

Changing Tides

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NOAA FISHERIES SERVICE

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NOAA

Measures to Protect Endangered Shortnose Sturgeon Habitat Part of Hydropower Project Agreement

NOAA Fisheries Service, the U.S. Fish and Wildlife Service, and the New York State Department of Environmental Conservation reached an agreement with the Green Island Power Authority that will restore access to former habitats for several migratory fish species and protect shortnose sturgeon spawning habitat in the Hudson River.

The Green Island Power Authority operates a six megawatt hydropower facility on the Hudson River at a federal dam located five miles north of Albany, N.Y. The Authority is proposing to add eight new turbines and increase its total capacity to 48 megawatts. The project must be approved by the Federal Energy Regulatory Commission (FERC). The three natural resource agencies provide technical advice on energy projects like this to ensure that impacts on fish and wildlife are avoided or minimized.



Army Corps of Engineers dam and lock at Green Island near Troy, New York Credit: Stephen Patch/USFWS

This agreement includes concrete measures that will help restore historic migrations of fish stocks while protecting key habitat for endangered shortnose sturgeon in the Hudson River. Shortnose sturgeon are thought to spawn annually below the dam in waters that represent the historic upstream extent of the species in the Hudson River. Therefore, the focus of monitoring and mitigation will be to minimize any potential risk to the species or its habitat, particularly during the project construction phase. Fish passage facilities also will be installed to ensure safe and effective upstream passage for migratory fishes such as blueback herring, American shad, American eel and other species.

Engineers and biologists from the three agencies reviewed Green Island Power Authority's proposed designs and provided recommendations to improve the effectiveness of these fish passageways. An innovative screening device known as FISHIST™ also will be tested to determine its effectiveness in preventing fish from entering the turbines, which are known to injure or kill fish if they are allowed to pass through them. Fish movements will be tracked using radio tags implanted in some fish, video monitoring at the dam and counting surveys to determine how well the fish passageways and new technology are working.

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New Procedures to Aid Cooperative Research Projects and Reduce Costs to Fishing Industry

As of February 8, NOAA began issuing Temporary Possession Letters of Authorization (LOA), which enable eligible vessels to temporarily possess restricted species, which are required to be discarded, for the purpose of collecting scientific catch data.

In the past, federally permitted fishing vessels that carry research personnel during commercial fishing trips to collect catch data were required to obtain an experimental fishing permit (EFP).

The Temporary Possession LOAs would allow the agency to forego the full EFP process, which is expected to greatly reduce permit review time, facilitate important fishery research, reduce lost data collection opportunities, foster collaborative relationships between the fishing industry and the fishery research community, and reduce the cost of at-sea catch data collection.

NOAA Authorizes Carryover of Monkfish Research Set-Aside (RSA) Days-at-Sea (DAS)

Research projects funded through the Monkfish RSA Program will now be able to carryover unused monkfish RSA DAS into the next fishing year. Often, researchers and industry participants are unable to use their allotted research days within the fishing year for which the grant funds were issued. As a result, researchers will now have more flexibility to complete studies funded through this program.

Groundfish Amendment 16 to be Implemented May 1

Nearly four years in development by the New England Fishery Management Council, Amendment 16 to the Northeast Multispecies Fishery Management Plan (FMP) was partially approved by the Secretary of Commerce on January 21, 2010.

It represents a sweeping revision to the way the groundfish fishery is managed, moving a large portion of the fleet away from limits based on time spent fishing and into a system that bases limits on the amount of fish that may be caught. The final regulations required to implement these measures will be published prior to May 1, 2010, the start of the new fishing year.

The amendment includes, among other things, new procedures to establish annual catch limits (ACLs) for groundfish stocks and expands the use of fishing sectors - a type of catch share program where a group of fishing vessels is allotted a share of the total catch - as an alternative means for regulating the groundfish fishery. About 1,500 vessels in the Northeast have a history of catching groundfish. Just over half of these vessels caught nearly all of the landings in recent years, and are enrolled in a sector for 2010.

The RSA DAS carryover restriction was initially adopted in 2005 as a conservation measure at a time when the monkfish stock was considered overfished. Monkfish is no longer overfished, and therefore, the conservation measure is no longer necessary. Additionally, this action promotes safety at-sea by reducing the incentives for fishermen to fish in unfavorable conditions.

Commercial groundfish vessels not participating in sectors will fish in a common pool. For these vessels effort controls, such as limits on the number of fishing days, trip limits for some species, and seasonal and area closures, will continue.

No commercial or recreational groundfish vessel may land fish from the stocks in the worst shape -- windowpane flounder, ocean pout, wolffish, and southern New England/Mid-Atlantic winter flounder.

Amendment 16 measures work together to end and prevent over-harvesting, rebuild stocks that need it, afford greater protection to fish stocks most in need of protection, and provide more opportunities for businesses to increase efficiencies by harvesting healthier groundfish stocks, acquiring more fishing time, or profit from their fishing time by leasing or trading with others.

One measure proposed in Amendment 16 was disapproved, a pilot program that would have allowed vessels to target haddock while using six-inch mesh gillnets, which is less than the minimum mesh size currently required, from January through April.

NOAA Fisheries Service rejected this measure to better protect pollock and Gulf of Maine cod stocks that are rebuilding, but would have likely been taken as bycatch with this gear. However, the agency will consider whether this mesh exemption could be allowed for sectors requesting this as a special exemption, given that any pollock or cod caught in this exemption would be counted against the sectors quota.

NOAA Implements Catch Share Program in Northeast Sea Scallop Fishery

The Northeast sea scallop individual fishing quota program went into effect on March 1, 2010. Under this catch share program, the small-scale general category scallop fishery is allocated five percent of the total scallop catch, with individual vessels allotted an individual catch based on their past scallop fishing history. The remaining 95 percent of the quota is allocated to fishing vessels that are restricted by days-at-sea and trip limits.

There are 369 vessels eligible to participate in this catch share program. An additional 107 vessels were issued limited access permits that authorize them to collectively harvest a total of 70,000 pounds of scallops per year from the northern Gulf of Maine only. Another 288 vessels were issued limited access incidental catch permits that authorize the landing of 40 pounds of scallops per trip.

Under this program, catch shares can be transferred or sold to provide flexibility and an enhanced profitability to the fishing industry. However, measures have been adopted to prevent future consolidation in the fishery, including a two-percent limit on the amount of total catch that can be held by an individual fishing vessel and a five-percent limit for an individual permit holder who owns multiple vessels. To further help preserve the historic character of this small boat fishery, the 400-pound shucked-scallop trip limit was also maintained for all participants.

As required by the law, a small percentage of scallop sales will be used to help defray data collection, monitoring and enforcement costs. Participants also have the option to form voluntary sectors and manage their fishing activity as a group. In doing so, fishermen could have a combined share of up to 20 percent of the total allowable catch for all permit holders in the fishery.

Removal of Barndoor skate (*Dipturus laevis*) from the Species of Concern List

In February 2010, the barndoor skate was removed from NOAA's Species of Concern (SOC) list. The delisting was based on newly acquired information that was considered in a 2009 report on the status of barndoor skate.

History of the Listing

Barndoor skates are the largest skates in the northwest Atlantic and are most commonly found in the Gulf of Maine and southern New England, but can range as far south as Florida and north to Newfoundland. Due to concerns over the status of barndoor skate, the species was identified as a SOC in 1999 by NOAA Fisheries Service.

Following a petition for listing, and after reviewing the best scientific and commercial information available, NOAA determined in 2002 that listing barndoor skates as either threatened or endangered under the Endangered Species Act was not warranted. However, NOAA kept the species on the SOC list due to remaining concerns or uncertainties.

As more information became available, NOAA initiated a report on the status of barndoor skate to determine if its inclusion on the SOC list was still warranted, which was completed in 2009.

What Was Learned Through Research

Recent research on the life history characteristics and population dynamics of barndoor skates has shown that barndoor skates may be more resilient to exploitation than previously believed (Gedamke et al., 2005, 2009; Parent et al, 2008). Earlier studies lacked necessary life history information on the species, so modeling substituted the life



Barndoor skate. (Credit: Kathy Sosebee, NOAA)

history parameters from a similar species, the common skate (*Raja batis*) (Casey and Myers, 1998). In addition, analysis of biomass indices determined by research vessel surveys from the early 1950s to the mid-1990s led Casey and Myers (1998) to determine that barndoor skate were on the brink of extinction.

Since then, research has shown that the common skate is less fecund, reaches maturity later in life, has a longer life span, and a larger maximum body size than barndoor skates. This information suggests that Casey and Myers (1998) may have overestimated the risks to barndoor skates.

NOAA's trawl survey indices suggest that barndoor skates have been in a rebuilding phase since the mid-1990s. The increase observed

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NOAA and Fishermen Cooperate on Monkfish Migration Studies

NOAA researchers are working with commercial fishermen to put electronic tags on hundreds of monkfish (*Lophius americanus*) in the waters of southern New England and the Gulf of Maine to track where the commercially important fish goes during its lifetime, and to answer other questions about its biology.

Although monkfish is the highest valued finfish in the northeast U.S., aspects of the fish's basic biology and behavior are poorly understood. Additional information is needed on the species migration patterns, depths where it lives and how it uses habitat.

Information from the tagged fish could also help determine whether there is one monkfish population throughout the northwestern Atlantic Ocean or distinct northern and southern stocks. This is a critical question that has proven very difficult to answer. It's important not only for understanding the population's biology, but also important for managing the fisheries that harvest monkfish.

Monkfish, also known as goosefish, was not a target of commercial fisheries until the late 1980s, but since the mid-1990s has been the highest valued fish in the northeastern U.S., surpassing traditional groundfish species like cod, haddock and flounders.

Two Teams Gather Data

Anne Richards and Larry Alade from NOAA's Northeast Fisheries Science Center are working with researchers at the Gulf of Maine Research Institute (GMRI) and the University of Massachusetts - Dartmouth on a tagging project, which began last year. Two commercial gillnet boats, the F/V C.W. Griswold with Captain Tim Caldwell from Scituate, Mass. and the F/V Gertrude H with Captain Ted Platz from Newport, R.I., are collaborating to capture monkfish for

the study.

The goal is to get a better understanding about monkfish migration patterns. For returning whole fish with tags, fishermen can receive a \$500 reward.

Working with Crista Bank of New Bedford, Mass., a graduate student at the University of Massachusetts-Dartmouth's School for Marine Science and Technology, the team has already tagged 150 monkfish and hopes to have the rest of the 190 available archival tags on fish in the near future.

How the Tags Work

The electronic tags, about the diameter of a AAA battery but half as long, are surgically implanted under the skin and record water temperature, depth and time every 10 minutes.

The tags can record data for four to five years and will work in water depths up to 2,000 meters (about 6,500 feet). A pair of conventional plastic t-bar tags, like those used to attach the price tags on clothing, are also attached externally around the monkfish's tail and carry instructions on how to report a tagged monkfish.

The goal is to try to minimize the time the fish is on deck, so the tagging process only takes about five minutes. Only fish about 16 -20 inches long, or roughly four to five years old and most likely mature, are tagged.

Data recovered from the tags can help researchers learn more about how migration patterns differ between males and females and with maturity state, where monkfish spawn, and how ocean currents and tides affect monkfish activity.

The study will improve understanding of the age and growth of monkfish

and the validity of methods used to estimate a monkfish's age.

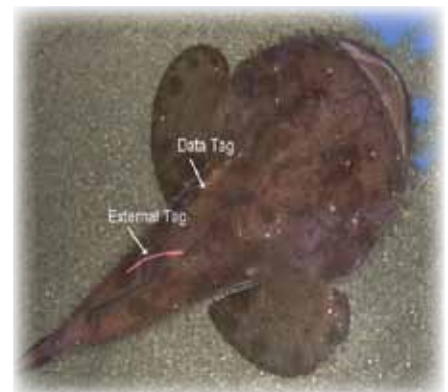
Next Steps

The scientists plan to expand the study to include monkfish in the mid-Atlantic region down to Cape Hatteras, considered the southernmost extent of their distribution in the Northwest Atlantic.

Funding is being provided by the NOAA-supported Northeast Consortium and by the commercial fishing industry through its research set aside program for monkfish.



Graduate student Crista Bank of the University of Massachusetts - Dartmouth with a monkfish in a tagging box on deck. (Credit: Pasha Ivanov).



A tagged monkfish. (Credit: Anne Richards, NEFSC/NOAA)

Atlantic Sturgeon News



Atlantic sturgeon. (Credit: NOAA)

NOAA Fisheries Service is currently considering whether to list Atlantic sturgeon under the Endangered Species Act (ESA).

From 2005 to 2007, following the availability of new information, a team of federal biologists conducted a comprehensive status review for Atlantic sturgeon, and recommended that some Atlantic sturgeon subpopulations should be listed under the ESA. These include Atlantic sturgeon occurring within the Northeast Region.

In addition, on October 6, 2009, NOAA Fisheries Service received a petition to list Atlantic sturgeon under the ESA, and to designate critical habitat for Atlantic sturgeon. NOAA Fisheries Service determined that the petition presented substantial information indicating that the requested listing actions may be warranted and now, is required to make a determination by October 6, 2010 (one year from receipt of the petition) as to whether Atlantic sturgeon should be listed under the ESA.

Why List a Species?

Atlantic sturgeon is a NOAA Fisheries Service Candidate Species and Species of Concern. The purpose of designating a Species of Concern is, in part, to increase public awareness about the species, identify data deficiencies and uncertain-

ties in species' status and threats, and to foster efforts to conserve the species.

We are involved in multiple activities to address these objectives for Atlantic sturgeon including funding scientific research studies. We have worked with the research community to produce a document that describes the best practices for Atlantic sturgeon research methods to further reduce the chance that Atlantic sturgeon will be injured or killed during scientific research activities.

We are also working to increase awareness of and foster conservation efforts for Atlantic sturgeon. Development of a new web-based outreach program called SCUTES (Students Collaborating to Undertake Tracking Efforts for Sturgeon) is nearly complete and will provide structured curriculum for teachers to use in the classroom.

A video using existing information and materials to describe past, present, and emerging threats for sturgeon and some mechanisms for addressing these threats is also being developed and will be made widely available to the public.

What Set the Stage for Current Action

Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) range from Canada to Florida, and are one of two types of sturgeon that occur within the jurisdiction of the Northeast Region. The species spends most of its life in the marine environment (ocean, bays and estuaries) but returns to coastal rivers to spawn.

Historically, their eggs, or roe, were used in the caviar market. In the U.S., they were captured for their eggs and flesh in many areas until a coast-wide moratorium on all remaining Atlantic sturgeon fisheries was imposed by the

Atlantic States Marine Fisheries Commission in 1998.

In 1999, NOAA Fisheries Service prohibited the retention of Atlantic sturgeon caught in the Exclusive Economic Zone.

Additional information on these topics is available on the NERO, Protected Resources Division webpage at http://www.nero.noaa.gov/prot_res/atlsturgeon/.

Barndoor Skate Cont'd from Page 3

in the mid-90s coincided with the implementation of three large area closures to groundfish and scallop vessels on Georges Bank in 1994. This, along with other management measures affecting several Northeast fisheries, including the Skate Fisheries Management Plan, is thought to have reduced overfishing of the species enough to allow the population to rebuild.

Due to the increase in abundance, size range of the animals, and known distribution as well as a decrease in mortality in areas where barndoor skates are present in high concentrations, there does not appear to be a cause for concern over the status of barndoor skates.

Furthermore, increased knowledge about the life history characteristics of barndoor skates and better methodologies to assess its response to exploitation has increased our understanding of this species and its resilience to exploitation.



New Measures Approved to Protect Harbor Porpoise

In an effort to address a recent increase in bycatch of harbor porpoises in gillnet fisheries and noncompliance with existing regulations in the New England and Mid-Atlantic regions, the Harbor Porpoise Take Reduction Plan (HPTRP) was recently revised.

This is a dynamic plan that changes as NOAA Fisheries Service and the Harbor Porpoise Take Reduction Team, an advisory group composed of various marine stakeholders, learn more about how, when and where harbor porpoises become entangled. NOAA Fisheries Service, in consultation with the Take Reduction Team, examines how fishing practices might be modified to reduce the risk of serious injury and mortality that may result from entanglement in commercial sink gillnet fisheries. The agency's Northeast Regional Office reconvened the Take Reduction Team in December 2007 to discuss recent increases in harbor porpoise bycatch and to develop recommendations for modifying the plan to reduce bycatch to acceptable levels. The following final measures are largely based on consensus recommendations provided by the Take Reduction Team to NOAA Fisheries Service.

For New England, several new management areas were established and other existing management areas were expanded, both in size and seasons. In these areas pingers, electronic devices that emit a high frequency sound to warn harbor porpoises of the presence of the fishing nets, are required seasonally to reduce harbor porpoise injuries and mortalities in gillnet gear. Specifically, the pinger requirements for the Massachusetts Bay Management Area were expanded to include the month of November to address observed entanglements and injuries occurring during this month. The Stellwagen Bank Management Area and the Southern New England Management Area were created, both with seasonal pinger requirements, to address observed

harbor porpoise takes occurring in these previously unregulated areas.

To address noncompliance with pinger usage in existing areas, the Take Reduction Team agreed to establish "consequence closure areas" in New England. These are specific areas of historically high harbor porpoise bycatch that will seasonally close if bycatch rates averaged over two consecutive management seasons indicate that harbor porpoise takes are greater than a specified bycatch rate.

The strategy for the consequence areas is to increase compliance through targeted outreach and education efforts; however, seasonal closures are triggered if specified bycatch levels are exceeded. If any of the consequence areas are triggered, they will remain in effect until the zero mortality rate goal is achieved or until new measures are developed and implemented by the Take Reduction Team and NOAA. The zero mortality rate goal was established in 1994, when the Marine Mammal Protection Act was amended. It is a requirement that the level of incidental mortality and serious injury of marine mammals be reduced to insignificant levels approaching a rate of zero.

Three areas have been identified as consequence closure areas; these areas are found within the Gulf of Maine (Coastal Gulf of Maine Consequence Closure Area), east of Cape Cod (Eastern Cape Cod Consequence Closure Area), and off Southern New England (Cape Cod South Expansion Consequence Closure Area). If any of the consequence closure areas are triggered in the future, we will issue notification to commercial fishermen via a letter to permit holders, notification on the HPTRP website, notification to the Take Reduction Team, and various other outlets.

In the Mid-Atlantic, observed harbor porpoise takes were occurring in a distinct area within the waters off New Jersey Management Area. As such, the



Pingers emit high frequency noise to deter harbor porpoise. (Credit: NOAA)

Mudhole South Management Area has been created to address these takes by incorporating a seasonal closure area from February 1 through March 15 and implementing more stringent seasonal gear modification requirements. Both the exempted waters from Chincoteague, VA to Ship Shoal Inlet and the northeast boundary of the waters of the New Jersey Management have also been modified in lieu of pingers. Gear modifications are required to reduce harbor porpoise bycatch in the Mid-Atlantic area.

Increased Emphasis on Scientific Research

In an effort to further understanding of the effectiveness of harbor porpoise bycatch reduction methods and devices, research will now be permitted within the management areas as long as NOAA authorizes the research through a scientific research permit.

Education and outreach is important to ensure the effectiveness of the plan. We will provide annual updates to the Take Reduction Team to share compliance and bycatch information. We also plan to work with New England and Mid-Atlantic state partners to conduct annual workshops with the gillnet industry to provide updated information on compliance and harbor porpoise bycatch data.

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Restoring Habitat Connectivity in Atlantic Salmon Streams in Maine

In 2009, Project SHARE (Salmon Habitat and River Enhancement) received nearly \$1.7 million in American Recovery and Reinvestment Act of 2009 (ARRA) funding from NOAA to restore habitat connectivity in the Machias River watershed in Maine through culvert replacements. The Machias River, located in eastern Maine, is mapped as critical habitat for the Gulf of Maine Distinct Population Segment of Atlantic salmon, which are federally endangered.

The Machias River basin is largely undeveloped, with most of the land cover forested and sustainably harvested by several large landowners, including the Maine Department of Conservation. In the 1970s, an extensive network of gravel logging roads was built throughout the subwatershed, creating dozens of impassable stream crossings at culverts that were perched and undersized. Small headwater streams that offered refugia from warm mainstem river temperatures and predators like non-native small-mouth bass were effectively cut off from the Machias River.

The project will result in the removal of nearly all remaining fish passage barriers in the 474-square mile west branch subwatershed of the Machias River, opening over 66 stream miles of juvenile rearing habitat for Atlantic salmon. This ARRA project will replace 51 round, undersized culverts with bottomless steel arch culverts to improve stream flow and help maintain natural stream bottoms comprised of gravel, cobble and boulder substrates. The project will also permanently decommission one road crossing and replace an undersized

culvert with a timber bridge at one other site.

The Machias River watershed lies within Maine's economically challenged Washington County, which reported over 13% unemployment in 2009 with more than 20% of the population below the poverty line. Many jobs related to environmental consulting, construction, and monitoring of the sites are expected to be created or maintained through this project.

Last year, local contractors hired by Project SHARE constructed 29 sites, with the rest of the sites scheduled to be completed in 2010. Culvert replacements are being closely monitored by researchers from Project SHARE, the University of Maine, the Maine Department of Marine Resources and the U.S. Fish and Wildlife Service to document habitat use and passage by wild and stocked Atlantic salmon fry, as well as document improvements in habitat quality, stream temperature and riparian vegetation. Other diadromous fish likely to benefit from the barrier removals include American eel and alewife.



Harbor Porpoise cont'd from page 6

These measures are effective March 22, 2010.

Have Questions or Need More Information contact:

Diane Borggaard, Harbor Porpoise Take Reduction Coordinator
978-282-8453 or Diane.Borggaard@noaa.gov

Glenn Salvador, Mid-Atlantic Fisheries Liaison
757-414-0128 or Glenn.Salvador@noaa.gov

John Higgins, Northeast Fisheries Liaison
207-677-2316, John.Higgins@noaa.gov

Or visit the Harbor Porpoise Take Reduction Plan website:
http://www.nero.noaa.gov/prot_res/porptrp/

For a complete copy of the new regulations, Harbor Porpoise Take Reduction Plan Guide for New England or the Mid-Atlantic, or laminated outreach cards please contact Marcia Hobbs (Marcia.Hobbs@noaa.gov, 978-281-9328) or a fishery liaison, or visit our website.



Salmon Habitat and River Restoration Project, culvert replacement. (Credit: NOAA)



What's Happening with Northeast Recreational Saltwater Anglers Registration?

Are you a recreational fisherman? Have you signed up for the Northeast Recreational Saltwater Anglers Register yet? As of January 1, 2010, there are new regulations which may require anyone who fishes recreationally or spearfishes in federal waters or in state tidal or marine waters where there are anadromous fish (such as striped bass, American shad, hickory shad, river herrings, and smelt) to register with the National Saltwater Angler Registry. Just go to www.countmyfish.noaa.gov or call (888) MRIP-411. Registration is quick, easy, and FREE in 2010.

There are four notable exceptions to the registry requirement. You will NOT need to register if: (1) you are under 16 years old, (2) only fish on a for-hire vessel (e.g. charter boat, head boat, guide boat), (3) hold a NOAA Highly Migratory Species (HMS) Angling Permit, or (4) have a state marine recreational fishing

license from a state with an approved recreational angler registration program.

If you live in New England (Maine through Connecticut), as of now, the only New England state that has implemented a recreational marine fishing license is Connecticut. Massachusetts and New Hampshire have passed laws to implement marine recreational fishing licenses, but not until 2011, and Rhode Island is working to implement one, but it is not in place yet. Therefore, for saltwater recreational angling in New England, most participants will have to register, except if they fall under the three exceptions or have a Connecticut marine recreational fishing license.

If you live in the Mid-Atlantic Area (New York through Virginia), as of now, only New York and Delaware have implemented a recreational marine fishing license that provides enough information

to exempt their anglers from having to register with the National Saltwater Registry. Therefore, New Jersey, Maryland, and Virginia anglers must register except if they fall under the three exceptions or have a New York or Delaware marine recreational fishing license. Maryland and Virginia are looking to accommodate the requirements for the National Saltwater Registry in 2011, but for 2010, their anglers must register directly with NOAA.

Pennsylvania residents and other inland state residents who fish in the tidal portion of the Delaware River or who travel to coastal states to angle or spearfish in saltwater will also have to register unless they fall under the four exceptions.

If you have any questions on this issue the website www.countmyfish.noaa.gov has a wealth of information, and/or you can contact Paul Perra at 978-281-9153 or paul.perra@noaa.gov.

Regional Competition: National Ocean Sciences Bowl

Each year, NOAA offices around the country pitch in to help with regional science competitions, collectively known as the National Ocean Sciences Bowl. Here in the Northeast Region, the event is appropriately named the Blue Lobster Bowl.

NOAA staff helped out in a variety of ways, serving as judges and competition moderators. The agency also provided the grand prize for the winning team – a tour of our research vessel, the R/V Bigelow and a tour of NOAA's marine lab in Narragansett, RI.

The event, held on Saturday, February 6, attracted 130 high school students from across the northeast. Participating student teams answered challenging questions in marine science in a round-robin/

double elimination format for a chance to participate in the national tournament in April. This year's winning team hailed from Lincoln-Sudbury.

The National Ocean Sciences Bowl is the brain child of the Consortium for Oceanographic Research and Education (CORE), representing leading oceanographic institutions universities and aquaria. The National Ocean Sciences Bowl was first conducted in the winter and spring of 1998 in honor of the International Year of the Ocean.

Hydropower project cont'd from page 1

Currently, there are no dedicated fish passage structures at the dam, although fish are known to incidentally pass through the navigation lock, which is owned and operated by the U.S. Army Corps of Engineers for navigation. The adjacent lock system allows vessels to transit within the Hudson River and between the Hudson River, the Great Lakes and Lake Champlain.

A key aspect of this agreement is that requires long-term monitoring to ensure that the fishways are operating as designed to safely and effectively pass fish.