

Changing Tides

April 2007



NOAA FISHERIES SERVICE NORTHEAST REGION
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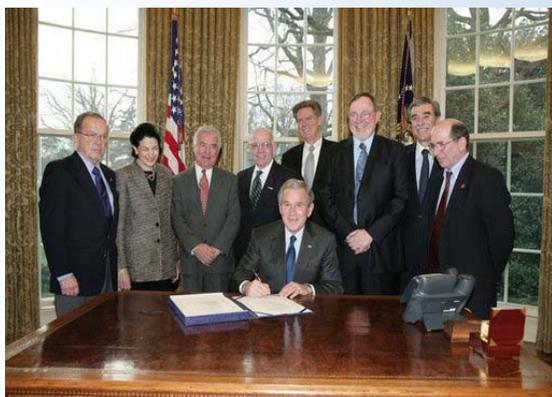


Magnuson-Stevens Fishery Conservation and Management Act Reauthorized

On January 12, 2007, the President signed the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006 (MSRA). The MSRA reauthorizes the

Magnuson-Stevens Fishery Conservation and Management Act (MSA) which is the major governing authority for all fishery management activities that occur in U.S. Federal waters. Reauthorization is required to keep the law current and to address new or persisting fishery management and conservation problems. It was last reauthorized in 1996. Originally signed into law in 1976, the Magnuson Act, as it was then called, established the Exclusive Economic Zone (EEZ) and a system for the monitoring and

management of fish stocks in the EEZ. NOAA Fisheries Service became the lead federal agency for managing fisheries within the EEZ, in concert with eight regional fishery management councils. In the Northeast Region, the New England Fishery Management Council and the Mid-Atlantic Fishery Management Council are responsible for developing fishery management plans (FMP). After review by NOAA Fisheries Service, the FMP measures are approved or disapproved, based on their compliance with the MSRA and other applicable laws. Approved measures are implemented, enforced, and monitored by NOAA Fisheries Service, along with the U.S. Coast Guard and cooperating state agencies. *(Story continued on page 4)*



President George W. Bush signs the MSRA.

2007 Actions in the Atlantic Herring Fishery

Atlantic herring (*Clupea harengus*) is a relatively small, pelagic, schooling fish, widely distributed in continental shelf waters from Labrador to Cape Hatteras, which has been commercially fished off the East Coast since the nineteenth century. The Atlantic Herring Fishery Management Plan (FMP), developed by the New England Fishery Management Council (Council), was implemented in 2001. Since that time, roughly 100,000 mt of herring has been landed annually. Of that amount, about 60 percent goes to the lobster bait market, while the rest is either canned as sardines or sent overseas for consumption. With the implementation of both Amendment 1 to the FMP and the new three-year specifications, this year will be busy for the herring fishery.

Amendment 1 contains a variety of approved measures that will be implemented this year. The measures with the greatest impact on the fishery involve the limited access program and the purse seine/fixed gear (PS/FG) only area. Since 2001, the herring fishery has been open access and landings were constrained by the total allowable catch (TAC) levels established annually for the four herring management areas. Amendment 1 will continue the use of TACs, but will limit the capacity of the fleet by limiting the number vessels fishing for herring (limited access), thereby helping to ensure the continued sustainability of the resource. The transition to limited access in the herring fishery will begin sometime in 2007. Vessel owners will

to apply for one or more of three limited access permits. *(Story continued on page 2)*

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Atlantic Herring Fishery Actions continued...

There will be two limited access permits that authorize vessels to fish for herring without a possession limit: (1) An All Areas Limited Access Herring Permit, which authorizes vessels to fish in all herring management areas; and (2) an Areas 2 and 3 Limited Access Herring Permit, which authorizes vessels to fish only in herring management areas 2 and 3 (see map on page 3). The third permit will be a Limited Access Incidental Catch Herring Permit to accommodate vessels that have an incidental catch of herring while fishing in other small-mesh, high-volume fisheries for species including Atlantic mackerel, *Loligo* squid, and whiting. Vessels with Limited Access Incidental Catch Permits will be restricted by a possession limit of 25 mt of herring and limited to one landing of herring per calendar day. In addition to these three limited access permits, Amendment 1 establishes an open access permit which authorizes the possession and landing of up to 3 mt of herring per trip, with a limit of one landing per calendar day.

Amendment 1 also establishes a PS/FG only area, which prohibits the use of midwater trawl gear in Area 1A from June 1 – September 30 of each year. There are no restrictions on the use of midwater trawl gear in Area 1A from October 1 – May 31. This precautionary measure is being implemented for a number of reasons, the most important of which is the concern about the potential for localized depletion of herring as a result of trawling activity. Given the importance of herring as a forage species and its role in the Gulf of Maine (GOM) ecosystem, the Council and NOAA Fisheries Service concluded that it is appropriate to enact this measure now to maintain the health of the herring resource in the inshore area, as well as the resources that depend on herring as prey, and the businesses that are sustained by a healthy GOM ecosystem.

Measures effective on April 11, 2007

The four herring management areas (Area 1A, Area 1B, Area 2, and Area 3) have revised boundaries.

A portion of the total allowable catch (TAC) is allocated to a Research Set-Aside (RSA) Program.

TACs and other specifications are set for 3-year periods, with the possibility of annual review and modification.

Herring Specifications 2007-2009

Allocation	2007	2008	2009
Optimum Yield (OY)	145,000 mt	145, 000 mt	145,000 mt
Area 1A TAC	50,000 mt	<i>45,000 mt*</i>	<i>45,000 mt</i>
Area 1B TAC	10,000 mt	10,000 mt	10,000 mt
Area 2 TAC	30,000 mt	30,000 mt	30,000 mt
Area 3 TAC	55,000 mt	<i>60,000 mt</i>	<i>60,000 mt</i>
U.S. At-Sea Processing	20,000 mt	20,000 mt	20,000 mt
Canada Transfer	4,000 mt	4,000 mt	4,000 mt
*Italics indicate changes in 2008-2009 from 2007			

Measures effective on June 1, 2007

Clarification that the Framework 43 measures to address bycatch in the herring fishery require vessels issued the All Areas Limited Access Herring Permit or the Areas 2 or 3 Limited Access herring permit to comply with specific requirements enacted to address Northeast (NE) multispecies (particularly haddock) in the Gulf of Maine.

Prohibition of the retention of NE multispecies by vessels issued a Limited Access Incidental Catch herring permit or Open Access herring permit.

A measure that allows up to 500 mt of the Area 1A TAC to be set aside for harvest by weirs and stop seines west of Cutler, Maine, until November 1 each year, at which time it reverts to the overall Area 1A TAC.

If participating in the limited access program, you are required to have an

operational Vessel Monitoring System (VMS) and to comply with notification requirements.

A revised definition of midwater trawl gear, and a measure that prohibits vessels using midwater trawl gear from fishing in Area 1A from June 1 through September 30 of each year.

NOAA Fisheries Service is required to close each herring management area when 95 percent of the TAC allocated to the area has been landed. At that point, all vessels will be restricted to a landing and possession limit of 2,000 lb, with a limit of one landing per calendar day.

Vessel permits as follows:

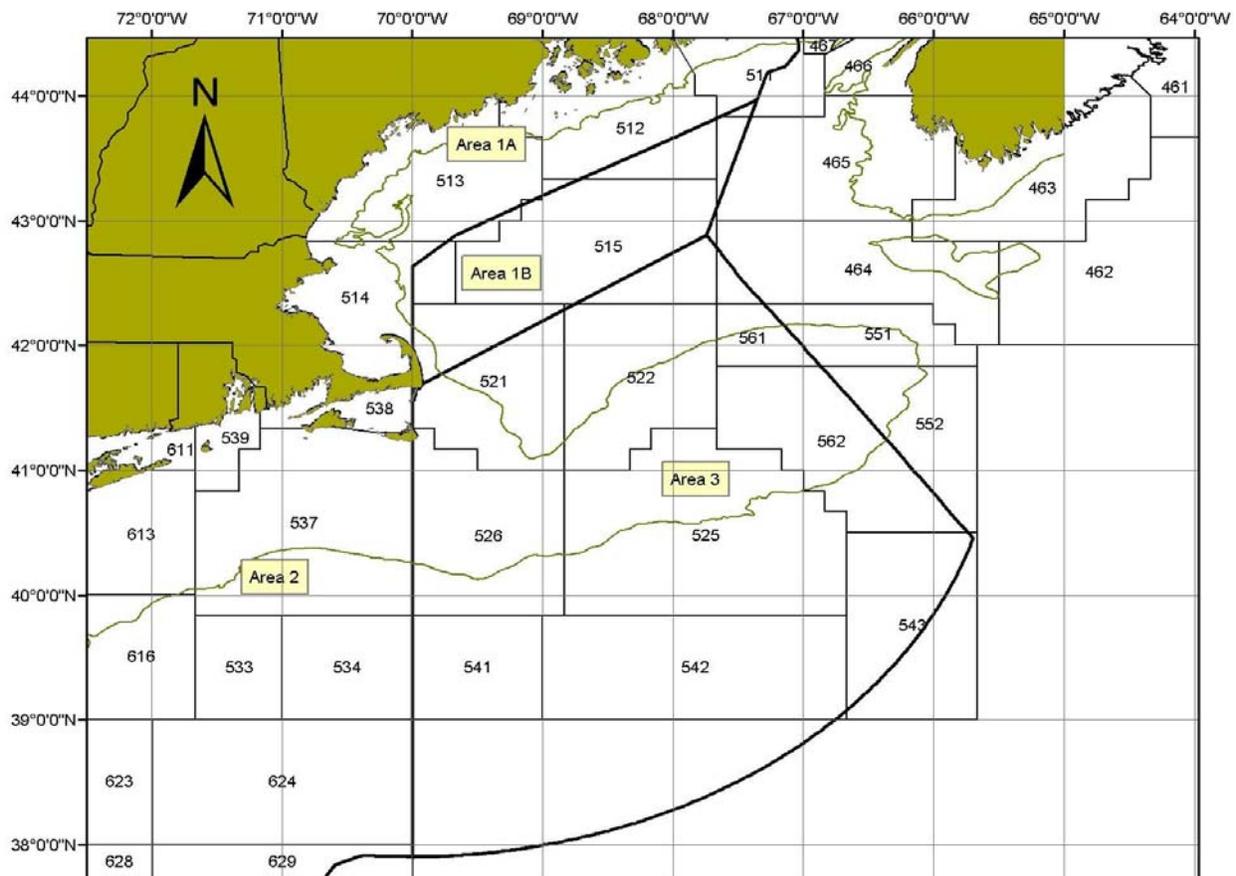
All Areas Limited Access Herring Permit. Authorizes a vessel to harvest herring in any management area without being subject to possession

limits when the directed fishery is open.

Areas 2 and 3 Limited Access Herring Permit. Authorizes a vessel to harvest herring only in Areas 2 or 3 without being subject to possession limits when the directed fishery is open. Such a vessel would have to be issued another permit (Limited Access Incidental Catch or Open Access) to harvest any herring in Area 1A or 1B.

Limited Access Incidental Catch Herring Permit. Authorizes a vessel to harvest up to 55,000 lbs of herring in any management area when the directed fishery is open, with a limit of one landing per calendar day.

Open Access Herring Permit. Authorizes a vessel to harvest up to 6,600 lbs of herring in any management area when the directed fishery is open, with a limit of one landing per calendar day.



Revised Herring Management Area Boundaries.



Magnuson-Stevens Act Reauthorization continued...

What does the MSRA do?

Sets a Firm Deadline to End Overfishing. Overfishing occurs when more fish from a species are caught than is sustainable, endangering the species' long-term existence. The MSRA directs Regional Fishery Management Councils to establish annual quotas in Federally-managed fisheries to end overfishing by 2010 for fish stocks currently undergoing overfishing and by 2011 for all other Federally-managed fish stocks.

Uses Market-Based Incentives to Replenish Fish Stocks. The MSRA will help double the number of limited-access privilege programs (LAPP) by the year 2010. Councils are encouraged to use LAPPs in FMPs, when appropriate. LAPPs assign specific shares of quota to eligible fishermen, fishing communities, and/or regional fishery associations.

Increasing the number of these programs will help reduce the race for fish, improve the quality of catches, and protect those who earn their livelihood by fishing.

Want to learn more?

More detailed information on the changes resulting from the MSRA can be found at:
<http://www.nmfs.noaa.gov/msa2007/>

Strengthens Enforcement of Fishing Regulations. Under the MSRA, those who break the law can lose their individual fishing quotas. Cooperation between state and Federal officials is expanded to ensure that regulations are enforced fully. Use of the latest technology in vessel monitoring to aid in the real-time

tracking of fishing vessels also is encouraged.

Improves Information and Decisions About the State of Ocean Ecosystems. The MSRA creates several programs to improve the quality of information used by fishery managers and establishes regional registries for recreational fishermen. It also provides for improved assessment of the effects of proposed fishery management actions through timely, clear, and concise analysis that is useful to decision makers and more effectively involves the public.

Provides New Tools to Improve Cooperative Conservation Efforts. The MSRA promotes community-based efforts to restore local fish habitats by helping Federal agencies partner with State and local organizations.

Implications for the Northeast Region

Some specific provisions that have and/or will affect the Northeast Region and/or the Councils are:

- When developing a new LAPP, the New England Fishery Management Council must have the measures approved through a referendum of eligible permit holders and other eligible persons, by at least a two-thirds margin.

- NOAA Fisheries Service was given the ability to extend the rebuilding time frame of the summer flounder FMP to January 1, 2013.

- NOAA Fisheries Service was required to report to Congress on the impacts of Framework 42 to the Northeast Multispecies FMP within 30 days of the reauthorization.

- NOAA Fisheries Service must determine whether fishing for species managed under the Northeast Multispecies FMP by vessels in state waters without Federal groundfish permits is consistent with the FMP. If not, the Secretary shall, in consultation with the New England Fishery Management Council, and after notifying the affected state, develop and implement measures to cure the inconsistency.

Get Involved

Ending Overfishing
The MSRA establishes new provisions related to overfishing, including requirements for annual catch limits and accountability measures for all federally-managed fisheries. The National Standard 1 Guidelines, which address overfishing, will be revised through a proposed and final rule to implement these changes. Written comments may be sent to annual.catch.limitDEIS@noaa.gov. The comment period has been extended through April 17, 2007.

Annual Catch Limits Scoping Meetings

New England Fishery Management Council meeting.
Mystic, CT
April 10, 2007
1:30-3:00 PM

Mid-Atlantic Fishery Management Council meeting.
Ocean City, MD
April 17, 2007
7:00-8:30 PM

Many of the changes in the MSRA will require the development of new or revised policies to guide NOAA Fisheries Service and Council activities. These changes are undergoing review by NOAA Fisheries Service to determine the appropriate action and schedules.

Future issues of this newsletter will report on these activities and how they may affect the Northeast Region. Continue to visit <http://www.nmfs.noaa.gov/msa2007/>.



Harmful Algal Bloom Disaster Relief Program Update

Harmful algal blooms (HAB) can produce potent neurotoxins that accumulate in filter-feeding shellfish and other parts of the marine food web. Shellfish contaminated with the toxin, if eaten in large enough quantities, can cause illness or death from paralytic shellfish poisoning (PSP). The largest recorded HAB in New England waters since 1972 began in the Gulf of Maine in May 2005. It spread into Massachusetts Bay forcing the closure of shellfish beds as far south as Buzzards Bay, Nantucket Island and Martha's Vineyard. It also spread offshore, resulting in a closure in federal waters.

In June 2005, U.S. Commerce Secretary Carlos Gutierrez declared under the Magnuson-Stevens Fishery Conservation and Management Act a commercial fishery failure for Maine and Massachusetts shellfish fisheries triggered by the massive bloom in the New England region. In the Emergency Supplemental Appropriation for Fiscal Year 2006, Congress appropriated funds to NOAA Fisheries Service for assistance to fishermen to recover from severe economic impacts due to fisheries resource disasters declared in 2005. In response, NOAA Fisheries Service received proposals for federal financial assistance from the Maine Department of Marine Resources (DMR) and the Massachusetts Division of Marine Fisheries (DMF) under the provisions of the Unallied Industry Program.

Maine and Massachusetts are working to distribute funds obligated by NOAA for assistance.

In August 2006, NOAA obligated \$2 million to fund the Federal share of project costs for the "Red Tide Assistance Program" administered by the Maine DMR. In addition, NOAA obligated \$2 million to fund the Federal share of project costs for the "Massachusetts Red Tide Technical Assistance and Disaster Relief," administered by the Massachusetts DMF.

What's the Difference? "Harmful Algal Bloom" vs. "Red Tide"

We hear both of these terms frequently. Often, they are used interchangeably although it is incorrect. What does each mean and when should each be used?

"Harmful algal bloom" describes microscopic algae that support the base of the food web. There are many types of algae that can create a bloom, some of which can be harmful to other species, including humans. The organism responsible for 2005 New England bloom, *Alexandrium fundyense*, can be toxic when present in

contaminated seafood in certain amounts.

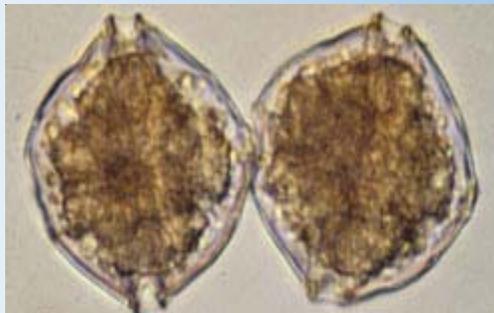
"Red tide" refers to a bloom of certain types of algae that create a red tint in the water, but are not toxic. The algae *Karenia Brevis* is responsible for most of the blooms in the South Atlantic and Gulf of Mexico that appear red when present in large concentrations.

Scientists prefer the term harmful algal bloom as it encompasses all types of blooms. The term "red tide" applied to all blooms is not accurate.

The Maine DMR distributed \$1.6 million as direct aid to shellfish harvesters, aquaculturists, and primary buyers (dealers) whose incomes were affected by the 2005 HAB event. The DMR mailed relief checks to all eligible applicants in February and March 2007. The remaining funds will finance two programs to reduce the economic impact of future HAB events. The first program will investigate the feasibility of making PSP-affected shellfish safe for human consumption through depuration. The second program will implement fine-scale monitoring for PSP toxins in four Maine bays. This monitoring will be based on a successful program in Casco Bay in 2006 that resulted in more than 11,000 acres of clam flats staying open that would otherwise have been closed during the 2006 HAB season.

According to the DMR, harvesters at a Portland public meeting expressed great support for the program, and requested it be continued. The funds will continue the Casco Bay program and expand it to include other bays within Maine.

The Massachusetts DMF is working to distribute funds. \$1.9 million will be distributed as direct aid to qualified fishermen affected by the 2005 HAB event. A steering committee was formed to collect and evaluate input from public meetings beginning in March 2007. The committee, which consists of representatives from the commercial shellfishing industry, will determine the most equitable and appropriate method for allocating the funds. To date, some preliminary qualifications from landing data and a HAB disaster timeline duration database have been developed. Information and application packages are complete and ready for distribution at the upcoming meetings and on the DMF website. Applications are due on April 20, 2007.



Alexandrium under the microscope. Photo courtesy of the Woods Hole Oceanographic Institution



On the Legal Front - Updates on Legal Actions

NOAA's Northeast General Counsel Office shares below information on recent lawsuits to keep constituents informed on current activities.

Conservation Law Foundation of New England and Center for Biological Diversity v. Dirk Kempthorne and Carlos Gutierrez et al.

Two environmental groups filed a complaint on December 15, 2006, in Federal district court in Maine against the Departments of Commerce and Interior. The plaintiffs challenge the agencies' failure to designate critical habitat for the endangered Gulf of Maine Distinct Population Segment (DPS) of Atlantic Salmon. They claim the agencies ignored their obligation under the Endangered Species Act to designate critical habitat when they listed the DPS, which became effective on December 18, 2000, since plaintiffs allege that none of the exceptions to designating critical habitat applied.

Humane Society of the United States and The Ocean Conservancy v. Gutierrez

On February 12, 2007, Humane Society of the United States (HSUS) and Ocean Conservancy (OC), two environmental groups, filed suit in Federal district court in Washington, D.C., charging that NOAA Fisheries Service has improperly delayed issuing

a final rule amending the Atlantic Large Whale Take Reduction Plan (ALWTRP) regulations. The amendments would implement new fishing gear modifications to reduce further the risk of injury or death to whales from fishing gear off the east coast of the United States. The plaintiffs allege that NOAA Fisheries Service has violated deadlines set by the Marine Mammal Protection Act to issue a final rule.

Oceana v. Gutierrez et al.

On January 19, 2007, an environmental group filed a complaint in Federal district court in Washington, D.C., against the Department of Commerce, NOAA, and NOAA Fisheries Service. The plaintiff challenges NOAA Fisheries Service's 2006 Biological Opinion on the effects of the Atlantic sea scallop fishery on sea turtles protected under the Endangered Species Act. It asserts that NOAA Fisheries Service failed to estimate reasonably the total number of sea turtles caught by scallop trawl gear, failed to consider feasible methods for monitoring sea turtle interactions with scallop dredge gear, and failed to

establish sufficient reporting requirements related to sea turtle interactions with the fishery. The plaintiff asks the court to set aside the Biological Opinion and issue an order that would protect sea turtles while NOAA Fisheries Service prepares a new Biological Opinion on the fishery.

Bender v. Gutierrez, et al.

On January 23, 2007, the Federal district court in Norfolk, Virginia, upheld two regulations NOAA Fisheries Service issued to protect sea turtles from harm by fishing gear in the Virginia waters of the Chesapeake Bay. The regulations, issued in 2003 and 2004, closed a portion of the Bay to the use of pound net fishing gear based on NOAA Fisheries Service's observations that sea turtles have been entangled in the gear and killed as a result. The court found that NOAA Fisheries Service has authority to protect sea turtles from harmful interactions with fishing gear. It also found that the agency had sufficient scientific information to issue the regulations, followed the proper procedures, and did not violate plaintiff's constitutional rights.

Innovative Shoreline Restoration Project Completed

St. John's College in Annapolis, Maryland was faced with the same issue many developed waterfront property sites eventually face. The existing bulkhead that had been in place for over 20 years needed to be replaced. Most shoreline protection techniques have a finite lifespan or require some form of periodic or ongoing maintenance. Faced with the daunting cost of replacing 850 feet of heavy timber bulkhead, the College was looking for other options. It had been a demonstration site five years earlier for a number of entities that educated the public about the impacts of shoreline hardening. During that time, an initial 50 foot long project was undertaken and the College was pleased with its success. Following

outreach meetings on project approaches and potential funding sources, the College contacted NOAA's Restoration Center. NOAA staff conducted fisheries sampling and completed nearshore bathymetry mapping to compare pre- and post-conditions and use by aquatic animals. The bulkhead was removed, sand and plant material was placed to create 1.2 acres of intertidal marsh, and seed



Before (left) and after pictures of the project site.

oysters were placed along the rock sill at the outer margin of the site. Through detailed negotiations with potential contractors and access to funds targeted toward alternative shoreline protection approaches, St. John's College was able to save considerably on what it would have cost to replace the bulkhead in-kind. At the same time, they provided a similar level of shoreline protection and created valuable fringe marsh habitat to support Chesapeake Bay restoration goals. Funding was provided by the NOAA Restoration Center/Restore America's Estuaries partnership, the NOAA/FishAmerica Foundation partnership and Chesapeake Bay Trust funds through NOAA's Living Shorelines initiative.

Fishway Completed in Connecticut

Despite recent below normal temperatures in the Northeast, NOAA and its partners oversaw the successful wintertime construction of a steep pass fishway on Jordan Brook, a tributary to Long Island Sound in Waterford, Connecticut. The 65-foot long structural fishway was constructed at the Jordan Millpond Dam, a 100 year-old, eight foot high stone masonry dam located at the head of tide on Jordan Cove. The fishway will help restore river herring runs to an approximately eight acre impoundment, three stream miles and high quality spawning habitat on this coastal stream.

River herring (alewife and blueback herring) are an important forage species for striped bass, cod, and bluefish. They spend 3-5 years in coastal waters such as Georges Bank and Nantucket Shoals before returning to their natal streams to spawn. Soon after spawning, surviving adults return to marine waters while juveniles spend up to five months in their natal streams before out-migrating on their oceanic journey. By restoring herring runs, both freshwater and marine fishery resources are enhanced via an increased forage base. Commercial and recreational fisheries, whether harvesting the river herring or the



predatory species feeding on herring, also benefit.

Fishway construction involved notching of the dam, removal of bedrock ledge, and installation of four prefabricated aluminum steep pass units and extension. Additionally, a concrete resting pool, a stone weir to direct fish into the fishway, and entrance and exit structures were installed (see photo above). Sheet aluminum sections serve as “steps” for the fish. A resting pool, a level area halfway up the fishway, has lower velocities of water so fish can rest. Construction costs totaled approximately \$108,000.

NOAA’s Restoration Center collaborated with a number of partners to complete this important project. The Town of Waterford was the local sponsor, awarding a

contract to, and providing day-to-day oversight of, Hugo-Key, a construction contractor from Newport, Rhode Island. Other project partners included the Connecticut Department of Environmental Protection’s (CTDEP) Office of Long Island Sound Programs and their Anadromous Fisheries Division, Save the Sound, and the Connecticut Corporate Wetlands

Restoration Partnership (CWRP). NOAA and its partners secured funds from a number of sources for both design and construction. Settlement funds from the 1992 RTC-380 oil spill in Fishers Island Sound were secured through NOAA’s Damage Assessment and Remediation and Restoration Program. The CTDEP, as spill case co-trustee with NOAA, matched grant monies through NOAA’s Community-based Restoration Program (CRP). Save the Sound, a member organization of Restore America’s Estuaries and recipient of a CRP partnership grant award, also contributed funds. Additional funds through the CRWP will contribute to the purchase of materials and streambank stabilization and educational signage. The project partners are planning a dedication ceremony later in 2007.

Fisheries Habitat and a Tool for Conservation

What is Habitat?

Habitats provide living things with food and shelter. Marine habitats include substrates and sediments such as rocky intertidal areas, mud, sand, and gravel sediments as well as the water column itself. Living habitats include salt marshes, seagrass beds, shellfish beds, and corals. These habitats support productive fisheries and provide a range of other ecosystem benefits such as stabilizing sediments, cycling nutrients, filtering pollution, and protecting upland areas. Most marine species rely on different habitats throughout their lives.

For example, lobsters begin life as larvae that drift in the top few feet of the water column before settling to the seafloor. Juveniles then use pebble and cobble habitat so that they can hide from predators. Once lobsters become adults, they move into more open habitats, such as sandy bottom or rock outcrops, because the larger adults are less vulnerable to predators¹.

Habitat Impacts

Habitat can be altered or disturbed by natural processes, such as storms, and human activities. Permanent loss of

habitat, which is irreversible, can result from activities such as wetland filling, coastal development, harbor dredging, and offshore mining operations². Degradation, which may or may not be reversible, can result from physical changes, such as increased suspended sediment loading, overshadowing from new piers and wharves, and introduction of chemical contamination from land-based human activities². Recovery times for degraded habitat depend on the nature of the agent causing the degradation and the physical characteristics of the habitat³. Periodic disturbances, which are generally

(Story continued on page 8)



Lobster Fishery Actions - Opportunities for Public Comment

In late 2006, NOAA Fisheries Service published in the Federal Register an Advance Notice of Proposed Rulemaking (ANPR) announcing that NOAA Fisheries Service is considering implementing further minimum carapace length (gauge) increases, escape vent size increases, and trap reductions in the offshore American lobster fishery - Lobster Conservation Management (LCMA) Area 3. These measures, if implemented, would be consistent with recommendations for Federal action in the Atlantic States Marine Fisheries Commission's (Commission) Interstate Fishery Management Plan (ISFMP) for American Lobster and

pending management actions of the Commission's American Lobster Management Board. The comment



period on the ANPR closed in January. A proposed rule is under development. Also in preparation is an environmental impact statement (EIS)

to evaluate measures recommended for Federal implementation by the Commission. The EIS will examine lobster effort control measures as outlined in Addenda II, III, IV, V and VI to Amendment 3 of the American lobster ISFMP. The EIS will focus on the evaluation of trap transferability programs in LCMA 2 (Southern New England), Area 3 (offshore) and the Outer Cape Cod Lobster Management Area, and a permit eligibility and trap allocation program for Area 2. NOAA Fisheries Service will notify the public when the EIS publishes and provide information on opportunities for public comment.

Fisheries Habitat and a Tool for Conservation continued...

reversible once the source of disturbance is removed³ are created by activities such as trawling and dredging for fish and shellfish, and maintenance dredging of navigation channels. Recovery times for periodic disturbances will vary depending on the intensity and duration of the disturbance and the nature of the habitat itself. Superimposed on these human-related alterations are natural fluctuations in habitats created by storms, long-term climatic changes, and other variables.

initiates consultation by preparing and submitting an EFH assessment to NOAA Fisheries Service that describes the action, analyzes the potential adverse effects of the action on EFH, and provides the agency's conclusions regarding the effects of the action on EFH. In response, NOAA Fisheries Service provides conservation recommendations to avoid, minimize,

and management practices should be employed for all actions that may adversely affect fisheries habitat.

Since 1998, NOAA Fisheries Service's Northeast Region has completed approximately 15,000 consultations with federal and state agencies which have resulted in the use of BMPs and other conservation measures.

Continued implementation of EFH and the use of other conservation tools will provide for the quantity and quality of habitat required to maintain sustainable fisheries.

Essential Fish Habitat – A Tool for Conservation

Activities such as marine transportation, dredging, energy development, coastal development, and agriculture may reduce the quantity and quality of fisheries habitat. These activities provide vital services for our society. How do fisheries managers balance the necessity of these activities with maintaining healthy habitat? The Essential Fish Habitat (EFH) provisions of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) require federal agencies to consult with NOAA Fisheries Service on all actions authorized, funded, or undertaken by the agency that may adversely affect EFH. A federal agency



mitigate, or otherwise offset the adverse effects to EFH. Impacts of activities often can be avoided or minimized through the utilization of best management practices (BMP). BMPs and conservation measures typically conform to the following principals: 1) non-water-dependent actions should not be undertaken in fisheries habitat if such actions will have adverse impacts; 2) activities that may result in significant adverse effects on fisheries habitat should be avoided where less environmentally harmful alternatives are available; 3) if alternatives do not exist, the impacts of these actions should be minimized; and 4) environmentally sound engineering

What You Can Do

For more information on what you can do to conserve fisheries habitat, implement best management practices, or develop a conservation-minded project, contact us.

¹Tyrell, M.C. 2005. *Gulf of Maine Habitat Primer*. Gulf of Maine Council on the Marine Environment, www.gulfofmaine.org.
²Robinson, W.E. and J. Pederson. 2005. Contamination, habitat degradation, overfishing – An “either –or” debate. In: R. Buchsbaum, J. Pederson and W.E. Robinson (eds.). *The Decline in Fisheries Resources in New England: Evaluating the Impact of Overfishing, Contamination, and Habitat Degradation*. MIT Seagrass College Program, Cambridge, MA. pp. 1 -10
³Deegan, L. and R. Buchsbaum. 2005. The effect of habitat loss and degradation on fisheries. In: R. Buchsbaum, J. Pederson and W.E. Robinson (eds.). *The Decline in Fisheries Resources in New England: Evaluating the Impact of Overfishing, Contamination, and Habitat Degradation*. MIT Seagrass College Program, Cambridge, MA. pp. 67-98.