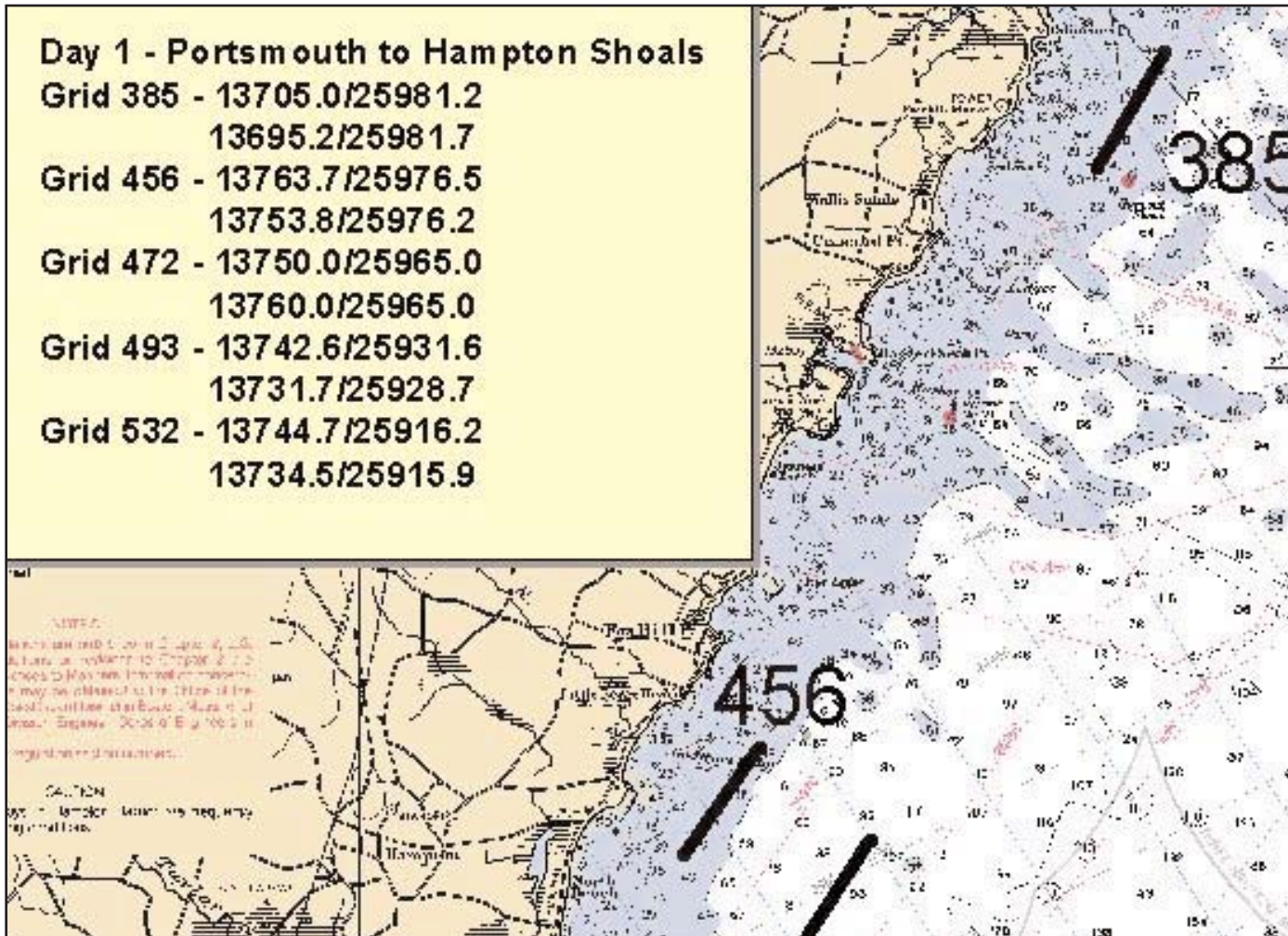


# Collaborations

A report on collaborative research projects in the northwest Atlantic Ocean.



An example of a survey site transect: Portsmouth to Hampton Shoals. Surveyed in October this year. In all, 141 tows are made.

## Maine Inshore Trawl Survey: Filling in the Gaps

It is called the “Inshore Groundfish Survey,” but in reality the stock assessment provides information about a wide range of species and the overall ecological health of the Gulf of Maine.

“The assessment is more than a groundfish survey.

Lobsters, recreational finfish species, non-commercial species of ecological interest are also assessed. This is truly a multi-species survey that should benefit all decision-makers confronted with issues such as fish stock recovery, fishery management measures, essential fish habitat designations, climate change, marine protected areas and more,” said John Sowles, an ecologist with the Maine Department of Marine Resources who directs the research.

For five years, the survey has been conducted using the 54-foot commercial trawler, F/V *Robert Michael*, out of Portland.

In that time, it has provided information about nearshore Gulf of Maine habitat that was previously unavailable, because the waters are too shallow (and crowded with lobster gear) for NOAA’s more cumbersome stock assessment vessel, the *Albatross*, to maneuver.

“The survey is designed to provide information that has not been available to NMFS for stock assessments. Obtaining this information is critical to making rational management decisions. The better information we have about all our fisheries resources, the better we can ensure a future for both fishermen and the resource,” said Sowles.

Until this survey, Maine and New Hampshire were the only states on the East Coast not conducting a nearshore stock

## Letter From the Editor:

"Our greatest problems result from the difference between how people think and how nature works."  
- Gregory Bateson

In talking to Capt. Curt Rice for this issue's story about the Inshore Groundfish Trawl Survey, I was reminded of an aspect of collaborative research that is not often discussed by fishermen or scientists: the way it can point to an ecological way of thinking that benefits all of us.

"We have gotten to the point today where fishermen can no longer afford to divide themselves along individual lines," he said. "The ocean doesn't work that way and sooner or later people need to learn that what is bad for part of the ecosystem ultimately is bad for the whole thing."

Consider the inshore trawl survey as an example.

Ostensibly it is about monitoring the health of groundfish populations. But, as you'll read, pretty quickly it became apparent that it would be a multi-species survey, including lobster, herring, and other fish outside the groundfish complex.

As such, the survey wouldn't work without the close cooperation of lobstermen and other fixed-gear fishermen who need to make room for the randomly selected survey sites.

What's more, John Sowles, who directs the study, noted that the lobster fishery may have an economic disadvantage in the short-term by helping groundfish stocks recover (it has been suggested that the boom in lobsters is directly related to the decline of cod, one of its natural predators).

Nevertheless, Sowles said the cooperation from lobstermen has been instrumental in pulling the survey off. "Most of these guys have recognized that we need really need this information to bring the whole Gulf of Maine back," he said.

Looking at the human dimension of the fishery as an extension of the marine ecology, allows us to see the need for cooperation across traditionally fragmented political lines to make decisions based on their ecological not political merit.

Collaborative research projects like the Inshore Trawl Survey provide us with a good model of how to get started.



A handwritten signature in black ink, appearing to read "Michael Crocker". The signature is fluid and cursive, written over a white background.

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## Collaborations:

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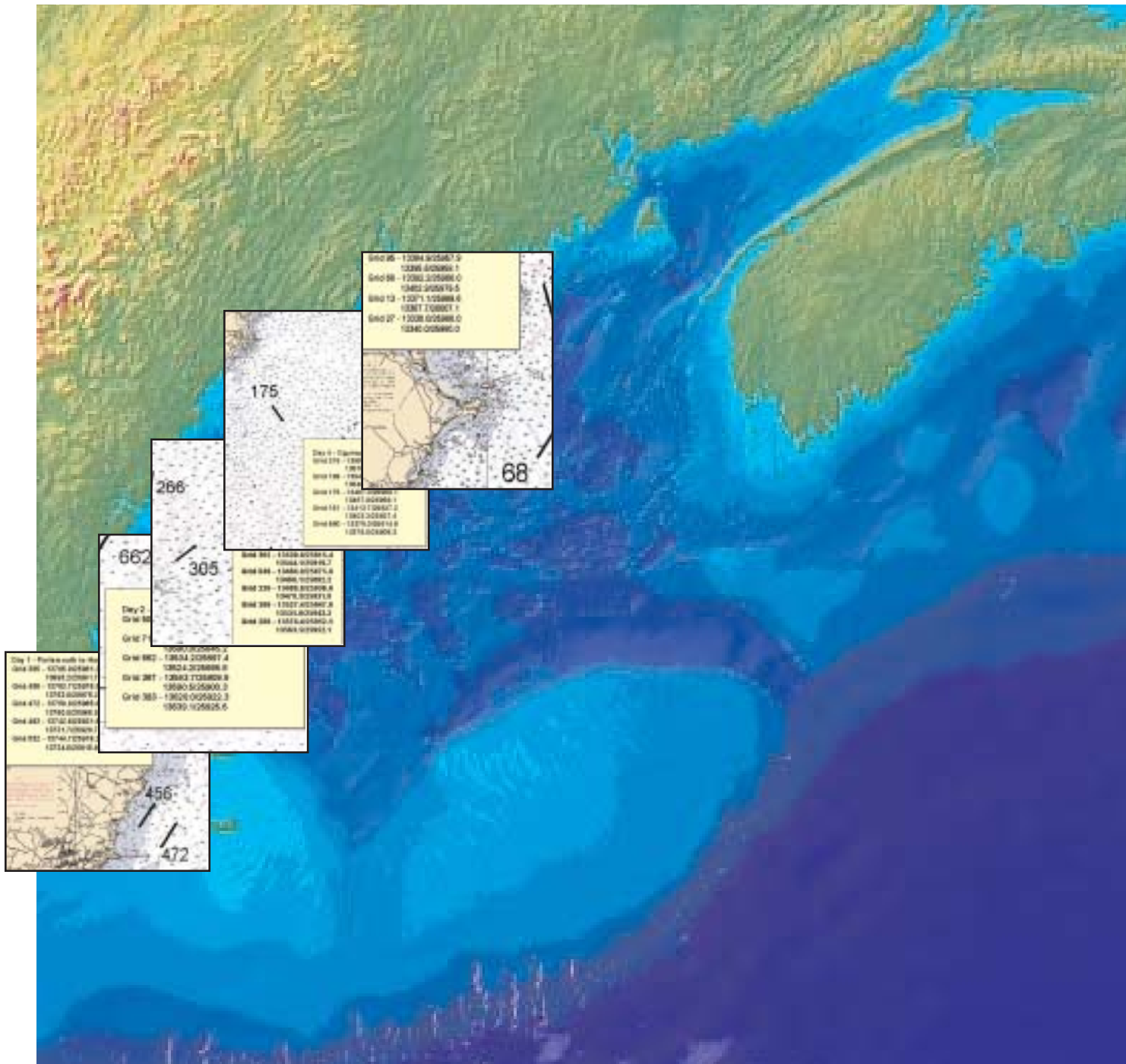
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The survey sites: a sample of the trawl survey sites, which between October and November cover inshore groundfish habitat from Portsmouth Shoals to Quoddy Head over a five week period using the commercial fishing vessel Robert Michael

assessment – a situation that angered many fishermen who were nevertheless asked to live under regulations based on incomplete stock assessment data.

“What people don’t seem to realize is that fishermen were calling for this kind of survey, despite the fact that it was possible - if not likely - that its findings would hurt us,” said Curt Rice, who captains the survey vessel *Robert Michael*.

“The fact is: surveys like this are win-win situations. If it shows that stocks aren’t doing so great, then we know we need to make changes. If it shows that stocks are doing better than we thought, then guys get to make a few more bucks. Ignorance is what we want to avoid in fisheries management.”

The survey has been paid for by a combination of funds from the Northeast Consortium (NEC, 2000-2001, 2003-2004) and NMFS (2001-2003, 2004-2005.) Such a funding strategy has drawn the criticism of some in the scientific community who believe that the competitive grant structure at the NEC was set up to fund discrete areas of question-based research not long-term monitoring projects.

“I actually agree with those who say that the NEC is not the best way to pay for this kind of research,” Sowles said. “Long-term survey programs are like accounting systems for fisheries

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# Northern Shrimp 2006 Fishing Season Set at 140 Days

For more information, please contact Braddock Spear, Northern Shrimp Fishery Management Plan Coordinator, at (202) 289-6400, ext. 301 or <bspear@asmfc.org>

## *Section Tentatively Sets 2007 Fishing Season for Same Duration*

The Atlantic States Marine Fisheries Commission's Northern Shrimp Section approved a 140-day fishing season for the 2005-2006 northern shrimp fishery, a doubling of last year's season. The approved season was based on recommendations of the Northern Shrimp Technical Committee and Advisory Panel.

"Our efforts to reduce fishing mortality over the last few years have led to a greater abundance of shrimp and record catches in the Gulf of Maine summer survey," stated Section Chair George Lapointe from Maine. "A strong 2001 year-class has allowed the Section to expand the fishing season with the goal of rebuilding northern shrimp markets."

The Section also made a commitment to set a 140-day fishing season for 2007, provided fishing mortality, landings, and the number of directed trips for shrimp do not exceed acceptable levels. Evidence of strong 2003 and 2004 year-classes show promise in continuing to rebuild the stock and enhance market conditions. "The Section is excited to make the commitment for the expanded season for two years, increasing economic benefits and stability to harvesters and processors, while also ensuring that our rebuilding efforts stay on track," said Lapointe in a press release.

The 2006 fishing season, which is the same for mobile and trap gear, will be open seven days a week from December 12, 2005, through April 30, 2006.

The northern shrimp fishery is jointly regulated by the Commonwealth of Massachusetts and the States of Maine and New Hampshire through the Atlantic States Marine Fisheries Commission's Northern Shrimp Section. The cooperative management program has been in place since 1972 and is currently managed under Amendment 1 to the Northern Shrimp Fishery Management Plan.

"Our efforts to reduce fishing mortality over the last few years have led to a greater abundance of shrimp and record catches in the Gulf of Maine summer survey. A strong 2001 year-class has allowed the Section to expand the fishing season with the goal of rebuilding northern shrimp markets."

-Section Chair George Lapointe (Commissioner MaineDMR)



The Northern shrimp is a "pan-subarctic species," which means it inhabits the cold waters of the Atlantic and Pacific Oceans, south of the polar icecap. In the Atlantic, these crustaceans are abundant near Norway, Iceland, and Maritime Canada. The Gulf of Maine represents the southernmost extreme of its range. In the Gulf of Maine, shrimp spend the first part of their lives as males near the muddy bottoms along the coast. They typically transform into sexually-functioning females at about two-and-a-half-years and then head offshore. They return approximately a year-and-a-half later, in January or February, to drop their eggs. Information gathered during the Inshore Groundfish Survey cooperated reports that the shrimp population was very strong this year and was among the factors the led to a landmark 140-day season.

## **Fisheries Educational Workshop: Shrimp Gear Advances that Target Best Priced Shrimp and May Lower Bycatch**

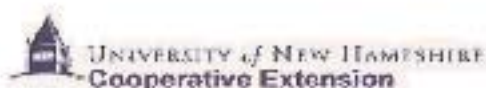
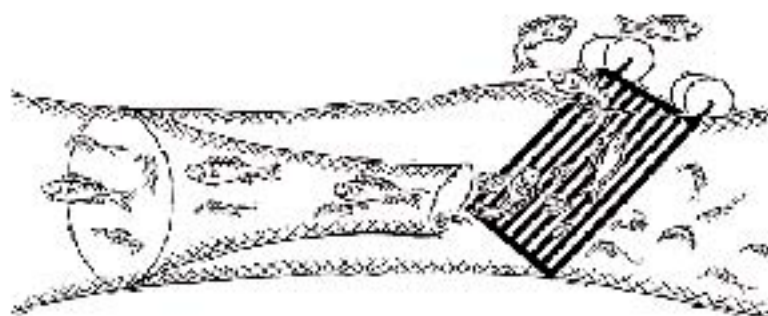


This will be a free hands-on workshop with gear on site, video footage of equipment in the water, and gear designers available to answer questions and discuss new approaches.



**December 7<sup>th</sup> 6 – 8pm at the Taste of Maine Restaurant, Woolwich, ME**

**December 9<sup>th</sup> 2 – 4pm at the Portsmouth Fishing Coop., Portsmouth NH**



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For more information contact Ken La Valley at the NH Sea Grant Office by phone (603-862-4343) or email ([ken.lavalley@unh.edu](mailto:ken.lavalley@unh.edu)).

management. Every other business and government agency demands accounting to provide critical measurements about the success or failure of management techniques, but the fisheries service just hasn't decided to do that with this survey yet. I can't understand why."

Sowles said that until NMFS finds a way to sustain the trawl survey through its budget, he and his staff have little choice but to seek a combination of funding sources.

### The Details

The survey design divides the inshore Gulf of Maine – from Portsmouth Shoals to Quoddy Head – into five areas based on geologic, oceanographic, geographic and biologic factors.

Additionally, each area was divided into four depth layers: 5-20 fathoms, 20-35 fathoms, 35-50 fathoms, and 50-plus fathoms. (Survey stations are located randomly to reflect representative conditions within each of the

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-Capt. Curt Rice

strata).

The trawl gear used in the survey is a modified shrimp net with a 2-inch mesh in the wings and 1/2-inch mesh liner in the codend. Footrope and headropes are 57-feet and 70-feet respectively, with 6-inch rubber cookies. It was designed to be light on the bottom to minimize habitat disruption, and video work done this past February and again this August has confirmed that it is low impact, Sowles said.

Using such a fine mesh has given fishermen and scientists a glimpse on to an ecosystem that often remains invisible, Sowles added.

"One of the really interesting parts of this study has been watching and learning about species we don't typically see in other studies. The fishermen and scientists alike have been fascinated watching what comes over the side. The crew I work with actually has become much better at the fine-scale identification of the species than I," he said.

This season the survey provided important data about the management of non-groundfish species that nonetheless are tied to the Gulf of Maine ecosystem, such as shrimp.

"This spring and fall we provided shrimp managers with



Photo of the trawl survey aboard the 54-foot trawler from Portland, F/V *Robert Michael*.

(Courtesy Maine DMR)

information about the large abundance of shrimp in some of the areas not hit in their surveys. Combined with the information that they had they felt comfortable extending the season to 140 days. This is just one example of how the nearshore survey complements the larger body of information we have about the whole ecosystem—and how it relates to commercial fisheries."

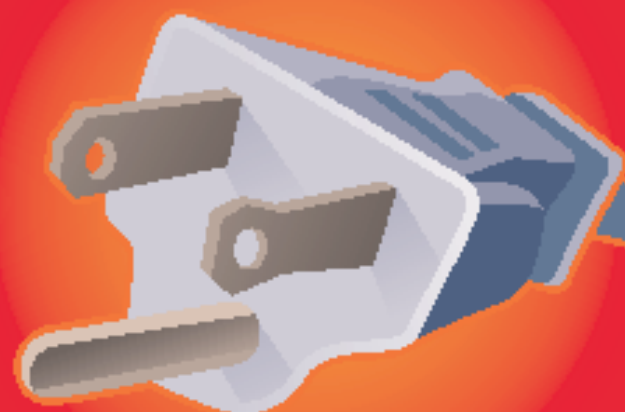
### Cooperation From Lobstermen

Sowles said that cooperation from the lobster industry, who must move their gear at expense of time and money, has been critical to the success of the program. "These guys have been just great. We can't do it without their help and for the most part they have gone out of their way to accommodate us. One of the unexpected outcomes of the survey has actually been the close cooperation with the lobster fishery."

Prior to the survey, tows are identified using Loran-C TDs (W-X chains) as taken from the 1:80,000 NOAA Nautical Charts. The expected sites are widely communicated to the industry through radio and the lobster councils.

"We are now at a point that requires those in fisheries to think across traditional individual species boundaries – I mean both fishermen and managers. One of the things the nearshore trawl survey does, is to start to get us thinking that way," said Rice.

For more information about the Inshore Groundfish Survey, including the locations of the most recent survey sites, visit: <http://www.state.me.us/dmr/rm/trawl/trawl.htm>



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