

# ATLANTIC STATES MARINE FISHERIES COMMISSION

## REVIEW OF THE INTERSTATE FISHERY MANAGEMENT PLAN

### AMERICAN EEL *(Anguilla rostrata)*

2022 FISHING YEAR



Prepared by the American Eel Plan Review Team

Approved January 2024



Sustainable and Cooperative Management of Atlantic Coastal Fisheries

**REVIEW OF THE ASMFC FISHERY MANAGEMENT PLAN AND STATE COMPLIANCE FOR  
AMERICAN EEL (*Anguilla rostrata*) FOR THE 2022 FISHERY**

**Management Summary**

<u>Date of FMP approval:</u>	November 1999
<u>Addenda:</u>	Addendum I (February 2006) Addendum II (October 2008) Addendum III (August 2013) Addendum IV (October 2014) Addendum V (August 2018)
<u>Management unit:</u>	Migratory stocks of American Eel from Maine through Florida
<u>States with a declared interest:</u>	Maine through Florida, including the District of Columbia and the Potomac River Fisheries Commission
<u>Active committees:</u>	American Eel Management Board, Plan Review Team, Technical Committee, Stock Assessment Subcommittee, and Advisory Panel

**I. Status of the Fishery Management Plan**

The ASMFC American Eel Management Board (Board) first convened in November 1995 and finalized the Fishery Management Plan (FMP) for American Eel in November 1999 (ASMFC 2000).

**GOAL**

The goal of the FMP is to conserve and protect the American eel resource to ensure its continued role in the ecosystems while providing the opportunity for its commercial, recreational, scientific, and educational use.

**OBJECTIVES**

1. Improve knowledge of eel utilization at all life stages through mandatory reporting of harvest and effort by commercial fishers and dealers, and enhanced recreational fisheries monitoring.
2. Increase understanding of factors affecting eel population dynamics and life history through increased research and monitoring.
3. Protect and enhance American eel abundance in all watersheds where eel now occur.
4. Where practical, restore American eel to those waters where they had historical abundance but may now be absent by providing access to inland waters for glass eel, elvers, and yellow eel and adequate escapement to the ocean for pre-spawning adult eel.
5. Investigate the abundance level of eel at the various life stages, necessary to provide adequate forage for natural predators and support ecosystem health and food chain structure.

The FMP requires all states and jurisdictions to implement an annual young-of-year (YOY) abundance survey to monitor annual recruitment of each year's cohort. In addition, the FMP requires a minimum recreational size, a possession limit and a state license for recreational fishermen to sell eels. The FMP requires that states and jurisdictions maintain existing or more conservative American eel commercial fishery regulations for all life stages, including minimum size limits. Each state is responsible for implementing management measures within its jurisdiction to ensure the sustainability of its American eel population.

The FMP has been adapted through the following addenda:

#### [Addendum I \(February 2006\)](#)

In August 2005, the Board directed the American Eel Plan Development Team (PDT) to initiate an addendum to establish a mandatory catch and effort monitoring program for American eel. The Board approved Addendum I at the February 2006 Board meeting.

#### [Addendum II \(October 2008\)](#)

In January 2007, the Board initiated a draft addendum with the goal of increasing escapement of silver eels to spawning grounds. In October 2008, the Board approved Addendum II, which placed increased emphasis on improving the upstream and downstream passage of American eel. The Board chose to delay action on management measures in order to incorporate the results of the 2012 stock assessment.

#### [Addendum III \(August 2013\)](#)

In August 2012, the Board initiated Draft Addendum III with the goal of reducing mortality on all life stages of American eel. The Addendum was initiated in response to the findings of the 2012 Benchmark Stock Assessment, which declared American eel stock along the US East Coast depleted. The Board approved Addendum III in August 2013.

Addendum III requires states to reduce the yellow eel recreational possession limit to 25 eel/person/day, with the option to allow an exception of 50 eel/person/day for party/charter employees for bait purposes. The recreational and commercial size limit increased to a minimum of 9 inches. Eel pots are required to be ½ by ½ inch minimum mesh size or have at least a 4" by 4 inch escape panel of ½ by ½ inch mesh escape panel. The glass eel fishery is required to implement a maximum tolerance of 25 pigmented eels per pound of glass eel catch. The silver eel fishery is prohibited to take eels from September 1st to December 31st from any gear type other than baited traps/pots or spears. The Addendum also set minimum monitoring standards for states and required dealer and harvester reporting in the commercial fishery.

#### [Addendum IV \(October 2014\)](#)

In October 2014, the Board approved Addendum IV. This addendum was also initiated in response to the 2012 American Eel Benchmark Stock Assessment and the need to reduce mortality on all life stages. The Addendum established a coastwide cap of 907,671 pounds of yellow eel, reduced Maine's glass eel quota to 9,688 pounds (2014 landings), and allowed for the continuation of New York's silver eel weir fishery in the Delaware River. For yellow eel

fisheries, the coastwide cap was implemented for the 2015 fishing year and established two management triggers: (1) if the cap is exceeded by more than 10% in a given year, or (2) the cap is exceeded for two consecutive years regardless of the percent overage. If either one of the triggers are met, then states would implement state-specific allocation based on average landings from 2011-2013. The addendum also requires any state or jurisdiction with a commercial glass eel fishery to implement a fishery independent life cycle survey covering glass, yellow, and silver eels within at least one river system.

#### [Addendum V \(August 2018\)](#)

In August 2018, the Board approved Addendum V. The Addendum increases the yellow eel coastwide cap starting in 2019 to 916,473 pounds to reflect a correction in the historical harvest data. 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. 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 was formed to define the process to equitably reduce landings among the affected states when the management trigger has been met (see appendix, approved October 2019). Additionally, the Addendum maintains Maine's glass eel quota of 9,688 pounds. The Board also slightly modified the glass eel aquaculture provisions, maintaining the 200 pound limit for glass eel harvest, but adjusting the criteria for evaluating the proposed harvest area's contribution to the overall population consistent with the recommendations of the Technical Committee.

## **II. Status of the Stock**

The first benchmark stock assessment for American eel was peer reviewed in March 2012 and was approved for management use in May 2012 (ASMFC 2012). Due to biological data limitations and the extremely complex life history of American eel, traditional stock assessment models could not be developed and several data-poor methods were used to assess the American eel resource. The stock status was determined to be depleted, and overfishing and overfished status could not be determined with confidence.

The 2017 American Eel Stock Assessment Update updated the 2012 American Eel Benchmark Stock Assessment with data from 2010-2016. The trend analysis results in this stock assessment update were consistent with the 2012 results, with few exceptions. Despite downward trends in the indices, commercial yellow American eel landings were shown to be stable in the decades leading up to the assessment, but landings still remained much lower than historical levels. The conclusion of the assessment update was that the American eel population in the assessment range remains depleted (ASMFC 2017).

The most recent benchmark stock assessment was peer reviewed in late 2022 and accepted for management use in 2023. The 2023 assessment concludes that the stock is depleted 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. Despite exploring additional approaches for assessing American eel that were suggested in past stock assessments including a delay-difference model, traffic light analysis and surplus production models, and developing an egg-per-recruit model, overfished and overfishing determinations still could not be made due to data limitations. However, the 2023 stock assessment found that the yellow eel population has declined since the previous assessment, and yellow eel harvest should be decreased.

### **III. Status of the Fishery**

Commercial fisheries for American eel occur throughout their range in North America, with the most significant of those fisheries occurring in the US Mid-Atlantic region and Canada. These fisheries are executed in riverine, estuarine, and ocean waters. In the US, commercial fisheries for glass eel/elvers only exist in Maine and South Carolina, a silver eel weir fishery exists in New York's Delaware River, and yellow eel fisheries exist in all states and jurisdictions except Pennsylvania and the District of Columbia.

Although eel have been continuously harvested, consistent data on harvest has not always been available. Harvest data from the Atlantic coastal states (Maine to Florida) indicate that the harvest fluctuated widely between 1970 and 1980, but showed an increasing trend that peaked in 1979 at 3,951,936 pounds. From then landings declined to a low of 641,000 pounds in 2002, recovered steadily to exceed one million pounds on average from 2010-2014, and have since experienced a general downward trend, reaching a time series low in 2020. Because fishing effort data are unavailable for the entire time series, finding a correlation between population numbers and landings data is difficult.

The Advisory Panel (AP) has provided feedback that recent declines in landings have primarily been related to market demand; demand for wild-caught American eels from the US for European food markets has decreased in recent years due to increased aquaculture in Europe. Demand for domestic bait decreased from 2019 to 2020 due in part to COVID-19 restrictions. A smaller proportion of landings traditionally goes to the domestic bait market, and the AP indicated that it does not anticipate landings to increase significantly from current levels in the near future.

#### ***Commercial Fishery***

State reported commercial landings of yellow/silver eels in 2022 totaled approximately 334,653 pounds<sup>1</sup> (Table 1, Figure 1), which represents a 2% increase in landings from 2021 (328,618 pounds). Yellow eel landings increased in eight states and jurisdictions, while decreasing in three. In 2022, state reported landings from Maryland, Virginia, New Jersey and New York together accounted for 91% of the coastwide commercial total landings. Glass eel

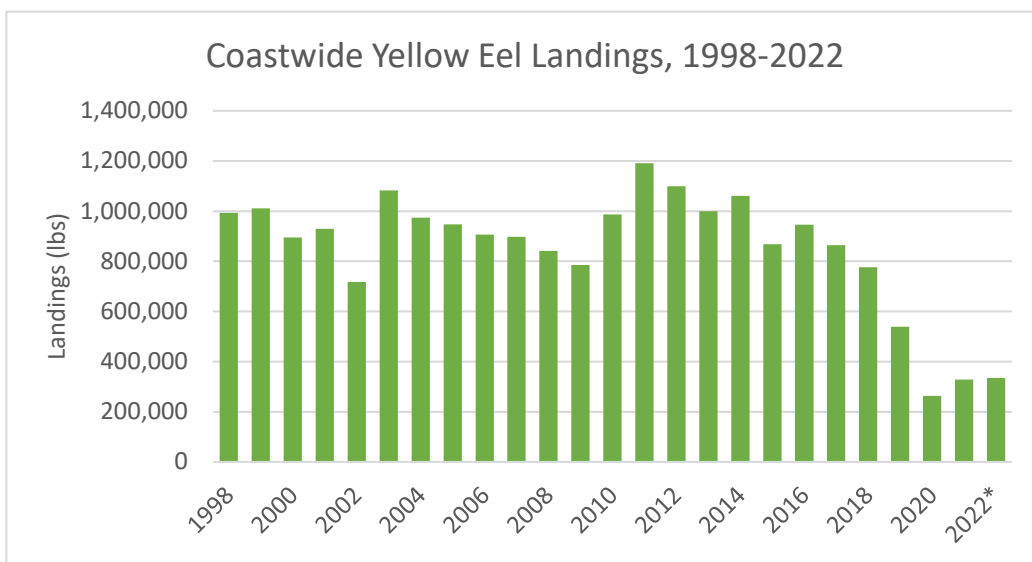
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<sup>1</sup> Preliminary landings data for 2022 come from ACCSP and state compliance reports. Landings information from state compliance reports updates the preliminary landings presented to the American Eel Management Board.

landings reported from Maine totaled 9,459 pounds; South Carolina’s glass eel landings are confidential.

**Table 1. Preliminary 2022 Commercial Landings by State and Life Stage<sup>1</sup>**

State	Glass	Yellow
Maine	9,459	856
New Hampshire	No Fishery	0
Massachusetts	No Fishery	Confidential
Rhode Island	No Fishery	585
Connecticut	No Fishery	3,755
New York	No Fishery	27,038
New Jersey	No Fishery	52,543
Pennsylvania	No Fishery	0
Delaware	No Fishery	2,967
Maryland	No Fishery	188,903
D.C.	No Fishery	0
PRFC	No Fishery	12,814
Virginia	No Fishery	35,516
North Carolina	No Fishery	3,602
South Carolina	Confidential (<750 pounds)	0
Georgia	No Fishery	Confidential
Florida	No Fishery	6,073
<b>Total</b>	<b>Glass: Approx 9,459 Elver: 0</b>	<b>334,653</b>



**Figure 1. American Eel Yellow-Life Stage Coastwide Landings 1998-2022.**

**Table 2. State commercial regulations for the 2022 fishing year.\***

State	Min Size	License/Permit	Other
ME	Glass No minimum size	Daily dealer reports/swipe card program; monthly harvester report of daily landings. Tribal permit system in place for some Native American groups.	In 2017, the Legislature authorized the DMR commissioner to adopt rules to implement the elver fishing license lottery, including provisions for the method and administration of the lottery.
	Yellow 9"	Harvester/dealer license and monthly reporting. Tribal permit system in place for some Native American groups.	Seasonal closures. Gear restrictions. Weekly closures.
NH	9"	Commercial saltwater license and wholesaler license. No dealer reports. Monthly harvester reporting includes dealer information.	Gear restrictions in freshwater.
MA	9"	Commercial permit with annual catch report requirement. Registration for dealers with purchase record requirement. Dealer/harvester reporting.	Traps, pots, spears, and angling only. Mesh restrictions.
RI	9"	Commercial fishing license. Dealer/harvester reporting.	Seasonal gear restrictions.
CT	9"	Commercial license (not required for personal use). Dealer/harvester reporting.	Gear restrictions.
NY	9"	Harvester/dealer license and monthly reporting.	Gear restrictions. Maximum limit of 14" in some rivers.
NJ	9"	License required. No dealer reports. Monthly harvester reporting includes dealer information.	Gear restrictions.
PA	NO COMMERCIAL FISHERY		
DE	9"	Harvester reporting, no dealer reporting. License required.	Commercial fishing in tidal waters only. Gear restrictions.
MD	9"	Dealer/harvester license and monthly reporting.	Prohibited in non-tidal waters. Gear restrictions. Commercial crabbers may fish 50 pots per day, must submit catch reports.
DC	NO COMMERCIAL FISHERY		
PRFC	9"	Harvester license and reporting. No dealer reporting.	Seasonal gear restrictions. Mesh size restrictions on eel pots.
VA	9"	Harvester license required. Dealer/harvester monthly reporting.	Mesh size restrictions on eel pots. Seasonal closures.
NC	9"	Standard Commercial Fishing License for all commercial fishing. Dealer/harvester monthly combined reports on trip ticket.	Mesh size restrictions on eel pots. Seasonal closures.

State	Min Size	License/Permit	Other
SC	Glass No minimum size	Fyke and dip net only permitted. Dealer/harvester monthly combined reports on trip ticket. License required.	Max 10 individuals. Gear and area restrictions.
	Yellow 9"	Pots and traps permitted only. Dealer/harvester monthly combined reports on trip ticket. License required.	Gear restrictions.
GA	9"	Personal commercial fishing license and commercial fishing boat license. Dealer/harvester monthly combined reports on trip ticket.	Gear restrictions on traps and pots. Area restrictions.
FL	9"	Permits and licenses. Harvester reporting. No dealer reporting.	Gear restrictions.

\* For specifics on licenses, gear restrictions, and area restrictions, please contact the individual state.

### ***Recreational Fishery***

Available information indicates that few recreational anglers directly target American eel. For the most part, hook-and-line fishermen catch eel incidentally when fishing for other species. American eel are often purchased by recreational fishermen for use as bait for larger gamefish such as striped bass, cobia, and catfish. Some recreational fishermen may catch their own to use as bait.

Despite the incidental nature of hook-and-line eel catches, the National Marine Fisheries Service (NMFS) Marine Recreational Information Program (MRIP) does encounter enough observations to indicate widespread and common presence as a bycatch species. However, there is low precision associated with the recreational fishery statistics for American eel due to the limited numbers that have been encountered during surveys of recreational anglers along the Atlantic coast. These limited numbers are partly due to the design of the MRIP survey, which does not sample from the areas and gears assumed to be responsible for the majority of recreational fishing for American eels. As such, the recreational fishery statistics for American eels provided by MRIP should be interpreted with caution.

MRIP shows a declining trend in the coastwide recreational eel catch starting in the 1980s, but the total annual harvest values are highly uncertain. As of 2009, MRIP no longer provides recreational data for American eel due to the survey design being unsuitable for sampling targeted eel fishing. At the state level, only New Hampshire and Georgia collect recreational data for American eel outside of MRIP.



**Table 3. State recreational regulations for the 2022 fishing year.\***

State	Min Size	Daily Possession Limit	Other
ME	9"	25	Gear restrictions. License requirement and seasonal closures (inland waters only). Bait limit of 50 eels/day for party/charter boat captain and crew.
NH	9"	25	Coastal harvest permit needed if taking eels other than by angling. Gear restrictions in freshwater.
MA	9"	25	Nets, pots, traps, spears, and angling only; seasonal gear restrictions and mesh requirements. Bait limit of 50 eels/day for party/charter boat captain and crew.
RI	9"	25	Bait limit of 50 eels/day for party/charter boat captain and crew.
CT	9"	25	
NY	9"	25	Maximum limit of 14" in some rivers. Bait limit of 50 eels/day for party/charter boat captain and crew.
NJ	9"	25	Bait limit of 50 eels/day for party/charter boat captain and crew. Mesh size restriction on pots.
PA	9"	25	Gear restrictions.
DE	9"	25	Two pot limit/person.
MD	9"	25	Gear restrictions.
DC	9"	10	
PRFC	9"	25	
VA	9"	25	Recreational license. Two pot limit. Mandatory monthly catch report. Gear restrictions. Bait limit of 50 eels/day for party/charter boat captain and crew.
NC	9"	25	Gear restrictions. Non-commercial special device license. Two eel pots allowed under Recreational Commercial Gear license. Bait limit of 50 eels/day for party/charter boat captain and crew.
SC	9"	25	Gear restrictions. Permits and licenses. Two pot limit.
GA	9"	25	
FL	9"	25	Gear restrictions. Wholesale/retail purchase exemption applies to possession limit for bait.

\* For specifics on licenses, gear restrictions, and area restrictions, please contact the individual state.

#### **IV. Status of Research and Monitoring**

The FMP requires states and jurisdictions with a declared interest in the species to conduct an annual YOY survey to monitor annual recruitment of each year's cohort.

In 2022, the states and jurisdictions of Maine, New Hampshire, Massachusetts (Wankinco River), Connecticut (Lamprey River), New Jersey, Delaware, the Potomac River Fisheries

Commission, and South Carolina all observed relatively high YOY counts. The catch in Maine was the highest in the time series, far exceeding previous catches, and the yellow eel catch was the second highest in the time series. The Lamprey River catch and CPUE of YOY eel in New Hampshire were also time series highs. In Massachusetts the YOY catch from the Wankinco River was the second highest in the data series, but catches from the Saugus Eel ramp and the Jones River were below average. However, the removal of the Elm Street Dam on the Jones River in 2019 may have contributed to the decline. The Connecticut YOY CPUE was the highest in the time series. The New Jersey YOY catch was the second highest in the 19-year time series. In Delaware the YOY catch was the second highest annual catch for the 23-year time series; the geometric mean daily catch in 2022 was 2,809% higher than the 2021 geometric mean. The PRFC index for elvers was above average, returning to levels observed prior to the recent record highs observed in 2019 and 2020. The catch rates in the Goose Creek YOY survey in South Carolina increased in 2022 from recent years.

All other YOY surveys in 2022 (Rhode Island, New York, Pennsylvania, Maryland, North Carolina, and Florida) had at or below average survey counts. The New Hampshire Cochecho River YOY survey catch in 2022 was the second lowest in the time series, and the Hamilton Fish Lift count in Rhode Island was the lowest. The 2022 YOY CPUE in Maryland was 24% lower than the time series mean, but the 2022 CPUE in the Sassafras River pot survey has generally increased since 2006. Relative abundance of American Eel in the SCDNR Electrofishing Survey in 2022 was 2nd lowest in time series. Catch at Florida's Guana River Dam was the lowest in the time series. North Carolina samples from the Beaufort Bridge Net survey for 2021 and 2022 have not been processed yet due to a data backlog.

D.C. and Georgia do not have YOY surveys, but instead have yellow eel surveys. New Jersey additionally developed and implemented a fishery-independent eel pot survey to collect abundance data of yellow American eels within nursery grounds. This survey, which began in 2015, supplements the current glass eel survey by sampling more life stages and will allow biologists to collect additional biological samples (age-length-weight data). The 2022 yellow eel CPUE in New Jersey was above the mean.

As required by Addendum IV, Maine continued the fishery independent life cycle survey of glass, yellow, and silver eels within at least one river system (West Harbor Pond) in 2022. This site was changed from Cobboosecontee Stream to West Harbor Pond to improve collection of eels at all life stages by Maine Department of Marine Resources staff starting in 2019.

Maine's glass eel aquaculture proposal for the 2022 season was approved and 200 pounds were harvested for aquaculture grow out. Maine submitted a similar proposal for the 2023 fishing season that was also approved. For both years, the approved proposals allow for an additional 200 pounds of glass eels to be harvested for aquaculture; this amount is in addition to the Maine's glass eel quota of 9,688 pounds.

## **V. Research Needs**

The FMP does not require any other research initiatives for participating states and jurisdictions. Nonetheless, the American Eel Technical Committee (TC) has identified several research topics to further understanding of the species' life history, behavior, and biology. Research recommendations from ASMFC 2012, 2017 remain important, but the following list was provided in the 2023 benchmark stock assessment, and is specific to what the Stock Assessment Subcommittee thinks could improve the next stock assessment. Research needs for American eel identified by the TC include:

#### ***Future Research and Data Collection***

- Improve upstream and downstream passage for all life stages of American eels.
- Continue to improve the accuracy of commercial catch and effort data through ACCSP and state partners
- Characterize the length, weight, age, and sex structure of commercially harvested American eels along the Atlantic coast over time.
- Research coastwide prevalence of the swim bladder parasite *Anguillacolla crassus* and its effects on the American eel's growth and maturation, migration to the Sargasso Sea, and spawning potential.
- Improve understanding of the spawning contribution of unexploited portions of the stock (i.e., freshwater areas of coastal US).
- Characterize the length, weight, and sex structure in unharvestable habitats.
- Conduct a tagging study throughout the species range.
- Quantify recreational removals in marine and freshwater habitats and characterize length, weight, and sex structure.
- Evaluate the passage/passage efficiency of American eels through existing fishways at dams/barriers and evaluate barrier physical attributes (height, material) that can be passed by eel without fishways.
- Evaluate the use vs. availability of habitat in the inland portion of the species range, and how habitat availability has changed through time, including opening of habitat from recent dam and barrier removals. This could and should include assisted migration by trucking around dams.
- To the extent that the data allows, account for the proportion of the population (yellow, silver phase) represented by the inland portion of the species range.
- Evaluate the relative impact that commercial harvest has on population status versus the accessibility to inland habitats.

#### ***Assessment Methods***

- Develop methods to assess spawner escapement and biological information pertinent to silver eels in major river basins.
- Perform a range-wide American eel assessment with various countries and agencies (e.g., Canada DFO, ASMFC, USFWS, Caribbean, US Gulf and inland states).

- Explore methods to characterize data by sex to support a female-only delay-difference model.

## **VI. Status of Management Measures**

The FMP requires that all states and jurisdictions implement an annual YOY abundance survey in order to monitor annual recruitment of each year's cohort. Addendum III requires a 9 inch minimum size restriction in the commercial and recreational yellow eel fisheries, as well as a minimum mesh size of ½ by ½ inch in the commercial yellow eel pot fishery. The recreational bag limit is 25 fish/angler/day, and the silver eel fishery is restricted, as is the development of pigmented eel fisheries.

## **VII. Current State-by-State Implementation of FMP Compliance Requirements**

The PRT reviewed the state compliance reports for the 2022 fishing year. The PRT notes the following issues with state implementation of the required provisions of the American Eel FMP:

### Yellow Eel Measures

- New York's regulations for minimum mesh size do not meet the requirements of the FMP. Addendum III requires states and jurisdictions to implement a ½ by ½ inch minimum on the mesh size used in commercial yellow eel pots. New York's regulation is as follows: "Minimum mesh size must be one inch by one-half inch, unless such pots contain an escape panel that is at least four inches square with a mesh size of one inch by one-half inch located so that the panel is on a side, but not at the bottom of a pot." Addendum III allowed states to use a 4 by 4 inch escape panel constructed of a mesh size of at least ½ by ½ inch mesh in order to reduce the financial burden of gear changes on the fishery for three years (until January 1, 2017). Because this provision has expired, New York should require the minimum mesh size for all yellow eel pots, regardless of the presence of an escape panel.

### Silver Eel Fishery Measures:

- Delaware has not implemented regulations preventing harvest of eels from pound nets from September 1 through December 31. No pound net landings have been reported in the state in over 50 years. Delaware will address this issue as part of any future changes to the eel regulations.
- Florida does not have a regulation preventing harvest of eels from pound nets from September 1 through December 31, but the state is unaware of any active pound net fishery in the past 10-15 years.

### Reporting Measures:

- The following jurisdictions do not have dealer reporting:
  - New Hampshire and New Jersey do not have dealer reporting (there are no permitted eel dealers for either state), but harvesters report some information on dealers.

- Delaware (no permitted eel dealers)
- Potomac River Fisheries Commission (jurisdiction reports harvest, not landings)
- Florida (considered a freshwater species and there is dealer reporting for freshwater species)
- New York was unable to provide data on commercial CPUE for the last two fishing years.
- New York has yellow and silver eel fisheries but does not report commercial landings by life stage, as required by the FMP.
- Many states have been unable to provide information on the percent of commercial harvest sold as food versus bait; only Maine, New York, New Jersey, Delaware, and Florida provided this information for 2022.

Section 4.4.2 of the FMP stipulates that a state may apply for *de minimis* status for each life stage if (given the availability of data), for the preceding two years, its average commercial landings (by weight) of that life stage constitute less than 1% of the coastwide commercial landings for that life stage for the same two-year period. States meeting this criterion are exempted from having to adopt commercial and recreational fishery regulations for a particular life stage listed in Section 4 and any fishery-dependent monitoring elements for that life stage listed in Section 3.4.1.

Qualification for *de minimis* is determined from state-reported landings found in annual compliance reports. New Hampshire, Massachusetts, Pennsylvania, District of Columbia, Georgia, and Florida have requested continued *de minimis* status for their yellow eel fisheries. Florida does not qualify as the state landings in 2022 exceed 1% of the coastwide yellow eel landings. All other states that applied for *de minimis* of the yellow eel fishery meet the *de minimis* criteria.

### **VIII. Recommendations/Findings of the Plan Review Team**

1. The PRT recommends the Board consider state compliance notes as detailed in Section VII.
2. The PRT recommends *de minimis* be granted to New Hampshire, Massachusetts, Pennsylvania, District of Columbia, and Georgia for their yellow eel fisheries.
3. The PRT requests that New York separate its yellow and silver eel landings when reporting harvest.
4. The PRT requests that states quantify escapements, changes in upstream and downstream passage (e.g. dam removals, new impediments to passage) annually and provide this information to the Technical Committee for evaluation. The PRT recommends that a section be added to the compliance reports for this information.
5. The PRT had previously requested that the Board reevaluate the requirement that states provide estimates of the percent of harvest going to food versus bait, as there is a high level

of uncertainty and subjectivity inherent in the data. Additionally, the PRT notes that this information does currently impact regulations and is unclear of the benefit for management. The PRT requests again that the Board consider tasking the Committee on Economic and Social Sciences (CESS) to conduct an analysis of the market demand for all life stages of eel, specific to food vs bait markets, as well as international market demand.

6. The PRT recommends that the Commission and USFWS work together to annually compare domestic landings data to export data for American eel across all life stages.

### **VIII. References**

Atlantic States Marine Fisheries Commission (ASMFC). 1998. Interstate Fishery Management Plan for American Eel (*Anguilla rostrata*). Washington D.C. NOAA Oceanic and Atmospheric Administration Award No. NA97 FGO 0034 and NA07 FGO 024.

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