ATLANTIC STATES MARINE FISHERIES COMMISSION

REVIEW OF THE INTERSTATE FISHERY MANAGEMENT PLAN

FOR ATLANTIC MENHADEN
(*Brevoortia tyrannus*)

2024 FISHING YEAR

Prepared by the Plan Review Team

Approved November 21, 2025

Sustainable and Cooperative Management of Atlantic Coastal Fisheries

REVIEW OF THE ASMFC FISHERY MANAGEMENT PLAN AND STATE COMPLIANCE FOR ATLANTIC MENHADEN *(Brevoortia tyrannus)* FOR THE 2023 FISHERY

Management Summary

Date of FMP:	Original FMP: August 1981
Amendments:	Plan Revision: September 1992 Amendment 1: July 2001 Amendment 2: December 2012 Amendment 3: November 2017
Management Unit:	The range of Atlantic menhaden within U.S. waters of the Northwest Atlantic Ocean, from the estuaries eastward to the offshore boundary of the Exclusive Economic Zone (EEZ).
States With Declared Interest:	Maine – Florida, including Pennsylvania
Additional Jurisdictions:	Potomac River Fisheries Commission, National Marine Fisheries Service, United States Fish and Wildlife Service
Active Boards/Committees:	Atlantic Menhaden Management Board, Advisory Panel, Technical Committee, Stock Assessment Subcommittee, Plan Review Team, Plan Development Team, Ecological Reference Point Workgroup
Stock Status:	Not overfished, and overfishing is not occurring relative to the current ecological reference points (2022 Single-Species Stock Assessment Update)

I. Status of the Fishery Management Plan

Atlantic menhaden management authority is vested in the states because the vast majority of landings come from state waters. All Atlantic coast states and jurisdictions, with the exception of the District of Columbia, have declared interest in the Atlantic menhaden management program.

The first coastwide fishery management plan (FMP) for Atlantic menhaden was passed in 1981. The FMP did not recommend or require specific management actions, but provided a suite of options should they be needed. In 1992, the plan was revised to include a suite of objectives intended to improve data collection and promote awareness of the fishery and its research needs.

Amendment 1, implemented in 2001, provided specific biological, ecological and socioeconomic management objectives. Addenda I and V revised the biological reference points for menhaden and specified that stock assessments are to occur every three years. Although Amendment 1 did not implement any recreational or commercial management measures, Addenda II through IV instituted a harvest cap on the reduction fishery in Chesapeake Bay. Specifically, Addendum II implemented a harvest cap for 2006-2010 fishing seasons; before its first year of implementation, Addendum III revised the cap amount to be the average landings from 2001 to 2005 (or 109,020 mt); and Addendum IV extended the provisions of Addendum III through 2013.

Amendment 2, implemented in 2012, established a 170,800 metric ton (mt) total allowable catch (TAC) for the commercial fishery beginning in 2013. This TAC represented a 20% reduction from average landings between 2009 and 2011. This Amendment also used the 2009-2011 period to allocate the TAC among jurisdictions. Additionally, the Amendment established timely reporting requirements for commercial landings and required states to be accountable for their respective quotas by paying back any overages the following year. Amendment 2 also included provisions that allowed for the transfer of quota between jurisdictions and a bycatch allowance of 6,000 pounds per day for non-directed fisheries that operate after a jurisdiction's quota has been landed. Addendum 1 to Amendment 2 allows two licensed individuals to harvest up to 12,000 pounds of menhaden bycatch when working from the same vessel using stationary multi-species gear; the intent of this provision is to accommodate cooperative fishing practices that traditionally take place in Chesapeake Bay. The Amendment also reduced the Chesapeake Bay reduction fishery harvest cap by 20% to 87,216 mt.

Amendment 2 also enabled the Board to set aside 1% of the coastwide TAC for episodic events. Episodic events are times and areas where Atlantic menhaden are available in more abundance than they normally occur. Technical Addendum I to Amendment 2 established a mechanism for New England states from Maine to Connecticut[1] to use the set aside, which includes a qualifying definition of episodic events, required effort controls to scale a state's fishery to the set aside amount, and a timely reporting system to monitor the set aside. Any unused set aside

[1] At its May 2016 meeting, the Board added New York as an eligible state to harvest under the set aside.

quota as of October 31 is redistributed to jurisdictions on November 1 based on the Amendment 2 allocation percentages.

In 2015, the TAC was increased by 10% to 187,880 mt for the 2015 and 2016 fishing years. In 2016, the Board again increased the TAC by 6.45% to 200,000 mt for the 2017 fishing year.

Atlantic menhaden are managed under Amendment 3. Approved in November 2017, the Amendment maintained the management program's single-species biological reference points until the review and adoption of menhaden-specific ecological reference points (ERPs) as part of the 2019 benchmark stock assessment process. In doing so, the Board placed development of menhaden-specific ERPs as its highest priority and supported the efforts of the ERP Workgroup to reach that goal. Amendment 3 also changed commercial quota allocations in order to strike an improved balance between gear types and jurisdictions. The Amendment allocated a baseline quota of 0.5% to each jurisdiction, and allocated the rest of the TAC based on average landings between 2009 and 2011. This measure provides fishing opportunities to states that had little quota under Amendment 2, while still recognizing historic landings in the fishery. States also have the option to relinquish all or part of its quota which is then redistributed to the other jurisdictions based on the 2009-2011 landings period. The Amendment also prohibits the rollover of unused quota; maintains the quota transfer process; maintains the bycatch provision (which was rebranded as the 'incidental catch/small-scale fisheries' (IC/SSF) provision and applicable gear types were defined) and the episodic event set aside program (EESA) for the states of Maine – New York. Finally, the Amendment reduced the Chesapeake Bay cap to 51,000 mt, recognizing the importance of the Chesapeake Bay as nursery grounds for many species by capping recent reduction landings from the Bay at current levels.

State	Addendum 1 Allocations (%)
ME	4.80%
NH	1.19%
MA	2.12%
RI	0.81%
CT	0.33%
NY	0.84%
NJ	11.00%
PA	0.01%
DE	0.27%
MD	1.17%
PRFC	1.09%
VA	75.21%
NC	0.37%
SC	0.25%
GA	0.25%
FL	0.29%

Addendum I, implemented in 2023, modifies Amendment 3 by creating a three-tiered system for minimum allocations to the states, with Pennsylvania receiving 0.01%; South Carolina, Georgia, Connecticut, Delaware, North Carolina, and Florida receiving 0.25%; and the remaining states continuing to receive a minimum of 0.5%. Furthermore, the Addendum allocates the remainder of the TAC, excluding the 1% reserved for the EESA, on a state-by-state basis based on landings history of the fishery from 2018, 2019, and 2021. Regarding the IC/SSF provision, the Addendum codifies the ability for states to elect to divide their quotas into sectors, enabling individual sectors to enter into the provision at different times. Additionally, the Addendum removes purse seines as a permitted small-scale directed gear, thereby, prohibiting them from harvesting under the IC/SSF provision. Finally, the Addendum

counts IC/SSF landings against the TAC and if IC/SSF landings cause the TAC to be exceeded, then the Board must take action to modify one or both of permitted gear types and trip limits under the provision.

In August 2020, the Board formally approved the use of ERPs to manage Atlantic menhaden, with Atlantic striped bass as the focal species in maintaining their population. Atlantic striped bass was chosen for the ERP definitions because it was the most sensitive predator fish species to Atlantic menhaden harvest, so an ERP target and threshold sustaining striped bass would likely provide sufficient forage for other predators under current ecosystem conditions. For the development of the ERPs, all other focal species in the model (bluefish, weakfish, spiny dogfish, and Atlantic herring) were assumed to be fished at 2017 levels.

In November 2022, the Board approved a TAC for 2023-2025 of 233,550 mt, based on the ERPs. The new TAC represents a 20% increase from the 2021-2022 TAC level. Based on projections, the probability of exceeding the ERP fishing mortality target of 0.19 is 2% in 2023, 22% in 2024, and 28.5% in 2025.

II. Status of the Stock

In February 2020, the Board accepted the results of the Single-Species and Ecological Reference Point (ERP) Benchmark Stock Assessments and Peer Review Reports for management use. These assessments were peer-reviewed and approved by an independent panel of scientific experts through the 69th SouthEast, Data, Assessment and Review (SEDAR) workshop. The single-species assessment acts as a traditional stock assessment using the Beaufort Assessment Model (BAM), a statistical catch-at-age model that estimates population size-at-age and recruitment. According to the model, the stock is not overfished or experiencing overfishing relative to the current single-species reference points.

The ERP assessment evaluates the health of the stock in an ecosystem context, and indicates the fishing mortality rate (*F*) reference points for menhaden should be lower to account for the species' role as a forage fish[2]. The ERP assessment uses the Northwest Atlantic Coastal Shelf Model of Intermediate Complexity for Ecosystems (NWACS-MICE) to develop Atlantic menhaden ERPs. NWACS-MICE is an ecosystem model that focuses on four key predator species (striped bass, bluefish, weakfish, and spiny dogfish) and three key prey species (Atlantic menhaden, Atlantic herring, and bay anchovy). These species were chosen because diet data indicate they are top predators of Atlantic menhaden or are key alternate prey species for those predators.

The ERP assessment indicates the *F* reference points for menhaden should be lower than the single-species reference points, but it also concluded that the final ERP definitions, including the appropriate harvest level for menhaden, depend on the management objectives for the

[2] it should be noted, however, that the conservative TAC the Board has set for recent years is consistent with the ERP *F* target provided in the ERP Assessment

ecosystem (i.e., management objectives for both Atlantic menhaden and its predators). Accordingly, instead of proposing a specific ERP definition, the assessment recommends a combination of the BAM and the NWACS-MICE models as a tool for managers to evaluate trade-offs between menhaden harvest and predator biomass.

Atlantic menhaden are now managed by menhaden-specific ERPs as indicated above. **Fishing** mortality, a measure of the intensity with which the population is being fished, is used to evaluate whether the stock is experiencing overfishing. The ERP fishing mortality target is the maximum *F* on Atlantic menhaden that sustains Atlantic striped bass at their biomass target when striped bass are fished at their F target. The ERP fishing mortality threshold is the maximum F on Atlantic menhaden that keeps Atlantic striped bass at their biomass threshold when striped bass are fished at their *F* target. Population fecundity (FEC), a measure of reproductive capacity, is used to evaluate whether the stock is overfished. The FEC target and threshold are the minimum population fecundities that maintain striped bass at their biomass target and threshold level, respectively, when striped bass are fished at their F target. According to the 2022 single-species stock assessment update, the 2021 estimate of fecundity was above both the ERP FEC target and threshold, and the 2021 estimate of fishing mortality was below the ERP F target and threshold, indicating the stock was neither overfished nor experiencing overfishing. The next ERP benchmark stock assessment and single-species assessment update are underway and scheduled to be presented to the Board in 2025.

III. Status of the Fishery

Commercial

Total commercial Atlantic menhaden landings in 2024, including directed, incidental catch, and EESA landings, are estimated at 186,155 mt (410.4 million pounds), an approximate 12% increase relative to 2023 and 80% of the coastwide commercial TAC of 233,550 mt (514.9 million pounds). There were no reported landings from the incidental catch fishery in 2024 (Table 1).

Reduction Fishery

The 2024 harvest for reduction purposes is estimated at 134,382 mt (296 million pounds), a 15% increase from 2023 and 1.2% above the previous 5-year average of 132,723 mt (293 million pounds) (Table 2; Figure 3). Omega Protein's plant in Reedville, Virginia, is the only active Atlantic menhaden reduction factory on the Atlantic coast.

Bait Fishery

The coastwide bait harvest estimate for 2024 from state compliance reports, including directed, incidental catch, and EESA landings, is 51,773 mt (114.1 million pounds). This represents a 4% increase from 2023 and a 9% decrease compared to the previous 5-year average (Table 2; Figure 3). New Jersey (42%), Maine (24%), Virginia (17%), and Massachusetts (11%) landed the four largest shares in 2024.

Incidental Catch and Small-Scale Fisheries Landings

There were no reported landings from the incidental catch fishery in 2024 (Table 4).

Episodic Events Set Aside Program
The 2024 EESA quota was 2,336 mt (5.15 million pounds). Maine began harvesting under the EESA program on September 2nd and continued until their EESA fishery closed on October 31st. Preliminary estimates reported landings of 2,928,330 pounds. Based on the preliminary estimate, 2,220,556 pounds of leftover set aside was redistributed to the states on November 5th. However, late reporting resulted in a final estimate of 3,063,095 pounds landed under the EESA fishery (Table 5), resulting in an overage of 134,765 pounds. In December 2024 and July 2025, Maine transferred a total of 134,765 pounds to cover the overage (see Table 7).

Chesapeake Bay Reduction Fishery Cap (cap)
Amendment 3 implemented a 51,000 mt harvest cap for the reduction fishery in the Chesapeake Bay. The cap for 2024 was set once again at 51,000 mt with harvest remaining under the limit in 2023. Reported reduction landings from Chesapeake Bay in 2024 were less than 51,000 mt and below the cap.

Recreational
Menhaden are important bait in many recreational fisheries; some recreational fishermen use cast nets to capture menhaden or snag them with hook and line for use as bait, both dead and alive. The Marine Recreational Information Program (MRIP) estimate for Atlantic menhaden harvest (A + B1) in 2024 is 943,427 pounds (PSE of 19.40) which is a 21% decrease from 2023 (1.2 million pounds).

Additionally, it is important to note recreational harvest is not well captured by MRIP because there is not a known, identified direct harvest for menhaden, other than for bait. MRIP intercepts typically capture the landed fish from recreational trips as fishermen come to the dock or beach. However, since menhaden caught by recreational fishermen are often used as bait during their trip, they are typically not part of the catch that is seen by the surveyor completing the intercept.

Quota Transfers
There were 3 state-to-state transfers in 2024 (Table 8), a decrease from 5 in 2023. Quota transfers were generally pursued to ameliorate overages. One of the purposes of the commercial allocation changes in Addendum I to Amendment 3 was to reduce the need for quota transfers, and the PRT notes the significant decrease in transfers since 2022.

IV. Status of Research and Monitoring

Commercial fisheries monitoring

Reduction fishery - In 2024, the NMFS Southeast Fisheries Science Center Beaufort Laboratory in Beaufort, North Carolina, continued to monitor landings and collect biological samples from the Atlantic menhaden purse-seine reduction fishery. The Beaufort Laboratory processes and ages all reduction samples collected on the East Coast. In addition, the purse-seine reduction

fishery continued to provide Captains Daily Fishing Reports (CDFRs) to the Beaufort Laboratory where NMFS personnel enter data into a database for storage and analysis. Starting in 2025, CDFR collection and landings monitoring are being conducted by the Virginia Marine Resources Commission.

Bait fishery - Per Amendment 3, states are required to implement a timely quota monitoring system to maintain menhaden harvest within the TAC and minimize the potential for quota overages. The Standard Atlantic Fisheries Information System (SAFIS) daily electronic dealer reporting system allows near real time data acquisition for federally permitted bait dealers in the Mid-Atlantic and Northeast. Landings by Virginia's purse-seine for-bait vessels (snapper rigs) in Chesapeake Bay are tabulated at season's end using CDFRs maintained on each vessel during the fishing season. A bait-fishery sampling program for size and age composition has also been conducted since 1994. The Beaufort Laboratory, and some states, age the bait samples collected. See *Section VII* for more information on quota monitoring and biological sampling requirements.

Atlantic menhaden research

The following studies relevant to menhaden assessment and management have been published within the last few years:

- Anstead, K. A., K. Drew, D. Chagaris, A. M. Schueller, J. E. McNamee, A. Buchheister, G. Nesslage, J. H. Uphoff Jr., M. J. Wilberg, A. Sharov, M. J. Dean, J. Brust, M. Celestino, S. Madsen, S. Murray, M. Appelman, J. C. Ballenger, J. Brito, E. Cosby, C. Craig, C. Flora, K. Gottschall, R. J. Latour, E. Leonard, R. Mroch, J. Newhard, D. Orner, C. Swanson, J. Tinsman, E. D. Houde, T. J. Miller, and H. Townsend. 2021. The path to an ecosystem approach for forage fish management: A case study of Atlantic menhaden. Front. Mar. Sci. 8: 607657.
- Chargaris D., K. Drew, A. M. Schueller, M. Cieri, J. Brito, and A. Buchheister. 2020. Ecological Reference Points for Atlantic Menhaden Established Using an Ecosystem Model of Intermediate Complexity. Front. Mar. Sci. 7:606417.
- Deyle, E., A. M. Schueller, H. Ye, G. M. Pao, and G. Sugihara. 2018. Ecosystem-based forecasts of recruitment in two menhaden species. Fish and Fisheries 19(5): 769-781.
- Drew, K., M. Cieri, A. M. Schueller, A. Buchheister, D. Chagaris, G. Nesslage, J. E. McNamee, and J. H. Uphoff. 2021. Balancing Model Complexity, Data Requirements, and Management Objectives in Developing Ecological Reference Points for Atlantic Menhaden. Front. Mar. Sci. 8: 608059.
- Liljestrand, E.M., M.J. Wilberg, and A.M. Schueller. 2019. Estimation of movement and mortality of Atlantic menhaden during 1966-1969 using a Bayesian multi-state mark recapture model. Fisheries Research 210: 204-213.
- Liljestrand, E.M., M. J. Wilberg, and A. M. Schueller. 2019. Multi-state dead recovery mark-recovery model performance for estimating movement and mortality rates. Fisheries Research 210: 214-233.
- Lucca, B. M., and J. D. Warren. 2019. Fishery-independent observations of Atlantic menhaden abundance in the coastal waters south of New York. Fisheries Research 218: 229-236.

- Nesslage, G. M., and M. J. Wilberg. 2019. A performance evaluation of surplus production models with time-varying intrinsic growth in dynamic ecosystems. Canadian Journal of Fisheries and Aquatic Sciences 76(12): 2245-2255.
- Schueller, A.M., A. Rezek, R. M. Mroch, E. Fitzpatrick, and A. Cheripka. 2021. Comparison of ages determined by using an Eberbach projector and a microscope to read scales from Atlantic menhaden (Brevoortia tyrannus) and Gulf menhaden (B. patronus). Fishery Bulletin 119(1): 21-32.

Theses and Dissertations of Potential Interest:

- McNamee, J. E. 2018. A multispecies statistical catch-at-age (MSSCAA) model for a Mid-Atlantic species complex. University of Rhode Island.

V. Implementation of FMP Compliance Requirements

All states are required to submit annual compliance reports by August 1.

Quota Results

The Board set the TAC at 233,550 mt (514.9 million pounds) for 2023-2025 based on the adopted ERPs. 1% is set aside for episodic events. States may relinquish all or part of its annual quota by December 1st of the previous year. Delaware relinquished one million pounds of quota, which was redistributed to the states according to procedures outlined in Addendum I to Amendment 3 and is reflected in the 2025 Preliminary Quota in Table 7.

Table 7 also contains 2024 state-specific quotas and directed harvest. The final quotas for 2024 account for one million pounds of quota relinquished by Delaware, state-to-state transfers (Table 8), and transfers to the EESA. Based on preliminary 2024 landings, no states incurred an overage.

Quota Monitoring

The Board approved timely quota monitoring programs for each state through implementation of Amendment 3. Monitoring programs are intended to minimize the potential for quota overages. Table 6 contains a summary of each state's approved quota monitoring system.

Menhaden purse seine and bait seine vessels (or snapper rigs) are required to submit CDFRs. Maine, New York, and Virginia fulfilled this requirement in 2024. New Jersey did not require purse seine vessels to fill out the specific CDFR but did require monthly trip level reporting on state forms that include complementary data elements to the CDFR. Rhode Island purse seine vessels must call in daily reports to RI DMF and fill out daily trip level logbooks. New Hampshire also does not require the specific CDFR, but does require daily, trip-level reporting from dealers and monthly trip-level reporting from harvesters. Massachusetts requires trip level reporting for all commercial fishermen. Menhaden purse seine fisheries do not currently operate in all other jurisdictions in the management unit.

Biological Monitoring Requirements
Amendment 3 maintains biological sampling requirements for non *de minimis* states as follows:

- One 10-fish sample (age and length) per 300 mt landed for bait purposes for Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Delaware; and
- One 10-fish sample (age and length) per 200 mt landed for bait purposes for Maryland, Potomac River Fisheries Commission, Virginia, and North Carolina

Table 9 provides the number of 10-fish samples required and collected for 2024. These are based on the best available 2024 total bait landings data (including directed, incidental, and EESA landings) provided to the Commission by the states. In 2024, most states and jurisdictions met the requirement.

The PRT has regularly discussed whether a sufficient number of age and length samples are being collected from different commercial gear types as well as regions, and whether substituting samples from fishery-independent sources is appropriate for meeting the requirement. In September 2025, the Technical Committee reviewed the biosampling requirement. The TC did not recommend any reductions in sample size and will complete further analyses to develop a recommendation. Additionally, the PRT notes that recently NOAA updated their sampling protocol to collect 5-fish samples for both the reduction and the Virginia purse-seine bait fisheries. The PRT recommends the TC include a review of the appropriate sample size by gear in their analysis and recommendation for the bait fishery requirement.

Adult CPUE Index Requirement
Amendment 3 requires that, at a minimum, each state with a pound net fishery must collect catch and effort data elements for Atlantic menhaden as follows; total pounds landed per day, number of pound nets fished per day. These are harvester trip level ACCSP data requirements. In May of 2013, the Board approved North Carolina's request to omit this information on the basis that it did not have the current reporting structure to require a quantity of gear field by harvesters or dealers. In recent years, NC DMF staff have worked to develop a proxy method to estimate effort but this approach likely would not work for developing an adult CPUE index.

De Minimis Status
To be eligible for *de minimis* status, a state's bait landings must be less than 1% of the total coastwide bait landings for the most recent two years. State(s) with a reduction fishery are not eligible for *de minimis* consideration. If granted *de minimis* status by the Board, states are exempt from implementing biological sampling as well as pound net catch and effort data reporting. The Board also previously approved a *de minimis* exemption for New Hampshire, South Carolina and Georgia from implementation of timely reporting. The states of Pennsylvania, North Carolina, South Carolina, Georgia, and Florida requested and qualify for *de minimis* status for the 2024 fishing season.

VI. Plan Review Team Recommendations and Notable Comments

Management Recommendations

- The PRT recommends that the *de minimis* requests from Pennsylvania, North Carolina, South Carolina, Georgia, and Florida, be approved.

VII. Literature Cited

Atlantic States Marine Fisheries Commission (ASMFC). 2022. Atlantic Menhaden Stock Assessment Update. Prepared by the ASMFC Atlantic Menhaden Stock Assessment Subcommittee. 127 pp.

Southeast Data, Assessment, and Review (SEDAR). 2015. SEDAR 40 – Atlantic Menhaden Stock Assessment Report. SEDAR, North Charleston SC. 643 pp.

SEDAR. 2020. SEDAR 69 – Atlantic Menhaden Benchmark Stock Assessment Report. SEDAR, North Charleston SC. 691 pp. available online at: http://sedarweb.org/sedar-69

SEDAR. 2020. SEDAR 69 - Atlantic Menhaden Ecological Reference Points Stock Assessment Report. SEDAR, North Charleston SC. 560 pp. available online at: http://sedarweb.org/sedar-69

Table 1. Directed, bycatch, and episodic events set aside landings in 1000s of pounds for 2024 by jurisdiction. Source: 2024 ASMFC state compliance reports for Atlantic menhaden. NA = not applicable.

State	Directed	Incidental Catch	EESA
ME	24,035	-	3,063
NH	2,434	-	-
MA	12,346	-	-
RI	1,905	-	-
CT	48	-	-
NY	1,164	-	-
NJ	48,112	-	NA
PA	0	-	NA
DE	46	-	NA
MD	1,032	-	NA
PFRC	692	-	NA
VA	315,124	-	NA
NC	359	-	NA
SC	0	-	NA
GA	0	-	NA
FL	41	-	NA

Table 2. Atlantic menhaden reduction and bait landings in thousand metric tons, 1990-2024.

	Reduction Landings (1000 mt)	Bait Landings (1000 mt)
1990	343	28.1
1991	330	29.7
1992	270	33.8
1993	310	23.4
1994	260	25.6
1995	340	28.4
1996	293	21.7
1997	259	24.2
1998	246	38.4
1999	171	34.8
2000	167	33.5
2001	234	35.3
2002	174	36.2
2003	166	33.2
2004	183	34.0
2005	147	38.4
2006	157	27.2
2007	174	42.1
2008	141	47.6
2009	144	39.2
2010	183	42.7
2011	174	52.6
2012	161	63.7
2013	131	37.0
2014	131	41.6
2015	143	45.8
2016	137	43.1
2017	129	43.8
2018	141	50.2
2019	151	58.1
2020	125	59.6
2021	137	58.4
2022	134	60.1
2023	117	49.8
2024	134	51.8
Avg 2019-2023	133	57.2

Table 3. Incidental fishery landings by state in 1000s of pounds, 2013-2024. Only states that have reported incidental catch landings are listed. Average total incidental catch landings for the time series is 7.1 million pounds.

State	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
ME		-	-	506	5,374	2,995	10,751	13,605	11,771	15,602	-	-
MA								49	174	595	-	-
RI	16	99	70	40	136	-	-	-	C	-	-	-
CT	0	-	10	-	124	-	-	-	C	-	-	-
NY	0	325	769	281	807	-	-	282	310	-	-	-
NJ	0	626	241	196	-	204,240	-	20	C	-	-	-
DE	76	112	92	21	29	-	-	-	-	-	-	-
MD	2,864	2,201	1,950	996	-	-	-	-	-	-	-	-
PRFC	1,087	1,112	455	106	670	-	-	-	-	-	-	-
VA	268	2,232	2,103	326	-	110,281	-	-	-	1,784	-	-
FL	65	126	302	111	264	-	-	-	-	-	-	-
Total	4,377	6,831	5,992	2,581	7,404	3,215	10,751	13,957	12,336	16,152	0	0

Table 4. Total incidental landings (1000s of pounds), number of trips, and number of states reporting landings in the incidental catch fishery, 2013-2024.

Year	Landings (1000s of pounds)	Number of Trips	Number of states landing
2013	4,377	2,783	6
2014	6,831	5,275	8
2015	5,992	4,498	9
2016	2,581	2,222	9
2017	7,407	2,108	7
2018	3,310	1,224	3
2019	10,751	3,113	1
2020	13,957	3,565	4
2021	12,336	3,099	6
2022	17,980	4,134	3
2023	0	0	0
2024	0	0	0
Total	85,522	32,021	

Table 5. Episodic Events Set-Aside (EESA) fishery quota, landings, and participating states by year. *The 2022 overage was partially covered by a quota transfer and the remainder was deducted from the 2023 set aside.

Year	States Declared Participation	EESA Quota (MT)	Landed (MT)	% EESA Quota Used
2013		1,708	-	-
2014	RI	1,708	134	7.8%
2015	RI	1,879	854	45.5%
2016	ME, RI, NY	1,879	1,728	92.0%
2017	ME, RI, NY	2,000	2,129	106.5%
2018	ME	2,031	2,103	103.6%
2019	ME	2,160	1,995	92.4%
2020	ME & MA	2,160	2,080	96.3%
2021	ME, MA, RI	1,944	2,213	113.8%
2022	ME, MA	1,944	1,992	102.4%
2023*	ME	2,317	1,274	55.0%
2024	ME	2,336	1,389	59.5%

Table 6. State quota reporting timeframes in 2024. The **bold** text indicates which reporting program (dealer or harvesters) the states use to monitor its quotas. Blue text indicates changes from 2022.

State	Dealer Reporting	Harvester Reporting	Notes
ME	monthly	**daily/weekly**	Harvesters must report same day during directed and episodic event trips; harvesters report daily trips weekly for trips <6,000 lbs. Harvest reports are used for quota monitoring.
NH	**daily**	monthly	Exempt from timely reporting. Implemented daily, transaction level reporting for state dealers.
MA	**weekly**	monthly/daily	Harvesters landing greater than 6,000 lbs must report daily
RI	**twice weekly**	quarterly/daily	Harvesters using purse seines must report daily
CT	**weekly/monthly**	monthly/daily	CT operates as directed fisheries until 90% of the quota is harvested. Then operates at the 6,000 pound bycatch trip limit.
NY	**Weekly**	monthly	Capability to require weekly harvester reporting if needed
NJ	**weekly**	monthly	All menhaden sold or bartered must be done through a licensed dealer
DE	—	**monthly/daily**	Harvesters landing menhaden report daily using IVR
MD	monthly	**monthly/daily**	PN harvest is reported daily, while other harvest is reported monthly.
PRFC	—	**weekly**	Trip level harvester reports submitted weekly. When 70% of quota is estimated to be reached, then pound netters must call in weekly report of daily catch.
VA	—	**monthly/weekly/daily**	Purse seines submit weekly reports until 97% of quota, then daily reports. Monthly for all other gears until 90% of quota, then reporting every 10 days.
NC	**monthly (combined reports)**		Single trip ticket with dealer and harvester information submitted monthly. Larger dealers (>50,000 lbs of landings annually) can report electronically, updated daily.
SC	**monthly (combined reports)**		Exempt from timely reporting. Single trip ticket with dealer and harvester information.
GA	**monthly (combined reports)**		Exempt from timely reporting. Single trip ticket with dealer and harvester information.
FL	**monthly/weekly (combined reports)**		Monthly through the FWC Marine Fisheries Trip Ticket system until 75% of quota is projected to have been met, then weekly phone calls to dealers who have been reporting menhaden landings until the directed fishery is closed.

Table 7. Results of 2024 quota accounting in pounds. The 2025 base quotas account for the redistribution of relinquished quota by Delaware (1 million pounds).

State	2024 Base Quota*	Returned Set Aside	Transfers^	Final 2024 Quota	Overages	2025 Base Quota*
ME	24,510,314	101,576	1,082,246	25,694,136		24,510,314
NH	6,052,530	16,206	-2,000,000	4,068,736		6,052,530
MA	10,838,902	38,344	1,700,000	12,577,245		10,838,902
RI	4,147,882	7,396	-500,000	3,655,278		4,147,882
CT	1,693,471	1,938		1,695,410		1,693,471
NY	4,298,217	8,092		4,306,309		4,298,217
NJ	56,172,891	248,021		56,420,912		56,172,891
PA	50,974	-		50,974		50,974
DE	375,998	471		376,469		375,998
MD	5,947,968	15,722		5,963,690		5,947,968
PRFC	5,547,544	13,870		5,561,313		5,547,444
VA	384,172,558	1,765,072		385,937,630		384,172,558
NC	1,892,146	2,857		1,895,003		1,892,146
SC	1,274,601	1	-700,000	574,602		1,274,601
GA	1,274,352	-	-500,000	774,352		1,274,352
FL	1,490,464	1,000		1,491,464		1,490,464
Total	**509,740,712**	**2,220,566**		**511,961,278**		**509,740,712**

*Includes redistributed relinquished quota for that year and any overages from the previous season.

^Includes inter-state transfers and transfers to the EESA quota.

Table 8. State-to-state transfers of menhaden commercial quota for the 2024 Fishing year.

Transfer Date	ME	NH	MA	RI	CT	NY	NJ	PA	DE	MD	PRFC	VA	NC	SC	GA	FL
7/18/24			1,200,000											-700,000	-500,000	
9/6/24			500,000	-500,000												
11/5/24	2,000,000	-2,000,000														
Total	2,000,000	-2,000,000	1,700,000	-500,000										-700,000	-500,000	

Table 9. Biological monitoring results for the 2024 Atlantic menhaden bait fishery.
*Age samples are still being processed

State	#10-fish samples required	#10-fish samples collected	Age samples collected	Length samples collected	Gear/Comments
ME	41	44	440	440	37 samples from directed fishery, 5 during EESA / 37 samples from PS, 7 samples gillnets
NH	4	4	40	40	Purse Seine
MA	19	19	195	195	All purse seine
RI	3	5	54	54	Floating fish trap, Purse seine, Otter Trawl (84 additional FI samples available)
CT	1	1	13	13	cast net
NY	2	20	202	202	cast net, seine net
NJ	71	78	780	780	Purse Seine
	2	-	-	-	Other Gears
DE	1	3	33	33	Gill Net
MD	2	21	371	777	Pound net
PRFC	2	4	40	40	pound net
VA	1	2	21	21	Pound Net
	1	19	192	192	Gill Net
NC	1	2	21	175	gillnet
Total	**151**	**222**	**1622**	**2962**	

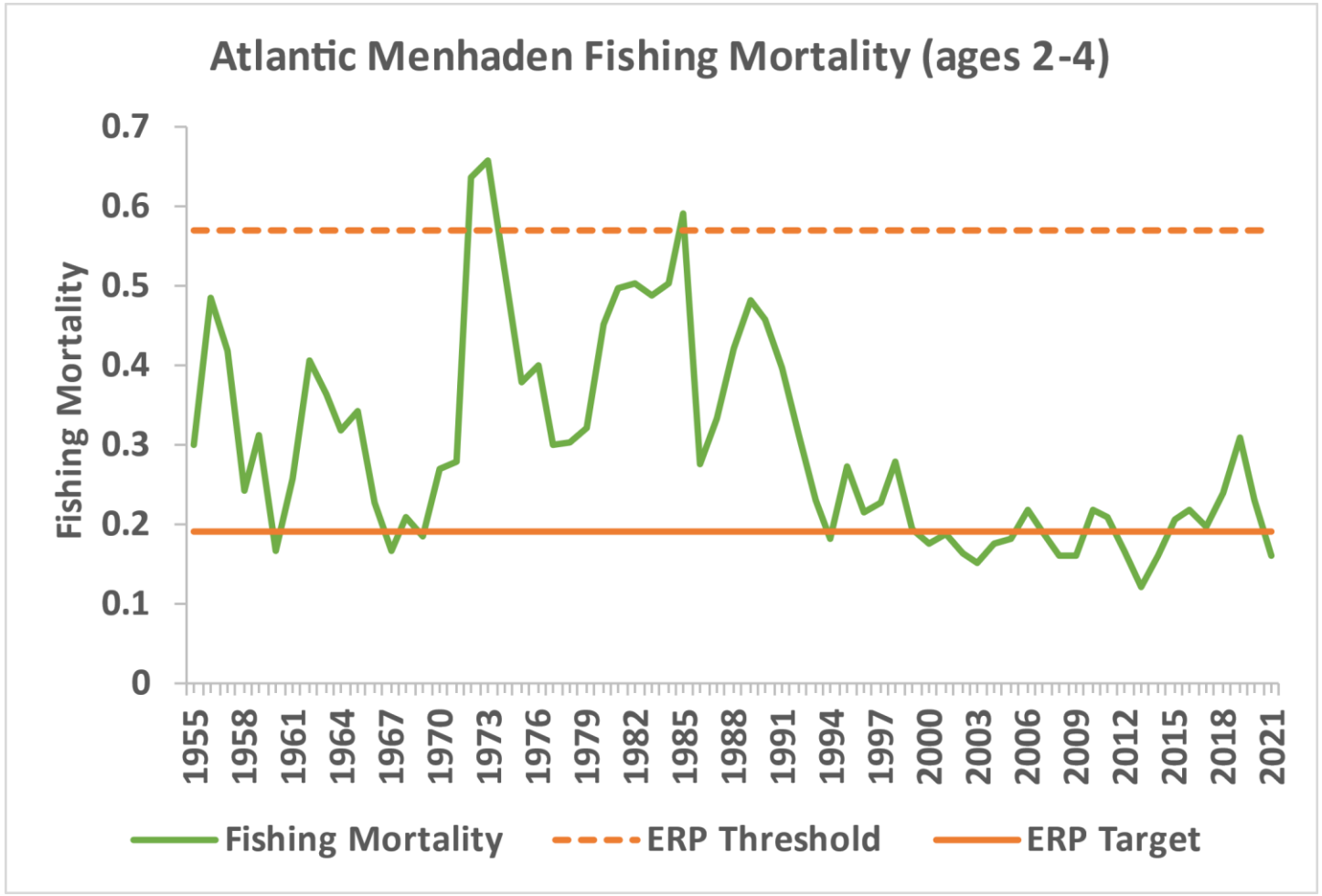

Figure 1. Fishing mortality, 1955-2021. The ERP fishing mortality reference points are F_{target} = 0.19 and $F_{threshold}$ = 0.57. F_{2017} = 0.16. Source: ASMFC 2022.

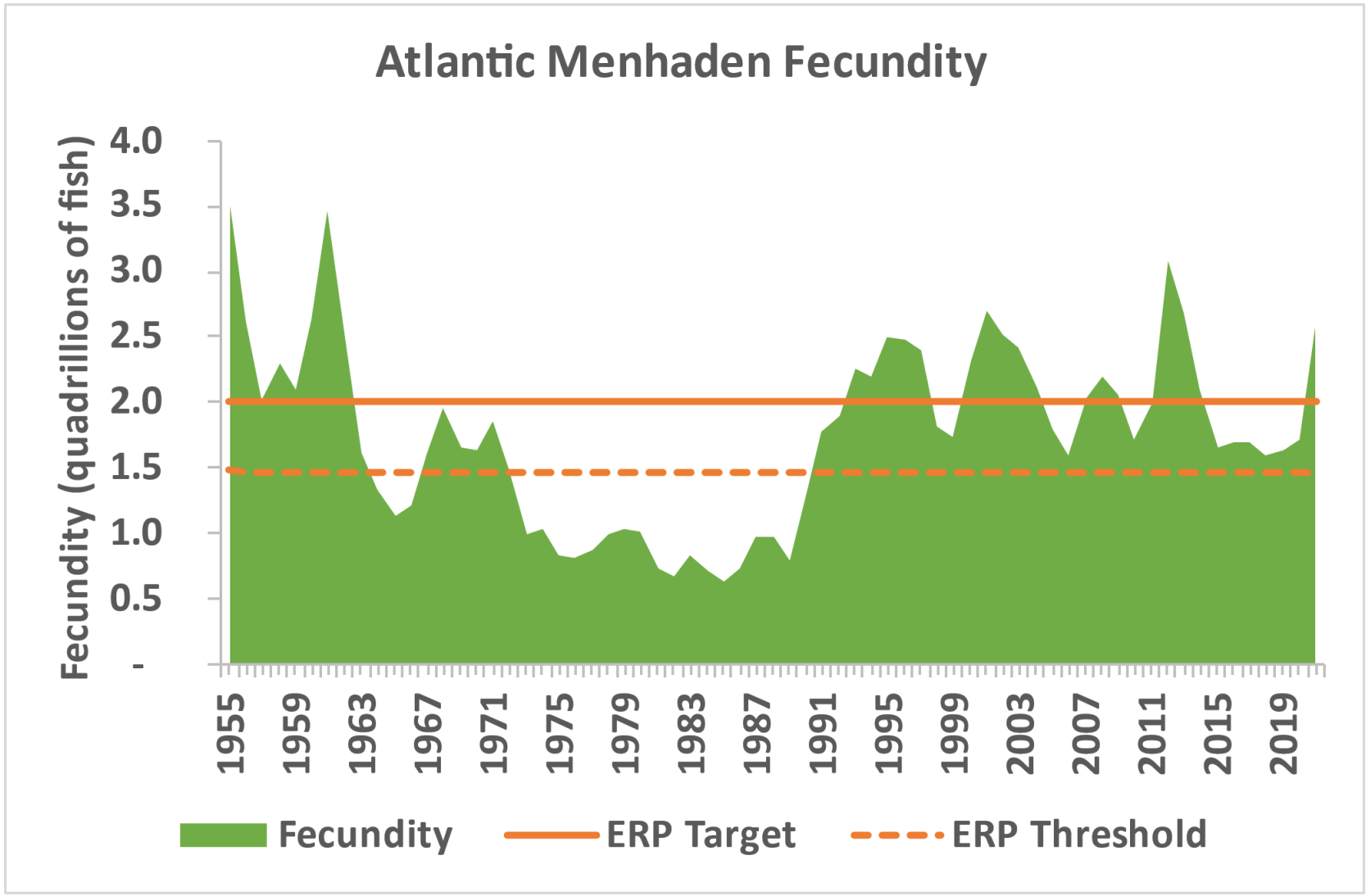

Figure 2. Atlantic menhaden fecundity, 1955-2021. The ERPs for population fecundity are FEC_{target} = 2,003,986 (billions of eggs), and $FEC_{threshold}$ = 1,492,854 (billions of eggs). Source: ASMFC 2022.

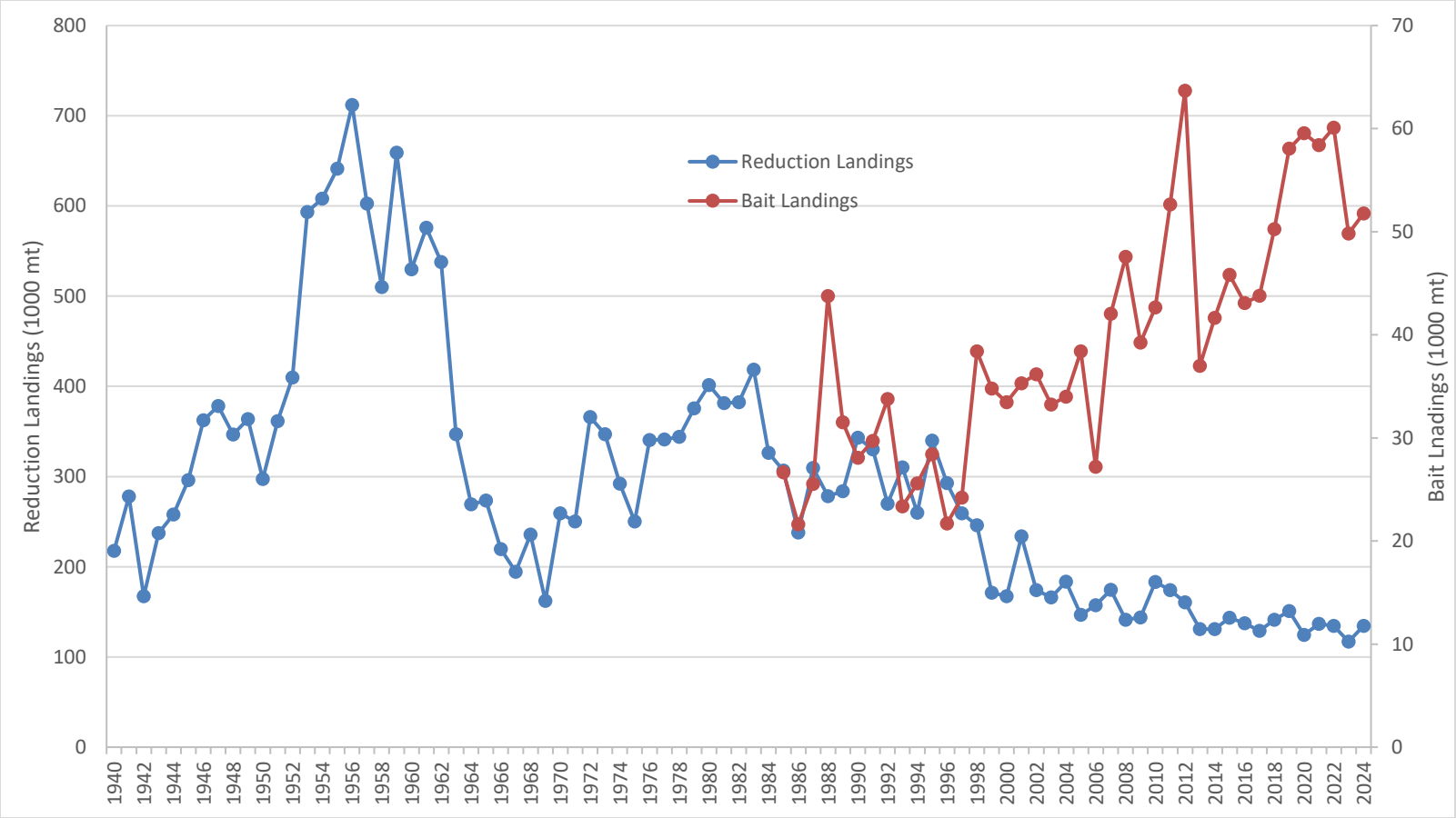

Figure 3. Landings from the reduction purse seine fishery (1940–2024) and bait fishery (1985–2024) for Atlantic menhaden. Note: there are two different scales on the y-axes.