



ASMFC

# FISHERIES *focus*

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Atlantic States Marine Fisheries Commission • 1050 N. Highland Street • Suite 200A-N • Arlington, VA

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

## ASMFC River Herring Benchmark Assessment Indicates Stock is Depleted



Photo by Jim Turek, NOAA Restoration Center

River herring are an anadromous species, spending the majority of their life at sea and returning to their natal streams to spawn. While at sea, mixing is believed to occur among multiple river-specific stocks and the incidental catch of river herring in non-targeted ocean fisheries is known to include both immature and mature fish.

Ideally, river herring should be assessed and managed by individual river systems. However, with over 200 river-specific stocks, population estimates were difficult to develop for the majority of these due to insufficient data. For the 52 river-specific stocks of alewife and blueback herring for which data were available, 23 were depleted relative to historic levels, one stock was increasing, and the status of 28 stocks could not be determined because of the data's limited time-series.

In 2008, in response to perceived declines, the Management Board initiated the development of Amendment 2 to the Shad and River Herring FMP. Under Amendment 2, states and jurisdictions without an approved sustainable fisheries management plan were required to close their river herring fisheries by January 1, 2012. States with approved plans are Maine, New Hampshire, New York, North Carolina and South Carolina. Prohibitions on harvest currently occur in Massachusetts, Rhode Island, Connecticut, New Jersey, Delaware, Pennsylvania, Maryland, District of Columbia, Potomac River Fisheries Commission, Virginia, Georgia, and Florida. The Commission will continue to coordinate with the Mid-Atlantic and New England Fishery Management Councils in monitoring and reducing river herring bycatch in at-sea fisheries.

The River Herring Benchmark Stock Assessment and Assessment Overview are available on the Commission website ([www.asmfc.org](http://www.asmfc.org)) under *Breaking News*.

An independent panel of scientists endorsed the findings of the 2012 Benchmark Stock Assessment for River Herring, concluding the overall coastwide population of river herring (alewife and blueback herring) stocks on the U.S. Atlantic coast is depleted to near historic lows. The “depleted” determination was used instead of “overfished” and “overfishing” because many factors, not just directed and incidental fishing, are contributing to the declining abundance of river herring. In addition to reducing harvest, recovery of river herring will need to address issues such as fish passage, predation, water quality, and climate change.

River herring are an anadromous

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**T**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 diadromous 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

**5/14 (1 - 5 PM) & 15 (8:30 AM - 1 PM):**

ASMFC Tautog Ageing Subcommittee, Spring Hill Suites by Marriott, 4500 Hampton Boulevard, Norfolk, Virginia.

**5/15 (10 AM - 4 PM):**

ASMFC Atlantic Menhaden Technical Committee and Stock Assessment Subcommittee Stock Assessment Update, Hilton Garden Inn Raleigh-Durham Airport, 1500 RDU Center Drive, Morrisville, North Carolina; 919.840.8088.

**5/17 (1 - 4 PM):**

ASMFC Northern Shrimp Advisory Panel, Yarmouth Log Cabin, 196 Main Street, Yarmouth, Maine.

**5/24 (1 - 4 PM):**

ASMFC Northern Shrimp Section, Holiday Inn by the Bay, 88 Spring Street, Portland, Maine.

**5/29 (1:00 - 5:00 PM):**

ASMFC Atlantic Menhaden Technical Committee and Stock Assessment Subcommittee Stock Assessment Update Webinar. Please contact Mike Waine at [mwaine@asmfc.org](mailto:mwaine@asmfc.org) for more information.

**6/7 (9 - 11 AM)**

ASMFC Atlantic Menhaden Technical Committee and Stock Assessment Subcommittee Stock Assessment Update Webinar (Tentative meeting; will only occur if additional time is needed following May Webinars). Please contact Mike Waine at [mwaine@asmfc.org](mailto:mwaine@asmfc.org) for more information.

**6/11 - 15:**

South Atlantic Fishery Management Council, Renaissance Orlando Airport Hotel, 5445 Forbes Place, Orlando, Florida.

**6/12 - 14:**

Mid-Atlantic Fishery Management Council, Hilton New York, 1335 Avenue of the Americas, New York, New York.

**6/19 - 21:**

New England Fishery Management Council, Holiday Inn by the Bay, Portland, Maine.

**6/25 - 29:**

ASMFC Technical Meeting Week, location to be determined.

**7/30 & 31:**

SEAMAP Annual Meeting, Hilton Savannah Desoto, 15 East Liberty Street, Savannah, Georgia.

**8/7 - 9:**

ASMFC Summer Meeting, Crowne Plaza Old Town Alexandria, 901 N. Fairfax Street, Alexandria, Virginia.

## Congratulations and Thank You

Our Commission's great strength resides in those who work so hard to support and advance our mission to restore Atlantic stocks. The Annual Awards of Excellence recognize individuals for their special contributions. This year's recipients reflect decades of tireless work to support sustainable fisheries management and to work for the good of the Commission.

**Legislative:** For 15 years, former Representative Dennis F. Abbott has supported fisheries conservation and management activities in many leadership roles, such as chair of the Atlantic Herring Section and co-chair of the Legislators and Governor Appointees (LGAs). He championed the increased role of LGAs on species management boards believing their expertise and judgment would drive better outcomes. As chair of the Advisory Panel Oversight Committee, he has helped provide interested stakeholders a voice in the management process through our advisory panels.

As New Hampshire state legislator and later Chair of the House Fish, Game and Marine Resources Committee, he sponsored legislation supporting natural resources and habitats. He proposed a \$1 fee on fishing licenses to fund fish habitat improvement. He championed saltwater license legislation to improve recreational catch data and provide funding for management. He also sponsored legislation enabling swift implementation of Commission management actions.

**Management and Policy:** Commissioner G. Ritchie White has worked with the Commission since the 1990s, first as an Atlantic striped bass advisor, supporting the recovery of striped bass. His belief that this remarkable success could be applied to other species led him to advocate for passage of the Atlantic Coastal Fisheries Cooperative Management Act.

He has served on management boards, sections and committees, and chaired the Northern Shrimp Section. He is an appointee to New Hampshire's Advisory Committee on Marine Fisheries and served four years on the Fish and Game Commission. He is a founding member of New Hampshire's Coastal Conservation Association, and has been a Board member since its inception. He currently coordinates the state's Revolving Loan Fund, providing low interest loans to the state's fishing industry.

**Scientific, Technical, and Advisory:** William T. Windley, Jr., has been actively involved with the Commission for more than a decade, serving on many advisory panels (AP). He has chaired the Atlantic Menhaden AP since 2002 and the South Atlantic AP since 2008. He par-

ticipated in benchmark stock assessments for Atlantic menhaden, Atlantic croaker, and red drum. He helped develop new management programs for Atlantic menhaden and several South Atlantic species.

He is a long-serving member and past four-term president of Maryland's Saltwater Sportfishing Association and a member of Maryland's Coastal Conservation Association and the Chesapeake Bay Foundation. He serves on the National Advisory Board of the Recreational Fishing Alliance, and Maryland's Aquatic Resources Committee and Sport Fisheries Advisory Commission.

**Law Enforcement:** Major Harold Knudsen was recognized for his years of outstanding service in the Marine Patrol, protecting the citizens and marine resources of North Carolina. A respected veteran officer, he is known for the pride he takes in his job. His outstanding work ethic was reflected in his successful pursuit of a high profile complex case involving fish dealers operating in violation of the regulations protecting red drum.

In response to reports of high numbers of red drum being sold, Major Knudsen initiated and oversaw investigations resulting in 32 charges against three fish dealers in Beaufort, Pamlico, and Carteret Counties. Charges included possession and sale of red drum landed in excess of trip limits, failure to complete fish tickets, and other record falsification violations. This operation was typical of the many actions Major Knudsen has taken over his 30 year career, earning him the respect of his supervisors and colleagues as well as marine fisheries stakeholders.

Dr. John Sweka, a fisheries scientist with the U.S. Fish and Wildlife Service, received the Commission's Technical Achievement Award for his significant contributions to the assessments of horseshoe crab, river herring, American eel, and Atlantic striped bass. He led the efforts to develop the innovative Adaptive Resource Management model now being used to incorporate shorebird and horseshoe crab abundance in the management of horseshoe crabs. He is the first recipient of this new award.

Cecilia Butler, the Commission's Human Resources Administrator, was presented a Certificate of Appreciation in recognition of her 10 years of dedicated service to the Commission and our member states. She has taken a great interest in the well-being of our staff and worked hard to ensure employees enjoy the full range of HR services and benefits, directly promoting staff values. She has done all of this while confronting adversity with courage and dignity. Congratulations and thank you to all.

*From the Executive Director's Desk*



**American Eel**  
*Anguilla rostrata*

**Common Names:** elver, silver eel, yellow eel, freshwater eel

**Interesting Facts:**

- \* Aristotle did the first known research on eel.
- \* Leptocephali were originally thought to be a different species.
- \* American eel were once thought to be the same species as the European eel (*Anguilla anguilla*).

**Special Uses:**

- \* Bait for both commercial and recreational fisheries.
- \* Eaten fresh or smoked.
- \* Elvers are often exported to Asian markets for aquaculture purposes.

**Largest Recorded:** 25", 8 lbs., 2 oz.

**Oldest Recorded:** 20 years

**Stock Status:** Depleted

## Species Profile: American Eel

### **American Eel Stock Determined to be Depleted**

#### Introduction

The 2012 benchmark stock assessment and peer review have concluded that the American eel population is depleted in U.S. waters. The stock is at or near historically low levels due to a combination of historical overfishing, habitat loss, food web alterations, predation, turbine mortality, environmental changes, toxins and contaminants, and disease. Although fisheries are a fraction of what they were historically, eel support valuable commercial, recreational, and subsistence fisheries.

American eel are a particularly challenging species to conserve and manage on a coastwide basis for a number of reasons. Throughout its life-span, from multiple juvenile life stages through adulthood, American eel will have inhabited and traversed a wide range of habitats from the Sargasso Sea to estuaries and inland riverine systems. During this journey, they will have moved through myriad jurisdictions and management authorities from the high seas to federal government and on to state governments. The life history of the species, such as late age at maturity and a tendency of certain life stages to aggregate can make American eels particularly vulnerable to overharvest.

Over the last two years, there has been a significant increase in the demand for young eels (called glass eels) due to tighter restrictions on the exportation of European eels and decreased ability to harvest Japanese eels. Currently, harvest of elvers is only allowed in Maine and South Carolina. Law enforcement agencies in all states along the East Coast have been working continuously to monitor and prevent illegal harvest of glass eels.

#### Life History

From a biological perspective, American eel are a very mysterious and illusive species. Information about abundance and status at all life stages, as well as habitat requirements, is very limited. American eels are catadromous, spending most of their life in freshwater or estuarine environments, then traveling to the ocean as adults to reproduce and die. Sexually maturing eels migrate up to 3,000 miles to spawning grounds located in the Sargasso Sea, an area of the western Atlantic Ocean east of the Bahamas and south of Bermuda. Spawning events have never been observed. Because all mature adult fish from the entire range come together in one place and reproduce, the American eel population is considered a panmictic (single) stock. American eels found along the eastern coast of Mexico are from the same population as eels found in the St. Lawrence River in Canada.

American eels have a multitude of life stages: leptocephali, glass eel, elvers,



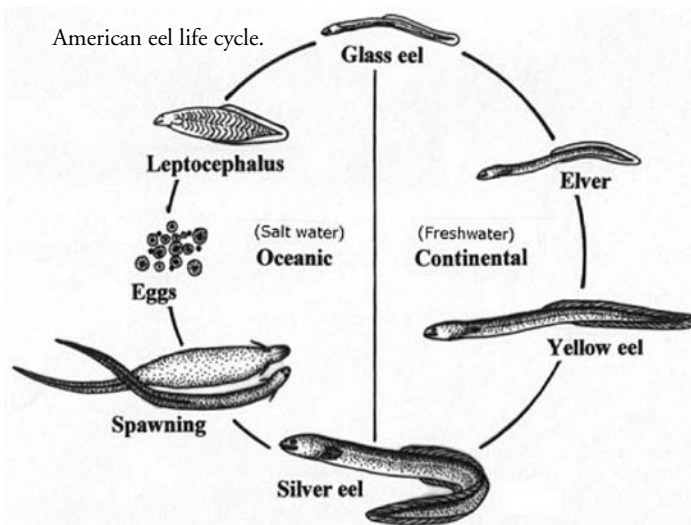
Student with glass eels and elvers as part of NYSDEC's American eel project. Photo by Chris Bowser, NYSDEC.

yellow eel, and silver eel. For up to a year and a half the Gulf Stream transports and disperses larval eels, called leptocephali, along the eastern coast of Central and North America. At this stage, the eels are transparent and no bigger than a stick of gum. Leptocephali metamorphose into glass eels as they migrate toward land. The elver stage occurs when glass eels turn a brown color and move into brackish or freshwater. Usually by age two, elvers make the transition into the yellow eel stage. Yellow eels will typically establish a very small home range, and have even been known to return to their place of capture if they are displaced. They inhabit fresh, brackish, and saltwater habitats where they will feed primarily on invertebrates and smaller fishes and grow until they reach sexual maturity.

Sexual maturity can occur any time between eight and 24 years of age. Females will grow larger and reach maturity at a later age than males, particularly in the northern regions. When yellow eels start to sexually mature, they begin a downstream migration toward the Sargasso Sea spawning grounds. During this migration, yellow eels metamorphose into the adult silver eel phase, undergoing several physiological changes. Adult silver eels are believed to spawn in the Sargasso Sea during winter and early spring. It is assumed they die after spawning.

### Commercial & Recreational Fisheries

Commercial landings fluctuate depending on the market price for eel. The American eel fishery primarily targets yellow eels. Eel pots are the most typical gear used; however, weirs, fyke nets, and other fishing methods are also employed. At the silver eel stage, eels are completely focused on migrating and typically do not respond to baited traps. Glass eel fisheries along the Atlantic coast are prohibited in all states except Maine and South Carolina. In recent years, Maine is



the only state reporting significant glass eel harvest. Harvest has increased the last few years as the market price has risen to over \$2,000 per pound. Although yellow eels were harvested for food historically, today's fishery sells yellow eels primarily as bait for recreational fisheries. Glass eels are exported to Asia to serve as seed stock for aquaculture facilities. Little information is available on targeted recreational fisheries for American eel.

From 1950 to 2010, U.S. Atlantic coast landings ranged from approximately 664,000 pounds in 1962 to 3.67 million pounds in 1979. After an initial decline in the 1950s, landings increased to a peak in the 1970s and 1980s before declining again in the 2000s. The value of U.S. commercial fishery has varied from less than a \$100,000 (prior to the 1980s) to a peak of \$6.4 million in 1997. Total value increased through the 1980s and 1990s,

dropped in the late 1990s, and increased again in the 2000s.

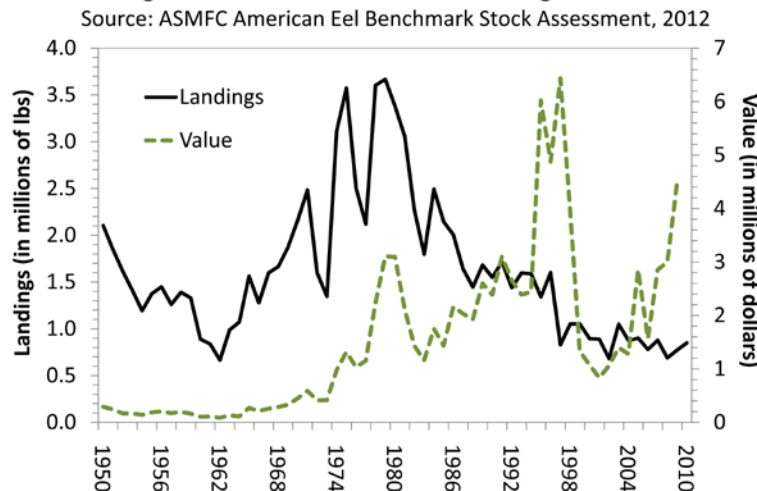
### Stock Status

The Commission conducted a benchmark stock assessment for American eel in 2012. Despite the large number of surveys and studies available for use in this assessment, the American eel stock is still considered data-poor because very few

surveys target eels and collect information on length, age, and sex of the animals caught. Also, eels have an extremely complex life history that is difficult to describe using traditional stock assessment models. Therefore, two data-poor methods were used to assess the American eel resource: trend analyses and model analysis.

Trend analyses found evidence of declining or, at least, stable abundance of American eels in the U.S in recent decades. Regional trend analyses identified decreasing populations in the Hudson River and South Atlantic regions, while analysis from the Chesapeake Bay and Delaware Bay/Mid-Atlantic Coastal Bays regions showed no consistent increasing or decreasing trends. Coastwide model analysis estimated biomass to be at a reduced level (see American Eel Stock Assessment Q & A Sidebar on page 9 for more information).

Figure 1. American Eel Commercial Landings and Value



Both trend and model analyses indicate that the American eel stock has declined in recent decades and the prevalence of significant downward trends in multiple surveys across the coast is cause for concern. Significant levels of harvest in the 1970s is considered a major factor contributing to the current

*continued on page 9*

## Atlantic Striped Bass Board Approves Draft Addendum III for Public Comment: Addendum Seeks to Address Illegal Commercial Striped Bass Harvest

The Commission's Atlantic Striped Bass Management Board has approved for public comment Draft Addendum III to Amendment 6 to the Interstate Fishery Management Plan for Atlantic Striped Bass. The Draft Addendum proposes implementing a mandatory commercial tagging program for all states and jurisdictions with commercial striped bass fisheries and increasing penalties for illegally harvested fish. These options are intended to prevent commercial striped bass quota overages and the illegal harvest of striped bass. Both undermine the sustainability of striped bass populations, as well as reduce the economic opportunities of law abiding commercial fishermen. Options include increased accounting of unused tags, timely reporting of catch, the point at which tagging must occur, standardization of tag type, and development of biological metrics for determining state/jurisdiction tag quantity.

The Draft Addendum responds to recommendations of the Interstate Watershed

Task Force (IWTF). The IWTF conducted a multi-year, multi-jurisdictional investigation on illegal commercial striped bass harvest within Chesapeake Bay, resulting in over \$1.6 million dollars in fines against 19 individuals and three corporations for more than one million pounds of striped bass harvested illegally. The investigation revealed some current control measures for regulating the harvest of striped bass were ineffective or inadequately designed to maximize compliance. The investigation also found that greater accountability of wholesalers would be difficult to achieve without uniform tags (colors, design) and tagging requirements, valid year and size limits inscribed on tags, and increased dealer compliance education.

Several states will be conducting public hearings on the Draft Addendum; infor-



mation on those hearings will be released when they are finalized. Fishermen and other interested groups are encouraged to provide input on the Draft Addendum either by attending state public hearings or providing written comment. The Draft Addendum will be available on the Commission website ([www.asmfc.org](http://www.asmfc.org)) under *Breaking News* or by contacting the Commission at 703.842.0740 by May 11, 2012. Public comment will be accepted until 5:00 PM (EST) on July 13, 2012 and should be forwarded to Kate Taylor, Fishery Management Plan Coordinator, at 1050 N. Highland St., Suite 200 A-N, Arlington, VA 22201; 703.842.0741 (FAX) or [ktaylor@asmfc.org](mailto:ktaylor@asmfc.org) (Subject line: Atlantic Striped Bass Draft Addendum III).

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## Atlantic Herring Section Approves Draft Addendum V for Public Comment

The Commission's Atlantic Herring Section has approved for public comment Draft Addendum V to Amendment 2 to the Interstate Fishery Management Plan for Atlantic Herring. The Draft Addendum proposes measures to refine and consolidate Atlantic herring spawning regulations as recommended by the Atlantic Herring Technical Committee. These include (1) refining sampling protocols; (2) providing flexibility to change spawning boundaries based on Technical Committee input through Section action; and (3) consolidating all spawning regulations into one document.

The Draft Addendum responds to ob-

served changes in Atlantic herring spawning behavior (size of spawning fish and extent of spawning area) as well as the need to clarify spawning regulations so that they are interpreted and applied consistently among the implementing states.

Fishermen and other interested groups are encouraged to provide input on the Draft Addendum. The Draft Addendum will be available on the Commission website ([www.asmfc.org](http://www.asmfc.org)) under *Breaking News*. Public comment will be accepted until 5:00 PM (EST) on June 22, 2012 and should be forwarded to Christopher Vonderweidt, Fishery Management Plan Coordinator, 1050 N. Highland St.,

Suite 200 A-N, Arlington, VA 22201; 703.842.0741 (FAX) or at [comments@asmfc.org](mailto:comments@asmfc.org) (Subject line: Atlantic Herring Draft Addendum V).



## American Lobster Board Approves Draft Addendum XVIII for Public Comment

The Commission's American Lobster Board has approved for public comment Draft Addendum XVIII to Amendment 3 to the Interstate Fishery Management Plan for American Lobster. The Draft Addendum proposes a consolidation program for lobster conservation management areas 2 and 3 (LCMAs 2 & 3) to address latent effort and reduce the overall number of traps allocated. The specific management tools being considered in the addendum include trap allocations, trap banking, and controlled growth for participants in the fishery. The Draft Addendum proposes unique plans for each area.

The Draft Addendum responds to the depleted condition of the Southern New England (SNE) lobster resource and the Board's intent to scale the capacity of the SNE fishery to the size the SNE resource, with an initial goal of reducing qualified trap allocation by at least 25% over a five to ten year period. Since the scope of the SNE resource encompasses all or part of six of the seven LCMAs established by Amendment 3, additional addenda will be developed to address effort reductions in the remaining LCMAs.

In order to consolidate the fishery, latent effort must be addressed. Latent effort is traps allocated to an individual that are not fished. The limited entry programs for each LCMA have unique qualifying criteria and eligibility periods, resulting in differing levels of latent effort among the areas. Consequently, measures to remove latent effort from the fishery will need to be developed for each LCMA based on the current amount of latent effort. Consolidation is likely to occur as permit holders respond to the annual trap allocation cuts by obtaining allocation from permit holders who downsize their operations or leave the fishery through the transferability program.

For trap limits to be effective in reducing harvest and rebuilding the stock, latent effort must first be addressed to prevent this effort from coming back into the fishery as the stock grows and catch rates increase. It is anticipated that long-term reductions in traps fished will occur as a result of this addendum.

Fishermen and other interested groups are encouraged to provide input on the



V-notched berried female American lobster. Photo by NOAA Ocean Technology Foundation

Draft Addendum either by attending state public hearings or providing written comment. The Draft Addendum will be available on the Commission website ([www.asmfc.org](http://www.asmfc.org)) under *Breaking News* by May 14, 2012. Public comment will be accepted until 5:00 PM (EST) on July 10, 2012 and should be forwarded to Toni Kerns, Senior FMP Coordinator, at 1050 N. Highland St., Suite 200 A-N, Arlington, VA 22201; 703.842.0741 (FAX) or [tkerns@asmfc.org](mailto:tkerns@asmfc.org) (Subject line: American Lobster Draft Addendum XVIII).

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## ASMFC Approves First Step in Black Drum Interstate Management: Public Input Sought on Development of New Plan

The Commission's South Atlantic State-Federal Fisheries Management Board approved the Public Information Document (PID) for the Interstate Fishery Management Plan (FMP) for Black Drum for public review and comment. As the first step in the development of the FMP, the PID presents the current status of the fishery and resource, and solicits public input on changes observed in the fishery; actions to be taken in terms of management, enforcement, and research; and any other concerns about the resource or fishery.

The FMP is being initiated in response to

concern regarding significant increases in harvest in recent years and the fact that the fishery primarily targets juveniles. The Commission is also moving forward with conducting the first coastwide assessment of this species. The assessment will be developed concurrently with the FMP to support establishment of the interstate management program.

States will be conducting public hearings on the PID; information on those hearings will be released when they are finalized. Fishermen and other interested groups are encouraged to provide input on

the PID either by attending state public hearings or providing written comment. The PID can be obtained via the Commission's website [www.asmfc.org](http://www.asmfc.org) under *Breaking News*. Public comment will be accepted until 5:00 PM (EST) on July 20, 2012 and should be forwarded to Danielle Chesky, FMP Coordinator, 1050 N. Highland St, Suite A-N, Arlington, VA 22201; 703.842.0741 (FAX) or [dchesky@asmfc.org](mailto:dchesky@asmfc.org) (Subject line: Black Drum PID).

# ASMFC Spiny Dogfish Board Increases 2012/2103 Quota to 35.6 Million Pounds and Approves Draft Addendum IV for Public Comment

The Commission's Spiny Dogfish and Coastal Sharks Management Board increased the 2012/2013 spiny dogfish quota from 30 to 35.6 million pounds. The increase is consistent with proposed regulations for federal waters as well the recommendations of the ASMFC Spiny Dogfish Technical Committee and Mid-Atlantic Fishery Management Council Spiny Dogfish Monitoring Committee. The accompanying table shows preliminary regional and state commercial quotas for the 2012/2013 season as adjusted for overages and rollovers.

The Board also approved Draft Addendum IV to the Spiny Dogfish Fishery Management Plan for public comment. The Draft Addendum proposes allowing exemptions (with Board approval) to the 5% maximum quota rollover provision as well as measures to update the spiny dogfish overfishing definition based on recommendations of the ASMFC Spiny Dogfish Technical Committee. The rollover provision exemption seeks to provide states the opportunity to rollover more than 5% of their unharvested quota from one year to the next. It responds to concerns by states in the southern region that early closure

of federal water fisheries often leaves more than 5% of their quota unharvested.

The Draft Addendum also proposes providing the Board the flexibility to update

consideration and will not impact management significantly.

States will be conducting public hearings on the Draft Addendum; information on

Table 1. Preliminary 2012/2013 regional and state commercial spiny dogfish quotas adjusted for overages and rollovers from the 2011/2012 fishing season (in pounds). Quotas are subject to change as landings are finalized.

	% Allocation	Initial Allocation	2011/2012 Overage	2011/2012 Rollover	2012/2013 Quota Adjusted for 2011/2012 Overages and Rollovers
<b>Northern Region (ME - CT)</b>	58.00%	20,702,520	1,359,053		19,343,467
<b>NY</b>	2.707%	966,237		26,935	993,171
<b>NJ</b>	7.644%	2,728,449	101,508		2,626,941
<b>DE</b>	0.896%	319,818		3,915	323,734
<b>MD</b>	5.920%	2,113,085		13,113	2,126,197
<b>VA</b>	10.795%	3,853,167	88,435		3,764,732
<b>NC</b>	14.036%	5,010,010		20,844	5,030,854

or modify the management program's overfishing definition by Board action based on the recommendations of its Technical Committee and best available science. The current overfishing definition is based on the number of pups per female that recruit to the stock and was adopted in 2002 from the Mid-Atlantic Fishery Management Council's Plan. Since that time, the Council has updated its definition based on maximum sustainable yield or a reasonable proxy, consistent with the best available science. Adjusting the overfishing definition is a technical

those hearings will be released when they are finalized. Fishermen and other interested groups are encouraged to provide input on the Draft Addendum. The Draft Addendum is available on the Commission website ([www.asmfc.org](http://www.asmfc.org)) under *Breaking News*. The public comment deadline is 5:00 PM (EST) on June 22, 2012 and should be forwarded to Christopher Vonderweidt, FMP Coordinator, 1050 N. Highland St., Suite 200 A-N, Arlington, VA 22201; 703.842.0741 (FAX) or at [comments@asmfc.org](mailto:comments@asmfc.org) (Subject line: Spiny Dogfish Draft Addendum IV).

## Mark Your Calendars! ASMFC 2013 Meeting Dates

- Winter Meeting - February 18 - 21, 2013
- Spring Meeting - May 20 - 23, 2013
- Summer Meeting - August 5 - 8, 2013
- Annual Meeting - to be determined

The Winter, Spring, and Summer Meetings will take place at the Crowne Plaza Old Town Alexandria, 901 N. Fairfax Street, Alexandria, Virginia; 703.683.6000.





## American Eel Species Profile (continued from page 4)

low biomass levels, but other factors such as habitat loss, predation, and disease have also played a role. Stock status is depleted and no overfishing determination can be made at this time based solely on the trend analyses performed. The ASMFC American Eel Technical Committee and Stock Assessment Subcommittee caution that although commercial fishery landings and effort in recent times have declined in most regions (with the possible exception of the glass eel fishery), current levels of fishing effort may still be too high given the additional stressors affecting the stock such as habitat loss, passage mortality, and disease as well as potentially shifting oceanographic conditions. Fishing on all life stages of eels, particularly young-of-

the-year and in-river silver eels migrating to the spawning grounds, could be particularly detrimental to the stock, especially if other sources of mortality (e.g., turbine mortality, changing oceanographic conditions) cannot be readily controlled. Management efforts to reduce mortality on American eels in the U.S. are warranted.

In 2010, Canada Department of Fisheries and Oceans (DFO) conducted a stock assessment on American eels in Canadian waters and found that region-specific status indices show abundance relative to the 1980s is very low for Lake Ontario and upper St. Lawrence River stock, and either unchanged or increasing in the Atlantic Provinces. A joint stock assessment

by both Canada DFO and the Commission was recommended by the American Eel Stock Assessment Subcommittee as an approach for the next assessment.

### Atlantic Coast Management

American eels are managed by the Commission in territorial seas and inland waters along the Atlantic coast from Maine to Florida. Increasing demand for eel by Asian markets and domestic bait fisheries, coupled with concern about declining eel abundance and limited assessment data,

*continued on page 10*

## American Eel Assessment Q&A

### What Data Were Used?

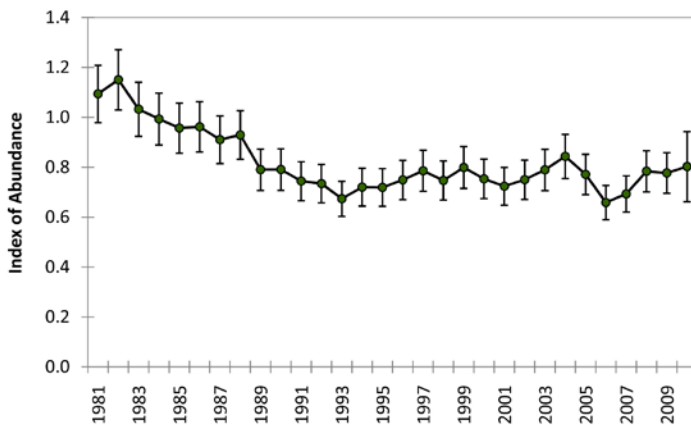
The American eel assessment used two types of data. The first was fishery-dependent data, which includes commercial landings, recreational landings, and effort data provided by the states, NOAA Fisheries and ACCSP. The second was fishery-independent data, which includes data collected through state, federal, and academic research programs. While over 100 fishery-independent surveys and studies were initially reviewed, the American Eel Stock Assessment Subcommittee ultimately selected 19 young-of-year surveys and 15 yellow eel surveys to use as indices of abundance based on the number of years surveyed, survey design, appropriateness of gear used for catching eel, and frequency of eel catches.

### How Were The Data Analyzed?

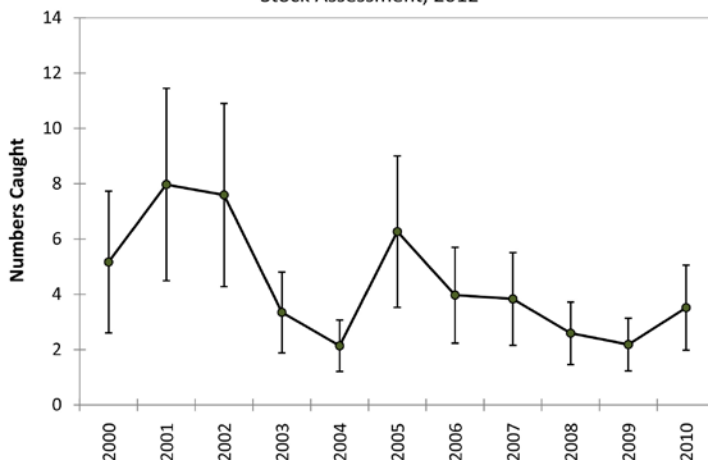
Despite the large number of surveys and studies available for use in this assessment, the American eel stock is still considered data-poor because very few surveys target eels and collect information on length, age, and sex of the animals caught. Also, eels have an extremely complex life history that is difficult to describe using traditional stock assessment models. Therefore, several data-poor methods were used to assess the American eel resource. The first set of analyses (trend analyses) aimed at determining if there was a statistically significant trend in the fishery-independent survey data at the river, regional and coastwide scales. Indices of regional abundance for YOY and yellow-stage American eel were developed for six regions along the Atlantic Coast. The regional indices were developed by first splitting up all the datasets by regions, then standardizing each of the datasets that within the region, and lastly combining the standardized surveys within the region.

*continued on page 10*

**Figure 2. Index of Abundance for Yellow-phase American Eels along the Atlantic Coast (30-year index). The error bars represent the standard errors about the estimates. Source: ASMFC American Eel Benchmark Stock Assessment, 2012**



**Figure 3. 10-year Index of Abundance for Young-of-the-Year American Eels along the Atlantic Coast. The error bars represent the standard errors about the estimates. Source: ASMFC American Eel Benchmark Stock Assessment, 2012**



## **American Eel Species Profile (continued from page 9)**

spurred development of the first Interstate Fishery Management Plan for American Eel in the mid-1990s. The plan, approved in 1999, provided several reasons why heavy harvest pressure may adversely affect American eel populations: (1) American eel have a slow rate of maturation, requiring eight to 24+ years to attain sexual maturity; (2) glass eel tend to aggregate seasonally during migration, making them vulnerable to directed harvest; (3) harvest of yellow eel is a cumulative stress, over multiple years, on the same yearclass; and (4) all fishing mortality occurs prior to spawning.

Each state is responsible for implementing management measures within its jurisdiction to ensure the sustainability of the American eel population that resides within state boundaries. The FMP required that all states and jurisdictions implement an annual young-of-year abundance survey by 2001 in order to monitor annual recruitment. In addition, the FMP required all states and jurisdictions to establish a minimum recreational size limit of six inches and a recreational possession limit of no more than 50 eels per person per day. Recreational fishermen are not allowed to sell eels without a state license. Commercial regulations vary by state but also include a six-inch minimum size limit with the exception of Maine and South Carolina which maintain glass eel fisheries. Management measures stipulate that states and jurisdictions shall maintain existing (as of 2000) or more conservative fisheries regulations for all life stages, unless otherwise approved by the American Eel Management Board.

The greatest hindrance to the development and implementation of an effective management program for American eel is the panmictic nature of the stock. Local, regional, and ocean-wide actions have the ability to affect the entire stock because there is random mating within the breeding population—all of the American eel found from Canada to Central America. While different agencies have authority over eel in their jurisdictions, they do not have the ability to alter the population beyond their management boundaries. The Commission has begun a working relationship with the Great Lakes Fishery Commission, which is founded by a bi-national agreement between the U.S. and Canada, to facilitate participation and data sharing. In response to the 2012 American Eel Stock Assessment, the American Eel Management Board tasked the Technical Committee to develop management options based on the recommendations and results in the assessment. The Management Board will review these options at the ASMFC Summer Meeting.

## **American Eel Assessment Q&A (continued from page 9)**

The second approach involved a model called Depletion-Based Stock Reduction Analysis (DB-SRA) which uses trends in historical catch to estimate biomass trends and maximum sustainable yield. DB-SRA requires a long time series of historical catch records extending back to the beginning of the modern fishery, information about the life history of the species (e.g., age at maturity), and a set of assumptions about the stock and current biomass relative to unfished biomass. The DB-SRA provided estimates of historical and current biomass levels to illustrate relative trends to in population size and abundance. However, the Peer Review Panel suggested improvements be made to the model before biomass estimates and reference points are used for management.

### **What Is The Status Of The Stock?**

Both trend analyses and DB-SRA results indicate that the American eel stock has declined in recent decades and the prevalence of significant downward trends in multiple surveys across the coast is cause for concern. Therefore, the stock status is depleted. No overfishing determination can be made at this time based solely on the trend analyses performed.

### **What Data Are Needed?**

Direct and detailed monitoring of the American eel population and fisheries trends is needed to improve the stock assessment. The stock assessment report specifically identified the following areas that are critical for improved understanding and management of American eel:

1. Improved accuracy of commercial catch and effort data through better compliance with landings and effort reporting requirements
2. Targeted fishery-independent surveys for yellow and silver eels. Alternatively, the collection of length, age, and sex information for yellow and silver eels caught in already existing surveys is recommended, especially in the South Atlantic where few surveys are conducted that catch American eels.
3. Collection of age structure data outside the range of the fishery to assess the contribution of these animals to overall stock productivity
4. Quantification of mortality rates due to dam turbines, disease, and other environmental stressors
5. A comprehensive map of coastwide habitat loss to aid in quantifying the potential magnitude of reduced productivity
6. Given the panmictic nature of the American eel stock, the next assessment should be a cooperative effort between U.S. and Canada.

### **How Will This Guide Management?**

The American Eel Board accepted the assessment for management use in May 2012. The Board tasked the American Eel Technical Committee (TC) with developing management recommendations based on the results of the assessment; its recommendations will be presented to the Board in August. Additionally, the Board will be providing a copy of the assessment to the U.S. Fish and Wildlife Service (USFWS) for its use in determining whether American eel should be listed as threatened under the Endangered Species Act.

## Kate Taylor Receives ASMFC Employee of the Quarter



In her four years with the Commission, Kate Taylor has helped to significantly advance diadromous species management along the Atlantic coast, contributing to the Commission's Vision of "healthy, self-sustaining populations for all Atlantic coast fish species or successful restoration well in progress by the year 2015." In recognition of her accomplishments, Kate was named Employee of the Quarter for the second quarter of 2012. This is her second Employee of the Quarter award.

This time around, Kate is being recognized for her hard work and dedication in ensuring the timely completion of benchmark stock assessments for river herring and American eel. Recently endorsed for management use by an independent panel of scientists, both assessments represent several years of data compilation, model development, and analysis. The river herring stock assessment addressed 52 river-specific populations of alewife and blueback herring, while

the American eel assessment compiled and analyzed more than 50 fishery-dependent and -independent data sources in order to make a coastwide stock status determination.

In addition, Kate has worked closely with the states to fully implement Amendments 2 and 3 to the Shad and River Herring FMP. She has also coordinated with the Commission's Atlantic Striped Bass Technical Committee and Law Enforcement Committee in preparing for public comment Draft Addendum III to address the illegal commercial striped bass harvest. Kate has also been very involved with the states and NMFS Protected Resources staff to initiate the response to the Endangered Species Act Listing of Atlantic sturgeon.

Kate's enthusiastic and cheerful attitude, clear and focused work products, and commitment to effective teamwork not only make her a great employee and coworker but an invaluable asset to the Commission's fisheries management program. Kate has a Master's in Environmental Management from the Nicholas School of the Environment at Duke University and a Bachelor of Science in Environmental Science from the University of San Francisco. As an Employee of the Quarter, she received a \$500 cash award, a small gift, and a letter of appreciation to be placed in her personnel record. In addition, her name is on the Employee of Quarter Plaque displayed in the Commission's lobby. Congratulations, Kate!

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## ACCSP Releases 2011 Fiscal Year in Review

The Atlantic Coastal Cooperative Statistics Program (ACCSP) has released its 2011 Fiscal Year in Review. Mark Alexander, Chair of the ACCSP Coordinating Council, reminds everyone in a letter within the document that ACCSP "is an important data resource that not only supports the needs of Atlantic coastal fisheries management and industry, but continues to evolve to address new opportunities and challenges."

The 20-page full-color document provides highlights about the ACCSP's Data Warehouse, Standard Atlantic Fisheries Information System (SAFIS) modules, and coastal program projects. Copies of the report can be downloaded at [http://www.accsp.org/documents/ACCSP\\_2011FiscalYearinReview.pdf](http://www.accsp.org/documents/ACCSP_2011FiscalYearinReview.pdf). Please contact [info@accsp.org](mailto:info@accsp.org) if you would like to receive a printed copy of the report.



2011 FISCAL YEAR IN REVIEW | GOOD DATA, GOOD DECISIONS

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## ASMFC Honors Contributions to Atlantic Coast Fisheries Management

Commissioners and other participants at the Commission's Spring Meeting had the opportunity to honor several worthy individuals for their contributions to the success of the Commission and interstate fisheries management. More details are provided in "From the Executive Director's Desk" on page 3 but here are some photos from the Spring Meeting.



Right: ASMFC Executive Director John V. O'Shea celebrates Cecilia Butler's 10th anniversary with the Commission as Human Resources Administrator.



Above: ASMFC Executive Director John V. O'Shea with Dr. John Sweka, recipient of the Technical Achievement Award.



From left: ASMFC Vice Chair Dr. Louis B. Daniel and Executive Director John V. O'Shea flank AAE Recipients -- William T. Windley Jr., Major Harold Knudsen, Dennis F. Abbott, and G. Ritchie White.