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DMF NEWS

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MarineFisheries

A Commonwealth of Massachusetts Agency

Groundfish Amendment 13 Ready for Public Hearings

Public comment is critical on long-awaited plan

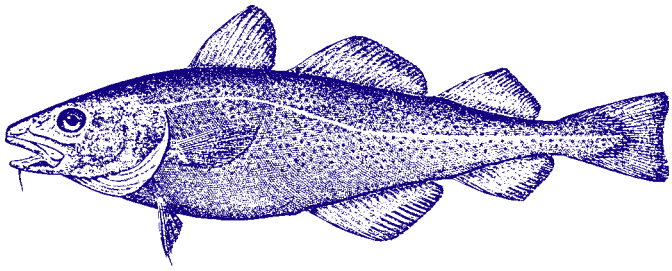
After years of discussion and debate, Amendment 13 finally has arrived. If you are concerned about the conservation and management of New England groundfish and the future of the region's commercial groundfish fishing fleet, recreational fishermen, and coastal communities relying on groundfish you should attend upcoming public hearings to have input to the process.

Amendment 13's principal objectives are to end overfishing, rebuild overfished stocks, reduce unused effort in the fishery, reduce bycatch, and minimize impact of the fishery on fish habitat and protected species such as whales and turtles. The Amendment states: *"…Although the numbers of fish of many of the 12 groundfish species (20 stocks) have increased substantially in recent years and harvest rates have gradually declined, for many stocks the rate of increase must be accelerated to comply with the law, and for other stocks the harvest rate must be reduced. The stocks needing the largest reduction in fishing mortality are Gulf of Maine and Georges Bank cod, Cape Cod/Gulf of Maine yellowtail flounder, Southern New England/Mid-Atlantic yellowtail and winter flounders, white hake, and American plaice (dabs)."*

The rebuilding goals and options to accomplish them may be unattainable. According to Amendment 13, the plan *"does not take into account Magnuson-Stevens Act requirements to balance biological, social, and economic objectives…basing management strategies designed to achieve biomass targets that ultimately prove to be unattainable may have severe, irreversible impacts on communities and the public that rely on commercial and recreational fishing."*

The four alternatives for the commercial fishery to address rebuilding requirements are: (1) up to a 65% reduction in used days-at-sea (DAS);

Proposals in Amendment #13 would affect the region's commercial and recreational sectors. ***DMF Photos.***



(2) a reduction of allocated DAS with gear modifications including species/stock "hard" quotas [total allowable catch (TAC) "backstops"] and restrictive trip limits as "backstops" are approached; (3) area management with two TAC options for each species in each area: "hard" TACs or "soft TACs with other restrictions when 80% of each TAC is caught; and (4) "hard" TACs prohibiting fishing in the stock area with gear capable of catching certain species or prohibiting possession of those species.

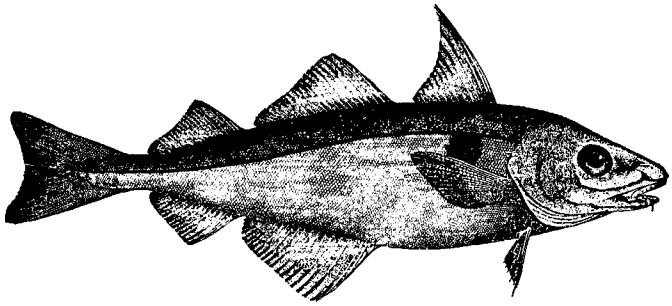
Recreational fisheries (private recreational and charter/party vessels) are faced with three options including status quo. The other two options involve changing bag limits and minimum sizes for cod and haddock and a December through March closure to Gulf of Maine recreational fishing. Closures to protect fish habitat are also prominent in the Amendment.

The law demands that past levels of overfishing must be prevented, higher biomass must be achieved, and fisheries must be conducted in a sustainable manner.

Public hearings in Massachusetts are: Monday, **September 15** at 2:00 p.m. in Hyannis (Ramada Inn, 1127 Route 132) with recreational issues at 7:00 p.m.; Monday, **September 22** at 4:00 p.m. in Gloucester (Tavern on the Harbor, 30 Western Ave); Tuesday, **September 30** at 4:00 p.m. in Fairhaven (Holiday Inn Express, 110 Middle St.).

Recreational haddock limit lowered

MarineFisheries and many recreational industry representatives successfully petitioned NOAA Fisheries Regional Administrator to lower the recreational haddock minimum size from 23" to 21". Since the commercial trip limit had been lifted for haddock, the continuance of a very conservative minimum size was no longer warranted. This regulation became effective in state waters on July 8th.



New aquaculture rules to be considered

Industry input sought at upcoming scoping meeting

In 1995, an Aquaculture White Paper and Strategic Plan was produced by the Office of Coastal Zone Management (CZM) within the Executive Office of Environmental Affairs. This document represented the coordinated work of state and federal regulatory agencies, academia, municipal officials, conservation organizations and industry representatives. It was intended to serve as a blueprint for the development of an expanded aquaculture industry in Massachusetts and a supporting infrastructure at the state level.

One of its chief recommendations was to streamline and update the Commonwealth's regulatory system to make it more conducive to the development of aquaculture. The combination of fisheries and environmental protection regulations, both state and federal, was confusing, burdensome and time-consuming for potential aquaculturists to navigate. There were no specific aquaculture regulations so agencies had adapted existing regulations to address the new industry, with varying success. The permitting process could be difficult to navigate, and for more complex operations, working through the maze of state and federal permits could take years. The need for improved communication and cooperation among agencies, and the development of a system akin to "one stop shopping" was universally supported.

With funding from CZM, *MarineFisheries* hired retired Deputy Director Jim Fair to work on these issues. Mr. Fair had worked extensively on the development of the 1995 White Paper, and had been the agency's main contact on aquaculture and invasive species. Mr. Fair is drawing heavily on existing state and federal regulations, guidance documents produced by the Atlantic States Marine Fisheries Commission, and proceedings of recent symposia on marine aquaculture to draft proposed rules.

Four classes and five types of permits are being considered covering all possible types of aquaculture systems. The proposal contains guidelines for joint site review by cooperating agencies, biological controls, operational guidelines and monitoring requirements. In many ways, this effort essentially "codifies" the existing array of policies, guidelines, and permit conditions into one concise rule.

A public meeting will be held on **September 26th in Hyannis at the Courtyard by Marriot (Route 132) at 2:00 p.m.** to discuss the program. All recommended changes or additions will be carefully considered. Those who can't attend the meeting are encouraged to submit comments in writing to Jim Fair c/o DMF, 50A Portside Drive, Pocasset, MA 02559. A final draft of the regulations will be prepared and posted, and a formal public hearing will be held later this fall. Industry members and all those interested in aquaculture are strongly advised to participate in the review process. For more information, please visit our website at www.mass.gov/marinefisheries or email Jim Fair at Jim.fair @state.ma.us.

Edgartown Great Pond reopened to shellfishing

On August 15th, Secretary of Environmental Affairs Ellen Roy Herzfelder reopened the 875-acre Edgartown Great Pond to recreational and commercial shellfishing after a five-year closure. Great Pond, an area that has traditionally supported an extensive clam and oyster fishery, was closed in 1998 due to bacterial pollution.

In the intervening years, cooperative efforts by local, state, and federal agencies were successful in alleviating many of the impacts caused by various sources of pollution. One of the primary reasons for improved water quality has been the $13,000,000 wastewater treatment plant upgrade. This significantly reduced levels of nutrients being introduced into the substrate proximal to the pond. Concomitant to this improvement, the town brought septic systems adjacent to the pond into compliance with Title V of the Massachusetts Environmental Code (310 CMR 15.00).

Throughout these developments, local cooperation has been outstanding. Community groups such as the Great Pond Foundation and the Town of Edgartown assisted *MarineFisheries* with monitoring and analyzing water quality improvements. The Great Pond Foundation also contributed funds towards tidal dredging that appreciably improved flushing of the pond by seawater. Town shellfish constable, Paul Bagnall, was instrumental in acquiring grants to examine the many potential negative elements impacting the pond.

All of these efforts combined to assure more sustainable access to the shellfishery by both commercial and recreational harvesters. It is expected that more than 1,000 recreational harvesters will benefit from the Great Pond reopening. Commercial shellfish landings are expected to be worth up to $250,000. These fisheries could add nearly $1 million to the community's economy.

Monitoring and maintenance dredging will ensure the continued health of Great Pond. UMass-Dartmouth is also involved in a study to determine the impact of groundwater through its School for Marine Science and Technology's Estuarine Project. This study will ultimately lead to the development of a model which will be used to further assist in the land-use plan.

DMF Photo

LEFT: Environmental Affairs Secretary Ellen Roy Herzfelder and Edgartown Shellfish Officer Paul Bagnall tour the recently reopened Edgartown Great Pond.

Sea scallop management bolstered by innovative UMASS survey

DMF Photo

SMAST researcher Dr. Kevin Stokesbury.

University of Massachusetts at Dartmouth School for Marine Science and Technology (SMAST) scientists, working with the commercial scallop industry, continue to provide critical information for sea scallop management. Improving the science and protecting the future of the scallop fishery are the objectives of this cooperative work entailing underwater video surveys of all the major scallop beds on Georges Bank and in the Mid-Atlantic. This initiative spearheaded by Dr. Kevin Stokesbury and announced in New Bedford by SMAST's Director Dr. Brian Rothschild and Chancellor Jean MacCormack, began in May of 2003. Fifty-four (54) days for surveys involving nine 6-day trips were scheduled. Surveys have just been completed with video footage for over 1,800 stations.

MarineFisheries has supported this survey work from its inception, and we provide substantial funding to help ensure its success. Our continued support is a part of our involvement with the Massachusetts Marine Fisheries Institute (MFI) linking the UMASS Intercampus Graduate School of Marine Science and Technology with *MarineFisheries*. We've partnered with UMass to promote sustainable fisheries by providing timely information and guidance to protect, conserve, and manage Massachusetts' marine and coastal resources.

The industry has a major and special role in these surveys as evidenced by substantial and critical voluntary support: donation of funds, vessel time, fuel, and food. In fact, the New England Fishery Management Council's Amendment 10 to its Sea Scallop Management Plan will depend on industry surveys of scallop beds to identify locations of small, juvenile scallops that can then be protected through closures allowing scallops to grow and mature before catches are allowed.

Survey results provide direct observations of scallop beds and habitat type. This information will be extremely useful for New England Fishery Management Council members in makings decisions on scallop management and habitat protection. SMAST data will eliminate much of the guesswork relied on so far to identify areas that should be protected.

Working with the fishing industry to improve sea scallop assessments is an example to be followed with other fisheries. Mindful of our success with sea scallops, *MarineFisheries* currently is involved in a similar effort for Gulf of Maine cod. Our progress with the survey funded by NOAA Fisheries is described on page 6.

For more scallop survey details, visit the SMAST website at www.cmast.umassd.edu.

Update on Buzzards Bay Oil Spill

Local, state, and federal agencies respond to marine wildlife crisis

Since the April 27 oil spill in Buzzards Bay, *MarineFisheries* Shellfish Program staff have been an integral part of the multi-government response. Work continues as program staff and Department of Public Health (DPH) monitor shellfish for declining contaminant levels towards an eventual reopening of affected shellfish areas.

On the evening of Sunday, April 27, 98,000 gallons of No. 6 fuel oil began leaking from Bouchard Barge 120. This represents the second largest spill in Buzzards Bay history. By the following morning, local, state, and federal agencies were mobilized and coordinating emergency response protocols to mitigate the scale and duration of impacts on habitat, marine resources, and recreational and commercial harvesters.

Designated Shellfish Sanitation and Management Program personnel, headed by Chief of Program J. Michael Hickey, immediately reported to the Incident Command Post established by the U.S. Coast Guard (USCG) at Air Station Cape Cod on the Massachusetts Military Reservation to assist the Commonwealth's DEP, the USCG, and NOAA with the oil spill response. The Incident Command Post quickly enabled the coordination of such necessary activities as planning, logistics, operations, finance, and media relations. State and federal agency officials further coordinated their efforts under Coast Guard leadership by forming a key decision making body: "Unified Central Command" (Central Command).

Cooperative Emergency Response

Based upon wind and tide projections, it became immediately apparent that the lower three-quarters of the Bay could be affected before the end of the day. Consequently, it was

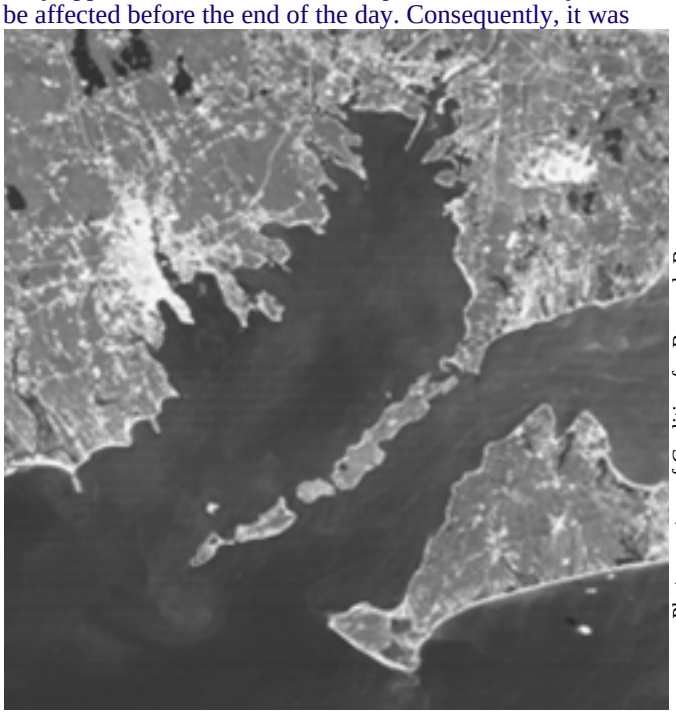


Photo courtesy of Coalition for Buzzards Bay.

Aerial view of Buzzards Bay.

decided to close the waters, flats, and all tributaries of Buzzards Bay westerly of lines drawn across the western entrances to Woods Hole, Robinsons Hole, and Quicks Hole,

Photo courtesy of USCG

Protective booming surrounds Bouchard barge 120, in foreground, surrounded by tugs and another barge.

and southwesterly of a line from Nyes Neck in Falmouth to Angelica Point in Mattapoisett to the Rhode Island/ Massachusetts line to the harvesting of shellfish as a public health precaution. All other fisheries remained open.

Local officials were invaluable during the first day in helping state and federal agencies coordinate response and direct assets. Communication and cooperation at all levels was critical in establishing protection, containment, and cleanup strategies as well as ensuring their ultimate and timely execution.

On day two (April 29) *MarineFisheries* was fully involved at Central Command, with members on the Shoreline Cleanup and Assessment Teams (SCATs) alongside Coast Guard and DEP personnel. Their role was to survey the progress of the cleanup on oil-impacted shorelines, assess the performance of protective booming at 15 identified sites, and investigate reports of newly oiled shoreline. *MarineFisheries* staff became an invaluable resource to the SCATs due to their knowledge of the area and numerous local contacts.

On April 30 Captain Mary Landry, USCG, conducted a briefing at the Incident Command Post. Attendance by ten municipalities and several agencies including Massachusetts Coastal Zone Management, the Buzzards Bay Project, and members of Central Command helped to identify problems and strengthen community interaction and cooperation with Central Command.

That same morning, the upper quarter of the Bay remaining open to shellfish harvesting was closed due to the imminent movement of oil into the area (all non-shellfish related fisheries remained open).

Marine Resource, Habitat, and Economic Impacts

Of immediate importance to *MarineFisheries* was the identification of environmentally sensitive marine resource areas for immediate protection, involving the placement of booms. Major concern then shifted from initial protection of sensitive areas to documenting oil-affected areas later in the week in order to begin the process of opening shellfish beds and assist in natural resource damage assessment.

In order to gather the information necessary to properly manage public health issues, *MarineFisheries* and DPH coordinated sampling efforts with Entrix, the private environmental assessment laboratory contracted by Bouchard Transportation. Upon receipt of data analyzed by Entrix, *MarineFisheries* was able to reopen closed shellfish beds in un-oiled and very lightly affected areas of Bourne, Dartmouth, Fairhaven, Falmouth, Gosnold, Marion, Mattapoisett, New Bedford, Wareham, and Westport on May 22nd. This area of coastline comprises approximately 90,000

acres, roughly half of the Bay's 180,000 acres, representing up to $2 million in annual catch.

A total of 90,000 acres of shellfish beds near moderately and heavily oiled shorelines have remained closed until tissue sampling can confirm that area shellfish are safe for human consumption. Since there are no national standards for shellfish oil contamination, state health and fisheries officials must work together along with other federal agencies and researchers to develop a risk evaluation in order to ensure that public health is protected when shellfish beds are reopened. Creating a single index to facilitate risk assessment involves the individual analysis of a multitude of compounds known as polyaromatic hydrocarbons (PAH), further complicating the process.

Levels of PAH have dropped dramatically as exposure to oil has diminished, mainly as a result of dissipation and cleanup efforts. In some cases, levels of PAH have dropped by over 90%. At the current rate of decrease, it is anticipated that *MarineFisheries* may be able to begin reopening of the remaining closed areas in late September.

Realizing the heavy impact these continued closures have on commercial shellfisherman, *MarineFisheries*, Entrix, and DPH, have maintained a cooperative working relationship to expedite data collection and analysis. Economic impacts on fisheries are yet to be determined. Variables such as length of closures and amount of area closed as well as productivity of closed areas all contribute to the overall economic impact. Additionally, consumer confidence in fishery products harvested from Bay waters is an important factor. According to town reports, the annual value of shellfish harvested from Buzzards Bay is $4 million. This is the wholesale price paid to fishermen. At a minimum there is a multiplier effect of 4.5 times on the local economy for an overall value of about $18 million.

To date, there have been no detectable adverse impacts on other fisheries such as finfish, lobster, or conch. It is believed that no appreciable amount of oil sank to the bottom of the Bay based upon reports from lobstermen who retrieved their pots. Only some oiling of floating lobster buoys and lines have been confirmed. *MarineFisheries* deployed lobster pots containing pieces of oil absorbent boom known as "Snare" from May 2 through May 20th at several locations including Barney's Joy Beach, a heavily oiled area. Only on two occasions were spotty amounts of oil retrieved from the area offshore of Barney's Joy. After May 20th, Entrix assumed responsibility for this activity.

Photo courtesy of USCG

Double booms set across estuaries prevented the spread of oil and minimized resource impacts.

DMF Photo

DMF Biologist Terry O'Neil loads lobster traps with oil absorbent material known as Snare. Placing traps on the seafloor throughout the Bay allowed biologists to determine the spread of oil.

Additionally, as part of the annual spring trawl survey, *MarineFisheries* conducted bottom trawl tows in various locations in Buzzards Bay on May 20-21, aboard the NOAA vessel, R/V Gloria Michelle. Five of the nine tows were in portions of the Bay impacted by oil and used a fine mesh liner in the cod end. No oil was observed in any of the tows.

Status of the Bay

Tremendous inroads have been made towards recovery of Buzzards Bay's marine resources, mainly due to the dedicated and coordinated efforts of a large number of individuals and agencies from the local to federal level. As of August 27th, 145 samples of six species of bivalves have been collected from 55 locations. Work, however, remains to better characterize full environmental impacts and recommended future steps to restore habitat, to protect wildlife, and to rehabilitate shellfish beds, but a framework has been put in place.

The natural resource trustees, NOAA, USFWS, and the State of Massachusetts, will develop a natural resource damage assessment (NRDA) that will describe the potential resource injuries and service losses and the types of restoration projects to address these injuries and losses. Trustees have begun and will continue to meet with citizens, community and environmental groups, and local and regional officials to explain the NRDA process, and, at the appropriate time, solicit potential restoration project ideas. The public will also have an opportunity to review and comment on the draft damage assessment and restoration plan.

Questions regarding fisheries closings should be directed to *MarineFisheries* at 508-563-1779; public health issues should be directed to DPH at 617- 624-6000.

Industry-Based Cod Survey Team tests net design at Newfoundland flume tank

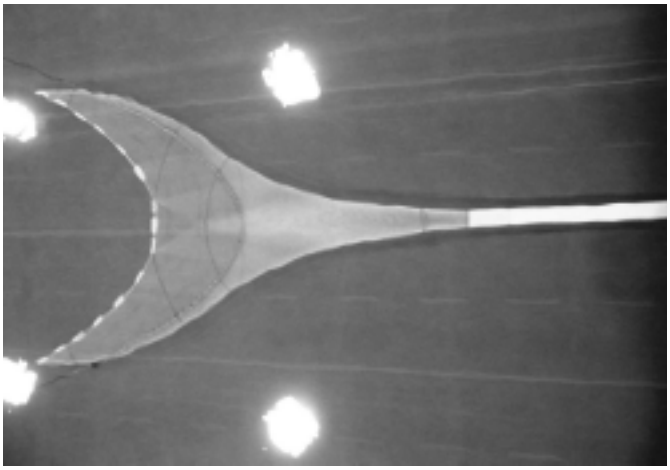
by Bill Hoffman, Cod Survey Project Leader

Last September *MarineFisheries* was awarded a contract from the Cooperative Research Partners Initiative (CRPI) to implement the Industry-Based Survey (IBS) for Gulf of Maine cod. The survey's purpose is to define a fine-scale, temporal and spatial distribution of Gulf of Maine cod, enhance data used for management decisions, and facilitate cooperation between the commercial fishing industry, scientists, and fishery managers. The project was created through a collaborative effort including the New England Fishery Management Council and CRPI, and a committee that was comprised of state and federal fisheries scientists, managers, and commercial fishing industry participants from Maine, New Hampshire, Massachusetts, and Rhode Island.

Sampling design for our survey will consist of stratified random sites with fixed stations to accommodate local areas of particular concern to industry participants. Fixed stations will be determined through a series of interviews with the commercial fishing industry. The survey's range will extend from shore out to 60 fathoms (including Cashes, but not Georges Bank) and within the area specified from 41° 30' up to the northern extreme of the Hague Line.

The survey will consist of five 10-day sampling cruises that will begin in mid-November and end in May. Four trawlers will be outfitted with necessary survey gear that will include: two standardized survey trawls, ground cables, Bison number 8.5 doors, a net mensuration system, and necessary sea sampling equipment. In addition, a chief scientist and sea sampler will be aboard.

One challenge of conducting an industry-based survey with several different commercial fishing vessels is standardization. Because standardization between the vessels is paramount to the success of our survey, *MarineFisheries* decided to take advantage of the expertise and facilities at the Marine Institute of Memorial University in St. John, Newfoundland. The Marine Institute owns and operates the world's largest flume tank and is recognized as one of the leaders in testing commercial and survey fishing gear. A flume tank allows fishermen and scientists to observe a scaled version of a net when towed. Usually, to tune a net to fish efficiently, fishermen must make dozens of tows and interpret "signs" (e.g., shine on a door or chain, type of species caught, pounds of species caught per hour compared to other boats in the area).



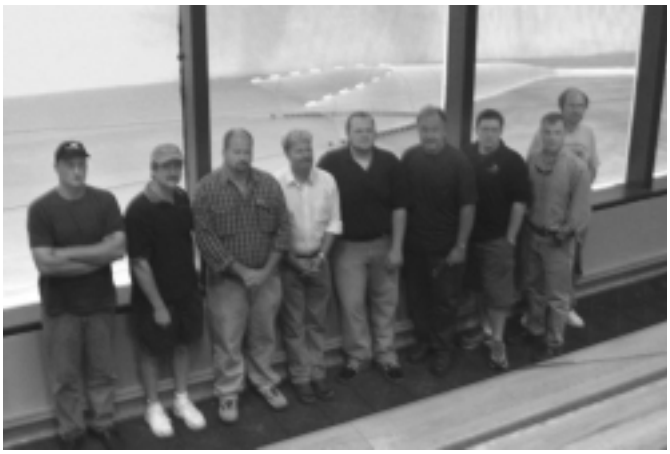
DMF Photo

Top view of the Reidar's 360.

In August of 2003, *MarineFisheries* staff and survey participants traveled to Newfoundland to test and refine the survey net and to get a clear understanding of the net's design. The group included: Jim Ford (owner/captain, F/V Lisa Ann II), Michael Love (owner, F/V Titan), Russell Sherman (owner/captain, F/V Lady Jane), Steven York (captain, F/V Jocka), Tor Bendiksen and Hans Bendiksen (Reidar's Manufacturing, net builder), Thomas Moth-Poulsen (*MarineFisheries* Conservation Engineering Program Chief), David Pierce (*MarineFisheries*, Deputy Director), and Bill Hoffman (*MarineFisheries*, Field Coordinator for the Industry-Based Survey).

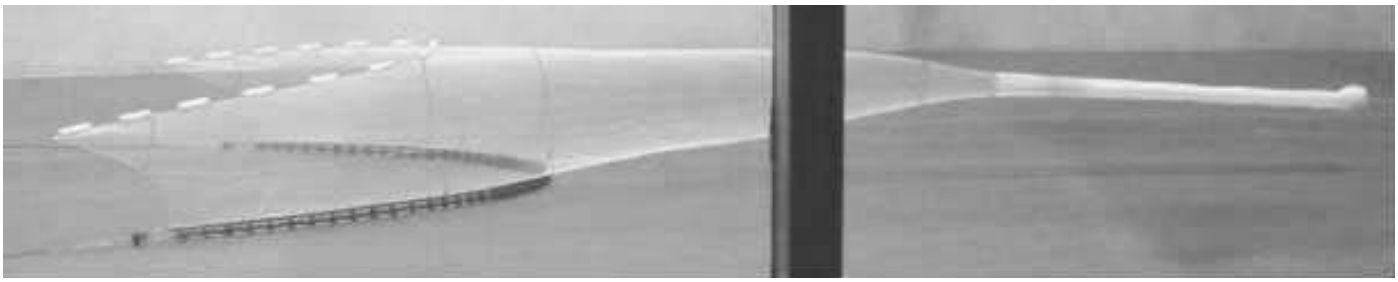
The survey trawl net is a product of many meetings and personal interviews that *MarineFisheries* held with participants from commercial fishing industries from Rhode Island to Maine. Reidar's Manufacturing Inc., located in New Bedford, was contracted to produce the net plan and build 6 identical survey trawls. The end product was the Reidar's 360. It is a two seam, high-rise net specifically designed to catch a full range of cod year-classes, while targeting the larger, mature fish. The net has a 150-foot fishing circle, 87-foot sweep, and 84-foot headrope. The wings and body of the net are made from 4.5-inch Euro twine tapering in the extension to a 3-inch codend with a 2-inch mesh liner. The sweep is a 14-inch "rockhopper" with 14-inch disks in the belly tapering to12 inches in the wings. Bridals and ground cables are each 15 fathoms. Both bottom leg and ground cable will be rubber cookie-covered to decrease wear and improve a mud cloud effect.

To design and construct a scale model of the survey trawl, *MarineFisheries* contracted SINTEF Fisheries and Aquaculture at the North Sea Center in Hirtshals, Denmark. SINTEF owns and operates a flume tank originally used as a prototype for the construction of the Newfoundland tank. Model builders scaled the net on an 1:8 ratio.



DMF Photo

The group left to right: Jim Ford, Steve York, Michael Love, Thomas Moth-Poulsen, Hans Bendiksen, Russell Sherman, Tor Bendiksen, Bill Hoffman, and David Pierce.



Side view of the Reidar's 360 from the viewing gallery. Photo by the Marine Institute.

Model construction is a technical and exact science. For the model to behave the same in the tank as the real trawl in the ocean, the model must be precise in terms of measurements and weights for every panel of twine, can, roller, and shackle.

Tests on the IBS trawl net lasted three days and during that time different scenarios were run to calculate the trawl's optimum fishing shape and challenging it to find its limits. Tests revealed that while being towed at 3.0 knots the net had an excellent geometric shape; the sweep had perfect bottom contact; and the headrope had an impressive 14.4 feet of height! Other experiments included: warp off sets, upper bridal set backs, upper bridal reduction, excessive buoyancy, minimal buoyancy, under spread, and over spread. In all instances, the net maintained perfect bottom contact and its shape.

We were able to establish the net's optimum geometric shape and to record its dimensions and angles. This will be particularly useful because *MarineFisheries* plans to purchase net mensuration equipment to calibrate the trawls. Using this equipment and data collected during flume tank tests, we can ensure six identical trawls to be fished in a standardized way by each survey vessel.

We are grateful for industry cooperation with trawl development, a good net design from Reidar's Manufacturing Inc., excellent participation from the group at flume tank testing, and expertise of the Marine Institute in Newfoundland. *MarineFisheries* will have the best possible trawl to use in the Gulf of Maine cod Industry-Based Survey.

For additional information, contact Bill Hoffman at (978) 282-0308, Ext. 106, or through email at Bill.Hoffman@state.ma.us.

DMF Photo

Net builder Tor Bendikson examines net model with MarineFisheries Conservation Engineering Chief Thomas Moth-Poulsen and Glenn Blackwood, Director of the Center for Sustainable Aquatic Resources at Memorial University. The results from the scale model testing will be used to build eight duplicate nets for use on the contracted commercial vessels.

Right Whale Conservation Program studies offshore lobster fishery lines

by Ed Lyman, MarineFisheries Protected Species Specialist, and Dick Allen, AOLA Consultant

The Massachusetts Division of Marine Fisheries is teaming up with the Atlantic Offshore Lobstermen's Association (AOLA), NOAA Fisheries, local fishermen, and rope experts over the next two years to work on a project to develop "optimal" non-floating groundlines to reduce large whale entanglement.

This project will have important ramifications for many fishermen who will likely be asked over the next several years to make investments in new line to comply with state and federal whale protection rules.

This project is especially timely because NOAA Fisheries just announced on August 26 that lobstermen may be allowed to maintain their gear in the controversial "Dynamic Area Closures" if the line connecting traps is rigged with non-floating groundlines. For more details, see www.nero.nmfs.gov.whaletrp.

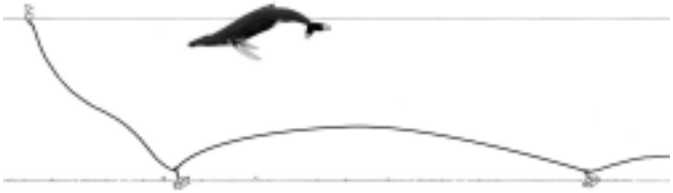


Diagram of lobster trawl rigged with "floating" groundline. Floating mainlines are now prohibited in Cape Cod Bay.

Lowering the groundline in the pot fisheries represents a real solution to the problem of right whale entanglement. But it will take patience and all of us chipping in to make it happen. While our project focuses primarily on the offshore lobster industry, we believe the results will be applicable to all trap fishing operations along the East Coast. The goal of this project, which is supported through a grant from the National Fish and Wildlife Foundation, is to work closely with AOLA member fishermen to take the lead in developing non-buoyant rope products for use as groundlines that will meet the needs of lobstermen. In terms of entanglement risk reduction, "optimal" groundlines would be groundlines that don't hang above the ocean floor where whales can run into them.

For the lobster industry, we think "optimal" means lines that:

- Won't degrade due to abrasion from contact with the bottom;
- Are strong enough to withstand hauling loads; and
- Are not substantially more expensive than rope products lobstermen currently use.

As in the past, we need assistance, experience, and input from the fishing industry to make this happen.

The Problem Is Arcs

To prevent entanglements, it is critical that we replace traditional floating groundlines. Underwater cameras have documented that floating line creates horizontal arcs between traps rising 15'-20' above the ocean floor. Just last year, four right whales were reported with mouth entanglements and these arcs of groundline are suspected as the cause of the problem. Massachusetts state officials and Cape Cod Bay lobstermen have been working for several years to promote the use of non-floating line to reduce whale entanglements.

As of January of 2003, lobstermen have stopped fishing "floating" groundlines year-round in the Cape Cod Bay Right Whale Critical Habitat and are switching over to groundlines that sink to the ocean floor. Next year, that switch over will include waters west of the critical habitat. These rule changes were adopted with fishermen's cooperation to settle a long-standing federal lawsuit (*Strahan v. Durand)* that was closed in First District Federal Court in January of 2001. Cape Cod Bay lobstermen, as well as a number of other lobstermen throughout the Gulf of Maine, realize that the use of non-buoyant line is a significant and real step towards reducing the entanglement threat for the North Atlantic right whale and other species of large whales.

Thanks to the efforts of these fishermen and Glenn Salvador, John Kenney, and John Higgins of the NOAA Fisheries Gear Team, many fishermen throughout the Gulf of Maine are already using neutrally buoyant line and finding that for their particular fishery and area fished, it appears to work. These changes were possible because inshore fishermen have found that it is operationally feasible to use sinking line or newly manufactured neutrally buoyant lines, which are close to the specific gravity of sea water.

This kind of modification in gear use and fishing practices appears to be the cost of doing business in the modern world of the Marine Mammal Protection Act.

Offshore Concerns

However, offshore fishermen have so far found that the use of sinking and neutrally buoyant line is impractical because the line appears to degrade quickly. Fishermen feel that the line picks up particles of sand that act like sandpaper as it is being hauled, destroying both the line itself and the hauling equipment.

The heavy strain and twisting action that occurs when offshore trawls are hauled up in deep water appears to intensify the grinding action of the sand in the rope. There are other problems, too. Twisted rope tends to untwist as it is hauled in with a heavy strain. This causes the gangions to twist around the groundline, requiring the traps to be untwisted when they get to the rail of the boat. Rope differs in its tendency to twist. Cost, strength, consistency, ease of splicing, and the suppleness of rope are all considerations in its usefulness as groundline. So, for the offshore lobster industry and perhaps other pot fisheries, such as those fishing rocky or high current areas, we have to develop non-buoyant rope products for use as groundlines that will meet the needs of fishermen throughout a diverse fishery and the Gulf of Maine.

Help Needed

To develop this optimum line, we will be relying on lobstermen's expertise and are asking anyone with ideas on groundline needs and performance to help us out. We are interested in existing groundline configurations, especially in

the offshore lobster industry, and in the continued assessment of trap gear already rigged with non-floating groundline.

We'll also be interviewing rope manufacturers to determine how capable and interested they are in producing negatively and/or neutrally buoyant rope with an emphasis on the special problem of abrasion under heavy hauling loads. Then we will provide them with the information gathered from the industry through the interviews, surveys, and what we already know based on past experience.

Simulator

Rather than take samples of new rope and test them right away within the industry, we will design and fabricate a groundline hauling simulator and a testing protocol to simulate long-term wear and tear on lobster trawl lines in a lab setting. This simulator will subject groundline to accelerated wear comparable to what would happen under months or years of normal use. The tester will simulate hauling tensions and contact with an abrasive sea floor. Like previous studies, the new line for testing will be purchased with funds incorporated in the grant in quantities sufficient for testing both in the fishery and through lab simulation.

Field Testing

Fishermen have stated that line should be fished for a year or longer to get a realistic sense of its durability. This study hopes to do just that by testing lines in the field until August of 2004. We'll keep track of how the line performs through ongoing interviews and surveys with fishermen who are actually using the line. We'll also periodically take line samples for laboratory testing. Add to this the past and continued efforts of fishermen and the collaborating NOAA Fisheries Gear Team, and we will have a substantial amount of data to work with.

Is it Whale-safe?

To ensure that all this is actually reducing the threat of entanglement by lowering the line's profile in the water column, we will document how the groundline behaves by using a remotely operated vehicle (ROV) to gather underwater images and by attaching automated depth sensors called "mini-loggers" to groundlines that will continuously record the depth over time. The advantage of the mini-loggers is that they will provide additional data and allow us to look at changes in the groundline arcs with changes in tidal currents.

Economics

Finally, we'll look at how much all this will cost. Sinking or neutrally buoyant line typically costs more than floating rope. That's because the materials used to make high-density line are more expensive. Also, sinking and neutrally buoyant line has a higher density, so the same length of line weighs more. Since line is sold by the pound, heavier line is more expensive for the same length.

Right now, sinking polyester line costs about three times as much as floating polypropylene line. We need to evaluate the economic feasibility of a change-over to negative buoyancy line in the lobster fishery. We will also research options for recycling or disposing of existing lobster trawl groundline as part of a program to phase-in negatively and/or neutrally buoyant line. If you would be willing to participate in this study, please contact: Ed Lyman of DMF, (978) 282-0308 ext. 157, <Edward.lyman@state.ma.us>; John Higgins of the NOAA Fisheries Gear Team, (207) 677-2316, <scallop@tidewater.net); or Dick Allen of AOLA, (401) 789-1463, <rballen@cox.net>.

An earlier version of this article appeared in the July 2003 Commercial Fisheries News.

DMF Photo

USGC Lt. Paul Murphy (left), Commanding Officer of the Northeast Regional Fisheries Training Center and Michael Syslo (right).

MarineFisheries lobster specialist awarded Coast Guard Commendation

Division of Marine Fisheries Biologist, Michael J. Syslo, was awarded a Coast Guard Public Service Commendation on Tuesday, June 3, by the First Coast Guard District Commander, Rear Admiral Vivian Crea. The award was presented to Mr. Syslo at the Coast Guard Northeast Regional Fisheries Training Center (NRFTC), a tenant command of Air Station Cape Cod. Mr. Syslo was recognized for his fourteen years of instruction to Coast Guard and other federal, state, and local law enforcement agency personnel that conduct Living Marine Resources Enforcement from Maine to Virginia. Mike has become a renowned lobster fishery expert through more than two decades of experience as the supervisor of *MarineFisheries'* Martha's Vineyard lobster hatchery. His extensive knowledge has enabled NRFTC students to immediately apply his instruction during fisheries enforcement efforts in the Northeast and mid-Atlantic regions.

MarineFisheries and Town of Kingston Dedicate Fishway

On June 7th Division of Marine Fisheries Director Paul Diodati dedicated the Elm Street Fishway to Kingston resident Daniel Cary Walker. Daniel's personal interest to restore the fishway lead him to coordinate restoration efforts between local and state officials.

Rehabilitation for the Jones River Fishway was sponsored by Representative Thomas O'Brien and was completed by *MarineFisheries* in 2001. The project involved construction and installation of an aluminum "steeppass," and has subsequently resulted in improved upstream passage for river herring. The area hosts one of the Commonwealth's top 5 smelt spawning sites supporting a total of nine species of anadromous fish (fish residing in saltwater, but entering freshwater to reproduce): River herring (Alewife and Blueback herring), White perch, Sea Lamprey, Atlantic tomcod, American eel, Brook trout, American shad, and Atlantic rainbow smelt. All but the rainbow smelt can utilize the fishway to some extent to surmount the dam.

DMF *Rules UPDATE*

Public Hearings • Regulations • Legislation

Notice of Public Hearings
Scheduled for September 22 & 23, 2003

Under the provisions of M.G.L. Ch 30A and pursuant to the authority found in M.G.L. Ch. 130 ss. 17A, 80, 100A and 104, Division of Marine Fisheries (DMF) and the Marine Fisheries Commission (MFC) have scheduled hearings on the following regulatory proposals. Contact DMF for draft regulations and further details.

MarineFisheries proposes the following regulatory changes to commercial and recreational lobster, limited-entry fishery permits, gear rules designed to protect northern right whales, commercial scup possession limits, commercial striped bass dealer measures and recreational haddock regulations (322 CMR 3.00, 6.00, 7.00, 8.00 & 12.00):

1. **Commercial lobster permit holders**:
   (a) would not be allowed to transfer permits between LCMAs. Federal lobster permit holders could have LCMA 3 in addition to either LCMA 1, 2 or OCC;
   (b) in LCMA 1 would be regulated under a zero-tolerance v-notch definition. All other commercial and noncommercial lobster permit holders would be regulated by "a notch that is straight-sided triangular cut, without setal hairs, at least 1/4" in depth and tapering to a point";
   (c) diving for lobsters would be required to measure all lobsters prior to surfacing, this would apply to non-commercial divers as well;
   (d) could use solely trap tags to meet trap marking requirements (322 CMR 3.07);
   (e) would have to purchase and install trap tags in traps by June 1; and
   (f) would have to locate escape vents "on the outside of the trap next to the bottom edge."
2. **Comments will be taken on the following emergency actions:**
   (a) moratorium on lobster license transfers except between immediate family members;
   (b) clarification of eligibility for letters of authorization;
   (c) February 6, 2003 control date for issuance of new offshore lobster fishery permits;
   (d) and moratorium on the issuance of new permits for the offshore lobster fishery except to those federal lobster permit holders not authorized for trap gear; and
   (e) lowering of recreational haddock minimum size from 23" to 21".
3. **Fixed gear rules to protect Northern right whales:**
   (a) replace all references to "sinking" or "neutrally buoyant line" with "negatively buoyant line;" and
   (b) eliminate 7/16" line from the Technology List of gear options.
4. **Trawlers would be permitted a 300-lb. scup limit from June 10th until the annual scup quota is reached except on no-fishing days of Friday and Saturday.**
5. **Upper Cape Cod Whiting Area:**
   (a) extension of southern boundary to 42° latitude to complement recent federal changes; and
   (b) extension of Sept. – Oct. fixed gear free zone southern boundary to 42° latitude.
6. **Commercial Striped Bass:**
   (a) Any person would be prohibited from receiving during a first sale any striped bass unless permitted as a wholesale or retail dealer pursuant to 322 CMR 7.01. All persons involved beyond the first sale of striped bass shall furnish upon request of the Director or the Environmental Police purchase receipts documenting the sale of the fish.
   (b) Person means any individual, firm, corporation, association, partnership, club, bar, restaurant, supermarket, food warehouse, or private body.
7. **Limited entry commercial permit holders would have until December 31 (instead of June 30) to renew their permits.**

Two public hearings have been scheduled:

- Monday, September 22, 2003 (7PM) at the Gloucester High School (32 Leslie Johnson Rd.) and
- Tuesday, September 23, 2003 (7PM) at the Plymouth North High School (41Obery St.).

Scheduled for September 24, 2003

***MarineFisheries* proposes an effort control plan in Outer Cape Cod (OCC) for the commercial lobster fishery to meet the objectives of the current Atlantic States Marine Fisheries Commission management plan under Addendum III to Amendment 3 (322 CMR 7.00).** Two separate plans will be proposed:

1. **ASMFC approved plan drafted by OCC LCMT:**
   (a) eligibility limited to those having fished traps for two consecutive months during Jan. 1999 – Dec. 2000 in OCC fishery;
   (b) trap allocation based on 2000 catch report statistics;
   (c) during Jan. 1- Mar. 31 all gear must be brought ashore;
   (d) transferred licenses with an OCLMA fishing history would receive a starting trap allotment based on that history while participants entering the OCLMA fishery in 2001 would receive a trap allotment based on traps fished during 2001. These allotments will be apportioned from a percentage of the overall trap cap, not to exceed 2% of the total;
   (e) 10% reduction in traps upon transfer;
   (f) active reductions for every permit holder would be enacted before 2008 if 25% overall reduction is not achieved; and
   (g) new participants would require transferred traps from an existing participant.

2. ***MarineFisheries* proposed plan:**
   (a) eligibility limited to those having fished traps during Jan. 1999 - Dec. 2000 in OCC fishery. Any permit holder who dropped OCC from permit since 2000 would be ineligible;
   (b) trap allocation based on average over 5 years (97-01) of yearly maximum traps fished;
   (c) during Jan. 1- Mar. 31 all gear must be brought ashore;
   (d) any fishermen having received permit during the 5-year period can appeal to have the previous owner's history ignored;
   (e) transferable traps would be limited to number of traps commensurate with the average poundage based on DMF published data;
   (f) traps would be transferred in minimum blocks of 50 traps;
   (g) 10% reduction in traps upon transfer;
   (h) active reductions for every permit holder would be enacted before 2008 if 25% overall reduction is not achieved; and
   (i) new participants would require transferred traps from an existing participant.

A public hearing has been scheduled:

❖ Wednesday, September 24, 2003 (7PM) at the Forestdale School (151 Route 130).

Regulations Update

During the period April through July, the following regulatory changes were enacted by DMF after public hearings and Marine Fisheries Commission (MFC) approval.

A recreational sea scallop possession limit (1 bushel whole scallops/ 4 quarts shucked meats) and new commercial sea scallop diving endorsement became effective on May 23RD. No person shall be issued such an endorsement unless they are a bona fide resident of the Commonwealth or is a resident of a state that grants equal access to MA residents. SCUBA divers aboard vessels where the scallop quantities exceed the recreational possession limit are required to possess individual commercial permits endorsed for sea scallop-diving ($65 residents / $130 for non-residents).

Commercial lobster escape vent size increased in LCMAs 2, 3, and OCC to 5 3/4" x 2" (rect.) or 2 1/2" (circ.); minimum sizes increased to 3 3/8" in LCMA 2 and 3 11/32" in LCMAs 3 and OCC (322 CMR 6.00).

Scup possession limit of 400 lbs. was enacted in the directed scup fishery along with a delayed opening of August 1 and an additional no-fishing day on Fridays. The weir set-aside increased to 225,000 lbs. while a 100 - lb. scup possession limit was approved for both the pot and hook fisheries during black sea bass open fishing periods (322 CMR 6.00).

A **1,160,000-lb. quota** was approved for the commercial striped bass fishery and the **recreational striped bass possession limit increased to 2 fish at 28" or greater** (322 CMR 6.00).

Otter trawl mesh **is required to be 6 1/2" throughout the cod-end, and 6" mesh throughout the remainder of the net** (322 CMR 8.00).

Emergency Actions:

- **Right whale protection measures were extended from April 30 through May 9TH** to accommodate the late departure of right whales from Cape Cod Bay. Fishermen were prevented from setting single traps (one buoy line per trap) until right whales departed the Bay (322 CMR 12.00);
- **600-lb. commercial dogfish possession limit from May 1 - August 15TH** (322 CMR 6.00);
- **May 1, 2003 control date for commercial striped bass** (322 CMR 6.00);
- **Moratorium on coastal lobster permit transfers** except to immediate family (322 CMR 7.00);
- **moratorium on issuance of offshore lobster permits** except to those federal lobster permit holders not authorized for trap gear (322 CMR 7.00);
- **February 6, 2003 control date for the offshore lobster fishery** (322 CMR 7.00);
- **eligibility criteria for limited entry fishing permit letters of authorization** were clarified. Eligible individuals are required to fish such permits using the permit holder's gear and boat (322 CMR 7.00);
- **Recreational haddock minimum size was reduced from 23" to 21"** (322 CMR 6.00).

INSIDE...

Surfers • Surfers • Surfers
This Newsletter and Other Information is available at our Web Site!
http://www.mass.gov/marinefisheries

DMF NEWS

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