
Captain David Casoni
Captain Frank Mirarchi
Captain David Haley
Captain Jay Michaud
Captain Tim Barrett
Captain Tom King
Captain Jeff DePersia
Captain Richard Taylor
Jackie Odell, Northeast Seafood Coalition
Steve Parkes, Massachusetts Fishermen's Partnership
Sara Ellis, Gulf of Maine Mapping Initiative
David Martins, UMass Dartmouth
Christopher Hein, Boston University
John Williamson, Ocean Conservancy
In absentia: Les Kaufman, Boston University

Welcome and Introductions

David Bergeron opened with an overview of the goals of the meeting which included enabling fishermen to get a preview of the work done by other fishermen and scientists, ask questions, and provide their perspectives. In addition, scientists should take note of the questions and comments from the fishermen for consideration as they finalize their project reports. By having fishermen involved in the assessment of preliminary project findings and on-going projects, their role in the peer review process should become accepted and sought after in other scientific arenas that are evaluating fisheries science.

By holding this meeting, the MFP is implementing a new approach to collaborative research in which industry partners are expected to contribute in truly significant ways, not just as a boat for hire. In this way, fishermen are not only meaningful partners in collaborative research, but they are proactively involved in the research that should characterize the science upon which the regulations that govern their livelihoods rely. David also commented that fishermen and scientists learning how to work effectively together is an on-going process and one that needs to be periodically evaluated.

He then thanked the Northeast Consortium and National Marine Fisheries Service for providing funding for the projects being presented and invited all participants to introduce themselves.

PRESENTATIONS OF PRELIMINARY FINDINGS

1) An Examination of Biological Processes of Sand Lance and Associative Species on Stellwagen Bank

Captain Bill Lee presented a summary of this collaborative project that included an overview of the partnerships involved, the sampling gear developed, the eels captured, and the biological studies undertaken. Frank Mirarchi and Earl Meredith asked whether the eel capture had been quantified and Bill Lee replied that while approximate numbers were tallied, gear development and animal husbandry were dominant project issues. Captain Lee estimated that 1/10,000 eels were caught. He said that when the water was grey in single frames of the video of the gear while capturing sand lance that that was not the color of the water, but it was clouds of sand lance. There was a high biomass. Frank Mirarchi asked what supports this biomass. Jeff Runge posited that the significant inflow of plankton into Massachusetts Bay from the Gulf of Maine could support large populations of sand eels. Bill said that he was surprised when he found sand lance in Rockport Harbor and never would have believed it before. Bill Lee also noted that wherever a large number of sea gulls congregate over the water, there are invariably lots of sand lance in the area. Bill suggested that the flow of fresh water from rivers is different from year to year and this may affect the ecosystem and the abundance of certain species.

Earl Meredith asked if sand eels have a noticeable spawning cycle and Captain Lee responded that historically large plumes of eels are noticed every 3-7 years. Captain Paul Vitale added that during the implementation of a different collaborative project, they did

not see sand eels during the last few years but were now seeing them in deeper waters in MA Bay. Bill Lee also noted that eels from this project that were being held at the New England Aquarium experienced a significant die-off following a spawning event in captivity.

Leila Hatch asked whether the in-shore and off-shore species mixed and Bill Lee answered that the species do mix as juveniles off of Race Point but then split into the two disparate groupings. She also asked whether years of sand lance abundance are also years of herring scarcity. Paul Vitale said that sand lance were not seen two years ago, but this year codfish are picking them up. He is seeing lots of herring, mackerel and even squid and whiting.

Chris Glass stated that sand lance overfishing has caused reductions in tern populations and that as a result European communities are considering banning sand eel harvest. He also asked whether beach seining had been tested in this project, which it was not as the project focused on possible capture techniques for use in future assessment protocols.

Carolyn Woodhead noted that whale researchers who have studied sand eels could be potential collaborators in future studies.

2) Charting Anecdotal Information and Oral Histories of Local Fishermen on Stellwagen Bank

Dr. Madeleine Hall-Arber first presented project goals and methodologies as well as aggregate survey results for this project. Dr. Rhonda Ryznar then demonstrated the 3D GIS mapping of fishing effort and target species on Stellwagen Bank that was generated from the charting portion of the surveys. Leila Hatch asked about potential bias in the data due to potentially flawed institutional memories and retirees from the industry. Captains Phil Michaud, Ed Barrett, Jay Michaud and Frank Mirarchi asserted that while some fishermen declined to participate, those who did participate, participated fully and completed 1-3 hour interviews. Ed Barrett added that there are no more fishing secrets left so fishermen have nothing to hide. Dave Casoni and Ed Barrett also added that they included retired fishermen in their sample group. Jay Michaud said that it was vital to have fishermen interviewing fishermen in order to foster better understanding of the research, trust and solicit high quality data. He said that restrictions on days at sea mean that fishermen do not explore as much as they did before because they cannot afford to risk wasting days.

Dave Casoni stated that this data is extremely important as the industry faces the advent of Marine Protected Areas and off-shore development projects. He said that there is a strong need to continue this data collection with additional fishermen. Rhonda Ryznar said that the data could be posted on the web and other fishermen could view it and come forward with their data.

Frank Mirarchi asked if the data will be peer reviewed and Madeleine Hall-Arber answered affirmatively but noted that because the data collection was not randomized, there exists an inherent bias in the data. David Bergeron added that the next step is to

conduct randomized data collection since the collection and survey protocols are established.

3) Ecosystem Effects of Trawling on Groundfish Communities: Catch Composition and Food Web Dynamics With Respect to Long-Term and Rolling Closures on Stellwagen Bank

Brianna Brown presented this project with the assistance of Elizabeth Soule and Captain Paul Vitale. Frank Mirarchi noted the need for significant quantities of this type of data over time in order to generate an accurate record of food web dynamics. He said this data only gives a snapshot in time and doesn't support strong conclusions. Paul Vitale said that approximately 97 tows in different areas were completed which is the number the project funding supported. Jay Michaud asked how the tow sites were selected and Paul Vitale responded that the scientists described the bottom types that they wished to sample and the fishermen selected appropriate testing areas. John Williamson asked how the project design answered the original question and Paul Vitale replied that his original question stemmed from wondering what else contributed to declining fisheries other than commercial fishing. He felt that the current project design supports this inquiry. He noted that by conducting comparative tows it became evident that food sources changed from year to year, ie. crabs and sand dollars one year and herring and mackerel the next. He said that year-round monthly samples were needed to be able to fully address his questions. Earl Meredith stated that in addition to food web dynamics, information on the abundances of high value prey items and food sources during times of non-abundance would be useful to illustrate prey abundance and its effects on trophic ecosystem dynamics. David Martins asked for clarification about the relationship between the food web study and the Big Old Fat Female cod research which was presented as an ancillary study taken on by a Boston University student (the two studies are not formally related).

Jay Michaud added that additional grant funding is needed to combine scientific studies to produce a holistic view of the ecosystem and to seed new ideas. Chris Glass noted that the Northeast Consortium makes reviewed data available to the public on its website. Richard Taylor reiterated the need for additional research funding and noted that the National Marine Fisheries Service's (NMFS) set-aside programs are a creative way to fund collaborative research. Chris Glass agreed but said that these set-aside programs don't work for all participants or for species that are not abundant or high value. Earl Meredith said that the set-aside programs work well for the development of specific management plans but that these monies could be contributed to a general research fund to support collaborative research. He added that the Conservation Trust Fund established by the reauthorization of the Magnuson-Stevens Act may also be a potential source of funding used to support collaborative research.

Chris Glass emphasized that access to non-tax dollars is becoming increasingly important to support collaborative fisheries research and that care must be given to the preservation of the infrastructure that has been developed to support and promote collaborative research. Frank Mirarchi added that fisheries research is a national issue concerning food policy, not just fishermen and fishing families.

David Haley asked at what point does collaborative findings become best available science and Chris Glass responded that it is best available science once it has been peer reviewed.

ON-GOING PROJECT UPDATES

1) Groundtruthing Existing Cod Habitat Charts in Massachusetts and Ipswich Bays

Dr. Kathryn Ford presented this project and described its genesis, partners, protocols, and next steps. Captain Ed Barrett asked how project findings could impact management and Dr. Ford replied that in terms of ocean planning, accurate habitat maps were a necessary first step. John Williamson asked how sample sites were selected and Dr. Ford responded that the presence of cod determined site selection in each habitat area. Most of these sites were located in state waters.

2) Design and Testing of an Innovative Scallop Dredge

Mark Szymanski summarized the development of this off-bottom scallop dredge that was based on commercial diver Paul Tasha's observations and ideas. Earl Meredith asked whether the chain bag drags on the bottom and Olivia Free answered that this pilot project was designed to examine the hydrodynamic flows of various test shapes and the second step of the project will redesign the chain bag to minimize bottom contact.

3) A Cooperative Partnership for Ecosystem Monitoring in the Western Gulf of Maine

Dr. Jeff Runge described this project and provided context for it in the greater ocean observing arena. He showed maps of where he believes primary production occurs in the deep basins of the Gulf of Maine and how this production is invected into Massachusetts Bay. He informed the group that the Northeastern Regional Association of Coastal Ocean Observing Systems (NERACOOS) may make up to \$130m available for all regions in the nation to support coordinated regional ocean observing strategies in 2008. Earl Meredith asked whether NERACOOS is part of the Global Ocean Observing System (GOOS) and Jeff responded that currently there is no clear connection between the two entities. Earl stated that the PULSE project is a critical link to ensure that GOOS develops useable information.

4) A Community-Based Nutrient Water Quality Monitoring Project to Support Habitat Protection in Nantucket Sound

Roland Samimy presented this collaborative project and described how it fit into a broader embayment program. Jeff Runge said that Nantucket Sound is an important receptor of plankton particles from the Gulf of Maine and asked how important the Sound is as an area that provides juvenile habitat. Kathryn Ford stated that the MA Division of Marine Fisheries (DMF) is interested in studying this subject as well but has yet to undertake this type of research there. Richard Taylor said that DMF's annual trawl surveys show that ¼ of juvenile cod sightings occur in the Sound. Roland Samimy emphasized the need to study the links between water quality and habitat health.

Next Steps and Future Directions

David Bergeron opened the floor to comments concerning next steps in collaborative fisheries research. Ed Barrett asked how this research can best inform fisheries management. Earl Meredith answered that reasonable expectations must be set in that it takes time to conduct research, analyze and review results and influence the management process. Carolyn Woodhead added that flexibility must be built into the regulations and that fishing infrastructure issues such as social and economic factors must also be considered. Jay Michaud stated that it is difficult to be patient as fishermen are losing their livelihoods every day.

David Bergeron asked participants to name the priority issues for future research which resulted in the following list:

- DOGFISH (all)
- Marine chemical pollution (David Martins)
- Natural cycles of abundance (Richard Taylor)
- Ecosystem linkages (Frank Mirarchi)
- Real-time reporting of catch (David Haley)

Other issues included:

- Managers and town officials must act immediately to resolve issues
- Collaborations need strengthening by getting more people to work together and discuss analyses together
- Fear that as fleet shrinks, the resource will go to the highest bidder
- Need better integration of information and funding sources
- Collaborative research is more efficient and provides high quality data but has its costs too, such as lost catch history and very long periods before benefits are realized
- Need better incorporation of research findings into management
- Need positive marketing of fishing industry as providers of healthy food for the public
- Few younger generation fishermen entering industry
- Need congressional support for industry and collaborative research

Earl Meredith noted that two NMFS pilot projects are addressing the issue of real-time catch reporting. Richard Taylor also noted a need for integration of research with funding priorities. Frank Mirarchi said that the commercial fishing industry itself needs to be better marketed. Carolyn Woodhead said that the MA Conservation Fund has a provision for marketing and Jay Michaud noted that agricultural resources need to be tapped.

Closing

David Bergeron thanked everyone for their participation and adjourned the meeting.