



ASMFC

FISHERIES *focus*

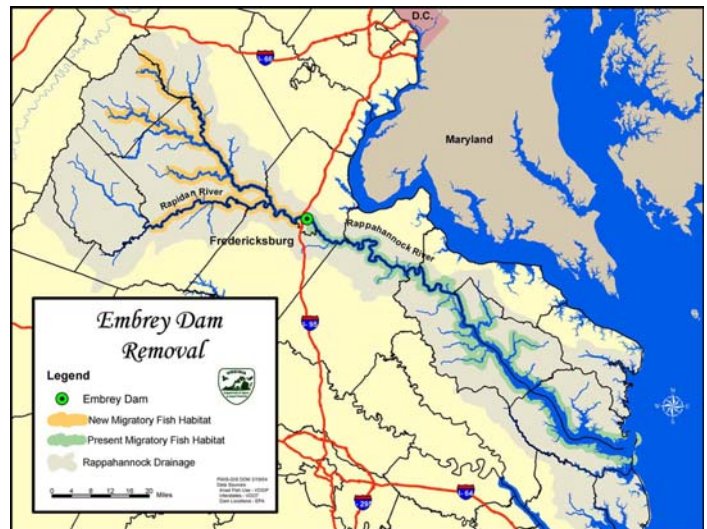
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Atlantic States Marine Fisheries Commission • 1444 Eye Street, N.W. • Washington, D.C.

Working towards healthy, self-sustaining populations for all Atlantic coast fish species or successful restoration well in progress by the year 2015.

Partnerships Pave the Way for the Restoration of the Rappahannock River

Editor's note: Sometimes an opportunity to relay a great fisheries management success story occurs. The following story is one such example. It describes the collective efforts of local, state and federal agencies, citizens groups and Senator John Warner coming together for fish and fisheries habitat. We hope you will join us in celebrating the accomplishments of the Commonwealth of Virginia and its partners in taking this important step forward.



On February 23, 2004, the base of the Embrey Dam was destroyed, clearing the way for the return of anadromous

fish species into the upper reaches of the Rappahannock River. The Dam's removal is the culmination of the collective efforts of the Virginia Department of Inland Game and Fisheries, Friends of the Rappahannock, the City of Fredericksburg and the Corps of Engineers. Senator John Warner has also championed this cause and been instrumental in securing the dam's destruction.

David Whitehurst, Director of Wildlife Diversity for the Virginia Department of Game and Inland Fisheries, stated, "The Embrey Dam's removal has been a long, arduous process and is a testament to the power of partnerships at all levels of government and citizen involvement. Without the cooperation and support of these dedicated groups and Senator Warner the Rappahannock River would not be on its way to recovery."

Embrey Dam was initially built in 1910 to replace a crib dam that was constructed in 1853. The Dam also provided a water supply and power source to Fredericksburg, Virginia. However, in the 1960s the dam's use as a power source was discontinued and in 1988 the campaign to reopen the dam to provide for fish passage began. This campaign grew and began to involve the public, eventually catching the interest of Senator Warner who also began to lobby for the dam's removal. The combined efforts of the multiple partners resulted in the explosion of the dam base on February 23, 2004. Complete removal of the dam

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The Atlantic States Marine Fisheries Commission was formed by the 15 Atlantic coastal states in 1942 for the promotion and protection of coastal fishery resources. The Commission serves as a deliberative body of the Atlantic coastal states, coordinating the conservation and management of nearshore fishery resources, including marine, shell and anadromous species. The fifteen member states of the Commission are: Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, and Florida.

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Upcoming Meetings

4/5 (8:30 AM - 4:00 PM)

Northern Shrimp Amendment 1 Workshop, Urban Forestry Center, 45 Elwyn Street, Portsmouth, New Hampshire. Contact: Sherm Hoyt, Maine Sea Grant, (207)832-0343.

4/7 - 8:

ASMFC Habitat Committee, Chesapeake Bay Foundation, 6 Herndon Avenue, Annapolis, Maryland.

4/7 (8:30 AM - 4:00 PM)

Northern Shrimp Amendment 1 Workshop, Holiday Inn by the Bay, 88 Spring Street, Portland, Maine. Contact: Sherm Hoyt, Maine Sea Grant, (207)832-0343.

4/9 (8:30 AM - 4:00 PM)

Northern Shrimp Amendment 1 Workshop, Maine Department of Marine Resources Lab, End of McKown Point Road, West Boothbay Harbor, Maine. Contact: Sherm Hoyt, Maine Sea Grant, (207)832-0343.

4/12 - 16:

ASMFC Technical Committee Meeting Week, The Lord Baltimore Radisson Hotel, 20 West Baltimore Street, Baltimore, Maryland.

4/22 & 23:

ASMFC American Lobster Technical Committee, Stock Assessment Subcommittee and Model Development Subcommittee, University of Massachusetts Dartmouth, New Bedford, Massachusetts.

5/4 - 6:

Mid-Atlantic Fishery Management Council, Crowne Plaza Meadowlands, Secaucus, New Jersey

5/11 - 13:

New England Fishery Management Council, Providence Biltmore, Providence, Rhode Island.

5/24 - 27:

ASMFC Meeting Week, Radisson Hotel Old Town Alexandria, 625 First Street, Alexandria, Virginia.

6/14 - 18:

South Atlantic Fishery Management Council, Pier House, 1 Duval Street, Key West, Florida; (305)296-4600.

6/21- 25:

ASMFC Technical Committee Meeting Week, location to be determined.

Noted author, Alex Haley, frequently encouraged others to “find the good and praise it.” With that in mind, we have included an article in this issue about the recent breaching of the Embrey Dam on the Rappahannock River. This action is a major step forward in restoring habitat for shad, eels, and river herring. Congratulations to the Commonwealth of Virginia, their congressional delegation, the Army Corps of Engineers, and all of their other partners who worked together to make this happen.

Speaking of good things, I had the recent pleasure of testifying before the Subcommittee on Fisheries Conservation, Wildlife and Oceans on the reauthorization of the Atlantic Striped Bass Conservation Act. A diverse group of speakers were present to praise the tremendous success achieved in striped bass management as a result of the Act. Here are the thoughts I shared with the Subcommittee.

The recovery of striped bass is a true fishery management success story. It holds four important lessons to us all about fisheries management and stewardship.

Conservation Works – Back in the early 80’s fisheries managers made the difficult decision to stop all fishing on striped bass despite arguments that environmental factors and pollution were causing the stock’s decline. While these may have been impacting striped bass, their correction was beyond the control of fisheries managers. Instead they took action with what they could control. In response, the population rebounded.

Partnerships Work – The recovery of striped bass was the direct result of sacrifices made by both recreational and commercial stakeholders. The Atlantic coastal states came forward in a spirit of self-sacrifice for the common good. They operated in cooperation with their federal partners from the National Marine Fisheries Service and the US Fish and Wildlife Service. They pooled limited science resources to support actions and monitor progress. All achieved far more in partnership than they could have individually.

The Governance Provisions Work – The Act contained important compliance mechanisms that paved the way for the refined legislation of the Atlantic Coastal Fisheries Cooperative Management Act of 1993. That Act provides, in a more universal and refined manner, the authority and resources to the Commission and the

states to develop meaningful management plans for 22 species including striped bass.

Success Requires Maintenance – We know that each year at least 3.8 million fish are taken by commercial and recreational fishing, the largest known cause of mortality to adult striped bass. Based on our present understanding of the stock, this level of harvest is sustainable. But, we also know concerns have been raised about the long term health of the stock in view of possible threats from mycobacterium infections, lack of adequate forage fish, impacts of opening the Exclusive Economic Zone and continued stress on the health of estuarine spawning and nursery areas.

It is important then that we continue to collect data on catch and discards from both recreational and commercial fishermen to ensure harvests remain within sustainable limits. Through our state-federal partnerships, the Commission is developing sound science to quantify the extent of prey-predator relationships through a multispecies fisheries model. The Commission will continue to be strong advocates for coastal habitat protection and restoration. Last year, the Commission approved Amendment 6 to the Atlantic Striped Bass Fishery Management Plan, setting science-based reference points and a long-term strategy for sustainable management of this fully recovered stock.

The Atlantic striped bass fishery is enormously popular and generates hundreds of millions of dollars in direct and indirect economic activity along the coast from Maine to North Carolina. It is important that the \$1.25 million currently authorized in the Striped Bass Act continue to be provided to enable the states to properly address ongoing management issues from a basis of sound science. A modest investment to ensure this stock stays healthy is far wiser than incurring the high costs of responding to another depletion.

The Congress, federal agencies, states, and stakeholders can all be proud of their contributions and sacrifices enabling the recovery of Atlantic striped bass, a fisheries management success story. The leadership Congress demonstrated in passing the original Atlantic Striped Bass Conservation Act helped make this happen.

Hopefully, these good works are something we can all agree with.



Species Profile: Northern Shrimp Recent Amendment Presents New Opportunities for Management

Introduction

Northern shrimp, *Pandalus borealis*, provide a unique fishery management story, given its unusual life history characteristics and a management planning process that involves active industry participation. Over the last few years, there has been increasing concern for the status of the stock and the ability of the resource to sustain current harvest levels. Amendment 1 was recently approved by the Commission's Northern Shrimp Section, which consists of Commissioners from Maine, New Hampshire, and Massachusetts and is the group responsible for developing annual regulations. Upon approval by the Commission in May, the Amendment will provide managers and fishermen the opportunity to use additional tools to manage this valuable resource in a sustainable way.

Life History

Northern shrimp are located in the cold waters of the Northern Hemisphere. The species is found in Canadian waters and in the northern most waters of the U.S. On the U.S. Atlantic coast, it primarily inhabits waters off of Maine, New Hampshire, and Massachusetts.

Northern shrimp are hermaphroditic, maturing first as males at roughly 2 ½ years of age and then transforming to females at about 3 ½ years. Female shrimp may live up to five years old and attain a size of up to three to four inches in length. Mating takes place in offshore waters during the late summer. Females carry the eggs on their abdomen and hatching takes place during the winter when the shrimp are in inshore waters. Northern shrimp are an important link in marine food chains, preying on both plankton and benthic invertebrates, and, in turn, being consumed by many important fish species, such as cod, redfish, and silver and white hake.

Commercial Fishery

Northern shrimp provide a small but valuable fishery to the New England states. The fishery is seasonal in nature, peaking in late winter when egg-bearing females move into inshore waters and ending in the spring under regulatory closure.

The commercial fishery began in earnest in the late 1950s/early 1960s and experienced an

Pandalus borealis

Interesting Fish Facts:

- Begin life cycle as males and metamorphose into females in the third year of life
- It is believed that most shrimp don't live past 5 years of age.
- Appendages on the tail (abdomen), called pleopods, act like paddles, enabling the shrimp to move with remarkable agility and over considerable distances.

Age at Maturity:

- 2.5 years for males
- 3.5 years for females

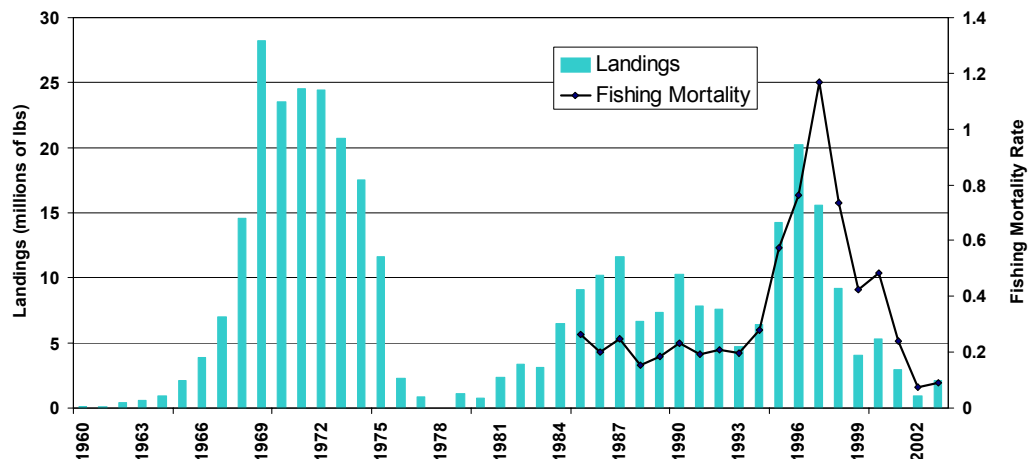
Amendment I Biological Reference Points:

- F target = F50 = 0.22
- Biomass threshold = 19.8 million lbs
- Biomass Limit = 13.2 million lbs

Stock Status:

overfished, overfishing is not occurring

Figure 1. Gulf of Maine Northern Shrimp Landings & Fishing Mortality Rate by Fishing Season



Sources: Landings data prior to 2001 from National Marine Fisheries Service, Fisheries Statistics and Economics Division, 2003; 2001 and after from State Vessel Trip Reports. Fishing Mortality derived from Collier-Sissenwine Analysis, ASMFC Northern Shrimp Technical Committee, 2003

incredible expansion in landings, peaking in 1969 at an historic high of 28.3 million pounds (Figure 1). Over the next eight years, landings dropped precipitously to a low of less than 85,000 pounds in 1977. The fishery was closed in 1978 due to a stock collapse and slowly reopened in 1979 at very low levels of harvest. The early 1980s showed a modest increase in landings and over the next 10 years landings ranged from 4.7 to 11.6 million pounds. From 1995 to 1997, landings reached near record highs ranging from 14 to 20 million pounds. Since 1996, there has been a general decline in landings. The preliminary landings for 2003 are estimated at 2 million pounds.

From 1995 through 1997, northern shrimp landings had an ex-vessel value of 12 to 15 million dollars. In 2002, the ex-vessel value of northern shrimp was approximately 1 million dollars.

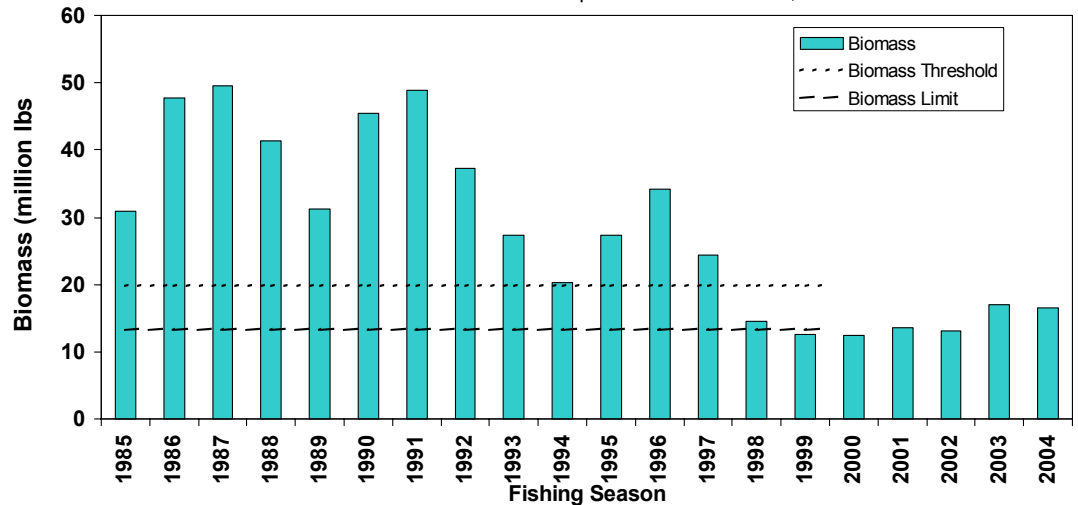
Stock Status

Exploitable biomass based on the Collie-Sissenwine analysis generally declined from approximately 49 million pounds in 1987 to a time series low of 12.4 million pounds in 2000 (Figure 2). Since then the biomass estimate has risen to nearly 17 million pounds in 2003, as a result of the appearance of the moderate 1999 year class and the strong 2001 year class. This estimate is still below the time-series average of 28.2 million pounds, and well below the average of the relatively stable 1985-1994 period of 37.9 million pounds. The estimate of spawning stock biomass for 2004 is also well below the time-series mean.

Northern shrimp populations are tracked by year class. The table below provides a comparison of year class strength as

Figure 2. Gulf of Maine Northern Shrimp Total Stock Biomass, using the Collie-Sissenwine analysis

Source: ASMFC Northern Shrimp Technical Committee, 2003



determined by prior assessments and the most recent 2003 assessment. It shows how fishing pressure and environmental conditions can effect the stock over time. Changes in the 1999 and 2001 year classes and the absence of the 2000 and 2002 year classes are strong indicators of a depressed stock. This, combined with low biomass, have been the basis for the Section limiting the fishing season to under 50 days for the last three seasons.

Atlantic Coastal Management Considerations

Following the collapse of the stock in the early 1970s, management for northern shrimp began in 1973 through an interstate agreement among Maine, New Hampshire, and Massachusetts. The northern shrimp fishery boasts the longest running interstate management program on the Atlantic coast of the U.S. The Commission adopted the Fishery Management Plan for Northern Shrimp in 1986. Under this plan, the fishery was managed through the establishment of fishing seasons, which are set each fall. The plan allowed for the use of gear limitations.

The Northern Shrimp Section approved Amendment 1 to the Plan in January 2004, with Commission approval scheduled for May. The Amendment establishes formal biological reference points for the first time. These include a fishing mortality target of 0.22, a biomass threshold of 19.8 million pounds, and a biomass limit of 13.2 million pounds. Both points provide benchmarks for Section consideration when establishing annual specifications. The limit is the point below which the management action should be taken to avoid stock collapse. The Amend-

Table 1. Year Class Strength of the U.S. Northern Shrimp Stock

Year Class	Initial Year Class Strength (based on prior assessments)	Current Year Class Strength (based on 2003 assessment)
1998		<ul style="list-style-type: none"> Have passed out of 2004 fishery
1999	<ul style="list-style-type: none"> Moderate 	<ul style="list-style-type: none"> Weak Assumed to be 5-year old females
2000	<ul style="list-style-type: none"> Virtually absent 	<ul style="list-style-type: none"> Virtually absent Assumed to be 4-year old females
2001	<ul style="list-style-type: none"> Strong 	<ul style="list-style-type: none"> Moderate Assumed to be 3-year old males, transitionals and early maturing females
2002	<ul style="list-style-type: none"> Virtually absent 	<ul style="list-style-type: none"> Virtually absent Juveniles

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Rappahannock River Restoration (continued)

is expected by the year 2005. The dam's removal has many positive implications for recreational and commercial shad and herring fishermen as well as other interested environmental groups.

American shad populations have decreased substantially over the course of the 20th century. This once abundant stock totaled nearly eight million pounds in catches in the James, Rappahannock, and York Rivers and the Chesapeake Bay in 1900. Since then, loss of more than 100 miles of spawning habitat along the Rappahannock River, due to the construction of the Embrey Dam in 1910, has contributed

to species decline. In 1990, only 5,000 pounds were caught in the same areas where shad had once been so prevalent.

With the removal of the dam, 71 miles of the mainstream Rappahannock River will be reopened – allowing anadromous fish to complete their annual journey from the Chesapeake Bay for the first time in 151 years. Thirty-five miles of the Rapidan River, a major tributary, will also be reopened with the dam's destruction and allow migratory shad and river herring populations to utilize historical spawning habitat. Supplemental stocking, in addition to a harvest

moratorium, will ideally contribute to stock rebuilding in this area.

The effects of strong American shad populations are far-reaching in terms of both recreational and commercial fishing. Shad provide a marine-based energy source to fresh water systems and can be used as forage for predatory fish. Striped bass and other migrant species will benefit from increased habitat as well. As the Rappahannock River and neighboring tributaries return to their natural state, there is hope for a successful rebuilding of a once populous species.

ASMFC American Eel Board Calls for Development of Amendment I to the Interstate Plan: Plan to Address Continued Stock Declines

On March 9, 2004, the Commission's American Eel Management Board authorized development of Amendment 1 to the Interstate Fishery Management Plan for American Eel to address concerns regarding coastwide declines in abundance. Canadian and US data show 2003 commercial landings are the lowest on record since 1945 and there are indications of localized recruitment failure in the Lake Ontario/St. Lawrence River system. The International Eel Symposium at the 2003 American Fisheries Society Annual Meeting reported a worldwide decline of eel populations, including the Atlantic coast stock of American eel.

“In initiating the development of an amendment, the Board recognizes the necessity of taking additional action to protect the coastwide stock of American eel from further decline,” stated Board Chair, Jack Travelstead of Virginia. “The amendment is just one approach. The Board is also committed to working with the Great Lakes Fishery

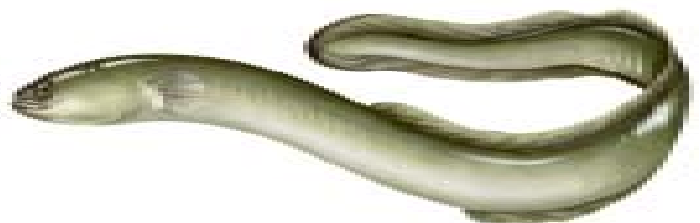
Commission to ensure coordinated management.”

Issues to be addressed by the amendment include changes in the management programs for recreational and commercial fisheries, an evaluation of non-fishing sources of mortality, and a review of the plan's current monitoring requirements. The American Eel Technical Committee recommended these items for consideration by the Board. The Board may move more quickly to address some of these issues through an addendum.

Additionally, the Board requested the Commission cosponsor a workshop on American eel passage. The Commission also recommended that the US Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service

(NMFS) consider listing American eel in the Lake Ontario/St. Lawrence River/Lake Champlain/Richelieu River system as a Distinct Population Segment under the Endangered Species Act (ESA). The Board also recommended that the USFWS and the NMFS evaluate if listing of the entire Atlantic coast stock of American eel is warranted under the ESA.

For more information, please contact Lydia Munger, American Eel Fishery Management Plan Coordinator, at (202)289-6400 or <lmunger@asmfc.org>.



ASMFC Horseshoe Crab Board Approves Addendum III: NJ, DE, and MD Further Reduce Landings

On March 10, 2004, the Commission's Horseshoe Crab Management Board approved Addendum III to the Interstate Fishery Management Plan for Horseshoe Crab. The Addendum seeks to further the conservation of horseshoe crab and migratory shorebird populations in and around the Delaware Bay. It reduces harvest, implements seasonal closures and revises the Plan's monitoring requirements.

"Through its actions today, the Board continues to recognize the unique relationship between horseshoe crabs and migratory shorebird populations," stated Board Chair Bruce Freeman of New Jersey. "I want to especially acknowledge the efforts of the States of New Jersey, Delaware, and Maryland in taking steps to ensure the integrity of the Delaware Bay ecosystem."

The Addendum responds to recommendations of the U.S. Fish and Wildlife

Service's Shorebird Technical Committee to reduce horseshoe crab harvest in New Jersey, Delaware, and Maryland. The intent is to increase the abundance of horseshoe crabs eggs to meet the energetic requirements of migratory shorebirds that stopover in Delaware Bay.

Specifically, the Addendum caps annual harvest in New Jersey and Delaware at 150,000 crabs/state and sets Maryland's annual quota at its 2001 landings level (170,653 crabs). Further, it requires the three states to prohibit the harvest and landings of horseshoe crab for bait from May 1 to June 7. Addendum III also encourages states with both bait and biomedical fisheries to allow biomedical companies to bleed harvested crabs prior to their use as bait. This would eliminate mortality associated with the process of bleeding and returning crabs to the waters from which they were harvested.

Copies of the Addendum will be avail-



Spawning horseshoe crabs. Photo courtesy of Lydia Munger.

able by mid-April and can be obtained from the Commission's website at www.asmfc.org or by contacting the Commission office at (202) 289-6400. For more information, please contact Braddock Spear, Fishery Management Plan Coordinator, at (202) 289-6400 or bspear@asmfc.org.

ASMFC Initiates Development of Addendum I to the Atlantic Menhaden Plan

On March 11, 2004, the Commission's Atlantic Menhaden Management Board approved the development of an Addendum to the Interstate Fishery Management Plan. The addendum proposes modifications to the plan's biological reference points and schedule for stock assessments, as well as revisions to the FMP's habitat section.

This action is based in part on the recommendations of the Menhaden Technical Committee in its 2003 stock assessment, which found that menhaden are not overfished and overfishing is not occurring on a coastwide basis. Peer-reviewed this past October by the South-

east Data, Assessment and Review Panel, the assessment uses a new modeling approach (Forward Projection Model) and fecundity-based biological reference points to determine stock status. These reference points are more accurate and take into account the number of mature ova (eggs). This is a significant departure from the way assessments have been conducted in the past.

The addendum also proposes changes to the plan's fishing mortality target and threshold levels as recommended by the Menhaden Technical Committee and supported by the peer review. Rather than conducting a full-scale annual as-

essment, the addendum proposes a three-year assessment cycle to allow for the increased complexity and data requirements of the new model. The Technical Committee will continue to meet annually to review the current year's landings and indices. A new assessment may be initiated if there are indications of a significant change in stock status.

The Management Board will meet in May to approve the Draft Addendum for public comment. For more information, please contact Nancy Wallace, Fishery Management Plan Coordinator, at (202)289-6400 or nwallace@asmfc.org.

Northern Shrimp Species Profile (continued from page 5)

ment also provides a broader suite of management options to allow for greater flexibility in regulating the fishery and conserving the resource. Member states of the Section are required to implement the amendment no later than June 1, 2004.

This April, Maine, New Hampshire and Massachusetts Sea Grant will be hosting a series of workshops to explore the use of new management tools provided under Amendment 1. Open to the pub-

lic, the workshops are intended to engage industry and scientists in discussions on the best tools for managing the shrimp fishery. The results of the workshops will be provided to the Commission's Northern Shrimp Section for its deliberations on future management of the stock (see page 2 for more workshop details). For more information on northern shrimp management, please contact Braddock Spear, FMP Coordinator, at <bspear@asmfc.org.

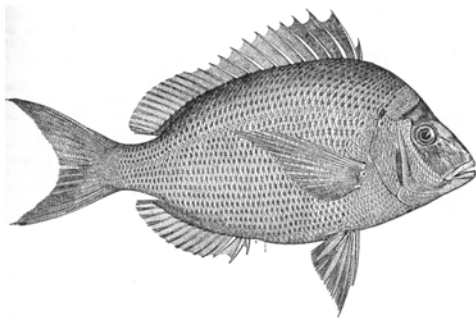
ASMFC 2005 Meeting Week Dates

February 7 - 10, 2005
Washington DC area

May 9 - 12, 2004
Washington DC area

August 8 - 11, 2005
Washington DC area

Annual Meeting anticipated for
late October/early November
New Jersey



On March 11, 2004, the Commission's Summer Flounder, Scup and Black Sea Bass Management Board amended the state scup recreational reductions for the 2004 fishery, initiated an addendum for the 2005 and 2006 black sea bass commercial fishery, and considered a New York proposal on summer flounder recreational reductions.

The Board amended scup reductions required by Addendum XI to the Summer Flounder, Scup and Black Sea Bass Fishery Management Plan (FMP). Addendum XI required states in the northern region (New York through Massachusetts) to reduce their landings by 53% through a regional management approach. Based on 2003 landings, the following percent reductions are now required: Massachusetts - 40%, Rhode Island - 25%, Connecticut - 57%, and New York - 58%. This change was col-

ASMFC Board Takes Action on Scup, Black Sea Bass and Summer Flounder Management Measures

lectively brought forward by the northern states, who represent 97% of the scup recreational harvest. The northern states will submit scup recreational management measures for technical review within two weeks. The southern states management measures remain consistent. New Jersey has a 10-inch minimum size, 50 fish bag limit and a season of July 1 - December 31, and Delaware through North Carolina maintain an 8-inch minimum size, 50 fish bag limit and open season.

The Board also approved initiation of Addendum XII to the FMP. The addendum intends to extend the current state-by-state black sea bass allocation system for the 2005 and 2006 fishing years. State-specific shares are as follows: Maine - 0.5%, New York - 7%, New Hampshire - 0.5%, New Jersey - 20%, Massachusetts - 13%, Delaware - 5%, Rhode Island - 11%, Maryland - 11%, Connecticut - 1%, Virginia - 20%, and North Carolina - 11%. The Addendum outlining the black sea bass commercial fishery management will expire on January 1, 2004. Public comment for the Addendum XII will be solicited

after the May Commission Board meeting and final action on the addendum will be taken at the August meeting in Alexandria, Virginia.

The State of New York proposed to reduce its projected recreational summer flounder landings for 2004 by 20% if (1) the Technical Committee verifies that the final measures New York selects achieve a 20% reduction; and (2) New York maintains such measures in place for the 2004, 2005, and 2006 fishing years. New York faces a 48.5% reduction of its summer flounder recreational fishery due to the highest recreational catch estimate of fluke in New York since the start of the Marine Recreational Fishery Statistics Survey in 1981. This management approach would alleviate impact on New York anglers and recreational fishing businesses harvesting fluke. After thoughtful deliberation, the Board decided to not approve the proposal but agreed to continue to explore alternate approaches to effectively managing the recreational summer flounder fishery coastwide. For more information, please contact Toni Kerns at (202) 289-6400, or tkerns@asmfc.org.

Improving Fish Tagging Data to Support Stock Assessments

For decades, resource managers and scientists have used tagging as a method to monitor wildlife and aquatic resources. Tagging data is used to identify spatial information such as an animal's geographic range, habitat utilization, migration routes, and breeding areas. Fisheries scientists also use tag – recapture data to estimate growth rates, natural mortality, exploitation rate and stock structure. Fisheries scientists and managers use all of this information to improve stock assessments and develop appropriate regulatory and conservation measures.

This article presents a brief overview of tagging programs and the Commission's efforts to promote the collection of high quality data from these programs for use in stock assessments. It also provides examples of tagging programs that have improved our understanding of fishery resources and the stock assessment data upon which management decisions are based.

Currently, there are over 60 different marine and anadromous fish tagging programs being conducted along the Atlantic coast. Tagging programs are usually designed to address specific questions that relate to management and conservation efforts. Program design has major impacts on how the data can be used. For example, data from fish tagged opportunistically throughout the year can be used to investigate individual growth rates, migration patterns, and species range, while data from fish tagged during a short time frame in a specific area can be used to estimate mortality and exploitation rates. Another program design choice is who places tags in the fish. The options run the gamut from agency-run tagging programs where agency staff handle, measure, tag, and release the fish to privately run programs in which anglers measure and tag fish. In the middle are tagging programs designed and administered by agencies that rely on anglers to perform and record tagging events. Each type of tagging program, agency-based, angler-based, and mixed, has benefits and limitations, which are more fully described in an upcoming ASMFC web document "ITC Report to the Policy Board on Atlantic Coast Fish Tagging Activities, and Tagging Program Certification."

Recently, concerns have arisen regarding the proper handling of fish/tagging techniques, duplication of tag identifiers, and coordination of tagging activities among tagging programs. In an attempt to address these issues and direct angler effort toward programs with scientific merit and usefulness to fisheries management, the ASMFC appointed an Interstate Tagging Committee (ITC) to develop guidelines for the administration of effective tagging programs. These guidelines are organized into six major topics and are presented below. Each topic is further defined using examples from the American Littoral Society's (ALS) tagging program, one of the longest running (since 1965) and most well known angler-based tagging programs. Tagging data from the ALS has been used in the striped bass stock

Tagging Data Helps Striped Bass Restoration

Since 1998, several state and federal agencies led by the Fish and Wildlife Service (USFWS) have worked together to tag more than 392,000 striped bass with external or "spaghetti" tags. The cooperative striped bass tagging program relies on the public to return and report tags and has proven to be very successful with more than 72,500 external anchor tags returned by fishermen in the last 5 years. The tagging information has led to a better understanding of migratory patterns of striped bass, provided information on rates of migration, and identified overwintering grounds off North Carolina and Virginia. Tag returns have shown that striped bass use a wider range of habitats than previously believed. For example, some 1-2 year old fish were found to leave estuaries and bays whereas before, only older fish were thought to leave these areas. Tagging results have also shown that striped bass can swim as far as 500 miles in one month, averaging 16 miles per day.

The tagging data are also used to estimate fishing mortality and survival rates in stock assessment. These rates change over time and tagging provides a second method to estimate fishing mortality for comparison to the age-based calculations used in the virtual population analysis (VPA). By comparing the tagging estimates of mortality rates to VPA estimates, scientists can look for bias or agreement in both methods. Information from the FWS tagging program helped to determine restoration of the Chesapeake Bay migratory stock of striped bass in 1995. In addition, the success of the program has led to similar coastal tagging programs for American shad, Atlantic sturgeon, and black sea bass.



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Improving Fish Tagging Data to Support Stock Assessments (continued from page 9)

assessment since 1985. It has also proven helpful in the stock assessments of summer flounder, tautog, and coastal sharks by providing migration information and length frequency data for released fish.

- **Clear Scientific Objectives** – The primary ALS objective is to collect data related to the movement and growth of marine and anadromous fish from Maine to Texas. The majority of its data is for striped bass, summer flounder, bluefish, black sea bass, and weakfish. ALS also includes objectives directed towards promoting conservation through catch and release and supporting fisheries research.
- **Comprehensive Program Design** – Program design includes the who, what, when, where, and how of tagging fish. In other words, it defines who places tags in what species during what time period in what geographic area by using what type of tag. Originally designed in cooperation fisheries scientists, ALS has been responsive to scientific and management needs by updating the design at the request of fisheries biologists. For example, ALS discontinued snook tagging in Florida due to incompatible tag type, and put extra effort into black sea bass tagging since 2000 to help collect more length frequency data for stock assessments.
- **Thorough Data Collection Methodologies** – ALS collects all of the information necessary to assess movement and growth – such as species name, length, date, location, angler name, address, and release condition, with identical information reported at recapture.
- **Long-Term Commitment to Tag Returns and Data Management** – ALS has shown a historical commitment (since 1965) to supporting the tagging program with staff and resources to distribute tags, respond to anglers, enter, verify, and maintain tagging data, and share the data with fisheries scientists and the public.
- **Angler Training** – ALS provides angler training on tagging methods through mailed documents. ALS has an ongoing dialogue with its members to answer questions, correct tagging methods, and provide new information. Periodically, instructional visits to fishing clubs and shows are made to inform anglers of the program and its methods. This has proven a cost effective and efficient means of passing knowledge among anglers.
- **Communication with Anglers and Management Agencies** – The ALS has strong communication with its anglers and responds to tag returns by providing participating anglers with information on fish movement, time

at large, and growth. The data is published annually in the “Underwater Naturalist.” Further, the ALS has provided annual copies of its tagging data to the National Marine Fisheries Service and the Commission for inclusion in their stock assessment processes. In all, the American Littoral Society administers its program with a high degree of cooperation with management agencies and strives to help meet data needs in various fisheries.

To improve the effectiveness of tagging efforts coastwide, the Commission has forwarded its guidelines document to 60 Atlantic coast tagging programs for consideration and use. Some tagging programs have already begun to follow the guidelines set forth in the tagging protocols. Based on the guidelines, the Interstate Tagging Committee (ITC) has also developed a voluntary certification process for tagging activities associated Commission managed species. This certification is intended to direct anglers to existing programs with scientific benefits. The ITC has just finished a report that includes a summary of tagging activities, an evaluation of citizen-based tagging programs, and criteria for evaluating certification applications. The certification process will be initiated this year.



Tagged tautog. Photo courtesy of Geoff White.

The ITC has also supported the creation of a website for information on fish tagging activities. The website, www.fishtag.info, contains general information on fish tagging, what types of tags are commonly used, and a searchable database of tagging programs. Uses for the site include helping anglers to connect a tag with unreadable information to a program in order to report a tag recapture, and distribute information on active tagging programs by species. For more information, please contact Geoff White, Fisheries Research Specialist at (202) 289-6400 or gwhite@asmfc.org.

Horseshoe Crab Tagging Study Investigates Beach Fidelity

Last May several members of the ASMFC staff and state personnel traveled to Delaware to participate in a tagging study for horseshoe crabs. Despite being on earth for hundreds of millions of years, little information is known regarding horseshoe crab life history. The tagging study intends to improve our understanding of spawning frequency and beach fidelity, information that will help protect species survival and management.

In order to collect data regarding spawning frequency and beach fidelity, horseshoe crabs must be tagged during spawning seasons at a specific location; in this case, Pickering Beach near Dover Delaware. Neighboring beaches Port Mahon and Kitts Hummock were also monitored at the same time to observe crab movement between beaches. ASMFC staff aided USFWS crews in attaching Peterson disc tags to the rear left point of the crab shell as well as helped monitor the various

beaches during high tide. Two years ago the tagging study targeted both male and female horseshoe crabs; however, last May only females were tagged. A total of 3,152 female crabs were tagged in 2003 compared to 1,217 female crabs tagged in 2002.

Drawing on data from both years the study has reached some interesting conclusions. We now know horseshoe crabs can spawn multiple times in one season, with males spawning more frequently than females. In the course of a spawning season, crabs will usually return to the same beach. However, the next season no preference towards a particular beach is shown. This suggests that long-term beach fidelity is non-existent.

The research collected over the past two years has helped provide a clearer understanding of the population dynamics in Delaware Bay. While this project has come to an end, the

U.S. Geological Survey (USGS), in cooperation with the USFWS and others, will be conducting an extensive tagging and radio telemetry study to investigate the movement of tagged crabs during the spawning season and address spawning frequency and beach fidelity on a larger scale.

For more information regarding the USFWS or USGS studies, please contact Sheila Eyler at (410)573-4504 or Sheila_Eyler@fws.gov or Dave Smith at (304)724-4467 or David_R_Smith@usgs.gov, respectively.



Tagged horseshoe crab. Photo courtesy of Sheila Eyler, US Fish and Wildlife Service

ASMFC American Lobster Board Approves Addendum V: Area 3 Trap Cap Set at 2200

On March 8, 2004, the Commission's American Lobster Management Board approved Addendum V to Amendment 3 to the Interstate Fishery Management Plan (FMP). The Addendum amends the Area 3 (offshore waters) transferable trap program established under Addendum IV by setting the maximum trap cap at 2200 traps. It also institutes conservation taxes for the transfer of traps.

"I commend the Area 3 Lobster Conservation Management Team for proactively bringing forward a plan that meets both the conservation objectives

of the lobster management program and the needs of their industry," states Lobster Board Chair, Patten White of Maine.

The program allows Area 3 lobstermen to transfer trap tags to other lobstermen, with a 2200 overall trap cap and a two-tiered tax system. The system includes a 10% conservation tax (or reduction) on all transfers for those owning up to 1800 traps and a 50% tax for those with 1800 to 2200 traps.

Copies of the Addendum can be ob-

tained from the Commission's website at www.asmfc.org under the Breaking News page or by contacting the Commission office at (202)289-6400. For more information, please contact Carrie Selberg, American Lobster Fishery Management Plan Coordinator, at [<cselberg@asmfc.org>](mailto:cselberg@asmfc.org).



ACCSP Plans Coastwide Commercial Trip Reporting by 2008

Improvements in Other Sectors Contingent on Substantial Funding Increases

The partners of the Atlantic Coastal Cooperative Statistics Program (ACCSP), a state-federal partnership for improved fisheries statistics, have agreed to a plan that will help in achieving the goal of complete, timely and accurate commercial fishery statistics for the Atlantic coast by 2008.

The Implementation Plan 2004-2008, approved by the ACCSP Coordinating Council on March 9, further outlines that with additional funds the program can dramatically improve statistics for recreational and for-hire catch and effort, biological and bycatch sampling, and socioeconomic data.

In July 2002, the Coordinating Council approved the ACCSP Strategic Plan 2002-2006. "The Strategic Plan was a good start and gave the partners and staff some solid direction," said Maury Osborn, ACCSP Director. "But it's really the Implementation Plan that iden-

tifies, task-by-task, what must happen to complete this coastwide catch and effort system we have been working toward since 1995. We are getting really close."

If resources are available, the commercial catch and effort module will be 99% complete by 2008, with timely trip-level data from dealers and harvesters. Work on the additional 1%, mostly shellfish, will be nearly complete. Without those funding increases, the commercial catch and effort module will progress, but little or no funds will be available to partners to reach other objectives, including:

- Increased sample sizes for recreational and for-hire surveys,
- More direct involvement for states in recreational and for-hire catch sampling,
- Research to cover gaps in recreational sampling,
- Integration of recreational monitoring programs,

- Establishment of an integrated state-federal biological sampling program,
- Increased lab processing to handle biological samples,
- Studies to determine baseline bycatch and discard rates for fisheries with no ongoing coverage, and
- Socioeconomic studies of commercial and recreational fisheries.

ACCSP-standard data collected by partners will be available through the program's online data warehouse. Funding for data collection must increase if the warehouse is to be a valued resource for decision-making.

About the ACCSP

The ACCSP is a cooperative state-federal program to design, implement, and conduct marine fisheries statistics data collection programs and to integrate those data into a single data management system that will meet the needs of fish-

ery managers, scientists, and fishermen. For more information please visit www.accsp.org or contact Abbey Compton, ACCSP Outreach Coordinator, at (202) 289-6400.

Funding requirements to implement the ACCSP's standards from 2004-2008. (Null values may be included in Administrative.)

Module	2004	2005	2006	2007	2008
Administrative	1,318,319	1,523,000	1,513,000	1,552,000	1,584,000
Commercial Catch & Effort	1,313,497	926,000	650,000	805,000	889,000
For-Hire and Recreational Catch & Effort	1,439,913	1,439,000	1,684,000	3,014,000	7,009,000
Registration Tracking	150,000	-	-	-	-
Biological	456,548	356,000	790,000	1,340,000	1,340,000
Bycatch, Discards and Released Alive	-	-	350,000	400,000	350,000
Socio-Economic	-	-	300,000	500,000	500,000
Meta-Data	-	75,000	303,000	75,000	438,000
Outreach	-	-	80,000	-	-
Total Funds	4,678,277	4,319,000	5,670,000	7,686,000	12,110,000
Existing Funds	3,463,075	3,500,000	3,500,000	3,500,000	3,500,000
New Funds Needed	1,215,202	819,000	2,170,000	4,186,000	8,610,000

Note: Existing Funds reflect the current status of ACCSP funding (FY03), without congressional rescissions. Although the FY04 appropriations for ACCSP totaled \$3.5M, a congressional revision reduced the amount available by \$36,925.

Northeast Regional Bycatch Workshop

June 29 - July 1, 2004

Wakefield, Massachusetts

The public is invited to attend the Northeast Regional Bycatch Workshop organized by the National Marine Fisheries Service Northeast Regional Office (NERO) and cosponsored by NERO and NOAA Northeast and Mid-Atlantic Sea Grant in cooperation with the Northeast Fisheries Science Center, New England Fishery Management Council, Mid-Atlantic Fishery Management Council, and Atlantic States Marine Fisheries Commission. Representatives from these agencies will collaborate and work together with fishery constituents to specifically address bycatch issues in the northeast region.

The workshop will be held in Wakefield, Massachusetts at the Sheraton Colonial

Conference Center, June 29-July 1, 2004.

The workshop entitled Bycatch in Northeast Fisheries: Moving Forward, will provide an opportunity for northeast constituents with an interest in issues related to bycatch of fish and other marine life to examine specific aspects of bycatch and express their views on regional bycatch issues. Participants will discuss and recommend priorities and solutions regarding science/research, data/monitoring, management, and gear engineering that will be identified and incorporated in an updated version of the Northeast Region Bycatch Implementation Plan to be released later in 2004.

Serving as a forum for issue identification and resolution, the workshop will include keynote speakers, panel discussions and breakout groups with public involvement. In addition, the Coordinating Committee is soliciting for poster abstracts to be presented at the workshop. Posters must be related to bycatch issues in the northeast region concerning legal, research, management, data, enforcement, science, monitoring and protected species issues. The deadline for submission of poster abstracts is April 30, 2004. Send abstracts to Marla Trollan, NERO Outreach Coordinator, at marla.trollan@noaa.gov.

ASMFC Technical Committee Meeting Week

April 12 - 16, 2004

Lord Baltimore Radisson Hotel
20 West Baltimore Street
Baltimore, Maryland

MSC Multispecies Subcommittee
Monday, April 12, 2004
12:30 PM - 5:00 PM

Stock Assessment Committee
Tuesday, April 13, 2004
9:00 AM - 5:00 PM

Weakfish Technical Committee
Wednesday, April 14, 2004
9:00 AM - 5:00 PM
Thursday, April 15, 2004
9:00 AM - 5:00 PM
Friday, April 16, 2004
9:00 AM - 1:00 PM

ASMFC Participates in Groundhog Job Shadow Day

As in previous years, Commission staff again participated in National Groundhog Job Shadow Day, an academically motivating activity dedicated to giving kids an up-close look at the world of work. Participating employees were able to relate their workplace to the community by explaining to the students what is done at the Commission. Students were shown how education can be translated into rewarding careers and provided hands-on experience that links schoolwork to real life.

Ms. Kim Douglas, Student Career Counselor at Dunbar Senior High School, selected four students for mentoring. These students completed an expectation worksheet and personal assessment form in advance so that they could be paired with an employer who matched their interest. Laura Leach conducted the orientation session, and

then the students watched a film entitled "Bridging the Gap of Minority Students in Marine Science".

The students were paired up for the mentoring portion of the day. Each pair spent time with participating employees in Finance & Administration, ISFMP, Research & Statistics and ACCSP. We ended with a pizza lunch and a wrap up discussion headed by our Executive Director, Vince O'Shea. National Groundhog Job Shadow Day was a very rewarding experience for both the students and staff. We look forward to participating again next year, as we strive to make a difference in our workplace community.

To find out more about how you and your agency can participate in National Groundhog Shadow Day, visit their website at <http://www.jobshadow.org/>

Tina Berger Recognized for 10 Years of Dedicated Service

Tina Berger, the Commission's Public Affairs & Research Specialist, was recognized during March Meeting Week for ten years of committed service in promoting the Commission's message. Tina has played a key role in getting the word out, serving as the first staff member to be devoted primarily to public affairs. Her creativity and dedication to the Commission have resulted in an expanded *Fisheries Focus*, a more developed press release process, a timely and thorough Meeting Week Summary and an attractive and informative ASMFC webpage. Tina has also assisted the ACCSP program serving on the Outreach Committee during its initial stages and was instrumental in the design of

the logo, first brochure and other materials that first got the ACCSP message out. Tina first came to the Commission to coordinate a series of workshops including state salt water licensing programs, trawl survey data and use, and special management zones, among others. She then was tapped to work on protected species issues insuring that protected species concerns are incorporated into fisheries management plans and amendments. Her hard work has truly helped advance the Commission's

vision of healthy, self-sustaining populations of Atlantic coast fish species by the year 2015.



From left: ASMFC Executive Director, John V. O'Shea, Tina Berger and ASMFC Chair, John I. Nelson, Jr.

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