## **Atlantic States Marine Fisheries Commission**

### SHAD AND RIVER HERRING Technical Committee Call and Webinar

Tuesday, November 10, 2020 9:00 AM - 3:00 PM

Webinar: https://global.gotomeeting.com/join/898305741

You can also dial in using your phone: (872) 240-3212; Access Code: 898-305-741

1.	Welcome & Review of the Agenda (B. Neilan, C. Starks)	9:00 a.m.
2.	<ul> <li>Review TC task group draft recommendations (C. Starks)</li> <li>Recreational management and for monitoring systems with low abundance and low harvest</li> <li>Requirements for management responses in SFMPs</li> <li>Time series for SFMP metrics</li> <li>Management guidance for interjurisdictional waters</li> <li>Alternative Management Plan guidance</li> <li>Recreational harvest without an SFMP/AMP</li> <li>Incorporating stock assessment information</li> </ul>	9:05 a.m.
3.	<ul> <li>Develop final Technical Committee Recommendations (B. Neilan)</li> <li>Discuss any changes to draft recommendations</li> <li>Finalize recommendations</li> </ul>	9:45 a.m.
4.	Break for lunch	12:00 p.m.
5.	Develop final Technical Committee Recommendations, cont. (B. Neilan)	1:00 p.m.
6.	<ul> <li>Review state responses to assessment results (as time allows)</li> <li>Hudson River</li> </ul>	2:00 p.m.
7.	<ul> <li>Next Steps (C. Starks)</li> <li>Meeting follow ups</li> <li>Check in with states on shad habitat plan updates</li> <li>Discuss December 9<sup>th</sup> TC meeting</li> <li>Discuss upcoming Board meeting</li> </ul>	2:30 p.m.
8.	Adjourn	3:00 p.m.



# **Atlantic States Marine Fisheries Commission**

1050 N. Highland Street • Suite 200A-N • Arlington, VA 22201 703.842.0740 • 703.842.0741 (fax) • www.asmfc.org

## MEMORANDUM

- TO: Shad and River Herring Technical Committee
- FROM: Shad and River Herring Technical Committee Task Group
- DATE: November 4, 2020

### SUBJECT: TC Task Group draft recommendations on improvements to Amendment 2 and 3

The Shad and River Herring Technical Committee (TC) Task Group, a subset of the TC, was formed to address the following Board Task from October 2017:

Develop proposed improvements to Amendments 2 and 3 with regard to the following items:

- 1. Management and monitoring of rivers with low abundance and harvest of shad and river herring
- 2. Standardization of Sustainable Fishery Management Plan (SFMP) requirements: content, metrics, and management responses to triggers
- 3. Incorporation of stock assessment information into SFMPs and discussion on the timeline for renewing plans
- 4. Clarification of de minimis requirements as they pertain to SFMPs
- 5. Review of the number of years of data are required before developing a SFMP

The Task Group met via conference call and webinar several times during 2020 to develop draft recommendations for full TC review. The draft recommendations are organized by topic below. The TC is expected to review the draft recommendations and come to consensus to finalize recommendations to present to the Management Board at its meeting on November 10, 2020.

### **Draft Recommendations**

### 1. Management and monitoring of rivers with low abundance and harvest of shad and river herring

The TC task group does not recommend any changes to the Fishery Management Plan (FMP) to address commercial fisheries (i.e. directed commercial harvest should always require an approved SFMP). However, the group recommends clarification on management of recreational fisheries in systems with unknown or low abundance and harvest.

The Task Group recommends that the FMP clarify that management of recreational fisheries should be dependent on harvest and monitoring information. The following matrix summarizes the categorization recommended by the TC, which is further explained below.

		Data to support SFMP	
		Sufficient	Insufficient
st	None (Species Absent)	NA	AMP
Rec. arve	Unknown (Species Present)	AMP / SFMP	Catch & release
Hg	Known/ Suspected	SFMP	Catch & release

- For river systems with known populations of river herring/shad, <u>known or suspected</u> <u>recreational harvest</u> of river herring/shad, and sufficient system-specific monitoring data (FI or rec/commercial FD), the state or jurisdiction must either 1) close/implement catch and release only regulations; or 2) allow recreational harvest under a Board-approved SFMP with appropriate sustainability metrics, monitoring, and management responses. "Known" harvest is that which is recorded in official surveys or reports, whereas "suspected" harvest is identified through anecdotal or historic information in systems without official monitoring of recreational harvest. The TC would be responsible for determining whether monitoring data are sufficient or insufficient for their proposed uses.
- For systems with known populations of river herring/shad, <u>no</u> known or suspected harvest of river herring/shad <u>based on recreational monitoring data</u>, the state or jurisdiction must either 1) close/implement catch and release only regulations; 2) allow recreational harvest under a Board-approved SFMP with appropriate sustainability metrics, monitoring, and management responses; or 3) allow recreational harvest under a Board-approved Alternative Management Plan (AMP) until any recreational harvest is confirmed (using an AMP would not require a sustainability metric).
- For systems with known <u>small</u> populations of river herring/shad, <u>no</u> known or suspected harvest of river herring/shad (<u>but without sufficient system-specific monitoring</u>), the state or jurisdiction must either 1) close/implement catch and release only regulations; 2) allow recreational harvest under a Board-approved SFMP with appropriate sustainability metrics, monitoring, and management responses; or 3) allow recreational harvest under a Board-approved AMP until any recreational harvest is confirmed (using an AMP would not require a sustainability metric).
- For systems with no known populations of river herring/shad, and consequently <u>no</u> suspected harvest of river herring/shad, and no fishery-independent data for river herring/shad, the state or jurisdiction must either 1) close/implement catch and release only regulations; or 2) allow recreational harvest (or remain unregulated) under a Board-approved AMP. If river herring/shad were to become present, the state must resubmit the proposal to the TC with updated information and rationale (similar to the situation for the previous bullet).

# 2. Standardization of Sustainable Fishery Management Plan (SFMP) requirements: content, metrics, and management responses to triggers

The Task Group recommended additional language be added to the FMP to strengthen the SFMPs in several areas: A) the level of detail required in SFMPs on the management response that would be implemented should the stock fall below a defined sustainability target or threshold, B) when a state may relax restrictions implemented in response to a stock falling below the sustainability target/threshold, and C) management of interjurisdictional waterbodies. The Task Group did not recommend additional requirements be placed on the type of sustainability metrics that can be used in SFMPs. The group agrees that states/jurisdictions should be able to propose the most appropriate metrics for their specific systems, which would then be subject to TC evaluation and Board approval.

**A. Management responses:** Currently, Amendment 2 states that "If a stock is below optimum level the management plan must detail restrictions that will be enacted to allow for an increase in spawning stock abundance and juvenile recruitment" (p. 92). Amendment 3 includes an approved framework for SFMPs, which includes "discussion of management measure(s) to be taken if sustainable target is not achieved within indicated timeframe" (p. 41).

The Task Group recommends the following language be included in the FMP for both shad and river herring; the underlined portions are modified from the original language to provide more detail on acceptable management responses and the process for notifying the Board and implementing responses:

"States and jurisdictions must also submit a sustainable fishery management plan (SFMP) that describes how the fishery will be conducted and annually monitored in order to show that the sustainability target(s) are being achieved. The frame of reference for determining the optimum level at which to set the sustainability target(s) will vary from system to system, but should be based on an appropriate time scale. States should develop their sustainability targets within this general framework. The Technical Committee is responsible for developing a standard optimum level and timeframe basis.

If a stock is at optimum levels, then that level will need to be sustained. The SFMP must detail restrictions that will be enacted to allow for an increase in spawning stock abundance and juvenile recruitment if a stock is, or falls below, the optimum level. Such restrictions may include any of the following: fishery closures, harvest or effort restrictions, catch and release only regulations (for recreational fisheries), season changes, area closures, gear restrictions, etc. A plan may provide multiple options for restrictions that will be enacted if a stock falls below the optimum level, however, each option should allow for an increase in spawning stock abundance and juvenile recruitment.

If a stock falls below the sustainability target or threshold identified in the SFMP, the state must notify the Board in the next annual compliance report, and pursue implementation of the specified management response for the following calendar year."

**B. Relaxing management restrictions:** The Task Group also recommended the FMP include language on when a state may relax restrictions implemented in response to a stock falling below the sustainability target/threshold. Currently the Amendments include language to this effect: "Proposals to reopen closed fisheries may be submitted as part of the annual Compliance Report, and will be subject to review by the Plan Development Team, Technical Committee and Management Board." The Task Group recommends the following addition:

"If a state has implemented a management restriction in response to the stock falling below the sustainability target(s), the management restriction must stay in place until the sustainability target(s) have been met for at least 5 consecutive years."

**C. Interjurisdictional management guidance:** The Task Group also recommended that the FMP include additional guidance on management of waterbodies shared by one or more jurisdictions. The current Amendment 2 language states "Targets for river systems managed by more than one state/jurisdiction should be cooperatively developed" (p. 92). Amendment 3 states "For states and jurisdictions which share a river or estuary, agencies should include those monitoring programs conducted or planned by the agencies, applicable agency regulations, and habitat and habitat threats applicable to the state or jurisdiction's waters. In shared water bodies where there is a management cooperative, the cooperative or a member state or jurisdiction can be appointed to write the Implementation Plan" (p. 40).

The Task Group suggests the following change for both species:

"Targets for river systems managed by more than one state/jurisdiction should be cooperatively developed, such that shared systems are not managed by each jurisdiction using unique targets and/or monitoring data. One shared management plan may be submitted cooperatively by multiple jurisdictions sharing one system, including details on management measures and monitoring for/by

each jurisdiction. Alternatively, one jurisdiction may be appointed to submit the plan for a shared system; for example, if one state/jurisdiction is the primary source of fishery-dependent and/or fishery-independent data for a shared system, that state may include the system in their state management plan, and include information for the other jurisdictions which share waterbodies. When possible, fisheries conducted in shared water bodies by harvesters permitted by different jurisdictions should be subject to consistent management measures."

# **3.** Incorporation of stock assessment information into SFMPs and discussion on the timeline for renewing plans

To address this item, the <u>Task Group recommended that the TC compile information on all current</u> monitoring programs by species and system, and then develop recommendations for improvements to <u>data for use in SFMPs and assessments</u>. This is also being addressed as part of the August 2020 Board task to identify paths forward to improve shad stocks.

The TC task group does not recommend a change to the five year timeline for renewing SFMPs and AMPs.

### 4. Clarification of de minimis requirements as they pertain to SFMPs

The TC task group does not recommend any changes to the current *de minimis* criteria and exemptions for states with *de minimis* status.

### 5. Review of the number of years of data are required before developing a SFMP

The Task Group discussed how many years of data are appropriate in order to use a data time series to establish a sustainability metric, and made the following draft recommendations based on the biology of the species and statistical value.

- For shad, a minimum of 10 years of data should be required to establish a primary sustainability metric in an SFMP or AMP.
- For river herring, the standard for acceptable time-series length for data being used to establish an SFMP metric should be 10 years. If additional information is provided to justify the use of a shorter time-series for establishing an SFMP metric, the TC may accept a time series of 7-9 years, with consideration of exploitation rate, stock size, or other relevant factors.

#### Additional Draft Recommendations

Beyond the five areas identified in the original Board task, the Task Group recommended some additional improvements to the FMP, summarized below:

- The Task Group recommends that additional language be included in the FMP to provide clear guidance on the use of AMPs. <u>The Task group recommends that AMPs must include the</u> <u>following components:</u>
  - A statement of rationale or justification explaining why an SFMP cannot be used (e.g. data availability)
  - Justification that the proposed management program will be conservationally equivalent to catch and release only regulations (e.g. there is no suspected harvest in the system(s) due to very low abundance based on fishery independent data or habitat limitations, creel survey data has not shown any harvest of species, etc.)

- Explanation of how the state will determine if or when an AMP is no longer appropriate, including description of the data sources that will be monitored, and the trigger that will be used based on those data sources (e.g. 3 years of recorded harvest, or a defined level of abundance from surveys)
- Description of the management response that will be implemented if this trigger is met.
   (E.g. If harvest is documented through a creel survey for 3 consecutive years, catch and release only regulations will be implemented statewide or for specified systems).
- If a management trigger identified in the AMP is met, the state must notify the Board in the next annual compliance report, and pursue implementation of the specified management response for the following calendar year.
- In previous TC and Advisory Panel meetings, the committees have considered the idea of allowing limited recreational harvest in systems without an SFMP/AMP using a low statewide bag limit. <u>The Task Group does not recommend allowing any recreational harvest to occur on</u> <u>systems that are not managed through an approved SFMP or AMP.</u> The rationale is that unmonitored systems could experience unchecked recreational fishing pressure which could be detrimental to small stocks. The recommendation is that if a state wishes to apply a statewide recreational bag limit, the state must have an approved SFMP or AMP, and all unmonitored systems must be subject to management responses (e.g. closures, harvest restrictions) that are triggered by available sustainability metrics. For example, if a state has a statewide recreational bag limit, the SFMP should require the closure of recreational harvest (e.g. catch and release only regulations) for all unmonitored systems if one monitored system falls below the sustainability target.
  - The Task Group recommends that AMPs allowing statewide recreational bag limits or no recreational regulations must include a trigger (e.g. observed recreational harvest, or increase in fishery independent abundance index) to implement catch and release only regulations or propose an SFMP (if sufficient data is available).

### NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Marine Resources, Region 3 21 South Putt Corners Road, New Paltz, NY 12561-1620 www.dec.ny.gov

30 October 2020

Caitlin Starks Shad and River Herring FMP Coordinator Atlantic States Marine Fisheries Commission 1050 N Highland St #200 Arlington, VA 22201

Dear Ms. Starks,

This letter is in response to the ASMFC Shad and River Herring Technical Committee's (S/RH TC) request for a response to the stock status determinations for the Hudson River in the 2020 American Shad Benchmark Stock Assessment. Responses to the three questions from the S/RH TC are presented below.

• Identify areas of concern identified in the assessment (e.g. stock status, data deficiencies preventing stock status determination, habitat issues)

The NYS DEC agrees with the stock status determinations for the Hudson River American shad stock. The following text provides additional information on the decline in Hudson River shad further supporting the depleted stock status determination:

**Overfishing:** The Hudson stock has experienced several overfishing events dating back to as early as the mid-1800's (Harper's Weekly 1872). When using commercial landings (Figure 1) as a proxy for abundance, the stanzas that occurred accurately track the overfishing events. The first peak in harvest occurred in 1880 followed by the first documented decline in 1896. According to the US Fish Commission (1896), this decline was attributed to increasing demand for shad and improving methods of capture. There was little to no fishing occurring from the turn of the 20<sup>th</sup> century up until the 1930's. High levels of sustained harvest, greater than one million kg annually, began in 1936 continuing through the WWII years until about 1950. The harvest during WWII, nearly ten years, ranged from 1.1 to 1.7 million kg. A sharp decline followed in the late 1940's. The 18 million kg of landings indicates the stock was very robust to allow such high sustained harvest and surprisingly left the stock large enough and with some resilience to recover. However, this recovery was shortlived, and the stock experienced another decline in the late 1950's as fishers returned home from the war to continue their business of fishing. Landings remained low through the 1960's and 1970's. During this time period, the Hudson was experiencing crucial habitat issues, including pollution and massive habitat loss which complicated and slowed recovery. Following the Federal Water Pollution Control Act Amendments of 1972 and the Clean Water Act of 1977, water quality in the Hudson improved and by 1980 a short-lived resurgence of landings occurred averaging 310,000 kg annually through 1988. The final decline, that persists today,



Department of Environmental Conservation began in 1998. Hattala and Kahnle (ASMFC 1998) found the spawning stock experienced excessively high mortality and that mortality seriously reduced the abundance of adults. Production of young-of-year shad collapsed within a generation and since 2002, the stock has been in recruitment failure with little to no signs of recovery.

During the last decline, in addition to the traditional in-river fishery, a directed ocean commercial fishery for American shad developed in the mid to late 1980's continuing through the 1990's. This fishery likely developed to supplement income due to restrictions in coastal waters that were implemented for striped bass recovery during that time. In the early 1990's, noticeable changes (disappearance of larger fish, increasing annual mortality) began to occur in the Hudson and other coastal stocks (ASMFC 1998). Because of the difficulty in differentiating ocean harvest to individual stocks, the directed ocean fisheries were phased out from 1990 to 2005 (ASMFC 1999). However, following the ocean closure there was no recovery of the Hudson stock, and the continuing in-river fishery exacerbated the recruitment collapse. New York closed all fisheries for American shad in 2010.

Lastly, late winter and early spring mixed-stock fisheries in large coastal bays, such as Delaware Bay, continue to harvest the Hudson stock. Recent genetics studies (Waldman et al. 2014; Bartron et al. in prep) indicate 25-50% of shad captured in mixed-stock fisheries in Delaware Bay are Hudson stock depending on the location of capture and the type of genetic analysis applied. In addition to coastal bay harvest, incidental bycatch of American shad occurs in several Federal fisheries along the Atlantic coast. However, stock composition of this bycatch is unknown and cannot be assigned to an individual stock. Losses of shad to ocean commercial bycatch may have contributed to the most recent decline in the Hudson stock, but the magnitude of such losses is essentially unknown.

Habitat Loss: The historical record of overfishing events was confounded by additional effects of in-river habitat loss and alteration which likely affected abundance of American shad in the Hudson River Estuary. Substantial destruction of shad spawning and nursery habitat occurred from the late 1800's through the mid 1900's from dredge and fill in the upper third of estuary during development and maintenance of the navigation channel from New York City to Albany/Troy (Miller and Ladd 2004). Over 4,500 acres of river bottom were destroyed or altered; this loss was likely a factor in shad decline in the late 1800's and early 1900's.

Major habitat alteration ended in the 1950's and it is unlikely that it has been a factor in the most recent stock decline. However, such habitat loss may influence the rate of stock recovery. In addition to actual physical losses were pollution events such as the massive dissolved oxygen blocks in a large portion of the spawning and nursery habitat (Albany pool) and most likely in New York harbor in the 1960's through early 1970's (NYSDEC 1995). Declines in water quality in shad spawning and nursery areas have been suggested as a cause of recent shad decline in some east coast estuaries. However, this may not be occurring in the Hudson where water quality has improved since the implementation of the Clean Water Act in 1977.

Young American shad in the river are also lost to mortality due to various cooling water intakes. Cooling systems at some power generating stations have been converted to (Albany Steam to Bethlehem Energy Center), or built (Athens) as, closed cycle cooling. The NYSDEC is addressing take at all other water intakes.

Identify additional information not considered in the assessment stock status determination that provides more context on the stock, fishery, etc. (e.g. more recent years of data, SFMP *metrics and performance, survey trends)* 

NYS DEC feels that all available and appropriate information was considered in the stock status determination. Data from recent years, 2018-present, suggest no change in stock status relative to the assessment.

Suggest management or monitoring changes, or restoration efforts that would improve shad stock based on the information above

Suggested management, monitoring changes and restoration efforts:

- Reduce/eliminate harvest of Hudson shad in mixed-stock fisheries and ocean bycatch (nearterm; high priority)
- Identify stock composition of bycatch occurring in Federal fisheries and quantify impact to the Hudson stock (near-term; high priority)
- o Implement habitat restoration actions identified in the Hudson River Estuary Habitat Restoration Plan (Miller 2013) to restore high-quality spawning, nursery and refuge habitats for American shad (on-going, long-term; high priority)
- Continuation of fishery closure until recovery targets (Hudson River American Shad Recovery Plan, in prep) are met and stocks are robust enough to support sustainable harvest (long-term; high priority)

Sincerely,

Wes Eakin **Fisheries Biologist** New York State Department of Environmental Conservation **Division of Marine Resources** 21 S. Putt Corners Rd., New Paltz, NY 12561 P: (845) 256-3171 | F: (845) 255-1701 | william.eakin@dec.ny.gov

www.dec.ny.gov





#### References

ASMFC (Atlantic States Marine Fisheries Commission). 1998. American shad stock assessment peer review report. Washington, DC, USA.

ASMFC (Atlantic States Marine Fisheries Commission). 1999. Amendment 1 to the Interstate Fishery Management Plan for Shad and River Herring. Fishery Management Report No. 35. Washington, DC, USA.

Miller, D. and J. Ladd. 2004. Channel morphology in the Hudson River Estuary: past changes and opportunity for restoration. IN Currents – newsletter of the Hudson River Environmental Society, Vol. XXXIV, No. 1.

Miller, Daniel E., 2013. *Hudson River Estuary Habitat Restoration Plan*. New York State Department of Environmental Conservation, Hudson River Estuary Program. This report is available online at: <a href="http://www.dec.ny.gov/lands/5082.html">http://www.dec.ny.gov/lands/5082.html</a>

Waldman, J., Hasselman, D., Bentzen, P., Dadswell, M., Maceda, L. and Isaac Wirgin (2014) Genetic Mixed-Stock Analysis of American Shad in Two Atlantic Coast Fisheries: Delaware Bay, USA, and Inner Bay of Fundy, Canada, North American Journal of Fisheries Management, 34:6, 1190-1198



Figure 1. Historic commercial fishery landings of American shad in the Hudson River Estuary, 1880-2009.