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

ASMFC American Shad Stock Assessment Passes Peer Review Findings Indicate that Most Shad Stocks Are Not Recovering

An independent panel of fisheries science experts has endorsed the 2007 benchmark stock assessment and provided recommendations for the improvement of future assessments. These findings were reported to the ASMFC Shad and River Herring Management Board for consideration in future management decisions.

Once one of the most important exploited fish species in North America, American shad stocks are currently at all-time lows and do not appear to be recovering. Recent declines of American shad were reported for Maine, New Hampshire, Rhode Island, and Georgia stocks, and for the Hudson (NY), Susquehanna (PA), James (VA), and Edisto (SC) Rivers. Low and stable stock abundance was indicated for Massachusetts, Connecticut, Delaware, the Chesapeake Bay, the Rappahannock River (VA), and some South Carolina and Florida stocks. Stocks in the Potomac and York Rivers (VA) have shown some signs of rebounding in recent years. Data limitations and conflicting data precluded the report from indicating much about the current status or trend of many of the stocks from North or South Carolina.



The report identified primary causes for stock decline as a combination of overfishing, pollution, and habitat loss due to dam construction. In recent years, coastwide harvests have been on the order of 500-900 metric tons, nearly two orders of mag-

nitude lower than in the late 19th century. Given these findings, the panel recommended that current restoration actions need to be reviewed and new ones need to be identified and applied. The panel suggested considering a reduction of fishing mortality, enhancement of dam passage and mitigation of dam-related fish mortality, stocking, and habitat restoration.

Overall, the stock assessment report and its authors, the ASMFC Shad Stock Assessment Subcommittee, received high praise from the peer review panel who characterized the report, "as one of the most comprehensive collections of fisheries related data ever assembled for [American shad]." The 2007 benchmark assessment, which was four years in the making, contains an extensive compilation of data from many sources and examines status at the river-stock level for some 30 different stocks. The stock assessment included information from all local, regional, and federal management agencies, as well as independently funded academic studies. Copies of the stock assessment and peer review panel reports will be available by the end of September and can be found on the Commission's website under Breaking News at www.asmfc.org.

Inside This Issue

Species Profile: Spotted Seatrout

Page 4

ASMFC Technical Committee Meeting Week Schedule Page 6

ASMFC Approves 2008 TALs for Mid-Atlantic Species Page 7

Summer Flounder Board Approves Addendum XIX

Page 7

Tautog Board Approves Addendum V Page 8

ASMFC Comings & Goings

Page 8

Lobster Board Approves V-Notch Plan for LIS Page 9

On the Legislative Front

Page 10

Atlantic Herring Noncompliance Finding Page 10

Science Highlight: Backward & **Forward Projection Models**

Page II

ACCSP Update

Page I2

RI & MD Striped Bass Proposals Approved Page 13

Local, State, and Federal Partners Team-up to Improve Page 14 Fish Passage

NJ Conservation Officers Cast **Enforcement Net** Page 15

he 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.

Atlantic States Marine Fisheries Commission

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Robert E. Beal, Director, Interstate Fisheries
Management Program
Megan E. Caldwell, Science Director
Laura C. Leach, Director of Finance & Administration

Tina L. Berger, Editor tberger@asmfc.org

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Upcoming Meetings

9/17 - 21:

South Atlantic Fishery Management Council, Avista Resort, 300 North Ocean Boulevard, North Myrtle Beach, South Carolina; 800-968-8986.

9/17 - 21:

ASMFC Technical Committee Meeting Week, Clarion Downtown Raleigh, 320 Hillsborough Street, Raleigh, North Carolina (see meeting schedule on page 6).

9/18 - 20:

New England Fishery Management Council, Radisson Hotel, Plymouth, Massachusetts.

9/24 - 25:

ASMFC Coastal Shark Technical Committee, DoubleTree Hotel Annapolis, 210 Holiday Court, Annapolis, Maryland.

10/3:

ASMFC Committee on Economics and Social Sciences, Radisson Plaza Lord Baltimore, 20 West Baltimore Street, Baltimore, Maryland.

10/10 & 11:

ACCSP Operations Committee and Advisory Committee, Eastland Park Hotel, 157 High Street, Portland, Maine.

10/16 - 18:

Mid-Atlantic Fishery Management Council, New Bern Convention Center, 203 S. Front Street, New Bern, North Carolina.

10/28 - 11/1:

ASMFC 66th Annual Meeting, Loews Annapolis Hotel, 126 West Street, Annapolis, Maryland; (410) 263-7777.

11/5 - 9:

ASMFC Basic Stock Assessment Training Workshop, Sheraton Oceanfront Hotel Virginia Beach, 36th & Atlantic Avenue, Virginia Beach, Virginia.

11/6 - 8:

New England Fishery Management Council, Hotel Viking, Newport, Rhode Island.

12/3 - 7:

ASMFC Basic Stock Assessment Training Workshop, Sheraton Oceanfront Hotel Virginia Beach, 36th & Atlantic Avenue, Virginia Beach, Virginia.

12/3 - 7:

South Atlantic Fishery Management Council, North Carolina (location to be determined).

Dealing with Controversy

Following is a reprint of the Executive Director's Column that previously appeared in this space in the February 2004 issue of *Fisheries Focus*. The issues it addresses are as relevant now as they were then.

It strikes me that one of the great challenges in fisheries management is dealing with the sharp controversies that are inherent in this business. It does not matter whether we are talking about conservation strategies, state-by-state harvesting schemes or user group allocations, every step seems to be characterized by well-intentioned folks on both sides of an issue strongly promoting their views. In many cases, particularly with allocation, satisfying one side is by definition to deny the other side. As a result, emotions often run high, as does the intensity of the rhetoric.

You have heard, and perhaps have been part of, the discussions. On conservation, we disagree on the status of the stock or the need to take action (especially if it means less fish for me in the short-term). On state harvesting, we disagree with the season dates or state-by-state quotas (particularly if it means my state does not get most of the fish). On sector allocation, we disagree with a commercial harvest or setting aside quota for the for-hire fleet (especially if it means limiting the number of fish I can take home). There seems to be no end to the controversies, claims, and frustrations, complete with threats of boycotts, lawsuits, or withdrawal from the process.

It seems to me the first step in trying to resolve our differences is to identify areas we can agree on. I am encouraged that all sides are making steady progress in placing the long-term health of the resource first. This is an obvious strategy, but the short-term pain of sacrifice occasionally causes some to waiver. I also see widespread, but not unanimous, acceptance of a basic Commission principle that the states have more to gain by operating cooperatively rather than independently. This requires participants to take a higher level view to do what is good for all versus best for one. I like the analogy of two people vying for the last orange in the store. The strongest person could get it or each person could get a half. But both solutions fall short of a more elegant one suggested by understanding that one person wanted to use the peel in a recipe, while the other wanted the orange to eat. (Borrowed from "Getting to Yes," by Roger Fisher and William Ury.)

This leads to the issue of knowledge. We can blunt the sharpness of our differences by opening ourselves to receive a complete range of information on the issue. This includes knowledge of the life cycle of the species we manage, as well as the latest and most complete scientific information on stock status. What a pity it is to squander our political and emotional energy arguing over a management measure when one side has incomplete information and cannot understand the basic need to take action. Taking the knowledge concept to the next level suggests trying to understand the needs and interests of the other players. For a given fishery, are we using harvest strategies that maximize benefits to both the resource and to the associated user groups?

It seems to me the first step in trying to resolve our differences is to identify areas we can agree on.

We on the staff recognize the important role we play in this process. Our job is to help provide this knowledge for all Commission-managed species. We need to help frame the issues to facilitate the decision-making process for our Commissioners. We must be totally objective, presenting all sides of these complex issues in a fair, clear, and thorough manner. We also serve you, the public, keeping you informed about the elements of the problems, impacts of the measures, and the benefits of the solutions.

As for me, I am committed to the principle of public debate. I see my job as ensuring that we provide the proper information and a forum for both the public and our Commissioners to discuss the issues. At the end of the day, when I measure success, it will not be to ask if you got exactly what you wanted. Instead, I will ask, did you understand the issue, did you have access to all the available information, and were you given the opportunity to express your views? If the answers to all of these questions are yes, then we as a staff have done our part. As for the outcome, credit for that rests with the collective wisdom and judgment of our Commissioners, who, I am convinced, are committed to doing the right thing. I hope that is something we can all agree on.

mm msp oo coo de pris va fre ha

Spotted Seatrout
Cynoscion nebulosus

Common Names: spotted weakfish, speckled seatrout, gator trout, spotted squeteague

Interesting Facts:
• It is a member of the

- It is a member of the family Sciaenidae, which includes red drum, croaker & weakfish.
- It has one of the longest spawning seasons of any marine fish (6 months) and may spawn every 4 5 days.
- Experienced anglers watch & "sniff" for slicks when searching for seatrout since they regurgitate food when excited. Oils from partially digested food rise to the surface, making a slick that smells similar to watermelon or freshly mown grass (Texas Parks & Wildlife).

Largest Recorded: 15 lbs, 8 oz

Age & Length at Maturity: I year; males @ IO" and females @ II"

Stock Status: Unknown coastwide; local stocks assessed by Southeast states

Species Profile: Spotted Seatrout Recreational Catch & Release Dominates Southeast Fishery

Introduction

Spotted seatrout support significant recreational fisheries throughout the Southeast, with nearly seven million fish harvested and released in 2006. In Florida in particular, where the fish is highly accessible, spotted seatrout is often the most sought after and exploited gamefish. The commercial fishery is smaller, harvesting less than 400,000 pounds in 2006, or about 15 percent of the recreational harvest in pounds of fish. Fishery regulations are restricted to size and possession limits in

most states. The Commission's Fishery Management Plan (FMP) recommends a minimum size limit of at least 12 inches, which all six states with a declared interest in the species (Maryland to Florida) have implemented.

One of the biggest challenges for this species is that its life cycle depends on the same coastal areas that humans find most attractive for living and recreation. Increased coastal development and the resulting loss of estuarine habitat, coupled with heavy fishing pressure, have effected spotted seatrout populations. The extent of anthropogenic effect is unclear as there is no coastwide stock assessment for the species and local assessments vary by state. Spotted seatrout are also susceptible to inshore calamities such as winter freezes, excessive fresh water, hurricanes, and red tide conditions. Fortunately, seatrout have a life history trait that helps maintain population size – the ability to reproduce prolifically.

Life History

On the Atlantic coast, spotted seatrout occur from Cape Cod, Massachusetts to the Florida Keys, but are most abundant from the Chesapeake Bay southward. They are found primarily in estuaries, but move into nearshore ocean waters during cold periods. In general, spotted seatrout appear to be non-migratory and spend their entire life within five to ten miles of their natal estuary, although fish from the Chesapeake Bay have been known to migrate seasonally (south in the fall, north in the spring) to northern North Carolina waters.

From April to September, sexually mature females spawn around estuary inlets. Depending on the size of the female, spotted seatrout produce anywhere from 10,000 to millions of oceanic eggs. The most important nursery grounds for the young are small tidal marsh creeks and shallow grass beds, while larger juveniles are widely distributed

in estuarine areas and along coastal beaches. The fry gather in schools during their first summer and tend to travel together until they are four or five years old. They mature at the age of one year, when males are about 10 inches long and females about 11 inches. At any given age, females are larger than males, and they also attain a greater maximum age and size. They may live as long as 18 years, but individuals over five years of age are rare.



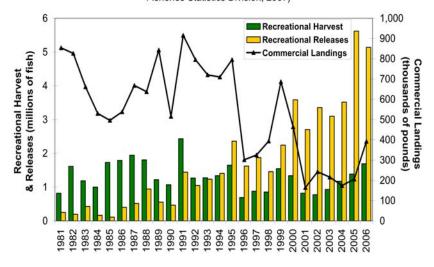
Photo courtesy of Captain Walter Bateman, www.carolinaguide.com

Adults frequent grass beds, live oyster beds, creek mouths, drop-offs, and structures such as jetties, stumps, pilings, and wrecks, where they feed primarily on shrimp and fish. They are most abundant in depths of less than ten feet and prefer temperatures between 60 and 80° F. Water temperatures below 45° F appear to cause large-scale mortalities. They tolerate a range of salinities, but adults appear to be most numerous in waters with salinities approaching that of seawater.

Commercial & Recreational Fisheries

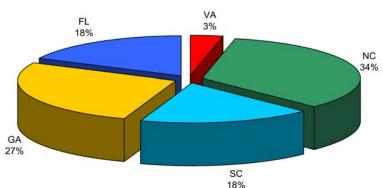
Commercial landings of spotted seatrout along the Atlantic coast historically came from Florida's east coast and North Carolina, with Virginia, South Carolina, and Georgia accounting for a small portion of the total. From 1950 to 1976, commercial landings averaged 1.33 million pounds, but have

Figure 1. Spotted Seatrout Recreational Harvest and Releases, and Commercial Landings (Source: Personal communication from NMFS Fisheries Statistics Division, 2007)



declined since then due to increased regulation and possible declines in abundance. Significant changes to regulations include the 1987 designation of spotted seatrout as a gamefish in South Carolina, and the 1995 prohibition on the use of gillnets in Florida's coastal waters. From 1977 to 2006, commercial landings have averaged fewer than 600,000 pounds. Variability in annual harvest is typical and seems to parallel the climatic conditions of the preceding winter and spring. In 2006, the commercial landings are preliminarily estimated at 392,522 pounds, with about 80 percent coming from North Carolina.

Figure 2. Spotted Seatrout Recreational Harvest by State in 2006 Source: NMFS Fisheries Statistics Division, 2007 (Percents are based on number of fish harvested)



Over the last 26 years, the recreational catch of spotted seatrout has shown a strong upward trend, increasing from 1.1 million fish in 1981 to 6.8 million fish in 2006. The majority of this increase, particularly in recent years, is due to expansion of the recreational releases, which now constitute 75 to 85 percent of the total recreational catch. Recreational catches are generally made with rod and reel, but some are taken by recreational nets and by gigging, where these methods are permitted. Most recreational fishing is conducted from private boats and the majority of the catch is taken in inland waters. See the accompanying figure for a breakdown of recreational harvest by state in 2006.

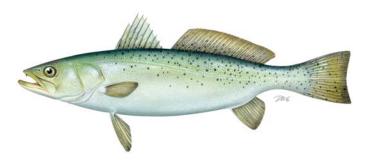
Stock Status

A coastwide stock assessment of spotted seatrout has not been conducted given the largely non-migratory nature of the species and the lack of data on migration where it does occur. Instead, South Carolina, Georgia, and Florida have performed age-structured analyses on local stocks of spotted seatrout, and North Carolina will be conducting its first spotted seatrout assessment in 2007/2008. Recent assessments are putting more emphasis on the inclusion of incidental bycatch data, release mortality, and the size and age structure of releases. Stock assessments provide estimates of spawning potential ratio (SPR), which is a measure of the effect of fishing pressure on the relative abundance of the mature female segment of the population. The Commission's Spotted Seatrout FMP recommends a goal of 20 percent SPR; South Carolina and Georgia have adopted this goal, and Florida has established a 35 percent SPR goal.

Florida conducted assessments for its entire east coast population in 1993 and 1995, then for separate northern and southern populations in 1997, 1999, 2003, and 2006. Tagging studies and genetic analyses have shown little evidence of stock mixing and support the regional scope of recent state assessments. Current SPR estimates for spotted seatrout in

Species Profile: Spotted Seatrout (continued from page 5)

Florida are 62 percent in the northeast region of the state's Atlantic coast and 51 percent in the southeast region. A 1997 Georgia assessment found that fishing mortality needed to be reduced to meet the SPR goal, resulting in a one inch increase to the 12 inch minimum size limit and a 10 fish reduction from the 25 fish creel limit. A more recent (2002) Georgia assessment found evidence that the stock was overfished; however, the report indicated that the estimates of SPR were unreliable due to data deficiencies and changing methodology. In



response to a 1995 state assessment that indicated that mature female biomass and fishing mortality rate resulted in an SPR below the goal, South Carolina increased the minimum size limit from 12 to 13 inches and decreased the bag limit from 15 to 10 fish per person. A 2005 assessment found that the regulation changes led to a SPR above the goal, but that a 2000/2001 winter freeze severely effected the population, which in 2004 had recovered to pre-freeze levels.

Atlantic Coastal Management Considerations

Atlantic coastal states from Maryland through Florida manage spotted seatrout under Amendment 1 to the FMP (1991). Management measures include a minimum size limit of 12 inches in total length for both commercial and recreational fisheries and the collection of improved catch and effort data from the commercial and recreational fisheries, including size and composition of the catch, along with socioeconomic data. The Plan also recognizes the possibility that additional measures, such as creel limits, catch quotas, area closures, and gear restrictions may be needed in the future. The Spotted Seatrout Plan Review Team reviewed the Plan's goals and management measures in 2006. From the resulting report presented in 2007, the Management Board agreed that the Plan provides an adequate level of interjurisdictional management

ASMFC Technical Committee Meeting Week

September 17 - 21, 2007

Clarion Downtown Raleigh Raleigh, North Carolina

American Eel Stock Assessment Subcommittee

Atlantic Croaker Technical Committee

Monday, September 17 1:00 PM - 5:00 PM

Assessment Science Committee

Monday, September 17 10:00 AM - 5:00 PM

Multispecies Technical Committee

Tuesday, September 18 10:00 AM - 5:00 PM

Fishing Gear Technology Workgroup

Wednesday, September 19 10:00 AM - 5:00 PM

Atlantic Striped Bass Technical Committee

Wednesday, September 19 9:00 AM - 5:00 PM Thursday, September 20 8:30 AM - 5:00 PM

Atlantic Menhaden Technical Committee

Friday, September 21 10:00 AM - 5:00 PM

for the species and that an amendment was not necessary at the time.

A major problem addressed in the Plan is the lack of stock assessment data for effective management of the resource. At the time of the Plan's adoption, little was known about the status and population structure of spotted seatrout along the Atlantic coast. Basic data requirements included information on recruitment, age, size, and sex composition, and variations in these characteristics over time and space. Since 1984, much more information has been collected on spotted seatrout, especially in the Southeast. Current data needs include more accurate catch and effort statistics for both recreational and commercial fisheries in order to assess the impact of fishing activities on spotted seatrout stocks. Fluctuations in commercial and recreational spotted seatrout landings have varied considerably during the last 20 years, but since most of the reported landings have had no meaningful effort data associated with them, they have not been useful as indicators of the status of stocks. Some states have begun to accumulate catch and effort data, especially with regards to the recreational fisheries. This should provide insight into the status of the stocks over time.

For more information, please contact Nichola Meserve, Spotted Seatrout Fishery Management Plan Coordinator, at <nmeserve@asmfc.org>.

ASMFC Approves 2008 TALs for Summer Flounder, Scup, Black Sea Bass, and Bluefish

The Commission and the Mid-Atlantic Fishery Management Council (Council) met this week to finalize the total allowable landings (TAL) limits for summer flounder, scup, black sea bass, and bluefish, and to establish 2008 commercial management measures for the respective fisheries. The Commission's actions with regards to summer flounder, scup, black sea bass, and bluefish are final and apply to state waters. The Council will be forwarding its actions as recommendations to NOAA's Northeast Regional Administrator for final approval. The TALs are provided below in millions of pounds.

inherent pattern in the stock assessment model that overestimates biomass and underestimates fishing mortality. The decrease in quota responds to continued overfishing on the summer flounder stock as well as its overfished status. Under the new Magnuson-Stevens Act provisions, summer flounder must be rebuilt by 2013.

The 2008 black sea bass TAL was set at 4.22 million pounds, divided into a 2.07 million pound commercial quota and a 2.15 million pound

Species	2007 ASMFC TAL	2008 TAL	
Black Sea Bass	6.5	4.22	
Scup	13.5	7.34	
Summer Flounder	17.1	15.77	
Bluefish	27.8	28.2	

The Commission and Council approved a TAL of 15.77 million pounds for the 2008 summer flounder fishery, divided into a 9.46 million pound commercial quota and a 6.31 million pound recreational harvest limit. The approved TAL, which is higher than the range of options recommended by the Monitoring Committee (the scientific advisory body), has a 75% probability of preventing overfishing. However, it does not account for an

recreational harvest limit. The approved TAL is consistent with the TAL recommended by the Monitoring Committee; it does represent a 2.28 million pound decrease from last year and responds to the stock's decreased biomass and overfished condition. The black sea bass rebuilding deadline is 2010. No changes were made to minimum sizes, vent sizes, or mesh restrictions.

For scup, the Commission and Council approved a total allowable catch (TAC) of 9.9 million pounds, which includes both a TAL and discard allowance. The TAC is divided into a 5.46 million pound commercial quota and a 1.88 million pound recreational harvest limit. The approved TAC is consistent with that recommended by the Monitoring Committee. The decrease in quota from last year responds to the decrease in both state and federal trawl survey indices and the species' overfished status.

For bluefish, the Commission and Council approved a TAC of 31.9 million pounds, which includes both a TAL and discard allowance. The TAC is divided into an 8.9 million pound commercial quota and a 19.2 million pound recreational harvest limit. The approved TAC is consistent with that recommended by the Monitoring Committee. The 2006 stock assessment update indicates that projected stock biomass for the 2008 fishing year is at approximately 99% of its rebuilding target. The stock rebuilding deadline is 2010 and biomass is projected to be at or above the target in 2009.

For more information, please contact Toni Kerns, FMP Coordinator, at (202) 289-6400 or tkerns@asmfc.org.

ASMFC Summer Flounder, Scup, and Black Sea Bass Board Approves Addendum XIX

On August 14, 2007, the Commission's Summer Flounder, Scup, and Black Sea Bass Management Board approved Addendum XIX to the Summer Flounder, Scup, and Black Sea Bass Fishery Management Plan (FMP). The Addendum extends the current state-by-state black sea bass commercial management strategy indefinitely and maintains the current summer flounder recreational allocation strategy. It also redefines the

stock status determination criteria for summer flounder, scup, and black sea bass.

Black Sea Bass Commercial Management Strategy

Since 2003, the black sea bass commercial fishery has been managed through a state-by-state allocation system, with each state allocated a percentage of the coastwide quota.

Under this system, states are provided the flexibility to manage their quota for the greatest benefits of their commercial fishing industries. This management strategy was set to expire by December 31, 2007. Under Addendum XIX, the state-specific shares remain as follows: Maine and New Hampshire (0.05% each), Connecticut (1%), Delaware (5%), New York

ASMFC Tautog Board Approves Addendum V to the FMP: State Reduction Plans Approved

On August 15, 2007, the Commission's Tautog Management Board approved Addendum V to the Interstate Fishery Management Plan for Tautog. The Addendum modifies the management program contained in Addendum IV by allowing states flexibility to achieve the necessary 25.6 percent reduction in exploitation through adjustments to their recreational and/or commercial fisheries.

Addendum IV, approved in January 2007, required a 25.6 percent reduction in exploitation rate to be taken exclusively from the states' recreational fisheries. While the recreational sector accounts for approximately 90 percent of tautog harvest coastwide, some states have significant commercial fisheries. Addendum V allows states to apply the necessary reductions to their recreational fisheries, commercial fisheries, or a combination of both according to each state's needs.

The Board declined North Carolina's

request to be removed from the management unit based on concern that undersized tautog caught in Virginia could legally be landed in North Carolina if no minimum size law existed. North Carolina concurred and agreed to maintain its 14" minimum size limit and remain in the management program as a *de minimis* state.

In order to implement the required management measures by January 1, 2008, states submitted reduction proposals for Technical Committee review in July. The Board reviewed the Committee's recommendations and approved proposals for all states within the tautog management unit (Massachusetts through North Carolina). The Board deferred action on a proposal by New Jersey as well as a joint proposal by Massachusetts and Rhode Island requesting a 12% reduction in their harvest versus the Addendum's reduction requirement of 25.6 percent. The Board will revisit these proposals in October



at the Commission's Annual Meeting. Copies of Addendum V can be found on the Commission's website at www.asmfc.org under Breaking News. For more information, please contact Christopher Vonderweidt, Fisheries Management Plan Coordinator, at 202/289-6400 or cvonderweidt@asmfc.org.

ASMFC Comings & Goings

Staff:

Patrick A. Campfield -- In August, Patrick Campfield joined the Commission as its new Stock Assessment Specialist. Patrick comes to us from Madison, Wisconsin. As a Fisheries Biologist with the Wisconsin Department of Natural Resources, he led statewide research and monitoring projects involving walleye and yellow perch population dynamics, and trout stream classification in Southwestern Wisconsin. He earned an M.S. in Fisheries Science and Management from the University of Maryland Center for Environmental Science, where he studied trophic ecology among early-life stages of anadromous and estuarine fishes. Welcome aboard, Patrick!

Patrick Kilduff -- Since January 2004, Patrick Kilduff has been a mainstay of the Commission's Science Department. He has served as lead staff to the Management and



Science Committee and Stock Assessment Committee, assisting both Committees in their work to update and improve the Commission's data compilation, stock assessment, and peer review process. He coordinated the development of the Commission's multispecies model, guiding it through a successful independent peer review. He provided critical staff support in benchmark stock assessments for American lobster, American eel, tautog, and shad, as well as stock assessment model reviews for American lobster and horseshoe crab. More recently, he organized the Commission's basic and advanced stock assessment training courses, providing training to nearly 50 state scientists and substantially advancing their understanding and use of stock assessment models and methods. This fall, Patrick will be pursuing a Ph.D. in Ecology from the University of California Davis. We wish Patrick, his wife Katherine, and new son Lane the very best!

ASMFC Lobster Board Approves V-Notch Plan for Long Island Sound

On August 13, 2007, the Commission's American Lobster Management Board approved the implementation of a conservation-equivalent plan for Long Island Sound in Connecticut and New York (lobster conservation management area 6), instituting a v-notch-based lobster stock restoration program in place of the 1/16" minimum length increase approved in May 2007 through Addendum XI. Under the Commission's fishery management planning process, alternative measures can be adopted if they can be shown through technical review to be "conservation-equivalent" (having equivalent conservation value) to the initial plan.

"I appreciate the Board's support for this important plan. It provides a win-win

scenario for both the Long Island Sound lobster industry and lobster resource," states Eric Smith of the Connecticut Department of Environmental Protection. "The state-funded plan involves a unique collaborative venture of the state's maritime high schools and lobstermen that will conserve and rebuild a depressed natural resource, aid a beleaguered maritime industry, and provide hands-on, on-the-water experiential learning for high school students."

The plan provides for the v-notching of approximately 60,000 legal-sized female lobsters (3-5/16") in each of the two years (July 1, 2007/June 30, 2008 and July 1, 2008/June 30, 2009) and estab-



lishes strategies to meet the plan's conservation goals in the event that the vnotch targets are not met.

For more information, please contact Toni Kerns, Senior FMP Coordinator for Management, at (202) 289-6400 or tkerns@asmfc.org.

ASMFC Summer Flounder, Scup, and Black Sea Bass Board Approves Addendum XIX (continued from page 7)

(7%), Rhode Island, North Carolina and Maryland (11% each), Massachusetts (13%), and New Jersey, and Virginia (20% each).

Summer Flounder Recreational Allocation Strategy

Currently, summer flounder state recreational allocations are based on the proportion of state landings to coastwide landings reported in 1998. This provides states the flexibility to develop state-specific conservation equivalent management measures to achieve the coastwide recreational harvest limit. Addendum XIX maintains the present summer flounder recreational state allocation strategy.

Stock Status Determination Criteria Addendum XIX allows the Board to adjust biological reference points, based on peer reviewed recommendations, through Board action in lieu of the more protracted addendum/amendment process currently required.

Summer Flounder Reference Points

Following the recommendations of the Summer Flounder Assessment and Biological Reference Point Update for 2006, the Board adopted new biological reference points for determining whether summer flounder is overfished or experiencing overfishing. Spawning stock biomass (SSB) will now be used in place of biomass, with the SSB threshold and target limits set at 98.5 million pounds and 197 million pounds, respectively. The Board also approved a fishing mortality rate threshold of 0.28.

In other action, the 2007 black sea bass quota and the 2007 Scup Winter II quota

and trip limit were revised based on the reinstatement of 18,142 pounds of unused research set-aside quota for the black sea bass fishery and the rollover of 644,155 pounds of scup quota from the Winter I period to the Winter II period, respectively. The new Scup Winter II trip limit is 3,500 pounds per trip.

The actions under Addendum XIX are effective immediately. Copies of Addendum XIX will be available by mid-September and can be found on the Commission's website at www.asmfc.org under Breaking News.

For more information, please contact Toni Kerns, Senior Fisheries Management Plan Coordinator for Management, at (202) 289-6400 or tkerns@asmfc.org.

On the Legislative Front: Focus on OCEANS 21

OCEANS-21 (H.R. 21) was introduced to the House of Representatives by Rep. Sam Farr (D-CA) at the beginning of this year, and has collected has sixty-two cosponsors from around the country. The bill was written to address and enact many of the recommendations put forward by the Joint Ocean Commission Initiative and its predecessors, the U.S. Commission on Oceans Policy and Pew Ocean Commission.

The current OCEANS – 21 enjoys broader support in this Congress than a similar bill introduced in the previous Congress. So far one hearing on the current bill has been held, during which the Administration voiced strong opposition to some of its content. However, Rep. Farr has expressed interest in working with the Administration, stakeholders, and Chair of the House Natural Resources Committee Rep. Nick Rahall (D-WV) to get a version of the bill through the committee during this Congress.

Key provisions of OCEANS-21 include:

The creation of a National Ocean

Policy. To comport with National Standards, actions funded or carried out by Federal agencies, which might affect US waters, would have to be certified by NOAA to be "not likely to significantly the health of any marine eco-

system." The bill specifically refers to the use of the precautionary principal in making decisions, and contains language urging the minimization of social and economic impacts.

- A NOAA Organic Act, which would codify the agency and its mission in law. Currently, NOAA is authorized solely by executive order. This provision would formalize the organizational structure of the agency and simplify it's funding.
- The creation of a National Oceans Advisor and a permanent Committee on Oceans Policy in the Executive Office of the President. The bill would also establish a Council of Advisors on Oceans



Policy, including representatives from state and local government, academia, industry, and NGOs.

- The establishment of nine Regional Ocean Partnerships that closely mirror the Councils (with the addition of a Great Lakes Region). The Partnerships would build on current state, multi-state, and regional efforts to develop non-binding Regional Ocean Strategic Plans within three years.
- An Ocean Trust Fund. Beginning in 2008, the Treasury would deposit \$1.3 billion into the Fund, which would be disbursed by NOAA to coastal states via a sharing formula. The funds would be used to implement the Regional Ocean Strategic Plans.

ASMFC to Declare Maine Out of Compliance if Herring Spawning Closure Rule Fails Passage

On August 16, 2007, the Atlantic States Marine Fisheries Commission announced its intent to notify the Secretaries of Commerce and the Interior of its finding that the State of Maine is out of compliance with the required zero tolerance spawning provision contained in Technical Addendum 1 to Amendment 2 to the Interstate Fishery Management Plan (FMP) for Atlantic Herring. The notification will occur on September 24, 2007 if the State has failed to fully and effectively implement regulations that would bring it back into

compliance. The spawning restrictions are necessary to protect the spawning aggregations that are highly susceptible to fishing so as to ensure continued recruitment to the stock. This action is taken pursuant to the provisions of the Atlantic Coastal Fisheries Cooperative Management Act of 1993.

At the Atlantic Herring Section meeting, the State of Maine reported that it has initiated its regulatory process to implement the spawning closure requirement. In the meantime, Maine's herring industry has declared it intention to voluntarily not fish in closed areas until the regulation has been approved. The herring industry has signed a Memorandum of Agreement (MOA) to this effect.

"The Atlantic Herring Section is very encouraged by the signing of a MOA between the Department of Marine Resources and its herring industry, affirming the industry's commitment to adhere to the spawning closure until the State formally promulgates and

Science Highlight: An Introduction to Backward & Forward Projection Stock Assessment Models

Backward and forward projection models represent two common approaches to assessing fish population trends. Virtual population analysis (VPA) is one type of backward projection model that has been used to assess ASMFC-managed species such as striped bass, summer flounder, tautog, and weakfish. Forward projection models, more commonly called statistical catch-at-age models (SCAA), have been used to assess ASMFC-managed species such as Atlantic menhaden, croaker, and herring.

Age-structure. Backward and forward projection models differ from many simpler approaches in stock assessments in that they track changes over time in the number of fish in each age class (number of age 0s, age 1s, age 2s, etc.). Such age-structured models are often used when we want to answer age-specific questions about population trends such as "How many fish older than age 8 are there in the population?" or "Are there trends in recruitment (age 0s)?"

Input. The basic data used in both forward and backward projection models are age-structured; in other words, these models require age information from scales, otoliths, or other aging structures (usually hard parts) collected

from fish. Catch-at-age data are estimated because it is not practical to age every fish landed. A subset of fish caught is aged and the proportions of fish in each age class are used to estimate the age structure of all landings.

Output. Although these models can be enhanced, the simplest VPA or SCAA will provide similar output, specifically estimates of historical annual abundance-at-age and annual estimates of fishing mortality for each age class.

Backward projection. VPAs work on the principal that the minimum number of fish in the population in a given year is equal to the total number of fish that either were caught or died naturally. For a fish that lives to age 3, all fish hatched in 1997 are assumed dead by 2001 (see Figure 1). Using this assumption along with estimates of total fishery catch-at-age and natural mortality, we can reconstruct estimates of historical abundance-at-age. Reconstruction is performed in an iterative ("trial and error") fashion. However, many fish hatched between 1998 and 2001 are still alive, so we cannot assume their abundance is zero in 2001. A process called "tuning" is used to reconstruct the population for younger fish in which assumptions are made about the rate of fishing mortality in the last year(s) of the assessment. Alternatively, additional information such as survey data is used to estimate F in the final year(s) of the assessment. In all cases, it is important to note that VPAs assume catchat-age is known without error.

Forward projection. Forward projection models like SCAAs differ from most VPAs in that they estimate annual abundance-at-age starting with the first year of the analysis and ending with the most recent year (Figure 2). SCAAs estimate or make assumptions about stock abundance for the first year included in the analysis. Then, for each age class, annual recruitment and population abundance are estimated. Inputs include catch-at-age data from the fishery, an es-

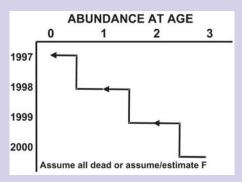


Figure 1. Diagram of a "backward projection" such as a VPA or a fish that lives to age 3. All fish hatched in 1997 are assumed dead by 2001. Arrows illustrate how the number of age 3 fish in 2000 is used to estimate the number of age 2s in 1999, number of age 1s in 1998, etc.

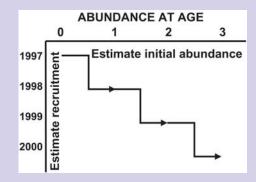


Figure 2. Diagram of a "forward projection" such as a Statistical Catch-at-age (SCAA) model for a fish that lives to age 3. SCAAs use a series of short equations to estimate abundance-at-age, fishing mortality, survey catch, and fishery catch. Arrows illustrate how estimated recruitment (age 0s) in 1997 is used to estimate the number of age 1s in 1998, number of age 2s in 1999, etc. Initial abundance-at-age and annual recruitment is estimated by the model.

ACCSP Supports National Initiatives; ACCSP Data Warehouse Status

ACCSP Supports National Initiatives

Fisheries Information System National Meeting ACCSP gave a presentation on program activities at the Fisheries Information System (FIS) National Meeting held August 21 – August 23 in Silver Spring, Maryland. Similar in intent to the ACCSP, the FIS provides a nexus for existing state and federal fisheries information systems or databases to effectively share information to support fisheries management decision making. Unlike, ACCSP which partnership driven and focuses on fisheries data collection and management issues along the Atlantic coast, FIS is overseen by NOAA and is national in scope.

The three day FIS meeting brought together representatives from all regional fisheries information networks and the National Marine Fisheries Service's regional offices, fisheries science centers, and headquarters. Representatives were present to review the progress, accomplishments, and future direction of the FIS program; develop a shared understanding of regional and partner initiatives and their relationship to NOAA and FIS objectives; and engage in open discussion of priorities and areas of shared interest.

NOAA has been charged under the Magnuson-Stevens Fishery Conservation and Management Act to make FIS fully operational across the nation. ACCSP is committed to supporting this national initiative. For more information on FIS, please visit http://www.st.nmfs.noaa.gov/fis/

Marine Recreational Information Initiative

ACCSP supports the newly established Marine Recreational Information Initiative, which aims to design an improved saltwater recreational fishing data collection program that will eventually replace the existing Marine Recreational Fishing Statistics Surveys (MRFSS). ACCSP staff attended the kickoff meeting in St. Petersburg Beach, Florida on August 7 – August 9, 2007. At the meeting, over 80 representatives from government and the recreational fishing sector took an important step towards responding to past criticisms about how best to answer the key questions of who is fishing, where they are fishing, and what they are catching.

Workgroups on survey design, data analysis, data management standards, for hire, and highly migratory species identified several priority projects meant to address how best to count recreational fishermen, account for private access fishing, and provide more timely data while improving accuracy. ACCSP staff participates on the data management and standards workgroup as well as an ancillary workgroup on outreach. For updates on the Marine Recreational Information Initiative, visit http://www.st.nmfs.noaa.gov/mrii/index.html.

ACCSP Data Warehouse Status

For the first time, ACCSP has a complete dataset of available coastwide data for commercial catch and effort landings.



The accompanying table provides a summary of data currently available in the ACCSP Data Warehouse:

Summary of Available Commercial Catch and Effort Landings Data

State	Available Comprehensive Landings Data	
ME	NMFS 1994 – 2006 Trip Level 2000-2005	
NH	NMFS 1994 – 2006	
MA	NMFS 1994 - 2006	
RI	NMFS 1994 – 2006	
СТ	NMFS 1994 – 2006	
NY	NMFS 1994 – 2006	
NJ	NMFS 1994 – 2006	
DE	NMFS 1994 – 2006	
MD	NMFS 1994 – 2006	
VA	NMFS 1994 – 2006	
NC	ALS 1980-1993 Trip Level 1994-2005	
sc	ALS 1980-2003 Trip Level 2004-2006 (2006 is finfish only)	
GA	ALS 1980-1988 Trip Level 1989-2007	
FL	ALS 1980-1985 Trip Level 1986-2007	

Note: NMFS Northeast data are both trip-level and summary and the Accumulated Landings System (ALS) data are summary.

Additionally, the ACCSP Data Warehouse contains data for some species as far back as 1981. Complete summaries of available data will be updated periodically on login page of the ACCSP Data Warehouse.

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 fishery managers, scientists, and fishermen. It is composed of representatives from natural resource management agencies coastwide, including the Commission, the three Atlantic fishery management councils, the 15 Atlantic states, the Potomac River Fisheries Commission, the DC Fisheries and Wildlife Division, NOAA Fisheries and the U.S. Fish & Wildlife Service. For more information, please visit www.accsp.org or call (202) 216-5690.

ASMFC to Declare Maine Out of Compliance if Herring Spawning Closure Rule Fails Passage (continued from page 10)

implements its regulation," stated Section Chair Eric Smith with the Connecticut Department of Environmental Protection. "Because of this, the Section has asked the Commission to give the State of Maine sufficient time to finalize its regulations and come into compliance with the required management measures."

Technical Addendum I, approved in August 2006, prohibited any directed herring fishing in closed spawning areas. Affected states were required to implement the required management measures by January 1, 2007. To date, the State of Maine has not implemented the spawning closure provision of

Technical Addendum I. Its regulations allow commercial fishermen to target herring during a closure as long as the catch does not contain any spawn herring. The Maine Department of Resources twice proposed regulations that would have brought Maine into compliance with the spawning closure requirement but were not supported by the Maine Department of Marine Resources Advisory Council. Maine law requires the Advisory Council to approve fisheries regulations before they can be adopted.

Upon notification by the Commission, the Secretary of Commerce has 30 days to review the recommendation and



determine appropriate action, which may include a federal moratorium on fishing for the affected species.

For more information, please contact Robert Beal, ISFMP Director, at (202) 289-6400.

ASMFC Striped Bass Board Approves RI and MD Proposals

On August 15, 2007, the Commission's Atlantic Striped Bass Management Board approved proposals from Rhode Island and Maryland for alternative management. The Rhode Island proposal alters the minimum size limit and quota for the state's commercial floating fish trap sector. The Maryland proposal opens a two-week recreational fishery in the Susquehanna Flats, a small area in the upper Chesapeake Bay.

Unable to attain their allocation of the state's coastal commercial quota, Rhode Island's commercial floating fish trap fishermen asked the Rhode Island Division of Environmental Management to propose a reduction in the minimum size limit from 28 inches to 26 inches for that fishery. A state may request a change to its regulations if it can demonstrate that the proposed management program conservationally equivalent to the standards included in Amendment 6. The analysis for the proposal found that

the lower minimum size limit would require a reduction in the trap fishery's quota by 3.8 percent to be equivalent to the original size limit and quota. This resulted in quota for the trap fishery of 93,788 pounds, down from 97,450 pounds. Rhode Island hopes to implement the new size limit and quota for the remainder of 2007.

The Maryland Department of Natural Resources proposed a recreational fishery in the Susquehanna Flats to provide a local fishing opportunity for anglers. The Susquehanna Flats has been limited to a catch and release fishery in the spring since the state-wide moratorium ending in 1990. The fishery will operate under a one fish creel limit and an 18-26 inch slot limit from May 16-31, 2008. Given the regulations, the fishery is expected to harvest a limited number of resident fish. The harvest will be monitored and counted towards the bay-wide quota for resident striped bass. Maryland will report back to the Board on the 2008 fishery and may propose continuation of the fishery for additional years.

The Board also approved the 2007 Fishery Management Plan Review. The FMP Review will be available on the Commission's website (www.asmfc.org) under Breaking News. Doug Grout, Chair of the Technical Committee, provided the Board with an update on the Stock Assessment and Tagging Subcommittees' workshops for the 2007 stock assessment. This assessment will undergo a peer review through the Northeast Regional Stock Assessment Workshop in November. The Board also approved the nominations of John McMurray (New York) and Kyle Schick (Potomac River Fisheries Commission) to the Striped Bass Advisory Panel.

For more information, please contact Nichola Meserve, Fisheries Management Plan Coordinator, at (202)289-6400 or nmeserve@asmfc.org.

NOAA Fisheries Service Teams-up with State and Local Community Partners to Improve Fish Passage

Recently, as part of its Community-based Restoration Program, the National Oceanic and Atmospheric Administration (NOAA) Fisheries Service joined forces with the Commonwealth of Pennsylvania and the State of Connecticut to improve anadromous fish passage in Pennypack Creek (PA) and Jordan Mill Pond (CT). The details of these important restoration projects follow.

Critical Fish Migration Restored in Pennypack Creek

Since 2005, NOAA Fisheries Service has worked with state and local community partners to remove of a series of dams from the Pennypack Creek, an important and historic tributary of the Delaware River. Three dams have been removed in the last two years, and a fourth is slated for removal later this year. In addition, a "rock ramp" type fish passage is being installed on another dam. By the end of the project in 2008, seven dams will either be removed or retrofitted with fish passages, allowing migratory fish to reach more than 22 miles of important upstream spawning and nursery habitats for the first time in 300 years.

The Pennypack restoration opens the way for anadromous fish species, such as blueback herring, hickory shad and striped bass, to migrate from the ocean to upriver where they can spawn and rear their young in the cool rocky streambed. While opening up new habitat alone will not immediately revive the fish species that have been dwindling in recent decades, it will greatly improve their opportunities to reproduce. Pennsylvania will also help jump-start populations of hickory shad with a proven fish stocking program.

In some locations, dam removal has also spurred community efforts to restore stream banks by planting new shrubs and grasses and improving trails, which have improved public access to the creek. It has also improved some creeks for kayaking and fishing, and boosted water quality.

Removing the Pennypack dams has also greatly benefited human safety by eliminating hazards for children, hikers, and fishermen, as well as greatly diminishing the chance of severe flooding, which has been a problem for communities along the waterway.



CT Fishway. Photo courtesy of Tom Wagner, Town of Waterford

The key partners on the Pennypack project were NOAA Fisheries Service, the U.S. Fish and Wildlife Service, the Pennsylvania Fish and Boat Commission, American Rivers, the National Fish and Wildlife Foundation, Trout Unlimited, the Philadelphia Water Department, the Fairmount Parks Commission and the FishAmerica Foundation. Combined, the project partners and private stakeholders invested \$370,000 in the project.

NOAA is also working with its partners on other dam removal projects around the country as part of the new "Open Rivers Initiative." Under this initiative, NOAA will work with communities to remove up to 50 obsolete dams and rundown culverts around the country annually. To learn more about the Open Rivers Initiative, visit their website at http://www.nmfs.noaa.gov/habitat/restoration/ORI/.

Historic Connecticut Fish Run Restored

Thanks to the efforts of NOAA Fisheries Service, the Connecticut Department of Environmental Protection, the Town of Waterford, Save the Sound, and the Connecticut Corporate Wetlands Restoration Partnership, alewives that have swum in from Long Island Sound in the spring and gathered at the base of the

Jordan Mill Pond dam will now be able to reach their historic freshwater spawning habitat in Jordan Brook and its upland streams. The fishway, which is located in Waterford, Connecticut and was opened in early June, allows fish to bypass a dam and reach more than four miles of stream that have not been used by alewives and other fish species for 150 years.

The project will help restore fish populations that were harmed when 27,000 gallons of fuel oil spilled accidentally from the Reinauer Transportation Company barge that grounded in Fishers Island Sound on December 21, 1992. A settlement reached with Reinauer by NOAA's Damage Assessment, Remediation and Restoration Program (www.darrp.noaa.gov) and the State of Connecticut resulted in damages amounting to \$100,000. Connecticut directed a portion of these funds designated for coastal restoration to the Jordan Mill Pond project.

Restoration of this historic fish run not only opens up eight acres of freshwater spawning and nursing areas to forage species such as river herring and sea-run brown trout, but also stimulates in-

Science Highlight: An Introduction to Backward & Forward Projection Stock Assessment Models (continued from page 11)

timate of natural mortality, and an index of catch-per-unit-effort that is typically obtained from fisheries-independent surveys. The model uses a series of short equations to estimate fishing mortality, abundance-at-age, survey catch, and fishery catch. To determine what levels of population abundance and fishing mortality would be most likely given the actual data, model estimates are statistically compared with the actual fishery catch and survey data. SCAAs assume error in the catchat-age data and often specify the level of uncertainty (variability) surrounding the catch records. Basic SCAA models also

assume that the proportion of fish in each age class that are vulnerable to the fishery (based on size limits and gear type) does not change over time. A comparison of similarities and differences between the most basic forms of VPAs and SCAAs can be found in Table 1.

To read about retrospective bias, a common problem as-

MODELS	DIFFERENCES	SIMILARITIES
VPA	 Minimum data requirement = estimated catch-at-age Iterative solution Assumes catch-at-age is known without error 	 Both estimate historical annual abundance-at-age
SCCA	 Minimum data requirement = estimated catch-at-age and catch-per-unit-effort index Statistically fit 	Both assume constant rate of natural mortality
	Error specified for catch-at-age data	Both estimate annuality of
	Assumes that the proportion of fish in each age class that are vulnerable to the fishery is constant over time.	fishing mortality at age

Table 1. Similarities and differences between the most basic form of VPA and SCAA models.

sociated with backward and forward projection models, please consult the Science Highlight in the March 2007 issue of *Fisheries Focus*. This article is a synopsis of the Commissioner Stock Assessment Workshop held during the Commission's Summer Meeting 2007. For more information, please contact Genny Nesslage, Senior Stock Assessment Specialist, at (202) 289-6400 or gnesslage@asmfc.org.

New Jersey Conservation Officers Cast Enforcement Net for Recreational Anglers

Working to heighten awareness of New Jersey's marine fisheries regulations and the consequences of violating them, state conservation officers recently inspected scores of recreational fishing boats and popular fishing spots along the Sandy Hook and Raritan Bays and the Arthur Kill.

Eighteen conservation officers with the New Jersey Division of Fish and Wildlife, Bureau of Law Enforcement checked 500 anglers during the eighthour special operation — part of an ongoing effort to spur greater compliance with regulations and laws that protect New Jersey's fish and wildlife resources.

Throughout the day, conservation officers inspected 195 private fishing vessels and also checked more than 100 anglers at various marinas and jetties along the targeted waters, Marine Region Captain Joe Meyer said. Conservation officers issued 53 summonses and six written warnings for various marine fisheries violations:

- ➤ 28 summonses for possession of summer flounder less than 17"
- ➤ 2 summonses for exceeding the limit on summer flounder
- ➤ 2 summonses for possession of weakfish less than 13"
- 8 summonses for possession of summer flounder parts
- 2 summonses for interference with a conservation officer for attempting to throw fish overboard
- 2 summonses for possession of undersized scup
- ➤ 1 summons for possession of parts of scup
- ➤ 1 summons for trespassing while fishing
- ➤ 2 summonses for possession of black sea bass less than 12"

- ➤ 1 summons for exceeding the limit of 15 bluefish
- 2 summonses for harvesting mussels from condemned waters of the Raritan and Sandy Hook bays
- 2 summonses for possession of undersized blue crabs
- ➤ 4 written warnings for harvesting hard crabs recreationally from the Newark Bay Complex
- 2 written warnings for dumping trash on a wildlife management area

Lawmen also seized a dozen fishing poles and one seine set used to illegally harvest marine species. Concerned citizens can help New Jersey's conservation officers by reporting marine fish and shell-fish violations to (609) 748-2050 or call the 24-hour hotline at (877) WARNDEP. Fort more information, please contact Captain Joe Meyer at Joseph.Meyer@dep.state.nj.us.

Atlantic States Marine Fisheries Commission 1444 Eye Street, N.W., 6th Floor Washington D.C. 20005

Return Service Requested

NOAA Fisheries Service Teams-up with State & Local Community Partners to Improve Fish Passage (continued from page 14)

creases in predator fish populations, such as striped bass and bluefish, which feed on the forage species. Commercial and recreational fishermen will benefit from more available fish and more places to find fish, as the fishway strengthens the coastal ecosystem.

The project cost an estimated \$170,000. In addition to money from the settlement, funding was available through a NOAA Community-based Restoration Program partnership with Save the Sound, a program of the Connecticut Fund for the Environment, and the Connecticut Corporate Wetlands Restoration Partnership.



The project would not have been possible without the leadership and services, including permitting, construction, and oversight, of the Town of Waterford, the Connecticut Department of Environmental Protection Inland Fisheries Division and the Office of Long Island Sound Programs. OLISP services were funded through the Environmental Protection Agency's Long Island Sound Study.

The project also features an educational component in the adjacent park for the public. Interpretive signs at the fishway will explain the importance of river herring to the Long Island Sound ecosystem. The public will be able to view the fishway and the spring herring migration from the pedestrian bridge over the dam near the exit to the fishway.

For more information on both projects, please contact Monica Allen, NOAA Public Affairs Specialist, at (301)713-2370, ext. 140.