

# Collaborations

March 2007

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



Anxious alewives make their way up river during the fish's annual migration to the lakes, rivers, or tributary of their birth. (photo: [www.dcnature.com](http://www.dcnature.com))

## ALEWIVES!

As closely woven into the fabric of eastern Maine's economy as it is to the region's ecology, the steady decline of alewives—sometimes called river herring—has prompted some fishermen and scientists to talk about the loss in both social and biological terms.

"If you want dollar-a-pound codfish and haddock again, then you need to take care of the 5 and 10 cents a pound herring," said Ted Ames, a lobsterman from Stonington, whose research on Maine's inshore cod stock's shows that the groundfish began

to vanish alongside alewives at the turn of the last century.

"In the past, alewives provided a forage base that held cod inshore over the winter, sustaining a robust seasonal fishery," he said. "The decline unraveled numerous systems in the ocean as well as the communities that depended on them on land."

But, just as the disappearance of alewives foreshadowed a devastating blow to fishing communities so long ago, a handful of restoration projects instill hope for renewed prosperity in the future.

At just nine to 11-inches in length, with a stripe of blue running down its spine to a sharply forked tail, a full-grown alewife cuts an athletic figure. Along its sides, blue fades to gray and then to iridescent silver at the serrated scales that mark the mid-

*continued on page 3*

## Message from the Regional Administrator

Dear Cooperative Research Partner:

I am pleased to be able to address the wider fishing industry and research community in Collaborations, about a new effort to help commercial fishermen and others who are interested in participating in cooperative research in the Northeast. NOAA's National Marine Fisheries Service has published a guide to developing and funding cooperative research projects, complemented by a website that provides additional information and resources. The purpose of the guide is to promote and facilitate collaboration among fishermen and scientists to improve and enhance cooperative research in the region.



The guide, entitled "Working Together: Developing a Cooperative Research Project and Proposal," covers issues such as identifying a research topic, establishing partnerships with scientists, identifying sources of funding, and preparing grant proposals. The website includes an online version of the guide, as well as more detailed "how to" information for cooperative research grant applicants. Online appendices to the guide include ideas for research topics, web links to potential cooperative research funding sources, and instructions for how to get the permits that may be necessary to conduct the research.

This guide is itself the result of a collaborative effort among NOAA's National Marine Fisheries Service and Sea grant staff, fishermen, scientists, Council staff, and others in the Northeast Region with an interest in cooperative research. For more information or to obtain additional copies of the guide, please contact either Michael Petony at 978-281-9283 or michael.petony@noaa.gov, or Jennifer Costanza at 978-281-9388 or jennifer.costanza@noaa.gov, visit, [www.nero.noaa.gov/StateFedOffice/coopresearch/guidelines/](http://www.nero.noaa.gov/StateFedOffice/coopresearch/guidelines/).

Sincerely,

A handwritten signature in black ink that reads "Patricia A. Kurkul". The signature is written in a cursive style.

Patricia Kurkul  
Regional Administrator

## Collaborations:

A report on  
collaborative research projects in  
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This peculiarity made alewives vulnerable to human development in the early 1800s, as mills, dams, and towns spread across the landscape during the Industrial Revolution.

line of its underbelly and flash like bits of sea-glass in sunlight.

Commonly called river herring, sawbellies, kayaks, branch herring, or freshwater herring, the fish are among a handful of anadromous species that live in the ocean and return seasonally, in droves, to spawn from Labrador to South Carolina in the freshwater lakes, rivers, and streams of their birth.

This peculiarity made alewives vulnerable to human development in the early 1800s, as mills, dams, and towns spread across the landscape during the Industrial Revolution.

The species is also targeted by commercial and recreational fisheries as it moves between land and sea.

Commercial landings in New England peaked in the 1960s, causing some runs to vanish altogether.

“In places like Massachusetts, New Hampshire, Rhode Island and Connecticut, many of the herring runs are ecologically non-existent at this point,” said Mike Brown, who studies herring for the Maine Dept. of Marine Resources (DMR).

In fact, things got so bad in the Bay State last year managers imposed a moratorium on the recreational and commercial fishery.

Several communities in Maine, however, still celebrate the connections between herring and history, with events like the Spring Running Festival held in downtown Augusta (see [www.springrunning.com](http://www.springrunning.com).)

But Brown said that ensuring the long-term survival of alewives rests on a new level of cooperation by fishermen, scientists, and the public, suggesting an imperative need for collaborative research initiatives.

“Dams and other blockages in rivers and streams pose a tremendous threat to river herring. If the fish are unable to enter the rivers and streams, they are unable to spawn; similarly, if they are blocked from entering the ocean, they also cannot survive,” he said.

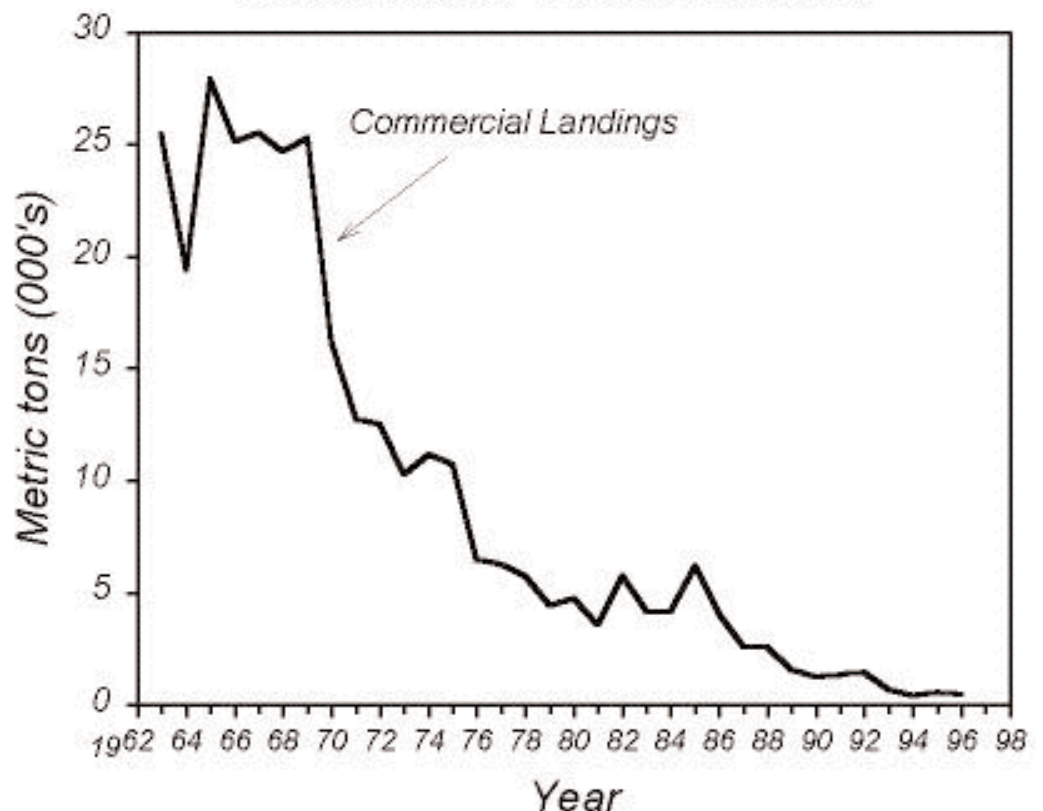
To improve the fish’s chances, the Damariscotta River Association (DRA) began working to restore and maintain critical alewife habitat at The Mills complex in Newcastle over 20 years ago.

“Our ‘Alewife Initiative’ is a community-supported project that restored one of the oldest fish ladders in the country, dating back to the early 1800s, and allows a strong traditional run to continue,” said Mark DesMeules of the DRA. “Each spring thousands of people travel to watch the alewives come up the ladder.”

With the help of the Damariscotta Lake Watershed Association, the restoration project includes an interpretive

*continued next page*

### River Herring Gulf of Maine - Middle Atlantic



In response to the observed decline in nominal catch and apparent resource conditions, the Atlantic States Marine Fisheries Commission (ASMFC) has prepared a comprehensive coastwide management plan for shad and river herring, to facilitate cooperative management and restoration efforts between the states. However, recovery has not been consistent. Several river herring populations along the east coast are still being exploited at higher than optimal levels and a great deal of historic spawning habitat remains unavailable. The dramatic decline in landings since the mid-1960s reflects substantial declines in resource abundance since that time. (Source: Mass DMF)

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“We’re talking about the possibility for a multi-billion dollar industry. A whole suite of enterprises: groundfish, tourism, lobster, recreational fishing. It could be an economic bonanza.”

-Scientist/Fisherman, Ted Ames.

monitor the catch.

Later this year, the Atlantic States Marine Fisheries Commission (ASMFC) will oversee the first stock assessment specific for river herring, pooling data from across the species’ range. “The effort will provide us with the best overall view of the fishery’s health to date,” Brown said.

Information that is not only critical to scientists studying alewives, but potentially to thousands of jobs a major rebuilding could support.

“We’re talking about the possibility for a multi-billion dollar industry. A whole suite of enterprises: groundfish, tourism, lobster, recreational fishing. It could be an economic bonanza,” said Ames.

component that helps visitors draw connections between alewives and the larger ecological system, DesMeules said.

The groups recently produced a documentary on the alewife run, titled "Closing the Circle," which is available at [www.dra.org](http://www.dra.org).

The Mills is still home to a small annual harvest managed by the state.

Scientists also stock rivers and lakes with fry to boost reproduction rates.

But even if the alewife’s passage to the Gulf of Maine can be safeguarded, the fish still face a threat at sea: trawl nets.

Alewives mingle with other species, like blueback and Atlantic herring, subjecting them to the high volume catches of some of the largest fishing vessels in the region as well as natural predation from fish like striped bass, which have increased dramatically in recent years.

However, because various herring species are so difficult to tell apart and the fleet’s harvests are so large—in some cases pumping close to one million pounds of herring through vacuum-like tubes in a single day—the only reliable way to distinguish them is to analyze the catch when it’s offloaded.

“We don’t have good baseline data for alewife health because observers on herring vessels have a hard time documenting harvests. It’s very difficult to ID closely related herrings during the pumping process. They tend to be the same size as Atlantic herring, so they fit through the grates, and the volume pumped during the fishing process is huge. If you put river herring and Atlantic herring side-by-side, you can tell the difference without much training. The problem is really the size of the task,” said Matt Cieri, another herring researcher with Maine DMR.

Some fisheries groups, like the CHOIR Coalition, have been pushing for increased observer coverage on herring vessels to help



Alewives were once found in every coastal river in New England. They were easy to catch in large numbers and could be smoked or pickled for export. The fish were particularly desired as fertilizer and as bait for the Atlantic cod fishery. Laws limiting the harvest of alewives were passed by many towns as early as 1700. In 1735, the Massachusetts Bay Colony passed the first of many laws requiring mill dam owners to provide passage for migrating alewives at their dams, like the one shown above in Gouldsborough, Maine. Hundreds of laws were passed by the New England states to protect the alewife. Most of these laws proved ineffectual due to lack of enforcement. (Photo: Fishermen’s Voice)



## Western Gulf of Maine Closure Area: 2007 Symposium

March 26, 2007 — 8am-5pm

**Elliot Ahlson Center, University of New Hampshire  
Durham, New Hampshire**

The Western Gulf of Maine Closure Area (WGoMCA) has been a predominant fisheries management strategy since its establishment in 1998. The goals of the closure have been to protect spawning and nursery areas of key species, maintain age structure by retaining older proportionately more fecund individuals, protect key habitats, and reduce bycatch of overfished and threatened stocks. The 2007 Symposium provides an opportunity to look back at the original purpose and goals of the closure and examine the progress made towards its goals. This meeting also serves as a follow-up to the 2003 WGoMCA Investigators Meeting at the University of New Hampshire, at which information about research activities related to the closure and opportunities for future research were explored.

### ***2007 Symposium Topics:***

- Explore the impact the WGoMCA has had on benthic communities, fish stocks, and stock rebuilding;
- Describe current research related to the closure;
- Consider if and how the closure is meeting its goals and proving its utility;
- Consider how understanding of the closure has improved over the years; and
- Explore what the future holds for the closure.

### ***Keynote Speakers:***

- **Capt. Paul Howard**, Executive Director, New England Fishery Management Council
- **Dr. Mike Fogarty**, Fisheries Biologist, NOAA Fisheries Northeast Fisheries Science Center

### ***Participants:***

Fishermen, scientists, fisheries managers, and others with a specific interest in the Closure are welcome to attend, including those who attended the 2003 meeting.

### ***Draft Agenda:***

8:00 – 9:30	Registration and Continental Breakfast
9:30 – 10:00	Capt. Paul Howard, Executive Director, New England Fishery Management Council
10:00 – 10:30	Dr. Madeline Hall-Arber, Anthropologist, MIT Sea Grant College Program
10:30 – 10:45	Break
10:45 – 11:15	Dr. Ray Grizzle, Research Associate Professor, University of New Hampshire
11:15 – 11:45	Capt. Peter Kendall, Commercial Fisherman, Rye, New Hampshire
11:45 – 12:15	TBA, pending confirmation of speaker
12:15 – 12:45	Morning summary/facilitated discussion
12:45 – 1:30	Lunch (provided)
1:30 – 2:00	Dr. Mike Fogarty, Fisheries Biologist, NOAA Fisheries Northeast Fisheries Science Center
2:00 – 2:30	Dr. Jonathan Grabowski, Research Scientist, Gulf of Maine Research Institute
2:30 – 3:00	TBA, pending confirmation of speaker
3:00 – 3:15	Break
3:15 – 3:45	Dr. Les Kaufman, Boston University
3:45 – 4:15	Dr. Peter Auster, Science Director, National Undersea Research Center, University of Connecticut
4:15 – 5:00	Afternoon summary/facilitated discussion/wrap-up

### ***Meeting Registration:***

To register, please visit <http://www.seagrant.unh.edu/GOMclosure.html> or call Ken LaValley at (603) 862-4343. The registration fee is \$20.00, which includes parking, continental breakfast, lunch and two refreshment breaks. Commercial fishermen are particularly encouraged to attend and may request a waiver of this fee.

### ***Symposium Organization Committee:***

Dr. Ray Grizzle  
Research Associate Professor  
Jackson Estuarine Laboratory  
University of New Hampshire

Dr. Ken LaValley  
Extension Specialist  
New Hampshire Sea Grant

Rachel Galant  
Fisheries Specialist  
Northeast Consortium

# World Wildlife Fund International Holds Third Annual Smart Gear Competition; Contest Aimed at Reducing Bycatch

For the third time in as many years, the World Wildlife Fund International Smart Gear Competition is seeking innovative designs for fishing gear that reduces marine bycatch – the accidental catch and related deaths of marine mammals, birds, sea turtles and non-target fish species in fishing gear.

Bycatch is of particular concern for fishermen in New England, not only because of the waste, but because it frequently prevents the industry from targeting species that are abundant, such as haddock, due to the fish's interaction with species that are scarce, such as cod.

"In my view conservation fishing gear is essential, not only to the long-term survival of fish, but the long-term survival of fishermen too," said Proctor Wells, a groundfisherman from Phippsburg, Maine. "Close collaboration with the industry offers great promise to engineers working on the problem. I applaud competitions such as this."

"Our work is all about creating positive solutions to problems facing our world," said Carter Roberts, president and CEO of World Wildlife Fund in a news release.

"Bycatch is a huge problem. It's the leading threat to many endangered marine mammals, sea turtles and sea birds. SmartGear Competition encourages innovative solutions to this threat."

The winning designer will receive a \$30,000 grand prize. There will also be two \$10,000 runner-up prizes. Entries will be judged on whether they are innovative, practical, cost-effective, reduce bycatch of any species and makes an important contribution to conservation. The judges include fishermen, researchers, engineers and fisheries managers from all over the world.

The competition is open to eligible entrants from any back-

ground-including fishermen, professional gear manufacturers, teachers, students, engineers, scientists and backyard inventors. Instructions for entering the competition are available at [www.smartgear.org](http://www.smartgear.org). Completed entries must be submitted by July 31, 2007.

"Bycatch is a serious threat to marine life that demands a wide-ranging, multidisciplinary response," said Bill Hogarth, director of NOAA Fisheries Service. "WWF's Smart Gear competition has been an effective way to catalyze that response by encouraging creative thinkers everywhere to share their ideas for minimizing bycatch."

Last year's winner was a New Jersey inventor who designed fishing gear that could save thousands of sharks from accidentally dying on fishing lines each year. The winner's design uses a shark's ability to detect magnetic fields as a way to protect them by placing strong magnets just above baited hooks. The design will be tested this spring and summer in advance of potential commercial use.

For official competition rules and to learn how to enter, please visit [www.smartgear.org](http://www.smartgear.org). The competition begins February 7, 2007 and ends July 31, 2007. Employees, agents, current contractors, and relatives of employees of World Wildlife Fund, Inc. or any WWF National Organization are ineligible. Judges and relatives of Judges are also ineligible.



Conservation gear like the Nordmore Grate used in the Northern shrimp fishery (above) was developed by engineers in Scandinavia and refined in cooperation with New England fishermen. The device has reduced bycatch in the fishery by 97 percent, providing new economic opportunities.

NMFS Releases are  
available at:

[www.nero.noaa.gov](http://www.nero.noaa.gov)



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL MARINE FISHERIES SERVICE  
NORTHEAST REGION  
One Blackburn Drive  
Gloucester, MA 01930-2296

February 9, 2007

## FISHING GEAR THAT COULD HARM WHALES TO BE CLEARED FROM CAPE COD CRITICAL HABITAT

NOAA Fisheries Service is partnering with the Massachusetts division of marine fisheries, the Massachusetts environmental police, and the nonprofit Provincetown Center for Coastal Studies to locate and remove lost or illegal fishing gear in the Cape Cod Bay and adjacent waters. Northern right whales use these waters for feeding until the late spring and could become entangled in this gear. Operations started in January and will continue through May.

The effort is funded by NOAA's Marine Debris Program, through a grant administered by NOAA Fisheries Service. "We are pleased to be collaborating with state and private organizations for such a good cause," said Patricia Kurkul, NOAA Fisheries Service northeast regional administrator. "Northern right whales can be seriously injured or die because of entanglements and this joint effort can reduce risks to these rare animals," she said.

The Provincetown Center regularly conducts sighting surveys for the whales in the Cape Cod Bay critical habitat area. This year, they also will report sightings of lost gear that they encounter. A gear removal project team will then use a vessel operated by the Massachusetts environmental police to haul such gear out of the water. State marine fisheries biologists, including one former lobsterman, will be onboard to provide advice on how to safely haul the gear.

This team also will remove any other gear found to be illegally set, stored, or abandoned in the area. For example, floating groundline is prohibited in Massachusetts waters because it is more likely to entangle large whales. The vessel is equipped with a multi-beam sonar array that can acoustically see the groundlines used to connect lobster traps. Any gear found with floating groundline will be hauled.

The NOAA Marine Debris Program works with NOAA offices, as well as other federal, state, and local agencies and private sector partners to support national, state, local, and international efforts to protect and conserve our nation's natural resources and coastal waterways from the impacts of marine debris.

The National Oceanic and Atmospheric Administration, an agency of the U.S. Commerce Department, is celebrating 200 years of science and service to the nation. From the establishment of the Survey of the Coast in 1807 by Thomas Jefferson to the formation of the Weather Bureau and the Commission of Fish and Fisheries in the 1870s, much of America's scientific heritage is rooted in NOAA.

NOAA is dedicated to enhancing economic security and national safety through the prediction and research of weather and climate-related events and information service delivery for transportation, and by providing environmental stewardship of our nation's coastal and marine resources. Through the emerging Global Earth Observation System of Systems (GEOSS), NOAA is working with its federal partners, more than 60 countries and the European Commission to develop a global monitoring network that is as integrated as the planet it observes, predicts, and protects.

On the Web:

NOAA: <http://www.noaa.gov/>

NOAA National Ocean Service: <http://www.oceanservice.noaa.gov/>

NOAA Marine Debris Program: <http://www.marinedebris.noaa.gov/>

NOAA Fisheries Service Office of Protected Resources: <http://www.nmfs.noaa.gov/pr/>

NOAA Fisheries Service northeast region: <http://www.nero.noaa.gov/>



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