



ASMFC

# FISHERIES *focus*

Vision: Sustainably Managing Atlantic Coastal Fisheries

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## 77th Annual Meeting

October 21-25  
The Roosevelt Hotel  
New York City, NY

### Preliminary Agenda

*The agenda is subject to change. Bulleted items represent the anticipated major issues to be discussed or acted upon at the meeting. The final agenda will include additional items and may revise the bulleted items provided below. The agenda reflects the current estimate of time required for scheduled Board meetings. The Commission may adjust this agenda in accordance with the actual duration of Board meetings. Interested parties should anticipate Boards starting earlier or later than indicated herein.*

#### SUNDAY, OCTOBER 21

6 – 8 p.m.

Hosts' Reception

#### MONDAY, OCTOBER 22

#### 8:30 a.m. – 12:30 p.m. American Lobster Management Board

- Review of the NOAA Fisheries Technical Memo on Right Whale Status and Recovery
- Report on the October 2018 Atlantic Large Whale Take Reduction Team Meeting
- Review American Lobster Addendum XXVII Timeline
- Discuss Protocols to Evaluate Bait Sources
- Progress Update from the American Lobster Electronic Tracking and Reporting Subcommittees
- Consider Approval of 2018 Fishery Management Plan Reviews and State Compliance Reports for American Lobster and Jonah Crab

*continued, see ANNUAL MEETING PRELIMINARY AGENDA on page 6*

Atlantic States Marine Fisheries Commission

1050 North Highland Street, Suite 200 A-N • Arlington, Virginia 22201 • [www.asmfc.org](http://www.asmfc.org)

## Upcoming Meetings

*The Atlantic States Marine Fisheries Commission was formed by the 15 Atlantic coastal states in 1942 for the promotion and protection of coastal fishery resources. The Commission serves as the 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.*

### Atlantic States Marine Fisheries Commission

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#### **October 1 (9:30 - 11:30 a.m.)**

American Lobster Technical Committee Webinar; go to <http://www.asmfc.org/calendar> for more details

#### **October 2 - 4**

Mid-Atlantic Fishery Management Council, Congress Hall, 200 Congress Place, Cape May, NJ

#### **October 4 (9 a.m. - Noon)**

Northern Shrimp Section, Maine Historical Society (2nd Floor Reading Room), 489 Congress Street, Portland, ME

#### **October 9 & 10**

Atlantic Menhaden Modeling Workshop, ASMFC, 1050 N. Highland Street, Suite 200A-N, Arlington, VA

#### **October 11 & 12**

Ecological Reference Points Workshop, ASMFC, 1050 N. Highland Street, Suite 200A-N, Arlington, VA

#### **October 16 (1 - 3:30 p.m.)**

Summer Flounder Scup and Black Sea Bass Recreational Working Group; go to <http://www.asmfc.org/calendar> for more details

#### **October 21 - 25**

ASMFC 77<sup>th</sup> Annual Meeting, The Roosevelt Hotel, 45 East 45th Street and Madison Avenue, New York City, NY

#### **November 27 - 30**

Atlantic Striped Bass Benchmark Stock Assessment Peer Review, Northeast Fisheries Science Center's 66<sup>th</sup> Stock Assessment Workshop (SAW/SARC), Woods Hole, MA

#### **December 3 - 7**

South Atlantic Fishery Management Council, Hilton Garden Inn/Outer Banks, 5353 N. Virginia Dare Trail, Kitty Hawk, NC

#### **December 4 - 6**

New England Fishery Management Council, Hotel Viking, Newport, RI

#### **December 11 - 13**

Mid-Atlantic Fishery Management Council, Westin Annapolis, 100 Westgate Circle, Annapolis, MD

#### **January 29 - 31**

New England Fishery Management Council, Portsmouth Harbor Events Center, Portsmouth, NH

#### **February 5 - 7**

ASMFC Winter Meeting, Westin, 1800 South Eads Street, Arlington, VA

#### **February 12 - 14**

Mid-Atlantic Fishery Management Council, Hilton Virginia Beach Oceanfront, 3001 Atlantic Avenue, Virginia Beach, VA

#### **March 4 - 8**

South Atlantic Fishery Management Council, Westin Jekyll Island, 110 Ocean Way, Jekyll Island, GA



### MRIP's Upgraded Fishing Effort Survey: A Significant Step Forward in Fisheries Science and Recreational Management

Recreational anglers often wonder: "why don't fishing regulations match what I'm seeing out on the water?" Recreational management has long challenged managers and anglers alike, but recent changes in recreational data collection will improve catch estimates and better inform management decisions.

The first national program for estimating marine recreational harvest was the Marine Recreational Fishery Statistics Survey (MRFSS), established in 1979. In 2008, MRFSS was replaced

MRIP is the result of a considerable, long-term effort on the part of NOAA Fisheries, working with the recreational fishing community and the states, to significantly improve recreational catch and effort data for use in stock assessments and management.

with NOAA's current recreational data collection system, the Marine Recreational Information Program (MRIP). MRIP is the result of a considerable, long-term effort on the part of NOAA Fisheries, working with the recreational fishing community and the states, to significantly improve recreational catch and effort data for use in stock assessments and management. Recently, the two surveys that inform MRIP have undergone major upgrades.

As you may know, recreational harvest estimates are based on two specially designed angler surveys – one targeted to

collect catch information and the other to collect effort data. The data from these surveys are then combined to estimate total recreational harvest.

In 2017, the Atlantic states, from Maine to Georgia, assumed conduct of the Access Point Angler Intercept Survey (APAIS). State conduct of APAIS has resulted in a 23% increase in the number of intercepts from 2016 to 2018 (for waves 1-3).

In July 2018, NOAA Fisheries released calibrated recreational catch estimates using an updated effort survey for the first time. Previously, effort estimates were obtained by surveying random landline telephones in coastal states.

Technology advances such as caller ID and a shift to mobile phones rendered the telephone survey less valuable with each passing year.

Now, NOAA Fisheries estimates recreational effort through a mail-based survey, known as the Fishing Effort Survey (FES). Instead of random phone calls to landlines, the FES utilizes state recreational saltwater fishing license databases to reach licensed anglers and the U.S. Postal Service address database to distribute surveys to unlicensed anglers. The FES response rate is three times better than the landline survey and contains more complete information, resulting in improved recreational data.

The new FES and state conduct of APAIS represent a major step forward for recreational fisheries data collection. As with most scientific advances, progress is accompanied by new and unexpected challenges. In this case, increased accuracy and response rates have, for some species, produced harvest estimates that are many times higher than previously estimated. These discrepancies are more pronounced in recent years (2015-2017) and in fisheries with a large shore-based component. On the Atlantic coast, new FES estimates for private boats are about two times higher overall, and shore fishing estimates are 4.5 times higher overall. Red drum, striped bass, tautog and bluefish are among the ASMFC-managed species with the most notable impacts.

The full impact of increased FES estimates will not be completely understood for several years until benchmark stock assessments are conducted for each species. Atlantic striped bass and summer flounder, both of which have upcoming benchmark stock assessments, will be among the first two species for which population estimates and management decisions will be made using the calibrated MRIP data. Release of these assessments early next year will set the stage for discussions on the species' future management, including possible changes in biological reference points for striped bass and possible allocation adjustments for summer flounder.

While the new recreational catch and effort estimates may lead to difficult discussions ahead regarding changes in stock status and catch histories, the improved accuracy of the information can only contribute to better informed management decisions.

# Species Profile: Horseshoe Crab

## Bait, Birds and Biomedical: A Glimpse into the World of Horseshoe Crabs

### Introduction

Horseshoe crabs provide the backdrop for one of the most interesting marine resource management issues along the Atlantic coast. An ecologically important species, horseshoe crab eggs are a primary food source for red knots, a shorebird that is near threatened under the Endangered Species Act (ESA), as they pass through the Delaware Bay on their long migration from South America to the Arctic. Also economically important, horseshoe crabs provide bait for commercial American eel and conch fisheries along the coast. Their bright blue blood is also used by the biomedical industry to produce Limulus Amoebocyte Lysate (LAL), an important tool for detecting contaminants in medical devices and drugs. The challenge for fisheries managers is to ensure that horseshoe crabs are managed to meet all these diverse needs, while conserving the resource for future generations.

### Life History

Horseshoe crabs are a marine arthropod found along the Atlantic coast from northern Maine to the Yucatan Peninsula and the Gulf of Mexico. Adults either remain in estuaries or migrate to the continental shelf during the winter months. Migrations resume in the spring when the horseshoe crabs move to beach areas to spawn. Juveniles hatch from the beach environment and spend their first two years in nearshore areas before moving further offshore.

Spawning usually coincides with the high tide during the full and new moon. Breeding activity is consistently higher during a full moon and is also greater during the night. Adults prefer sandy beach areas within bays and coves that are protected from surf. Eggs are laid in clusters or nest sites of about 4,000 eggs each along the beach with females laying approximately 90,000 eggs per year in different egg clusters (although only about ten eggs per breeding female will reach adulthood).

The eggs play an important ecological role in the food web for migrating shorebirds. The Delaware Bay Estuary is the largest staging area for shorebirds in the Atlantic Flyway. Up to one million migratory shorebirds converge on the Delaware Bay each year to feed and rebuild energy reserves prior to completing their northward migration, including approximately 90% of the ESA-listed red knot population (about 24,000 birds). It is estimated that red knots need to double their mass (by consuming a diet of mostly horseshoe crab eggs) before they have sufficient fuel to complete the journey north to the Arctic.

### Commercial Fisheries & Biomedical Harvest

From the 1850s to the 1920s, between 1.5 and two million horseshoe crabs were harvested annually for fertilizer and livestock feed. Harvest dropped throughout the 1950s and ceased in the 1960s. Between 1970 and 1990, reported commercial harvest ranged from less than 20,000 pounds to greater than two million pounds annually. Since the mid- to late 1990s, commercial harvest has been sold primarily as bait for the American eel and whelk pot fisheries. Increased need for bait in the whelk fishery likely caused an increase in horseshoe crab harvest in the 1990s, with a peak of nearly six million pounds in 1997. Reported coastwide bait landings in 2016 remained well below the coastwide quota at 787,223 crabs.

Commercial fishermen have adopted new gear such as bait bags and cups allowing them to effectively catch eel and conch while using as little as a tenth of the previous portion of bait per pot. The majority of horseshoe crab harvest comes from the Delaware Bay Region, followed by the New York, New England, and the Southeast regions. Trawls, hand harvests and dredges make up the bulk of commercial horseshoe crab bait landings. Discard mortality occurs in various dredge fisheries and may vary seasonally with temperature, impacting both mature and immature horseshoe crabs; however, the actual rate of discard mortality is unknown.

Horseshoe crabs are also collected by the biomedical industry to support the production of LAL, a clotting agent that aids in the

### Species Snapshot



#### Horseshoe Crab

*Limulus polyphemus*

#### Taxonomy:

- Horseshoe crabs are in the taxonomic class Merostomata, which means "legs attached to mouth"
- Their scientific name "polyphemus" alludes to a one-eyed giant in Greek mythology, due to the fact that people thought they only had one eye (they actually have ten).

#### Interesting Facts

- Horseshoe crabs have existed for nearly 450 million years, predating flying insects, dinosaurs and humans.
- There are 4 living species of horseshoe crabs: one inhabits the Eastern and Gulf coasts of North America, while the other three are found in Southeast Asia.
- Horseshoe crabs are more closely related to spiders, ticks and scorpions than they are to true crabs. Like other arthropods, they have a hard shell, or exoskeleton, a segmented body and jointed legs.
- Horseshoe crabs use their tails primarily to flip themselves upright if they are overturned.
- They feed by crushing up food, such as mollusks and worms, between their legs before passing the food to their mouths.

#### Stock Status:

Unknown

detection of human pathogens in patients, drugs, and intravenous devices. Blood is obtained by collecting adult horseshoe crabs and extracting a portion of their blood. Most crabs collected and bled by the biomedical industry are, as required by the FMP, released alive to the water from which they were collected; however, a portion of these crabs die from the procedure. Crabs harvested for bait are sometimes bled prior to being processed and sold by the bait industry; these crabs are counted against the bait quota. Biomedical use has increased since 2004, when reporting began, but has been fairly stable in recent years with an estimated 426,195 crabs brought to biomedical facilities in 2016. The Horseshoe Crab Management Board continues to collaborate with the biomedical industry to find ways to incorporate biomedical data into a regional stock assessment.

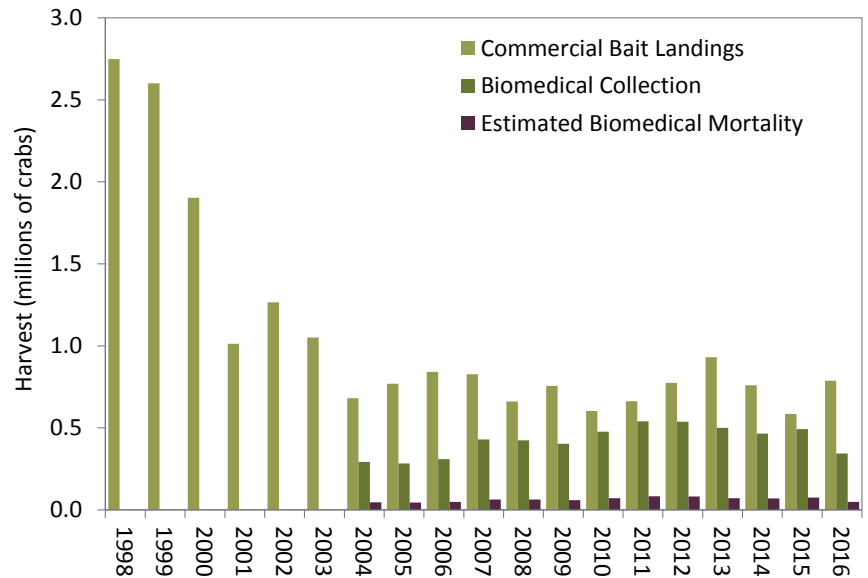
### Stock Status

The status of the stock is unknown largely due to the lack of long-term data sets for commercial landings and stock abundance. However, the 2013 stock assessment update indicates horseshoe crab abundance has increased in the Southeast (North Carolina through Florida) and remains stable in the Delaware Bay region (New Jersey through coastal Virginia). The New York and New England regions continue to see a decrease in abundance.

*continued, see SPECIES PROFILE on page 14*

### Horseshoe Crab Bait Landings and Biomedical Collection

Source: ASMFC State Compliance Reports, 2017



Please note the following details regarding biomedical collection numbers:  
 \* Biomedical collection numbers, which are annually reported to the Commission, include all horseshoe crabs brought to bleeding facilities except those that were harvested as bait and counted against state quotas.  
 \* Most of the biomedical crabs collected are returned to the water after bleeding; a 15% mortality rate is estimated for all bled crabs.

Timeline of Management Actions: FMP ('98); Addendum I ('00); Addendum II ('01); Addendum III ('04); Addendum IV ('06); Addendum V ('08); Addendum VI ('10); Addendum VII ('12)

## Essential Horseshoe Crab Trawl Survey Receives Needed Boost from Mid-Atlantic Congressmen & NOAA Fisheries

The Mid-Atlantic Horseshoe Crab Trawl Survey, administered by Virginia Tech since 2002, is the only survey designed to sample the horseshoe crab population in coastal waters. Its geographic scope is broad, covering the Atlantic coast from Atlantic City, New Jersey to Wachapreague, Virginia and also the lower Delaware Bay. It provides the data that allow fishery managers and scientists to optimize Delaware Bay harvest levels for the economic, ecological, and biomedical uses of horseshoe crabs.

The survey is the single most important data source to sustainable horseshoe crab management along the Atlantic coast because of its critical role in the horseshoe crab stock assessment and the Adaptive Resource Management (ARM) framework applied in the Delaware Bay region (New Jersey-Virginia). The ARM framework includes modeling that links management of horseshoe crab harvest to multispecies objectives, particularly to demographic recovery of near threatened red knots. The ARM was developed jointly by the Commission, U.S. Fish and Wildlife Service, and U.S. Geological Survey in recognition of the importance of horseshoe crab eggs to migratory shorebirds stopping over in the Delaware Bay region.

Unfortunately, the Trawl Survey was a casualty of federal cost cutting measures in the early 2010s. From 2011 to 2013, the biomedical and commercial fishing industries provided limited funding for increasingly smaller scale surveys and the survey did not occur at all in 2014 and 2015. The quality of fisheries assessments are highly dependent upon a consistent time-series in order to track abundance over time. As such, the 2011 to 2015 data gap is a major setback for horseshoe crab management and those who depend upon it.

*continued, see TRAWL SURVEY on page 7*

## Public Comment Guidelines

With the intent of developing policies in the Commission's procedures for public participation that result in a fair opportunity for public input, the ISFMP Policy Board has approved the following guidelines for use at management board meetings:

For issues that are not on the agenda, management boards will continue to provide opportunity to the public to bring matters of concern to the board's attention at the start of each board meeting. Board chairs will use a speaker sign-up list in deciding how to allocate the available time on the agenda (typically 10 minutes) to the number of people who want to speak.

For topics that are on the agenda, but have not gone out for public comment, board chairs will provide limited opportunity for comment, taking into account the time allotted on the agenda for the topic. Chairs will have flexibility in deciding how to allocate comment opportunities; this could include hearing one comment in favor and one in opposition until the chair is satisfied further comment will not provide additional insight to the board.

For agenda action items that have already gone out for public comment, it is the Policy Board's intent to end the occasional practice of allowing extensive and lengthy public comments. Currently, board chairs have the discretion to decide what public comment to allow in these circumstances.

In addition, the following timeline has been established for the submission of written comment for issues for which the Commission has NOT established a specific public comment period (i.e., in response to proposed management action).

1. Comments received 3 weeks prior to the start of a meeting week will be included in the briefing materials.
2. Comments received by 5:00 PM on Tuesday, October 16, 2018 will be distributed electronically to Commissioners/Board members prior to the meeting and a limited number of copies will be provided at the meeting.
3. Following Tuesday, October 16, 2018 5:00 PM deadline, the commenter will be responsible for distributing the information to the management board prior to the board meeting or providing enough copies for management board consideration at the meeting (a minimum of 50 copies).

The submitted comments must clearly indicate the commenter's expectation from the ASMFC staff regarding distribution. As with other public comment, it will be accepted via mail, fax, and email.

ANNUAL MEETING PRELIMINARY AGENDA continued from page 1

### **1:30 – 3:30 p.m. Atlantic Herring Section**

- Review 2018 Atlantic Herring Benchmark Assessment Peer Review Report
  - Review and Consider Approval of Benchmark Stock Assessment and Peer Review Report for Management Use
- Review and Discuss White Paper on Atlantic Herring Spawning Protections
- Update on 2019-2021 Fishery Specifications Process
- Set 2019 Specifications for Area 1A
- Review and Populate Atlantic Herring Advisory Panel

### **3:45 – 4:45 p.m. American Eel Management Board**

- Presentation on Convention on International Trade in Endangered Species Workshop and Discuss Next Steps
- Consider Approval of 2018 Fishery Management Plan Review and State Compliance Reports

### **6:30 – 8 p.m. Welcome Reception**

**TUESDAY, OCTOBER 23**

### **8 – 10:15 a.m. Strategic Planning Workshop**

#### **10:15 – 11:15 a.m. Business Session**

- Review and Consider Approval of the 2019 Action Plan
- Elect Chair and Vice-Chair

#### **11:30 a.m. – 12:30 p.m. Coastal Sharks Management Board**

- Review and Consider Addendum V for Final Approval
- Review Proposed 2019 Coastal Sharks Fishery Specifications
- Consider Approval of 2018 Fishery Management Plan Review and State Compliance Reports

#### **12:30 – 5 p.m. Law Enforcement Committee**

- Review 2018 Action Plan and New Tasks for 2019
- Progress Report on Enforcement of the Offshore American Lobster Fishery
- Update on American Eel Addendum V and State Aquaculture Proposals
- Review Federal Transit Zone Proposal for Striped Bass in Block Island Sound
- Review Transit Zone Proposal for Summer Flounder, Scup, and Black Sea Bass
- Review Tautog Commercial Tagging Program
- Review ASMFC Managed Species
- Review Ongoing Enforcement Issues (Closed Session)
- Federal and State Agency Reports

#### **1:30 – 2:30 p.m. Spiny Dogfish Management Board**

- Review 2018 Stock Assessment Update
- Set Spiny Dogfish 2019-2021 Fishery Specifications
- Discuss Adjustments to Federal Commercial Trip Limit
- Consider Approval of 2018 Fishery Management Plan Review and State Compliance Reports

#### **2:45 – 4 p.m. Atlantic Striped Bass Management Board**

- Review Advanced Notice of Proposed Rulemaking Regarding Lifting the Ban on Atlantic Striped Bass Fishing in the Federal Block Island Sound Transit Zone

- Update on North Carolina Cooperative Winter Tagging Program
- Progress Update on the Benchmark Stock Assessment

**6:15 – 9 p.m. Annual Dinner**

**WEDNESDAY, OCTOBER 24**

**8 – 10 a.m. Executive Committee**

- Consider Approval of FY18 Audit
- Discuss Priorities for Use of Plus-up Funding
- Consider Changes to the Appeals Process
- Appointment of Aquaculture Committee
- Report from the Awards Committee

**8:30 a.m. – Noon Law Enforcement Committee (continued)**

**10:15 – 11 a.m. Weakfish Management Board**

- Review Technical Committee Report on Commercial Discards
- Consider Approval of 2018 Fishery Management Plan Review and State Compliance Reports
- Elect Vice-Chair

**11:15 a.m. – 12:15 p.m. Horseshoe Crab Management Board**

- Set 2019 Delaware Bay Horseshoe Crab Fishery Specifications
- Progress Update on the Horseshoe Crab Benchmark Stock Assessment
- Consider Approval of 2018 Fishery Management Plan Review and State Compliance Reports
- Elect Vice-Chair

**12:15 – 1:30 p.m. Captain David H. Hart Award Luncheon**

**1:30 – 3:30 p.m. Summer Flounder, Scup, and Black Sea Bass Management Board**

- Consider Approval of Draft Addendum XXXII (2019 Black Sea Bass and Summer Flounder Recreational Management) for Public Comment
- Progress Update on Black Sea Bass Commercial Working Group

**3:45 – 4:45 p.m. Atlantic Coastal Cooperative Statistics Program Coordinating Council**

- Program/Committee Updates
- Progress Report on SAFIS Redesign
- Consider Recommendations of FY2019 Submitted Proposals
- Clarify Funding Decision Process
- Discuss Formation of Data Reporting Committee on Data Accountability

**THURSDAY, OCTOBER 25**

**8 – 9 a.m. Tautog Management Board**

- Progress Update on Development of the Commercial Harvest Tagging Program
- Technical Committee Report on Biological Sampling Requirements
- Consider Approval of 2018 Fishery Management Plan Review and State Compliance Reports

*continued, see ANNUAL MEETING PRELIMINARY AGENDA on page 13*

*TRAWL SURVEY continued from page 5*

By 2015, concern on Capitol Hill spurred action within the Mid-Atlantic delegation and appropriators subsequently restored the funding for the survey to resume in the fall of 2016. In every fiscal year since then, both the U.S. House of Representatives and Senate have used the annual appropriations bill funding NOAA Fisheries to encourage the agency to fund the survey. In turn, NOAA Fisheries has been enthusiastic in providing the needed resources to conduct the survey annually.

The efforts by Congress, NOAA Fisheries, and the states are paying dividends already. The new data collected in 2016, 2017, and 2018 have been essential to the benchmark assessment that is currently underway, allowing the use of more sophisticated models for the Delaware Bay population than any previous horseshoe crab assessment. However, the data shortfalls from 2011 through 2015 continue to challenge the Horseshoe Crab Stock Assessment Subcommittee, in large part because the most recent continuous time series of data (2016-2018) is less than the 10 years needed for horseshoe crabs to mature and reproduce. Continuation of the survey is expected to be the top recommendation of the Horseshoe Crab Technical Committee when the benchmark assessment approved.

Earlier this year, three Senators and six Representatives requested that NOAA Fisheries incorporate the survey into the agency's annual budget. This long-term funding solution would ensure the resources are in place for the survey for years to come. We are deeply grateful for the support of Senators Chris Coons (D-DE), Tom Carper (D-DE), Cory Booker (D-NJ); and Representatives Frank Pallone (D-NJ), Frank LoBiondo (R-NJ), Lisa Blunt-Rochester (D-DE), Donald Norcross (D-NJ), Chris Smith (R-NJ), and Bill Pascrell (D-NJ) for their help in restoring the Trawl Survey and their dedication to the sustainable management of this important resource.



*Molting juvenile. Photo (c) Derek Perry, MA DMF*

# Fishery Management Actions

## American Eel

In August, the American Eel Management Board approved Addendum V to the Interstate Fishery Management Plan for American Eel. The Addendum increases the yellow eel coastwide cap starting in 2019 to 916,473 pounds. This modest increase in the cap (less than 1%) reflects a correction in the historical harvest. Further, the Addendum adjusts the method (management trigger) to reduce total landings to the coastwide cap when the cap has been exceeded and removes the implementation of state-by-state allocations if the management trigger is met. Lastly, the Addendum maintains Maine's glass eel quota of 9,688 pounds.

The Addendum responds to concerns about the previous Addendum's (IV) yellow eel management triggers given the timing and precision of landings data and the challenges of state-by-state quota management. Under Addendum IV, management action would have been triggered when (1) the coastwide cap is exceeded by more than 10% in a given year; or (2) the coastwide cap is exceeded in two consecutive years, regardless of the percent overage. If either of these triggers had been met, state-by-state quotas would have been required to be implemented.

Under Addendum V, management action will now be initiated if the yellow eel coastwide cap is exceeded by 10% in two consecutive years. If the management trigger is exceeded, only those states accounting for more than 1% of the total yellow eel landings will be responsible for adjusting their measures. A workgroup will be formed to define the process to equitably reduce landings among the affected states when the management trigger has been met.

The Board slightly modified the glass eel aquaculture provisions, maintaining the 200 pound limit for glass eel harvest but modifying the criteria for evaluating the proposed harvest area's contribution to the overall population consistent with the recommen-

dations of the Technical Committee. Under the revised provisions, the Board approved Maine's glass eel aquaculture proposal for the 2019 fishing season, allowing for an additional 200 pounds of glass eels to be harvested for development in domestic aquaculture facilities. This amount is in addition to Maine's glass eel quota.

The implementation date for Addendum V is January 1, 2019. For more information, please contact Kirby Rootes-Murdy, Senior Fishery Management Plan Coordinator, at [krootes-murdy@asmfc.org](mailto:krootes-murdy@asmfc.org) or 703.842.0740.

## Summer Flounder, Scup, Black Sea Bass and Bluefish

At their joint meeting in August, the Commission and the Mid-Atlantic Fishery Management Council (Council) reviewed previously approved specifications for scup and established new specifications for black sea bass, bluefish, and summer flounder fisheries. The Commission also approved Draft Addendum XXXI for public comment and agreed to provide the states the opportunity to open their black sea bass recreational fisheries in February 2019.

Catch and landings limits for the summer flounder, scup, black sea bass, and bluefish fisheries were established for 2019 only. The Commission's actions are final and apply to state waters (0 – 3 miles from shore). The Council will forward its recommendations for federal waters (3 – 200 miles from shore) to NOAA Fisheries' Greater Atlantic Regional Fisheries Administrator for final approval. The table below summarizes commercial quotas and recreational harvest limits (RHL) for summer

flounder, scup, black sea bass, and bluefish (2018 values are provided for comparison purposes).

### Summer Flounder

For summer flounder, the Commission and Council received a data update, including catch, landings, and survey indices through 2017, and stock projections for 2019. Taking into consideration the data update and model-projected increases in spawning stock biomass, the Commission and Council approved, on an interim basis, a commercial quota of 7.72 million pounds (16% increase from 2018) and RHL of 5.15 million pounds for 2019 (16% increase from 2018). Both the commercial quota and RHL may be changed in early 2019 pending the results of the upcoming benchmark stock assessment.

### Scup

For scup, the Commission and Council received a data update, including catch, landings, and survey indices through 2017. The update indicates biomass continues to be high, and the 2015 year class appears to be above average. In response, the Commission and Council maintained the previously implemented multi-year specifications set in August 2017. For 2018 and 2019, the commercial quota is 23.98 million pounds and the RHL is 7.37 million pounds. The Commission and Council also adjusted the incidental possession limit for the commercial fishery to 2,000 pounds during April 15 – June 15 (see table on next page).

The adjustment was considered based on a proposal submitted by Massachusetts and Rhode Island to address discards of scup in the inshore spring longfin squid

Species	Year	Commercial Quota (millions of pounds)	Commercial Minimum Fish Size (TL)	Commercial Diamond Mesh Size	Recreational Harvest Limit (millions of pounds)
Summer Flounder	2018	6.63	14"	5.5"	4.42
	2019	7.72	14"	5.5"	5.15
Scup	2018	23.98	9"	5"	7.37
	2019	23.98	9"	5"	7.37
Black Sea Bass	2018	3.52	11"	4.5"	3.66
	2019	3.14	11"	4.5"	3.27
Bluefish	2018	7.24	N/A; contact state for regulations		11.58
	2019	7.71	N/A; contact state for regulations		11.62



fishery. The incidental possession limit applies to vessels with commercial scup permits fishing with nets with diamond mesh smaller than 5 inches in diameter (there is no separate incidental permit for scup).

Note that during the summer quota period (May 1 - September 30), a state possession limit for directed trips may supersede the incidental possession limit.

**Black Sea Bass**

For black sea bass, the Commission and Council received a data update, including catch, landings, and survey indices through 2017. The update indicates biomass continues to be high, and the 2015 year class appears to be above average. The Commission and Council established, on an interim basis, a 3.14 million pound commercial quota and a 3.27 million pound RHL for 2019. Both values are a slight increase from those recommended by the Monitoring Committee due to a change in the calculation of discards. Both the commercial quota and RHL may be changed in early 2019 pending the results of the upcoming operational stock assessment update.

**Black Sea Bass Wave 1 Fishery and LOA Program**

The Commission and Council considered

**2018 and 2019 Scup Incidental Possession Limits for Permitted Vessels Fishing with Diamond Mesh Nets <5"**

	Winter I				Summer					Winter II		
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
2018	1,000 pounds				200 pounds					1,000 pounds		
2019	1,000 pounds				2,000 pounds		200 pounds			1,000 pounds		

opening a 2019 black sea bass recreational fishery in wave 1 (January-February). In 2017, the Commission and Council agreed to open a recreational fishery in February 2018, and to continue development of a letter of authorization (LOA) program for possible implementation in 2019. For 2019, the Commission and Council approved a February fishery with a management program similar to that used in 2018. The 2019 wave 1 fishery will be open from February 1-28 with a 15 fish possession limit and a 12.5 inch minimum size limit for states that choose to participate in the fishery. All participating states are required to adjust their 2019 recreational management measures to account for their wave 1 harvest. The Commission and Council suspended further development of a LOA program.

**Bluefish**

For bluefish, the Commission and Council received a data update, including catch, landings, and survey indices through 2017. The update indicates all survey indices except one showed a decrease from 2016

values. The Commission and Council approved a 7.71 million pound commercial quota and an 11.62 million pound RHL. The final 2019 harvest limits include a transfer of up to 4 million pounds from the recreational to the commercial sector, which generally reflects the distribution of recreational and commercial landings in 2017. The 2019 commercial quota and RHL are preliminary and will likely change following the release of 2018 final Marine Recreational Information Program harvest estimates. These estimates can impact how much is transferred from the recreational sector to the commercial sector. An operational assessment is scheduled for 2019.

For more information about summer flounder or scup, please contact Kirby Rootes-Murdy, Senior FMP Coordinator, at [krootes-murdy@asmfc.org](mailto:krootes-murdy@asmfc.org). For more information about black sea bass or bluefish, please contact Caitlin Starks, FMP Coordinator, at [cstarks@asmfc.org](mailto:cstarks@asmfc.org).



### Effects of Biomedical Bleeding on the Behavior and Physiology of Horseshoe Crab

Each year, approximately 550,000 horseshoe crabs (*Limulus polyphemus*) are captured and a portion of their blood withdrawn to make *Limulus* Amebocyte Lysate (LAL). LAL is a substance essential to ensuring the sterility of many medical products implanted or injected into humans each year. During the bleeding process, horseshoe crabs are transported to bleeding facilities, up to 30% of their blood is extracted, and then they are returned to the ocean.

Several published studies, along with other graduate theses and technical reports, have estimated how much mortality occurs during the collection and bleeding process. Methods vary among these studies, as well as among biomedical bleeding facilities; thus, values estimated in the studies are not necessarily reflective of the mortality rate for a given bleeding facility. The Commission's annual review of the fishery currently assumes a 15% mortality rate for all bled crabs, derived as an approximate midpoint of estimates from mortality studies. This rate is being further evaluated through a new benchmark stock assessment, scheduled for completion in 2019. A set of best management practices was developed in 2011 by members of the biomedical industry and has been used since then as a standard to minimize biomedical mortality ([http://www.asmfc.org/uploads/file/biomedAd-HocWGRpt\\_Oct2011.pdf](http://www.asmfc.org/uploads/file/biomedAd-HocWGRpt_Oct2011.pdf)).

A more recent study funded by New Hampshire Sea Grant and conducted by researchers at the University of New Hampshire (UNH) and Plymouth State University has shown that bled animals also exhibit significant behavioral and physiological changes that may affect their survival and ability to spawn. While specific details of horseshoe crab handling and bleeding procedures are limited and vary among facilities, the animals appear to be exposed in some capacity to three primary stressors that may be responsible for the

negative impacts of the bleeding process: warm temperatures and air exposure that occur primarily during transportation to and from the bleeding facilities, and the blood loss itself.

One of the goals of the UNH/Plymouth State research has been to determine the relative impacts of each of the stressors on the physiology and behavior of horseshoe crabs. The researchers collected crabs in the Great Bay Estuary, New Hampshire, exposed them to different combinations of air exposure, heat, and bleeding, and then measured changes in both their activity



X-ray image of two horseshoe crabs showing the difference in the distribution of blood between a bled crab (left) and an unbled crab (right). Photo (c) Seth Doane, Southern Maine Community College; Steve Jury, Saint Joseph's College; and Meghan Owings, UNH

and blood hemocyanin levels. Hemocyanin is an important respiratory pigment, similar to our hemoglobin, with additional immunological and other functions. The study revealed:

1. The full bleeding process has larger negative impacts than blood loss alone.
2. After bleeding, many animals are less

active, their hemocyanin levels drop, and such effects last for weeks.

3. Mortality tends to occur in animals that have the lowest hemocyanin levels before they are bled.
4. There are large seasonal changes in hemocyanin levels, with low values in the spring and early summer, and higher values in the late summer and fall.

Thus, the study demonstrated additional sublethal impacts of the bleeding procedure which warranted further investigation of the overall effects on animals in the field.

To examine effects in the field, the research team fitted horseshoe crabs with acoustic tags that transmitted depth and acceleration data and released them back into their natural habitat. Animals that had been exposed to the full bleeding procedure, as well as a control group of crabs not bled, were tagged and released. Importantly, during the first few weeks of the mating season it appeared as if bled animals approached beaches to mate less often than controls, especially females. However, after that time, both groups of horseshoe crabs appeared to display similar daily and tidal rhythms of activity and seasonal migrations.

Study findings support continued implementation of several of the best practices established in 2011. These include practices that keep crabs from overheating and allow them to breathe, such as collecting at night, controlling temperature during transport, minimizing transport time, keeping crabs wet and covered throughout their time out of the ocean, and minimizing overall time out of the ocean. This work also supports the best practice that unhealthy individuals should be returned to the water immediately upon collection

*continued, see SCIENCE HIGHLIGHT on page 15*

## ACCSP Well Represented at AFS Annual Meeting

ACCSP sent its largest ever contingent to the American Fisheries Society (AFS) Annual Meeting held in Atlantic City, NJ this past August, indicative both of the growing interest in fisheries data technology and ACCSP's strong reputation for innovation in the field. At talks held throughout the week, four ACCSP staff members discussed novel approaches used by ACCSP to improve fisheries data collection and management.

ACCSP Data Team Lead Julie Defilippi Simpson kicked off the fisheries data discussion with her symposium entitled *Data Management for Dissemination and Data Visualization*. The symposium brought together speakers from all over North America to discuss data management best practices and visualization techniques that can help fisheries data managers communicate complex data in engaging and accessible ways.

This symposium included three presentations from ACCSP staff. Recreational Data Coordinator Alex DiJohnson discussed the development and implementation of ACCSP's Assignment Tracking Application, a centralized and highly dynamic events calendar created to display and disseminate project information for the Access Point Angler Intercept Survey (APAIS). The application's real time scheduling updates, visual cues, tiered user privileges, and the consolidation of complex survey components have helped improve communication and coordination among survey field staff, supervisors, and ACCSP data coordinators. This improvement is reflected in state partner feedback.

Ms. Simpson's presentation centered on optimizing database structures to enhance database performance. She provided examples of how ACCSP uses views, indexes, and partitions to organize



the approximately 72 million rows of landings data contained within its Data Warehouse. These structures enable faster queries of large datasets, maximizing utility and performance for the user. Senior Data Coordinator Joe Myers then explained how ACCSP uses Oracle Application Express to manage data accessibility in the Data Warehouse. The free tools provided by Oracle APEX allow ACCSP to streamline and simplify processes for user authentication, security, report generation, and data visualization. Mr. Myers demonstrated how ACCSP uses these tools in its Data Warehouse to provide different user groups with access to comprehensive commercial and recreational fisheries data on the Atlantic coast.

ACCSP staff also participated in the planning and execution of the Electronic Reporting to Improve Catch Monitoring in Recreational Fisheries symposium, a three-part symposium chaired by NOAA Fisheries' Brett Alger designed to explore new technologies for recreational catch reporting and the challenges to their implementation.

ACCSP Recreational Program Manager Geoff White gave two talks pertaining to for-hire logbooks. His first presentation, Atlantic For-Hire eLogbooks: Many Agencies, One Report, discussed collaborative efforts to adopt electronic reporting for federal for-hire fisheries in the Atlantic and Gulf of Mexico. Agencies are working together to develop an approach that will

minimize redundant for-hire trip reporting by sharing data among authorized partners. ACCSP's SAFIS database provides the central component for supporting this multi-agency reporting infrastructure.

In Use of APAIS Intercepts to Validate For-Hire Logbooks: Opportunities to Estimate Both Effort and Catch, Mr. White discussed how for-hire logbooks—which may be prone to under-reporting and mis-reporting—could be validated by matching them to dockside intercepts. ACCSP worked with NOAA MRIP and the South Carolina Department of Natural Resources on a project to develop and evaluate methods for validating South Carolina for-hire logbook reports by matching them to dockside intercepts. Using a capture-recapture approach, the project demonstrated that APAIS intercepts are a viable option for validating charter logbooks, which would allow the data to be used in estimating both effort and catch.

In addition to participation in AFS symposia, ACCSP staff hosted a booth at the AFS tradeshow to exhibit several of its data technologies. Attendees were particularly interested in the Data Warehouse and ACCSP's partnership approach to data collection.

ACCSP would like to thank the American Fisheries Society and the Planning Committee for all of their hard work in putting together this year's meeting.



ACCSP is a cooperative state-federal program focused on the design, implementation, and conduct of marine fisheries statistics data collection programs and the integration of 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 Atlantic States Marine Fisheries Commission, the three Atlantic fishery management councils, the 15 Atlantic states, the Potomac River Fisheries Commission, the D.C. Fisheries and Wildlife Division, NOAA Fisheries, and the U.S. Fish & Wildlife Service. For further information please visit [www.accsp.org](http://www.accsp.org).

# Proposed Management Actions

## Summer Flounder, Scup and Black Sea Bass

The Commission and Mid-Atlantic Fishery Management Council (Council) jointly approved for public comment alternatives included in the Council's Framework and Commission's Draft Addendum XXXI. Both documents propose options for conservation equivalency for black sea bass and summer flounder, and transit provisions for summer flounder, scup, and black sea bass for Block Island Sound. The Council's Framework also addresses the use of slot limits for all three species in federal waters. The transit provision options include two alternative transit areas that could apply to recreational fisheries only, or both commercial and recreational fisheries for all three species, depending on the alternatives selected. The transit areas could also apply to differences in state and federal seasons, minimum fish sizes, and/or possession limits, depending on the alternatives selected. The Commission will issue a press release on Draft Addendum XXXI's availability for public comment and scheduled public hearings once the hearings have been finalized.

### Summer Flounder

The Commission and Council are soliciting public input on a draft amendment to address several potential changes to the management of the commercial summer flounder fishery, as well as modifications to the fishery management plan (FMP) goals and objectives for summer flounder. Ten public hearings were held between September 10 and September 27. Written comments will be accepted through October 12, 2018.

The specific issues under consideration in this amendment include:

1. Re-qualifying criteria for federal commercial moratorium permits to address latent effort in the fishery: The amendment includes options to reduce the number of eligible commercial federal moratorium permits by implementing re-qualifying criteria for existing permits.
2. Modifying commercial quota allocation: The amendment proposes several options for revising the current

commercial allocation to the states, which has been in place since 1993 and is based on average landings from 1980-1989.

3. Adding commercial landings flexibility as a framework issue in the Council's FMP: This action does not consider implementing landings flexibility policies at this time but considers allowing the Council to implement landings flexibility through a future framework action instead of an amendment. The Commission's adaptive management process already allows for landings flexibility.
4. Revising the FMP objectives for summer flounder: This amendment proposes revisions to the current FMP objectives for summer flounder management to provide more meaningful and up-to-date guidance to managers.

Additional information about the amendment and the management alternatives being considered can be found on the Council's website at [www.mafmc.org/actions/summer-flounder-amendment](http://www.mafmc.org/actions/summer-flounder-amendment) and on the Commission's website at <http://www.asmfc.org/about-us/public-input>.

Given the joint nature of this management effort and to streamline the public comment process, comments should be directed to Council contact information below. You may submit written comments by 11:59 PM, Eastern Time, on Friday, October 12, 2018. Written comments may be sent by any of the following methods:

1. ONLINE: [www.mafmc.org/comments/summer-flounder-amendment](http://www.mafmc.org/comments/summer-flounder-amendment)
2. EMAIL: [nmfs.flukeamendment@noaa.gov](mailto:nmfs.flukeamendment@noaa.gov)
3. MAIL OR FAX to:  
Chris Moore, Ph.D., Executive Director  
Mid-Atlantic Fishery Management Council  
North State Street, Suite 201  
Dover, DE 19901  
FAX: 302.674.5399

Please include "Summer Flounder Commercial Issues Amendment Comments" in the subject line if using email or on the outside of the envelope if submitting

written comments by mail. All comments, regardless of submission method, will be compiled into a single document for review and consideration by both the Council and Commission. Please do not send separate comments to the Council and Commission.

## Coastal Sharks

The Commission's Coastal Sharks Management Board is seeking public comment on Draft Addendum V to the Interstate Fishery Management Plan (FMP) for Atlantic Coastal Sharks for public comment. The Draft Addendum proposes options to allow the Board to streamline the process of state implementation of shark regulations so that complementary measures are seamlessly and concurrently implemented at the state and federal level whenever possible.

The FMP currently allows for commercial quotas, possession limits, and season dates to be set annually through Board approved specifications. All other changes to commercial or recreational management can only be accomplished through an addendum or emergency action. While addenda can be completed in a relatively short period of time, the timing of addenda and state implementation can result in inconsistencies between state and federal shark regulations, particularly when NOAA Fisheries adopts changes through interim emergency rules. The only option for the Board to respond quicker than an addendum is through an emergency action, which has a set of criteria that are rigorous and often not met, making it rarely used to enact regulatory changes. The Draft Addendum seeks to provide the Board more flexibility in responding to changes in the fishery for shark species managed under the FMP.

Fishermen and other interested groups are encouraged to provide input on Draft Addendum V. The Draft Addendum is available at [http://www.asmfc.org/files/PublicInput/CoastalSharksDraftAddendumV\\_PublicComment\\_Aug2018.pdf](http://www.asmfc.org/files/PublicInput/CoastalSharksDraftAddendumV_PublicComment_Aug2018.pdf) and can also be

*continued, see PROPOSED MANAGEMENT ACTIONS on page 16*

**9:15 – 11:00 a.m. Interstate Fisheries Management Program Policy Board**

- Update from the Executive Committee
- Progress Update on Risk and Uncertainty Workgroup
- Review Recommendations of the October 2019 Atlantic Large Whale Take Reduction Team Meeting and Possible Impact to Commission Species
- Review and Consider Approval of the Stock Assessment Schedule
- Update on the Northeast Area Monitoring and Assessment Program
- Standing Committee Reports
  - Atlantic Coastal Fish Habitat Partnership
  - Law Enforcement Committee
- Consider Noncompliance Recommendations (If Necessary)

**11:00 – 11:15 a.m. Business Session**

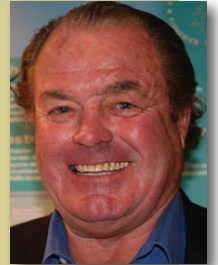
- Review Noncompliance Findings (If Necessary)

**11:30 a.m. – 1:00 p.m. South Atlantic State/Federal Fisheries Management Board**

- Review Public Comment Summary for Cobia Draft Amendment 1 Public Information Document
- Provide Guidance to the Cobia Plan Development Team on Options for Inclusion in Draft Amendment 1
- Consider Approval of 2018 Fishery Management Plan Reviews and State Compliance Reports for Black Drum, Spotted Seatrout, and Spanish Mackerel

## In Memoriam

Dr. Lance Lee Stewart, 75, esteemed marine biologist and professor at the University of Connecticut (UConn) whose extensive scientific research into the ecology of the New England lobster population from the mid 1960s to present day, died on Wednesday, August 29, 2018, at Yale-New Haven Hospital.



Dr. Stewart was born March 25, 1943 to Alanson E. Stewart Jr. and Alice D. Stewart of Coventry. He grew up in the countryside of Coventry and was an avid hunter and fisherman. Dr. Stewart attended Manchester High School where he excelled in the swimming and wrestling programs. In 1965, he graduated from Tufts University where he received his bachelor's degree in biochemistry. In 1966, Dr. Stewart started the Marine Science Program for UConn in Noank with a focus on lobster studies, earning his master's degree and Ph.D. in marine zoology. He has been an integral part of marine sciences for more than 50 years.

Dr. Stewart was appointed to the Commission as Connecticut's Governor Appointee in 1995. He was one of the founding members of the Habitat Committee and served on several northern species boards, as well as ACCSP's Biological Review Panel Committee. He established the Sea Grant Marine Advisory Service at UConn in 1974 and served as its director from 1979 to 1985. In 1985, he was instrumental in establishing NOAA's National Undersea Research Center at UConn, Avery Point, and served as science director for the program until 1994.

His teaching expertise included marine ecology, aquaculture, environmental pollutant impacts, fisheries management, and underwater diving technology and photography. Dr. Stewart was a member of the World Aquaculture Society, the Marine Technology Society, Southern New England Fishermen's Association, Connecticut Commercial Fishermen's Association, Connecticut Aquacultural Trade Association, and was a founding member of the Connecticut Seafood Council. Dr. Stewart served as an associate extension professor for the UConn, College of Agriculture and Natural Resources, Avery Point Campus prior to retiring from that position.

Dr. Stewart is survived by his sons, Brent Alcott Stewart and Lance Scott Stewart; and grandsons, Lance and Shad Stewart; his sister, Joan Leydon and husband, Tom, and their son and daughters. He was respected in his field and adored by those that knew him. Family, friends and colleagues enjoyed the benefit of sharing his experiences and adventures. He will be missed by many.

SPECIES PROFILE continued  
from page 5



Photo (c) Dr. Rob Robinson, British Trust for Ornithology

Horseshoe crabs are currently undergoing a benchmark stock assessment. The report and peer review are expected to be available in spring 2019.

### Atlantic Coastal Management

Horseshoe crabs are managed under the Interstate Fishery Management Plan for Horseshoe Crab (1998) and its subsequent addenda (Addenda I-VII). Under Addendum I (2000), the Commission established state-by-state quotas in all Atlantic states for horseshoe crabs harvested for bait. Addendum II (2001) allows voluntary transfers of harvest quotas between states to alleviate concerns over potential bait shortages on a biologically responsible basis, with Commission approval. Addendum III (2004) reduced harvest quotas, implemented seasonal bait harvest closures, and revised monitoring components. In response to decreasing migratory shorebird populations, Addendum IV (2006) reduced quotas in New Jersey and Delaware and added additional protection in Maryland and Virginia to increase horseshoe crab and egg abundance in and around Delaware Bay. Addenda V and VI extended Addendum IV's measures through 2012.

2013 marked the first year the Horseshoe Crab Management Board used the Adaptive Resource Management (ARM) framework to set horseshoe crab harvest levels for the Delaware Bay area. The ARM Framework, established through Addendum VII (2012), incorporates both shorebird and horseshoe crab abundance levels to set optimized harvest levels for horseshoe crabs of Delaware Bay origin.

For the 2016, 2017, and 2018 fishing seasons, harvest in the Delaware Bay area has been limited to 500,000 male horseshoe crabs and zero female horseshoe crabs. This total harvest is allocated among the four states that harvest horseshoe crabs from the Delaware Bay crab population (New Jersey, Delaware, Maryland, and Virginia). The allocation is based upon multiple decision options, including the proportion of horseshoe crabs harvested that originate from Delaware Bay and the allowance for additional male harvest by Virginia and Maryland to

compensate for protecting females when the ARM harvest output includes a moratorium on female crabs. Since 2008, New Jersey has had a moratorium on horseshoe crab harvest despite its allocation of the Delaware Bay origin horseshoe crab quota.

In October 2017, the Board approved terms of reference, including tasks specific to the horseshoe crab stock assessment, such as assessments of regional populations of horseshoe crabs, incorporation and evaluation of estimated mortality attributed to biomedical use of horseshoe crabs for LAL production, and comparisons of assessment results with results from the ARM Framework. This assessment is expected to be presented to the Board in spring 2019. For more information, please contact Mike Schmidtke, Fishery Management Plan Coordinator, at [mschmidtke@asmfc.org](mailto:mschmidtke@asmfc.org).

## Comings & Goings

### COMMISSION STAFF



#### CHRIS JACOBS

In August, Chris Jacobs joined the Commission staff as Facilities and Technology Administrator. In that capacity, Chris is responsible for assisting Ed Martino, our IT Manager and Programmer, in the monitoring and maintenance of IT infrastructure, from computers and printers, to meeting equipment and servers. Chris also as-

sists Laura Leach, Director of Finance and Administration, in the upkeep of the Commission's office space. Chris comes to us with 14 years of experience in retail management and an educational background in network administration. An avid gardener, aquascaper and craftsman, Chris is happiest working outdoors and with his hands. Welcome aboard, Chris!

## Employee of the Quarter: Jayran Farzanegan

Each quarter, the Commission honors an individual who has made notable contributions to the Commission's mission, vision, programs and activities. For this quarter (July - September) Jayran Farzanegan, the Commission's Accounting Manager, was named the Employee of the Quarter for her enthusiastic and untiring pursuit of the values recognized by this award (teamwork, initiative, responsibility, quality of work, positive attitude and results).

Since joining the Commission staff in November 2014, Jayran has made tremendous strides in transitioning from the profit to non-profit world. The learning curve was steep, but Jayran's perseverance and tenacity have made her a valued and trusted staff member. As Accounting Manager, Jayran is responsible for the general ledger, payroll and annual audit preparation, and assists in grants management. In everything she does, Jayran is conscientious, hardworking, detail-oriented, and strives for excellence. She shows great initiative, often anticipating needs and acting without direction. She is also a great team player, working closely with coworkers in areas where responsibilities overlap and is always willing to pitch in for any task, big or small.



As Employee of the Quarter, Jayran received a cash award and a letter of appreciation to be placed in her personal record. In addition, her name is on the Employee of the Quarter plaque displayed in the Commission's lobby. Congratulations, Jayran!

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SCIENCE HIGHLIGHT continued from page 10

and not transported to the facility, as these crabs are more likely to die during the bleeding process. Implementation of these and other best practices is maintained through periodic audits of all stages of the biomedical process.

The researchers also believe that two additional best practices could be considered to further reduce mortality in the collection and bleeding process. First, refrain from collecting animals when they are most compromised in terms of health: before and during their spawning season. Second, provide crabs with a food supplement after being bled, prior to releasing them back into their natural habitat, as other UNH/Plymouth State lab findings indicate a faster recovery to normal levels of hemocyanin, and perhaps amebocytes as well. The recommendations, if adopted, should lead to reduced mortality of bled horseshoe crabs. This, in turn, will support the long-term health and sustainability of the horseshoe crab resource for all who depend on it – from migratory shorebirds and commercial fishermen, to patients who benefit from LAL-based medical products.

The Commission would like to thank the following individuals for their contributions to this article. Readers should contact them for more information on the new horseshoe crab study.

Win Watson, Professor, University of New Hampshire, [win@unh.edu](mailto:win@unh.edu)  
Chris Chabot, Professor, Plymouth State University, [chrisc@plymouth.edu](mailto:chrisc@plymouth.edu)  
Meghan Owings, MS, University of New Hampshire, [mwowings1@gmail.com](mailto:mwowings1@gmail.com)



Horseshoe crab fitted with an acoustic transmitter that transmits acceleration and depth data ~ every 3-5 minutes. These transmissions are detected and logged with VR2 receivers that are moored throughout the Great Bay Estuary. As a result, it is possible to keep track of each animal's position, activity and depth for almost a year. Photo (c) Seth Doane, Southern Maine Community College; Steve Jury, Saint Joseph's College; and Meghan Owings, UNH

accessed on the Commission website ([www.asmfc.org](http://www.asmfc.org)) under Public Input. Public comment will be accepted until 5:00 PM (EST) on October 1, 2018 and should be forwarded to Kirby Rootes-Murdy, Senior Fishery Management Plan Coordinator, at 1050 N. Highland Street, Suite 200A-N, Arlington, VA, 22201; 703.842.0741 (fax); or [comments@asmfc.org](mailto:comments@asmfc.org) (Subject line: Draft Addendum V).

## Cobia

Draft Amendment 1 was initiated in anticipation of removal of Atlantic cobia from the South Atlantic and Gulf of Mexico Fishery Management Councils' Fishery Management Plan for Coastal Migratory Pelagic Resources (CMP FMP). Both Councils approved removal of Atlantic cobia from the CMP FMP earlier this year, and this action is now pending review by the Secretary of Commerce. If approved by the Secretary of Commerce, there would no longer be a federal management plan for Atlantic cobia, and the Commission would become the sole management body for this stock. This would necessitate amending several portions of the current interstate FMP that are dependent on the CMP FMP and also provide the opportunity for the Board to construct a long-term strategy for managing in the absence of a federal FMP.

The PID is the first step of the Commission's amendment process, and the intent of the PID is to elicit input from stakeholders and those interested in Atlantic cobia about changes observed in the fishery/resource and potential management measures that should be considered for inclusion in Draft Amendment 1. Additionally, the PID seeks input on three main issues: recommended management for federal waters, a harvest specification process, and biological monitoring requirements.

The PID is available at [http://www.asmfc.org/files/PublicInput/CobiaDraftAmd1PID\\_PublicComment.pdf](http://www.asmfc.org/files/PublicInput/CobiaDraftAmd1PID_PublicComment.pdf) or via the Commission's website, [www.asmfc.org](http://www.asmfc.org), under Public Input. Fishermen and other interested groups are encouraged to provide input on the PID either by attending state public hearings or providing written comment. Public comment will be accepted until 5 PM (EST) on October 4, 2018 and should be forwarded to Dr. Michael Schmidtke, Fishery Management Plan Coordinator, 1050 N. Highland St, Suite A-N, Arlington, VA 22201; 703.842.0741 (FAX) or at [comments@asmfc.org](mailto:comments@asmfc.org) (Subject line: Cobia PID).



Photo (c) Aaron Game