MARINE FISHERIES ADVISORY COMMISSION
BUSINESS MEETING AMENDED AGENDA
9:00AM
Thursday, August 21, 2025
DFW Field Headquarters
1 Rabbit Hill Road
Westborough, MA
Listen In Via Zoom

1. Call to Order and Routine Business (9:00 AM)
   a. Introductions and Announcements
   b. Review of August 2025 Business Meeting Agenda
   c. Review and Approval of July 2025 Draft Business Meeting Minutes
2. Agency Updates (9:15 AM)
   a. Office of Law Enforcement: Personnel, Recent Operations & Marine Fishery Incidents
   b. Department of Fish and Game: Recent Meetings and Events and Department-wide Activities and Projects
   c. Division of Marine Fisheries: Personnel, Recent Meetings and Events, and Agency Activities and Projects
3. 2024 Fishery Review and 2025 Quota Managed Fishery Performance (10:00 AM)
4. Discussion Items (10:45 AM)
   a. Interstate Fishery Management Update
   b. Commercial Striped Bass Management Considerations for 2026
   c. Pine Barren Alliance's Petition to Close Three Bays to Horseshoe Crab Harvest
   d. Transition to Electronic Harvester Reporting for 2027
5. Other Business and Public Comment (12:45 – 1:00)
6. Adjourn (1:00)

All times provided are approximate and the meeting agenda is subject to change. The MFAC may amend the agenda at the start of the business meeting.

Next Meeting Date

September 18, 2025
DFW Field Headquarters
1 Rabbit Hill Road
Westborough, MA

MARINE FISHERIES ADVISORY COMMISSION
Draft Business Meeting Minutes
July 1, 2025
Zoom

Marine Fisheries Advisory Commission: Raymond Kane, Chairman; Shelley Edmundson, Clerk; Arthur "Sooky" Sawyer; Bill Amaru; Kalil Boghdan; Chris McGuire; Eric Nelson. Absent: Bill Doyle.

Division of Marine Fisheries: Dan McKiernan, Director; Story Reed, Deputy Director; Bob Glenn, Deputy Director; Kevin Creighton, Assistant Director; Anna Webb, Assistant Deputy Director; Nichola Meserve; Melanie Griffin; Erin Burke; Brad Schondelmeier; Nick Buchan; Luke Putaansuu; Steve Wilcox; Kiera Lawlor; Kelly Whitmore; Kerry Allard; Wayne Castonguay; Tracy Pugh; Kim Lundy; Elise Koob; Ben Gahagan; George Davis; Maren Budrow; and Erich Druskat.

Department of Fish and Game: Tom O'Shea, Commissioner; Sefatia Romeo-Theken, Deputy Commissioner; Bob Greco; Julia Hopkins.

Executive Office of Energy and Environmental Affairs: Danielle Burney and Hollie Emery

Massachusetts Environmental Police: Lieutenant Matt Bass

Members of the Public: Beth Casoni; Glen Fernandes; Riley McKenna; Julia Logan; Kathleen Reardon; Sam Pickard; Lane Johnston; Kate McGoldrick; Mike; Stephen Smith

INTRODUCTIONS AND ANNOUNCEMENTS

Chairman Raymond Kane called the July 1, 2025, Marine Fisheries Advisory Commission (MFAC) business meeting to order. Ray noted that this meeting was scheduled as a Zoom meeting to avoid holiday traffic.

REVIEW OF JULY 2025 BUSINESS MEETING AGENDA

Chairman Kane asked if there were any requests to edit the July 2025 MFAC business meeting agenda. No requests for amendments were made.

REVIEW AND APPROVAL OF MAY 2025 DRAFT BUSINESS MEETING MINUTES

Chairman Kane asked for edits to the May 29, 2025, business meeting minutes. No requests for edits were made. **The Chair then sought a motion to approve the minutes as drafted. Kalil Boghdan moved to approve the draft minutes. Shelley Edmundson seconded the motion. The motion passed unanimously with Chris McGuire and Eric Nelson abstaining (5-0-2).**

OFFICE OF LAW ENFORCEMENT: PERSONNEL, RECENT OPERATIONS & MARINE FISHERY INCIDENTS

Lieutenant Matt Bass provided updates for the Massachusetts Environmental Police (MEP). MEP's search for a new Colonel was coming to an end and a formal announcement would be made shortly. The incoming Colonel will likely be introduced to the MFAC at their August 2025 business meeting. Officials from MEP, DMF, the Department of Conservation, Department of Transportation, and the City of Boston met to discuss striped bass fishing issues at the Bill Russel Bridge in Boston. At issue was concerns about

poaching and the practice of discarding fish from the height of the bridge back into the water and the interface of state fishery regulations with local controls. Lastly, Lt. Bass discussed two recent incidents. First, MEP was awarded $12,000 in a libel case resulting from lobster violations onboard a dragger in Provincetown. Second, in Westport, out-of-state fishers were issued a $51,700 fine for violating various regulations governing black sea bass, scup, and tautog.

DEPARTMENT OF FISH AND GAME: RECENT MEETINGS AND EVENTS AND DEPARTMENT-WIDE ACTIVITIES AND PROJECTS

Commissioner Tom O'Shea provided updates on the Department of Fish and Game (DFG). Tom welcomed the newest MFAC member, Eric Nelson. Eric runs Essex River Fishing Charters and fishes commercially for striped bass. He also has 40 years of experience in environmental consulting as a coastal geologist. Eric replaces Tim Brady, whose term ended in August 2024 and did not seek reappointment. Commissioner O'Shea thanked Tim for his time serving on the MFAC. Eric greeted the group and voiced excitement to work with the MFAC.

Tom expressed concern about the MFAC's decision in May 2025 to vote down DMF's recommendation to finalize regulations to repeal scheduled carapace size and escape vent size rules consistent with Addendum XXXII to the Interstate Fishery Management Plan for American Lobster (FMP). The Lobster Management Board on the Atlantic States Marine Fisheries Commission (ASMFC) voted to repeal carapace size and escape vent size rules in Addendum XXVII in February, with substantial support from Massachusetts constituents. The Commissioner was surprised when this vote then failed at the May MFAC meeting. He recognized that some MFAC members voted against the adoption of these rules due to the perceived unfairness that the v-notch standardization rules, which affect state-only Outer Cape Cod (OCC) Lobster Conservation Management Area (LCMA) permit holders, were not similarly repealed. However, this action did not provide these permit holders with reprieve from the v-notch rules and instead placed the Commonwealth on track to have the existing emergency rules expire, which would result in carapace size and escape vent size changes that would negatively impact the broader lobster fishery and seafood dealer sector, placing them at a competitive disadvantage compared to similar entities in Maine and New Hampshire. Accordingly, DMF has requested the MFAC to reconsider this recommendation and renew the prior motion to adopt the emergency regulations as final rules. If not approved, the emergency regulations will expire July 24, 2025. Tom urged the MFAC's consideration and adoption of the emergency regulations outlined in the memo from himself and Director McKiernan.

Commissioner O'Shea noted DFG's Biodiversity Strategic Plan is under review by the Governor's Office. He anticipated the document would be released in September 2025. He added that the Mass Ready Act was recently announced and will contribute to marine habitat restoration and was hopeful it would include $1.5 million in capital investment for such projects over the next two fiscal years.

DIVISION OF MARINE FISHERIES: PERSONNEL, RECENT MEETINGS AND EVENTS, AND AGENCY ACTIVITIES AND PROJECTS

Director Dan McKiernan provided updates from DMF. He welcomed the MFAC's newest member, Eric Nelson. Dan then remarked on DMF's recent Marine Quest event—an outdoor festival held at Cat Cove Marine Lab in Salem in June. Dan thanked Dr. Gary Nelson, DMF's Fish Biology Program Manager, and his team for organizing the event. The event was a significant success, allowing DMF staff to interface with the public, particularly young audiences, about the agency's marine research and policy work.

More than 500 people attended. Attractions included touch tanks with live specimens (e.g., horseshoe crabs, eels, and shellfish); lectures from senior DMF biologists (Derek Perry, Tracy Pugh, Ben Gahagan, Chrissy Petitpas, and Greg Skomal); and interactive activities such as green crab racing (inspired by the Martha's Vineyard Fishermen's Preservation Trust's Meet the Fleet event). Dan was hopeful DMF would be able to hold similar events in the future. Tom remarked on the special event and the meaningful collaborations with Salem Sound Coast Watch, Stellwagen Bank National Marine Sanctuary, UMass Boston, and the Massachusetts Lobstermen's Association. Dan applauded Neil McCoy's efforts to publicize the event beforehand.

Dan then noted the Commonwealth was facing litigation over recent changes to the v-notch possession rule affecting state-only OCCLCMA permit holders in both Barnstable District Court and in the Federal District Court in Boston.

Finally, Dan described a survey by the State of Maine of its lobster permit holders to assess their views on the stock status and preferred management strategies moving forward. Dan anticipated Massachusetts and New Hampshire would conduct similar surveys. These surveys follow ASMFC recommendations after Maine and New Hampshire rolled back their adoption of regulations to implement Addendum XXVII. DMF would keep the MFAC appraised of any Massachusetts survey.

ACTION ITEM

Renewal of Recommendation on Regulations to Implement Addendum XXXII to Lobster FMP
The Chair asked for a motion to adopt the recommendation as presented. Kalil Boghdan made a motion and Chris McGuire seconded. The recommendation was open for discussion.

Director McKiernan provided background on the recommendation. In late April 2025, DMF filed emergency regulations consistent with Addendum XXXII to the FMP to repeal the pending carapace size and escape vent size rules scheduled to go into effect on July 1, 2025, to implement aspects of Addendum XXVII to the FMP. DMF sought to adopt these emergency regulations as final regulations to prevent their expiration after 90 days. This recommendation was voted down at the May MFAC business meeting due to perceived unfairness that the v-notch possession rules in Addendum XXVII, which apply only to state-only permit holders in OCCLCMA, were not similarly repealed. However, the outcome of this vote did not relieve these fishers from the pending changes to the v-notch possession rules. Rather, it put the state on track to have the emergency regulations expire resulting in immediate changes to the carapace size rules (as well as future carapace size and escape vent changes). If this were to occur, Massachusetts fishers and seafood dealers would be placed at a competitive disadvantage compared to similar entities in Maine and New Hampshire. Accordingly, DMF has requested the MFAC reconsider its May 2025 recommendation to adopt the emergency regulations promulgated in April 2025 as final regulations thereby rescinding the pending carapace size and escape vent size rule changes.

Director McKiernan explained that the v-notch and trap tag standardization measures contained in Addendum XXVII and state regulations were not undone by Addendum XXXII and DMF's recent emergency regulations. These standardization measures were developed to create uniform rules among fishers across jurisdictions who fish within the same LCMA to enhance enforcement, compliance, and conservation. This included preventing New Hampshire and Massachusetts from automatically issuing an additional 10% of trap tags to LCMA 1 and LCMA 3 permit holders consistent with existing Maine rules and adopting a single 1/8" v-notched lobster possession standard for the OCCLCMA (consistent with what is also required in adjacent LCMA3 and all LCMAs south of Cape Cod that fish on the Southern

New England lobster stock).

The Chairman asked if there were any questions for the Director regarding the Recommendation. There were no questions. The Chairman welcomed discussion.

Bill Amaru read a text message he received from an Outer Cape Cod lobsterman the previous weekend expressing concern about how the v-notched standardization rule is expected to negatively impact state-only OCCLCMA permit holders. Amaru acknowledged the Director's remarks and the potential hardship facing fishermen if the recommendation is not passed. However, he supported defeating the proposed motion and resisted changing the state-only v-notched lobster possession regulations that have been in place for decades.

Sooky Sawyer added he was frustrated with the management process. Sooky felt it was unfair that Addendum XXXII repealed the conservation measures affecting LCMA 1 fishers — who represent a large portion of the Gulf of Maine/Georges Bank fishery — but retained a v-notch standardization rule that would adversely impact about 30 state-only OCCLMCA fishers and added that DMF should have more aggressively pursued this repeal. However, Sooky indicated he would vote in favor of the motion because the expiration of the existing emergency regulations would negatively impact the Massachusetts lobster fishery at large.

Kalil Boghdan and Dan discussed state compliance with the interstate FMP. Dan noted that the ASMFC may find a state out of compliance with the FMP if a state retains or adopts regulations that are less restrictive than FMP provisions. This non-compliance finding elevates the issues from the ASFMC to the Secretary of Commerce. However, nothing restricts a state from adopting regulations that are more conservative than FMP provisions. If the MFAC fails to pass the recommended motion and the emergency regulations expire, Massachusetts would have more restrictive measures in place and would not face a potential non-compliance finding.

Kalil then asked about the reasoning behind different lobster management regulations across the state. The Director explained that when the ASMFC adopted Amendment III in 1998 it established seven regional LCMAs that allowed for the retention of disparate management practices across LCMAs based on how each fishery operates through conservation equivalency. These discrepancies have persisted over time and should generally be maintained. What was at issue in Addendum XXVII was disparate rules among fishers who fish the same LCMA within different jurisdictions and DMF and DFG supported the adoption of uniform standards across different states and across federal and state permit holders within the same LCMA.

Kalil then asked why the motion to repeal the v-notch possession rule in OCCLCMA did not receive a second to the motion at the February ASMFC meeting. Dan clarified a correction to his previous statements, noting that New Hampshire's director seconded the motion for "discussion purposes". However, the motion failed to pass by vote (1-8-2).

Chris McGuire asked to clarify how the result of today's vote would impact the v-notch possession rule in OCCLCMA and gauge increases. Director McKiernan noted that today's vote only affects the finalization of the recently adopted emergency regulations affecting carapace size and escape vent rules consistent with Addendum XXXII. The 1/8" v-notch possession rule in OCCLCMA will be in place regardless of the result of this vote, as this rule was not affected by these emergency regulations.

Bill Amaru asked to clarify Dan's response to Chris McGuire's question on v-notch possession in OCCLCMA. Director McKiernan explained that today's vote will not impact the v-notch possession rule. Amaru noted it should be clear that the v-notch standard in OCCLCMA will be different than it was previously. Dan explained that the v-notch possession rule in OCCLCMA was approved by the MFAC in 2024 and promulgated by DMF in January 2025 for implementation on July 1, 2025, and was unaffected by the recent emergency regulations at issue in today's recommendation.

Commissioner O'Shea reiterated Dan's statements and emphasized the importance of MFAC members understanding the nuance of this vote. Director McKiernan acknowledged there may be some potential confusion given the effective date of final v-notch regulations was approved by the MFAC in 2024 and promulgated by DMF in January 2025 is July 1, 2025.

Sooky Sawyer argued the issues facing the MFAC in this recommendation were preventable had the MFAC not supported DMF's recommendation to adopt the provisions of Addendum XXVII in 2024. Sooky noted that he did not support these actions in 2024 because Maine had not yet finalized their rules. He thought it was unwise for Massachusetts to adopt any regulations until Maine had because he did not trust Maine to follow through with the process. As it turns out, Maine failed to adopt regulations and subsequently forced the initiation of Addendum XXXII. Sooky argued that had Massachusetts waited for Maine to adopt their rules, the state would have had more leverage to get the OCCLMCA v-notch standardization provision repealed. Dan disagreed with Sooky's sentiment noting that it is difficult to anticipate how certain decisions would have played out at the Board.

No further comments were made. **The Chairman asked for a roll call vote. The motion passed (5-1-1) with Bill Amaru voting against and Chairman Kane abstaining.**

DISCUSSION ITEMS AND UPDATES

Interstate Striped Bass Management and Reconvening MFAC Focus Group

Nichola Meserve provided an update on striped bass management. The ASMFC is in the process of developing Draft Addendum III. Nichola anticipated the Striped Bass Board would finalize the draft addendum for public hearing at their August 2025 meeting. The ASMFC would then hold public hearings this fall with the goal of having the Board approve a final addendum later this year for implementation in 2026. The draft addendum will include various options to reduce removals by 12% to achieve a 50% probability of rebuilding the stock by 2029 and 18% to achieve a 60% probability of rebuilding the stock by 2029.

Nichola noted that DMF will convene the MFAC's Striped Bass Focus Group and an ad hoc commercial fishery advisory panel later this summer to discuss the potential implications of Draft Addendum III on the state's commercial and recreational management programs and future access to the commercial fishery. These meetings will then inform DMF's potential positions regarding Addendum III and regulatory proposals DMF may submit to the MFAC for their consideration later this year.

Kalil Boghdan and Nichola discussed the data used to determine the reduction in removals necessary to meet rebuilding targets. Nichola also confirmed that there are several potential approaches to applying these removal reductions, which would include quota reductions to the commercial fishery and potential no-harvest seasons or size limit changes for the recreational fishery. Moreover, given the

recreational fishery is responsible for more than 90% of fishing mortality, the Board may consider options that would place more of the conservation mandate on the recreational fishery.

Bill Amaru explained how invasive blue catfish and snakehead fish have severely impacted the Chesapeake Bay ecosystem and are likely influencing striped bass recruitment and argued that environmental stressors need to be considered in management. Nichola noted that the benchmark stock assessment in 2027 will include a review of natural mortality. Amaru was encouraged by this and hoped it would prompt a shift in how this fishery was managed. Kalil agreed with Amaru's assessment of environmental factors affecting the future health of the striped bass resource.

Nichola and Ray discussed potential options the Board may consider to reduce removals to achieve rebuilding targets by 2029.

Kalil praised Nichola for her work in these efforts. He noted that reducing fishing mortality will be crucial to protect the resource moving forward given the environmental issues that are likely affecting productivity in the spawning grounds. Nichola explained how the upcoming stock assessment may consider changes to biological reference points to account for the likelihood of an environmental-driven regime shift towards lower productivity and recruitment.

The Chairman asked about the composition of MFAC's Striped Bass Focus Group. Dan noted that Eric Nelson will be invited given his involvement in the commercial striped bass fishery. The focus group would then include Eric Nelson, Bill Doyle, and Chaiman Kane. An additional member is welcome to join. Eric expressed interest in being involved in the Striped Bass Focus Group.

<u>Federal Fisheries Management</u>

Melanie Griffin provided an update on federal fisheries management focused on happenings at the June 2025 New England Fishery Management Council (NEFMC) meeting and expected agenda items for the September 2025 NEFMC business meeting.

Melanie discussed budgetary issues facing the NEFMC. Budget shortfalls may result in reducing the frequency of in-person meetings and the issuance of technical assistance grants. Additionally, the Trump Administration has signed several Executive Orders to address fishing that require the NEFMC's attention and consideration.

The US Secretary of Commerce has received two industry-driven petitions. The first, submitted by the Fishery Survival Fund, seeks to create a rotational limited access scallop area in the Northern Edge of Georges Bank. The second petition is from Intershell Seafood to allow surf clam and mussel dredging in the Great South Channel Habitat Area. There are concerns that both petitions seek to circumvent the Council process. Melanie then outlined the schedules and timelines for 2025 Management Track Assessments.

The NEFMC is conducting a strategic planning exercise to be completed by April 2026 focused on addressing management uncertainty and ecosystem changes. NEFMC has adjusted its 2025 management priorities to undertake omnibus management flexibility action and more consistently address specification frequencies, rollovers and defaults, in-season adjustments, and specification setting processes, with final action scheduled in December 2025. Additionally, efforts continue to implement the NEFMC's revised Risk Policy. A new social science subgroup has also been developed

through NEFMC's Science and Statistics Committee to better utilize socioeconomic information in management decision-making. These efforts include receiving input during assessment phases and proactively engaging with existing research. Finally, the pilot Northeast Trawl Advisory Panel Industry Based Survey is in its first phase. This effort will help NEFMC understand what types of survey data can be collected on commercial vessels in wind areas and how survey trawl gear performs across different depths to inform a coast-wide industry-based survey. Following this first phase, the second phase will incorporate more vessels and increase the spatial and temporal footprint.

On groundfish management, Melanie discussed the Secretary's rejection of Amendment XXV and Framework LXIX on process grounds. These FMP adjustments moved Atlantic cod management from a two-stock structure to a four-stock structure based on recent genetic work. The Amendment XXV with Framework LXIX will be reconsidered by the NEFMC at the September 2025 meeting.

With regards to sea scallop management, the NEFMC approved specifications for 2026 and 2027 default measures. Melanie discussed some of the nuanced challenges facing the survey and assessment processes.

On spiny dogfish, Melanie noted that the federal quota may end up being set at a lower level than the interstate quota because of how ASMFC accommodates quota rollover, and as a result, the federal quota may be closed before the interstate quota. The ASMFC will consider this issue at their August 2025 meeting.

The NEFMC continued to work on an Omnibus Gear Marking Framework to address surface marking requirements to accommodate on-demand fixed gear. Some concerns include required investment by the mobile gear fleet into gear to track on-demand gear, limitations of letters of authorization to federal permit holders, and dissatisfaction with relying on NEFMC's process to properly engage with lobster fishermen.

Melanie anticipated the September 2025 NEFMC meeting would include final actions on: monkfish and skate specifications; groundfish Amendment XXV; Management Flexibility Omnibus; On-Demand Gear Marking Omnibus; and deregulation initiatives required through the Restoring American Seafood Competitiveness Executive Order. In December, final actions include groundfish, scallop, and dogfish specification, revised Essential Fish Habitat, and finalizing 2026 council priorities.

Kalil Boghdan asked about potential NEFMC budget cuts besides minimizing in-person meetings. Melanie responded that Executive Director O'Keefe is considering several potential avenues. A discussion followed on the causes of budget limitations and potential impacts on the NEFMC's work.

<u>Offshore Wind Energy</u>

Brad Schondelmeier presented on a study tour on floating offshore wind (FOSW) in the United Kingdom. The presentation highlighted objectives of the study tour, including establishing an understanding of FOSW technology and exchanging best practices for assessing and mitigating impacts of FOSW on fishing industries. Study tour participants included fishing industry members and marine resource management staff. Brad outlined the status of FOSW in the US, with the realistic commercial-scale build timeline around 2030 - 2035. In contrast, Scotland has nine operating OSW sites, including two FOSW sites, with several projects in progress. He then explained structural variation across FOSW turbines, including foundation types, mooring types, and dynamic cable arrangements. The team visit to the Kincardine

wind farm was especially impactful, allowing them to witness the scale and stability of the wind turbines firsthand. Brad also highlighted key takeaways from the study tour, including an evident disconnect between fishery needs and the FOSW industry due to minimal government engagement, lack of ecological and fishing data, a need for significant port and vessel infrastructure, and the importance of public buy-in.

Kalil noted that the MFAC received a comprehensive memo through the Governor's office around two years prior that outlined the environmental conditions necessary for FOSW in the Gulf of Maine. He asked if this could be reshared with commission members. Brad and Dan noted this would be recirculated. Brad added that concerns on scour and mooring design could be discussed through the Fisheries Working Group on Offshore Wind.

Brad then explained that the Massachusetts Fisheries Innovation Fund Request for Proposal for Solicitation 1 funded by Vineyard Wind was recently approved and would soon be released to the public. This would fund up to $750,000 worth of projects related to fishing innovation, community, and safety. Further, Empire Wind has opened their fisheries compensation claims period until October 13th. Lastly, the Regional Fund Administrator is designing a process for offshore wind fisheries and shoreside claims but is struggling to reach fisheries engagement. They will be in New Bedford to meet with fishermen in late July.

OTHER BUSINESS AND PUBLIC COMMENT

Chairman Kane asked if any MFAC members wanted to raise issues for consideration at a future meeting. There were no requests.

The Chairman moved onto public comment. Sam Pickard, Vice-President of the Outer Cape Lobstermen's Association, noted that the v-notch possession rule was not included in the emergency rules because Maine and New Hampshire did not vote to repeal the rule. He asked why no one with the MFAC made a motion to include this issue to also be repealed through Addendum XXXII. Director McKiernan explained that the ASMFC considered a motion to include a v-notch repeal in Addendum XXXII, but it was voted down. In response, DMF did not include a v-notch repeal in its emergency regulations, and therefore, it was not an option the MFAC could consider as part of the final recommendation approved today.

ADJOURNMENT

There were no further questions or comments. **The Chairman called for a motion to adjourn the meeting. Shelley Edmundson moved to adjourn the meeting. The motion was seconded by Kalil Boghdan. There was no opposition. The meeting was adjourned.**

MEETING DOCUMENTS

- July 1, 2025 MFAC Business Meeting Agenda
- May 29, 2025 MFAC Draft Business Meeting Minutes
- April 24, 2025 MFAC Final Business Meeting Minutes
- Memorandum on the Request to Renew Prior Recommendation to Adopt Emergency Carapace Size and Escape Vent Regulations Implementing Addendum XXXII as Final
- Proposal to Approve as a Final Rule the Emergency Regulations That Were Enacted by DMF to Implement Addendum XXXII of the American Lobster Management Plan
- Striped Bass Management Update
- Letter from Director McKiernan on Striped Bass Management
- New England Regional Fishery Updates
- June 2025 New England Fishery Management Council (NEFMC) Meeting Summary
- DMF's Presentation on the Floating Offshore Wind UK Study Tour of May 2025

2024 Commercial Landings Year-in-Review & 2025 Quota Managed Species Update

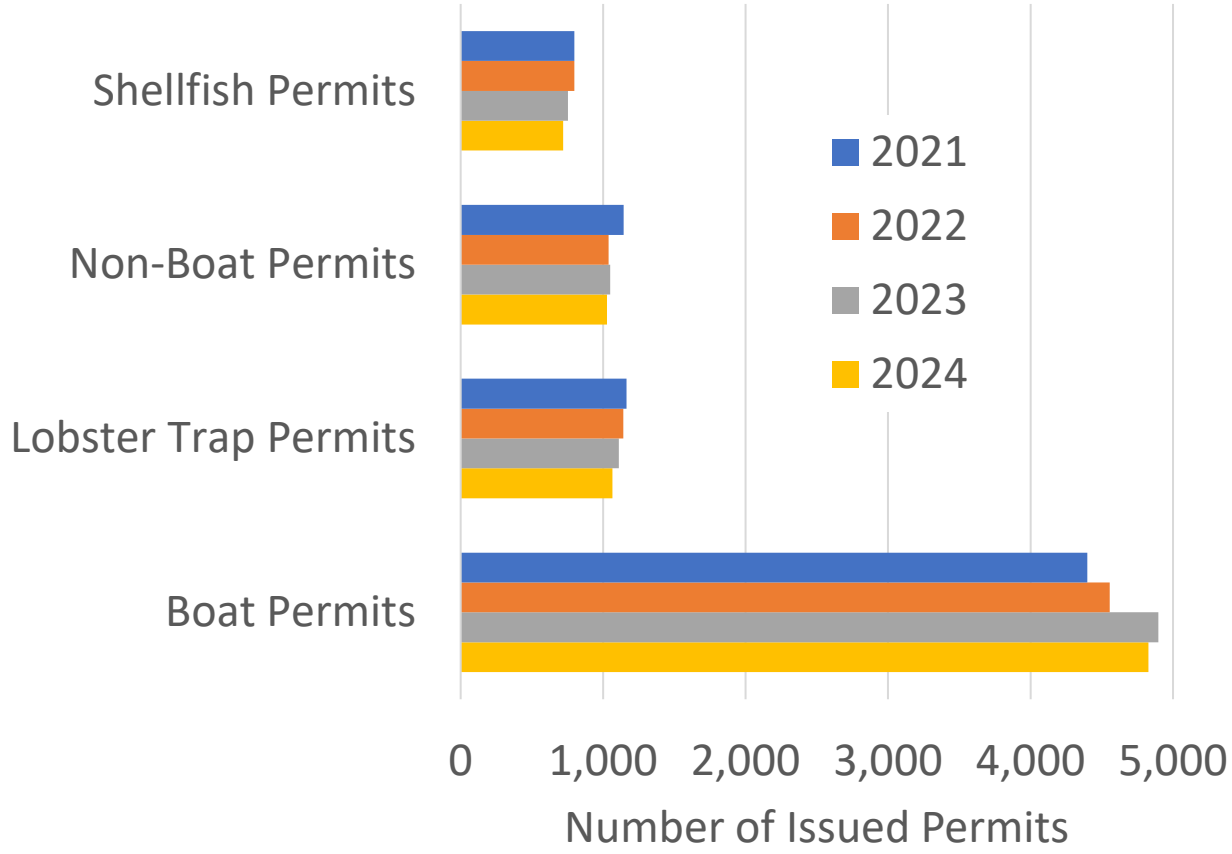
Marine Fisheries Advisory Commission meeting, 8/21/2025

2024 Commercial Landings Year-in-Review

Data Source: MA Permitting Data & ACCSP Data Warehouse/SAFIS eDR

Permitting Trends

Permit Category	Number of 2024 Permits Issued
Commercial	7,732
Dealer	1,861
Primary Buyer	525
Non-Primary Buyer	1,336
Special	525



Species over $2 Million Ex-Vessel Value in 2024

Rank	Species	Whole Pounds	Ex-Vessel Value (USD)
1	Sea Scallop	138,902,401	$263,140,955
2	American Lobster	16,490,477	$115,424,549
3	Eastern Oyster	10,196,389	$35,178,890
4	Atlantic Surf Clam	35,664,388	$10,011,235
5	Haddock	6,852,473	$9,031,238
6	Acadian Redfish	12,854,596	$7,878,389
7	Goosefish	10,046,852	$6,575,402
8	Soft Clam	2,588,409	$6,270,553
9	Pollock	5,772,941	$5,441,650
10	Northern Quahog	3,689,677	$5,113,279
11	Bluefin Tuna	1,042,928	$4,843,189
12	Silver Hake	5,736,756	$4,775,065
13	Jonah Crab	5,427,481	$4,758,840

Rank	Species	Whole Pounds	Ex-Vessel Value (USD)
14	White Hake	3,253,489	$4,379,080
15	American Plaice	2,458,978	$4,165,341
16	Winter Skate	10,196,607	$3,765,477
17	Winter Flounder	1,858,478	$3,636,321
18	Witch Flounder	2,099,855	$3,017,686
19	Menhaden	12,346,376	$2,933,950
20	Striped Bass	662,810	$2,851,288
21	Atlantic Cod	1,298,568	$2,571,155
22	Black Sea Bass	946,571	$2,408,441
23	Atlantic Herring	7,606,317	$2,309,510
24	Summer Flounder (Fluke)	641,514	$2,138,554
25	Channeled Whelk	715,712	$2,034,695

Ocean Quahog is in this list but confidential

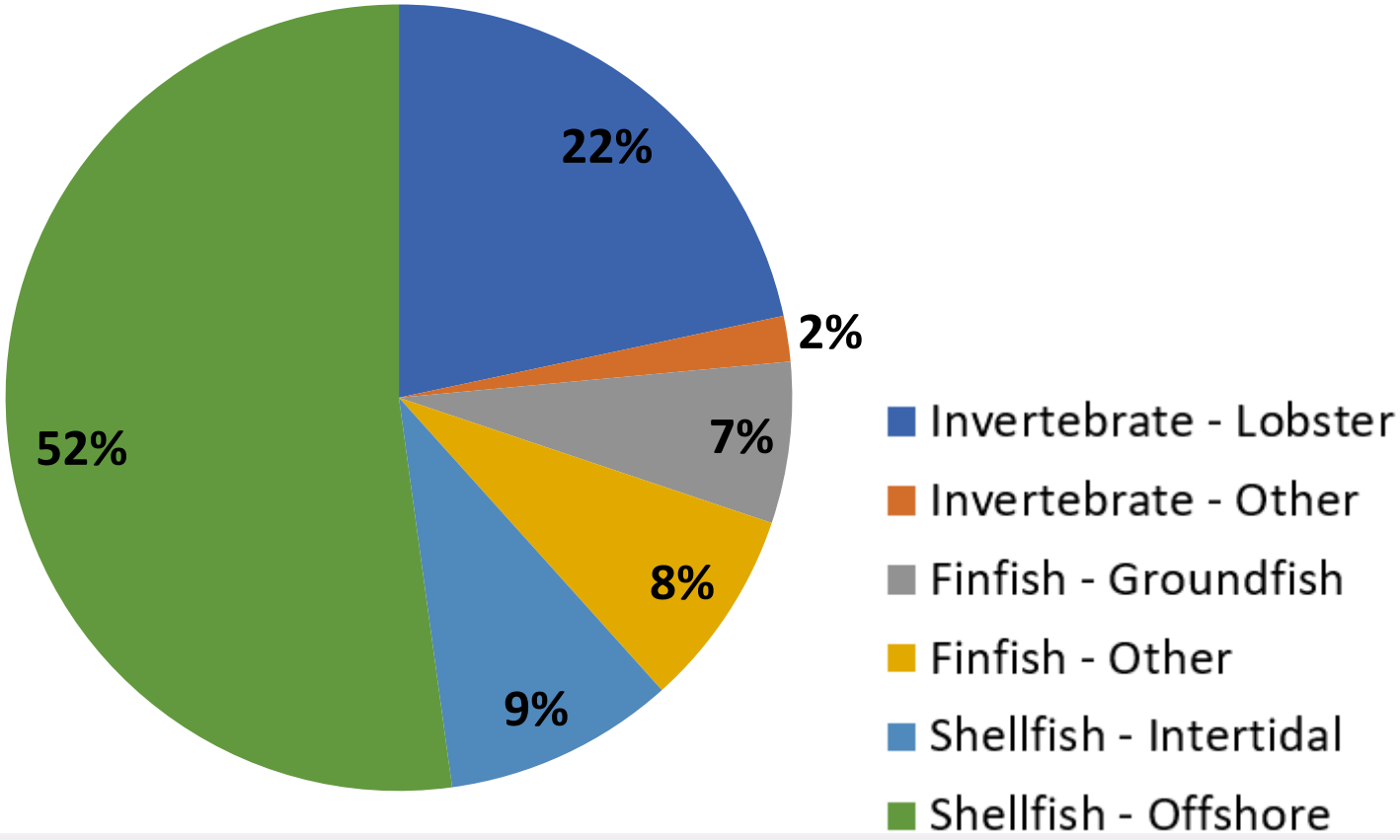
2024 Quota Summary

Species	Landings (Whole Lbs)	Final Quota	Percent Landed
Black Sea Bass	946,571	926,338	102.2%
Bluefish	149,863	155,862	96.2%
Fluke	641,514	619,561	103.5%
Bait Horseshoe Crab	139,970	140,000	100%
Menhaden	12,346,376	12,577,245	98.2%
Scup (Summer)	582,414	1,378,071	42.3%
Striped Bass	662,810	683,773	96.9%
Tautog	67,944	59,981	113.3%

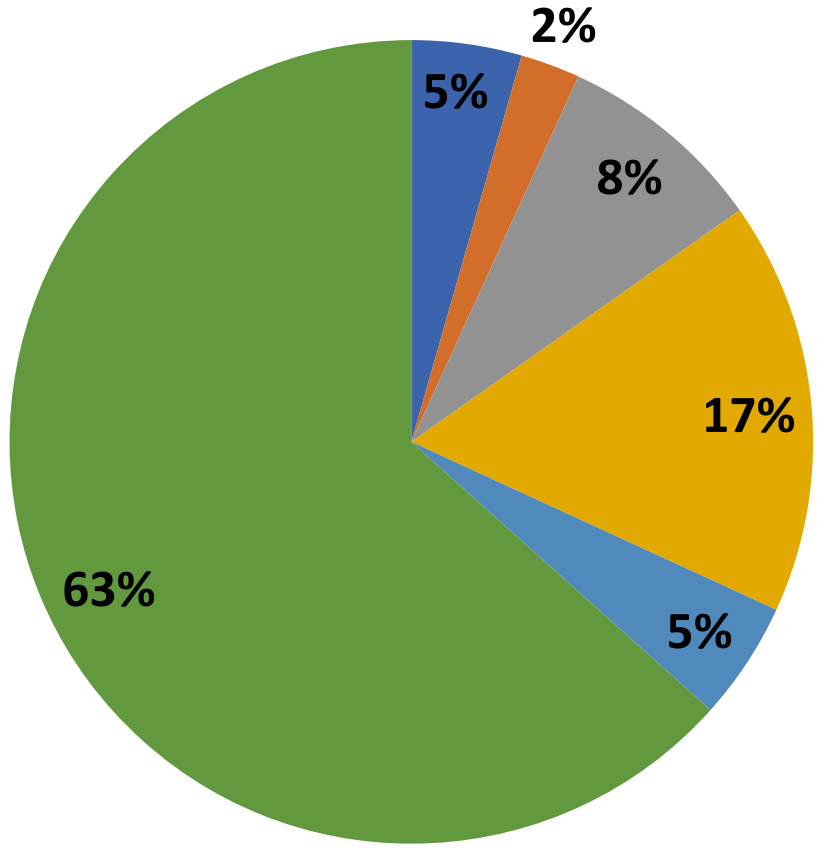
Data Source: SAFIS eDR as of 4/22/24

2024 Value and Landings by Species Categories

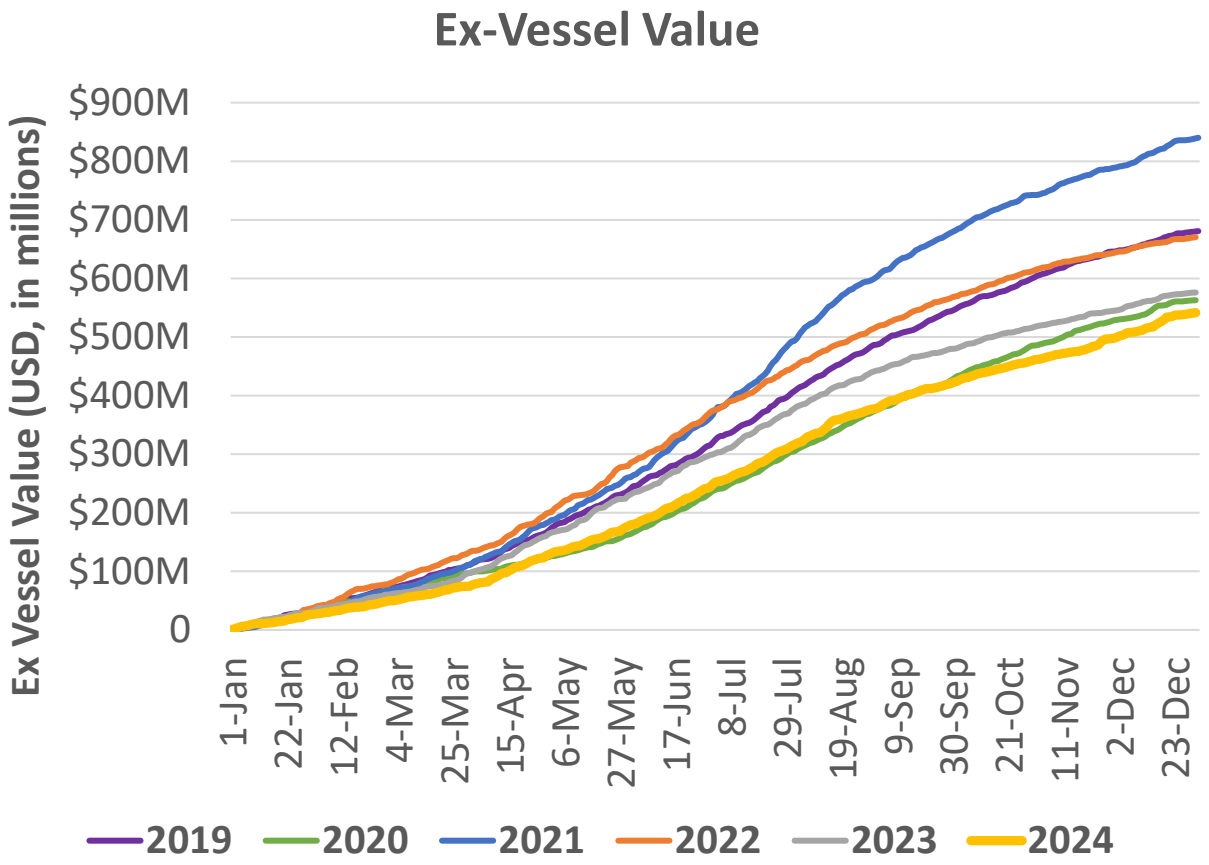
Ex-Vessel Value (USD)

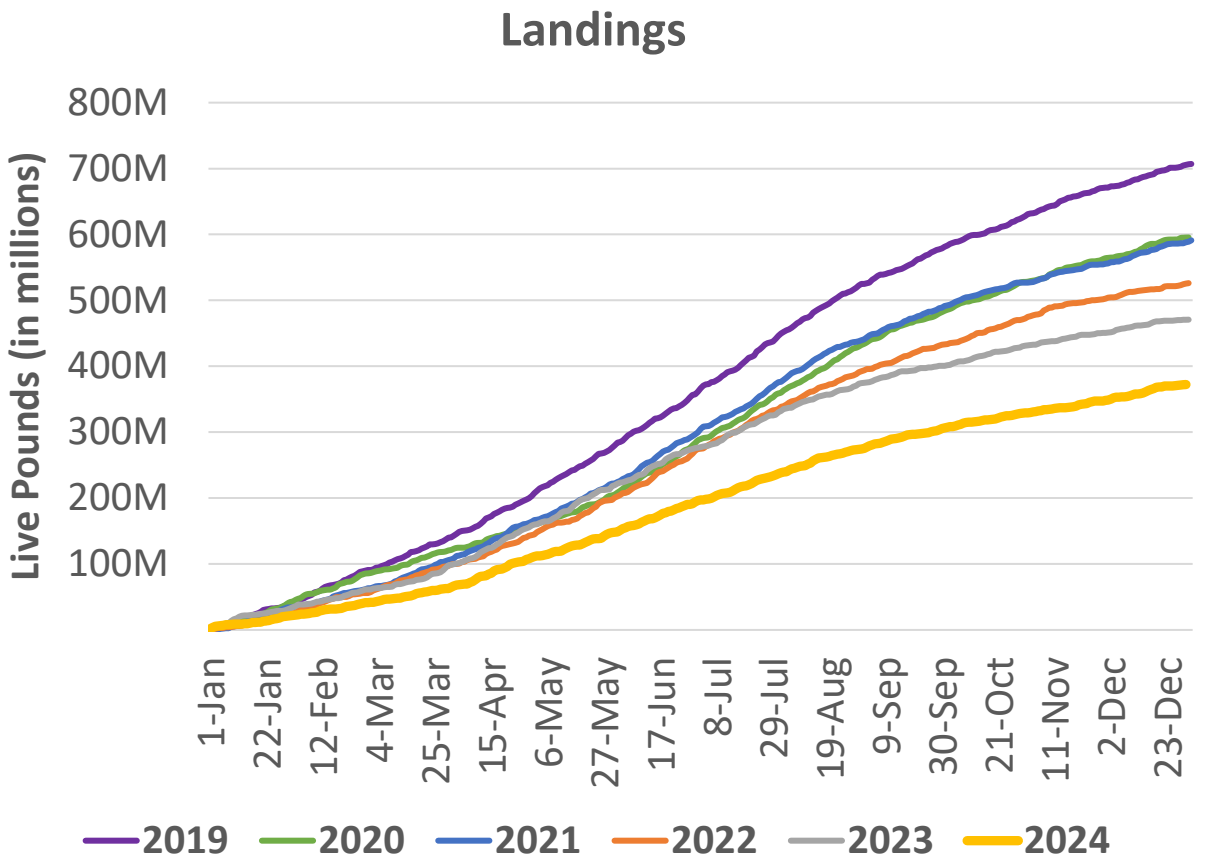


Landings (Whole Pounds)



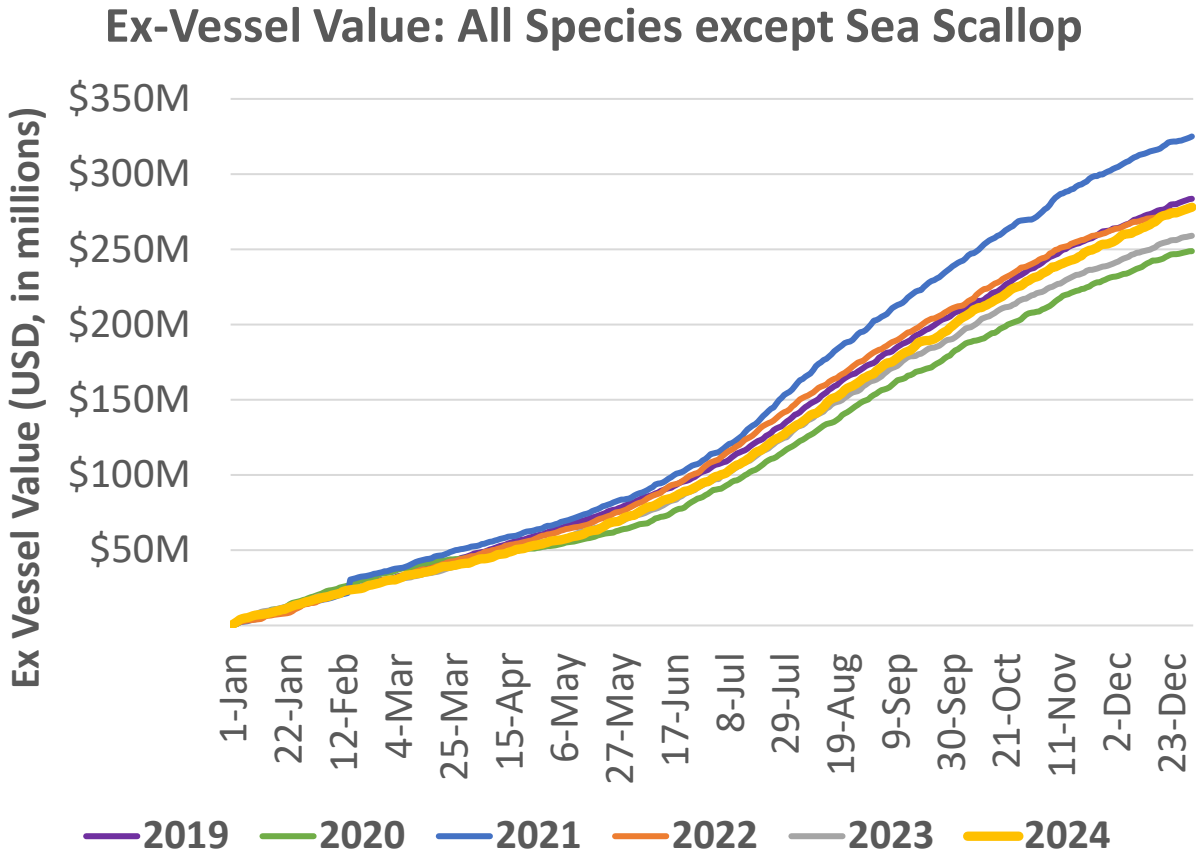
Running Total of Ex-Vessel Value & Landings Across All Species

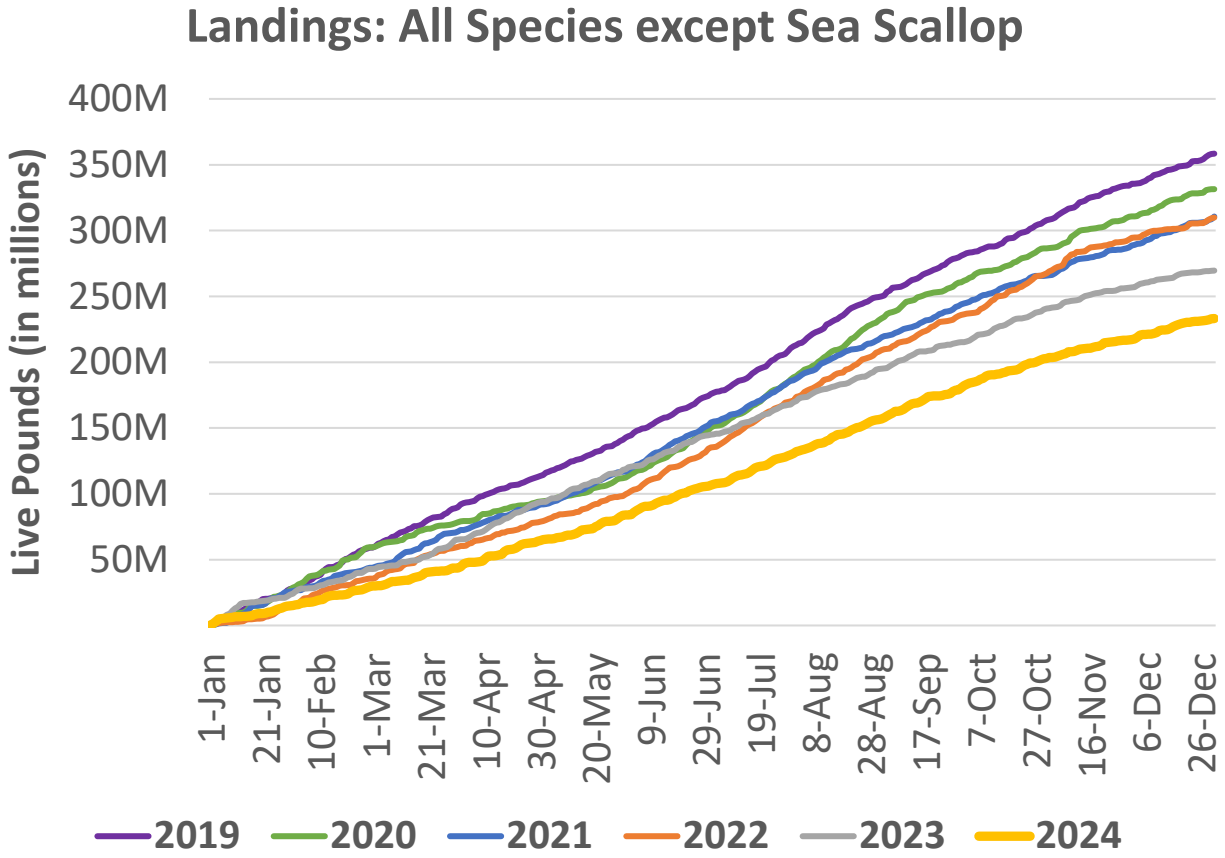




Massachusetts Division of Marine Fisheries

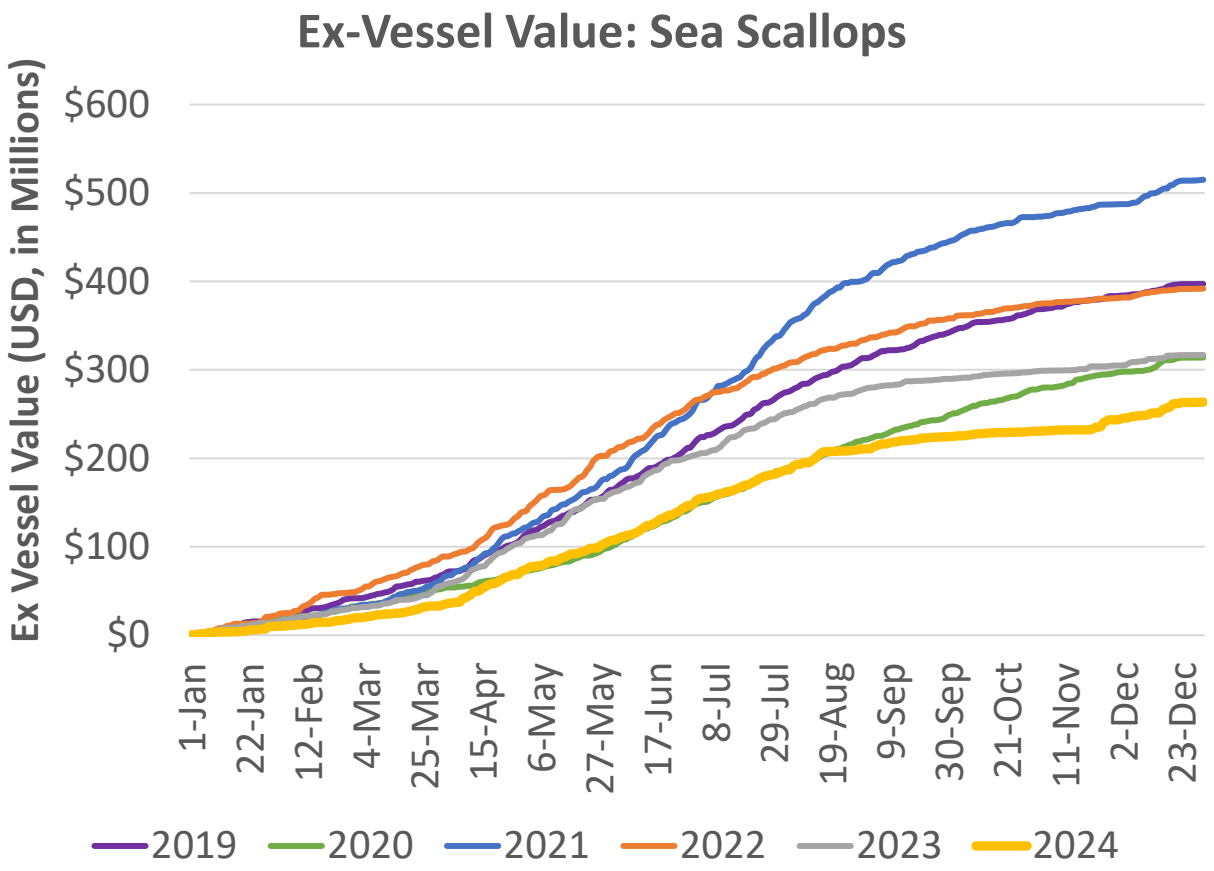
Running Total of Ex-Vessel Value & Landings Across All Species Except Scallops

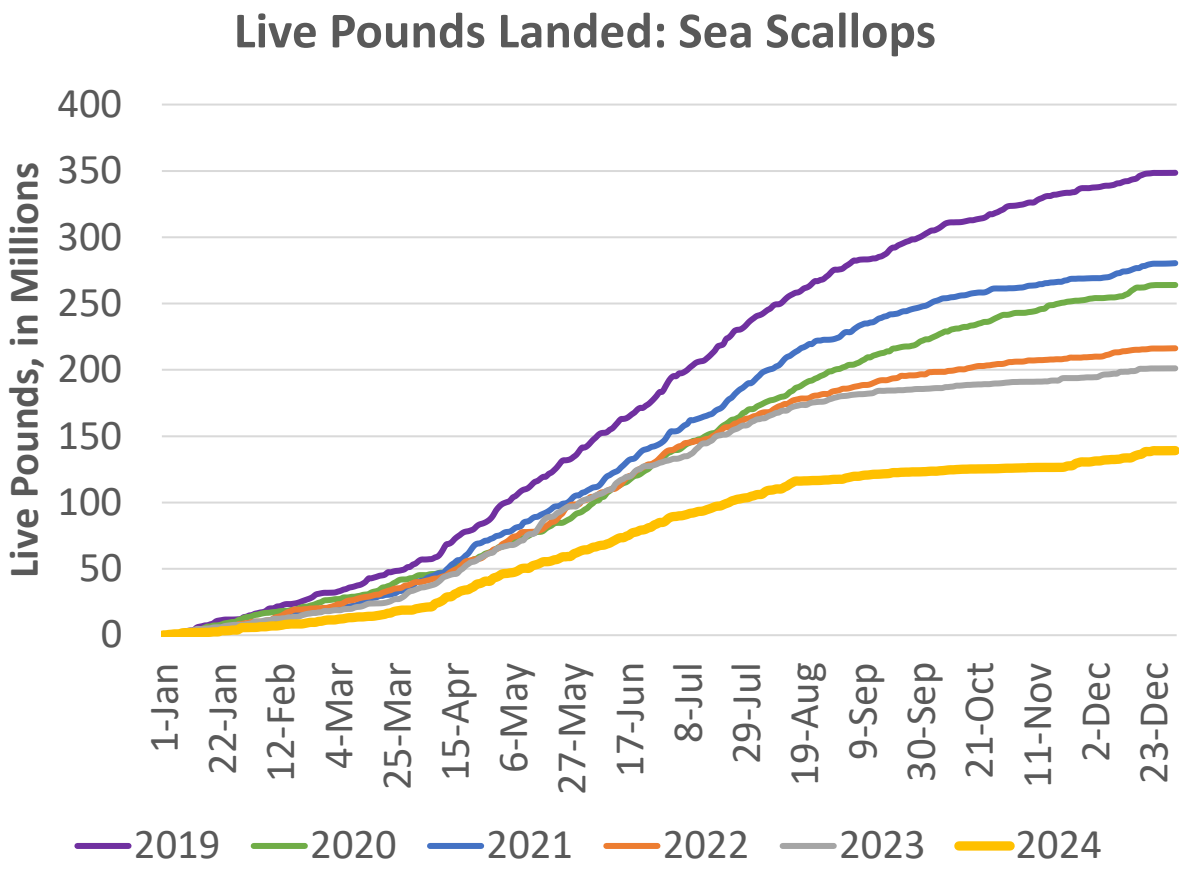




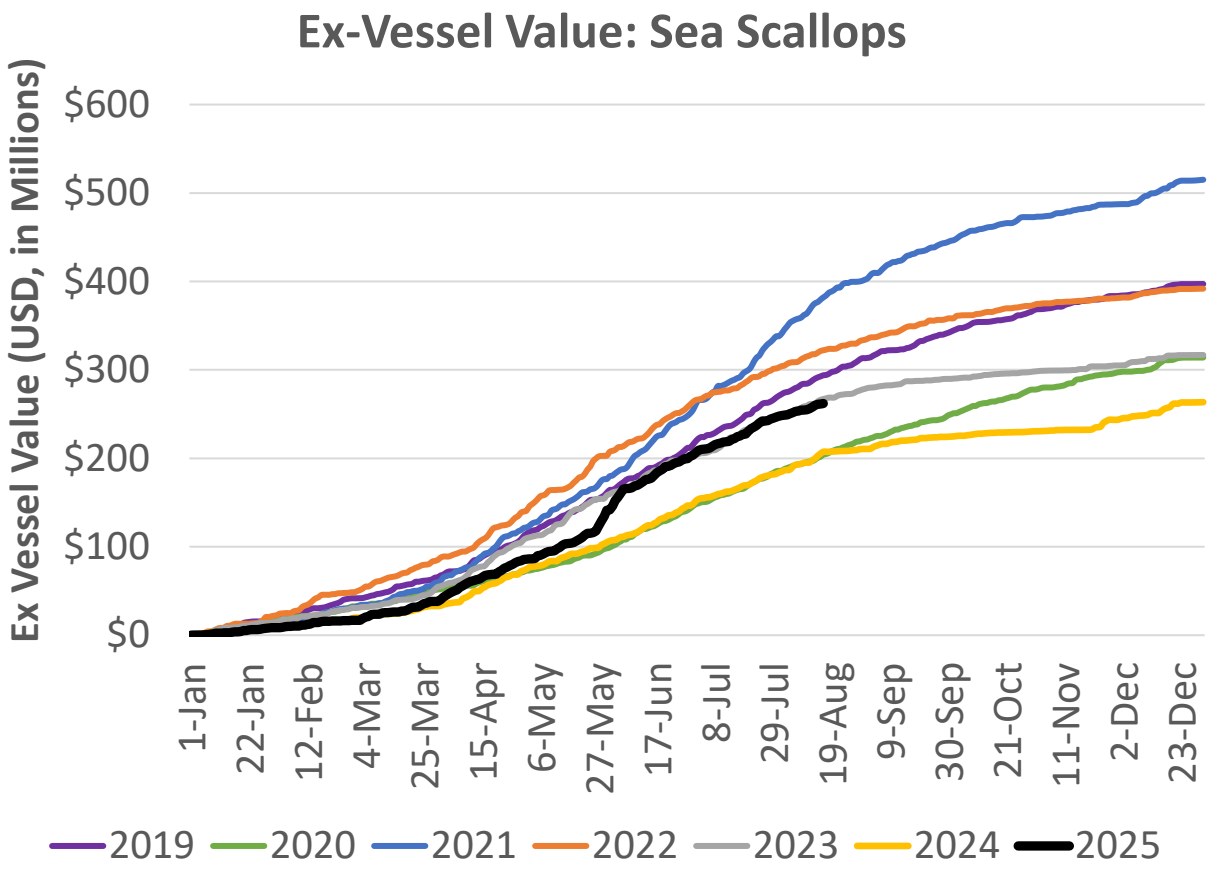
Massachusetts Division of Marine Fisheries

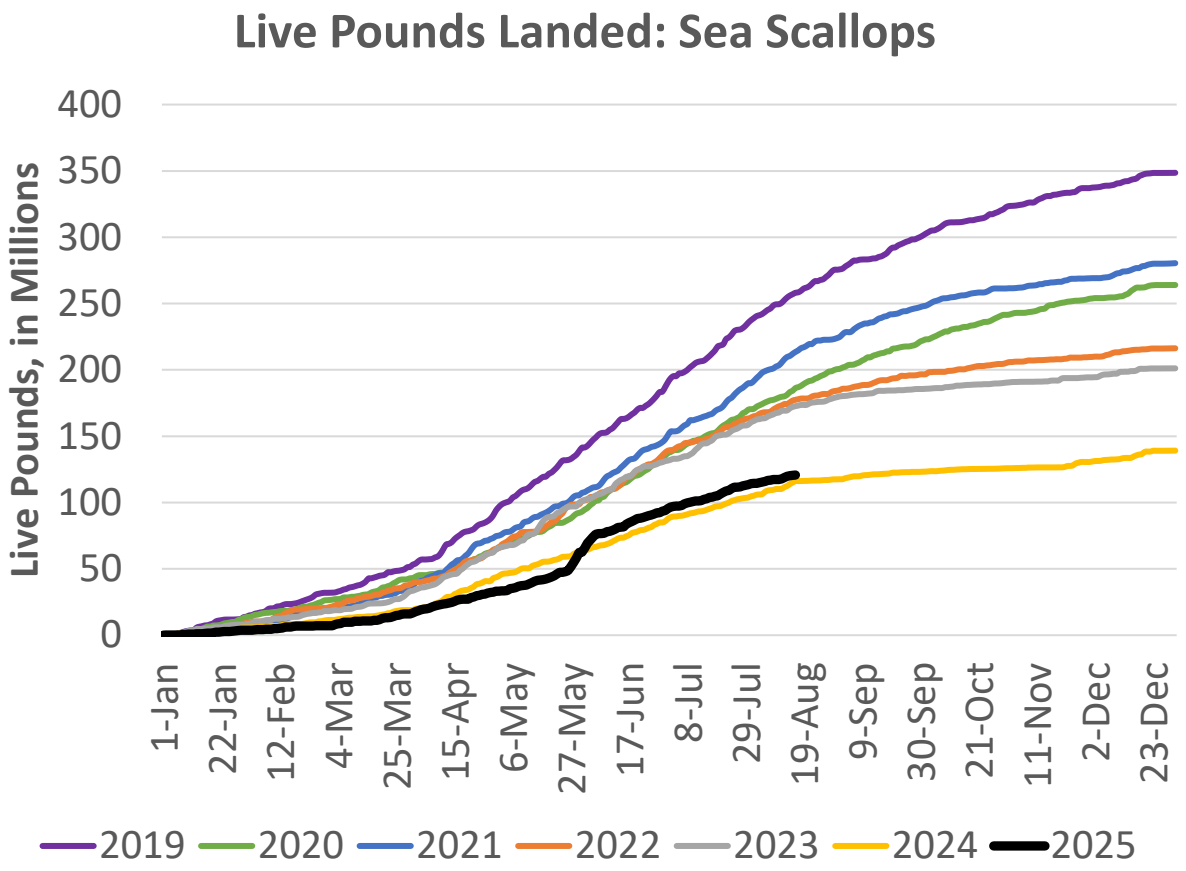
Running Total of Ex-Vessel Value and Landings: Sea Scallops





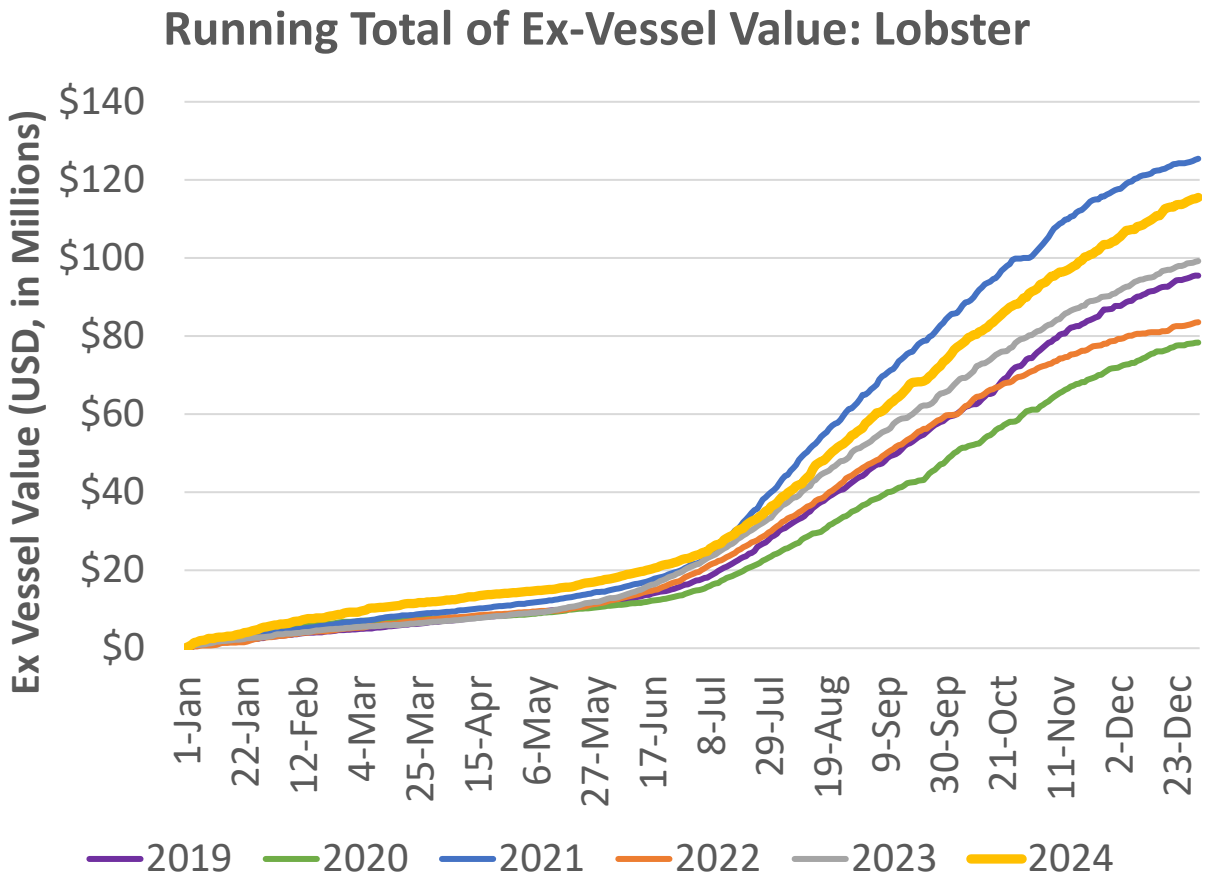
Running Total of Ex-Vessel Value and Landings: Sea Scallops

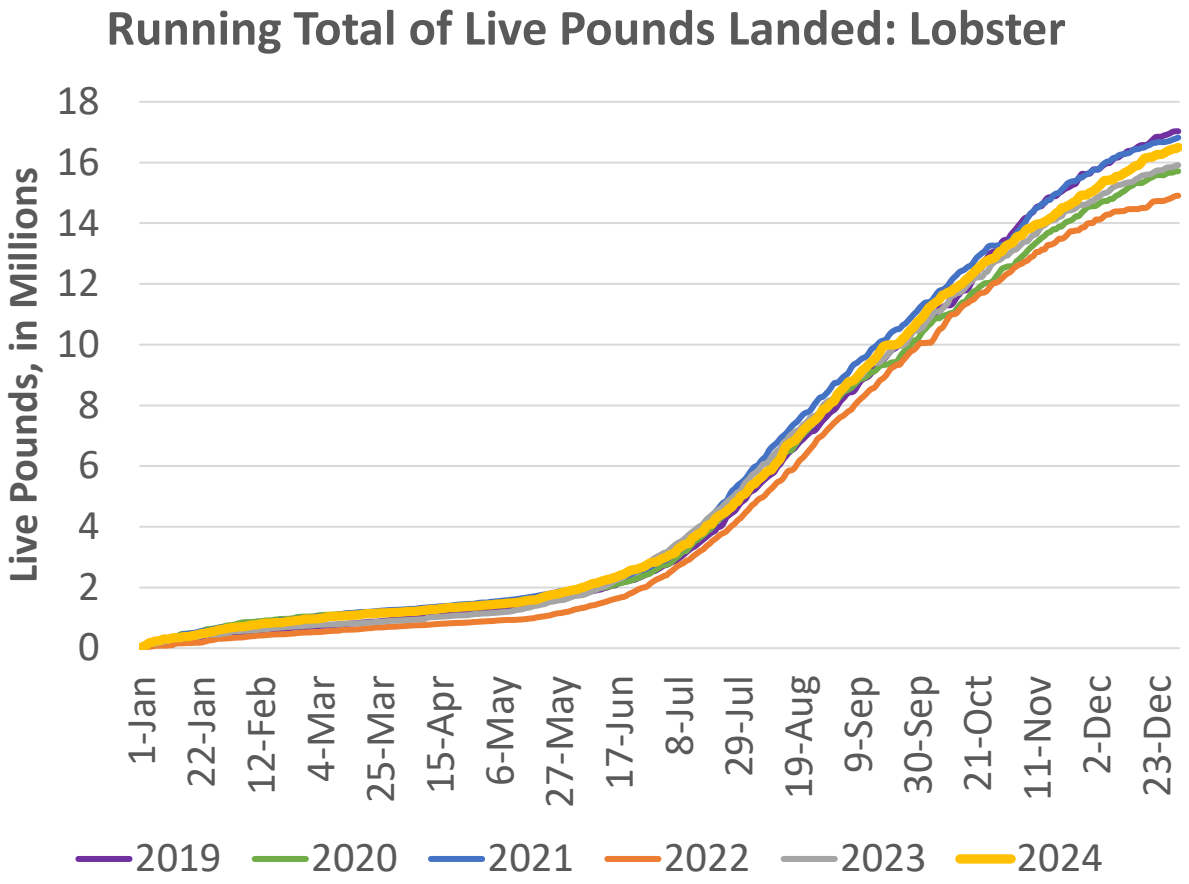




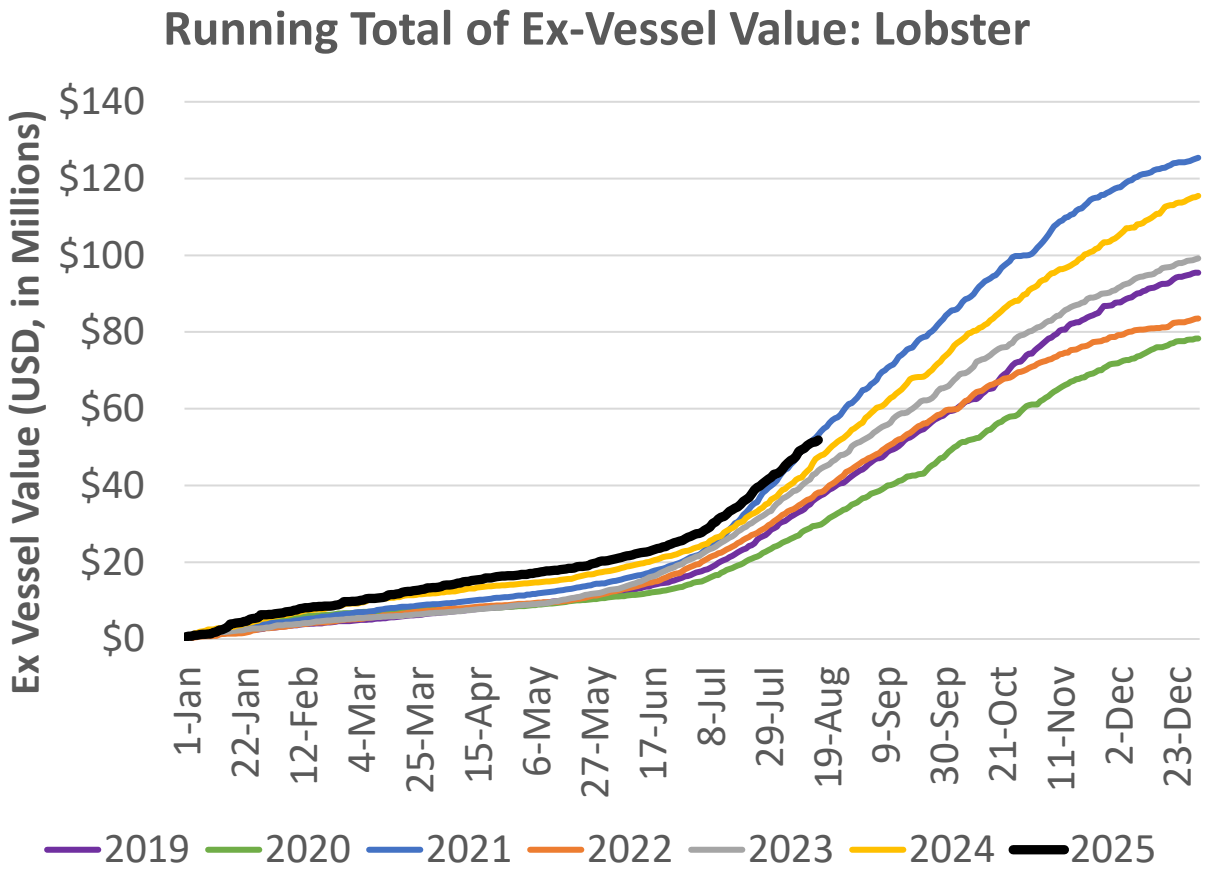
Massachusetts Division of Marine Fisheries

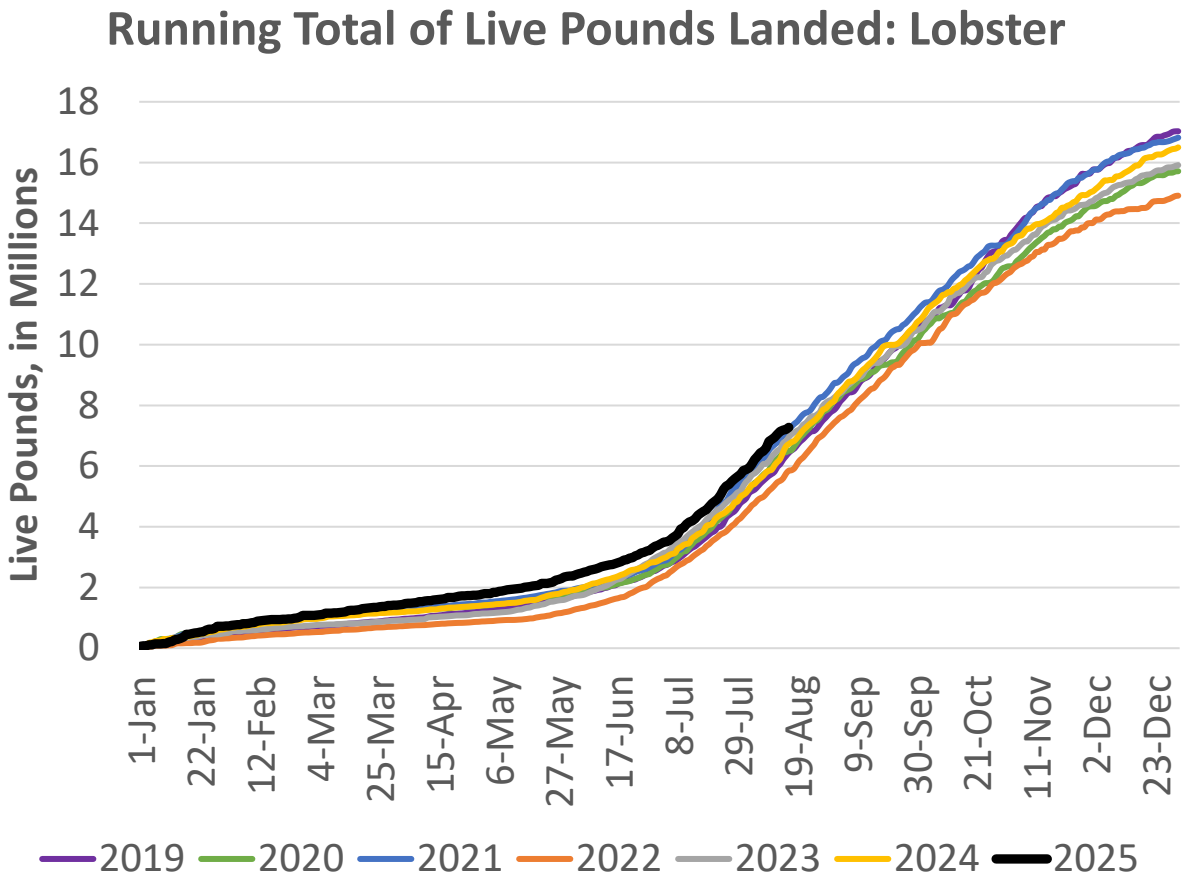
Running Total of Ex-Vessel Value and Landings: Lobster





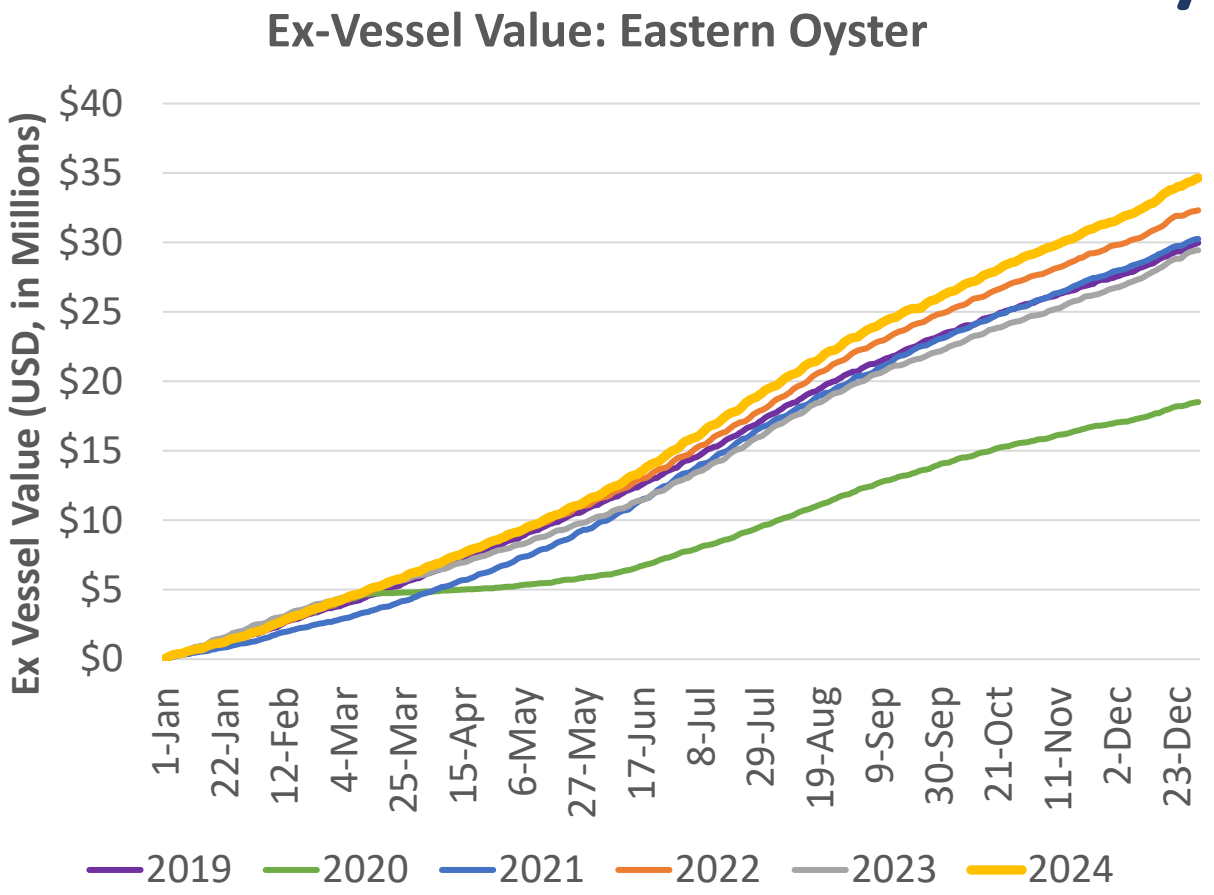
Running Total of Ex-Vessel Value and Landings: Lobster

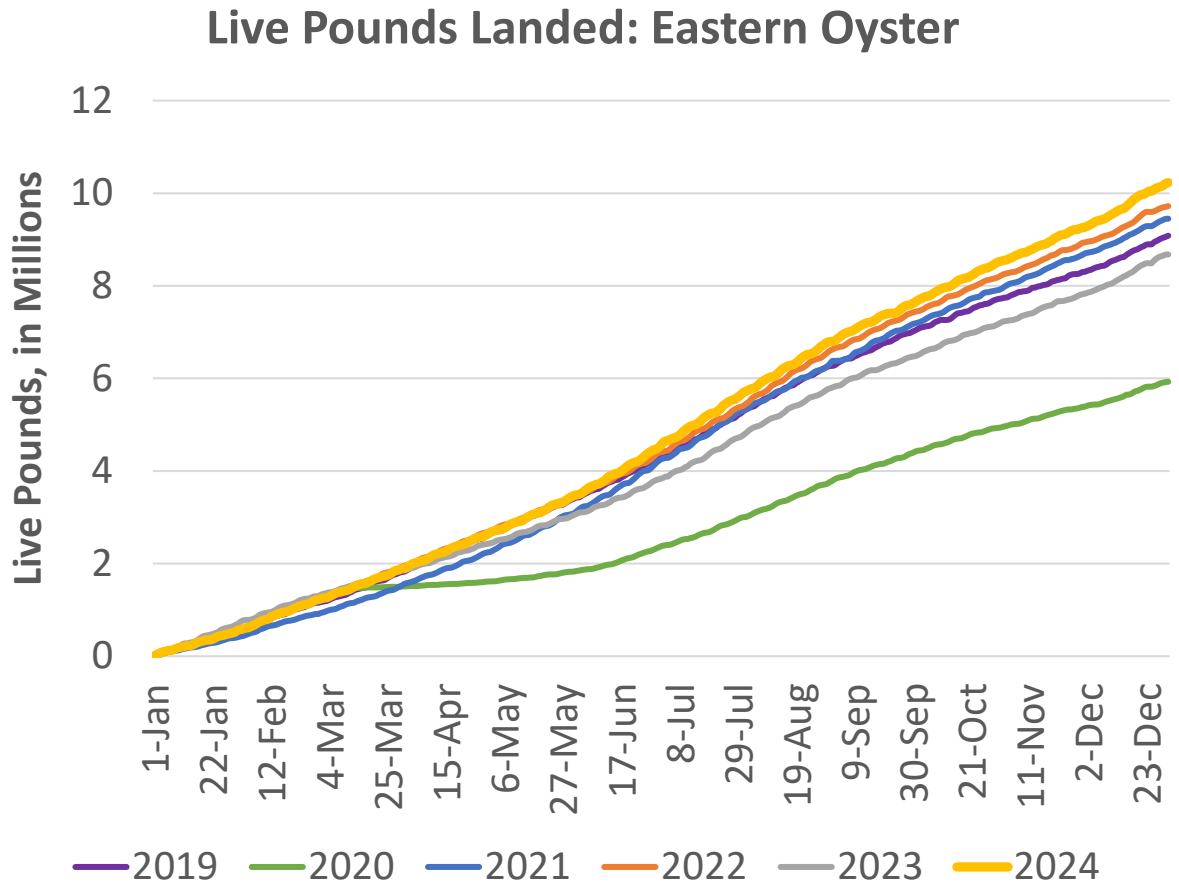




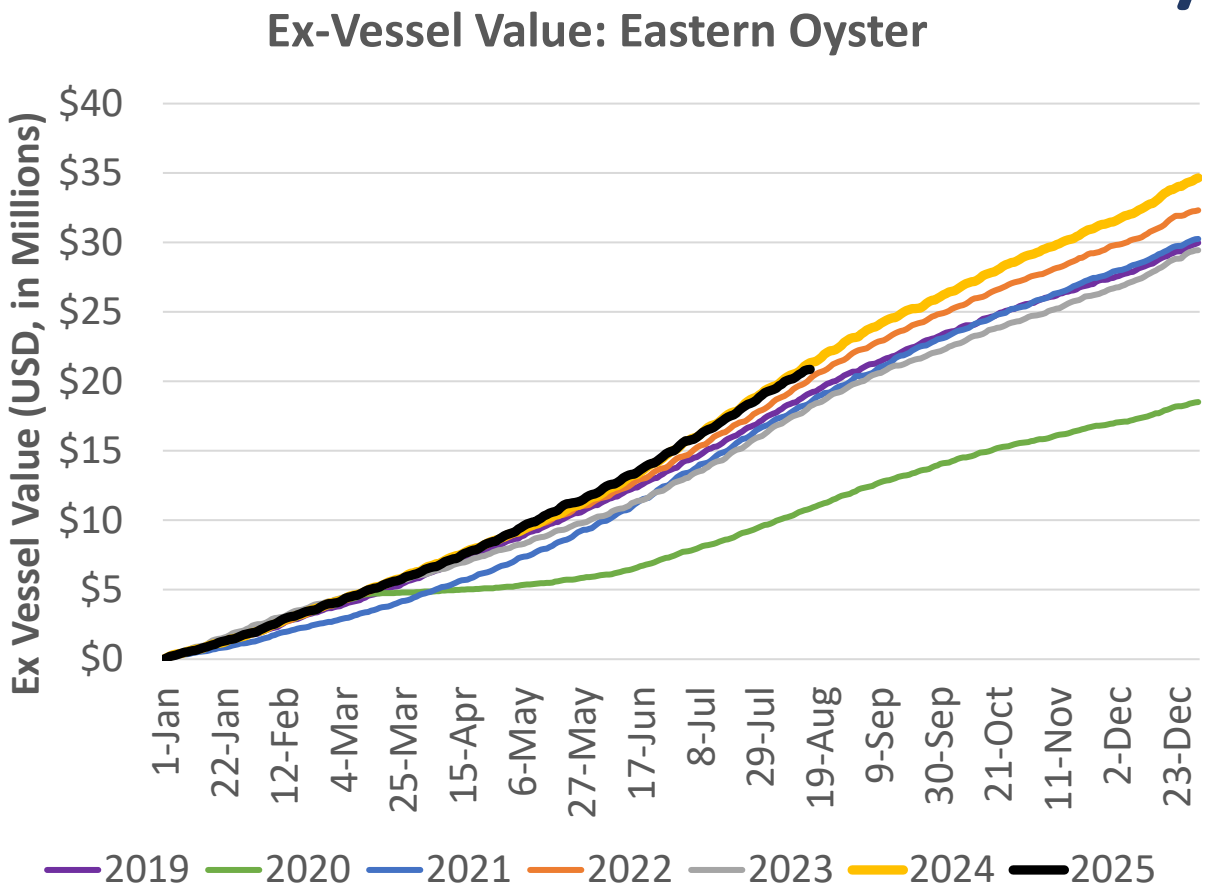
Massachusetts Division of Marine Fisheries

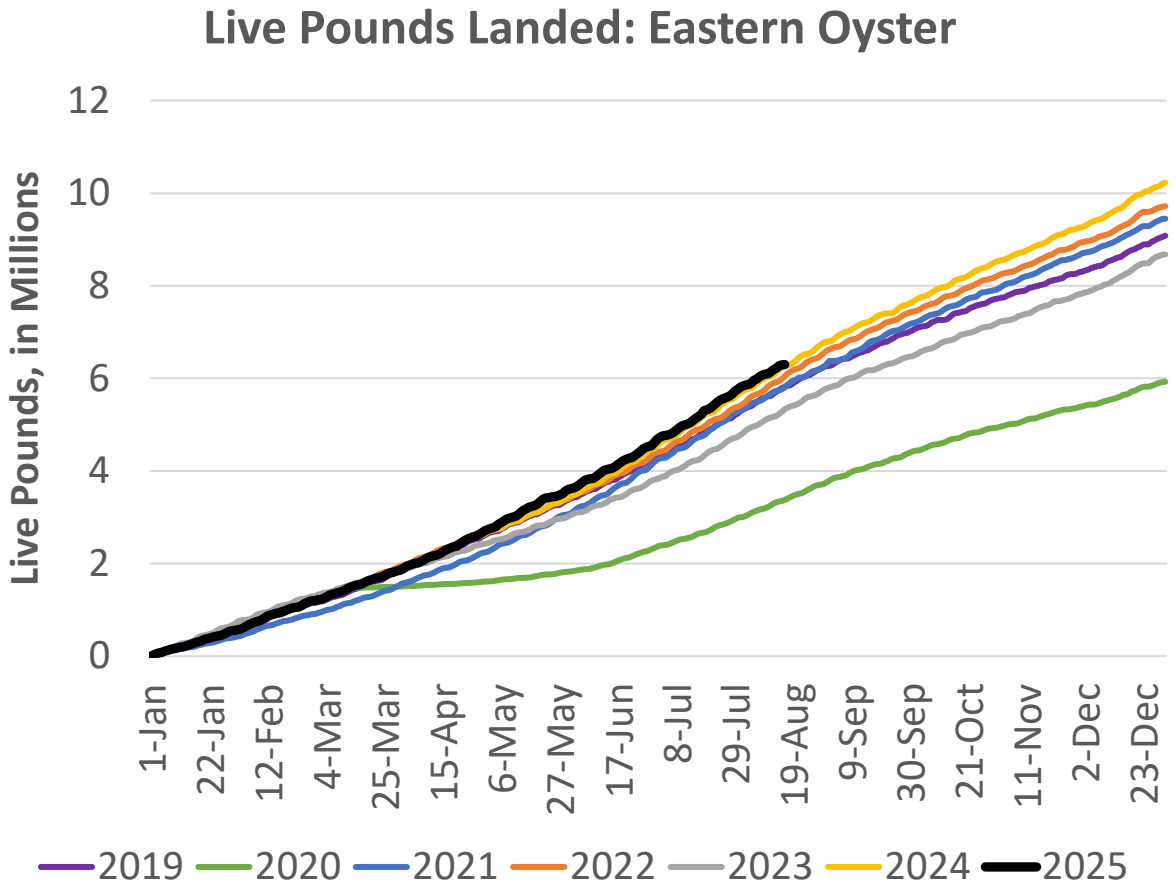
Running Total of Ex-Vessel Value and Landings: Oyster





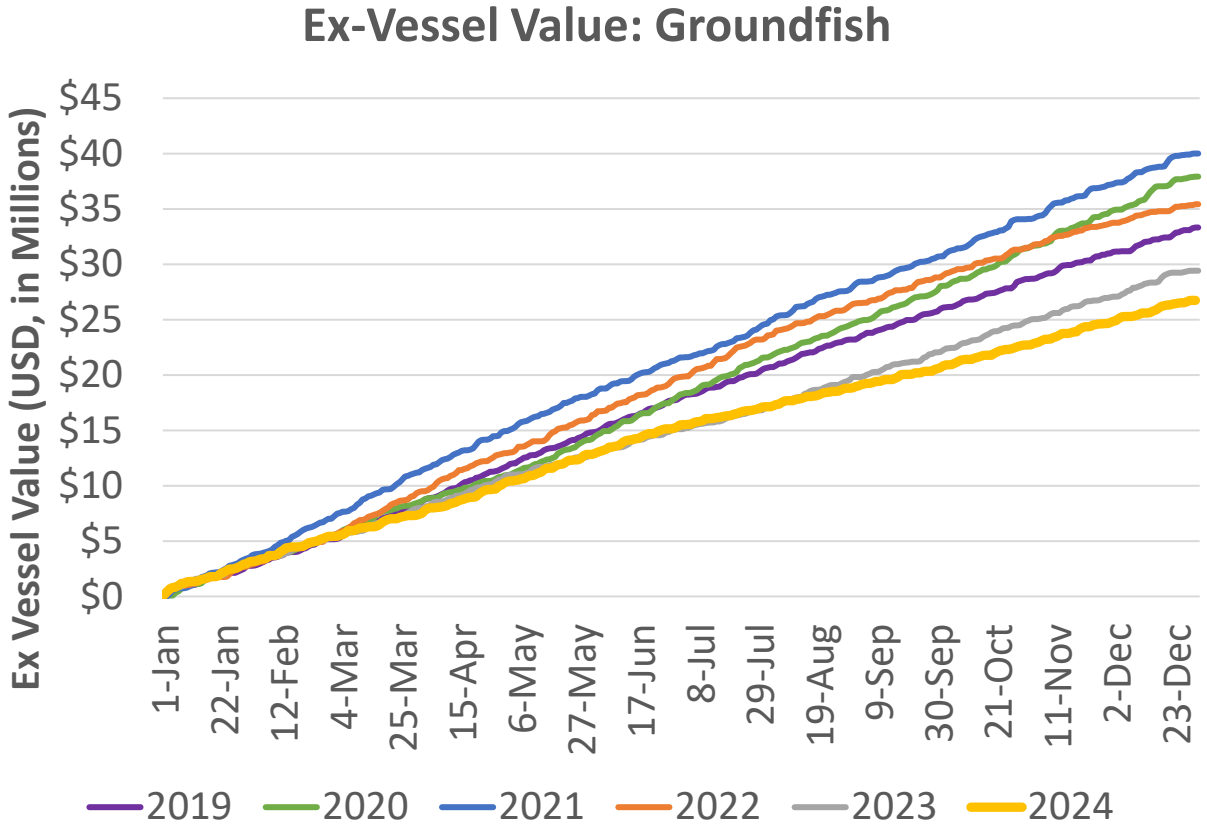
Running Total of Ex-Vessel Value and Landings: Oyster

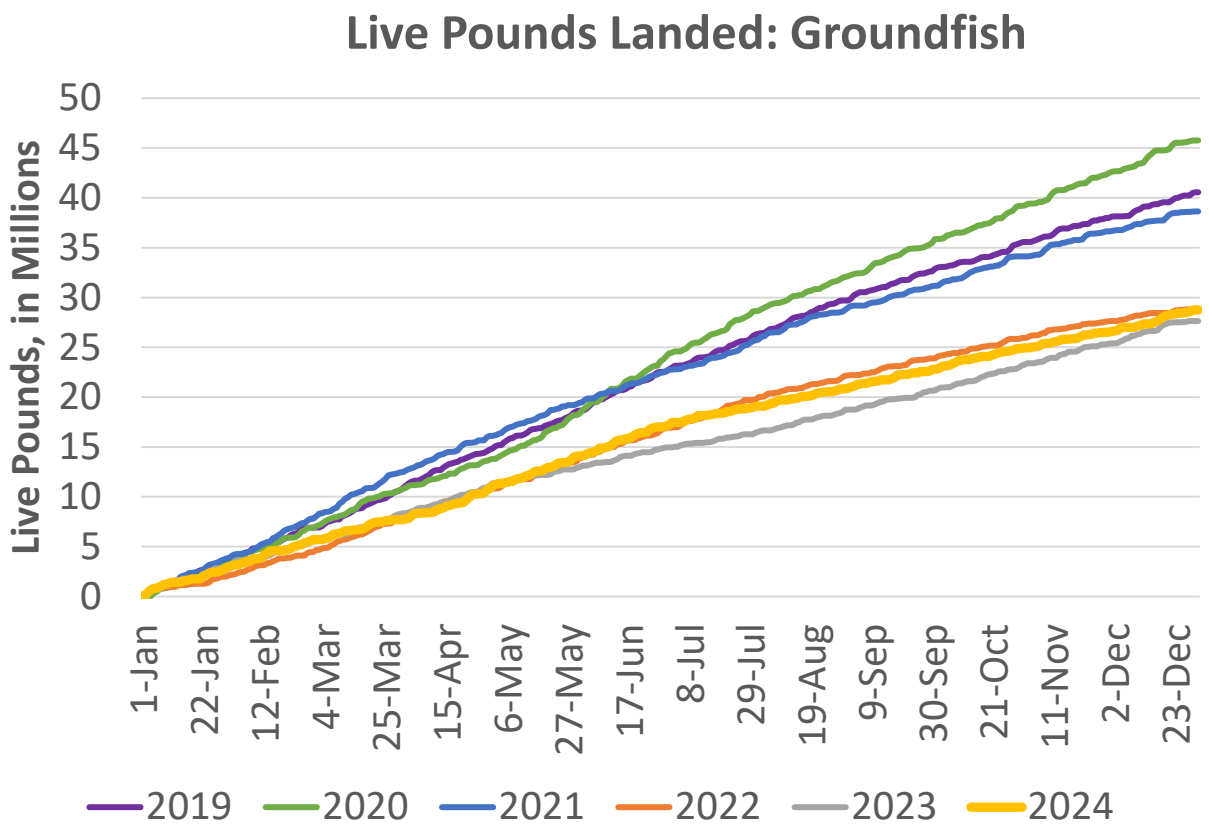




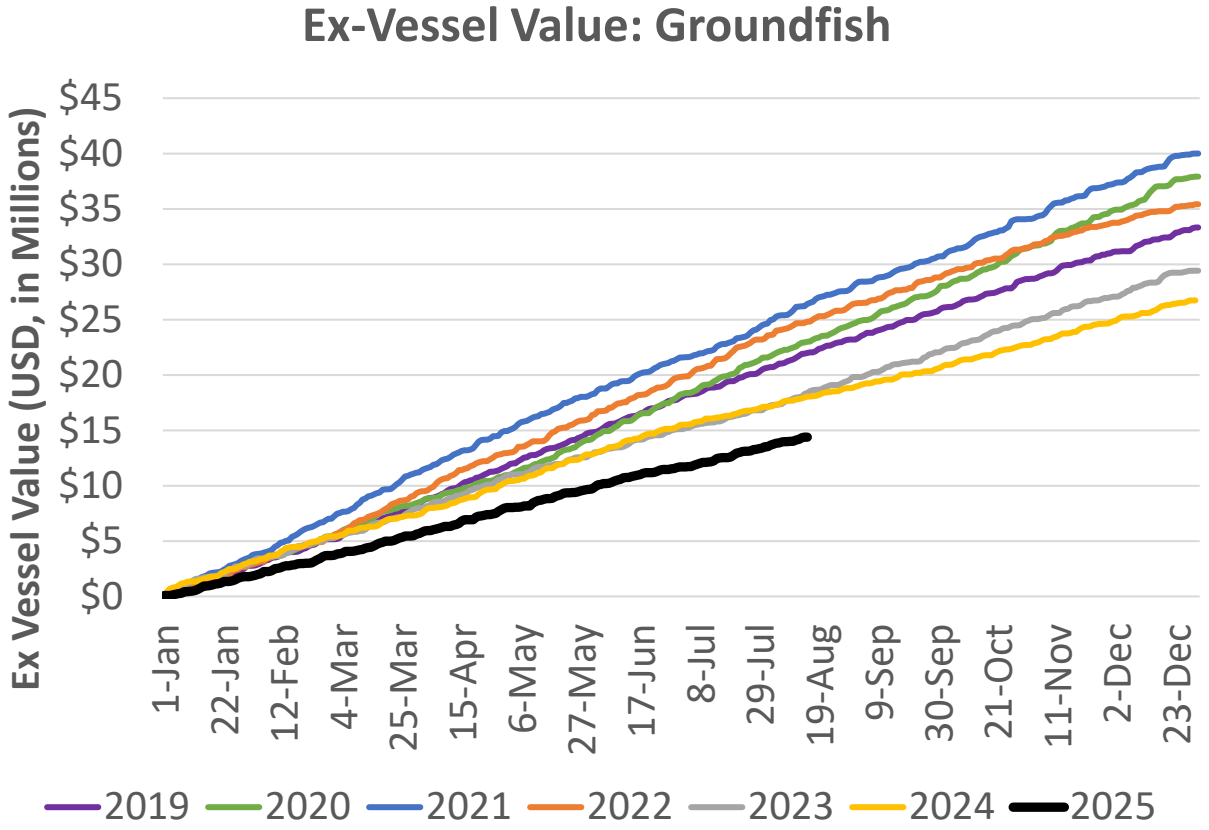
Massachusetts Division of Marine Fisheries

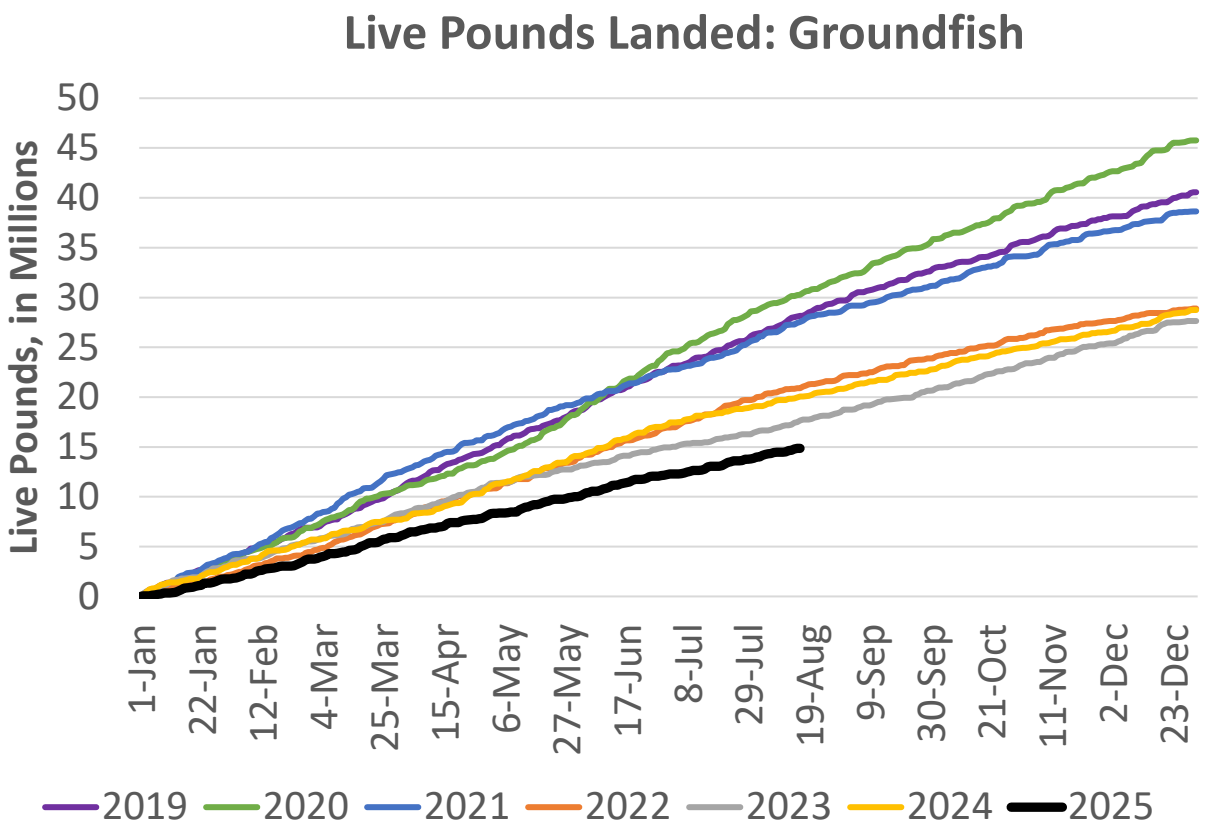
Running Total of Ex-Vessel Value and Landings: Groundfish





Running Total of Ex-Vessel Value and Landings: Groundfish

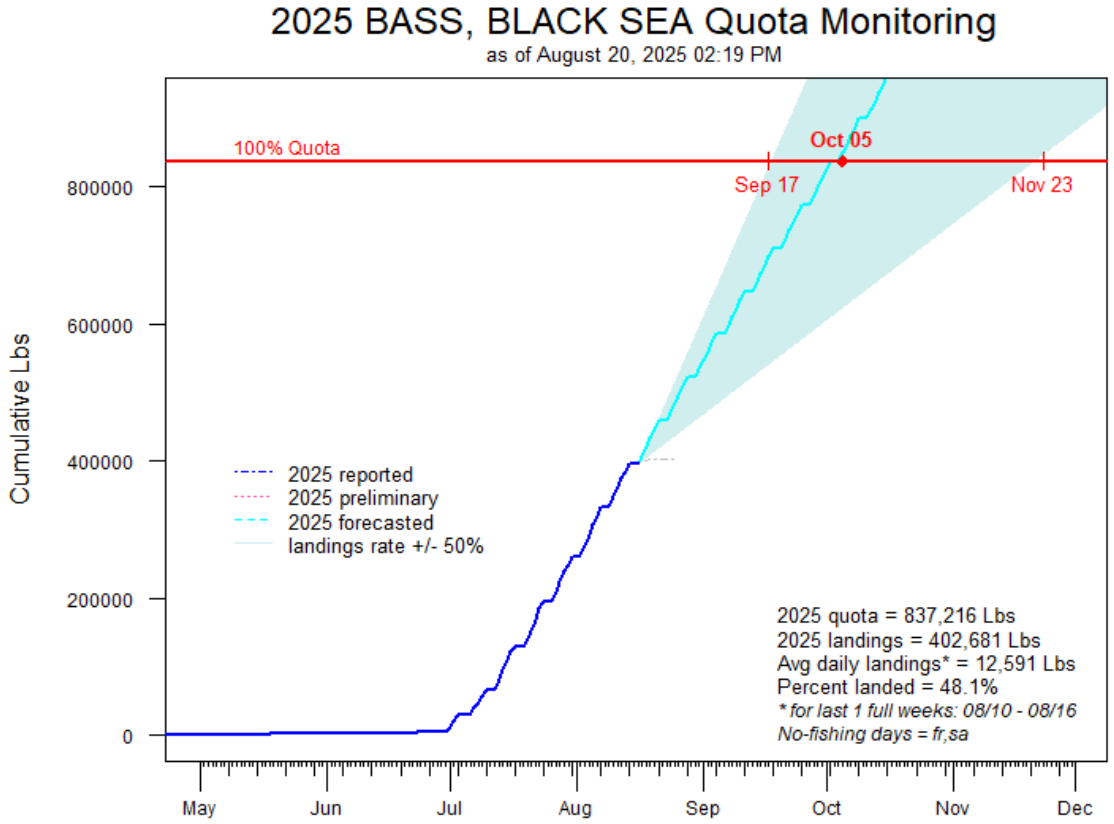




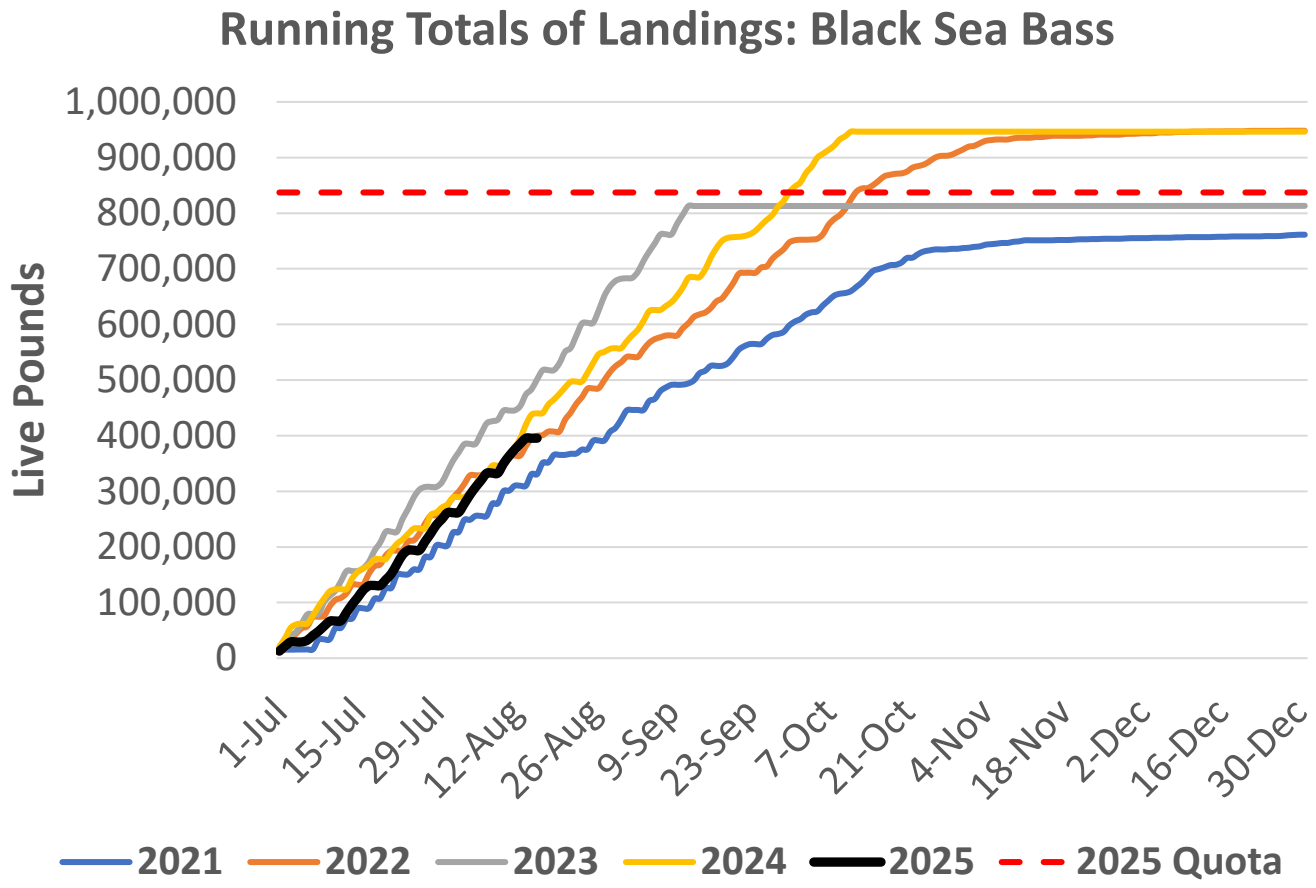
2025 Quota Species Overview

Data Source: SAFIS eDR as of 8/20/2025. 2025 data are preliminary and subject to change. Results are shown through week ending 8/16/25.

Black Sea Bass: Landings

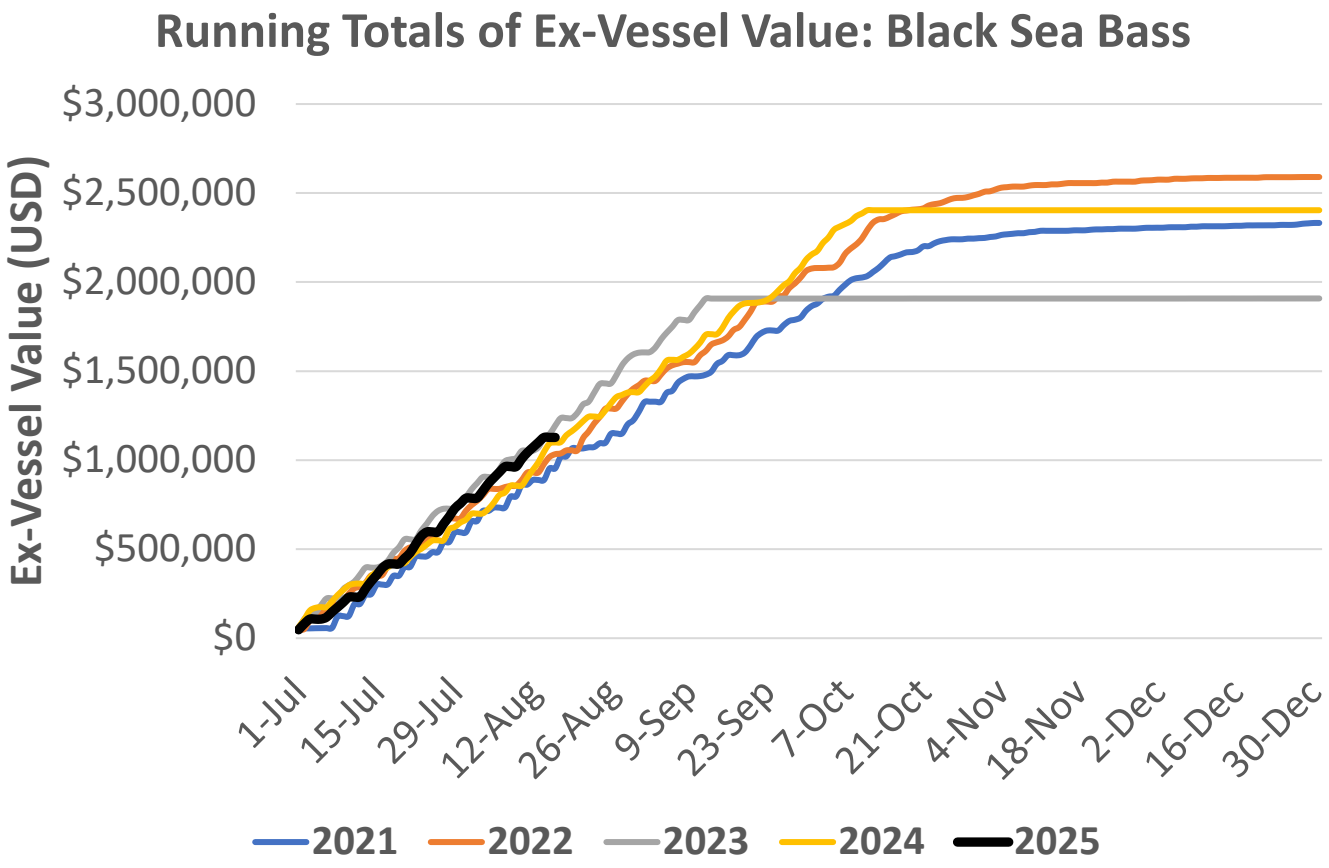


Quota significantly increased in 2022, decreased 2023, increased again 2024, decreased again 2025



Massachusetts Division of Marine Fisheries

Black Sea Bass: Ex-Vessel Value

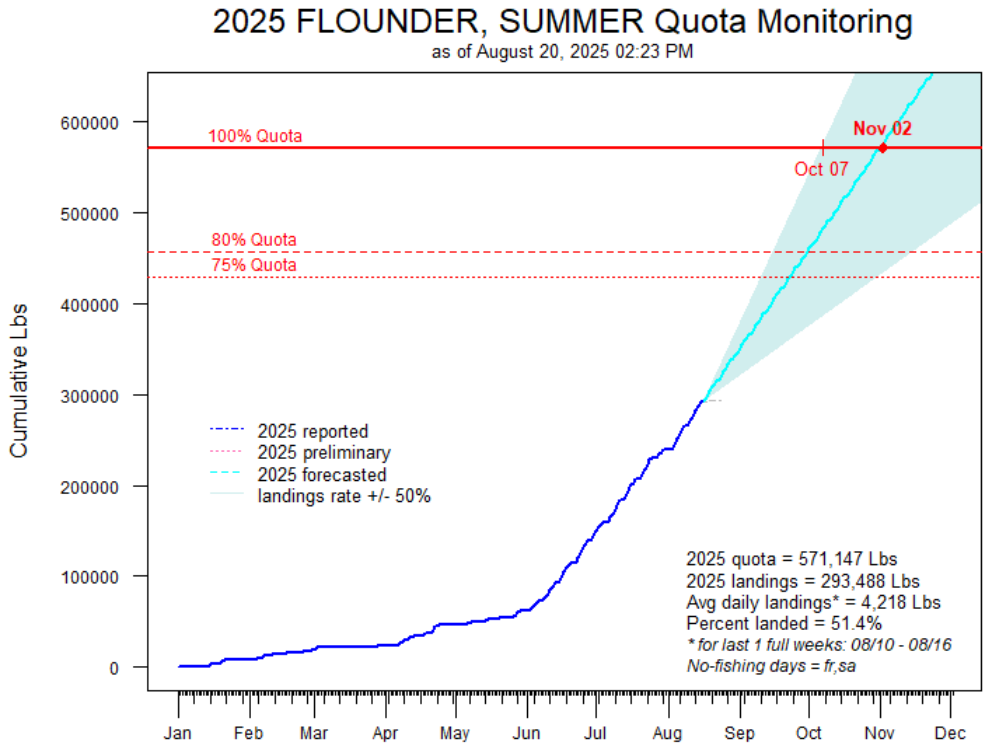


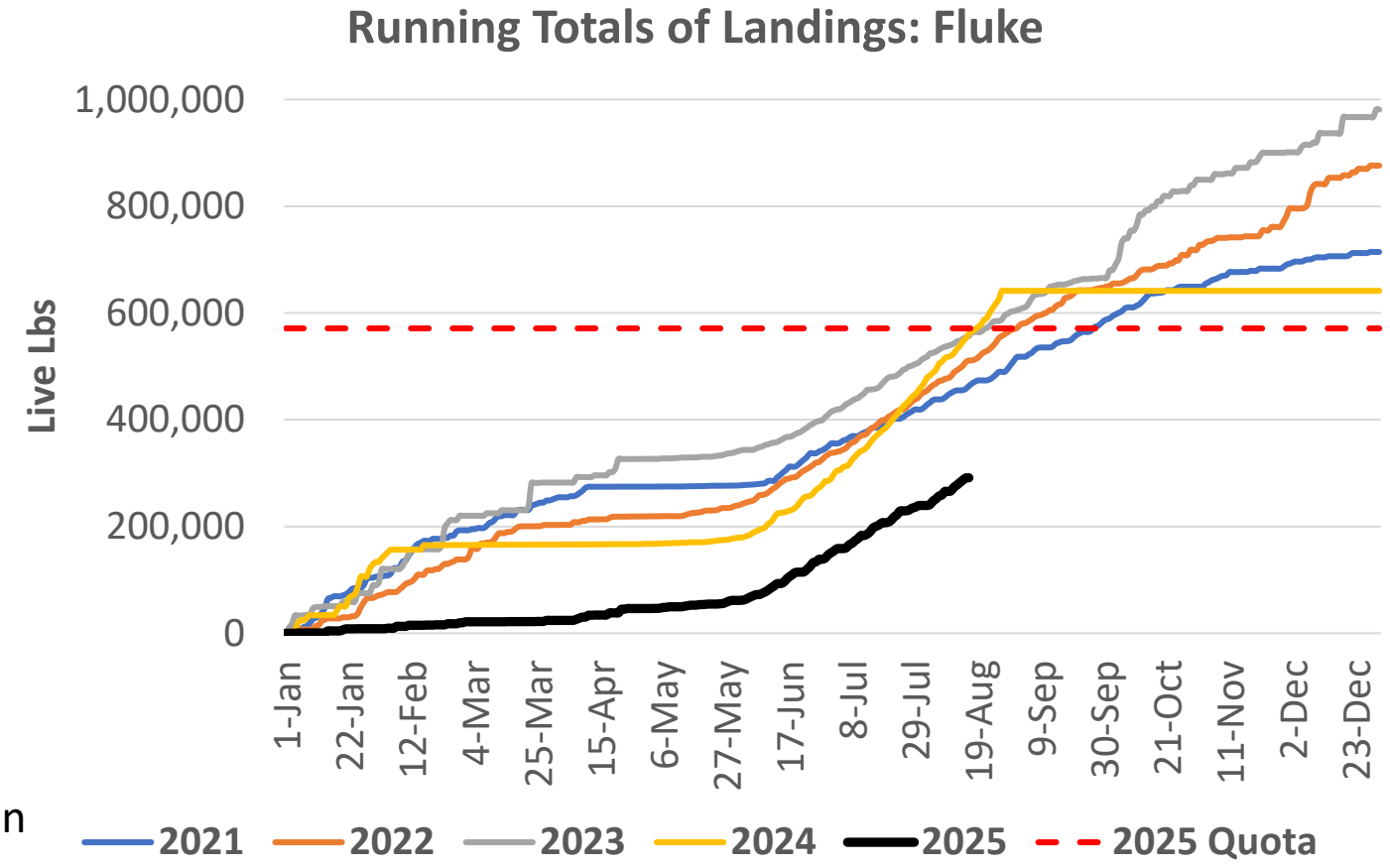
Black Sea Bass Average Price by Month and Year

Month	2021	2022	2023	2024	2025
July	$2.88	$2.57	$2.31	$2.40	$3.00
August	$2.99	$2.74	$2.34	$2.55	$2.59
September	$3.37	$2.98	$2.33	$2.65	

Note that prices displayed here are across all sizes

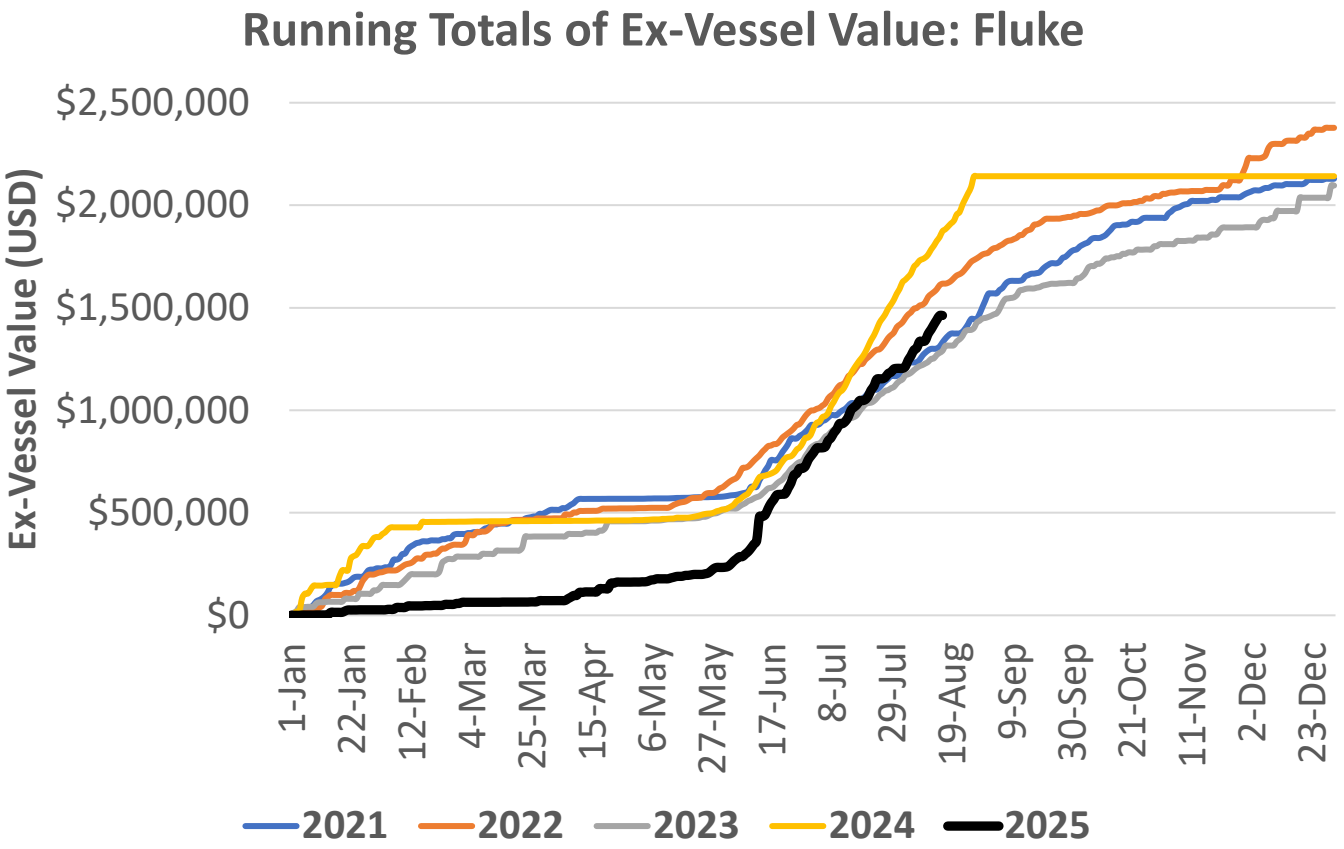
Summer Flounder (Fluke): Landings





- Quota significantly decreased 2024, again 2025
- Pending triggers: increase to 800 lb in >20% remains on 9/1 & 5,000 lb if >10% remains on 10/1

Summer Flounder (Fluke): Ex-Vessel Value

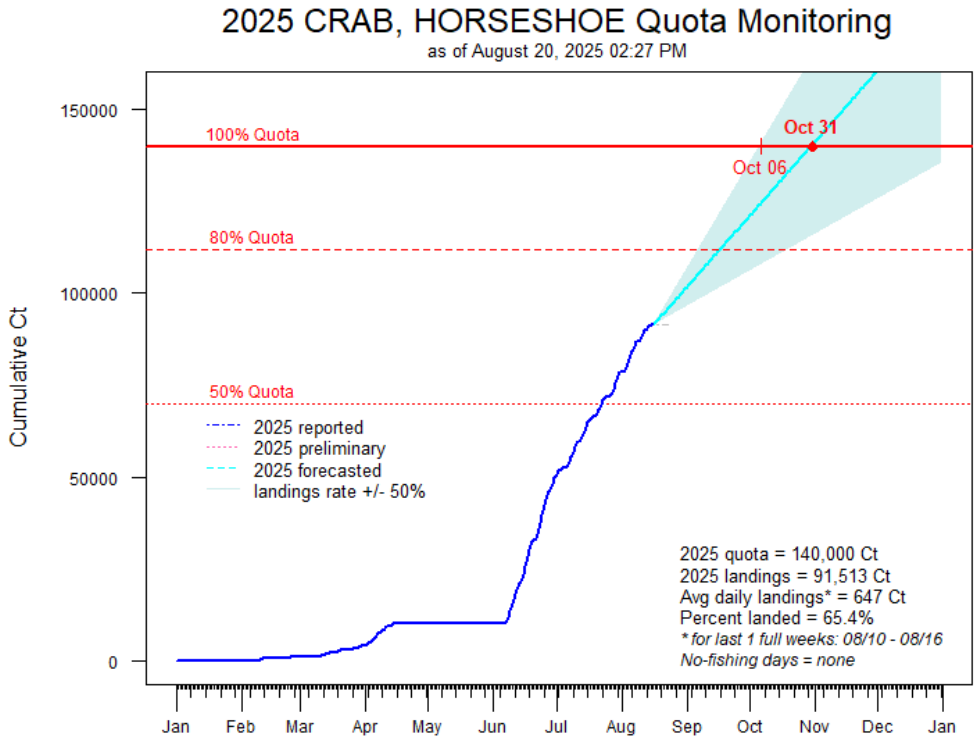


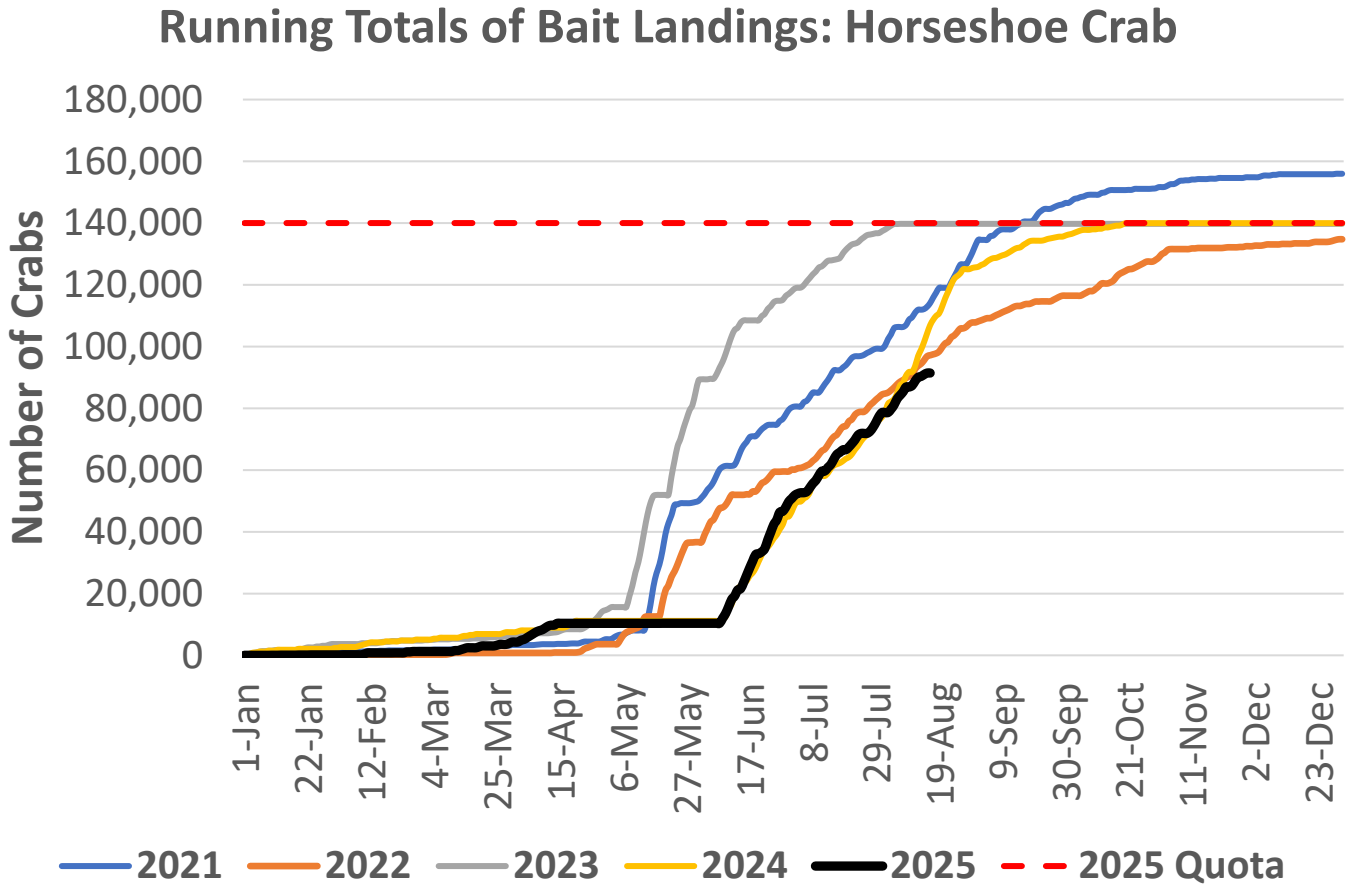
Fluke Average Price by Month and Year

Month	2021	2022	2023	2024	2025
May	$4.68	$4.91	$3.62	$4.45	$4.68
June	$4.52	$3.81	$4.16	$3.30	$6.20
July	$3.72	$3.69	$3.29	$3.99	$4.83
August	$4.05	$2.96	$3.47	$3.18	$5.03
September	$3.18	$2.30	$2.76		

Note that prices displayed here are across all sizes

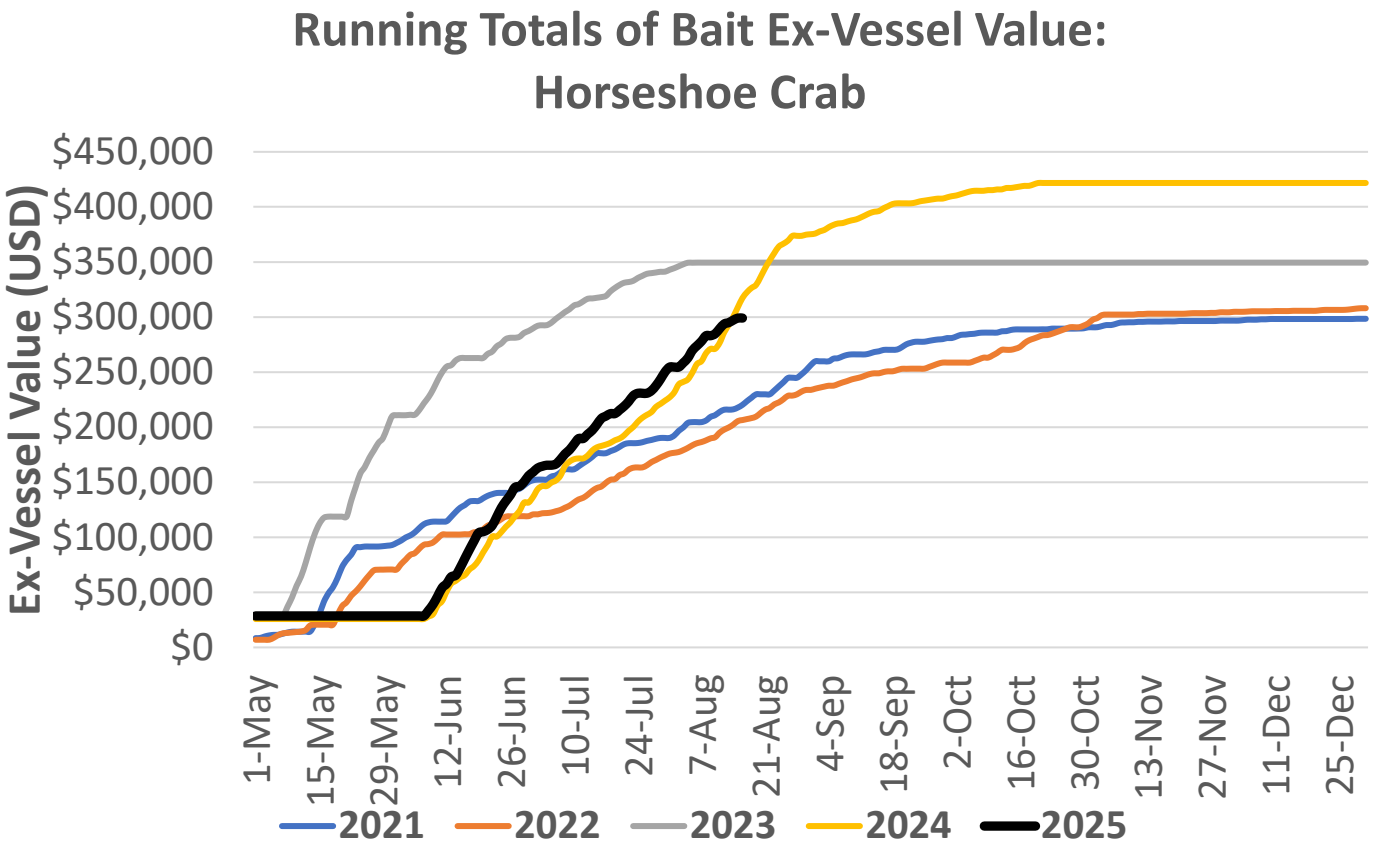
Bait Horseshoe Crab: Landings





- 4/15-6/7 closure implemented in 2024
- Pending trigger: Reduce to 200 if 80% taken on or before 9/15

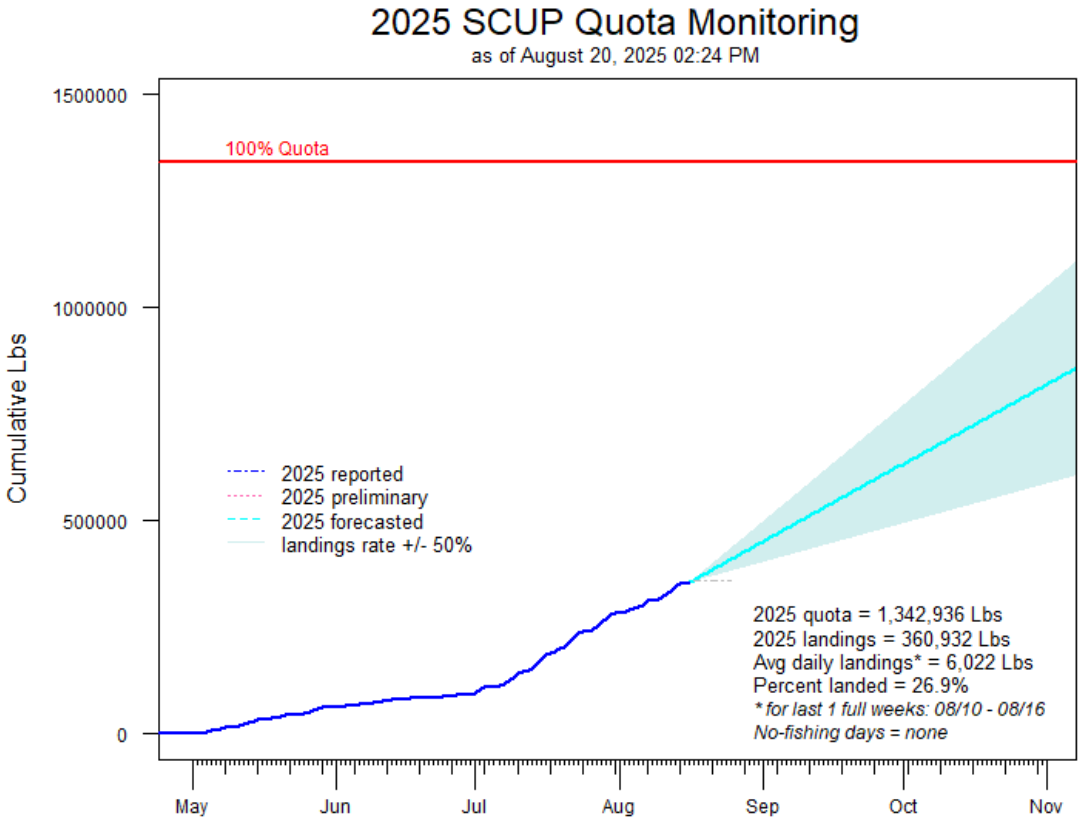
Bait Horseshoe Crab: Ex-Vessel Value

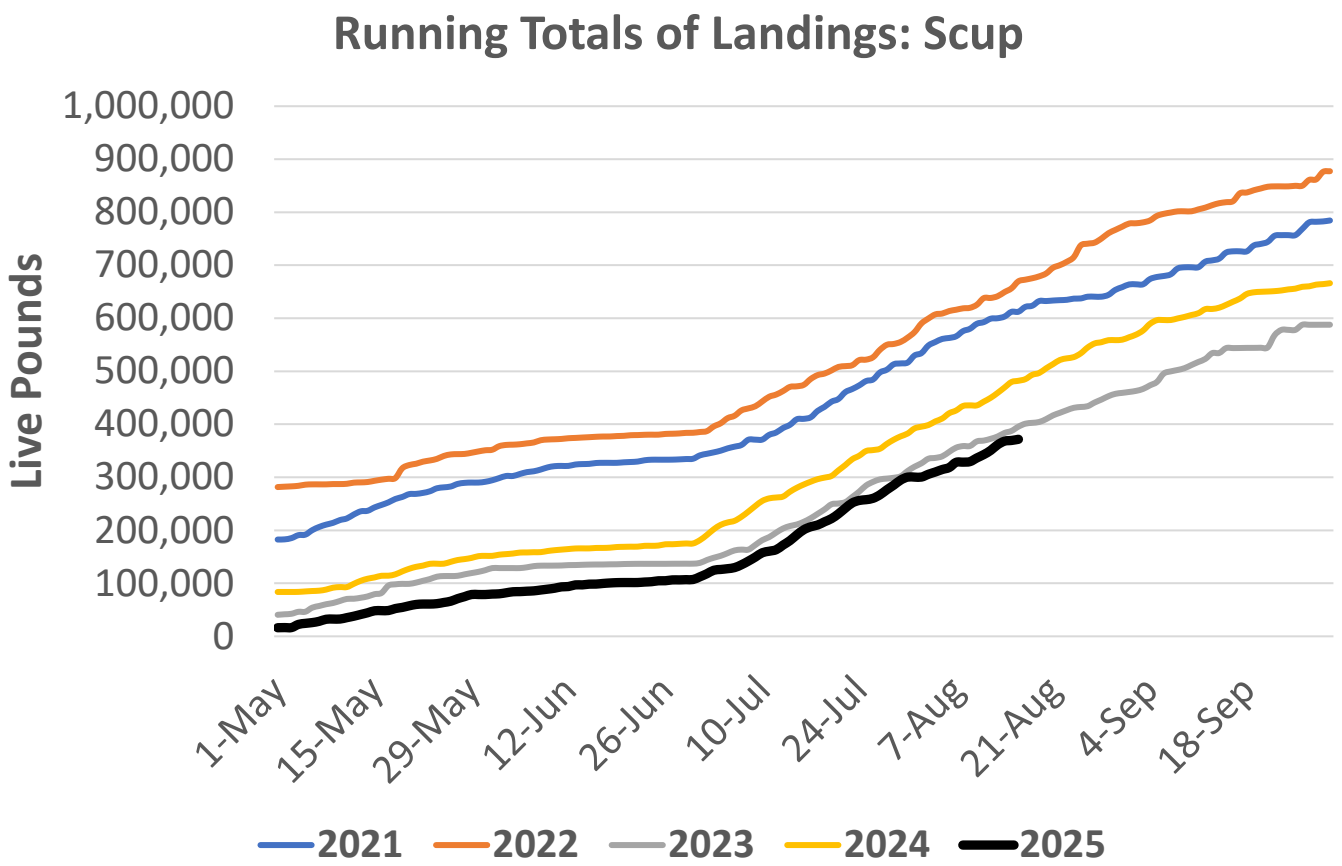


Bait Horseshoe Crab Average Price by Month and Year

Month	2021	2022	2023	2024	2025
June	$3.21	$2.12	$2.76	$3.13	$3.12
July	$2.98	$2.28	$2.74	$2.97	$3.39
August	$3.03	$2.48	$2.73	$3.05	$3.51
September	$2.18	$2.86		$3.25	

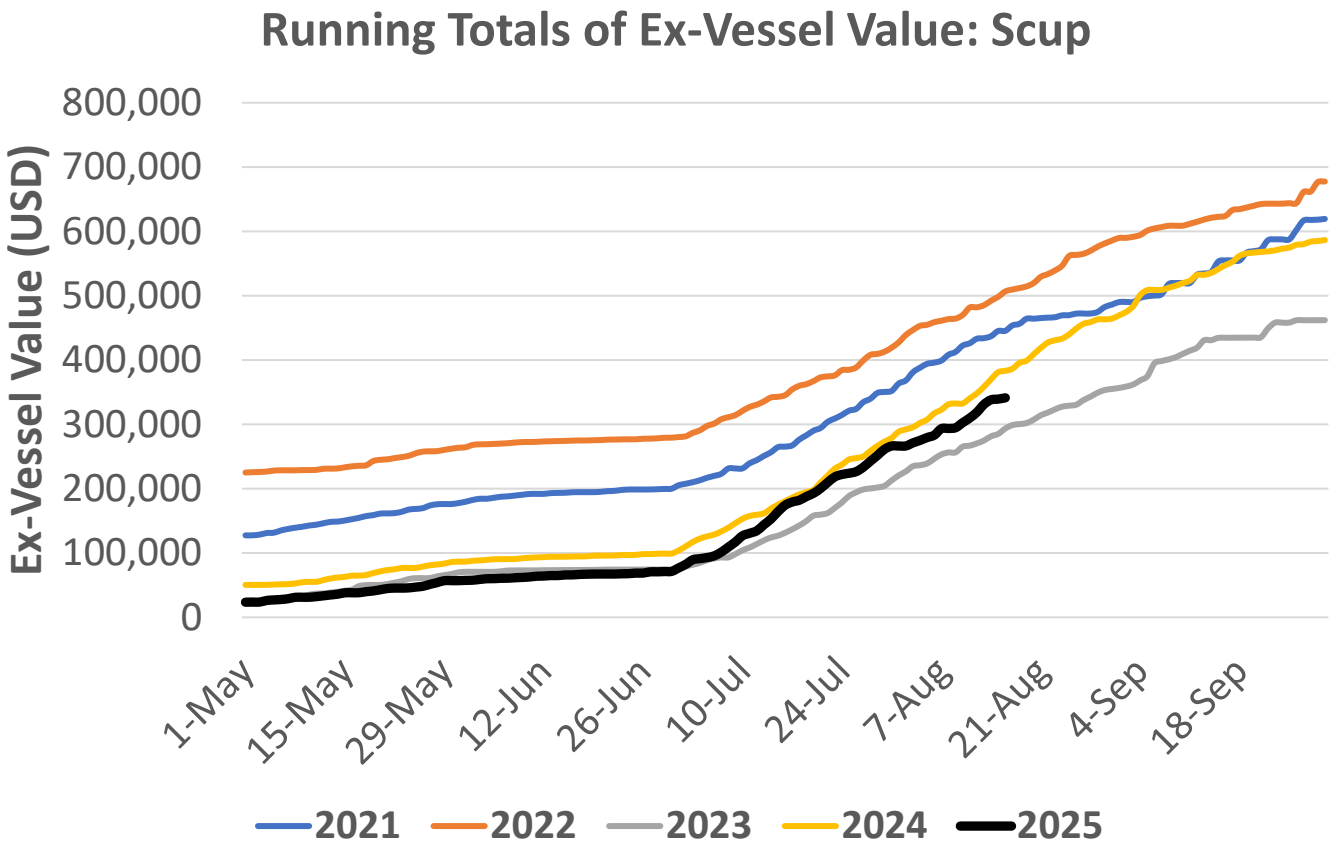
Summer Scup: Landings





Massachusetts Division of Marine Fisheries

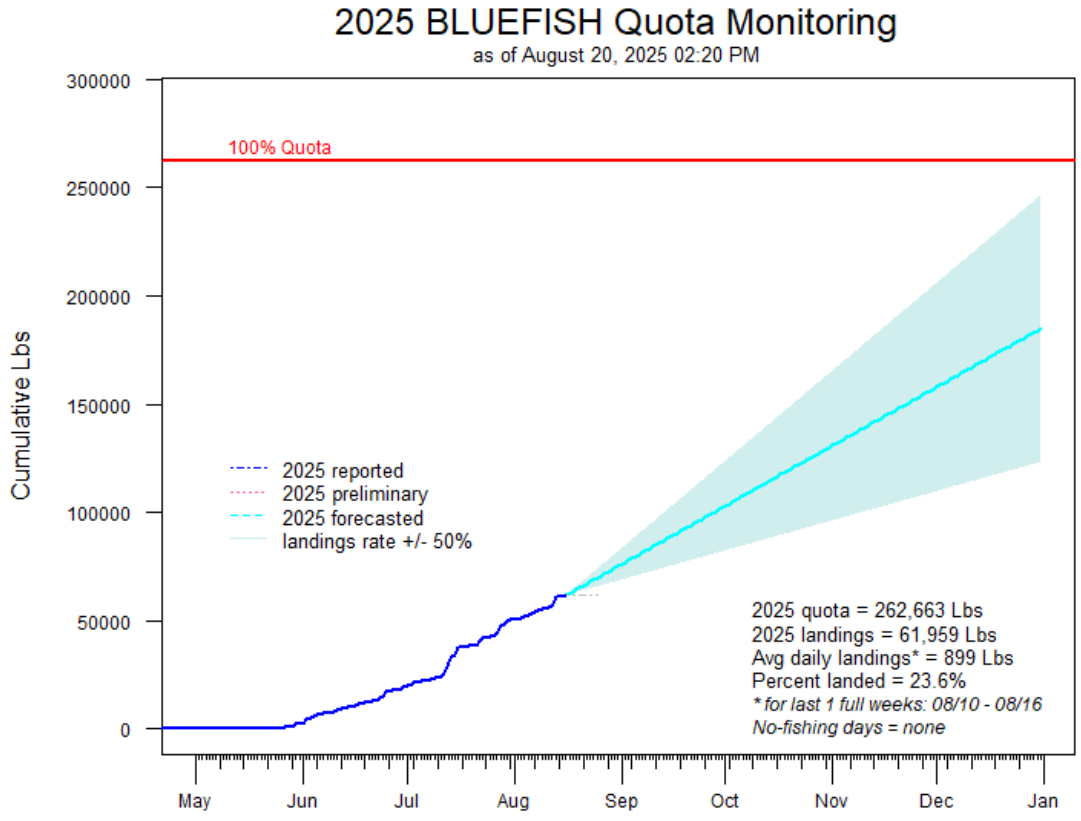
Summer Scup: Ex-Vessel Value

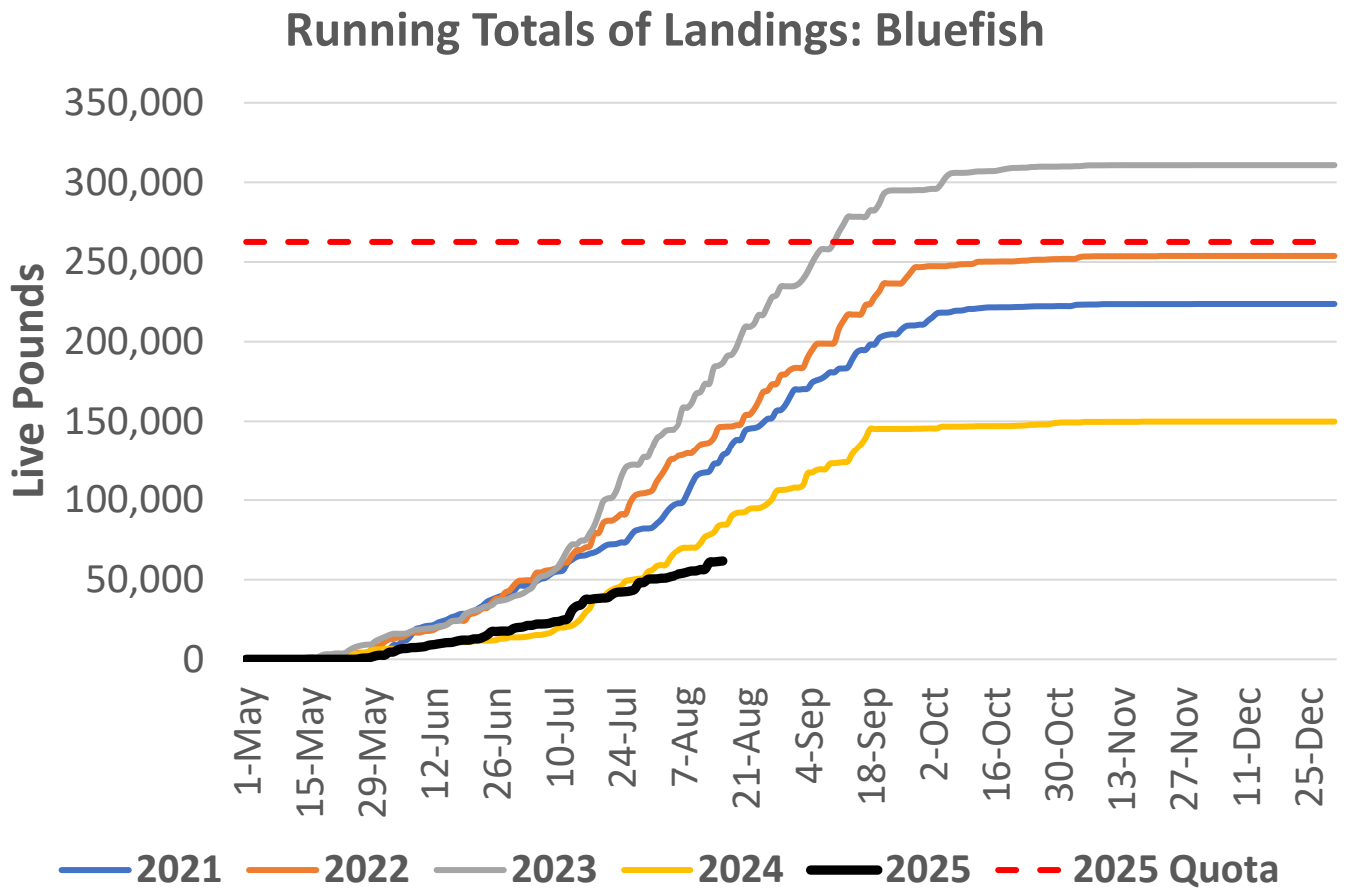


Summer Scup Average Price by Month and Year

Month	2021	2022	2023	2024	2025
May	$0.46	$0.56	$0.55	$0.53	$0.53
June	$0.51	$0.47	$0.36	$0.54	$0.48
July	$0.84	$0.78	$0.80	$0.87	$1.01
August	$0.94	$0.79	$0.96	$1.05	$1.00
September	$1.06	$0.88	$0.83	$1.15	

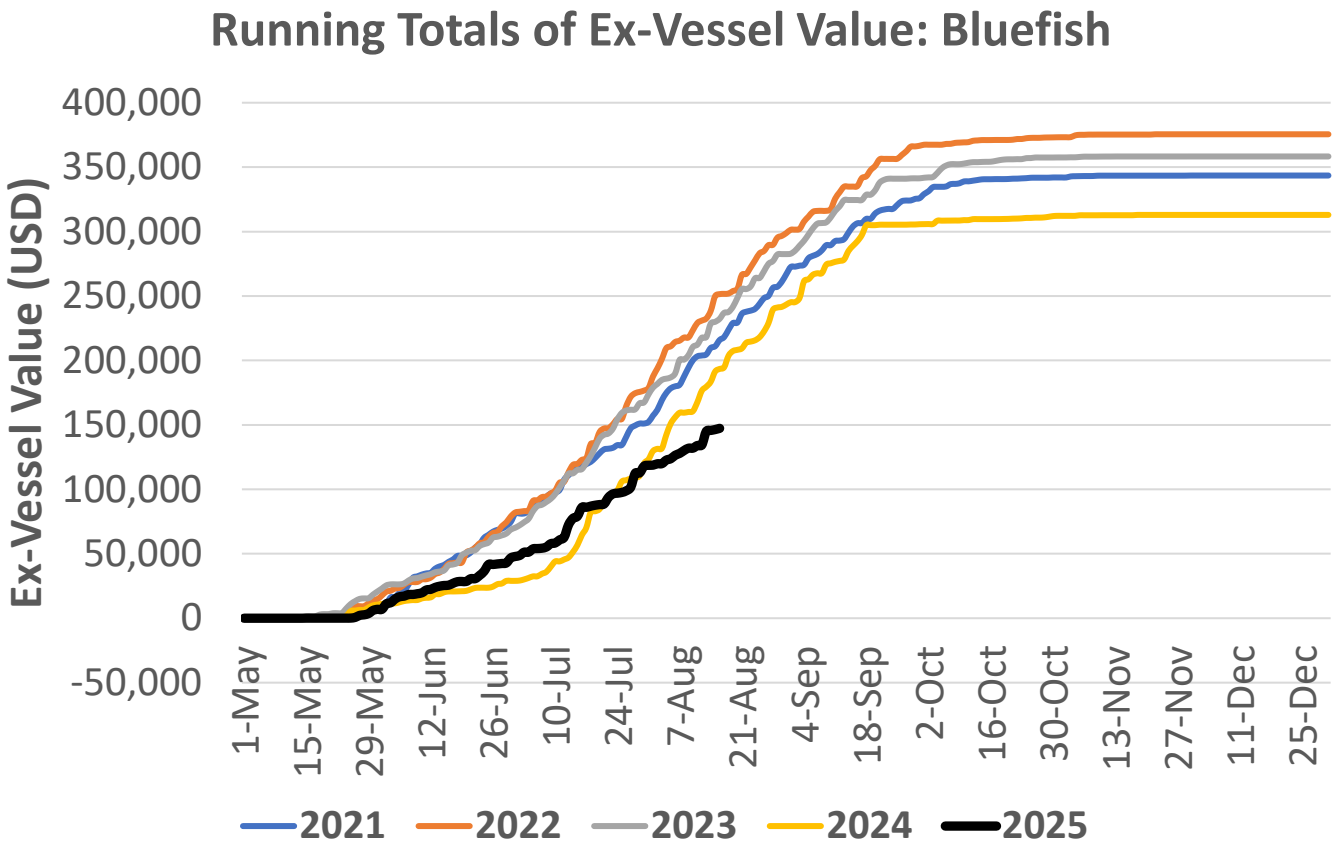
Bluefish: Landings





Massachusetts Division of Marine Fisheries

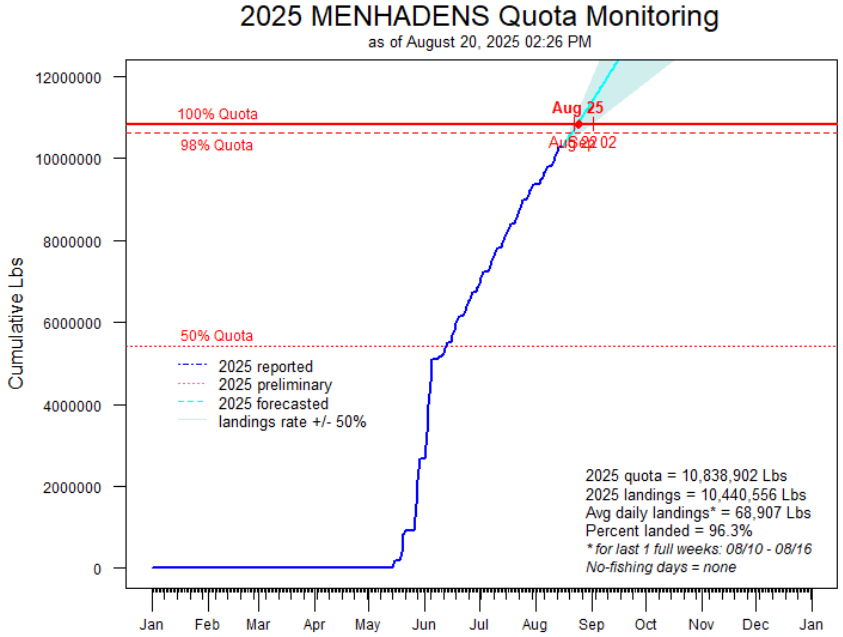
Bluefish: Ex-Vessel Value

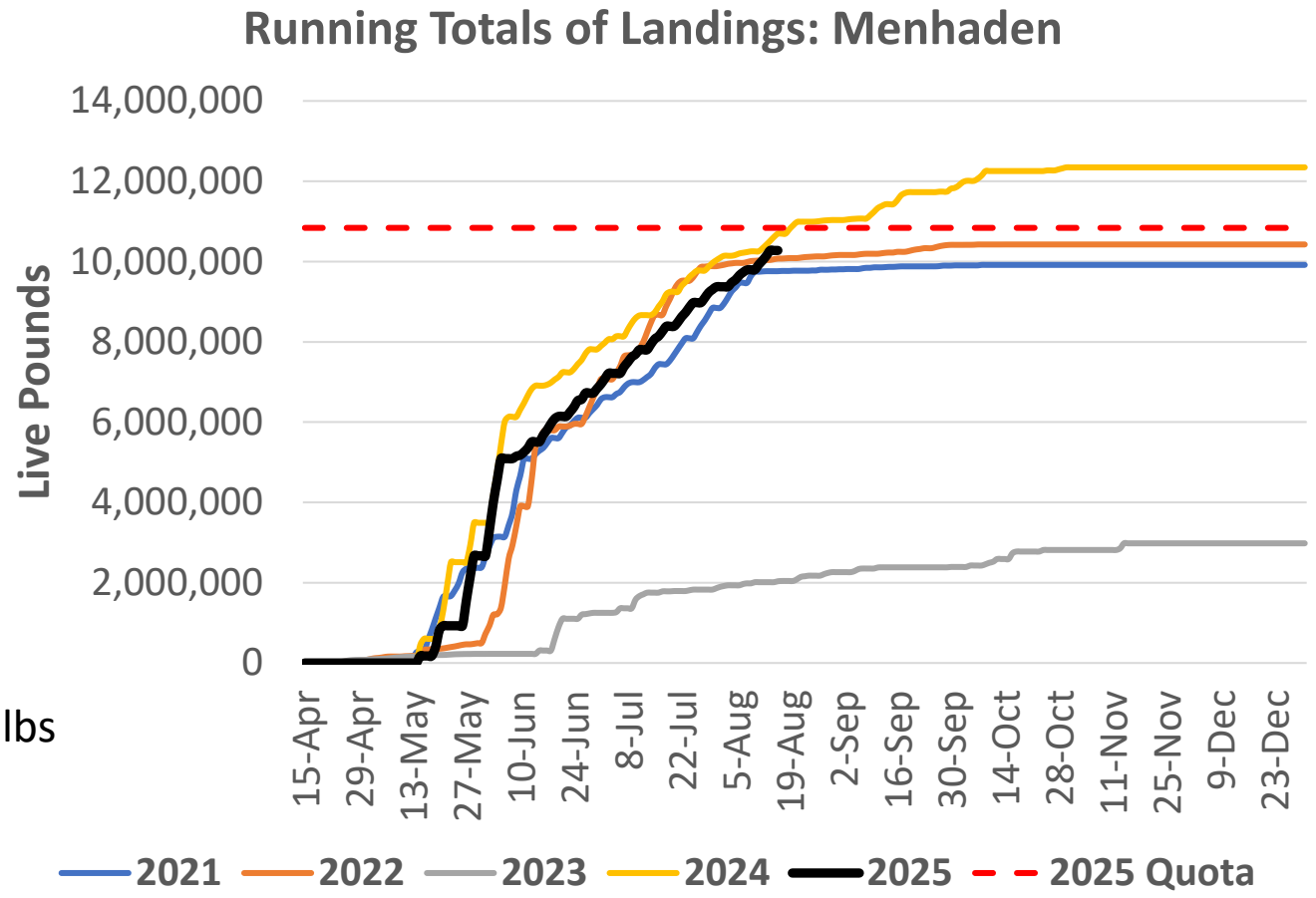


Bluefish Average Price by Month and Year

Month	2021	2022	2023	2024	2025
June	$1.74	$1.68	$1.79	$2.46	$2.36
July	$1.95	$1.67	$1.12	$2.23	$2.32
August	$1.39	$1.58	$1.07	$2.36	$2.74
September	$1.29	$1.05	$0.97	$1.62	

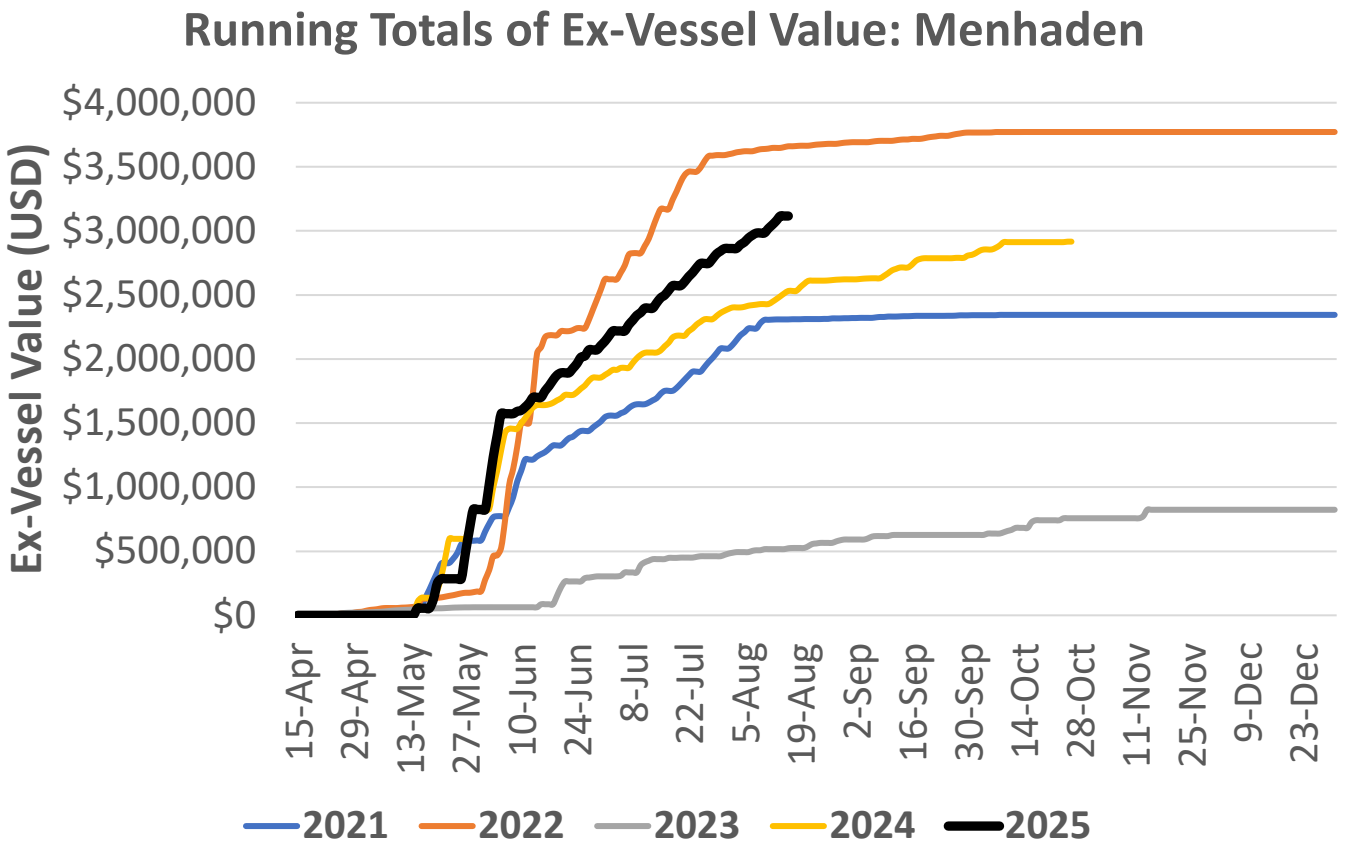
Menhaden: Landings





- **2025 Possession Limit Changes**
  - 120,000 lb Limit: last day 6/9, limit dropped to 25,000 lbs
  - Pending trigger: 6,000 lb if 98% of quota is taken after September 1

Menhaden: Ex-Vessel Value

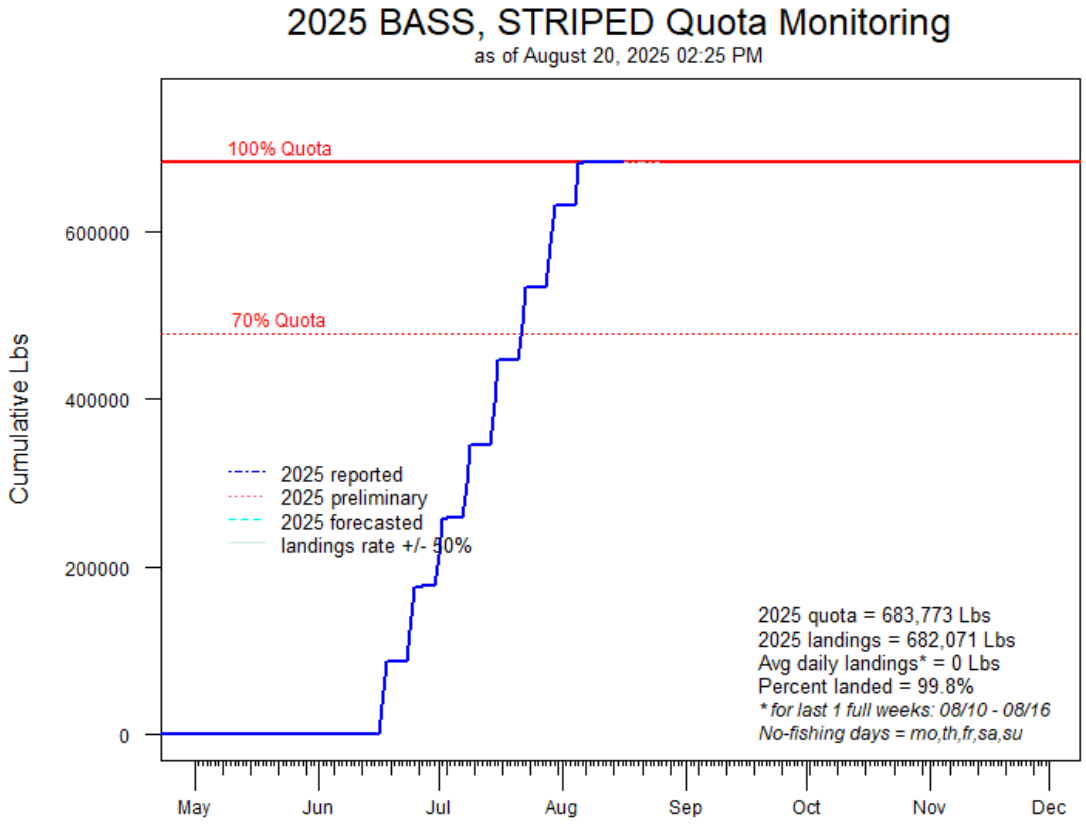


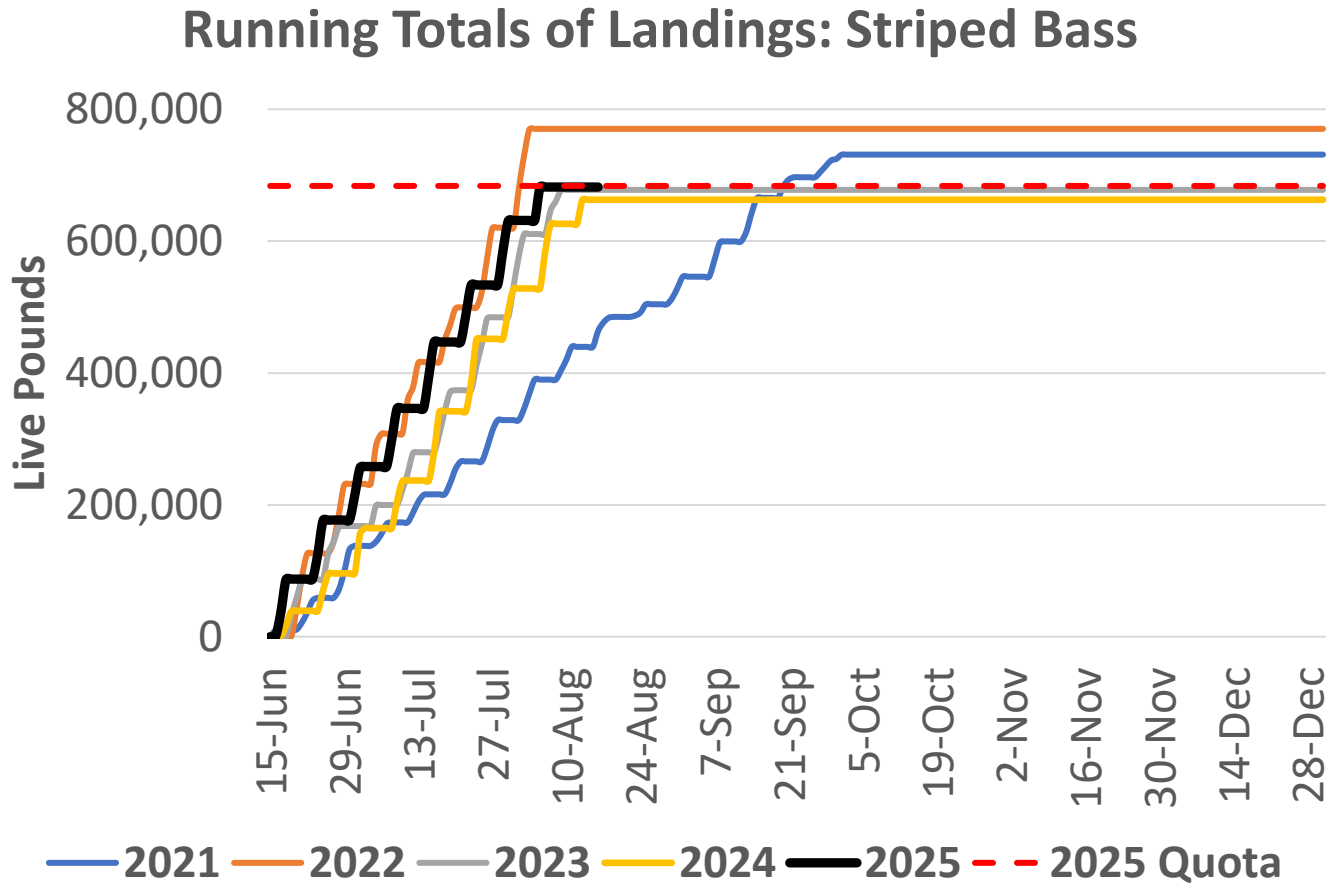
Menhaden Average Price by Month and Year

Month	2021	2022	2023	2024	2025
May	$0.25	*	$0.28	$0.24	$0.31
June	$0.23	$0.37	$0.24	$0.24	$0.31
July	$0.24	$0.34	$0.27	$0.23	$0.30
August	$0.25	$0.36	$0.30	$0.25	$0.28
September	$0.23	$0.30	$0.28	$0.24	

*Confidential

Striped Bass: Landings – Closed 8/6

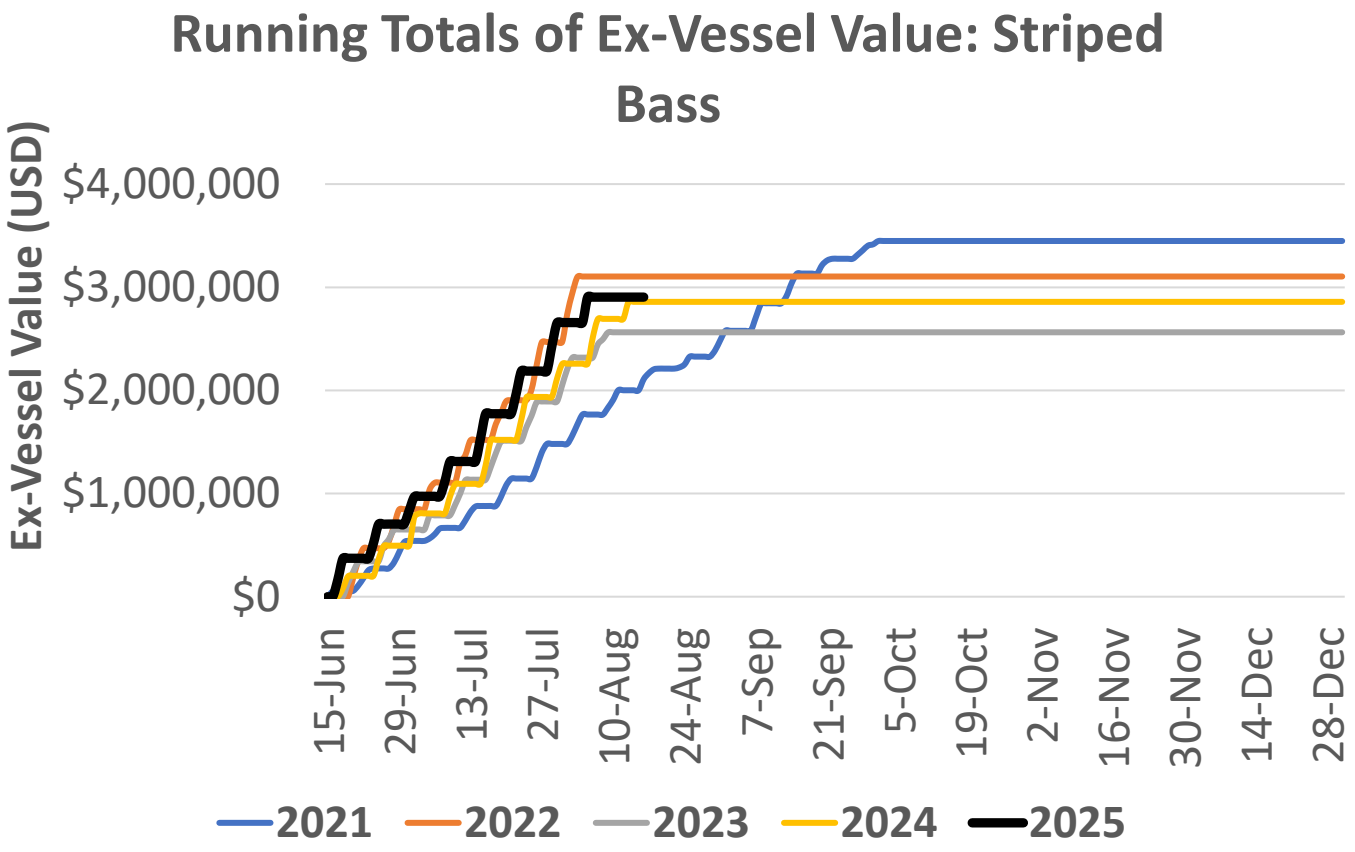




Quota decreased in 2020, 2024

Massachusetts Division of Marine Fisheries

Striped Bass: Ex-Vessel Value



Striped Bass Average Price by Month and Year

Month	2021	2022	2023	2024	2025
June	$4.00	$3.66	$3.88	$5.15	$3.91
July	$4.86	$4.17	$3.85	$4.08	$4.29
August	$5.01	$4.24	$3.50	$4.45	$4.87
September	$4.76				

Questions?

Email: anna.webb@mass.gov

Cell Phone: 978-559-1948

100% Electronic Reporting

- March 1, 2027
- Mobile and Online applications, free to user
- Exemption program based on age and/or disability
  - Lack of a device will not qualify for exemption
- Transition roughly 3,000 users; ~3,000 more are already using the programs; encourage early adoption
- **Support plan**: at least 3 in-person training options in 2027, in-person office hours, phone support by DMF during business hours and a 24/7 vendor option, additional self-help options like videos or instruction manuals.

Questions?

Email: nick.buchan@mass.gov

Cell Phone: 978-491-6220

Atlantic States Marine Fisheries Commission

ASMFC 2025 Summer Meeting

Sustainable and Cooperative Management of Atlantic Coastal Fisheries

ASMFC 2025 Summer Meeting
August 5 - 7, 2025

For more information, please contact Toni Kerns, ISFMP, Tina Berger, Communications or the identified individual at 703.842.0740

Meeting Summaries, Press Releases and Motions

TABLE OF CONTENTS

AMERICAN LOBSTER MANAGEMENT BOARD (AUGUST 5, 2025)

Meeting Summary

The American Lobster Board received presentations on on-demand gear research development at the Northeast Fisheries Science Center (NEFSC) and the Joint New England and Mid-Atlantic Fishery Management Council Alternative Gear Marking Framework; updates from Maine and New Hampshire on recent meetings with the Gulf of Maine lobster industry; and an update on the 2025 benchmark stock assessment for lobster.

The NEFSC Gear Team has been studying new technologies for fishing gear without persistent buoy lines, also known as on-demand gear, to potentially provide fishermen opportunities to fish when persistent buoy lines are restricted. On-demand gear units can be set at the end of a trawl and released to the surface by a signal for retrieval. Instead of the location of the gear being marked at the surface by a buoy, digital technology is used to mark the gear location. A research fleet of over 70 vessels has conducted trials of various on-demand technologies, completing over 14,500 hauls since 2020 with an average success rate of 89%. Additional gear research is planned, including tests of new and developing systems and digital gear marking sharing technologies.

NOAA Fisheries presented updates on the New England and Mid-Atlantic Councils' Joint Alternative Gear Marking Framework Adjustment. The purpose of the action is to consider where and when to allow the use of fixed gear without a persistent buoy line, such as on-demand trap gear, as a possible approach for reducing entanglement risk for large whales. Final action by the Councils is planned for September and October. The Commission's American Lobster Advisory Panel (AP) met in July to discuss this issue. The AP raised concerns about the lack of information and engagement with the industry on the implementation of on-demand gear fisheries and, in particular, the potential for conflict with mobile gear. The Board agreed to recommend to the Commission that it send a letter to the two Councils and NOAA Fisheries recommending a delay in final action to allow more time to conduct outreach and gather input from the lobster industry on the process for approving alternative gear markings and application of ropeless fishing, which the ISFMP Policy Board approved later in the week.

As requested by the Board, Maine and New Hampshire reported out on their meetings with the lobster industry on potential management approaches for the Gulf of Maine. Maine Department of Marine Resources has held two rounds of meetings with its seven lobster Zone Councils and is conducting a survey of fishermen and dealers to better understand perceptions of the fishery and identify potential management approaches. New Hampshire has also held several meetings with commercial industry associations and is also developing a survey similar to Maine's. Results of these surveys and meetings will be presented to the Board at its October meeting.

The Stock Assessment Subcommittee Chair updated the Board on progress on the benchmark stock assessment for lobster. A peer-review workshop is scheduled for September 2-5 in Woods Hole, Massachusetts, and the Board will consider the Assessment and Peer Review Reports in October.

For more information, please contact Caitlin Starks, Senior Fishery Management Plan Coordinator, at cstarks@asmfc.org.

Motions

Move that the Lobster Board writes a letter to the New England Fishery Management Council, the Mid-Atlantic Fishery Management Council, and GARFO with the following comments on the Alternative Gear Marking Framework:

- **The Lobster Board recommends a delay in final action as there has been insufficient outreach to the lobster and mobile gear industries. A delay would allow additional time to conduct the necessary outreach to industry and allow for these comments to be considered prior to final action.**

- **The Lobster Board is concerned that the process to approve alternative gear markings and on-demand technologies has not been described, nor is it clear how stakeholders will be engaged in these decisions.**

- **While the Lobster Board is often supportive of flexibility, there is significant concern about the broad application of ropeless, which is inconsistent with much of the messaging in NOAA's Ropeless Roadmap that ropeless gear will not be required everywhere.**

- **The Lobster Board recognizes there may be some value to modifications to current surface marking requirements (e.g., radar reflector requirements, ability to drop an endline); however, the potential application of ropeless gear everywhere significantly increases the breadth of impacted fishermen, establishes intermixing of traditional and ropeless fixed gear, and does not provide clarity to enforcement on where ropeless gear could be encountered.**

Motion made by Mr. Wilson and seconded by Dr. McNamee. Motion passes by consent, with one abstention (NOAA Fisheries).

AMERICAN EEL MANAGEMENT BOARD (AUGUST 5, 2025)

Meeting Summary

The American Eel Board received an update on potential actions of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), and reviewed Maine's aquaculture plan for the 2026 fishing year.

The European Union has submitted a proposal to list American eel under Appendix II of CITES. This proposal will be considered at the upcoming Conference of the Parties (CoP), which will be held in Samarkand, Uzbekistan from November 24 to December 5, 2025. Listing American eel under CITES Appendix II would require the US Fish and Wildlife Service to issue specific permits for any international trade in the species. The Board raised continued concerns about the potential negative impacts an Appendix II listing could have, in particular on the glass eel fishery given its heavy reliance on the international market. A Draft Resolution on Trade, Conservation and Management of Anguillid Eel Species will also be considered at the CoP. Such a resolution would be a non-binding agreement amongst the parties to take actions to improve knowledge, regional collaboration, enforcement, and other strategies to address trade-related threats to eel species. A Federal Register notice will be published this fall regarding potential CITES decisions to be considered at the 2025 CoP.

Addendum IV to the Fishery Management Plan for American Eel implemented a provision allowing states and jurisdictions to submit an aquaculture plan to allow for the limited harvest of American eel glass eels for use in domestic aquaculture. The Board has approved 200 pounds of glass eel aquaculture quota for Maine since 2019, which is allocated to the company American Unagi. The Technical Committee (TC) recommended approval of Maine's Aquaculture Plan for the 2026 fishing year, but noted that some harvest sites in Maine's proposal do not meet all selection criteria established under Addendum V. Following the TC recommendations, the Board approved Maine's Aquaculture Plan for the 2026 fishing year and tasked the TC with reviewing the aquaculture plan criteria in Addendum V to determine if changes to the language or interpretation of these criteria should be considered.

For more information, please contact Caitlin Starks, Senior Fishery Management Plan Coordinator, at cstarks@asmfc.org.

Motions

Move to approve the Maine Aquaculture Plan for 2026 and task the Technical Committee to review the aquaculture plan criteria in Addendum V to determine if changes to the language or interpretation of these criteria should be considered.

Motion made by Ms. Ware and seconded by Mr. Abbott. Motion passes by consent.

SCIAENIDS MANAGEMENT BOARD (AUGUST 5, 2025)

Press Release

Sciaenids Board Approves Red Drum Draft Addendum II for Public Comment *Draft Addendum Considers Modifications to Red Drum Management*

Arlington, VA – The Commission's Sciaenids Management Board approved Draft Addendum II to Amendment 2 to the Interstate Fishery Management Plan for Red Drum for public comment. The Draft Addendum considers several changes to the management programs in the southern (South Carolina to Florida) and northern (New Jersey to North Carolina) regions in response to the findings of the 2024 Red Drum Benchmark Stock Assessment and Peer Review Report.

Specifically, the assessment found the southern stock to be overfished and experiencing overfishing. As a result, the Draft Addendum considers two fishing mortality options states may not exceed in order to end overfishing. Although the northern stock is not overfished nor experiencing overfishing, the Board is concerned with an increasing trend in fishing mortality observed in the northern region. To address this trend, the Draft Addendum considers changes to the recreational bag and slot limits of states in the northern region, as well as provide states the opportunity to align their differing regulations, particularly in Chesapeake Bay.

The Draft Addendum also includes a process for states to propose management measures in response to the 2024 benchmark stock assessment, as well as future assessment advice. Further, the Draft Addendum proposes a process to allow states to submit stock status analyses conducted outside the Commission's stock assessment process to be considered for management use. Lastly, the Draft Addendum proposes updates to the management program's *de minimis* provisions. The Commission includes *de minimis* provisions in its FMPs to reduce the management burden for states whose measures would have a negligible effect on the conservation of the species.

A subsequent press release will provide the details of upcoming state public hearings and how to submit written comments. The Board will meet to review submitted comments and consider final action on the Addendum in October. For more information, please contact Tracey Bauer, Fishery Management Plan Coordinator, at tbauer@asmfc.org or 703.842.0723.

###

PR25-19

Meeting Summary

In addition to approving the Draft Addendum for public comment (see above press release), the Sciaenids Management Board met to consider several items: Traffic Light Analysis (TLA) reports for spot and Atlantic croaker, a request from Delaware for an exemption to a Fishery Management Plan (FMP) requirement for its spot commercial fishery, and Fishery Management Plan Reviews and state compliance reports for red drum and Atlantic croaker.

The Board received a presentation on the findings of the 2025 TLAs, which were updated with data through 2024. The TLA assigns a color (red, yellow, or green) to categorize relative levels of indicators based on the condition of the fish population (abundance metric) or fishery (harvest metric). For example, as harvest or abundance increases relative to a reference period, the proportion of green in a given year will increase, indicating a positive condition. The Board evaluates the proportion of red against threshold levels to potentially trigger management action. In 2020, the TLAs for the 2019 fishing year indicated that both species triggered at the 30% red threshold. State implementation plans for management measures were approved in early 2021 and all new management measures were enacted by the end of 2021. The management measures enacted in 2021 for both species were due to be reevaluated based on the results of current updates of the TLAs.

Although harvest metrics for spot in the TLA triggered at the elevated 60% threshold, abundance metrics did not trigger at any threshold level in the final three years. In this case, Addendum III states the measures that were put into place in 2020 are no longer required for spot. However, the Board agreed with the Technical Committee's (TC) recommendation to maintain the current spot management measures. This decision was due in part to continued concern with low spot commercial and recreational harvest and results from a benchmark stock assessment expected in the next couple of years.

For Atlantic croaker, an abundance metric exceeded the 30% threshold in three of the four terminal years. Addendum III states, in this case, the TC must evaluate trends in the stock's abundance to recommend to the Board whether triggered measures should remain in place or more restrictive measures should be considered. The Board agreed with the TC's recommendation to maintain the current management measures, due to the abundance metrics not deteriorating further to the 60% threshold level and anticipation of results from the ongoing benchmark stock assessment within the next year.

The Board reviewed and approved a request from Delaware for an exemption from a requirement in Addendum III to make changes to its spot commercial fishery, until the Board develops new *de minimis* criteria. The Commission includes *de minimis* provisions in its FMPs to reduce the management burden for states whose measures would have a negligible effect on the conservation

of a species. In 2024, Delaware did not request *de minimis* status for spot due to a trend of higher landings above the *de minimis* threshold but questioned the feasibility and usefulness of achieving the necessary 1% reduction in its commercial fishery where landings are already very low which the Board agreed with.

The Board reviewed and approved the 2024 Fishing Year FMP Reviews and state compliance reports for red drum and Atlantic croaker. For red drum, *de minimis* status was approved for New Jersey and Delaware. For Atlantic croaker, *de minimis* status was approved for New Jersey (commercial and recreational), Delaware (commercial), South Carolina (commercial), and Georgia (commercial).

As a result of the discussion on *de minimis* criteria for Atlantic croaker, spot, and red drum, the Board tasked the Plan Review Teams for all Sciaenids Board species (i.e., spot, Atlantic croaker, red drum, black drum, and spotted seatrout) to review and make recommendations for the *de minimis* criteria for these species. The Board expressed concern whether the current 1% threshold for a state to be considered *de minimis* was appropriate, and whether there may be alternate ways to evaluate whether a state is *de minimis*. The Board also noted some Sciaenids Board species still consider *de minimis* for the recreational and commercial sectors as a whole, instead of separately like Atlantic croaker. The Plan Review Teams will review the current *de minimis* criteria for all Sciaenids Board species and will report back to the Board at a later meeting on results and recommendations.

For more information, please contact Tracey Bauer, Fishery Management Coordinator, at tbauer@asmfc.org.

Motions

Move to remove Section 3.4 Option D from consideration in Draft Addendum II
Motion made by Mr. Sikorski and seconded by Mr. Grist. Motion approved with no objections.

Move to remove Section 3.5 sub-option b1 from consideration in Draft Addendum II
Motion made by Ms. Burgess and seconded by Mr. Woodward. Motion passes by consent.

Move to approve Red Drum Draft Addendum II as modified today for public comment.
Motion made by Dr. Rhodes and seconded by Mr. Grist. Motion carries by consent.

Move to approve Delaware's request for an exemption from the Spot FMP's requirement that Delaware reduce its spot commercial landings by 1% until the Board develops new *de minimis* criteria.
Motion made by Mr. Clark and seconded by Mr. Dyar. Motion carries by consent.

Move to approve the Red Drum FMP Review for the 2024 fishing year as amended today, state compliance reports, and *de minimis* status for New Jersey and Delaware.
Motion made by Mr. Miller and seconded by Dr. Rhodes. Motion carries by consent.

Move to approve the Atlantic Croaker FMP Review for the 2024 fishing year, state compliance reports, and *de minimis* status for New Jersey, Delaware, South Carolina, and Georgia commercial fisheries and New Jersey's recreational fishery.
Motion made by Mr. Clark and seconded by Mr. Cimino. Motion passes by consent.

EXECUTIVE COMMITTEE (AUGUST 6, 2025)

Meeting Summary
The Executive Committee met to discuss several issues, including reviewing the Discussion Paper on Declared Interests and Voting Privileges, a legislative update, a CARES update and a future annual meeting locations update. The following action items resulted from the Committee's discussions:

- A lengthy discussion was held on the *Discussion Paper on Establishing and Reviewing Declared Interests.* It was decided that a work group was needed to flesh out this paper to further frame the Executive Committee discussion.

- Staff presented an update on the President's FY26 Proposed Budget, the Senate's FY26 Commerce Justice and Science Appropriations Bill, and the House's FY26 Commerce Justice and Science Appropriations Bill, highlighting the differences between the three documents. He also provided a brief update on the SHARKED Act and the Sportfish Restoration Reauthorization Bill.

- Staff provided an update on the status of the remaining issues with New Jersey and Florida CARES payments due to be repaid after audits found funds made some more than whole or they were ineligible to receive any funds at all.

- Staff provided an update on future Annual Meeting locations. October 26-30, 2025 the Annual Meeting will be in Dewey Beach, Delaware; in 2026 Rhode Island; 2027 South Carolina; 2028 Massachusetts; 2029 Pennsylvania, 2030 Georgia and 2031 Connecticut.

For more information, please contact Laura Leach, Director of Finance and Administration, at lleach@asmfc.org

Motions
Move the Executive Committee set a working group to further develop suggestions to the declared interest policy and voting privileges with two Executive Committee members (or their designees) from each region.
Motion made by Mr. Clark and seconded Mr. Green. Motion passes (12 in favor, 2 opposed).

SHAD & RIVER HERRING MANAGEMENT BOARD (AUGUST 6, 2025)

Meeting Summary
The Shad and River Herring Management Board met to review the Advisory Panel (AP) report on the 2024 River Herring Benchmark Stock Assessment and consider updates to the Sustainable Fishery Management Plans (SFMP) for Massachusetts (river herring) and Georgia (American shad),

as well as updates to the Alternative Management Plans (AMPs) for Georgia (river herring) and Florida (shad and river herring).

The Board reviewed the AP report on the 2024 River Herring Benchmark Assessment, which also included comments on Atlantic Herring Amendment 10 that at the time was being developed at the New England Fishery Management Council which was removed from the Council workload priority list for 2025. Overall, AP members were concerned that river herring populations are not recovering despite the actions taken through Amendment 2 that resulted in the closure of most state fisheries. The AP discussed the contrast in the assessment results between Northern New England and Southern New England, particularly considering that the report notes both regions have significant restoration programs. The AP provided a number of recommendations including requesting a TC task to evaluate different commercial fishery management strategies, prioritizing genetic sampling of at-sea bycatch, and supporting further development of management actions in the Atlantic herring fishery to reduce bycatch. The Board did not initiate any further action or TC tasking at this time.

SFMPs for American shad and river herring are required for all states and jurisdictions that have a commercial fishery under Amendment 2 (river herring) and Amendment 3 (American shad) to the Shad and River Herring FMP. Plans are updated and reviewed by the Technical Committee every five years.

In Massachusetts, the SFMP update proposed opening harvest in Herring Brook in the Town of Pembroke. The proposed fishery would be capped at 10% of the time series mean (since 2012) of the annual spawning run count, recalculated every three years. If the 10% cap is exceeded in any year, Massachusetts Division of Marine Fisheries will meet with the Pembroke Herring Fisheries Commission to review harvest records and management practices in a joint memorandum. Additionally, if the Herring Brook run count is below the 25th percentile for two consecutive years, the sustainability target will be reduced to 5% of the time series mean for the following year. Three consecutive years with the run count below the 25th percentile of the time series will trigger a minimum three-year closure the following year. In order to reopen the harvest, an opening threshold of three consecutive years above the time series mean would have to occur. The Board approved the SFMP as presented.

In Georgia, there were no significant changes to the updated SMFP except to update the benchmarks for management triggers to include data through 2023. Additionally, due to funding, the Ogeechee River creel survey will be suspended. Abundance data will still be collected, and the management trigger is still maintained by the electrofishing survey. The Board approved the SFMP as presented.

There were no proposed changes in the updated AMPs from Florida and Georgia. In Georgia, the AMP maintains a trigger to develop an SFMP or pursue regulatory change if any creel surveys indicate positive harvest of ricer herring for three consecutive years, and the Florida AMP maintains a trigger to re-evaluate the sustainability of a system if any source detects a non-zero harvest of blueback herring or American shad outside of the St. John's River. The Board approved both AMPs as presented.

Finally, the Board elected Ron Owens from Potomac River Fisheries Commission as Vice-Chair. For more information contact James Boyle, Fishery Management Plan Coordinator, at jboyle@asmfc.org.

Motions

Move to approve the updated River Herring Sustainable Fishery Management Plan from Massachusetts, Shad Sustainable Fishery Management Plan and River Herring Alternative Management Plan from Georgia, and the Shad and River Herring Alternative Management Plan from Florida, as presented today.

Motion made by Mr. McKiernan and seconded by Mr. Borden. Motion approved by consent.

Move to elect Ron Owens as Vice-Chair.

Motion made by Mr. Maniscalco and seconded by Mr. Grist. Motion passes by consent.

WEAKFISH MANAGEMENT BOARD (AUGUST 6, 2025)

Meeting Summary

The Weakfish Management Board met to consider the 2025 Weakfish Stock Assessment Update and elect a vice-chair.

The Weakfish Board received a presentation on the 2025 Weakfish Stock Assessment Update. The Assessment Update incorporated data through 2023 into the statistical catch-at-age model used in the 2016 benchmark and 2019 assessment update. The report on the update included additional work by the Weakfish Technical Committee (TC) to investigate a prior assumption in the model, potentially leading to an underestimation of natural mortality in recent years. The extent of the work needed to resolve this issue with model performance is beyond the scope of an assessment update. As a result, the Board accepted the TC's recommendation to not use this update for management and agreed a new benchmark assessment should be initiated in 2026 and completed in 2028. Although there were some positive signs observed in the fishery-independent and -dependent data in this assessment update, the TC believes the status has not likely changed significantly since the last assessment update in 2019. The Board agreed with the TC's recommendation that management changes are not warranted at this time. The Assessment Update can be found at https://asmfc.org/resources/stock-assessment/weakfish-stock-assessment-update-2025/

Lastly, the Board elected Erika Burgess of the Florida Fish and Wildlife Conservation Commission as the Weakfish Board Vice-Chair. For more information, contact Tracey Bauer, Fishery Management Plan Coordinator, at tbauer@asmfc.org or 703.842.0723.

Motions

Move to elect Erika Burgess as the Vice-Chair of the Weakfish Management Board.

Motion made by Mr. Woodward and second by Mr. Clark. Motion approved by consent

ATLANTIC STRIPED BASS MANAGEMENT BOARD (AUGUST 6, 2025)

Press Release

Atlantic Striped Bass Board Approves Addendum III for Public Comment
Draft Addendum Considers Further Fishery Reductions

Arlington, VA – The Commission's Atlantic Striped Bass Management Board approved for public comment Draft Addendum III to Amendment 7 to the Interstate Fishery Management Plan (FMP) for Atlantic Striped Bass. The Draft Addendum considers management measures to support rebuilding the stock by 2029. The Draft Addendum will also address requirements for commercial tagging programs, a coastwide definition of total length for size limit regulations, and changes to the Maryland recreational season baseline.

The Board initiated the Draft Addendum in response to stock projections indicating a low probability of meeting the 2029 stock rebuilding deadline. The most recent stock projections estimate an increase in fishing mortality in 2025 due to the above average 2018 year-class entering the current recreational ocean slot limit. There is also concern about the lack of strong year-classes behind the 2018 year-class.

This proposed action is intended to increase the probability of rebuilding the stock by reducing fishery removals by 12% with management measures implemented in 2026. For the commercial fishery, the Draft Addendum proposes a commercial quota reduction. For the recreational fishery, the Draft Addendum considers season closures and/or size limit changes. For Maryland's Chesapeake Bay recreational fishery, the Draft Addendum also proposes changing the recreational baseline season to simplify Maryland's Chesapeake Bay regulations, which could improve compliance and enforcement, and to re-align fishing access based on stakeholder input and release mortality rates.

For commercial tagging, the FMP currently allows states to choose whether to tag commercially harvested fish at the point of harvest or point of sale. To address concerns that waiting to tag harvested fish until the point of sale could increase the risk of illegal harvest, the Draft Addendum considers requiring commercial tagging at the point of harvest or first point of landing intended to improve enforcement and compliance.

There is also concern that inconsistent methods of measuring the total length of striped bass for compliance with size limits undermines the intended conservation, consistency, and enforceability of the coastwide size limits. To address this, the Draft Addendum considers coastwide requirements for defining total length for both sectors.

The Draft Addendum will be posted to the website in late August at https://asmfc.org/actions/atlantic-striped-bass-draft-addendum-iii-2026-measures-to-support-rebuilding/. A subsequent press release will provide the details on the public hearing schedule and how to submit written comments. The Board will meet to review submitted comments and consider final action on the addendum in October 2025 at the Commission's Annual Meeting in Dewey Beach, DE.

For more information, please contact Emilie Franke, Fishery Management Plan Coordinator, at efranke@asmfc.org or 703.842.0740.

###

PR25-20

Meeting Summary

In addition to approving Draft Addendum III for public comment, the Atlantic Striped Bass Management Board met to receive a report on the ten-year review of commercial tagging programs and consider the draft Fishery Management Plan (FMP) Review and state compliance for fishing year 2024.

The Board received a report on the ten-year review of the commercial tagging program. In August 2024, the Board tasked the Plan Review Team (PRT) with reviewing the striped bass commercial tagging program since it has been over a decade since program implementation through the FMP. The PRT and state commercial tagging contacts met in July 2025 to provide overviews of each state's tagging program, share information and best practices among states, discuss key observations across programs, and streamline reporting. A written report of those discussions is being developed in August 2025. The Board requested that the Law Enforcement Committee (LEC) meet prior to the 2025 Annual Meeting, if possible, to review the report and discuss any further LEC recommendations on point of tagging and potential improvements to state tagging programs.

Finally, the Board approved the Atlantic Striped Bass FMP Review for the 2024 fishing year and state compliance reports. For more information, please contact Emilie Franke, Fishery Management Plan Coordinator, at efranke@asmfc.org or 703.842.0740.

Motions

Move to approve the Atlantic Striped Bass FMP Review for the 2024 fishing year and state compliance reports.

Motion made by Mr. Hasbrouck and seconded by Mr. Sikorski. Motion approved by unanimous consent

Move to remove the 18% reduction option in Section 3.4 (Option D & E)

Motion made by Mr. Clark and seconded by Ms. Meserve. Motion passes (13 in favor, 1 opposed, 2 abstentions).

Move to remove in Section 3.4 Option C (0% commercial reduction and -14% recreational reduction).

Motion made by Ms. Meserve and seconded by Mr. Sikorski. Motion pass (8 in favor, 6 opposed, 2 abstentions).

Main Motion

Move to remove no-targeting closure options for the ocean.

Motion made by Mr. Gary and seconded by Mr. Gates. Motion amended.

Motion to Amend
Motion to amend to include "with the assumption that striped bass only trips are eliminated" at the end of the sentence
Motion made by Mr. Nowalsky and seconded by Mr. Hasbrouck. Motion passes (9 in favor, 6 opposed, 1 null).

Main Motion as Amended
Move to remove no-targeting closure options for the Ocean with the assumption that striped bass only trips are eliminated
Motion passes (12 in favor, 3 opposed, 1 null).

Main Motion
Move to remove in Section 3.4 option B: options CB2, CB3, CB5.
Motion made by Mr. Sikorski and seconded by Mr. Clark.

Motion to Amend
Move to amend to remove "CB3"
Motion made by Ms. Meserve and seconded by Mr. Luisi. Motion passes (14 in favor, 2 abstentions).

Move to remove in Section 3.4 option B: options CB2 and CB5.
Motion passes by unanimous consent.

Move to remove no-targeting closure options for the Chesapeake Bay with the assumption that striped bass only trips are eliminated
Motion made by Ms. Meserve and seconded by Mr. Grout. Motion passes (12 in favor, 4 opposed).

Move to add an option for tagging at first point of landing in Section 3.2
Motion made by Mr. Clark and seconded by Mr. Borden. Motion passes by unanimous consent.

Main Motion
Move to remove in Section 3.3 Option D (25% uncertainty buffer for the Maryland season baseline).
Motion made by Mr. Sikorski and seconded by Mr. Clark.

Motion to Amend
Move to amend to add "and Option B (MD baseline with no buffer)" to the end of the sentence.
Motion made by Ms. Meserve and seconded by Mr. Grout. Motion fails (4 in favor, 8 opposed, 4 abstentions).

Move to remove in Section 3.3 Option D (25% uncertainty buffer for the Maryland season baseline).
Motion made by Mr. Sikorski and seconded by Mr. Clark. Motion passes (10 in favor, 3 opposed, 3 abstentions).

Move to approve Draft Addendum III for public comment as modified today.
Motion made by Mr. Clark and seconded by Mr. Luisi. Motion passes by unanimous consent.

ATLANTIC MENHADEN MANAGEMENT BOARD (AUGUST 7, 2025)

Meeting Summary

The Atlantic Menhaden Management Board met to discuss tasking the Technical Committee (TC) in response to the report from the Work Group on Precautionary Management in Chesapeake Bay (Work Group) and review a progress update on the ecological reference point (ERP) benchmark stock assessment.

In May 2025, the Board reviewed the Work Group report, which discussed a number of precautionary management options that the Board could consider for further action based on the life history of certain predators, the nature of Chesapeake Bay menhaden fisheries, and recent changes in menhaden availability. The Work Group addressed its task without determining if there is or is not an adequate supply of menhaden to support predatory demand in the Bay; instead, it is the responsibility of the Board to determine if or when it is necessary to implement them. In response, the Board met to consider potential tasks for the TC to further evaluate the issues discussed in the report.

The Board discussed coastwide changes in menhaden availability and changing environmental conditions, as well as recent temporal shifts in menhaden harvest in Chesapeake Bay. In consideration of the priority for the TC and ERP Work Group to complete the single-species assessment update and ERP benchmark assessment for presentation to the Board at the Annual Meeting, the Board decided to discuss potential TC tasks regarding coastwide changing environmental conditions at the Annual Meeting.

Regarding Chesapeake Bay, Maryland presented its recent declining bait harvest along with data from the Board Work Group report that showed an increase in reduction fishery effort in the summer months and decreasing pound net harvests and CPUEs from the jurisdictions within the Bay. In order to alleviate a concentration of effort that may be affecting other fisheries within the Bay, as well as other potential ecological impacts, Maryland proposed a task to draft a white paper of options to establish quota periods that would distribute harvest of the Chesapeake Bay reduction fishery cap throughout the fishing season. Additionally, given the nature of the task is to resolve a policy issue, rather than a scientific one, the proposal would assign the task to a Plan Development Team (PDT), as opposed to the TC. The Board elected to form a PDT to develop options for distributing the Chesapeake Bay reduction cap more evenly throughout the fishing season with the intent of reviewing those options at the 2026 Winter Meeting to consider initiating a management document.

The Board received a progress report on the ERP benchmark stock assessment. The ERP benchmark assessment, including the new base estimate of natural mortality for the single-species model will be peer-reviewed through the SouthEast Data, Assessment and Review (SEDAR) process in August 2025.

For more information, please contact James Boyle, Fishery Management Plan Coordinator, at jboyle@asmfc.org.

Motions

Move to task a Plan Development Team to develop options for distributing harvest of the Chesapeake Bay reduction cap more evenly throughout the Chesapeake Bay reduction season in order to mitigate potential effort bottlenecks that may be impacting other Bay small scale fisheries as well as the Bay ecosystem. The intent is for a draft document to come to the board at the 2026 Winter Meeting.

Motion made by Ms. Fegley and seconded by Mr. Bell. Motion passes (14 in favor, 2 opposed, 2 abstentions).

INTERSTATE FISHERIES MANAGEMENT PROGRAM POLICY BOARD (AUGUST 7, 2025)

Meeting Summary

The ISFMP Policy Board met to receive a report from the Executive Committee (see Executive Committee summary); consider approval of the *Conservation Equivalency: Policy and Technical Guidance Document*; review a discussion paper on establishing and reviewing declared interests; discuss a process for bringing nature-friendly fishing gear and bait alternatives to a board; review a report from the Atlantic Coastal Fish Habitat Partnership (ACFHP); and consider a request from the American Lobster Management Board.

The Policy Board approved revisions to the *Conservation Equivalency: Policy and Technical Guidance Document*, which was approved in October 2023, to reflect current application of conservation equivalency (CE) in Commission fishery management plans and provide new guidance on the use of CE. Clarification and guidance were needed on some of the 2023 directives in the document. Upon reviewing the revised document, including previously suggested changes by Policy Board members, the Policy Board approved the revised document, which will be posted to the ASMFC website next week. The new guidance includes clarity under what stock conditions CE can be used, the process for states to request information from technical committees and plan review teams for state CE plans, and a post-stock assessment evaluation process.

The Commission's Executive Committee has discussed a series of procedures and practices at the past few quarterly meetings. These discussions were prompted by several circumstances, including changing distribution and residency of many species managed by the Commission, which in turn has resulted in (and is anticipated to result in additional) interest by states to alter their participation on one or more species boards. Earlier in the week, the Executive Committee had a lengthy discussion on the *Discussion Paper on Establishing and Reviewing Declared Interests* (how to determine what state/jurisdiction resides on a species management board). It was decided that a work group was needed to flesh out this paper to further frame the Executive Committee discussion.

During public comment at the May 2025 Horseshoe Crab Management Board meeting, the concept of biodegradable bait bags and bait pucks was introduced. Questions were raised on how ideas brought to a board's attention could be evaluated. The Policy Board agreed that for ideas that still need additional testing, such as this one, those ideas would need to be fleshed out with a state or the fishing industry to have a final concept to bring back to a Board. In order for a Board to consider including the idea in a fishery management plan, a Board member would need to sponsor the concept for Board consideration.

The ACFHP report highlighted recent developments and accomplishments of the partnership. The America's Conservation Enhancement Act was reauthorized in December 2024, improving funding flexibility, reducing non-federal match burdens, and officially designating all 20 Fish Habitat Partnerships, including ACFHP. ACFHP finalized its 2025–2026 Conservation Action Plan in June, emphasizing restoration, SAV science, equitable funding access, outreach, and data-driven project selection. Recent completed projects include dam removals and fish passage improvements in New Jersey, Massachusetts, and Maine, and oyster restoration in Maryland. For FY2025, ACFHP received $306,000 in funding to support operations and two habitat restoration projects in Florida and Massachusetts. Five additional projects have been recommended for FY2026, aiming to restore or reconnect 15 acres and over 31 miles of priority fish habitat.

Lastly, the Commission agreed to send a letter to New England Fishery Management Council, the Mid-Atlantic Fishery Management Council, and Greater Atlantic Region Fisheries Office on the Alternative Gear Marking Framework (See American Lobster Board summary for details).

For more information, please contact Toni Kerns, Fisheries Policy Director, at tkerns@asmfc.org.

Motions

Move to approve the Conservation Equivalency document as modified today.
Motion made by Mr. Grout and seconded by Mr. Grist. Motion approved by unanimous consent.

On behalf of the American Lobster Board, move the Commission send a letter to the New England Fishery Management Council, the Mid-Atlantic Fishery Management Council, and GARFO with the following comments on the Alternative Gear Marking Framework:

- **The Lobster Board recommends a delay in final action as there has been insufficient outreach to the lobster and mobile gear industries. A delay would allow additional time to conduct the necessary outreach to industry and allow for these comments to be considered prior to final action.**
- **The Lobster Board is concerned that the process to approve alternative gear markings and on-demand technologies has not been described, nor is it clear how stakeholders will be engaged in these decisions.**
- **While the Lobster Board is often supportive of flexibility, there is significant concern about the broad application of ropeless, which is inconsistent with much of the messaging in NOAA's Ropeless Roadmap that ropeless gear will not be required everywhere.**
- **The Lobster Board recognizes there may be some value to modifications to current surface marking requirements (e.g., radar reflector requirements, ability to drop an endline); however, the potential application of ropeless gear everywhere significantly increases the breadth of impacted fishermen, establishes intermixing of traditional and ropeless fixed gear, and does not provide clarity to enforcement on where ropeless gear could be encountered.**

Motion made by Ms. Zobel on behalf of the American Lobster Management Board. Motion approved by unanimous consent.

Interstate Fisheries Management Updates

- MAFMC/ASMFC August Meeting
- ASMFC August Meeting

Marine Fisheries Advisory Commission

August 21, 2025

Mid-Atlantic Species 2026-2027 Specifications

Bluefish

	2025	2026	2027	Basis
OFL	27.49	48.43	48.48	Stock assessment projection
ABC	21.83	44.61	45.41	Derived by SSC
Com ACL	3.06	6.25	6.36	ABC x 14% (per FMP)
Com ACT	3.06	4.69	4.77	Com ACL – Com management uncertainty: 25%
Com Quota	3.03	4.66	4.75	Com ACT – Com discards
Rec ACL	18.78	38.36	39.05	ABC x 86% (per FMP)
Rec ACT	18.78	26.85	27.34	Rec ACL – Rec management uncertainty: 30%
Rec Harvest Limit	15.70	22.02	22.50	Rec ACT – Rec discards

- Not overfished or overfishing. Projected to be rebuilt in 2025, ahead of 2028 deadline. Doubling of OFL and ABC.
- Buffers applied to address fishery stability, rebuilding status, MRIP uncertainty.
- **2026 com quota +54% (MA +63% due to allocations) and RHL +40%. Bag limit increased to 5 fish private & 7 fish for-hire**.

Mid-Atlantic Species 2026-2027 Specifications

Summer Flounder

	2025	2026/2027	Basis
OFL	24.97	31.89/32.42	Stock assessment projection
ABC	19.32	30.01	Derived by SSC
Com ACL	10.62	16.50	ABC x 55% (per FMP)
Com ACT	10.62	14.52	Com ACL – Com management uncertainty: 12%
Com Quota	8.79	12.78	Com ACT – Com discards
Rec ACL	8.69	13.50	ABC x 45% (per FMP)
Rec ACT	8.69	11.88	Rec ACL – Rec management uncertainty: 12%
Rec Harvest Limit	6.35	8.79	Rec ACT – Rec discards

- Not overfished or overfishing. 83% SSBmsy in 2024, projected to be >100% in 2026. 50% increase in OFL and ABC.
- Buffers applied to address fishery stability.
- **Com quota increase of 45% (MA by 75% due to allocations) and RHL increase of 38%. Rec measures TBD.**

Mid-Atlantic Species 2026-2027 Specifications

Scup

	2025	2026	2027	Basis
OFL	42.19	42.98	37.79	Stock assessment projection
ABC	41.31	42.09	37.01	Derived by SSC
Com ACL	26.85	27.36	24.06	ABC x 65% (per FMP)
Com ACT	26.85	27.36	24.06	Com ACL – Com management uncertainty: 0%
Com Quota	19.54	17.70	15.57	Com ACT – Com discards
Rec ACL	14.46	14.73	12.95	ABC x 35% (per FMP)
Rec ACT	14.46	14.73	12.95	Rec ACL – Rec management uncertainty: 0%
Rec Harvest Limit	12.31	13.17	11.58	Rec ACT – Rec discards

- SSB 323% target, not overfishing. 2019-24 YOY below average. Declining OFL & ABC after 2026 (+2%, then -12%).
- **Com quota -9%, then -12%. RHL +7% then -12%. Rec measures TBD.**

Mid-Atlantic Species 2026-2027 Specifications

Black Sea Bass

	2025	2026/2027	Basis
OFL	17.01	21.79	~~Stock assessment projection~~ SSC derived
ABC	16.66	21.34	Derived by SSC
Com ACL	7.50	9.60	ABC x 45% (per FMP)
Com ACT	7.50	9.60	Com ACL – Com management uncertainty: 0%
Com Quota	6.00	7.83	Com ACT – Com discards
Rec ACL	9.16	11.74	ABC x 55% (per FMP)
Rec ACT	9.16	11.74	Rec ACL – Rec management uncertainty: 0%
Rec Harvest Limit	6.27	8.14	Rec ACT – Rec discards

- SSB 284% target, but projected to decline. SSC recommend alternative. OFL and ABC +28%, rather than +5% then -25%.
- **Com quota increase of 30% and RHL increase of 30%. Rec measures TBD.**

Recreational Measure Setting Process

Future RHL vs Estimated Harvest	**SSB compared to target level** (SSB/SSBmsy)	**Change in Expected Harvest**
Future 2-year avg RHL **greater than** upper bound of harvest estimate CI (harvest expected to be lower than RHL)	**Very high** (≥ 150%)	Liberalization % = difference between harvest est & 2-year acg RHL, not to exceed 40%
	High (≥ 110% but < 150%)	Liberalization % = difference between harvest est & 2-year avg RHL, not to exceed 20%
	Near target (≥90% but <110%)	**Liberalization**: 10%
	Low (≥50% but < 90%)	**No liberalization or reduction**: 0%
Future 2-year avg RHL **within** harvest estimate CI (harvest expected to be close to RHL)	**Very high to low** (greater than 50%)	**No liberalization or reduction**: 0%
Future 2-year avg RHL **less than** lower bound of harvest estimate CI (harvest expected to exceed RHL)	**Very high** (≥ 150%)	**No liberalization or reduction**: 0% Unless AM triggered
	High (≥ 110% but < 150%)	**Reduction:** 10%
	Near target (≥90% but <110%)	**Reduction** % = different between harvest est. & 2-year avg RHL, not to exceed 20%
	Low (≥50% but less than 90%)	**Reduction** % = different between harvest est. & 2-year avg RHL, not to exceed 40%

Recreational Sector Separation Draft Amendment

Summer Flounder, Scup, Black Sea Bass & Bluefish

- In August:
  - Removed options for separate allocations for for-hire mode
  - Maintained
    - Separate measures for for-hire mode
    - Guidelines/standards for mode splits
    - For-hire permitting and reporting requirements

Preliminary Timeline	
Winter 2025	Scoping hearings & comment period
Spring 2025	Identify categories of alternatives
Summer 2025	Initial development of draft alternatives
Fall/Winter 2025	Range of alternatives approved
Winter/Spring 2026	Public hearing document approved
Spring/Summer 2026	Public hearings
Summer/Fall 2026	Consider final action
Winter/Spring 2027	Federal rulemaking & comment period
Spring/Summer 2027	Effective date of management changes

Striped Bass

Draft Addendum III Approved for Public Comment

- Hearings in September; final action at ASMFC Annual Meeting (October 27-30)
- Options:
  - Section 3.1: Method to Measure Total Length
    - Standardize definition of TL to include tail pinched, mouth closed, straight-line, fish laid flat
  - Section 3.2: Commercial Tagging Program
    - Require harvester tagging (immediately/within specific parameters, before offloading/hauling out)
  - Section 3.3: Maryland Chesapeake Bay Recreational Season
    - Adjust season in conservation neutral manner (with/without 10% uncertainty buffer)
  - Section 3.4: Support Stock Rebuilding
    - 12% overall reduction (~~18% overall reduction~~)
    - Applied evenly -12% com/-12% rec (~~0% com/14% rec~~)
    - 12% commercial quota reduction; recreational size limit and/or season changes to achieve 12% reduction

Striped Bass

- Recreational Options for 12% Reduction in Removals (Harvest & Dead Discards):

Ocean			
Option	Mode	Size Limit	Season Closure
SQ	*All*	*28 to 31”*	*n/a*
1	All	28 to 31”	-12%
2	Private/Shore	28 to 31”	-13%
	For-hire	28 to 33”	

Chesapeake Bay			
Option	Mode	Size Limit	Season Closure
SQ	*All*	*19-24”*	*2024 seasons*
1	All	20 to 23”	Status Quo
2	Private/Shore	19 to 22”	Status Quo
	For-hire	19 to 25”	
3	All	19 to 24”	-12%

- Seasonal Closures:
  - No Harvesting or No Targeting (no targeting options narrowed down to one calculation method)
  - Ocean Regions: ME – NC; ME – MA & RI – NC; ME – RI & CT – NC.

Striped Bass

- Number of Days to Close to Meet 12% Reduction in Ocean Recreational Removals

Region	Waves	No Targeting Closure	No Harvest Closure	Example Open Season under No Harvest Closure Option (not in document)
All Ocean	Wave 3 & Wave 6	22	31	January 1 – May 30 & July 1 – November 30
				Jan 1 – Apr 30 & Jun 1 – Oct 31 & Dec 2-31
ME-MA	Wave 3	61 (-10%)	61 (-9%)	July 12 – December 31 (and Jan – Apr)
	Wave 4	39	41	January 1 – July 21 & September 1 – December 31
				January 1 – June 30 & August 11 – December 31
	Wave 5	51	61 (-8%)	January 1 – August 17 (and Nov-Dec)
	Wave 3 & Wave 5	30 per wave	44 per wave	June 14 – September 17 (and Jan-April and Nov-Dec)
	(Other Wave 3/5 splits allowed)			June 1 – Sept 3; July 1 – Oct 7; June 25 – Sept 30

- Choosing wider for-hire slot adds several days to closure for all anglers (ex. 48 days for wave 3/5 split option).
- Including RI in northern region can either shorten or lengthen MA closure depending on wave.

Wave 1		Wave 2		Wave 3		Wave 4		Wave 5		Wave 6	
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Questions?

The Commonwealth of Massachusetts
Division of Marine Fisheries

(617) 626-1520 | www.mass.gov/marinefisheries

MAURA T. HEALEY, Governor | KIMBERLEY DRISCOLL, Lt. Governor | REBECCA L. TEPPER, Secretary | THOMAS K. O'SHEA, Commissioner | DANIEL J. MCKIERNAN, Director

MEMORANDUM

TO: Marine Fisheries Advisory Commission (MFAC)

FROM: Daniel J. McKiernan, Director

DATE: August 19, 2025

SUBJECT: **Expectations for Commercial Striped Bass Management Changes**

In April, I advised the MFAC that I would be convening an ad hoc industry advisory panel to provide input to DMF on its management of the commercial striped bass fishery. This is an approach DMF has taken on occasion prior to potentially developing more significant management proposals to better incorporate industry views from the start. As discussed in July, DMF formed the panel to gather industry perspectives on two particular issues: 1) the implications of Draft Addendum III's quota reduction and harvester tagging requirement options; and 2) the state's management objectives and strategies relevant to participation and access to the fishery. I indicated that I would incorporate the MFAC Striped Bass Focus Group (Ray Kane, Bill Doyle, Eric Nelson, and Ray Jarvis) into the process given the ongoing interest in considering permitting revisions and to act as a sounding board for the Panel's input.

The ad hoc Commercial Striped Bass Industry Advisory Panel met on July 31. Members from the MFAC Focus Group were also in attendance. Staff prepared an extensive presentation for the meeting (enclosed). The meeting was productive and the Panel's input has been documented in a meeting summary (enclosed). Subsequently, the MFAC Focus Group met on August 14 to discuss the Panel's input and provide initial guidance to DMF on its development of potential proposals for public hearing.

With this guidance in mind, I have sketched out the foundation of potential DMF proposals for 2026 and 2027 commercial striped bass management and permitting changes. I will return to the MFAC this fall with a more robust memorandum detailing the specifics and rationale for various proposals. As a consequence of one of the proposals for 2027, I also intend to make a Director's Decision relevant to commercial striped bass permitting in 2026, for which I am seeking MFAC support at your August meeting.

<u>Director's Decision for 2026 Permitting</u>

- In consideration of the proposal to significantly reduce access to the commercial striped bass fishery in 2027 (see below), as well as the potential quota reduction in 2026, I intend to enact a moratorium on the issuance of new striped bass endorsements in 2026. Endorsements will be considered "new" if not previously held in 2024 or 2025. This will

provide all current endorsement holders, as well as those that let their endorsement lapse for a single year (for one reason or another), to be eligible for a renewal in 2026. This will ensure these (very recently) prior permit holders will have the opportunity to meet the proposed permitting criteria for eligibility in 2027, while also preventing misinformed or speculative behavior regarding new permit applications in 2026. Fishing activity in 2026 cannot be incorporated into eligibility criteria to limit entry in 2027 (due to the timelines for data analysis, rule-making, permitting, and appeals) and it will be important that this is clearly communicated to avoid activating latent effort in 2026. Striped bass endorsements will be non-transferable in 2026. This decision needs to be announced soon to advise prospective applicants and make the necessary permitting software changes prior to the 2026 permitting season.

Proposals for 2026 Implementation

- Adopt an owner-operator requirement for striped bass endorsements. This responds to concerns of individual harvesters/vessels fishing multiple permits per day, permit sanction accountability, and the transition to limited entry permitting
- Require all striped bass taken under the authority of a commercial permit to be brought to a dealer for weighing and reporting (both dealer and harvester) before any is taken home for personal consumption. This responds to concerns that the personal use provision is not being used as intended, that personal use harvest is underreported, and even when reported, not factored into quota monitoring or stock assessments.
- Reduce the daily possession limit for boat-based permits from 15 fish to as few as 10 fish. This responds to the potential quota reduction in 2026 and interest to maintain a season into August during peak price/pound.
- Delay the season start date from June 16 to no later than June 23. This responds to the potential quota reduction in 2026 and interest to maintain a season into August during peak price/pound.
- Move the default season end date earlier (currently November 15, proposed date TBD). This is based on the potential outcome of Draft Addendum III to establish a recreational fishing season and interest to avoid having the commercial fishery open at a time of year when the recreational fishery is closed.

Proposals for 2027 Implementation

- Update the striped bass control date (through the last day of the 2025 commercial striped bass season) and establish actively fished criteria to further reduce entry in 2027 to eligible renewals only, thereby reducing permit issuance to ~500–1,000 active harvesters. This is based on permitting trends and evolving management objectives for the operation of the fishery. Draft activity criteria include having held a permit in 2026 and having reported a minimum annual poundage of sold striped bass (or minimum annual trips selling striped bass, for 2-fish limit participants) achieved in a minimum number of years within a reference period terminating in 2025.
- Establish the limited entry striped bass endorsement as a non-transferable endorsement (possible exceptions) subject to ongoing actively-fished criteria; inactive permits are retired and made available to eligible applicants through a waiting list or lottery process according to exit:entry ratios. This is based on maintaining some of the cultural aspects of

the striped bass fishery as a gateway to the marine economy. Definitions and processes to be further developed.

- Amend the commercial tagging program to require harvester tagging or adopt new dealer tagging provisions (specifics TBD). This is based on potential outcomes of Addendum III.

Other Considerations

The advisory panel and focus group also expressed support for consideration of a striped bass endorsement fee increase to discourage permit application amongst those not using it for commercial purposes. Such an action would need to be proposed and carried out by the Executive Office of Administration and Finance (ANF). DMF's role would be to work through the Department to request that the Governor's office consider having ANF pursue such an increase. Such action may be unnecessary given the above proposal to limit entry and is also likely to face other challenges given current priorities.

Enc:
Commercial Striped Bass Industry Advisory Panel Meeting Summary
Commercial Striped Bass Industry Advisory Panel Presentation

The Commonwealth of Massachusetts
Division of Marine Fisheries
(617) 626-1520 | www.mass.gov/marinefisheries

MAURA T. HEALEY, Governor | KIMBERLEY DRISCOLL, Lt. Governor | REBECCA L. TEPPER, Secretary | THOMAS K. O'SHEA, Commissioner | DANIEL J. MCKIERNAN, Director

Meeting Summary
Ad Hoc Commercial Striped Bass Industry Advisory Panel Meeting
July 31, 2025, 5:30pm, Weston

Attendance:

Panel: Dealers - Rory O'Donnell (Red's Best), Tory Bramante (Atlantic Coast), Monte Rome (Intershell); Harvesters - Craig Poosikian (Orleans), Jeremey Furtado (Arlington), Dave Leveille (Gloucester), Ryan Torcicollo (Essex), Mike Lundholm (Sagamore)

DMF: Dan McKiernan, Story Reed, Anna Web, Nichola Meserve, Jared Silva, Ben Gahagan, Nick Buchan

MFAC Striped Bass Focus Group: Ray Kane, Eric Nelson, Ray Jarvis

Overview:

DMF formed an ad hoc industry advisory panel for commercial striped bass management to: 1) discuss implications of Draft Addendum III to the interstate FMP (i.e., options to reduce commercial quota and require tagging at point of harvest) and consider commercial fishery management revisions in response; and 2) to better define commercial fishery management objectives with regards to participation and access and identify possible management strategies. At the meeting, DMF staff provided a presentation (attached) summarizing the issues and relevant data and ending with discussion questions for the panel. Panel input is summarized below.

Panel Input:

<u>Quota Management</u>

- The panel preferred to change participation rather than trip limit/season/days in response to a potential quota reduction. However, with the understanding that this is not possible for 2026, some panel members were interested in considering a trip limit reduction (i.e., 10 fish) or a delay to the season's start.
- Better prices are achieved later into July/August; price plummets in September.
- Dealer suggestion for non-consecutive days to improve price per pound.
- Interest in weekly limit to spread effort over more days (less congestion, more flexibility, better price).
- Support for an owner-operator requirement, based on observations of people/vessels fishing multiple permits per day.

<u>Limiting Entry</u>

- The panel was generally supportive of limiting entry into the fishery. Reasons included: misuse of permit to evade recreational rules, under-reporting of what kept for personal use, partaking in fishery just to pay for fuel/boat, permit suspension/revocations otherwise meaningless, improved compliance, stock status.

- An owner-operator requirement was recognized as imperative with limited entry (otherwise permit leasing ensues and limiting entry is meaningless).
- Reference years should be long enough to capture geographic shift in fishing effort (i.e., include multiple years where cape fishery was dominant and multiple years where north shore fishery was dominant). At least 5-6 years within reference period.
- Mixed views about the specific control date to use: some were okay with the existing 6/14/22 control date; at least one panel member preferred the old 2013 control date to remove newer entrants; and at least one panel member preferred updating the control date (i.e., to 2025) to be inclusive of new active participants.
- Multiple suggestions for an annual landings-based threshold in the 500–1000 lb range. Some commented that permits shouldn't need to hit the threshold every year in the reference period but have some level of activity in most years.
- No interest in an income-based qualification: most partake in other businesses, many with volatile income; issues of privacy and records retention.
- No opposition was noted to the concept of an eligibility criteria based on number of active trips in a year to be inclusive of the 2-fish limit participants.
- Permits that are inactive for 2-3 years in a row should not be eligible.
- Suggestion to require proof of boater safety certificate (consistent with new MA law) because see too much dangerous behavior on the water.
- One comment in support of making active striped bass endorsements transferable (once limited) so that is an asset for the permit holder.
- Interest to have most if not all permits held by residents.
- Okay with a higher cost for the striped bass endorsement, especially if entry is limited.

<u>Tagging Program</u>

- General support for harvester tagging requirement, provided tags can be made available in a way that does not constrain or overly burden lawful fishing activity.
- There was recognition of how individual fishing quotas (IFQs) facilitate point of harvest tagging programs, but no direct discussion of adopting IFQs for this fishery.
- A panel member's idea to achieve harvester tagging by having the dealers distribute the tags to the harvesters was not supported by dealers due to liability, burden, etc. (Would likely also run afoul of ASMFC requirements.)
- Some dealers are already collecting tag count and tag serial numbers per transaction. Would be a difficult task for some dealers to record tag serial numbers given the volume of fish received each open day (more doable to record # fish per transaction). If dealers are required to record tag serial numbers, interest in QR code or other efficient means to scan/record. Viewed as easier for harvesters to record tag serial numbers on their reporting forms.
- Interest in a point-of-harvest tagging definition similar to tautog, i.e., before landing. Could interfere with fishing activity or present safety issues to require tagging immediately upon retention. Additionally, panel members reported that there is not a lot of high-grading such as to warrant requiring immediate tagging.

Next Steps:

The MFAC Striped Bass Focus Group will meet virtually on August 14, 2025 to review the panel's input and provide guidance to DMF for its development of 2026/2027 striped bass commercial

management and permitting proposals. Results of these meetings will be provided to the full MFAC at its monthly business meeting on August 21, 2025 for discussion. DMF anticipated returning to the MFAC in the fall of 2025 with a public hearing proposal.

Enc: Commercial Striped Bass Industry Advisory Panel presentation

Commercial Striped Bass Industry Advisory Panel

Thursday, July 31, 2025
5:30–7:30pm
Weston Public Library

Purpose:

1. Discuss implications of Draft Addendum III to the interstate FMP and consider commercial fishery management revisions in response.
2. Better define commercial fishery management objectives with regards to participation and access and identify possible management strategies.

Expected Participants

- Panel:
  - Dealers: Rory O'Donnell (Red's Best), Tory Bramante (Atlantic Coast), Monte Rome (Intershell)
  - Harvesters: Craig Poosikian (Orleans), Jeremey Furtado (Arlington), Dave Leveille (Gloucester), Ryan Torcicollo (Essex), Mike Lundholm (Sagamore).
- MFAC Striped Bass Focus Group: Ray Kane, Eric Nelson, Ray Jarvis
- DMF: Dan McKiernan, Story Reed, Anna Webb, Nichola Meserve, Jared Silva, Ben Gahagan, Nick Buchan

Agenda

- Presentation (30 min)
- Q & A (15 min)
- Discussion of Focus Questions (60 min)
- Other Topics (15 min)

Overview: Draft Addendum III Options (anticipated)

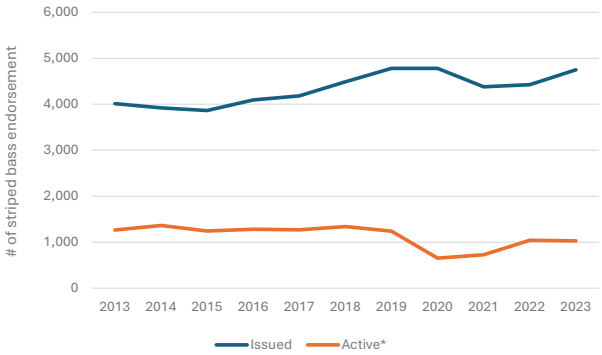
- Quota Reduction
  - Rationale: support attainment of 2029 rebuilding goal
  - -12% to achieve 50% probability
  - -18% to achieve 60% probability
  - Assume shorter season will result without other changes
- Point-of-harvest commercial tagging requirement
  - Currently state choice to have point-of-harvest of point-of-sale (i.e., harvester or dealer tagging)
  - Rationale: improve enforcement, increase accountability, reduce high-grading
  - MA transition to harvester tagging may necessitate limiting entry and reducing permit issuance to ≤ 500 given current resources

Timeline: approve for public comment at ASMFC August Meeting; public hearings in Aug/Sept; final action at ASMFC October Meeting; implementation in 2026 (except tagging change).

Overview: Open Access Permitting & Management Objectives

- *"tradition of open access participation in the fishery in an attempt to foster the cultural aspects of the fishery and to support those that may be interested in pursuing fishing as an occupation or as a gateway to other employment in the marine economy."* DMF FP-1

- Results in high issuance, high latency, high frequency of minimal commercial effort.
  - Activation of latent effort would upend fishery management.
  - Concerns about misuse of permit and under-reporting.
  - Personal use harvest not accounted for in quota or stock assessment.
  - Does diffuse permit use align with management objectives?
  - Unfeasible to adopt harvester tagging.

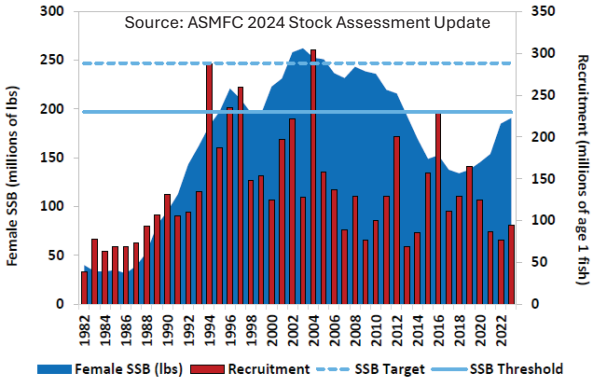


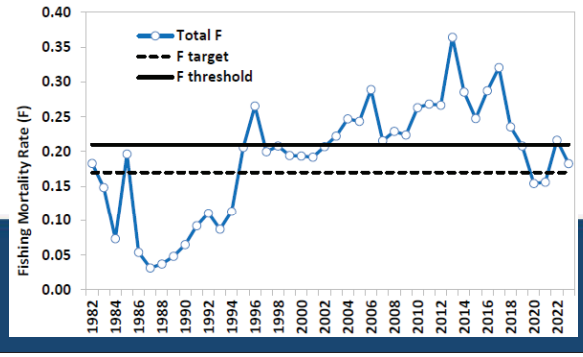
3-year avg, only ~20% of STB endorsements are active

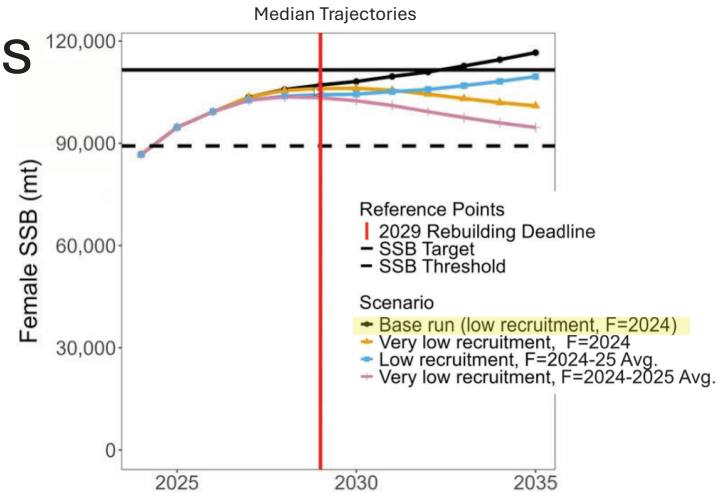
"Active" = any reported landings (sold or kept for personal use)

Potential Quota Reduction

Stock Status & Projections

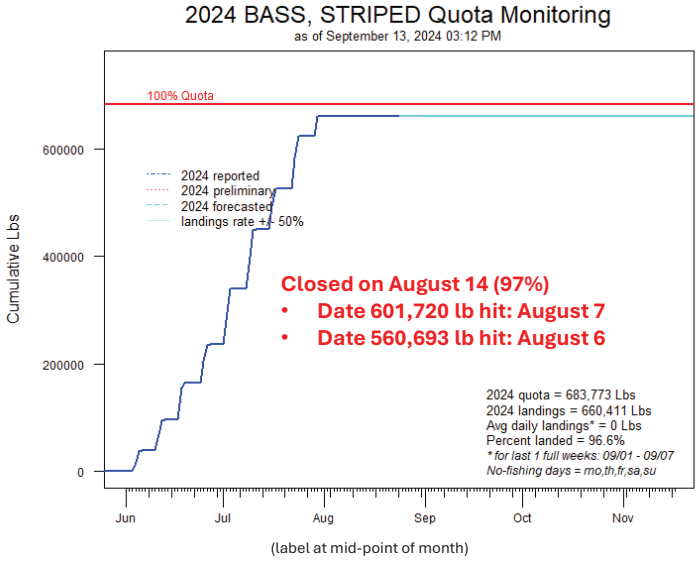


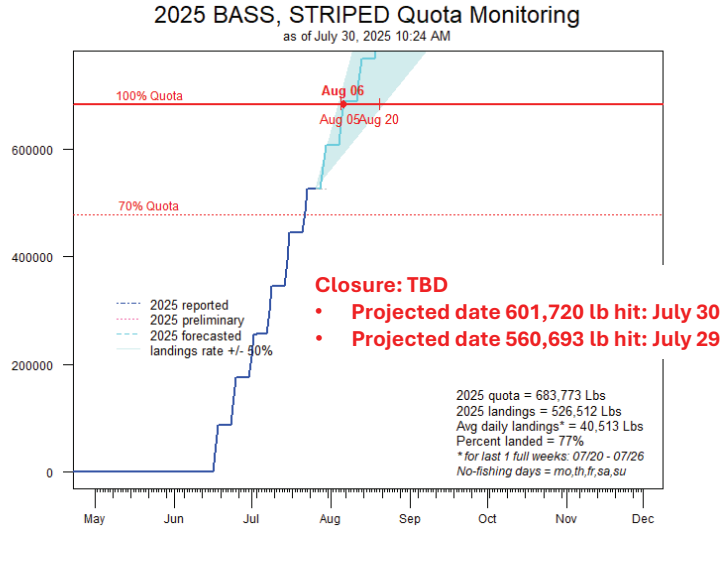




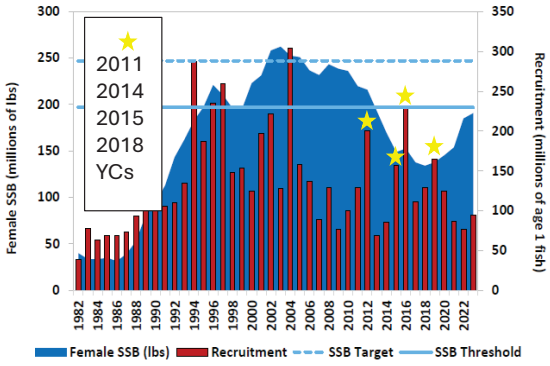
Probability of Rebuild in 2029	2026 Reduction Needed	MA Quota
30% (50% in 2032)	Status Quo	683,773 lb
50%	-12%	601,720 lb
60%	-18%	560,693 lb

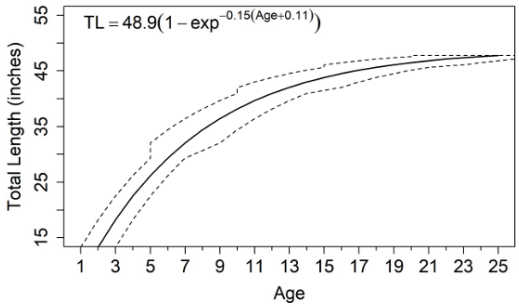
2024 & 2025 Quota Use





2026 Expectations



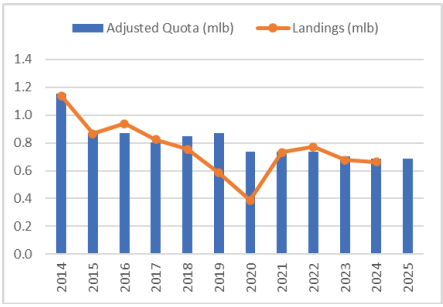


Mean length-at-age (solid line) for striped bass captured in MA during 2023. Dotted lines are the minimum and maximum ages found at a given length. Source: Nelson, TR-84.

In 2026, multiple above average year classes will be all or partly selected to MA commercial fishery:
2011 year-class in 2026 = 15 years old, ~40-45”
2014 year-class in 2026 = 14 years old, ~39-44”
2015 year-class in 2026 = 11 years old, ~35-43”
2018 year-class in 2026 = 8 years old, ~30-38”

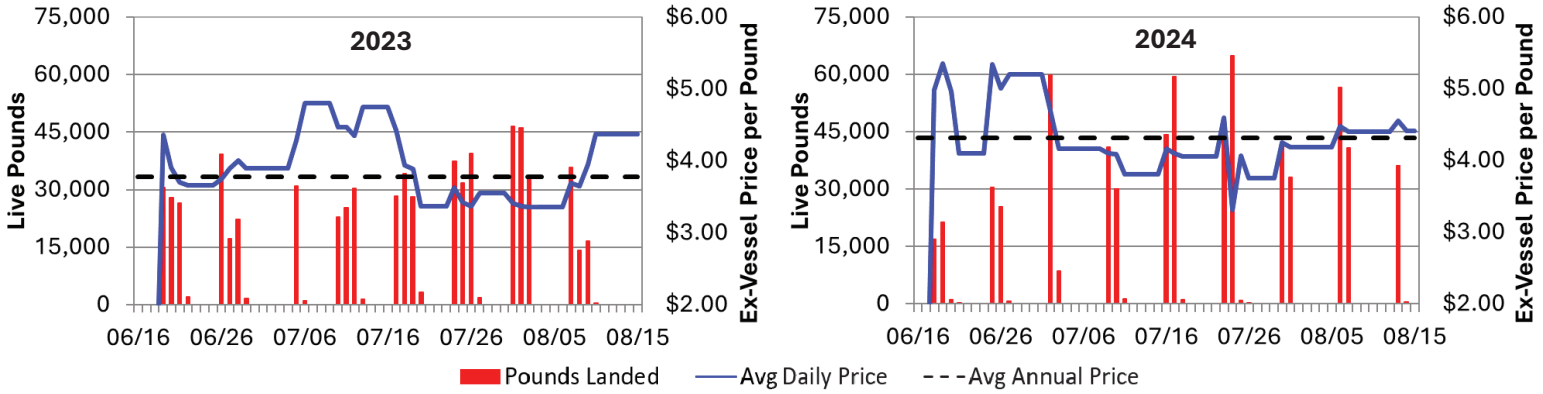
Recent Regulatory History

Years	Base Quota	Season	Open Days	Bag Limit	Size
2014	1,159,750 lb	June 23 – Dec 31	Mon/Thu	15 fish (vessel) 2 fish other	34” min
2015-19	869,813 lb	June 23 – Dec 31	Mon/Thu	15 fish (vessel) 2 fish other	34” min
2020	735,240 lb	June 23 – Dec 31	Mon/Wed	15 fish (vessel) 2 fish other	35” min
2021-23	735,240 lb	June 16 – Sept 30	Mon/Tue/Wed	15 fish (vessel) 2 fish other	35” min
		Oct 1 – Nov 15	Mon-Fri		
2024-25	**683,773 lb**	**June 16 – Sept 30**	**Tue/Wed; add Thur on 8/1 if ≥30% quota left**	**15 fish (vessel) 2 fish other**	**35” min**
		Oct 1 – Nov 15	**Mon-Fri**		



- 2014: Commercial tagging program implemented (at point-of-sale); for-hire sale limited to recreationally-compliant fish
- 2018: July 3, July 4 and Labor Day added as closed days
- 2019: Becomes unlawful to gaff sub-legal fish in commercial fishery
- 2020: Allowance for for-hire to sell fish taken on charters is rescinded (b/c of slot limit); Cape Cod Canal closed to commercial harvest

Daily Landings & Value Trends – 2023 & 2024



2023
Quota 700,379 lbs (overage-adjusted)
Mon/Tues/Wed open days
Closed August 11 (22 open days)
Total Ex-vessel Value: $2.56M

2024
Quota 683,773 lbs
Tues/Wed open days (Thurs not triggered on 8/1)
Closed August 14 (16 open days)
Total Ex-vessel Value: $2.86M

SOURCE: SAFIS Dealer Reports, as of 7/8/25
Confidential Data Not Displayed

Potential Harvester Tagging Requirement

Interstate Tagging Program Requirements

Addendum III to Amendment 6 Tagging Requirements (implemented 2013/2014):

- Tag Info/Type: valid for only one year; inscribed with year, state, unique traceable #; if possible, size limit.
- Tag Timing: point of harvest or point of sale. **New addendum could require point of harvest.**
- Tag Allowance: allocated based on biological metric (quota/avg weight) **
- Tag Accounting: requirement to turn in unused tags and tag accounting report **
- Processing: tags must remain affixed until fish processed for consumption

State	Tag Timing	2024 Tags Issued	# Receiving Tags	IFQ?
MA	**Sale**	**51,240**	**129 Dealers**	**No**
RI	Sale	9,980	18+ Dealers	No
NY	Harvest	62,331	378 Harvesters	Yes
DE	Harvest & Sale	16,650	111 Harvesters*	Yes
MD	Harvest	442,100	805 Harvesters	Yes
PRFC	Harvest	84,348	260 Harvesters	Yes
VA	Harvest	198,550	362 Harvesters	Yes
NC	Sale	0	0 Dealers	No

* Number of harvesters receiving tags; dealers also receive tags

MA Point-of-Sale Tagging Program

- Dealers annually self-identify as planning to purchase striped bass.
- Tags issued in May based on dealer's prior year purchases (total lb/avg weight) +20%.
- No history: default minimum (20 tags).
- Subsequent requests filled upon request (confirm per dealer reports); consider activity & amount of remaining quota. (2023/24, n≈30)
- Cost of tags paid by DMF (in 2025, ~$0.09/tag x 65,000 ≈ $6,000).
- Distribution by pick-up, delivery, and mailing.
- After closure, DMF requests return of completed accounting report and unused tags within 30 days. Frequently have to follow-up.

Year	# Eligible Dealers	Tags Printed	Tags Issued	Tags Used	Tags Returned	Tags Unaccounted
2014	125	120,000	92,460	58,003	34,057	400 (0.4%)
2015	115	80,000	70,980	42,250	28,510	220 (0.3%)
2016	110	80,000	65,120	48,044	16,737	339 (0.5%)
2017	111	80,000	65,500	41,222	24,049	229 (0.3%)
2018	92	80,000	53,100	37,777	14,882	441 (0.8%)
2019	79	80,000	51,180	29,564	20,799	817 (1.6%)
2020	170	65,000	46,520	19,605	25,527	1,388 (3.0%)
2021	131	65,000	46,760	36,865	9,061	834 (1.8%)
2022	124	65,000	58,560	32,989	24,931	640 (1.1%)
2023	128	65,000	54,560	29,900	24,086	574 (1.1%)
2024	129	65,000	51,240	30,109	20,606	525 (1.0%)

- Would be very challenging - if not impossible - to administer program for 4500 permitted harvesters. <500 ideal.
- ASMFC tautog harvester tagging requirement => DMF limited entry, dropping endorsements from ~2,000 to 218.

Striped Bass Control Date

322 CMR 7.04 (2) (d) Striped Bass.
Access into the commercial striped bass fishery may be limited in the future. Decisions to limit access may be based on permitting history, landings, or other activity criteria established by the Director. Commercial fishers are hereby notified that any person obtaining a new regulated fishery permit endorsement for striped bass after June 14, 2022 or any person who did not have a certain level of landings prior to June 14, 2022 may not be provided future access to this fishery or may be subject to eligibility criteria for determining levels of future access and allowable harvest in this fishery.

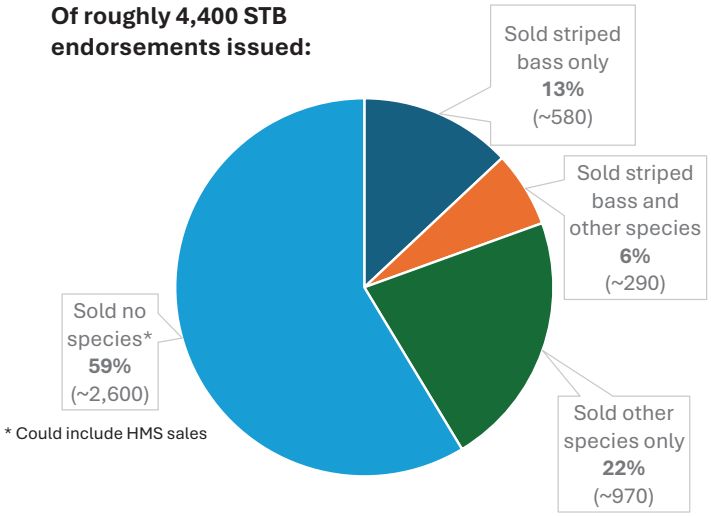
Example: Use of Tautog Control Date (August 27, 2017)
In order to renew or obtain a commercial tautog regulated fishery permit endorsement in 2020, a commercial fisherman had to have sold at least 120 pounds of tautog [roughly 1 trip limit] in any year from 2010 to 2016, and have held a regulated fishery permit endorsement for tautog in 2018 or 2019.

Even if point-of-harvest tagging not required, may still want to consider reducing permit issuance based on other management objectives for participation.

Management Objectives for Access & Participation

STB Endorsement Holder Activity (2021-2023 averages)

Of roughly 4,400 STB endorsements issued:



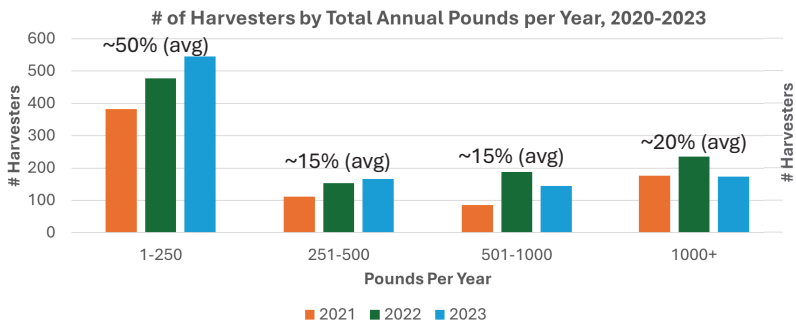
Active STB Endorsements (n ≈ 900 or 20% of issued)

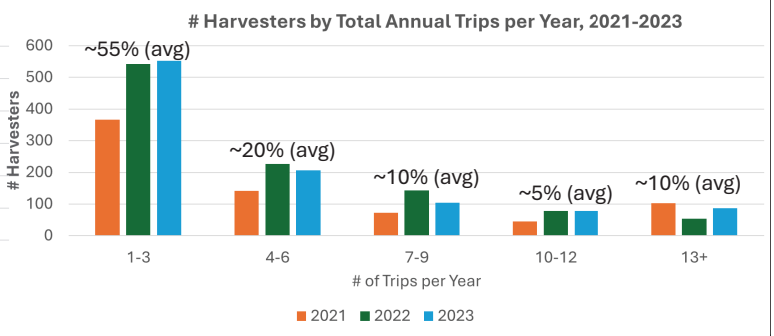
- 91% 0-59' Boat Permit, 4% Coastal Lobster, 5% Individual/Rod&Reel/R&R&Shellfish
- 95% eligible for 15-fish limit (5% for 2-fish limit)
- 39% have no other endorsements
- 66% sell no other species
- 6.5% use permit for personal use only

Inactive STB Endorsements (n ≈ 3,500 or 80% of issued)

- 66% 0-59' Boat Permit, 15% Coastal Lobster, 17% Individual/Rod&Reel/R&R&Shellfish
- 82% eligible for 15-fish limit (18% for 2-fish limit)
- 34% have no other endorsements
- 73% sell no other species either

Active STB Permit Holders by Annual Landings & Trip Count

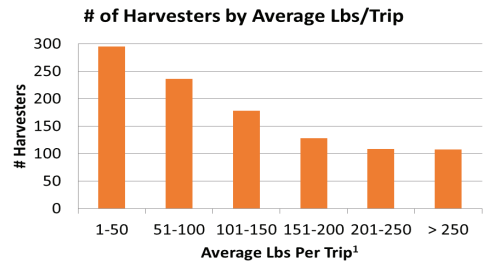


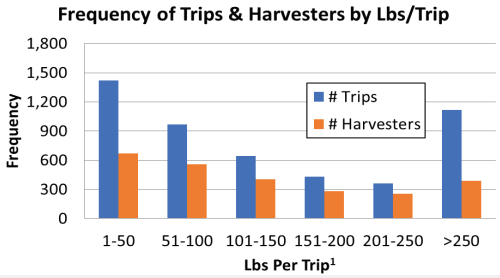


SOURCE: MA Trip-Level Reports and federal Vessel Trip Reports, as of 7/29/25.
[1] Includes fish sold and not sold (personal consumption). "No Catch" trips are not included.

Active Harvesters & Trips by Pounds Per Trip

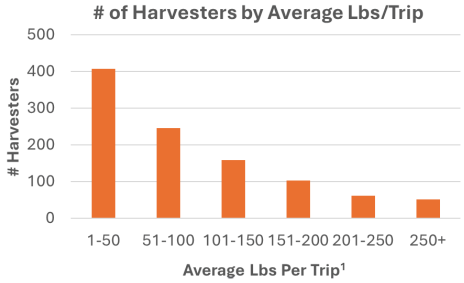
2022	Number of Active Harvesters	1,055
	Total Number of Trips	4,946

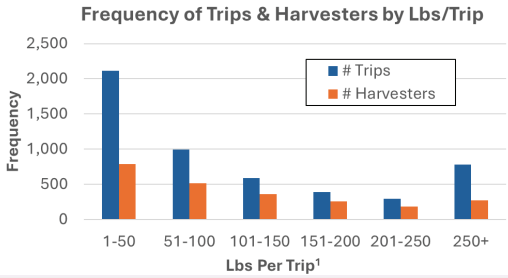




(Note difference in scale of y-axes between years)

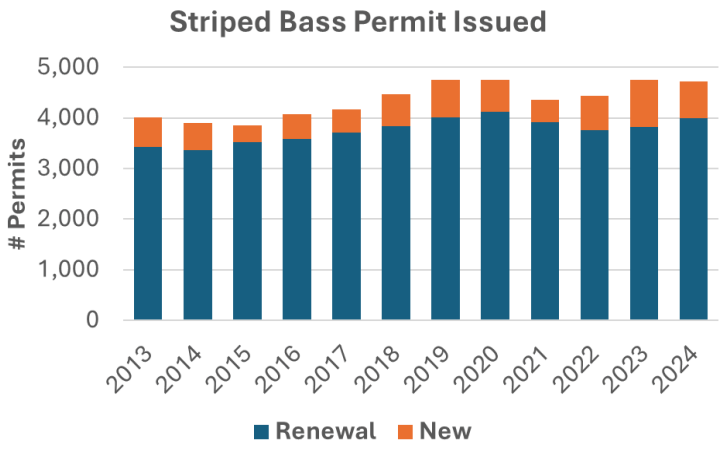
2023	Number of Active Harvesters	1,029
	Total Number of Trips	5,173

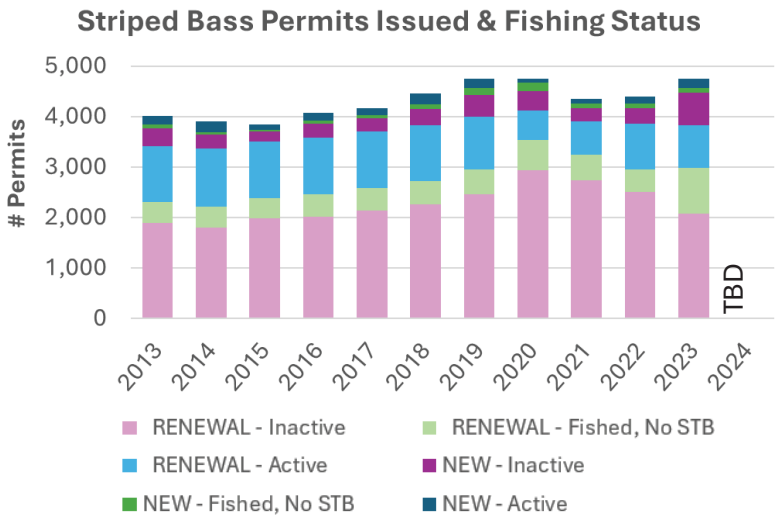




SOURCE: MA Trip-Level Reports and federal Vessel Trip Reports, as of 7/29/25.
¹ Includes fish sold and not sold (personal consumption). "No Catch" trips are not included.

Renewals vs New Permits





(STB endorsement application deadline: last day of February)

Personal Use Allowance

- Commercial permit authorizes retention of fish under commercial limits for personal use.
- Intended to allow commercial harvesters to keep some of their catch for own dinner plate.
- Personal use opportunity for striped bass limited by short season and closed days. And value of fish.
- Reported harvest for personal use contributes minimally to overall harvest (1.5%).

However,

- Of 823 trips in which STB were reported kept for personal use during 2021-2023, **none** of them sold any striped bass, and only 46 reported selling other species.
- Increased potential for under-reporting if most trips occur without any commercial sales.
- Even when reported, does not count against quota and does not get factored into stock assessments.
- Usage does not align with intent of provision. Would be an enforcement challenge to mandate sale.
- If fish had to be tagged by harvester, better likelihood of reporting (otherwise end-of-season tag accounting will be off)?

Possible Approaches to Reduce Permits

1. Discourage participation with higher permit endorsement cost
   - Currently $30 resident/$60 non-resident

2. Establish criteria for new permits
   - e.g., prior fishing income/experience

3. Stop Issuing New Permits Beginning in 2026
   - ~4,500 permits issued in 2025 eligible for renewal

4. Not Renew New Permits Issued after Control Date (6/14/22)
   - ~3,500 permits eligible for renewal

5. Establish Criteria for Permit Renewal Using Control Date
   - Could update Control Date to be inclusive of recent activity
   - Permitting history, landings, or other activity criteria to get to target # of permits.

<u>Mechanisms for New Entry</u>:

A. Transferability for "active" permits to eligible recipients
   - $$ outside DMF control

B. Lottery/waiting list for retired permits
   - "Use or lose" provision so inactive permits enter pool
   - Eligibility criteria
   - Exit:entry ratio

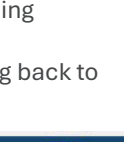
Qualification Criteria

- Definition of Active
  - Baseline years, e.g., the 5 or 10 years prior to control date (2017-2021, 2012-2021)
  - Landings-based threshold, e.g., ≥ 300 lbs/year, ≥ 1000 lbs/year
  - Trips-based threshold, e.g., ≥ 10 trips in a year
  - Income-based threshold, e.g., ≥ 50% income from fishing
  - Frequency, e.g., one year in baseline, at least 3 of 5 years
  - Permit history, e.g., must have held in 2025; 2024 or 2025

- Possible factors to consider in qualification criteria
  - Fishery performance:
    - E.g., Geographic distribution shift of landings to north => longer baseline years?
  - Regulatory impacts:
    - E.g., 2-fish and 15-fish limits => # trips-based activity threshold to equalize (rather than lbs)?

Other State Limited Entry Examples

- **Rhode Island: limited entry permit without individual shares**
  - Moratorium on all permit categories in 1995; ends in 2002 except for quota-managed species stay limited entry.
  - Acquired via transfer or through exit:entry ratios and applicant prioritization process.
- **New York: limited entry permit with tiered equal IFQs**
  - Permits limited to those with a NY commercial bass permit prior to 1996.
  - Tiered but equal non-transferable IFQs. Full share: demonstrate ≥ 50% earned income from direct participation in the harvest of marine species, otherwise partial share (20% of full share); can move between.
  - Transfers limited to immediate family; exception upon death if designated recipient does not want.
- **Maryland: limited entry permit with ITQs**
  - Capped at number of participants in 1994 when the stocks began to recover: 1,231 permits.
  - Quota allocated among gears, then into ITQ shares based on equal shares and/or individual harvest history.
  - Seasonal and permanent transfers of partial or full shares allowed; waiting list for retired permits.
- **Virginia: limited entry permits with ITQs**
  - Permits limited in 1993 to those with a 1990 or 1991 striped bass permit and ≥50% of earned income from fishing activities; lottery system followed to allow more entrants.
  - ITQ system adopted in 1998: commercial license & gear license required, plus any history of striped bass going back to 1970s. Allocation to each gear; equal shares to each harvester in gear (changed over time through transfers).



Discussion Questions

1. Accept potential for shorter season from quota reduction or modify measures?
   - Possession limit, season start, open days, participation level? What will keep the fishery profitable?
2. How should "point of harvest" tagging be defined? E.g., Immediately upon retention or prior to landing?
   - Other considerations for how DMF would implement point of harvest tagging, if required?
   - Would a requirement for dealers to report tags #s per transaction be a feasible alternative to have tags traceable to the harvester?
3. Is there significant misuse of commercial permit (to retain trophy fish, to only keep for personal consumption, under-reporting)? How best to address?
4. Is the legacy of open access to the commercial striped bass fishery still appropriate? If not, restrict new entrance only or reduce current permit holders?
5. What criteria would you recommend to limit entry (annual pounds, annual trips, which years, etc.)? What factors ought to be considered in selection (e.g., regional shift in landings)?
6. If entry is limited, should new entrance be through transfers of active permits or DMF issuance to waiting list (using exit:entry ratio for retired permits, possible use or lose provision, eligibility criteria)?

Next Steps

1. ASMFC Striped Bass Management Board Meeting – August 6
2. MFAC Striped Bass Focus Group Meeting – August 14
3. DMF report on striped bass meetings to MFAC at August Business Meeting – August 21
4. *ASMFC Public Hearings on Draft Addendum III: late August – September*
5. ASMFC Striped Bass Management Board Meeting – Week of October 27
6. *DMF develop Public Hearing Proposal for MFAC – Fall 2025*
7. *DMF Public Hearings on State Commercial Striped Bass Management & Permitting – Winter 2025*

(Tentative steps/dates in italics)

August 13, 2025

To:
Tom O'Shea, Commissioner, Department of Fish and Game

Dan McKiernan, Director, Division of Marine Fisheries

Raymond Kane, Chair, and Members of the Massachusetts Marine Fisheries Advisory Commission

From:
Sharl Heller, President
Southeastern Massachusetts Pine Barrens Alliance, Inc.

Subject: Updated Information Regarding Proposal to Close Plymouth/Kingston/Duxbury Bay to Horseshoe Crab Harvesting

Dear Commissioner O'Shea, Director McKiernan, Chair Kane, and Commission Members,

Thank you for your continued consideration of our proposal to close Plymouth/Kingston/Duxbury (PKD) Bay to horseshoe crab harvesting. I would like to provide updated data that may help inform your decision on whether to advance the proposal to a public hearing.

In 2023, the Division of Marine Fisheries (DMF) reported that 13.9% of the total state horseshoe crab bait quota of 140,000 was harvested from the Cape Cod Bay stock. At the time our proposal was submitted, the 2024 data was not yet available.

In the July 2, 2025, article, *Promising Signs for Horseshoe Crabs in Massachusetts,* Derek Perry notes:

> There are only two regions where spawning surveys have decreasing trends: Plymouth/Kingston/Duxbury Bay (PKD Bay) and Buzzards Bay. These areas have very little bait harvest (around 3.5% of the state total) and no biomedical harvest and are in two different regions of the Massachusetts coast.

Previous DMF presentations indicate that Buzzards Bay contributes roughly 2% of the annual bait harvest, leaving PKD Bay's share at approximately 1.9%—or just over 2,600 crabs—in 2024. This is a negligible fraction of the state's harvest but represents a potentially critical loss to this already declining local population.

It is important to note that PKD Bay was once regarded as one of the most productive and highly rated spawning and nursery areas for horseshoe crabs in Massachusetts. The fact that such a historically vital habitat is now among the few showing a sustained decline should be a call to immediate conservation action.

The *Spawning Beach Survey* chart for Duxbury and Plymouth (2024 vs Median) in Perry's article illustrates a prolonged decline in the PKD area.

Region	Beach	Time of Day	2024 vs Median	10-year trend	15-year trend
Cape Cod Bay	Duxbury	Day	below	decreasing	decreasing
	Duxbury	Night	below	increasing	decreasing
	Long Beach	Day	below	NA	NA
	Long Beach	Night	below	NA	NA
	Millway	Day	above	**increasing**	**increasing**
	Millway	Night	above	**increasing**	increasing
	Long Pasture	Day	above	**increasing**	increasing
	Sanctuary Beach	Day	above	increasing	increasing
	Indian Neck	Day	above	increasing	increasing
	Indian Neck	Night	above	increasing	increasing
	Great Island	Day	above	increasing	NA
Outer Cape Cod	Priscillas Landing	Day	above	**increasing**	NA
	Marsh 2-3	Day	above	**increasing**	**increasing**
	Erica's Beach	Day	above	increasing	increasing
Nantucket Sound	Stage Harbor	Day	NA	NA	NA
	Stage Harbor	Night	NA	NA	NA
	Bass River	Day	above	NA	NA
	Bass River	Night	above	NA	NA
	Monomoy	Day	above	increasing	increasing
	Monomoy	Night	above	increasing	increasing
	Warrens Landing	Day	above	**increasing**	NA
	Warrens Landing	Night	above	**increasing**	NA
	Tashmoo	Day	above	increasing	**increasing**
	Tashmoo	Night	NA	increasing	increasing
Buzzards Bay	Swifts Beach	Day	below	increasing	decreasing
	Swifts Beach	Night	below	decreasing	**decreasing**

Our own 2025 spawning survey on Long Beach, conducted by the Southeastern Massachusetts Pine Barrens Alliance, recorded 122 crabs (51 females, 71 males) in 1,313 quads**,** compared to 73 crabs (26 females, 47 males) in 1,254 quads in 2024. This represents a 67% overall increase in crabs observed, with nearly double the number of females and a 51% rise in males**.** When adjusted for survey effort, density rose from 0.058 crabs per quad in 2024 to 0.093 in 2025—an increase of about 60%. In real terms, we are seeing an increase from just over half a crab to less than one crab per quad in an area where horseshoe crabs were once abundant.

This modest rebound was short-lived. After the June 7, 2025, opening of the harvest season, the eight surveys between the June 9 and June 27 yielded just 17 crabs (5 females, 12 males), underscoring the vulnerability of this population and the outsized impact that even limited harvesting has on an already stressed spawning stock.

We do not have the 2024 and 2025 survey data for Duxbury Bay and Kingston Bay is not surveyed.

These numbers underscore the vulnerability of the PKD Bay population and the impact of even limited harvesting on an already stressed spawning stock.

We understand that only one or two active permit holders harvested horseshoe crabs from PKD Bay in 2024. Given the minimal economic impact to the fishery and the significant conservation benefits of protecting one of the state's most at-risk horseshoe crab populations, we urge the Commission to allow this proposal to proceed to a public hearing.

Thank you for your time, attention, and commitment to responsible marine resource management.

Sincerely,

Sharl Heller

Sharl Heller
President
Southeastern Massachusetts Pine Barrens Alliance, Inc.

c.c. Jared Silva
Derek Perry

Proposal to Close Three Bays to Horseshoe Crab Fisheries

DUXBURY, KINGSTON, PLYMOUTH BAYS

SOUTHEASTERN MASSACHUSETTS PINE BARRENS ALLIANCE

April 24, 2025

To: Department of Fish and Game Commissioner Tom O'Shea

Division of Marine Fisheries Director Dan McKiernan

Massachusetts Marine Fisheries Advisory Commission Members

From: Southeastern Massachusetts Pine Barrens Alliance, Inc.

Re: Proposal to Close Three Bays in Western Cape Cod Bay to Horseshoe Crab Fishery

The horseshoe crab is a critical link to coastal biodiversity. One of their ecological functions is to lay millions of eggs on beaches to feed shorebirds, fish, and other wildlife.... Unfortunately, this ecological link can be broken in areas where population density is low.[1]

—International Union for the Conservation of Nature

The Southeastern Massachusetts Pine Barrens Alliance (SEMPBA) proposes the closure of three historically significant horseshoe crab spawning and nursery areas along the western shore of Cape Cod Bay—Duxbury Bay, Kingston Bay, and Plymouth Bay—to all horseshoe crab harvesting. This proposal is based on both the absence of significant numbers of crabs in these bays today, as well as the historical abundance of horseshoe crabs in these bays in the not-too-distant past, and aligns with concerns raised by the International Union for the Conservation of Nature (IUCN):

> T**he world's horseshoe crab populations are imperiled**, because of overharvesting for use as food, bait and biomedical testing, and because of habitat loss from coastal reclamation and development. Shoreline alterations that are engineered to protect beaches from erosion and sea level rise due to climate change also affect their spawning habitats.[2]
>
> **IUCN Risk Category for American Horseshoe Crab:** The populations of Horseshoe Crabs ...indicate continuing declines in New England. Causes of continuing declines are understood to be over-harvest and there are regulatory controls in place. Nevertheless, a threatened risk

[1] Botton, M., Shin, P. (2020, 19 June) *International Horseshoe Crab Day: a celebration of the flagship species for coastal habitat conservation*. The International Union for the Conservation of Nature. Retrieved March 19, 2025, from https://iucn.org/news/species-survival-commission/202006/international-horseshoe-crab-day-a-celebration-flagship-species-coastal-habitat-conservation.

[2] Ibid.

> category of endangered is warranted at the sub-regional (New England area) level until it is apparent that regulatory controls are adequate to reverse the continuing declines.[3]

The concerns expressed by the IUCN underscore our own observations. Horseshoe crab populations in Duxbury Bay, Kingston Bay, and Plymouth Bay continue to decline despite 20 years of regulatory controls.

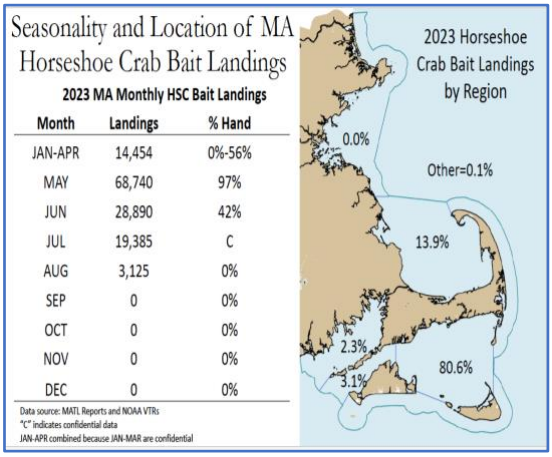
SEMPBA is a volunteer-driven nonprofit dedicated to conserving the globally rare Massachusetts Coastal Pine Barrens Ecoregion. Since 2019, SEMPBA volunteers have participated in the Division of Marine Fisheries (DMF) Spawning Horseshoe Crab Survey. SEMPBA's surveys of Plymouth Long Beach over the past six years show alarmingly low horseshoe crab numbers in an area of historic abundancy (Appendix 1).

Similarly, Duxbury beach—another area of historic abundancy —has yielded low survey numbers since 2008 to the present with no indication of recovery (Appendix. 2) and continues a "negative" trend in survey counts over the past 15-years (Appendix 3).

Kingston Bay, though not included in the DMF spawning survey, was also an area of historic abundancy, yet today, encountering a horseshoe crab on its beaches is a rare occurrence.

The continued decline of horseshoe crab populations in these critical habitats threatens not only the species itself but the broader coastal ecosystem as well, as horseshoe crabs are an important food source for local and migratory shorebirds, loggerhead turtles, striped bass, eel and flounder. [4]

Despite the disturbingly low survey numbers, the Division of Marine Fisheries (DMF) data shows that in 2023, 13.9% of the bait take was derived from the severely depleted Cape Cod Bay horseshoe crab stock, as seen in the side panel.



We urge the DMF to establish a horseshoe crab refuge in Duxbury, Kingston and Plymouth Bays to protect and restore this foundational species before population declines reach an irreversible threshold. Acting now will help rebuild their numbers, support biodiversity, and preserve the ecological balance of our coastal environment.

Thank you for your time and consideration of this proposal.

Sincerely,

Sharl Heller

Sharl Heller
President, Southeastern Massachusetts Pine Barrens Alliance, Inc.

---

[3] IUCN Red List Category and Criteria - Global Assessment. IUCN Risk Category for American Horseshoe Crab. Retrieved on March 27, 2025, from https://www.iucnredlist.org/species/11987/80159830#assessment-information.

[4] Maryland Department of Natural Resources (2024). Horseshoe Crabs Begin 2024 Migration onto Maryland Beaches. Recovered from: https://news.maryland.gov/dnr/2024/05/20/horseshoe-crabs-begin-2024-migration-onto-maryland-beaches/?utm_source=chatgpt.com.

Table of Contents

Proposal to Establish a Horseshoe Crab Refuge in Duxbury, Kingston, and Plymouth Bays

Urgency of Action:
The following information highlights the critical need to close the horseshoe crab fishery in Duxbury, Kingston, and Plymouth Bays by designating these waters as a protected refuge.

Horseshoe Crab Spawning and Nursery Habitats: Trends and Conservation Considerations

Spawning and Nursery Habitat in the Three Bays

Since the 1970s, the number of spawning horseshoe crabs in Duxbury-Kingston-Plymouth Bay has plummeted. Long-time residents consistently recall the abundance of horseshoe crabs in their youth but now report rarely seeing even one.

The *Massachusetts 2009 Compliance Report to the Atlantic States Marine Fisheries Commission* supports these observations. The report includes a rough map of **"Horseshoe Crab Spawning Beaches 2004"** (Appendix 4), which designates Kingston, Plymouth, and Duxbury as **"Major Spawning Beaches."**[5]

A table from the same report, **"Horseshoe Crab Spawning Beaches 2007,"** provides density classifications for key spawning sites (Appendix 5): [6]

- **Plymouth**: Plymouth Beach (High); Saquish Cove (Reported); Steven's Field (High)
- **Duxbury**: Black River (High); Duxbury Beach (High); Ship Yard Lane (High); Bradford Street (High)
- **Kingston**: Gray's Beach (Reported); Rocky Nook Association Beach (Reported)

Additionally, the **"Horseshoe Crab Nursery Areas 2007"** table (Appendix 6) identifies critical nursery areas. [7]

- **Duxbury:** Duxbury Bay (High), Black River Marsh (High)
- **Kingston:** Kingston Bay (Moderate)
- **Plymouth:** Plymouth Harbor (High)

The data collected in the 2009 Report tell us that Duxbury and Plymouth Bays supported high populations of horseshoe crabs between 2004 and 2007. In contrast, Kingston Bay appears to have experienced a notable decline during this period—dropping from its designation as a "Major" spawning

---

[5] Glenn, R. (2009). *Massachusetts 2009 Compliance Report to the Atlantic States Marine Fisheries Commission – Horseshoe Crab*. Massachusetts Division of Marine Fisheries, p. 22.

[6] Glenn, R. (2009). *Massachusetts 2009 Compliance Report to the Atlantic States Marine Fisheries Commission – Horseshoe Crab*. Massachusetts Division of Marine Fisheries, p. 23-27.

[7] IGlenn, R. (2009). *Massachusetts 2009 Compliance Report to the Atlantic States Marine Fisheries Commission – Horseshoe Crab*. Massachusetts Division of Marine Fisheries, p. 28.

beach on the 2004 **Horseshoe Crab Spawning Beaches** map to a lower classification of "Reported" on both the 2007 spawning and nursery area lists.

These historical data points reinforce the urgency of protecting these prime spawning and nursery areas to support the recovery of horseshoe crab populations in Cape Cod Bay.

Recent DMF surveys reveal a sharp decline in spawning horseshoe crab activity across Duxbury, Kingston, and Plymouth Bays when compared to findings reported in the 2009 DMF Compliance Report. Current observations no longer align with previously categorized "High" or even "Moderate" spawning activity. For example, in 2024, surveyors recorded densities of approximately **0.3 crabs per square meter in Duxbury Bay** and only **0.03 to 0.04 per square meter on Plymouth Long Beach**—numbers that fall far below historical benchmarks and can hardly be considered high concentrations (Appendices 1 and 2).

The Duxbury, Kingston, and Plymouth Bays are part of an interconnected estuarine system, it is essential that they be considered collectively as one large bay system with three interdependent sub-bays.

Missing Links: Gaps in Research on Horseshoe Crab Nursery Habitat

Currently, no updated data exist on the condition of historically high-density nursery sites. Combined with recent negative survey results, this data gap underscores the urgent need to prohibit the harvest of horseshoe crabs from these depleted beaches and to prioritize the protection of both spawning and nursery habitats. These measures are essential to support the recovery and long-term viability of horseshoe crab populations in western Cape Cod Bay.

To date, most research on horseshoe crabs has centered on horseshoe crab spawning behavior—particularly in relation to migratory shorebirds—or on their biomedical significance due to the unique properties of their blood. Far less attention has been paid to the habitat needs of juveniles during early developmental stages.

A 2012 study by E. Olson highlights the feeding behavior of juvenile horseshoe crabs and stresses the critical role that salt marsh habitats play in supporting their early life history:

> Juvenile horseshoe crabs assimilate food from phytoplankton-derived and macroalgal-derived sources, in addition to a food web based on Spartina alterniflora. By the third instar horseshoe crabs shift to a diet composed primarily of a Spartina–based food web and continue to utilize this food source until they reach maturity (Gaines et. al 2002). From this data it can be inferred...that, under normal circumstances, juvenile horseshoe crabs must stay within an area accessible to salt marsh habitats.[8]

Given the lack of recent data on nursery habitats, the documented decline in spawning densities, and the essential role of protected coastal environments in juvenile development, it is clear that immediate conservation action is needed. Establishing a refuge within Duxbury, Kingston, and Plymouth Bays would represent a proactive and science-informed step toward reversing population decline and safeguarding the ecological role of horseshoe crabs in Cape Cod Bay. Protecting both spawning and nursery habitats will not only benefit this ancient species, but also the broader coastal ecosystem that depends on its continued presence.

---

[8] Olsen, Emily, A. (2012) The Presence of Juvenile Horseshoe Crabs, Limulus Polyphemus, And Other Benthic Fauna of Mid-Atlantic Coastal Bays. Retrieved March 20, 2025, from https://udspace.udel.edu/server/api/core/bitstreams/7f08d522-fbef-48b0-8eaa-729ab61c67a9/content.

A History of Horseshoe Crab Management in Massachusetts

Evidence exists to show that the dramatic decline of horseshoe crabs in Massachusetts began as early as the 1940s—when the beach towns of Cape Cod Bay and other Massachusetts shore communities were offered assistance through a state-funded horseshoe crab eradication program.

The *DMF News* (2003) reported that during the 1960s, towns paid three cents per horseshoe crab tail, noting:

> A preliminary review of towns' Annual Reports suggests that as many as one million crabs were killed annually as part of local shellfish predator control programs. As recently as 2000, eight towns still had regulations requiring fishermen to kill all crabs encountered while shell fishing or be fined. [9]

Historical Evidence of Horseshoe Crab Populations in Duxbury

Although the Division of Marine Fisheries (DMF) began surveying spawning horseshoe crabs in Duxbury in 2008, historical records provide valuable insight into their presence as early as 1946, and consistently beginning around 1953, when the Town of Duxbury began participating in the Commonwealth's horseshoe crab eradication program. [10]

The program recorded "**heavy concentrations"** of horseshoe crabs at:

- Black River
- Goose Flat
- Blue Fish River
- Dumps Cedar Pond

Annual Reports of the Town of Duxbury—Report of the Shellfish Constable [11]

- **1946:** "I never saw Duxbury Bay as alive with the enemies of shellfish as I have this past year, the cockles periwinkles and horseshoe crabs (King crab) are everywhere including the back river area."
- **1953:** "During the summer months one man worked part time in the areas where we have small clam seed, picking and destroying horseshoe crabs and cockles. **1,555 crabs** and 4 1/2 pails of cockles were picked and destroyed. We paid $41.80 for this work, a small cost for the benefit derived thereby."
- **1954:** "During the year there was $241.60 spent bulldozing, plowing, picking and destroying mussels, horseshoe crabs and cockles."

---

[9] Division of Marine Fisheries. (2003). *DMF News, Second Quarter*, p. 6. Retrieved from https://www.mass.gov/doc/2nd-quarter/download.

[10] Massachusetts Division of Marine Fisheries. *Town of Duxbury Shellfish Propagation Forms, 1954–1972*. Courtesy of the Massachusetts Division of Marine Fisheries.

[11] Town of Duxbury. *Annual Reports* (various years). Retrieved March 20, 2025, from https://archive.org/search?query=subject%3A%22Municipal+reports--Massachusetts--Duxbury%22&sort=-date

- **1961:** "During June and July four cents was paid for each live horseshoe crab brought to me. There was a great response among the younger people to this program and over **12,000** of these predators were destroyed before the funds set aside for this were depleted. Horseshoe crabs, exterminated [$]494.64."
- **1962**: "Duxbury fishermen exhausted the town's entire bounty allocation in just three days, killing **14,000** horseshoe crabs."
- **1963:** "Horseshoe crab extermination [$] 559.40."
- **1965:** "During the latter part of June, 4 cents were paid for each live horseshoe crab brought to me. There were **9,000** crabs destroyed this way. There were **20,000** more taken during July and August from their breeding holes in the back river."
- **1966:** "Late in June, **7,000** horseshoe crabs were brought to me to be destroyed. Four cents (.04) each were paid for these. Later in the summer **15,000** small ones were taken from their breeding holes in the back river."
- **1967**: "**20,000** horseshoe crabs were killed in Duxbury."

Eyewitness Accounts

Biologist and Middlebury College professor Ronald Rood, wrote that horseshoe crabs were taken to the Duxbury dump, where they could be seen, "many on their backs and waving their legs feebly in the sun."

Rood found more crushed horseshoe crabs littering the shoreline, some still in pairs where they'd come to spawn. "So dire is the supposed threat posed by the horseshoe crab that children are encouraged or permitted to crush them, stone them and spear them when found to be too far away to be worth the four cents, or when smashing them is considered more rewarding than the bounty."[12]

By **2000**, attitudes towards conservation in Duxbury had begun to change. The town historian noted: "Over the course of the year 2000, there was a noticeable increase in local residents' interest and concern for **preservation and conservation**. As a result, I worked on a variety of inquiries regarding the town's evolving perspective on horseshoe crabs." [13]

Eradication Efforts in Kingston

Kingston Bay is rarely thought of as prime habitat for horseshoe crabs today. However, the 1968 Shellfish Propagation Form—used by towns to request state funding for clam fishery support—indicates that 'horseshoe crab predators' were abundant along Kingston's shoreline in June and July and that Kingston was actively engaged in trying to eradicate them.

In his funding request for 1969, the Kingston Shellfish Warden emphasized the program's importance, stating, "Killing horseshoe crabs in the summer months, like we have been doing for several years, this has helped our shoreline for saving our clams, very much." (Appendix 7)

---

[12] Rood, R. (1967, May–June). The crab that wasn't. *Audubon*, pp. 2–39.

[13] Town of Duxbury. (n.d.). *Annual reports for various years*. Retrieved March 20, 2025, from https://archive.org/search?query=subject%3A%22Municipal+reports--Massachusetts--Duxbury%22&sort=-date.

The Town of Kingston Annual Reports confirm that Kingston participated in the horseshoe crab eradication program perhaps as far back as 1940. [14]

- **1940: "**The Department of Conservation has also been of very material assistance with [shellfish] seed and with funds to help pay for labor used in destroying natural shellfish enemies."
- **1961: "**A great deal of time and labor were spent on Ichabod's Flat for the removal of mussels and horse shoe crabs. This program is expected to continue during the coming year. The funds for this project, as in the past, continue to be taken from the receipts forwarded to the town from the Division of Marine Fisheries."
- **1963:** "Considerable time and money were expended on our flats this year for the purpose of removing horse-shoe crabs and also experimentation of clam seed planting... Both projects were financed by the Division of Marine Fisheries. [Note: the 1961 and 1963 reports are identical.]
- **1964**: "Considerable time and money were expended on our flats this year for the purpose of removing horse-shoe crabs and also experimentation of clam seed planting... Both projects were financed by the Division of Marine Fisheries."
- **1969**: "Considerable time and money were expended on our shore line this year for the purpose of removing horseshoe crabs. This program will be continued next year to protect the clam growth, which is producing well along our shore."[15]
- **1976**: "Much work was done this past summer on killing horseshoe crabs. This program will continue this year."

Plymouth's Quiet Chapter in Horseshoe Crab History

There are no records confirming horseshoe crab eradication efforts in Plymouth Bay, but anecdotal evidence suggests that similar initiatives may have taken place. One eyewitness recalls witnessing a truck deliberately crushing piles of horseshoe crabs at Nelson Beach in the 1960s (J. Baker, Plymouth Historian personal communication, November 15, 2023).

Plymouth Town Historian Connor Anderson states, "A search of Town Reports leads me to believe that Plymouth did not participate in the State's program. The Town did have their own Shellfish Propagation Program, which was budgeted for."

Anderson provided the following excerpts from Select Board Minutes:

- **1944**: "A letter was received from the Division of Marine Fisheries suggesting the Town appropriate money for the suppression of Shellfish enemy work for 1944. No action by Board on this suggestion."

---

[14] Town of Kingston. (1976). *1976 town report*. Retrieved March 21, 2025, from https://kingstonma.gov/DocumentCenter/View/1761/1976-Town-Report?bidId=

[15] Town of Kingston. (1968). *Annual reports of the Town of Kingston: 1968*. Retrieved March 22, 2025, from https://www.kplma.org/pique/online-collections/arpts.

- **1945**: "A notice was received from the Division of Marine Fisheries offering to assist the Town in the purchase of shellfish seed for distribution and suppression of shellfish enemies. The Clerk was instructed to inform them that the Town made no appropriation for shellfish work this year."

The limited and largely anecdotal records from Plymouth, when considered alongside the survey data presented in the DMF's 2009 Report to the ASMFC—highlighting key horseshoe crab spawning and nursery areas at specific beaches—indicate that, despite the town's decision to forgo state funding for shellfish predator suppression, horseshoe crabs were once abundant on Plymouth's shores.

Horseshoe Crabs and the Bait Industry

Management of the Horseshoe Crab Bait Fishery: 2000–2009

Horseshoe crab populations were already in steep decline due to the decades-long horseshoe crab eradication program well before their use as bait became widespread. According to a Massachusetts Division of Marine Fisheries (DMF) newsletter, the use of horseshoe crabs as bait increased sharply in the 1970s, when fishermen began harvesting them in large numbers for the whelk and eel fisheries. Crabs were easily collected as they came up on beaches to spawn—many were stored in holding pens, preventing them from laying eggs. DMF News reported:

> "While there are no numbers available for horseshoe crab landings in the Commonwealth prior to 1999, it is estimated that as many as 400,000 crabs per year were needed to sustain the conch and eel pot fisheries."[16]

The exploitation of horseshoe crabs for bait—combined with the expanding biomedical industry's demand for their blood emerged as significant factor in the decline of shorebird populations along the eastern seaboard. In response, the Atlantic States Marine Fisheries Commission (ASMFC) developed a fishery management plan for horseshoe crabs in 1998, requiring Massachusetts and other Atlantic states to implement harvest quotas to support conservation efforts. Notably, horseshoe crabs taken for biomedical use were exempt from these quotas.

According to the *DMF News*, in 2003, the Massachusetts Division of Marine Fisheries (DMF) set a bait quota of 330,377:

> Biomedical harvest would be allowed to continue after the bait harvest closed and not counted towards the quota because of low mortality rate associated with biomedical use of the crabs. The Massachusetts annual cap was set at 330,377 crabs. In 2000, 175 fishermen reported harvesting 272,930 horseshoe crabs. [17]

The *DMF News* of 2003 was quick to point out that horseshoe crabs are in no danger of overfishing:

> Contrary to what some have stated, the Massachusetts horseshoe crab population is not on the brink of extinction. The cessation of the horseshoe crab predator control program stopped the annual destruction of up to a million crabs a year.

---

[16] *DMF News Second Quarter 2006*. "Responsible Management Strategies Reduce Horseshoe Crab Take in Massachusetts." P 8.

[17] DMF News, Second Quarter March through May 2003 • Volume 23. p8.

By 2008, however the DMF must have realized that more was needed to help horseshoe crab populations recover. The DMF ***2009 Compliance Report to the Atlantic States Marine Fisheries Commission*** **tells us that** bait permit holders reported harvesting 98,279 horseshoe crabs, down 5% from 2008.[18]

In the 2009 *Compliance Report*, **the DMF Director announced a management program for 2010 around lunar closures** during which periods it would be illegal to harvest horseshoe crabs. The DMF based the need for lunar closures on surveys conducted in 2009 on 26 beaches in Massachusetts.

Major findings of the surveys are as follows:

- A total of 358 surveys were conducted by almost 300 volunteers and 75 staff from 13 federal and state agencies, organizations, and universities. Spawning indices (SI = number of females per 25 m2) were relatively low in all areas compared to landings and anecdotal reports.
- Thirty-two percent of surveys had no crabs at all, and ninety-eight percent had a SI < 1.
- It should be noted that many of the crabs counted in the surveys were subsequently harvested by fishermen and removed from the population.
- Sex ratios in Pleasant Bay are becoming increasingly male-skewed. In some areas, we saw single females spawning for the first time.
- As Pleasant Bay has been harvested only for biomedical purposes for 30 years, highly male-skewed sex ratios in that embayment raise concerns about whether bleeding is causing higher mortality than previously reported or may be having a sub-lethal effect on spawning behavior of females.
- we undertook a study of mortality of unbled females vs. those handled and bled by Associates of Cape Cod, the local biomedical company. The results documented a mortality rate of 30%, substantially higher than the 5-15% estimate currently used for management of this fishery.
- when sex ratios approach 1:1-2 (F:M) and total crab densities are as low as those exhibited in the spawning surveys, males and females may not be finding each other.
- The vast majority of single females appear when there are 3 or fewer crabs per quadrat, which was the case in 97% of surveys.
- Since eggs deposited by females without a male present will not develop, an increase in this trend represents a serious problem for local horseshoe crab populations. [19]

The report also confirms that the 2007 restrictions on horseshoe crab harvesting remain in place, stating: “In addition to the above regulations, Monomoy National Wildlife Refuge (federal closure) and the National Seashore (NPS – federal) remain closed to all horseshoe crab harvest, and Pleasant Bay (state closure) remains closed to bait fishing only.”[20]

---

[18] Massachusetts Division of Marine Fisheries, *Massachusetts 2009 Compliance Report to the Atlantic States Marine Fisheries Commission - Horseshoe Crab*. Submitted by Robert Glenn. p2.

[19] Massachusetts Division of Marine Fisheries, *Massachusetts 2009 Compliance Report to the Atlantic States Marine Fisheries Commission - Horseshoe Crab*. Submitted by Robert Glenn. p. 5-7.

[20] Massachusetts Division of Marine Fisheries, *Massachusetts 2009 Compliance Report to the Atlantic States Marine Fisheries Commission - Horseshoe Crab*. Submitted by Robert Glenn. p. 10.

Effectiveness of Massachusetts' Lunar Closures (2010–2023)

Lunar closures were initially expected to yield measurable results by 2019–2020, based on the 9–11-year maturity window of horseshoe crabs. However, recent spawning surveys conducted at sixteen locations across Massachusetts reveal no significant population increases attributable to this management strategy. In fact, the closures may have inadvertently shifted harvesting pressure offshore to trawl fisheries and led to prolonged penning of crabs in anticipation of closure periods—both of which may have undermined conservation goals.

The data gathered from these spawning surveys indicate a continued scarcity of horseshoe crabs. In this context, small year-over-year increases in already minimal counts are not meaningful and do not provide a sound basis for determining bait or biomedical harvest quotas.

A comparison of female density data between 2022 and 2023 shows declining trends at the following spawning sites:

Declining Locations (2022-2023)

1. Duxbury Bay
2. Plymouth Long Beach
3. Barnstable Harbor Long Pasture
4. Dennis Bass River
5. Nantucket Monomoy Beach
6. Pleasant Bay Erica's Beach
7. Pleasant Bay Marsh 2/3
8. Wellfleet Harbor Great Island
9. Wellfleet Harbor Indian Neck
10. Wellfleet Harbor Sanctuary Beach
11. Nauset Priscilla's Landing
12. Chatham State Harbor
13. Wareham Swift's Beach

Increasing Locations (2022-2023)

None

Indeterminable Locations (2022-2023)

1. Barnstable Harbor Millway (daytime survey lower/nighttime survey higher)
2. Nantucket Warren's Landing (daytime survey slightly higher/nighttime survey lower)

The decline in female horseshoe crab numbers from 2022 to 2023 at 13 of 15 survey locations—and only modest or uncertain increases at the remaining two—suggests that more than a decade of lunar closures did not yield the intended conservation outcomes.

Management Strategy Revisited 2024

In 2024, the DMF responded by updating its management strategy, replacing the short lunar closures with a more extended no-harvest period from April 15 to June 7. While this adjustment represents progress, it's important to note that horseshoe crab spawning activity has been observed well into June and July. Historical records, including the timing of the Commonwealth's former horseshoe crab eradication programs, which confirm spawning in July—as noted in the Town of Kingston Town Shellfish Propagation Form of 1968 (Appendix 7).

DMF should be commended for reevaluating its approach and implementing a new framework. At the same time, given that it took 14 years to adjust the previous strategy, and considering the ongoing pressures facing this species, we must not wait another decade to assess whether current harvest restrictions are sufficient, and risk continued population decline at a time and in an area where more proactive conservation is needed.

Horseshoe Crabs in Cape Cod Bay

Decades of an aggressive horseshoe crab eradication program, followed by relentless harvesting for bait and compounded by habitat loss due to development, have drastically reduced spawning populations in Duxbury, Kingston, and Plymouth Bays. Immediate conservation measures are needed to protect the remaining horseshoe crabs that still return to spawn in western Cape Cod Bay.

Director Daniel McKiernan's *Memorandum to the Massachusetts Marine Fisheries Advisory Commission: Proposal Affecting Horseshoe Crab Management—Spawning Closures and Trip Limit Adjustments*, notes:

> The bait fishery for horseshoe crabs principally occurs south and west of Cape Cod with Nantucket Sound being the primary harvest area. In 2022, 85% of Massachusetts horseshoe crabs harvested for bait came from Nantucket Sound and 7% taken from Cape Cod Bay.[21]

Despite 2022 producing the lowest horseshoe crab survey numbers on record—and 2023 numbers falling even lower—the proportion of horseshoe crabs harvested from Duxbury and Plymouth Bays nearly doubled, rising from 7% in 2022 to 13.9% in 2023 (Appendix 8).

McKiernan also noted that:

> Data trends in Massachusetts since the 2019 ASMFC stock assessment and IUCN report are mixed. North of Cape Cod, DMF's spring and fall trawl surveys (Figure 1) were at or near time series highs in the late 2010's, but in more recent years declined to near time series median levels. All 2023 trawl survey data points north of Cape Cod were below their respective time series medians.[22]

Recent spawning surveys continue to show persistently low numbers of spawning horseshoe crabs, with overlapping confidence intervals suggesting little to no measurable improvement. Over the past eight

---

[21] McKiernan, D. (2023, December 14). *Memorandum to the Massachusetts Marine Fisheries Advisory Commission: Proposal affecting horseshoe crab management—Spawning closures and trip limit adjustments* (p. 2). Massachusetts Division of Marine Fisheries.

[22] McKiernan, D. (2023, December 14). *Memorandum to the Massachusetts Marine Fisheries Advisory Commission: Proposal affecting horseshoe crab management—Spawning closures and trip limit adjustments* (p. 2). Massachusetts Division of Marine Fisheries

years, the DMF graph for Duxbury Beach indicates an average density of fewer than 0.3 female horseshoe crabs per 25 square meters (Appendix 2).

Since surveys began in 2019 at Plymouth Long Beach, the DMF graph shows even lower numbers than those recorded in Duxbury—just 0.05 female horseshoe crabs per 25 square meters (Appendix 1). This translates to fewer than one female crab per 400 square meters of beach during the spawning season.[23]

Notably, Kingston Bay—once home to a thriving horseshoe crab population—is excluded from current spawning surveys.

Despite historically low survey counts, the proportion of Massachusetts' bait harvest drawn from Cape Cod Bay nearly doubled, rising from 7% in 2022 to 13.9% in 2023.

To prevent the further collapse of a region once teeming with horseshoe crabs and shorebirds, the Division of Marine Fisheries needs to end overharvesting in the Plymouth-Kingston-Duxbury bays. Horseshoe crab populations must be allowed to recover to levels that once again support their vital ecological role as a food source for shorebirds and other coastal wildlife.

As marine biologist C. M. Duarte observed, "A species' contribution to the ecosystem and useful resources are correlated to the abundance of the population. Since a species is related to an ecosystem, the conservation of biodiversity should not be directed to a specific species but to the overall ecosystem and all species involved."[24]

While horseshoe crabs are still found in the western Cape Cod Bays, there is great concern that their numbers are now so critically low that, without an immediate halt to harvesting, the populations will fall, if they have not already, below a threshold for recovery. At the minimum, harvesting in this area should be suspended until the Commonwealth can conduct a comprehensive population assessment to determine their current status and viability.

Local Populations at Risk

The DMF has consistently reported a steady increase in horseshoe crab populations statewide. However, this conclusion is skewed by the inclusion of data from areas, such as Pleasant Bay, where bait closures have been in place since 2007. Using data from protected bays to inform management decisions for the entire coastal system is misleading and potentially harmful to horseshoe crab recovery efforts.

Until recently, the DMF's management approach assumed that horseshoe crabs travel extensively along the coast. The *DMF News 2003* gives us an insight into their thinking:

> Tagging studies have shown horseshoe crabs probably do not return to the same spawning beaches over successive years. However, there appears to be short term fidelity to a spawning site with crabs returning to the same beach until spawning is complete. While the crabs do not

[23] MA Division of Marine Fisheries Spring 2024 Horseshoe Crab Meeting Presentation.

[24] Duarte, C. M. (2000). Marine biodiversity and ecosystem services: An elusive link. *Journal of Experimental Marine Biology and Ecology, 250*(1–2), 117–131. https://doi.org/10.1016/S0022-0981(00)00194-5.

return to the same beach each year, some researchers believe they return to the same estuary to spawn.[25]

New research is telling a different story

Emerging studies indicate that horseshoe crabs remain within the sane embayment where they hatched. This has critical implications for management: if horseshoe crabs are extirpated from bays like Duxbury, Kingston, and Plymouth, they are unlikely to be naturally replenished by migrants from other areas.

The following studies support this understanding, and underscore the need for localized conservation strategies:

- **The IUCN Green List** Assessment for the Northern Gulf of Main, which includes Cape Cod Bay north of Cape Cod reads, "as the northernmost population [is] small in size it is subject to changes in habitat and stochastic shocks. Animals in this region tend to be found in bays and estuaries and do not move between these areas. Therefore, if something happens to jeopardize the population in one of these areas, they are not likely to be replaced by neighboring recruits."[26]
- **Norby (2017)** – *Biodiversity Spotlight*: "Studies indicate that horseshoe crab larvae and juveniles remain in their natal estuaries for several years." [27]
- **Moore and Perrin (2007)** – "The apparent isolation of these resident [horseshoe crab] populations implies a heightened vulnerability to overexploitation and large-scale habitat alteration that might be more easily sustained by larger, more vagile populations. This work underscores the need to apply horseshoe crab conservation, research, and management efforts at scales that are appropriate to the ranging patterns of crabs." [28]
- **Smith et al. (2016)** – "Tagging data indicate that ... most crabs across the New England States remain within local regions and overwinter in local embayments" (citing Botton and Ropes 1987; James-Pirri et al. 2005; Swan 2005; Smith et al. 2006; Moore and Perrin 2007; Beekey and Mattei 2009; Schaller et al. 2010; Beekey and Mattei 2015). [29]
- **Smith et al. (2016)** – "Landi et al. (2015) found that spawning beach locations within Long Island Sound tended to be those closer to offshore locations where adults were caught in trawl surveys. These data are further supported by stable isotope analyses, which indicate that adult crabs are loyal to local feeding grounds" (citing Carmichael et al. 2004; O'Connell et al. 2003). This indicates that horseshoe crabs in Long Island Sound exhibit site fidelity, selecting spawning beaches near their offshore feeding areas. Stable isotope analyses further support this behavior,

---

[25] DMF News Second Quarter March through May 2003. Vol. 23. p7.

[26] IUCN Green List. https://www.iucnredlist.org/species/11987/80159830#green-assessment-information.

[27] Norby, P. (2017, June). *American Horseshoe Crab (Limulus polyphemus)*. Biodiversity Spotlight, Integrated Digitized Biocollections (iDigBio). Retrieved from https://www.idigbio.org/content/june-2017-biodiversity-spotlight

[28] Moore, S., & Perrin, S. (2007). Seasonal movement and resource-use patterns of resident horseshoe crab (*Limulus polyphemus*) populations in a Maine, USA estuary. *Estuaries and Coasts*, 30(6), 1016–1026.

[29] Smith, D. R., Millard, M. J., & Carmichael, R. H. (2016). Conservation status of the American horseshoe crab (*Limulus polyphemus*): A regional assessment. *Reviews in Fish Biology and Fisheries*, 26(4), 593–610.

suggesting limited long-distance migration and emphasizing the importance of localized conservation efforts.[30]

James-Pirri (2010) – "An important tool for the sustainable fishery management of horseshoe crab stocks is knowing whether or not population(s) are localized within specific embayments. Populations that are philopatric to specific embayments may not benefit from the influx of new members from other populations and could be more likely to experience localized extirpation in the face of increasing fishery pressure, thus requiring specialized management.
This is especially important to the New England horseshoe crab stock(s), as trawl data suggest a limited or non-existent migration to the continental shelf (Botton and Ropes, 1987) and tagging data show that horseshoe crabs in New England either remain or return to the embayment where they spawn (James-Pirri et al., 2005; Moore and Perrin, 2007; this study). The telemetry data from this study provide further evidence that horseshoe crabs in Pleasant Bay may be a localized population, and that spawning individuals remain in the bay after spawning and a portion may overwinter in the bay." [31]

- **Atlantic States Marine Fisheries Commission (2019)** - "There is evidence that there are embayment-specific populations in Maine, New Hampshire, and Florida, as well as in other states (see section 2.1), and yet there are no sufficient surveys to track abundance for these populations. These issues can persist even when there is sufficient data available for tracking abundance. For example, **populations of horseshoe crab north and south of Cape Cod in Massachusetts exhibit different patterns**, as does the abundance index in Rhode Island, and yet these indices were combined in this stock assessment to represent the Northeast region. The Gulf of Maine could be considered its own region in future assessments if there are any additional suitable indices from that area and the Massachusetts North Cape index may be better categorized to that region." [32]
- **James-Pirri (2005)** - **We have observed that horseshoe crabs differ among embayments within a regional area, suggesting the potential need for management plans specific to embayments or subregions depending on the characteristics of a population.** [33]

Protecting Regional Spawning Areas

Increasing the population of horseshoe crabs will require safeguarding key regional spawning sites. The three proposed closure areas—Duxbury Bay, Kingston Bay, and Plymouth Bay—form a distinct, well-

---

[30] Smith, D. R., Millard, M. J., & Carmichael, R. H. (2016). Conservation status of the American horseshoe crab (*Limulus polyphemus*): A regional assessment. *Reviews in Fish Biology and Fisheries*, 26(4), 593–610.

[31] James-Pirri, M.-J. (2010). Seasonal movement of the American horseshoe crab (*Limulus polyphemus*) in a semi-enclosed bay on Cape Cod, Massachusetts (USA) as determined by acoustic telemetry. *Current Zoology*, 56(5), 575–586. Retrieved from https://pdfs.semanticscholar.org/1a32/661caeaa8719088c842b7d4ea79e7c85b26b.pdf

[32] Atlantic States Marine Fisheries Commission. (2019). *Horseshoe Crab Benchmark Stock Assessment and Peer Review Report*. Arlington, VA: ASMFC. p. 84.

[33] James-Pirri, M. J., et al. (2005). *Spawning Densities, Egg Densities, Size Structure, and Movement Patterns of Spawning Horseshoe Crabs, Limulus polyphemus, within Four Coastal Embayments on Cape Cod, Massachusetts.* Lawrence, KS: Estuarine Research Federation. Estuaries, Vol. 28(2), pp. 296–313.
Retrieved from
https://tripod.brynmawr.edu/discovery/fulldisplay?docid=cdi_jstor_primary_3526912&context=PC&vid=01TRI_INST:BMC&lang

delineated region, separated from Cape Cod Bay by the barrier beaches of Duxbury and Plymouth. Kingston Bay, situated within these protected waters, lies within Plymouth Bay (Appendix 9).

By closing all bays within the natural arms of these barrier beaches, the Division of Marine Fisheries (DMF) can mitigate the adverse ecological effects of habitat fragmentation and establish a connected network that provides a safe refuge for the resident horseshoe crab population.

The DMF has the authority to implement these closures under **Code of Massachusetts Regulations (CMR 322: 6.34: (b))**, which allows for the **"Declaration of Temporary Horseshoe Crab Harvest Closures."**

Designating Duxbury Bay, Kingston Bay, and Plymouth Bay as horseshoe crab refuges presents a critical opportunity to enhance the resiliency of Massachusetts' horseshoe crab populations and support their recovery in western Cape Cod Bay. This action will:

- **Advance Governor Healey's groundbreaking Executive Order No. 618: Biodiversity Conservation in Massachusetts.**
- **Enable the Division of Marine Fisheries (DMF) to support the Division of Fish and Game** in fulfilling Section 1 of the Executive Order, which mandates:

  The Commissioner of Fish and Game shall conduct a comprehensive review of the existing efforts of all executive department offices and agencies to support biodiversity conservation in Massachusetts.

- **Align Massachusetts with the goals of the Interstate Fisheries Management Plan**, as established by the Atlantic States Marine Fisheries Commission's Horseshoe Crab Plan Development Team, including:

  (a) Preventing overfishing and ensuring a sustainable population.

  (b) achieve compatible and equitable management measures among jurisdictions throughout the fishery management unit

  (c) establish the appropriate target mortality rates that prevent overfishing and maintain adequate spawning stocks to supply the needs of migratory shorebirds

  (e) identify and protect, to the extent practicable, critical habitats and environmental factors that limit long-term productivity of horseshoe crabs

  (f) adopt and promote standards of environmental quality necessary for the long-term maintenance and productivity of horseshoe crabs throughout their range

  - Foster recovery of horseshoe crabs in western Cape Cod Bay.
  - Provide incentives to restore coastal habitat.
  - Maintain coastal ecosystem and web of life to which horseshoe crabs are essential.
  - Provide an abundance of horseshoe crab eggs for endangered shorebirds and dependent animals.

By following the recommendations of the ASMFC, Massachusetts can lead in marine conservation while safeguarding an ecologically vital species.

Monitoring and Management of the Proposed Horseshoe Crab Refuge

Existing Protections and Enforcement

The non-profit *Duxbury Beach Reservation, Inc.* manages Duxbury Beach, protecting its tidal flats, salt marshes, and adjacent waters, including Duxbury Bay, Kingston Bay, and the northern part of Plymouth Bay.

Additionally, volunteers at *Duxbury Beach* and *Plymouth Long Beach* participate in the *DMF Spawning Horseshoe Crab Surveys*. These teams, already working in collaboration with the DMF, collect data throughout much of the spawning season. Over time, this information will help determine whether the closures lead to an increase in spawning horseshoe crabs and assess potential effects on the male-to-female sex ratio.

Both Duxbury and Plymouth have well-established piping plover management programs that actively reduce human disturbance on these beaches. These towns also employ monitoring and enforcement teams with a visible presence from March through August. Given this existing oversight, illegal horseshoe crab harvesting in the area is unlikely. Since 2010, measures to protect piping plovers in Duxbury and Plymouth may have contributed to the significant increase in *red knot* sightings at Plymouth Long Beach in 2023.

This theory aligns with guidance from the U.S. Fish & Wildlife Service:

> Because their migration timeline is so tight and their stopovers so critical, knots need safe, dependable habitat to fuel up for each leg of their trip. On the U.S. East Coast, that means minimizing disturbance and development at the sites knots are known to visit.
>
> Luckily, shoreline conservation efforts that protect other seashore species like the piping plover also benefit the rufa red knot. Just as you would do in areas where piping plovers are nesting, make sure to follow posted rules at beaches, clean up your trash, and keep pets leashed or indoors to prevent them from frightening or harming wildlife.[34]

The increase in *red knot* sightings suggests that allowing more horseshoe crabs to complete their spawning cycles benefits the entire ecosystem. By protecting horseshoe crabs, we also support migratory shorebirds and other wildlife that depend on their eggs and hatchlings for survival.

Massachusetts Beaches and Red Knots

In the *DMF Quarterly Newsletter* (2000) the Massachusetts Division of Marine Fisheries (DMF) claimed that migratory shorebirds in the Commonwealth do not rely on horseshoe crab eggs as a food source:

> There is no documented dependence by any bird species on Massachusetts horseshoe crab eggs. The migratory shorebirds of concern, such as the red knot, do not use the New England coast as a staging area on their northward migration. Some shorebird species visit our shores on

[34] U.S. Fish and Wildlife Service. (n.d.). *A knot so easy journey*. U.S. Department of the Interior. https://www.fws.gov/story/knot-easy-journey

> their return south during late July and August, but there is no documented consumption of horseshoe crab eggs or larvae. [35]

However, strong evidence contradicts this assertion. According to the Massachusetts Natural Heritage and Endangered Species Program (NHESP), red knots—now federally listed as a threatened species—once flocked to Massachusetts during both spring and fall migrations:

> Historically, there were records of thousands of Red Knots along the Massachusetts shoreline during both spring and fall. Although few knots are currently found in Massachusetts during spring migration (May-June). [36]

This documented historical presence raises critical questions about habitat changes and food availability—particularly the potential role of horseshoe crab eggs in supporting migrating shorebirds. It also underscores the need to reassess outdated assumptions in the face of ongoing ecological decline.

According to the DMF, horseshoe crabs begin spawning in May, which happens to coincide with the northward migration of red knots. Their eggs remain in the sand for approximately three weeks before hatching, making them abundant and available from May through June—precisely within the red knot's migration window.

While the DMF has not documented a reliance of red knots (or other shorebirds) on horseshoe crab eggs in Massachusetts, the absence of documentation does not equate to proof that no such dependence exists. Given that red knots feed on horseshoe crab eggs elsewhere along their migration route, it is reasonable to assume they do so in Massachusetts when eggs are available.

Scientists at Manomet are actively studying red knot feeding behavior to determine whether migrating shorebirds in Massachusetts depend on horseshoe crab eggs as a food source. In a letter to the Natural Heritage and Endangered Species Program (NHESP), Brad Winn, Vice President of Resilient Habitats at Manomet, stated:

> Shorebird staff are in the preliminary stages of a broader study involving food resources for shorebirds in eastern Massachusetts, with the shorebird use of horseshoe crab eggs, fiddler crabs for Whimbrel, and ongoing eDNA analysis of Red Knot foods as our current focal research. We intend to elevate and broaden our understanding of horseshoe crabs and their eggs as food resources for shorebirds in Massachusetts. [37]

This research will help clarify the ecological role of horseshoe crab eggs in sustaining migratory shorebirds and inform future conservation effort.

Winn included in his letter a photograph, taken at Monomoy NWR on July 20, 2018, that captured red knots in a crowd of other shorebirds "exhibiting feeding behavior consistent with a horseshoe crab

---

[35] Massachusetts Division of Marine Fisheries. (2000). *DMF News: First quarter 2000* (p. 6). https://www.mass.gov/doc/1st-quarter-2/download

[36] Massachusetts Division of Fisheries and Wildlife, Natural Heritage & Endangered Species Program. (n.d.). *Red Knot (Calidris canutus)*. https://www.mass.gov/doc/red-knot/download#:~:text=Historically%2C%20there%20were%20records%20of,migration%20(July%2DSeptember)

[37] Winn, B. (2023, July 11). *Letter to Massachusetts Natural Heritage and Endangered Species Program staff*. https://pinebarrensalliance.org/wp-content/uploads/2023/09/Manomet_-MA-Heritage-HSC-listing-proposal-letter.pdf

spawning location on an intertidal bar." A second photograph taken at Monomoy NWR in August of 2018, clearly depicts shorebirds with horseshoe crab eggs in their beaks. [38]

The DMF information on migratory shorebirds of concern, such as the red knot, do not use the New England coast as a staging area on their northward migration runs contrary to eBird observations. eBird lists sightings of red knots during the spawning window when horseshoe crab eggs would or should have been available for consumption. The charts of eBird red knot sightings collected for Plymouth and Duxbury show that red knots continue to visit beaches in western Cape Cod Bay during their spring migrations, even though their numbers are low and the numbers of horseshoe crabs spawning on those beaches is also at historic lows.

Western Cape Cod Bay and the Red Knot-Horseshoe Crab Connection

Below are quotes and excerpts from respected resources that support the need for a horseshoe crab refuge in western Cape Cod Bay.

1) The Massachusetts Division of Fisheries & Wildlife Natural Heritage and Endangered Species Program Red Knot *Calidris canutus* fact sheet states:

> Historically, thousands of red knots were recorded along the Massachusetts shoreline during spring and fall. While their numbers have decreased during spring migration (May-June), **large numbers of knots continue to stop-over during fall migration (July-September)**.
>
> Both outer Cape Cod and **West Cape Cod Bay** beaches serve as major historical migratory stop-over locations for red knots in Massachusetts. Reported numbers of red knots using outer Cape Cod during fall migration has remained steady over the last 50 years, while numbers of knots using the mainland has declined dramatically over this same time period.[39]

2) Veit and Petersen:

> **Western Cape Cod Bay – Duxbury Beach and Plymouth Beach** – constituted a known staging area for red knots going south, long before ornithologists learned about Delaware Bay.[40]

3) Harrington, Hill, and Nikula:

---

[38] Winn, B. (2023, July 11). *Letter to Massachusetts Natural Heritage and Endangered Species Program staff*. https://pinebarrensalliance.org/wp-content/uploads/2023/09/Manomet_-MA-Heritage-HSC-listing-proposal-letter.pdf

[39] The Massachusetts Division of Fisheries & Wildlife Natural Heritage and Endangered Species Program Red Knot *Calidris canutus.* https://www.mass.gov/doc/red-knot/download#:~:text=Major%20historical%20migratory%20stop%2Dover,along%20West%20Cape%20Cod%20Bay

[40] Veit, R., and W.R. Petersen. 1993. Birds of Massachusetts. Massachusetts Audubon Society, Lincoln, Massachusetts.

Another interesting result of our study has been learning that the historically high numbers of knots reported by Mackay and Forbush (see [below]) were largely from the spring migration period.

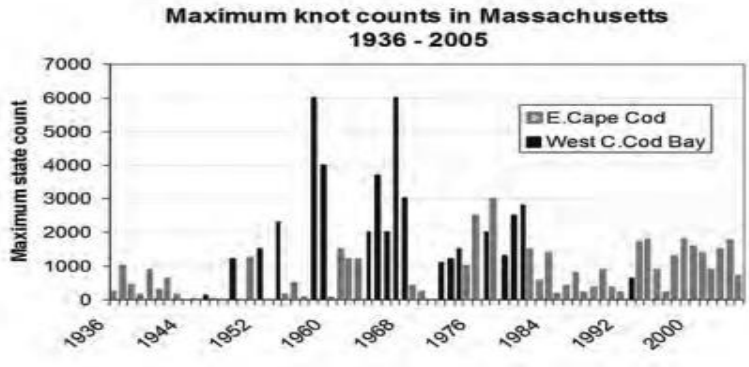


Figure 1. Maximum knot counts in Massachusetts, 1936-2006

More than 90% of the knots represented in the records we reviewed were from two regions of Massachusetts, so we have focused our attention to those regions, including shores of **western Cape Cod Bay in the Plymouth/Scituate region** and the eastern-most sections of outer Cape Cod in the Chatham/Orleans region. The pattern that develops from our work is one of increasing numbers of knots on the Massachusetts coast between about 1940 and peaks during the late 1960s and early 1970s.

At peak, a minimum of 6000 knots were visiting Massachusetts during southward migrations (Figure 1). The majority, however, were now using the **Plymouth/Scituate region of the Massachusetts coast.** This region was not mentioned in the historical accounts from the 1800s and early 1900s. Today we find relatively few knots reported from the Cape Cod shores of Cape Cod Bay; this is where the highest numbers in the 1800s had been seen. On the other hand, starting in 1946 knots began to appear in **higher numbers on the Western shores of Cape Cod Bay, specifically the estuaries and bays in the Scituate and Plymouth region** (Figure 1).[41]

4) Harrington, Hill, and Nikula:

   Although 90% of the recorded red knot sightings in Massachusetts come from the outer Cape Cod, historically by far the large majority of these birds came from **western Cape Cod Bay.** Between 1960 and 2004, maximum fall numbers at outer Cape Cod locations fluctuated approximately between one and two thousand birds, while maximum numbers at western Cape Cod Bay were considerably higher, ranging from 3000 to 6000 to 7500. When the numbers began dropping there, numbers at outer Cape beaches did not rise commensurately.[42]

5) **e-Bird data show that Duxbury Beach has been visited by Red Knot in 9 of the last 10 years; Plymouth Long Beach has had Red Knot visits in 10 of the last 10 years (Appendix 11).**

6) Mark Faherty, Mass Audubon:

   Why are there so many horseshoe crabs and shorebirds at Monomoy? It's because there, the crabs are protected from all forms of harvest, and the spawning and nursery habitat is

[41] Harrington, B. A., Hill, N. P., & Nikula, B. (2010). Changing use of migration staging areas by red knots: An historical perspective from Massachusetts. *Waterbirds, 33*(2), 188–192.

[42] Harrington, B. A., Hill, N. P., & Nikula, B. (2010). Changing use of migration staging areas by red knots: An historical perspective from Massachusetts. *Waterbirds, 33*(2), 188–192.

protected. It's an example of what we could have other places if we better managed horseshoe crabs to recover the population.[43]

7) The Center for Biological Diversity:

The Center for Biological Diversity and its partners also request that critical habitat be designated for the American horseshoe crab concurrently with the subspecies being listed, pursuant to 16 U.S.C. § 1533(a)(3)(A) and 50 C.F.R. § 424.12. Critical habitat is essential to protecting the American horseshoe crab from further harm, population decline, and possible extinction. American horseshoe crab critical habitat consists of coastal areas, bays, beaches, estuaries, continental shelf waters, and open marine habitat which are essential to the species' long-term genetic health and survival.[44]

Decades of shorebird data reveal that horseshoe crabs once played a vital role in sustaining migratory species along these beaches—including the federally threatened red knot. These historical indices of abundance serve not only as a record of past richness, but as a roadmap for ecological recovery.

We urge that by restoring horseshoe crab populations to their former levels and minimizing human disturbance during critical spawning periods, these beaches can once again become essential stopover sites. Migrating shorebirds will return to feed on the nutrient-rich eggs that best meet the extreme energy demands of their long, nonstop journeys.

To support this recovery, we respectfully call on the Division of Marine Fisheries to establish a horseshoe crab refuge within the interconnected Duxbury, Kingston, and Plymouth bays—an area with historic significance for both horseshoe crabs and the shorebirds that depend on them.

Respectfully submitted,

Sharl Heller

Sharl Heller

Southeastern Massachusetts Pine Barrens Alliance, Inc.

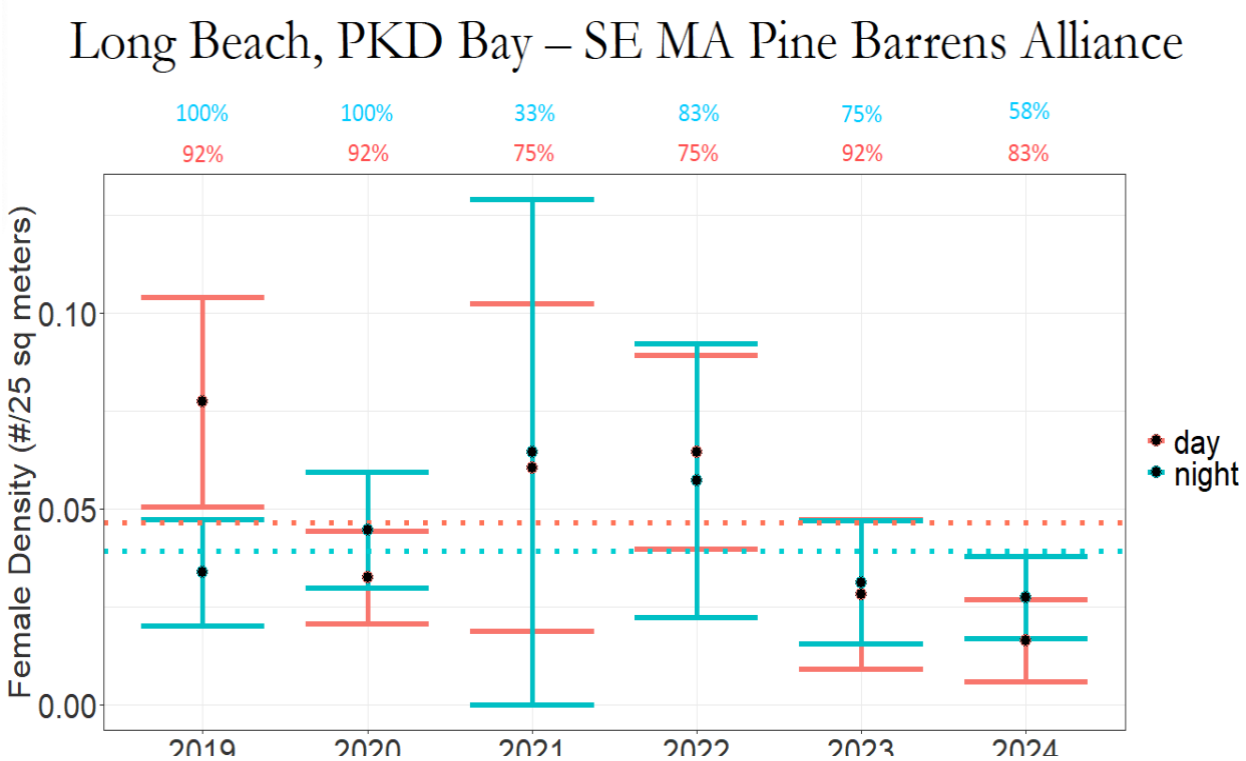
[43] Faherty, M. (2023, May 31). *The connection between horseshoe crabs and red knots*. Cape and the Islands Radio. https://www.capeandislands.org/local-news/2023-05-31/the-connection-between-horseshoe-crabs-and-red-knots.

[44] Center for Biological Diversity. (2024, February 12). *Petition to list the American horseshoe crab (Limulus polyphemus) under the U.S. Endangered Species Act as an endangered or threatened species and to concurrently designate critical habitat* (p. 3).

Appendices

Appendix 1:

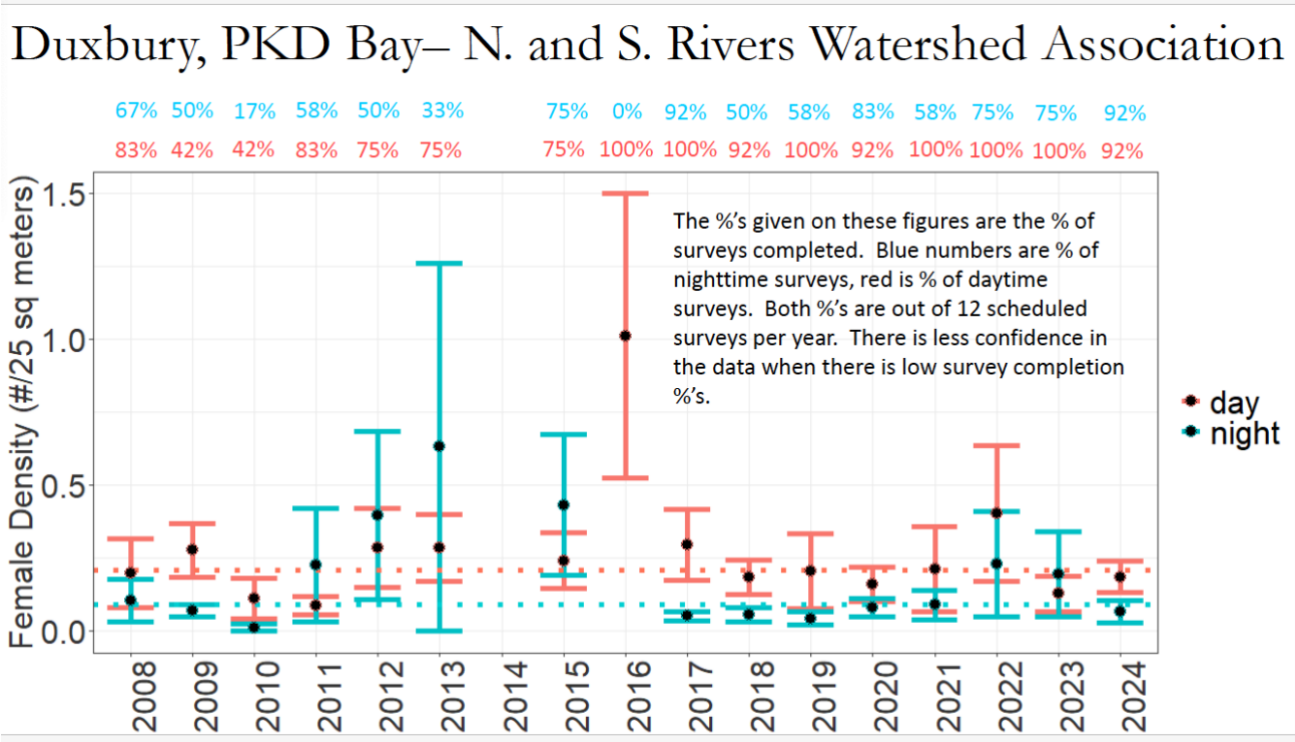
Long Beach spawning survey data 2019-2024



Derek Perry, Senior Biologist, Massachusetts Division of Marine Fisheries. Presentation: *Massachusetts Horseshoe Crab Survey Trends and Commercial Fishery Monitoring*. March 14, 2025.

Appendix 2

Duxbury Beach spawning survey data 2008-2024



Derek Perry, Senior Biologist, Massachusetts Division of Marine Fisheries. Presentation: *Massachusetts Horseshoe Crab Survey Trends and Commercial Fishery Monitoring*. March 14, 2025.

Appendix 3

Duxbury Beach 15-Year Spawning Survey Trends 2024

Region	5- Year Mean % of Bait Landings	Beach	Time of Day	Mann-Kendall 15-year trend	Linear 15-year trend
Cape Cod Bay	9%	Duxbury	Day	negative	negative
		Duxbury	Night	negative	negative
		Long Beach	Day	NA	NA
		Long Beach	Night	NA	NA
		Millway	Day	positive	positive
		Millway	Night	positive	positive
		Long Pasture	Day	positive	positive
		Sanctuary Beach	Day	positive	positive
		Indian Neck	Day	positive	positive
		Indian Neck	Night	positive	positive
		Great Island	Day	NA	NA
Outer Cape Cod	0%* Also Has Biomed	Priscillas Landing	Day	NA	NA
		Marsh 2-3	Day	positive	positive
		Erica's Beach	Day	positive	positive
Nantucket Sound	85% *Also has Biomed	Stage Harbor	Day	NA	NA
		Stage Harbor	Night	NA	NA
		Bass River	Day	NA	NA
		Bass River	Night	NA	NA
		Monomoy	Day	positive	positive
		Monomoy	Night	positive	positive
		Warrens Landing	Day	NA	NA
		Warrens Landing	Night	NA	NA
		Tashmoo	Day	positive	positive
		Tashmoo	Night	positive	positive
Buzzards Bay	2%	Swifts Beach	Day	negative	negative
		Swifts Beach	Night	negative	negative

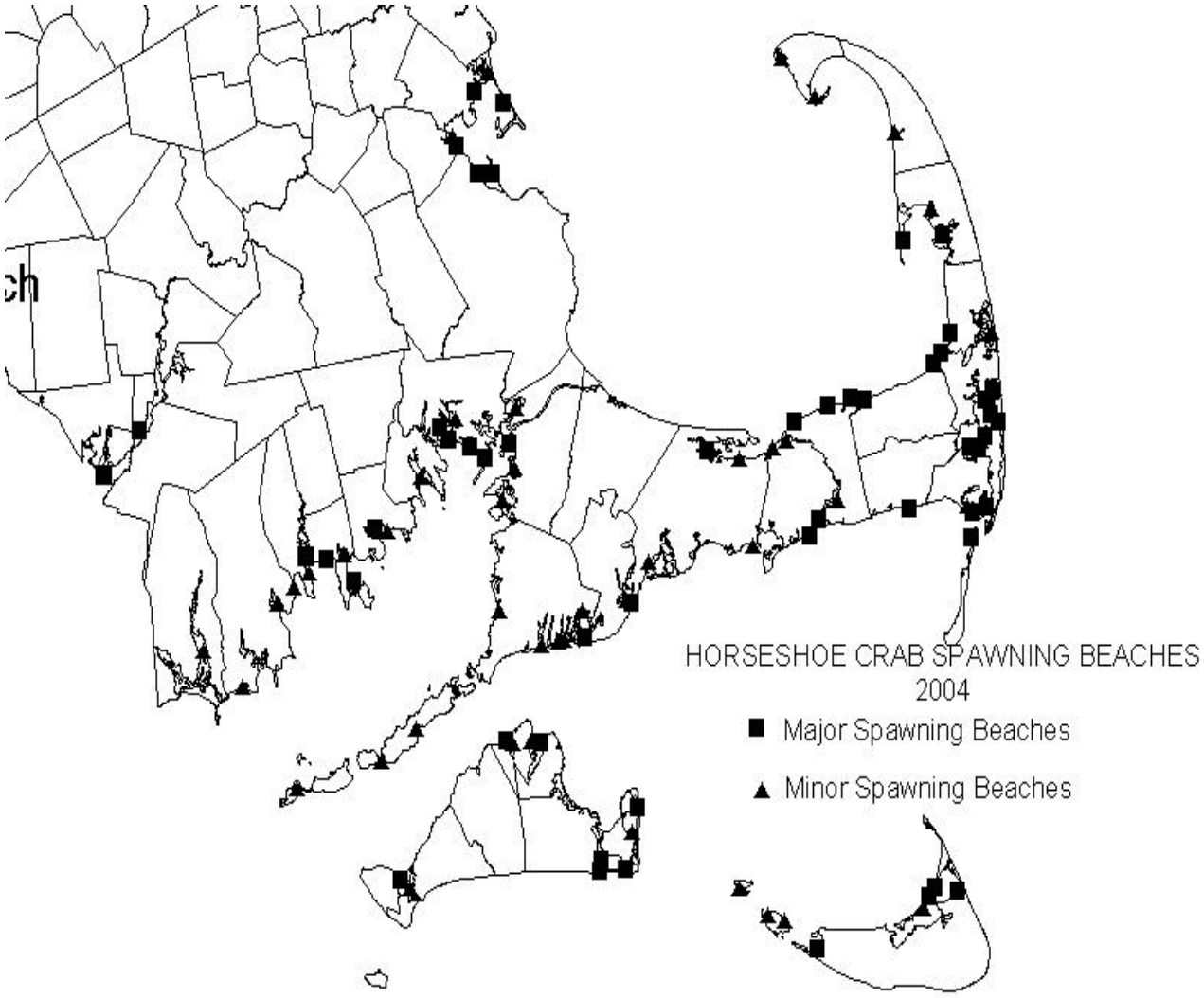
15- Year Spawning Survey Trends

- 75% w/increasing trends
- 25% w/decreasing trends
- 4 w/increasing trends and statistically significant
- Swifts Beach day & night surveys declining & statistically significant
- Greater uncertainty in early years of survey due to low number of surveys completed
  - Exception-Swifts Beach had high completion %

Derek Perry, Senior Biologist, Massachusetts Division of Marine Fisheries. Presentation: *Massachusetts Horseshoe Crab Survey Trends and Commercial Fishery Monitoring*. March 14, 2025.

Appendix 4
Horseshoe Crab Spawning Beaches 2004

Massachusetts 2009 Compliance Report to the Atlantic States Marine Fisheries Commission – Horseshoe Crab. Submitted by: Robert Glenn, Massachusetts Division of Marine Fisheries. P. 22.



Appendix 5

Horseshoe Crab Spawning Beaches 2007

Massachusetts 2009 Compliance Report to the Atlantic States Marine Fisheries Commission – Horseshoe Crab. Submitted by: Robert Glenn, Massachusetts Division of Marine Fisheries. P. 26

Cape Cod Bay			
Barnstable	Barnstable Harbor	Scudder Lane	High
	Barnstable Harbor	Sand Island	High
	Barnstable Harbor	The Cove	Reported
	Barnstable Harbor	Calves Pasture Point	High
	Barnstable Harbor	Bone Hill	Reported
	Barnstable Harbor	Eastern end	High
	Barnstable Harbor	Salten Point	High
Brewster	Cape Cod Bay	Brewster Flats	High
	Cape Cod Bay	Ellis Landing	High
	Cape Cod Bay	Namskaket Creek	High
	Cape Cod Bay	Paine's Creek	Moderate
Dennis	Cape Cod Bay	Chapin Beach	High
	Cape Cod Bay	Corporation Beach	High
	Cape Cod Bay	Cold Storage Beach	Moderate
	Cape Cod Bay	Quivett Creek	Moderate
	Cape Cod Bay	Chase Garden Creek	Reported
Duxbury	Duxbury Bay	Back River	High
	Duxbury Bay	Duxbury Beach	High
	Duxbury Bay	Ship Yard Lane	High
	Duxbury Bay	Bradford Street	High
Eastham	Cape Cod Bay	First Encounter	High
	Cape Cod Bay	Sunken Meadow	High
	Cape Cod Bay	Boat Meadow Sand Spit	Reported
Kingston	Kingston Bay	Gray's Beach	Reported
	Kingston Bay	Rocky Nook Association Beach	Reported
Orleans	Cape Cod Bay	Rock Harbor Beach	Moderate
	Cape Cod Bay	Skaket Beach	Reported
Plymouth	Plymouth Harbor	Plymouth Beach	High
	Duxbury Bay	Saquish Cove	Reported
	Plymouth Harbor	Steven's Field	High
Provincetown	Hatches Harbor	Entrance Beach	Reported
	Inner Harbor	Wood's End	Moderate
Truro	Pamet Harbor	Harbor Bar	Reported
	Pamet Harbor	Landing Beach	Reported
	Cape Cod Bay	Corn Hill Beach	Reported
Wellfleet	Wellfleet Harbor	Chipman Cove	High
	Wellfleet Harbor	Great Island	Moderate
	Wellfleet Harbor	Mayo Beach	Reported
	Wellfleet Harbor	WBWS	High
	Wellfleet Harbor	Indian Neck	Moderate
Yarmouth	Cape Cod Bay	Bass Creek	Moderate
	Chase Garden Creek	Gray's Beach	Moderate

Appendix 6

Horseshoe Crab Nursery Areas 2007

Massachusetts 2009 Compliance Report to the Atlantic States Marine Fisheries Commission – Horseshoe Crab. Submitted by: Robert Glenn, Massachusetts Division of Marine Fisheries. p 28.

HORSESHOE CRAB NURSERY AREAS 2007

CAPE COD BAY		
Barnstable	Barnstable Harbor	High
Brewster	Brewster Flats	High
Dennis	Dennis Flats	High
Duxbury	Duxbury Bay	High
	Back River Marsh	High
Eastham	Eastham Flats	High
Kingston	Kingston Bay	Moderate
Orleans	Orleans Flats	High
Plymouth	Plymouth Harbor	High
Provincetown	Hatches Harbor	Reported
Truro	Pamet Harbor	Reported
Wellfleet	Wellfleet Harbor	High
Yarmouth	Yarmouth Flats	High
	Chase Garden Creek	Reported

Appendix 7

Massachusetts Division of Marine Fisheries

Town Shellfish Propagation Form

Town of Kingston, MA, 1968

Page 1

MASSACHUSETTS DIVISION OF MARINE FISHERIES
TOWN SHELLFISH PROPAGATION FORM Page 1 of 2

(This form must be submitted by April 15, 1968, if you wish to be considered for State shellfish assistance monies).

Kingston — April 16, 1968
TOWN (OR CITY) NAME — DATE

Does your TOWN (or CITY) have a shellfish propagation program?

Answer: YES x NO

If the answer to the above question is Yes, and you wish to apply for State shellfish assistance monies for the 1968--1969 fiscal year, please answer the following questions:

1. Please list the name or names of the shellfish constable(s), his address(es), and telephone number(s).

Name Antone J.Cazale — Name

Address 79 Main Street, Kingston — Address

Telephone No. 585-2241 — Telephone No.

2. What is the total balance of State assistance monies remaining on your TOWN (or CITY) books as of April 1, 1968?

Answer: $544.56

3. What is the total amount of your TOWN (or CITY) shellfish appropriation for the 1968 calendar year?

Answer: For propagation: $655.00

For salary and expenses: 1,371.00

Total: $2,026.00

4. List the location(s) of concentrations of shellfish predators (starfish, drills, etc.) in semi-enclosed areas where close watch might be maintained on efforts to control these predators:

Answer: Name of Area	Predator(s)	Concentration Heavy	Concentration Light
a. I.C.A Beach FLAT	DRILLS		✓
b. BRAY'S FLAT			✓
c. SHORE-LINE	JUNE-JULY HORSE-SHOE-CRABS		

5. List the following:

Answer:
a. Total productive shellfish acres — ALL OF OUR SHORE-LINE - CLAMS
b. Total acres considered moderately contaminated — 8 ACRES
c. Total acres considered grossly contaminated
d. Total potential shellfish acres, provided pollution could be controlled — ALL-OF-OUR-SHORE-LINE

Appendix 7, con't

Massachusetts Division of Marine Fisheries

Town Shellfish Propagation Form

Town of Kingston, MA, 1968

Page 2

TOWN SHELLFISH PROPAGATION FORM   Page 2 of 2

5. List the following:
   Answer:
   a. Total productive shellfish acres ____40____
   b. Total acres considered moderately contaminated ____3____
   c. Total acres considered grossly contaminated ____1____
   d. Total potential shellfish acres, provided pollution could be controlled ____5____

6. Number of permits issued by your TOWN (OR CITY) during 1968 calendar year:

Answer:	Number	Cost of Permit
a. Resident Family Permits	100	$1.00
b. Non-resident Permits	50	$2.00
c. Commercial Permits	2	$5.00

7. What is your program for the utilization of TOWN (OR CITY) shellfish appropriation monies and State shellfish assistance monies for the present fiscal year/ (Give project outline; estimate expenditure of TOWN (OR CITY) shellfish monies; estimate in detail the needed State shellfish assistance monies to carry out the projects; use reverse side of sheet, if necessary).

Project Outline	Total Cost	TOWN (OR CITY) Monies	State Monies

PLANTING QUAHOG SEED

KILLING HORSE-SHOE CRABS IN THE SUMMER MONTHS, LIKE WE HAVE BEEN DOING FOR SEVERAL YEARS, THIS HAS HELPED OUR SHORE-LINE FOR SAVING OUR CLAMS VERY MUCH, I HAVE JUST ENOUGH MONEY TO BUY SHELL-FISH AND DO THIS OTHER WORK, AND ANY LITTLE I CAN GET FROM YOU WILL BE VERY MUCH APPRECIATED.

Total TOWN (OR CITY) monies: ____$800.00____

Total State monies: ____$400.00____

GRAND TOTAL: ____$1200.00____

In order for the above-mentioned projects to be completed, this TOWN (OR City) requests State assistance monies to the amount of ____________

This form must be completed accurately and returned to the DIVISION OF MARINE FISHERIES, DEPARTMENT OF NATURAL RESOURCES, STATE OFFICE BUILDING, 100 CAMBRIDGE STREET, BOSTON, MASSACHUSETTS 02202, by April 15, 1969, if your TOWN (OR CITY) is to be considered for State shellfish assistances monies. The signature of the person filling out this form is required.

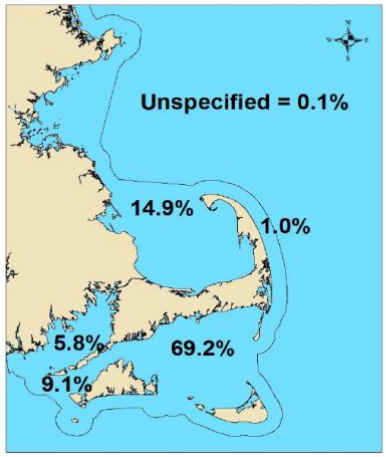
Signature of person preparing report form

Director
Division of Marine Fisheries

Appendix 8

Horseshoe Crab Bait Takes in Cape Cod Bay

2017 Commercial Bait Landings



	# of crabs
JAN	*
FEB	*
MAR	*
APR	4,893
MAY	48,402
JUN	31,027
JUL	11,581
AUG	6,774
SEP	4,693
OCT	6,602
NOV	5,224
DEC	*

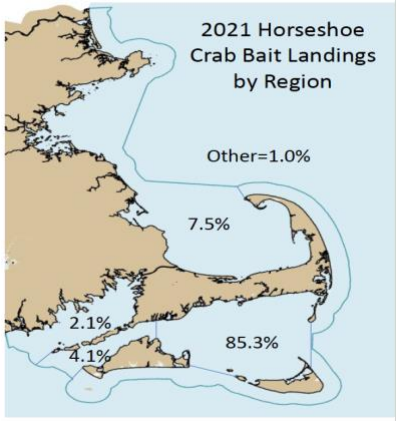
SOURCE: MATL Reports and NMFS VTRs

* confidential

Massachusetts Fisheries Dependent Data

2021 MA Monthly HSC Bait Landings

	# of Crabs	% Mobile
JAN	*	100%
FEB	*	100%
MAR	*	100%
APR	1,990	95%
MAY	42,338	2%
JUN	26,948	50%
JUL	18,552	100%
AUG	27,994	100%
SEP	13,684	100%
OCT	4,840	100%
NOV	2,886	100%
DEC	2,508	100%

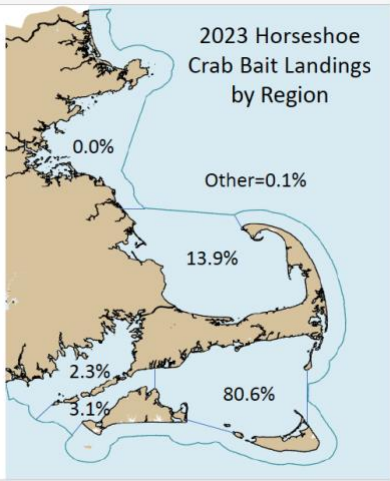


Seasonality and Location of MA Horseshoe Crab Bait Landings

2023 MA Monthly HSC Bait Landings

Month	Landings	% Hand
JAN-APR	14,454	0%-56%
MAY	68,740	97%
JUN	28,890	42%
JUL	19,385	C
AUG	3,125	0%
SEP	0	0%
OCT	0	0%
NOV	0	0%
DEC	0	0%

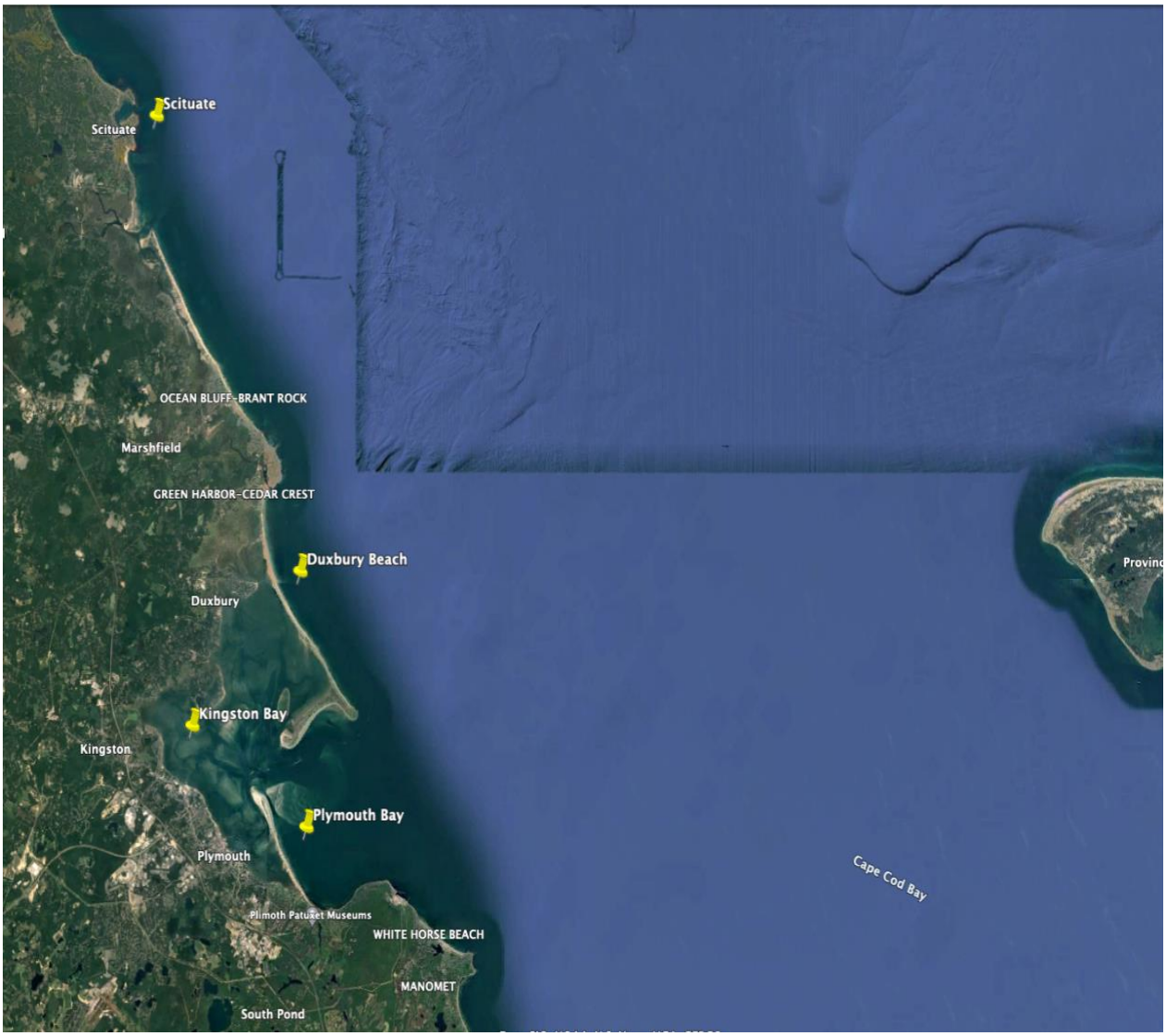
Data source: MATL Reports and NOAA VTRs
"C" indicates confidential data
JAN-APR combined because JAN-MAR are confidential



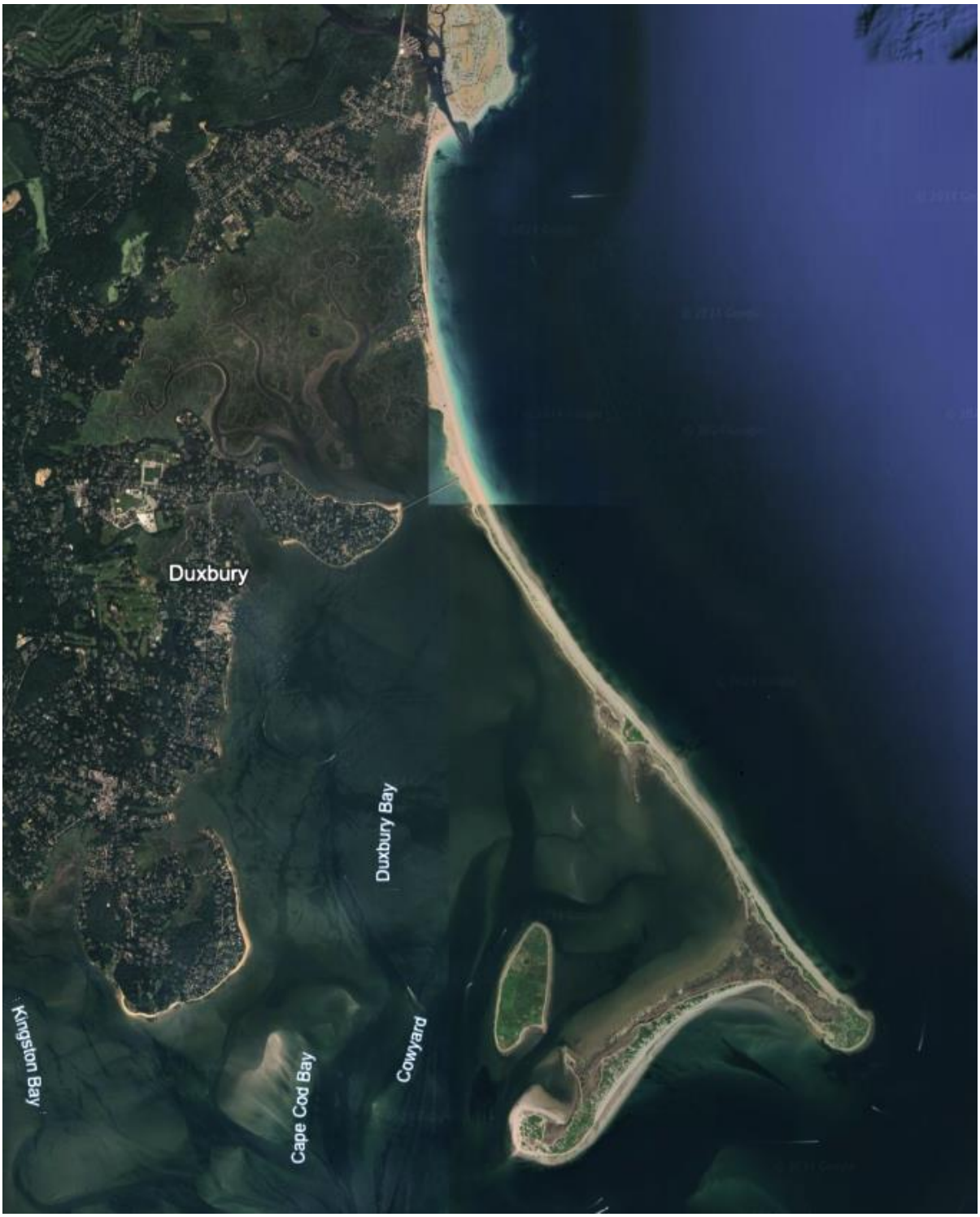
Appendix 9

Maps illustrating proposed horseshoe crab refuge: Duxbury Bay, Kingston Bay, Plymouth Bay.

Map 1. Overview



Map 2. Duxbury Bay



Map 3. Kingston Bay

Map 4. Plymouth Bay

Appendix 10

. Records of red knot sightings uploaded to e-bird at Plymouth Long Beach, Duxbury Beach, and Kingston Beach.

Note: Results recorded here list the highest count when multiple observers uploaded data on the same day.

Plymouth Long Beach—The presence of red knots

1972	2109 red knots	July 22 (209) August 5 (750) August 15 (950) Sept. 4(200)
1973	565 red knots	July 30 (200) Sept. 5 (190) Sept. 19 (175)
1977	1200 red knots	July 25 (900) August 9 (125) Oct. 22 (85) Nov. 2 (160)
1978	870 red knots	July 28 (355) August 8 (275) Sept. 21 (120) Oct. 3 (120)
1979	1000 red knots	July 27 (650) August 14 (530) August 27 (105)
1980	1531 red knots	July 18 (115) July 30 (450) August 21 (284) Sept. 9 (432) Sept.23 (250)
1982	505 red knots	July 28 (280)

		August 20 (425) Oct. 29 (200)	
1984	550 red knots	July 19 (400) August 27 (150)	
2010	2020	132 red knots	June 18 (1) July 24 (1) July 26 (2) July 27 (6) July 29 (5) Aug 8 (3) Aug 10 (5) Aug 14 (1) Aug 14 (3) Sept 13 (1) Sept 19 (15) Sept 20 (8) Sept 26 (50) Sept 27 (31)
2023	1,220 red knots	May 18 (3) June 12 (1) June 19 (5) July 25 (3) July 30 (2) Aug 8 (3) Aug 23 (14) Aug 24 (23) -- 54 Aug 26 (35) Aug 27 (6) Aug 30 (118) Aug 31 (72) Sept 2 (43) Sept 3 (20)	

		Sept* 4 (85) Sept 5 (92) Sept 6 (63) Sept 9 (6) -- 540 Sept 10 (107) Sept 14 (59) Sept 15 (54) Sept 17 (37) Sept 19 (30) Sept 22 (22) Sept 24 (45) Sept 25 (20) Sept 26 (6) -- 380 Sept 27 (50) Sept 28 (24) Sept 29 (15) Sept 30 (15) Oct 1 (60) Oct 2 (12) Oct 3 (11) Oct 6 (35) Oct 8 (20) Oct 24 (3) Oct 28 (1) -- 246

*The Town of Plymouth implemented the Plymouth Long Beach Management Plan to protect breeding coastal waterbirds and their habitat as well as wetland resources in 2016, which appears to have increased red knot sightings.

Duxbury Beach - The presence of red knots

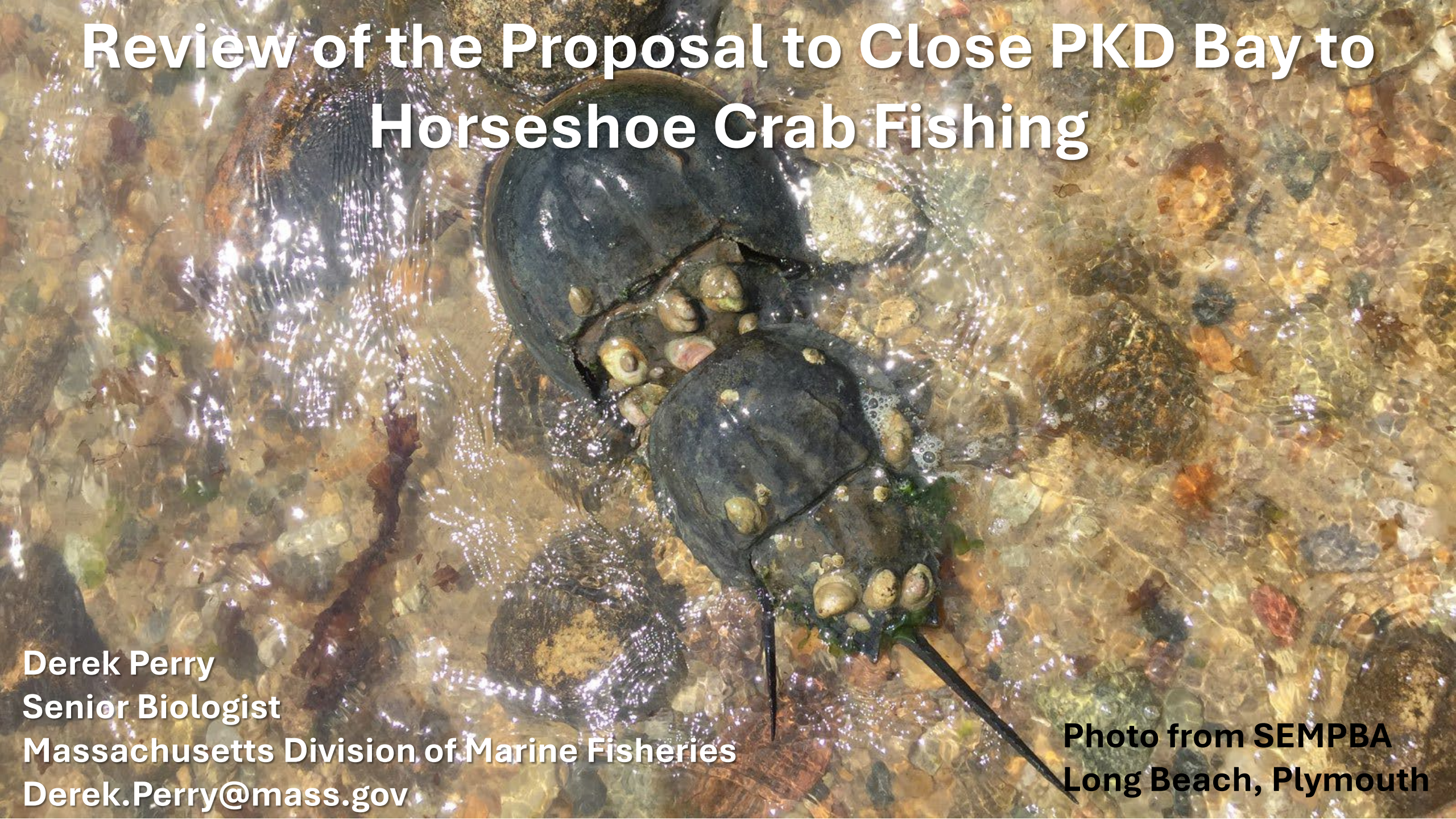
1994	1150 red knots	July 26 (396) August 10 (600) Sept. 7 (644)

1995	1395 red knots	July 27 (300) August 9 (435) Sept. 9 (660)
1998	2440 red knots	August 8 (2340) Sept. 6 (111)
2000	750 red knots	August 6 (625) August 28 (125)
2022	74 red knots	May 21 (2) May 30 (1) May 31 (1) July 27 (6) Aug 5 (2) Aug 7 (11) Aug 12 (4) Aug 17 (4) Aug 21 (6) Aug 24 (10) Aug 27 (1) Aug 31 (10) Sept 16 (10) Sept 24 (1) Oct 2 (5)
2023	48 red knots	June 1 (3) July 17 (4) Sept 3 (11) Sept 8 (1) Sept 17 (1) Sept 20 (23) Oct 29 (5)

Kingston Bay —The presence of red knots

1988	3 red knots	Nov. 26 (3)
1991	1 red Knot	Jan. 3 (1)
2018	10 red knots	Aug. 25 (8) Sept. 3 (2)
2019	2 red knots	Aug. 17 (2)
2020	9 red knots	Aug. 27 (9)
2021 (last observation date)	8 red knots	Aug. 28 (8)

Review of the Proposal to Close PKD Bay to Horseshoe Crab Fishing



Derek Perry
Senior Biologist
Massachusetts Division of Marine Fisheries
Derek.Perry@mass.gov

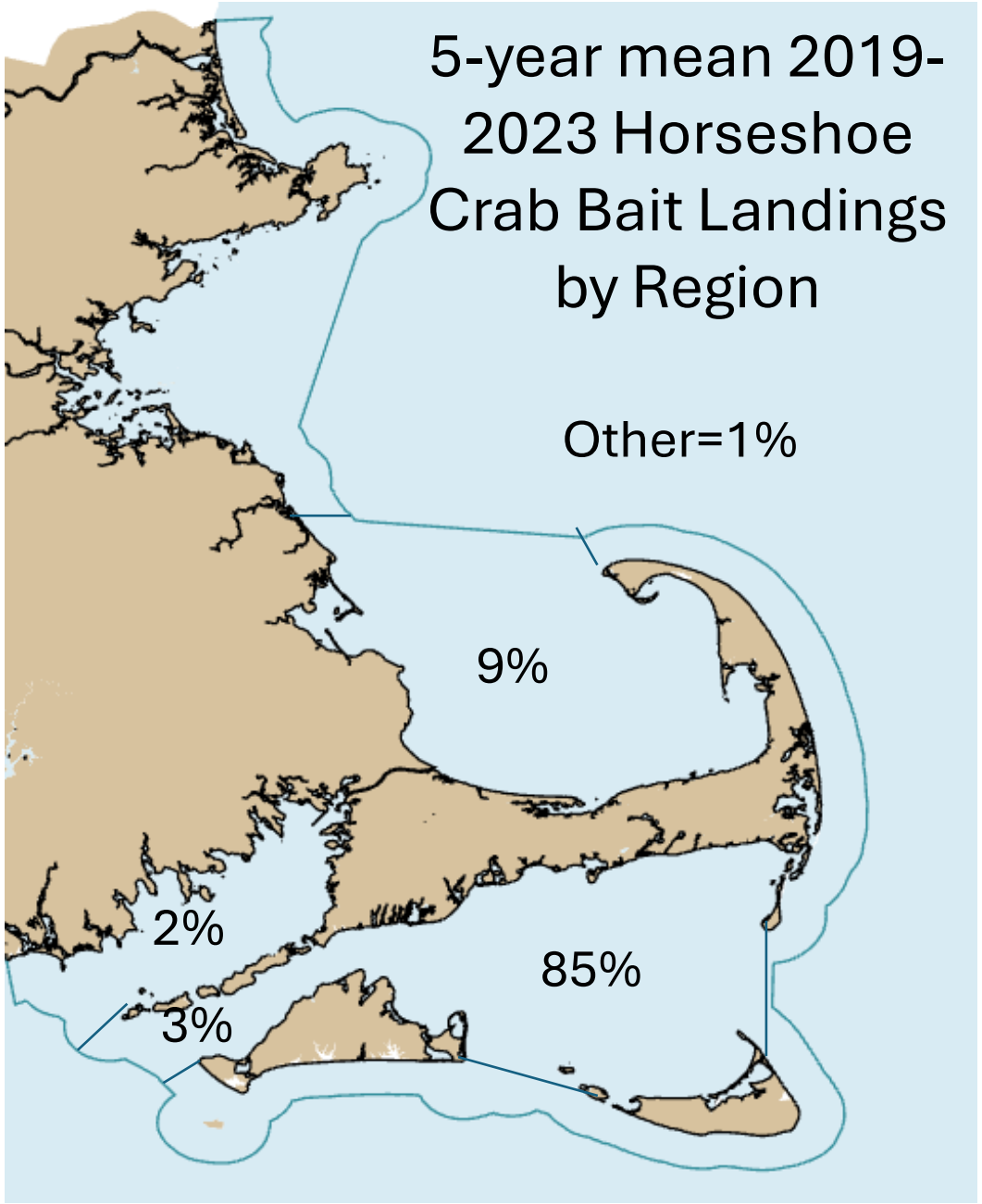
Photo from SEMPBA
Long Beach, Plymouth

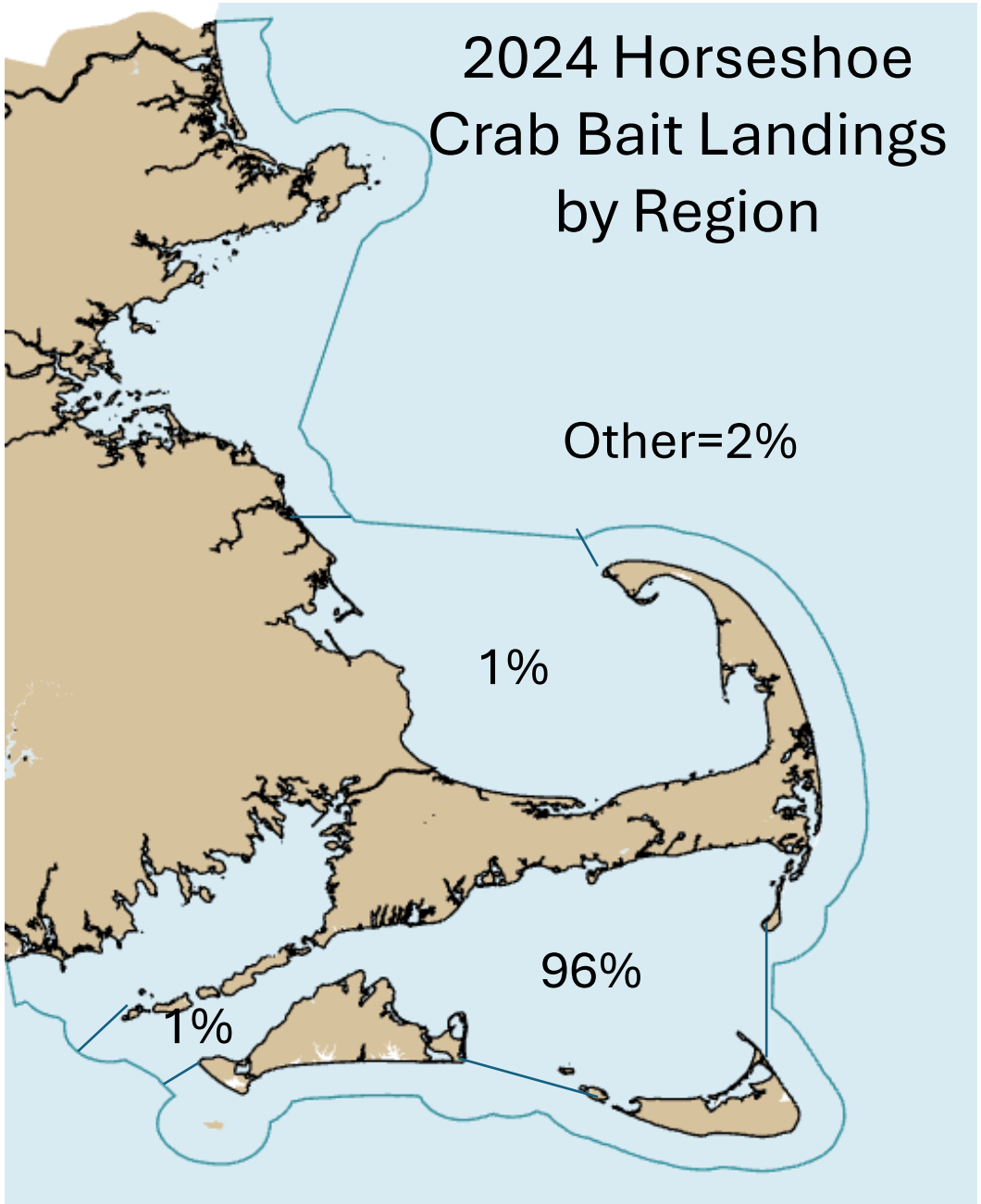
Outline

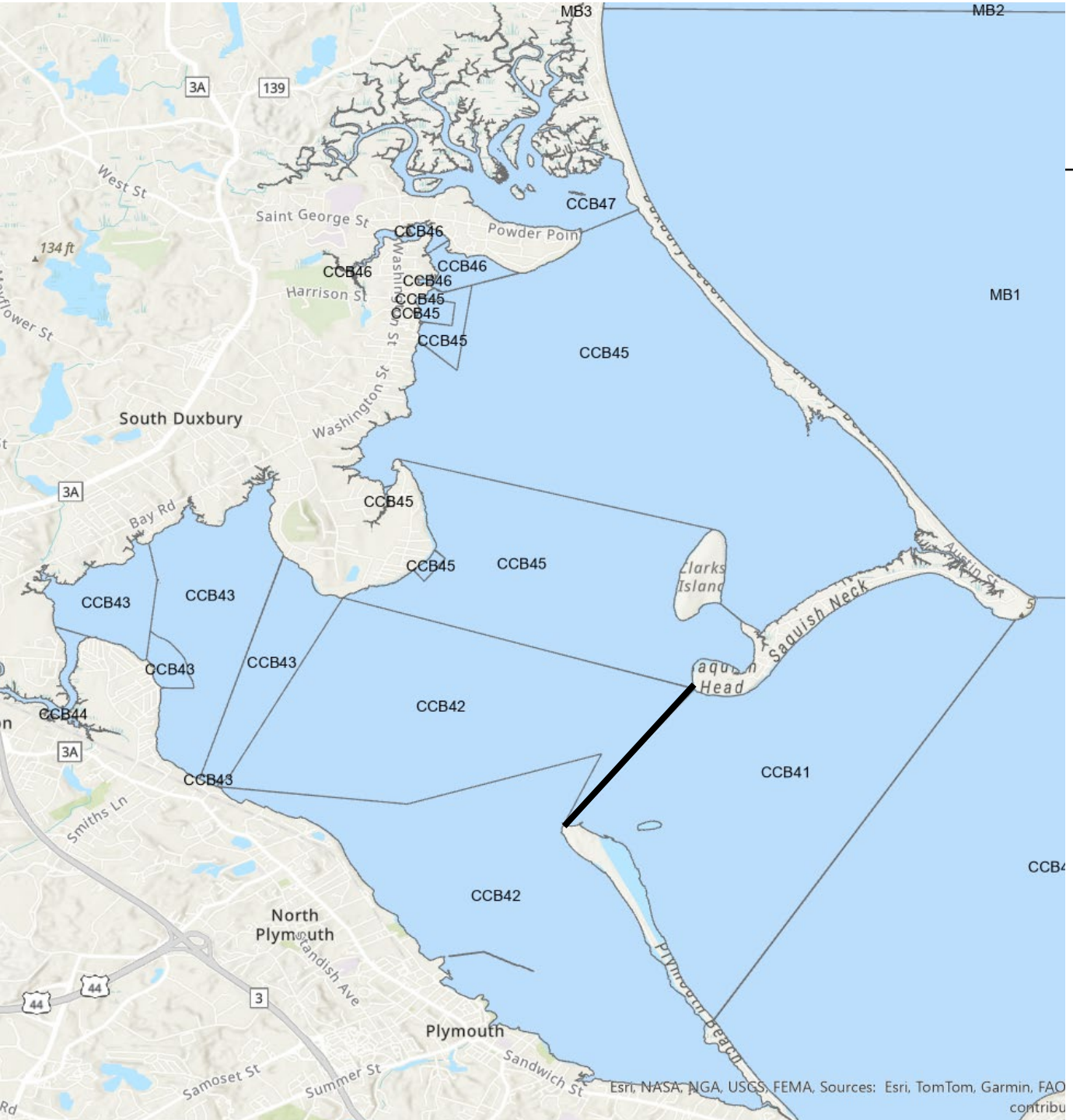
- Horseshoe crab fisheries data
  - Plymouth/Kingston/Duxbury Bay (PKD Bay)
  - State landings
- Horseshoe crab population status
  - Survey data (Trawl Survey, Spawning Beach Survey, Seine Survey)
  - Horseshoe Crab Assessments (ASMFC, IUCN)
  - Proposal’s interpretation of historical abundance levels

Massachusetts Commercial Horseshoe Crab Fishery Data

Location of MA Horseshoe Crab Bait Landings







PKD Harvest

Year	# Crabs	Fishers	
2013	C	1	
2014	C	1	2013-2016 average= 967 crabs
2015	C	2	
2016	C	1	
2017	6,690	6	
2018	1,342	3	
2019	4,346	3	
2020	C	1	
2021	C	2	2020-2023 average= 2,117 crabs
2022	C	1	
2023	C	1	
2024	C	1	

Data Source: MA TLR and NMFS VTRs

C=Confidential due to state and federal laws

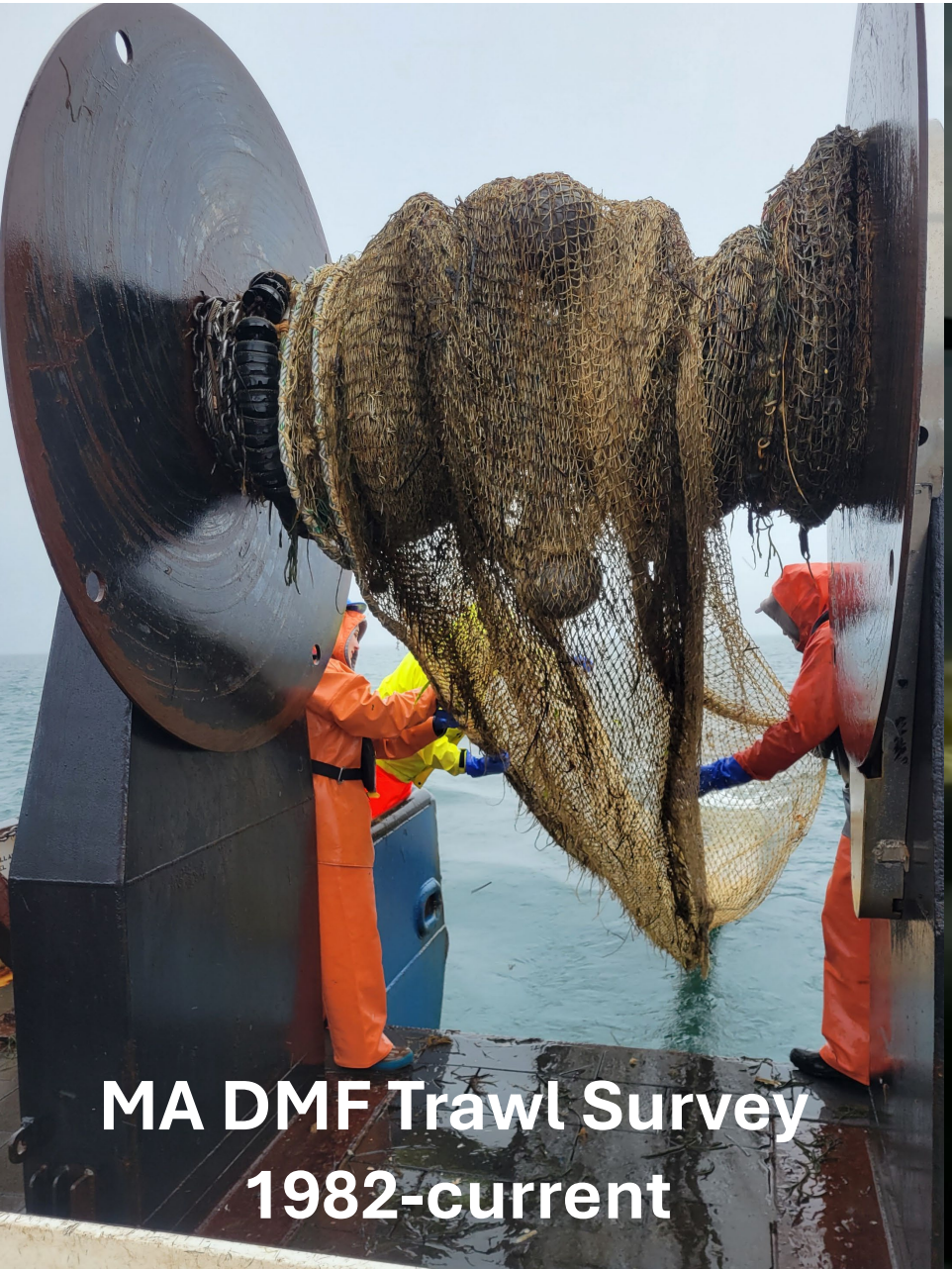
Harvest of Horseshoe Crab in PKD Bay

- State-wide April 15th through June 7th harvest closure enacted in 2024
  - Prohibits harvest during period where ~90% of spawning is observed
  - More than doubled number of closed days from lunar closure (25 → 54)
  - Regulation limits hand harvester's access to crabs

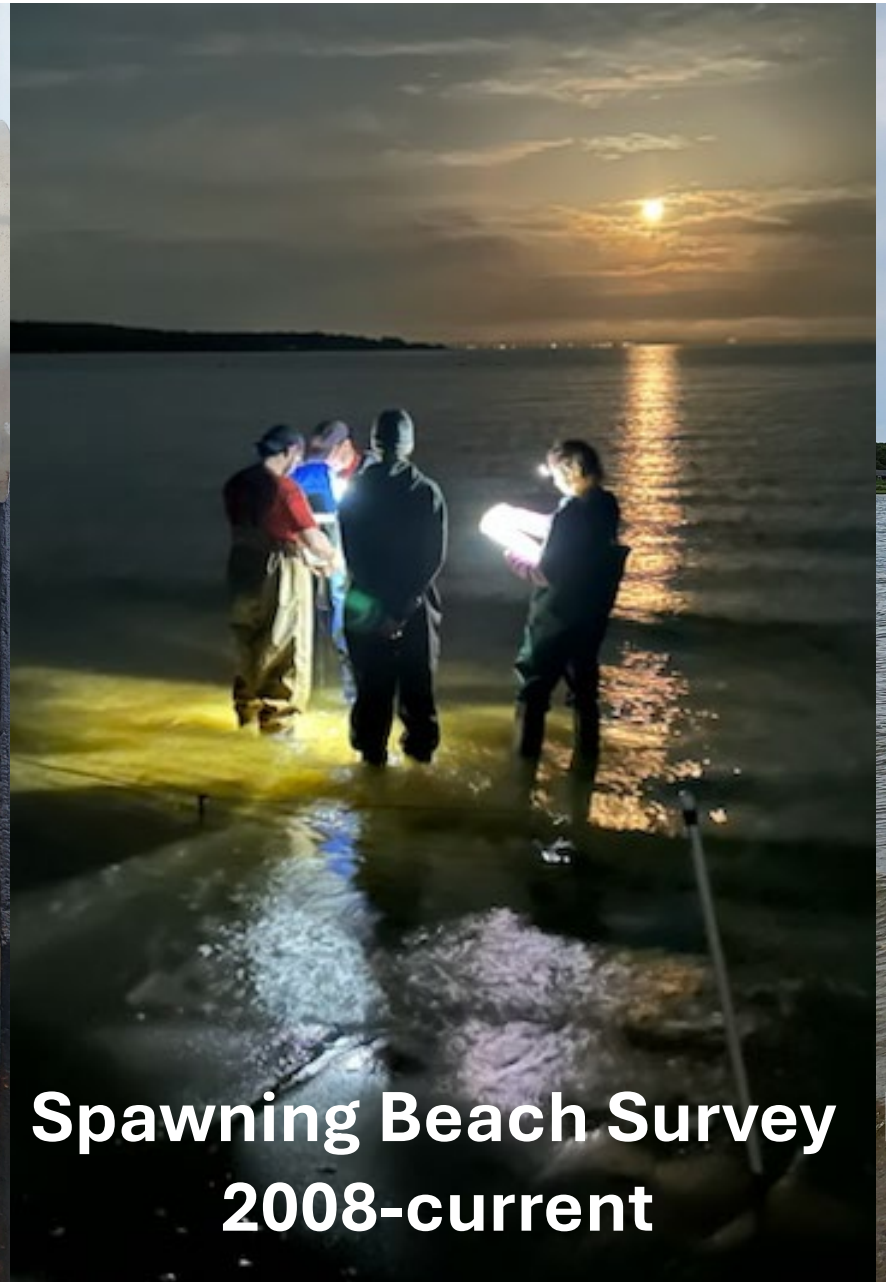
- From 2013-2024, >97% of PKD landings came during period now closed by regulation
  - 2024 regulations expected to greatly reduce already low PKD landings
    - To date, no reported landings in PKD since regulation enacted
  - HSC landings from CCB dropped to 1% in 2024
  - Harvest has shifted away from hand harvest in coastal embayment

- All PKD harvest from 2013-2024 has been taken with bait permits

MA Fisheries Independent Surveys



MA DMF Trawl Survey
1982-current



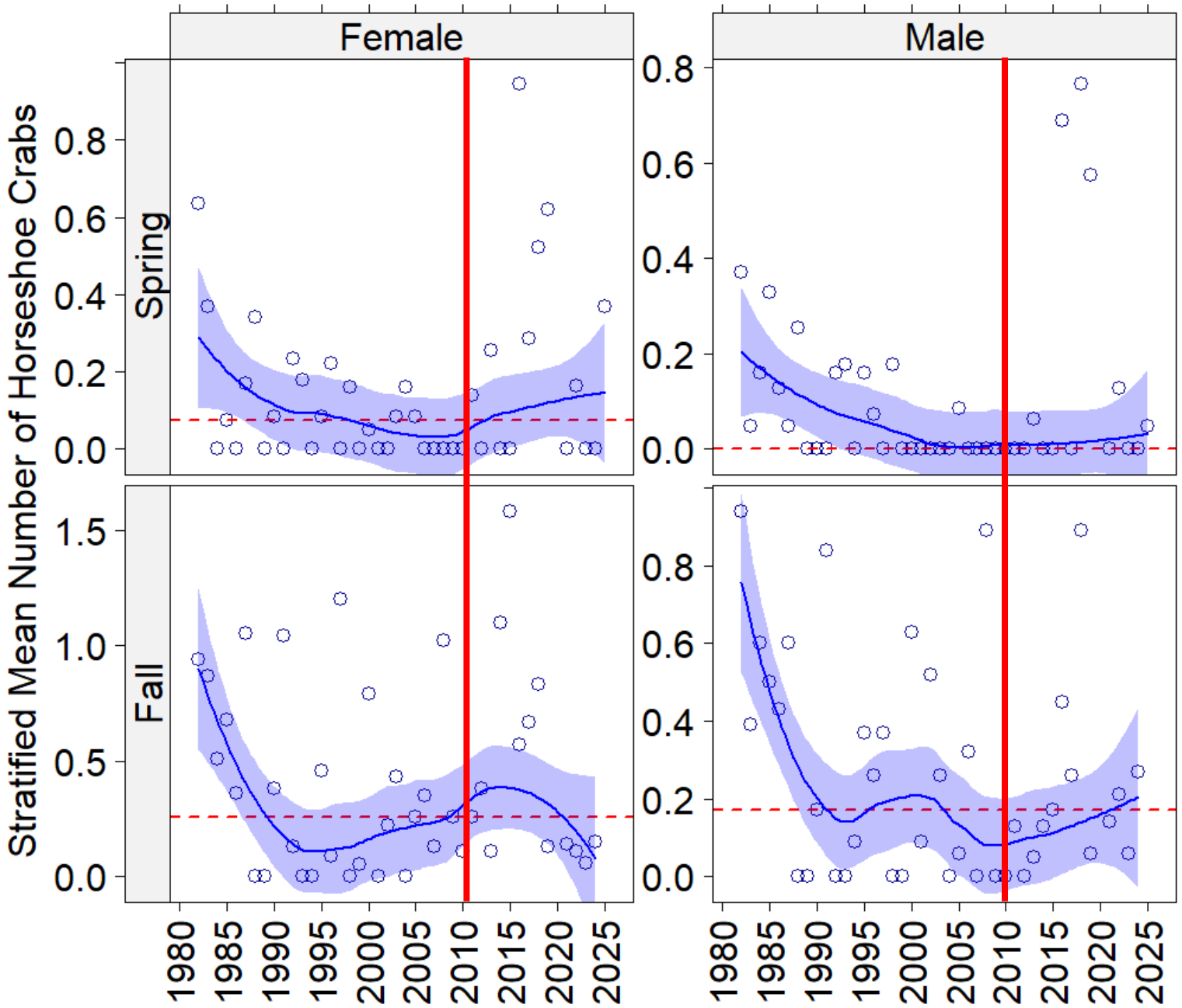
Spawning Beach Survey
2008-current

MA DMF Seine Survey
1984-current

Horseshoe Crab Population Status

Claims From Southeastern Massachusetts Pine Barens Alliance Proposal

- The number of spawning horseshoe crabs in Duxbury-Kingston-Plymouth Bay has plummeted since the 1970's
- Crabs spawning in Plymouth and Duxbury/western CCB are at "historic lows"
- "Recent DMF surveys reveal a sharp decline in spawning horseshoe crab activity across Duxbury, Kingston, and Plymouth Bays"
- "More than a decade of lunar closures did not yield the intended conservation outcomes"
- "continued population decline" in Massachusetts despite lunar closures
- "continuing declines in New England"-citing IUCN
- "DMF has consistently reported increasing numbers of crabs" which SEMPBA contends is misleading because it includes data from areas (e.g. Pleasant Bay) closed to bait harvest

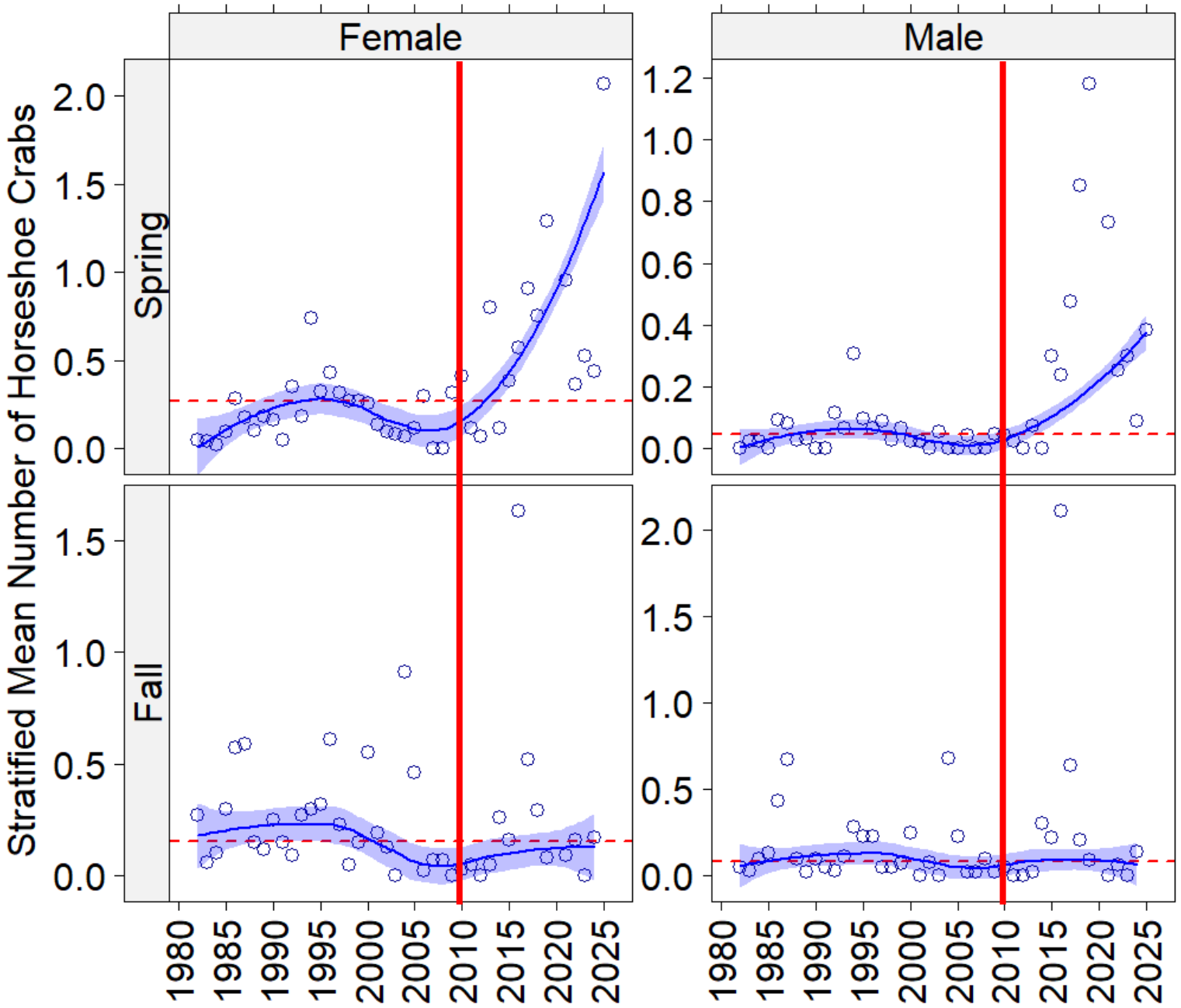


Gulf of Maine

MA DMF Trawl Survey

Number of Crabs Per Tow

Spring surveys through 2025
Fall surveys through 2024



Southern New England

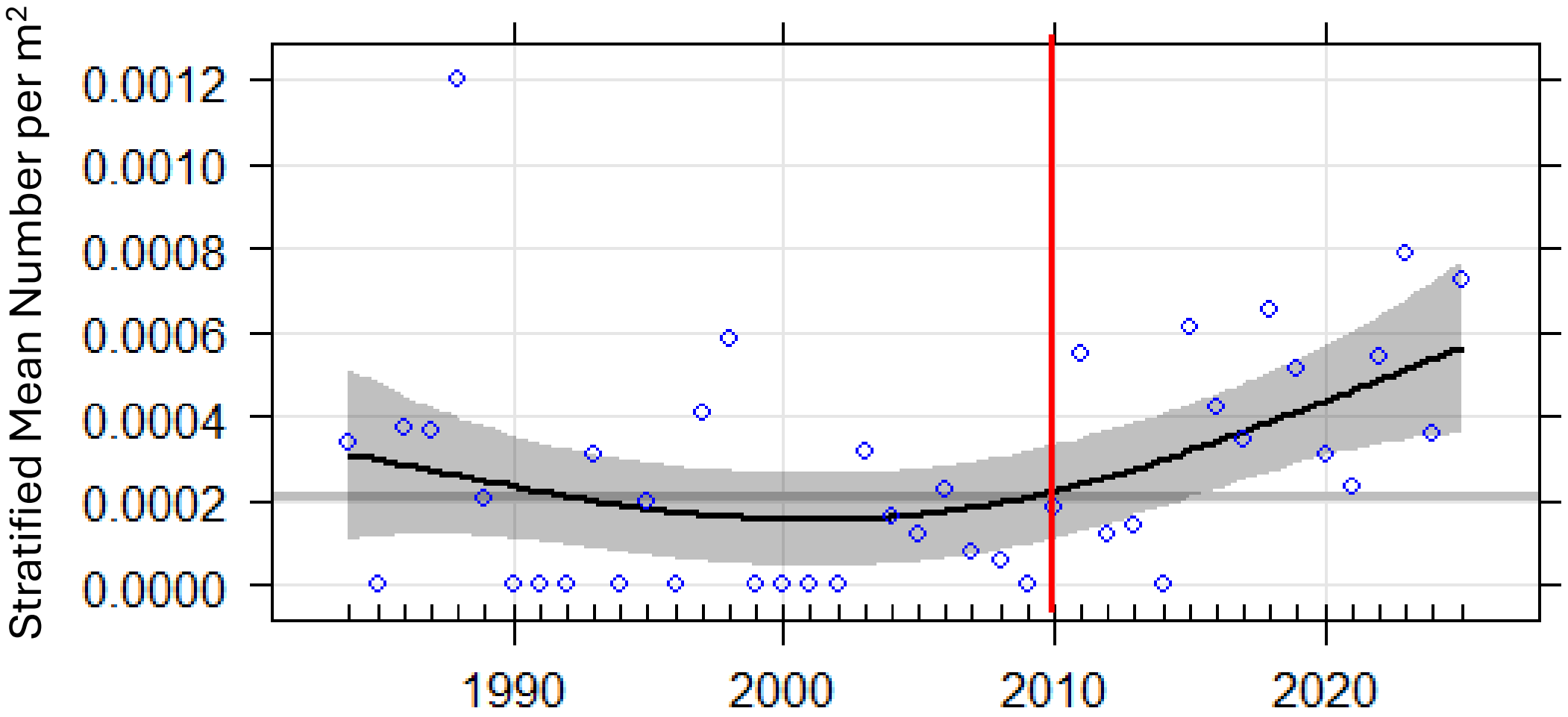
MA DMF Trawl Survey

Number of Crabs Per Tow

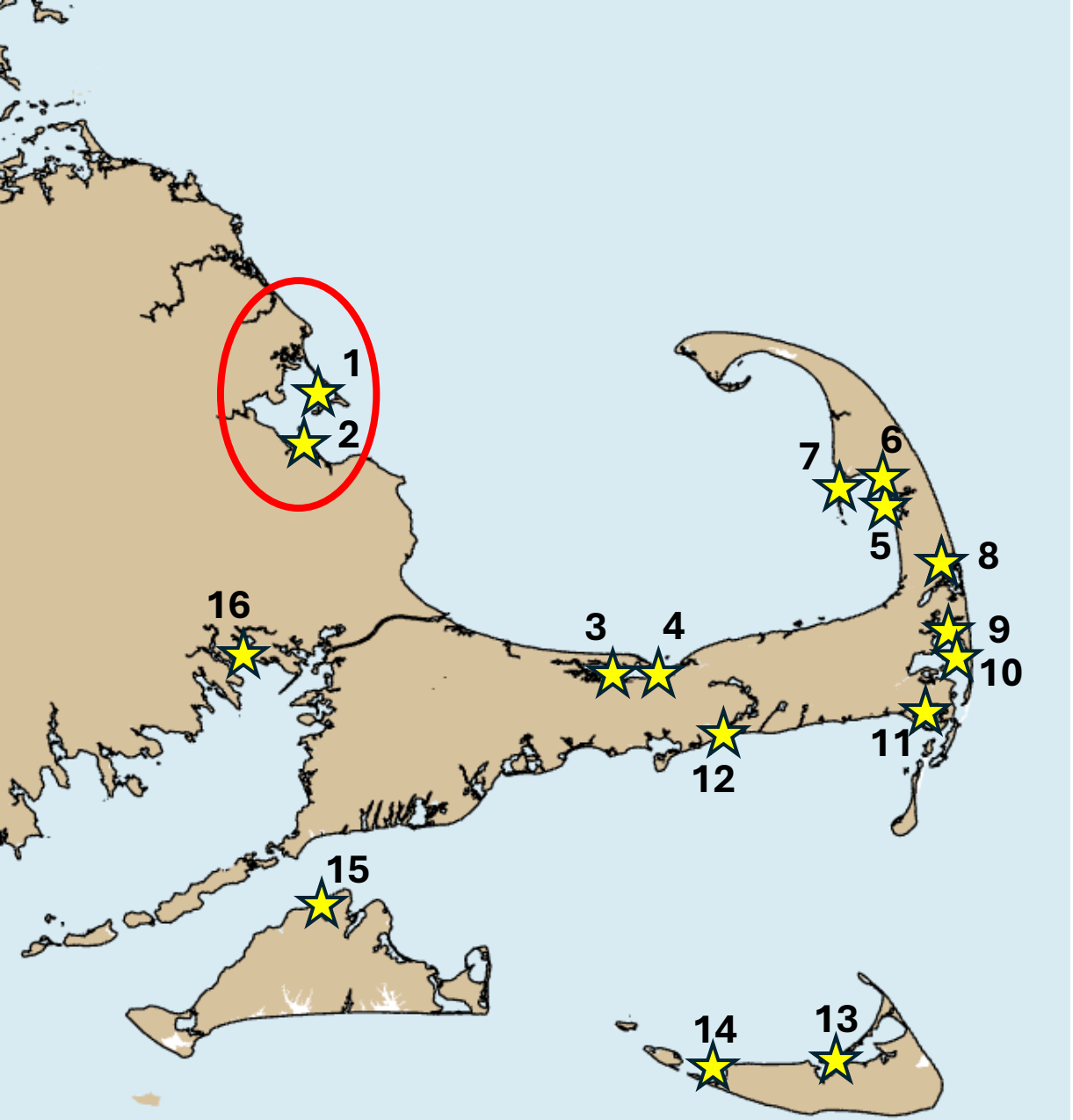
Spring surveys through 2025
Fall surveys through 2024

Number of Crabs per m^2 from MA DMF Seine Survey

Southern New England

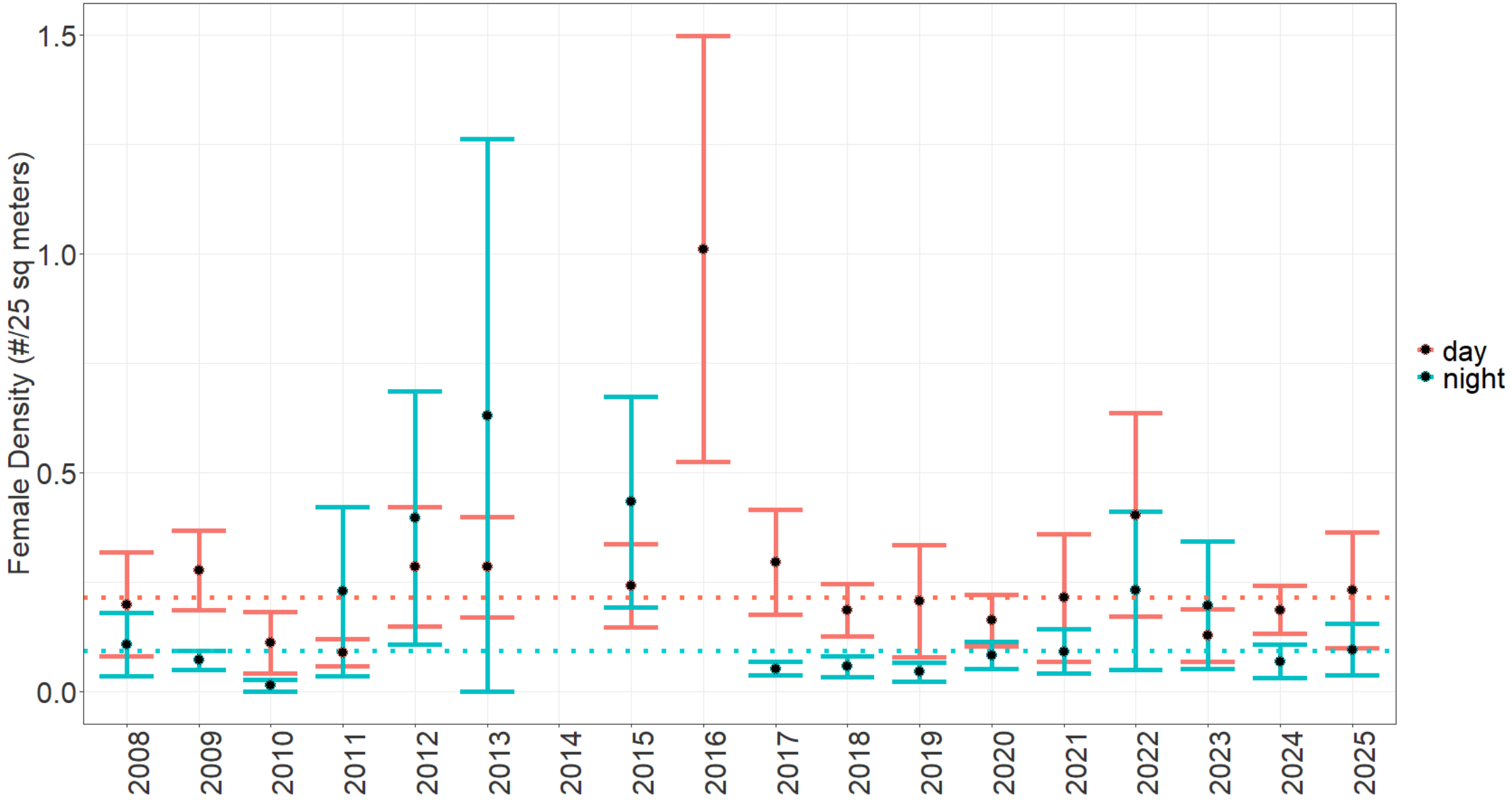


MA Spawning Beach Survey

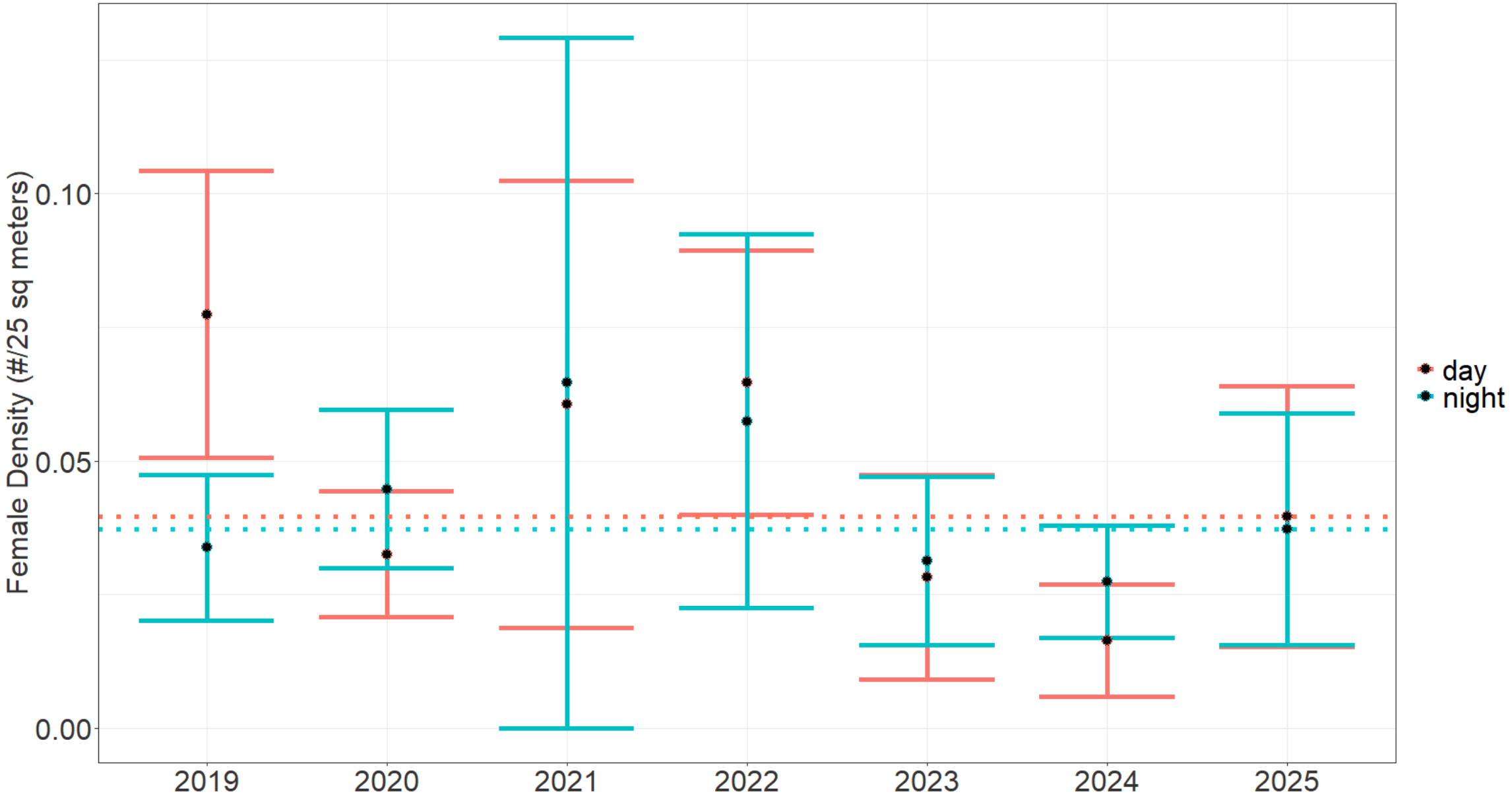


	Beach	Organization
1	Duxbury	NSRWA
2	Long Beach	SEMPBA
3	Millway	Mass Audubon- Wellfleet
4	Long Pasture	Mass Audubon- Wellfleet
5	Sanctuary Beach	Mass Audubon- Wellfleet
6	Indian Neck	Mass Audubon- Wellfleet
7	Great Island	Mass Audubon- Wellfleet
8	Priscilla's Landing	Mass Audubon- Wellfleet
9	Marsh 2-3	Mass Audubon- Wellfleet
10	Erica's Beach	Mass Audubon- Wellfleet
11	Stage Harbor	MA DMF/USFWS
12	Bass River	MA DMF/Erik Hunter
13	Monomoy Beach	Maria Mitchell Association
14	Warren's Landing	Nantucket Cons. Foundation
15	Tashmoo	MA DMF/Mass Audubon
16	Swifts Beach	MA DMF

Duxbury, PKD Bay– N. and S. Rivers Watershed Association



Long Beach, PKD Bay – SE MA Pine Barrens Alliance



Region	Beach	Time of Day	2024 vs Median	10-year trend	15-year trend
Cape Cod Bay	Duxbury	Day	below	decreasing	decreasing
	Duxbury	Night	below	increasing	decreasing
	Long Beach	Day	below	NA	NA
	Long Beach	Night	below	NA	NA
	Millway	Day	above	**increasing**	**increasing**
	Millway	Night	above	**increasing**	increasing
	Long Pasture	Day	above	**increasing**	increasing
	Sanctuary Beach	Day	above	increasing	increasing
	Indian Neck	Day	above	increasing	increasing
	Indian Neck	Night	above	increasing	increasing
	Great Island	Day	above	increasing	NA
Outer Cape Cod	Priscillas Landing	Day	above	**increasing**	NA
	Marsh 2-3	Day	above	**increasing**	**increasing**
	Erica's Beach	Day	above	increasing	increasing
Nantucket Sound	Stage Harbor	Day	NA	NA	NA
	Stage Harbor	Night	NA	NA	NA
	Bass River	Day	above	NA	NA
	Bass River	Night	above	NA	NA
	Monomoy	Day	above	increasing	increasing
	Monomoy	Night	above	increasing	increasing
	Warrens Landing	Day	above	**increasing**	NA
	Warrens Landing	Night	above	**increasing**	NA
	Tashmoo	Day	above	increasing	**increasing**
	Tashmoo	Night	NA	increasing	increasing
Buzzards Bay	Swifts Beach	Day	below	increasing	decreasing
	Swifts Beach	Night	below	decreasing	**decreasing**

Spawning Survey Summary

2024 vs median

- 74% above, 26% below

10-year trend

- 90% w/increasing trends
- 7 w/increasing trends and statistically significant

15-year trend

- 75% w/increasing trends
- 3 w/increasing trends and statistically significant
- 1 w/decreasing trend and statistically significant

ASMFC Horseshoe Crab Stock Assessments

Region	2009 Benchmark	2013 Update	2019 Benchmark	2024 update	2024 Stock Status
Northeast	2 out of 3	5 out of 6	1 out of 2	1 out of 2	Neutral
New York	1 out of 5	3 out of 5	4 out of 4	3 out of 4	Poor
Delaware Bay	5 out of 11	4 out of 11	2 out of 5	0 out of 5	Good
Southeast	0 out of 5	0 out of 2	0 out of 2	0 out of 2	Good
Coastwide	7 out of 24	12 out of 24	7 out of 13	4 out of 13	Good

2019 Benchmark Assessment

- 2017 terminal year of data
- Northeast status improved from “poor” to “neutral”
- Massachusetts index shows increasing trend since release of HSC FMP (1998)
- Document unanimously approved by every state and federal HSC biologist on U.S. East Coast and external peer reviewers

2024 Assessment Update

- 2022 terminal year of data
- Massachusetts index continues to increase
- Coastwide status improved from “neutral” to “good”
- Document unanimously approved by every state and federal HSC biologist on U.S. East Coast

Smith et al. 2025 (IUCN)

Recent paper by IUCN HSC Specialist Group

- "American horseshoe crab populations are recovering"
- Delaware Bay pop. has more than doubled
- Northeast population has improved
  - GOM population is "stable"

Fisheries, 2025, **00**, 1–13
https://doi.org/10.1093/fshmag/vuae021
Advance access publication: January 22, 2025
Perspective

Recovering the American horseshoe crab through a commitment to collaboration

David R. Smith[1,*], Mark L. Botton[2], and Paul K. S. Shin[3]

[1]U.S. Geological Survey, Eastern Ecological Science Center, and Environmental Biology Program, Hood College, Frederick, Maryland, USA
[2]International Union for the Conservation of Nature Horseshoe Crab Specialist Group of the Species Survival Commission and Department of Natural Sciences, Fordham University, New York, New York, USA
[3]International Union for the Conservation of Nature Horseshoe Crab Specialist Group of the Species Survival Commission and Department of Biology and Chemistry, City University of Hong Kong, Kowloon, Hong Kong, China

*Corresponding author: David R. Smith. Email: drsmith@usgs.gov

ABSTRACT

American horseshoe crab *Limulus polyphemus* populations are recovering because of cooperation among diverse stakeholders and data-driven collective action. *Limulus polyphemus* is one of four extant species facing common threats, and conservation successes and limitations hold lessons applicable to all the species. We review the advancement in management and monitoring over recent decades, discuss the current population status throughout the species' range, and describe the potential future status and recovery based on recent assessments. In retrospect, *L. polyphemus* conservation has followed the frameworks promoted by the International Union for the Conservation of Nature: mobilize networks to increase assessment capacity, engage diverse stakeholders, measure impacts, and amplify successes. Data show significantly increased populations in the Delaware Bay region and improved status in the Northeast. The average abundance of adults in Delaware Bay over the recent decade (2013–2022) is more than twice that in the previous decade (2003–2012). In 2022, the abundances for adult females and males in the Delaware Bay population were estimated to be 16 million and 40 million, respectively. However, reversing persistent poor conditions in some regions and mitigating the widespread threat of habitat loss from coastal development and sea level rise will rely on collaboration among diverse stakeholders to build upon the current conservation successes. Scientists and conservationists working on the horseshoe crab species indigenous to Asia are advancing along a similar track, establishing a monitoring network and mobilizing diverse stakeholders. However, there is a need for capacity building for robust assessment of the species in Asia to measure the impact of conservation, just as that need remains unmet for *L. polyphemus* in the Gulf of Mexico. The importance of partnerships and collaborations is apparent in their absence. The regions where partnerships and collaborations among researchers, conservationists, and agency scientists do not exist are those where the capacity for monitoring and assessment is notably lacking.

INTRODUCTION

The American horseshoe crab *Limulus polyphemus* has faced and continues to face challenges to recovery (D. R. Smith et al., 2023). However, populations are recovering because of strategic cooperation and data-driven collective action (ASMFC, 2009, 2024; Gauvry, 2009; Kreamer & Kreamer, 2015; C. P. McGowan, Lyons, et al., 2015). A commitment to collaboration has been a critical element of the ongoing success in the *L. polyphemus* conservation story.

American horseshoe crab populations extend from Maine, USA, to the Yucatán Peninsula, México, with substantial regional variation in ecology, abundance, threats, and management (Figure 1). The species distribution is not continuous (Anderson & Shuster, 2003; Zhu et al., 2020). Spawning populations of horseshoe crabs are distributed along the Atlantic coast of North America from the Gulf of Maine to Florida and along the eastern shore of the Gulf of Mexico from Florida to the easternmost barrier island of Louisiana. However, spawning populations are absent along the western and southern Gulf of Mexico coast from Texas, USA, to Tabasco, México. Spawning populations resume on the Yucatán Peninsula, representing a distinct and evolutionarily significant population at the southwestern extent of the range (García-Enríquez et al., 2023).

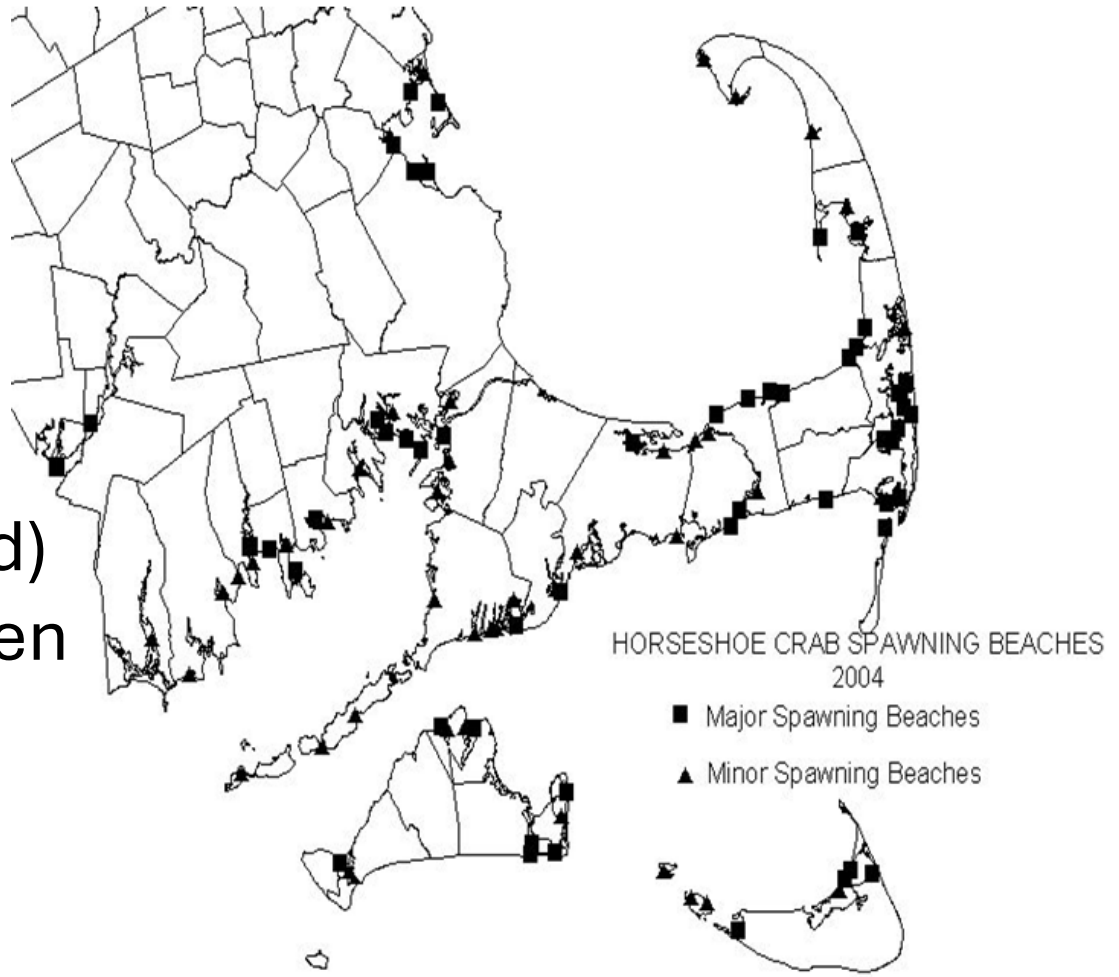
Limulus polyphemus is one of four extant horseshoe crab species. The other three species are found in Asia and include the tri-spine horseshoe crab *Tachypleus tridentatus*, the coastal horseshoe crab *T. gigas*, and the mangrove horseshoe crab *Carcinoscorpius rotundicauda*. All four species spawn in estuarine shorelines, forage in benthic substrates, and molt as juveniles over years until sexually mature. Overexploitation and habitat loss threaten all four species (Botton, John, et al., 2022). A notable difference among the species is that the harvest of *L. polyphemus* is being actively managed throughout much of its range, and extensive monitoring of the adult popu-

Received: July 30, 2024. **Revised:** November 05, 2024. **Accepted:** November 07, 2024

Proposal's Assertions of Historical Abundance

Proposal's Interpretation of DMF Compliance Reports

- Original ASMFC FMP (1998) directed states to identify spawning and juvenile habitat
  - Massachusetts identified spawning and juvenile habitat through…
    - Survey of town shellfish constables
    - Survey of fishers
    - Public comments
  - Designations are not standardized (major/minor or high/moderate/reported)
    - No data to base comparisons between current and historical numbers
    - Can't determine if numbers have increased, decreased, or are stable



Summary

- Proposer's goals already addressed by 2024 regulation change
  - 97% of PKD harvest from 2013-2024 occurred during period now closed
  - No PKD harvest since regulation change
  - Prohibiting PKD harvest unlikely to have a measurable population impact
- Proposer's claim of state-wide and embayment specific declines are not supported by data, or exaggerated
  - Survey data go back over 40 years
    - Population inferences prior to surveys are anecdotal/speculative
  - PKD has mixed spawning survey trends
    - Most are negative, all are slight
    - Can be interpreted as "stable"
  - Most MA survey data show positive trends
    - Record # of females in 2025 spring trawl survey, SNE region
    - 90% of spawning surveys showing increasing trend over last 10-years
    - Seine survey above time series median over last 11 years
    - ASMFC stock assessment and IUCN note increasing trends south of Cape Cod and increasing/stable trends north of Cape Cod

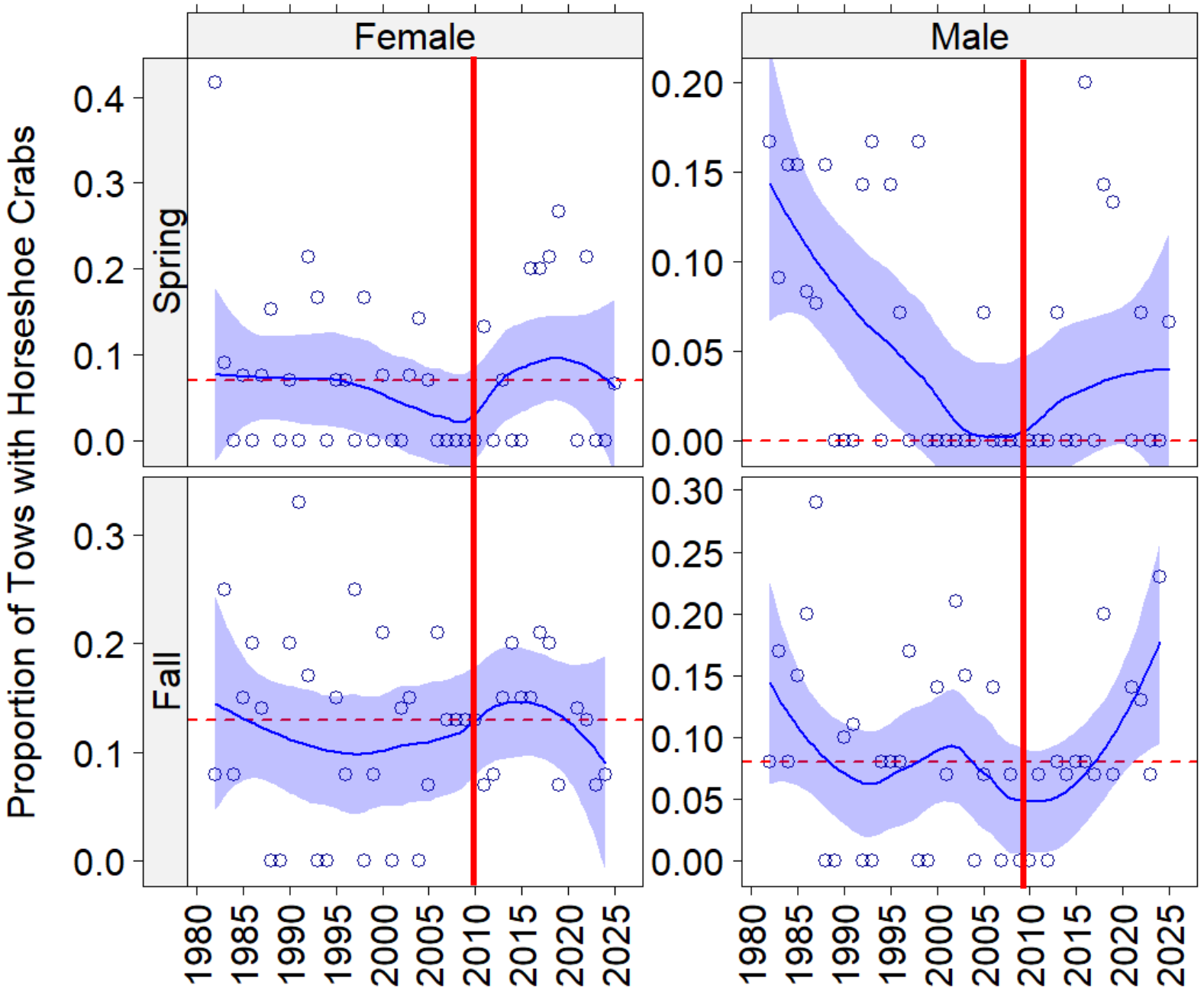
Abundance

Misinformation in the Media

WBUR-NPR, June 28, 2024

First line under audio link “Horseshoe crab numbers are at historic lows in Massachusetts.”

First line of print article “Horseshoe crabs are not endangered or threatened in Massachusetts, but their numbers are at historic lows.”

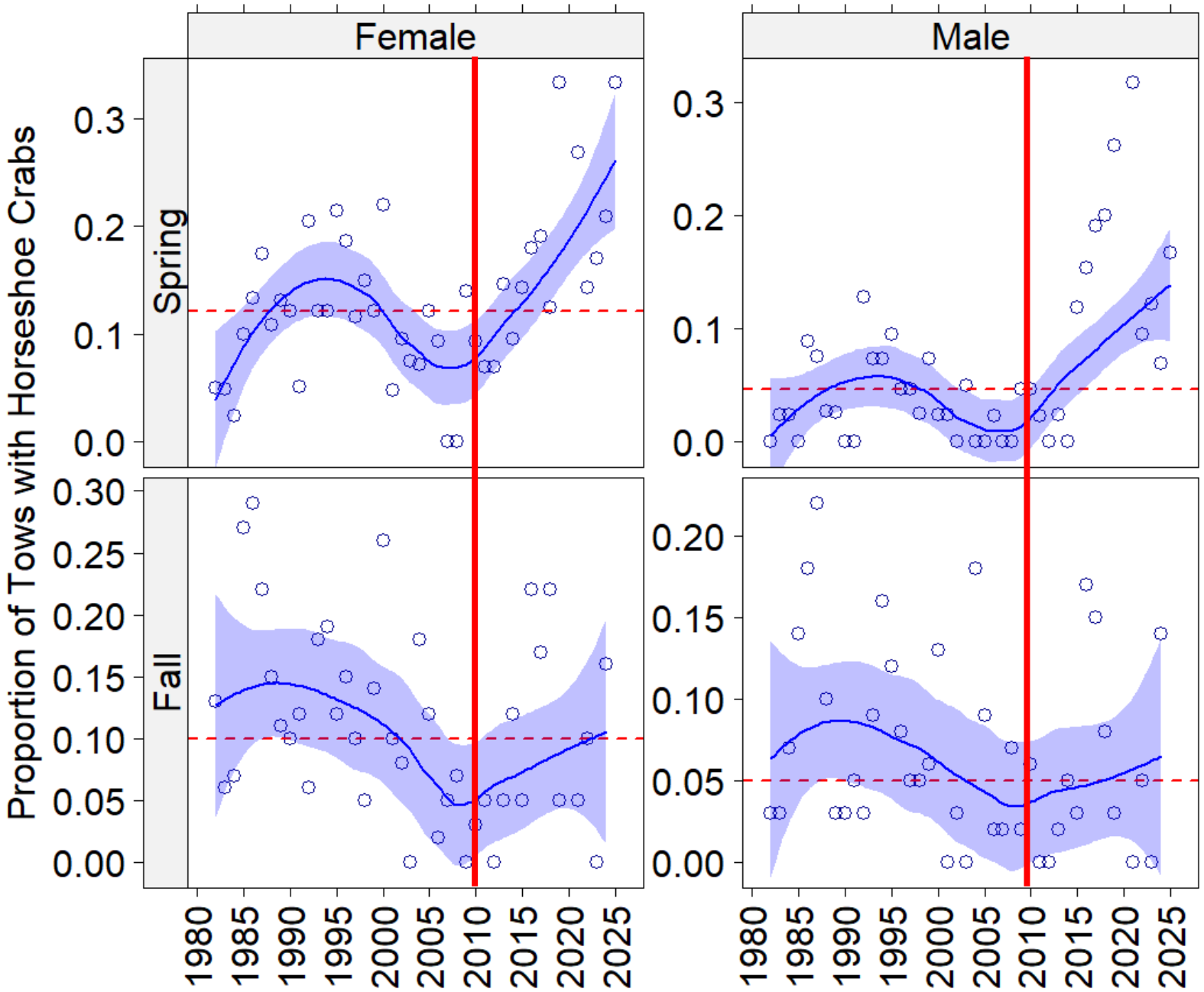


Gulf of Maine

MA DMF Trawl Survey

Proportion of Tows Containing Crabs

Spring surveys through 2025
Fall surveys through 2024



Southern New England

MA DMF Trawl Survey

Proportion of Tows Containing Crabs

2024 Spawning Survey Ranks

Density of Female Crabs by Beach

Day Surveys

Rank	Beach	Region	# of surveys	# of fem/25m²
1	Marsh 2-3	Outer Cape Cod	11	2.67
2	Tashmoo	Nantucket Sound	1	0.47
3	Priscilla's Landing	Outer Cape Cod	11	0.25
4	Erica's	Outer Cape Cod	11	0.22
5	Duxbury	Cape Cod Bay	11	0.19
6	Bass River	Nantucket Sound	10	0.17
7	Monomoy	Nantucket Sound	12	0.14
8	Millway	Cape Cod Bay	11	0.12
9	Stage Harbor	Nantucket Sound	2	0.11
10	Warren's Landing	Nantucket Sound	12	0.10
11	Long Pasture	Cape Cod Bay	11	0.06
12	Indian Neck	Cape Cod Bay	12	0.05
13	Sanctuary	Cape Cod Bay	12	0.04
14	Long Beach	Cape Cod Bay	10	0.02
15	Great Island	Cape Cod Bay	12	0.01
16	Swifts	Buzzards Bay	11	0.01

Night Surveys

Rank	Beach	Region	# of surveys	# of fem/25m²
1	Warren's Landing	Nantucket Sound	12	2.00
2	Bass River	Nantucket Sound	2	1.04
3	Monomoy	Nantucket Sound	12	0.24
4	Millway	Cape Cod Bay	11	0.16
5	Swifts	Buzzards Bay	11	0.07
6	Duxbury	Cape Cod Bay	11	0.07
7	Indian Neck	Cape Cod Bay	12	0.06
8	Long Beach	Cape Cod Bay	7	0.03

Stage Harbor night survey excluded due to lack of exact female counts

- Fewest females in a quad was 6 (highest was 30)
- Inexact counts provided for other quads (e.g., "22+")

Population Isolation

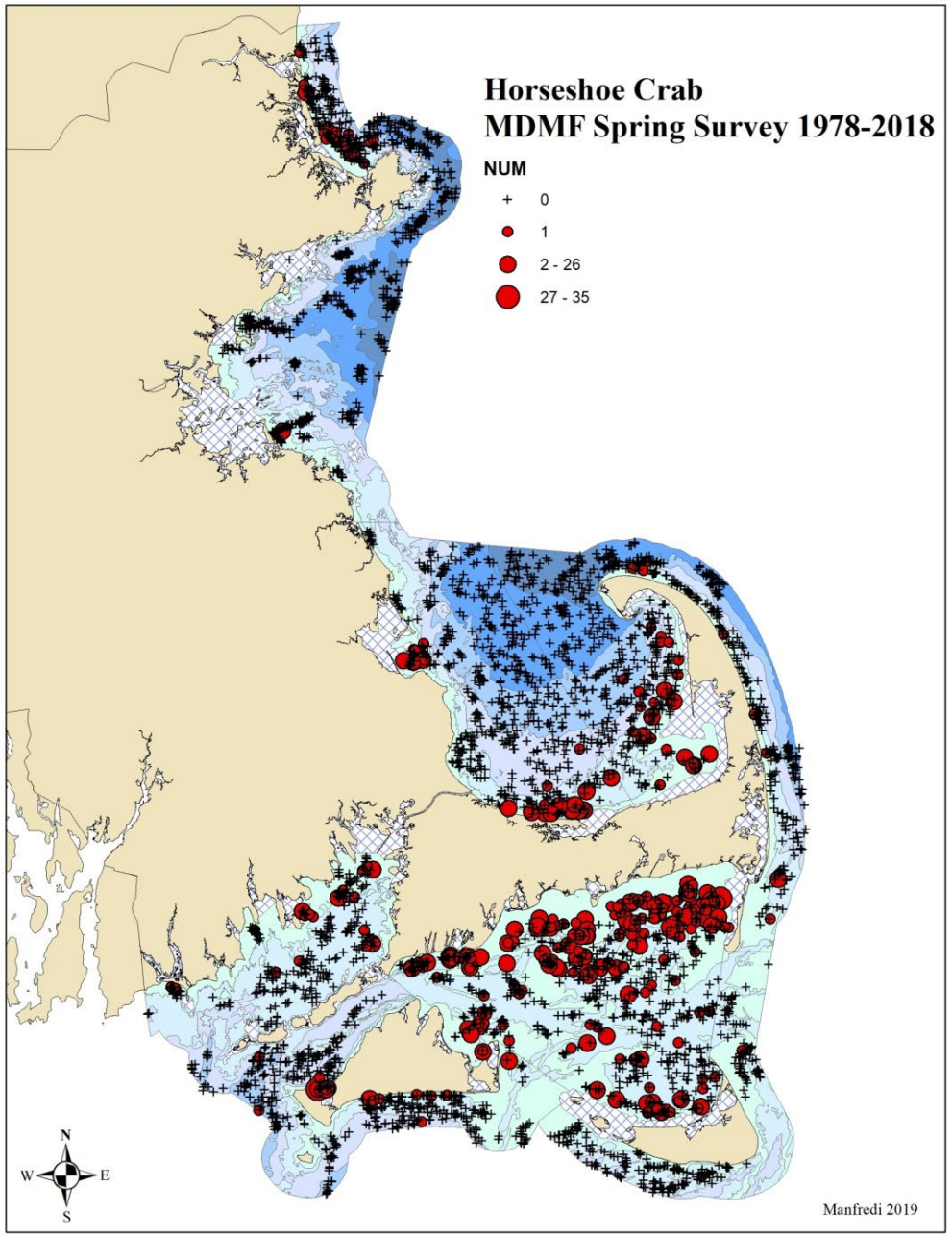
Tagging Data From PKD

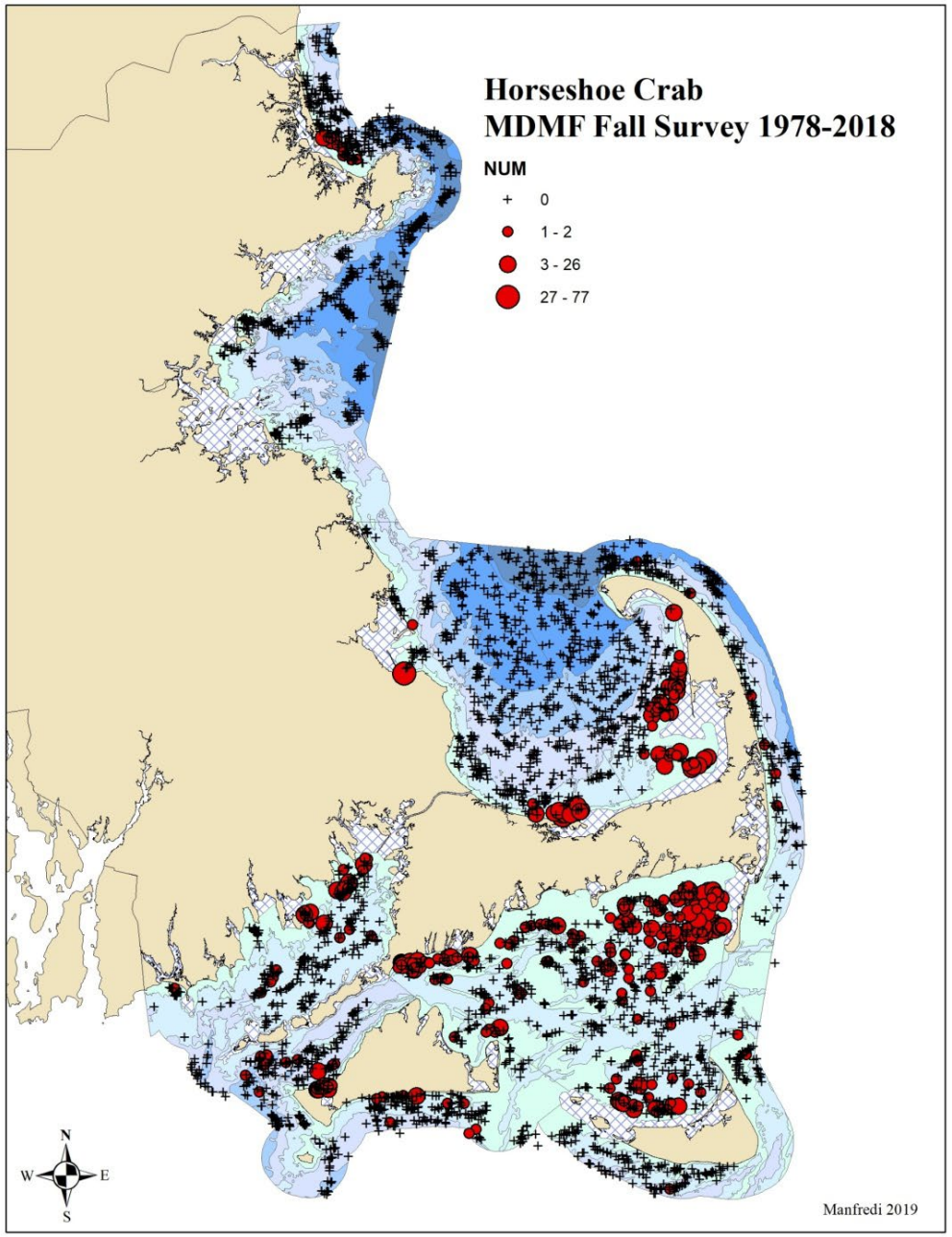
USFWS Tags

- 351 tags deployed in PKD Bay (2010-2015)
- 40 recaptures (11% recapture rate)
  - 38 recaptured in Plymouth or Duxbury (95%)
  - 1 recap from Sagamore, Bourne
  - 1 recap from Plum Cove, Gloucester
- Tagged elsewhere but recaptured in PKD…
  - Warren, RI (recaptured 17 years later)
  - Long Pasture, Barnstable (recap 3 years later)
  - West Meadow Beach, NY (recap 4 weeks later)*

*should be viewed skeptically

MA DMF Resource Assessment Trawl Survey





Case Study: East Harbor, Truro

- Previously connected to Cape Cod Bay
- Disconnected in 1868 due to new railroad
- Became freshwater pond
- Reconnected to CCB in 2002
  - 700’ narrow culvert installed
  - Returned tidal flow to East Harbor
  - 106 crabs tagged in East Harbor ‘11-13
    - 3% recapture rate
  - 887 crabs tagged in East Harbor in ‘22 & ’23
    - 6% recapture rate
  - Crabs are being detected moving between East Harbor and CCB through the narrow culvert

Proposal Claim-If Extirpated, populations can not reestablish themselves

- Limited tagging data shows most crabs stay within PKD
- No evidence of elevated extirpation risk
  - Population appears stable based on survey data and IUCN report
  - Harvest expected to decrease based on new regs
  - Little economic incentive to harvest if crab density is low
- East Harbor example shows crabs can reestablish a population in a short period through a long, narrow culvert
- Other populations have shown abundance can increase fairly quickly
  - Delaware Bay population has tripled over last 15 years
  - East Harbor (across Cape Cod Bay) population established quickly

Bounty Program

Massachusetts Horseshoe Crab Bounty Program

Shellfish predator control program executed in 1950's through 70's

- Towns received state funding to reduce impact on shellfish
  - Horseshoe crabs, whelk, cockles, mussels, moon snails, oyster drills, starfish, etc
- Horseshoe crabs had perceived little value at the time
  - No whelk market
  - No biomedical demand
- Records from Chatham indicate they killed 50,000 in one year (1960)
- Duxbury records range from 1,555 crabs to 29,000
  - Some documents provide anecdotal density designations (heavy or light)
- Unclear where "preliminary" estimate of "as many as 1 million" crabs came from in 2003 DMF newsletter

Population Inferences From Bounty Program

Proposal's claim that populations declines were caused by bounty program

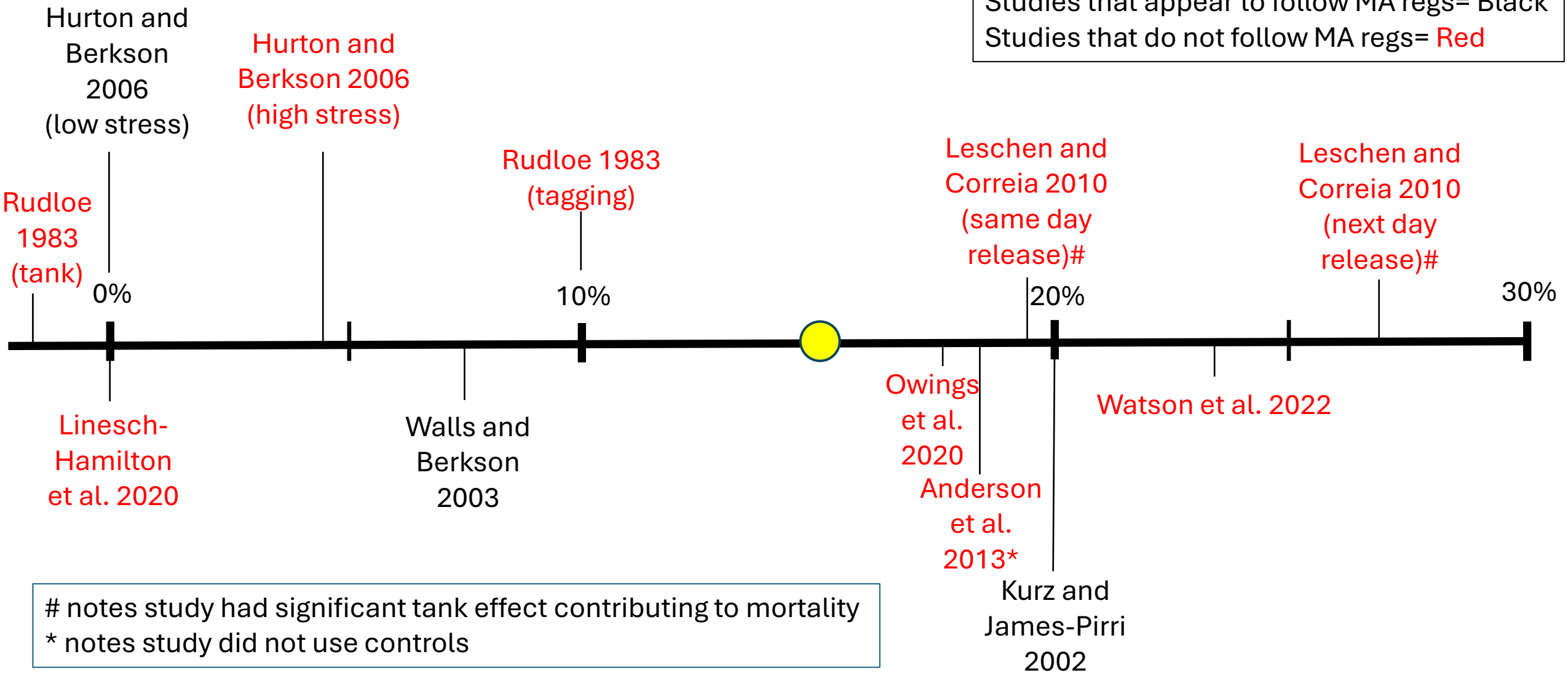
- Unclear how many crabs were destroyed during this program (accuracy of reporting)
- Different perspectives between views of shellfish constables and proposal group
  - Shellfish constables wanted horseshoe crabs reduced or extirpated
  - Proposal group wants superabundance of crabs, and no harvest
- Lack of historical data on which to make inferences on population levels

Biomed

Biomedical Post-Bleeding Mortality Review Paper

Mortality rates reported as the difference between bled crabs and controls (unbled crabs)

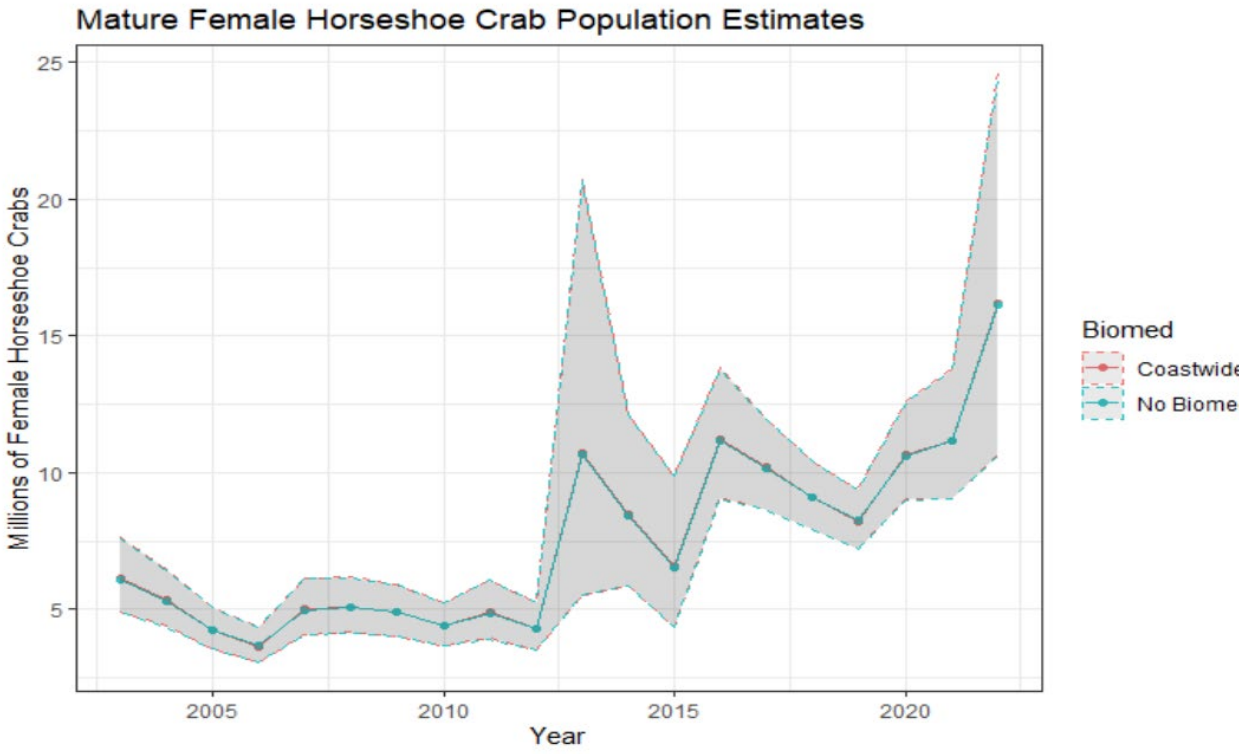
Studies that appear to follow MA regs= Black
Studies that do not follow MA regs= Red

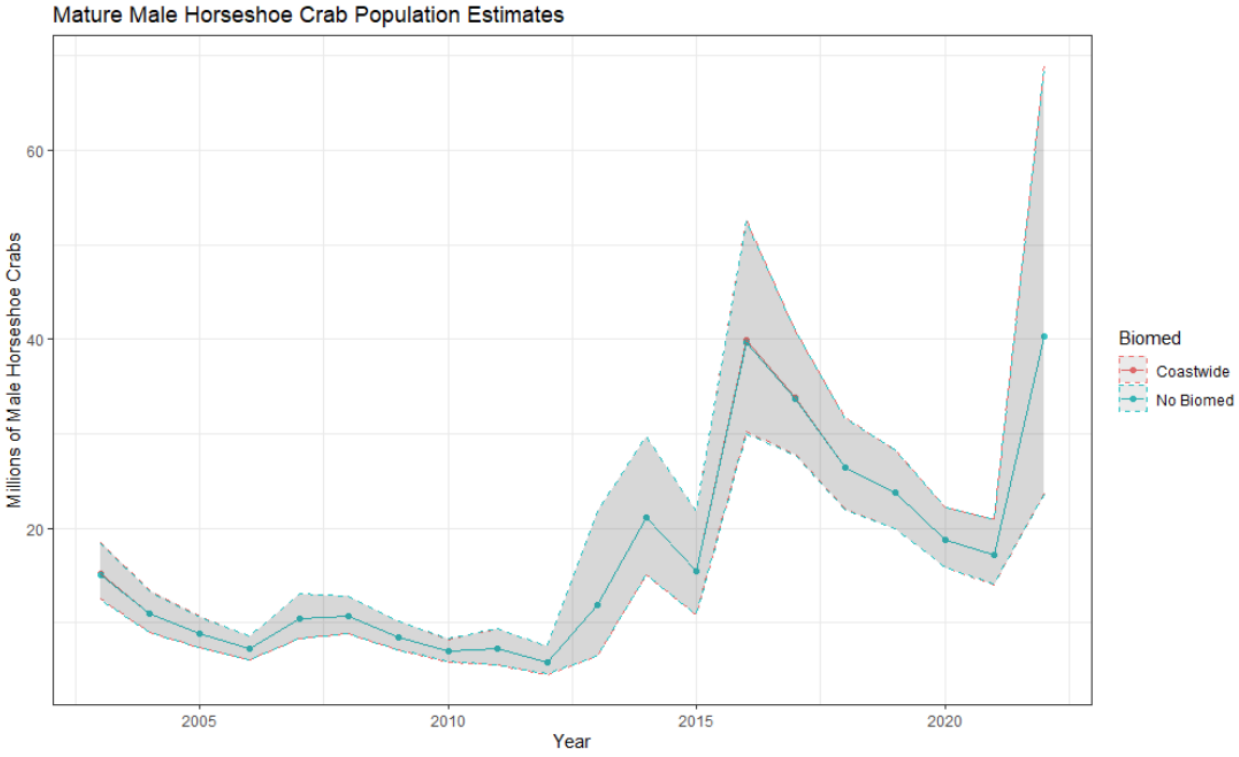


notes study had significant tank effect contributing to mortality
* notes study did not use controls

2024 ASMFC Horseshoe Crab Stock Assessment

Delaware Bay Population Estimates





Massachusetts (State-wide) 2025 Horseshoe Crab Harvest

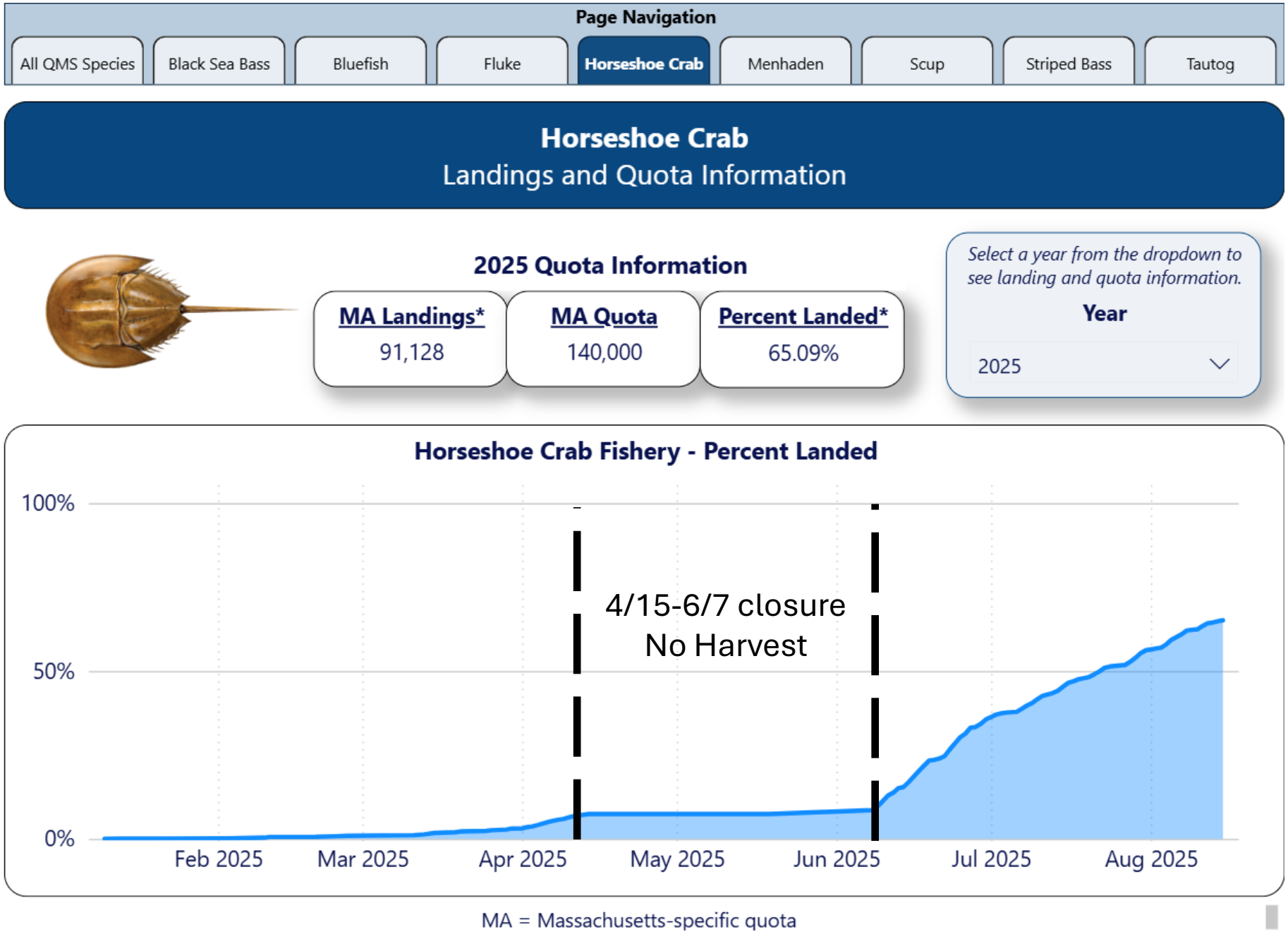
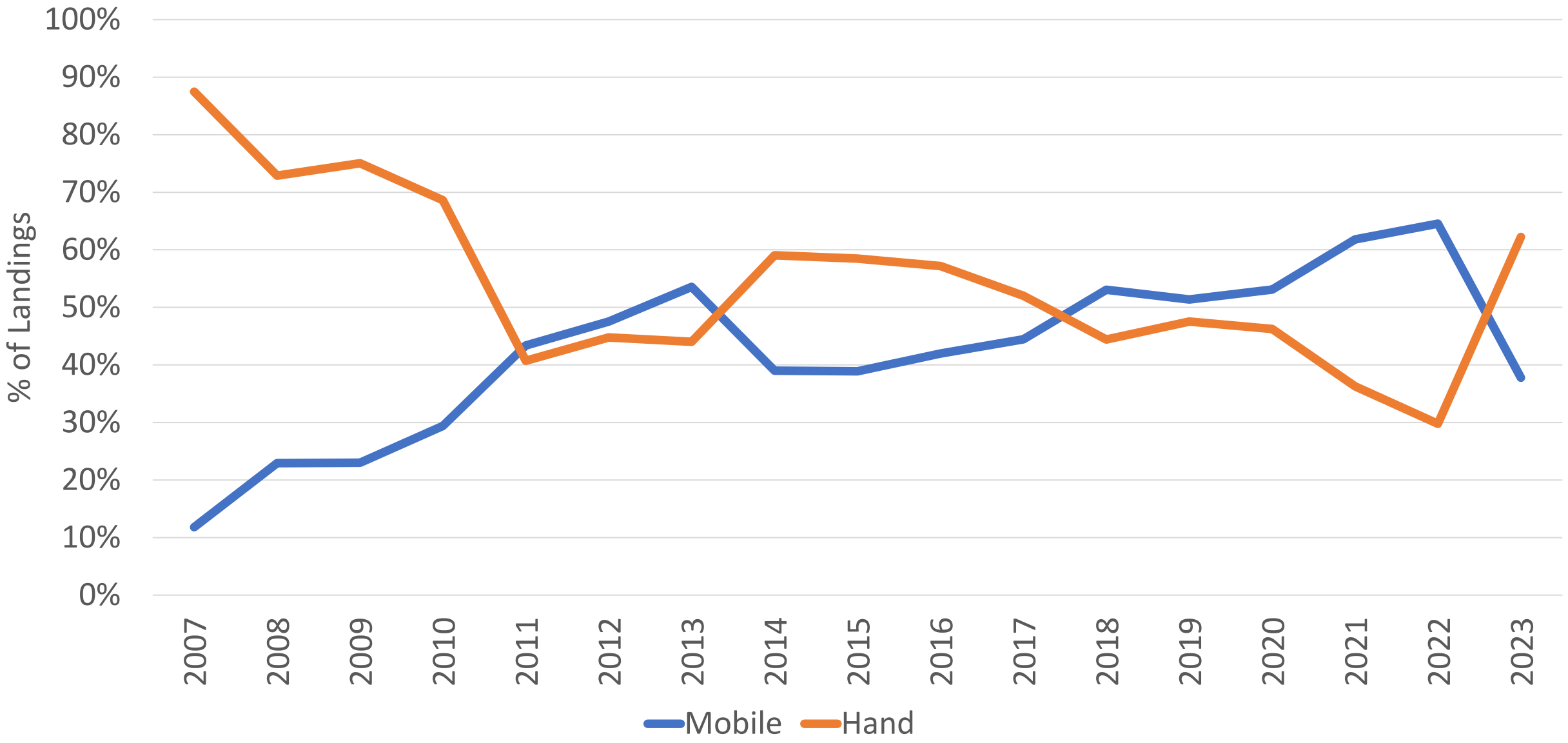


Figure above from DMF website shows cumulative % harvest through mid- August

Percent of Bait Landings By Gear Type



Data source: MATL Reports and NMFS VTRs

Questions?

The Commonwealth of Massachusetts
Division of Marine Fisheries

(617) 626-1520 | www.mass.gov/marinefisheries

MAURA T. HEALEY, Governor | KIMBERLEY DRISCOLL, Lt. Governor | REBECCA L. TEPPER, Secretary | THOMAS K. O'SHEA, Commissioner | DANIEL J. MCKIERNAN, Director

MEMORANDUM

To: Thomas O' Shea, Commissioner, Department of Fish and Game

From: Daniel McKiernan, Director, Division of Marine Fisheries; Story Reed, Deputy Director; Anna Webb, Acting Assistant Director; Nicholas Buchan, Harvester Reporting Coordinator

Date: July 30, 2025

Subject: 2027 Electronic Harvester Reporting Transition Plan

Executive Summary

The Division of Marine Fisheries (DMF) requires Massachusetts commercial harvesters to submit information about their commercial trips to the Fisheries Statistics Program (hereafter Program) and is recommending a full transition to electronic harvester reporting for all trips submitted beginning March 1, 2027. Electronic reporting carries benefits to all harvesters that includes real-time access to their own trip information, the potential to improve the reporting experience for those who also hold permits in other jurisdictions, provides opportunities to reduce confusion found on reporting forms, and improves data quality and timeliness for the Program, the harvesters themselves, and data consumers. The rollout of such a program demands a thoughtful and clear process, and this timeline allows the Program to create a transition plan that will work for all fisheries and all harvesters.

This transition plan comes after numerous successful implementations of electronic reporting programs in the Northeast region. DMF successfully moved to 100% electronic reporting for dealers in January 2020 while the Greater Atlantic Regional Fisheries Office (GARFO) seafood dealers have been 100% electronically reporting since 2005. GARFO vessel trip reporting became 100% electronic in the fall of 2021 and Maine followed suit with 100% electronic harvester reporting for their lobster fleet (~6,000 permit holders) in 2023. Other offices such as Southeast Regional Office (SERO) and Atlantic Highly Migratory Species (HMS) are also planning to implement electronic reporting requirements.

The Program originally gave harvesters flexibility in their choice of reporting method due to ongoing technological limitations in the available programs as well as to acknowledge the industry's lackluster support of the new technology in the early 2010s. In the following 15 years, technology has improved within the applications, and further improvements are expected in the coming years. The technology is now positioned well to support a full electronic reporting transition.

Ultimately, this program is expected to improve and streamline the reporting experience for the harvesters and for the Program staff. Data will become available to consumers sooner, and the quality of

data will improve. While the transition may be difficult for some individuals, the Program will provide resources and support to smooth the transition.

Reporting Program Background

Starting in 2010, all commercial harvesters began submitting monthly, comprehensive, standardized trip-level data for all wild commercial trips conducted under the authority of their MA commercial permits. In 2011, all cultured harvest was added to the reporting requirements. Those individuals holding a federal permit with reporting requirements to NOAA Fisheries are exempt from reporting to DMF for those activities occurring on their federally permitted vessel. This change eliminated annual species and gear specific catch reports that were collected for years, some since the late 1960s, and has enhanced the agency's capabilities to monitor catch and effort information in all Massachusetts commercial fisheries. It also meets the interstate standards promoted by the Atlantic States Marine Fisheries Commission (ASMFC) through the Atlantic Coastal Cooperative Statistics Program (ACCSP).

Trip-level reports submitted on paper require substantial review, data entry, and processing, resulting in a significant workload for Program staff. The process includes initial quality control measures, scanning and maintaining over 10,000 files yearly, and data entry of, on average, 61,000 trips per year. After data entry, the project manager performs additional quality control measures on entered data, including tracking errors, contacting harvesters, data loading, and monitoring harvester compliance. Staffing the data entry role has also evolved over time and with changes to available funding. In 2021, the program shifted from utilizing 1-3 temporary employees to hiring a permanent full-time employee of which 75% of their time was expected to be spent on data entry. Additional short-term temporary employees are often hired in the later winter months for 3 to 5 months at a time to assist finalizing a year's data entry, though due to lack of available funding, the Program was unable to hire such an employee in the winter of 2025. There is a steep learning curve to data entry and the high rate of turnover in this position often requires substantial additional workload supervising staff during training periods.

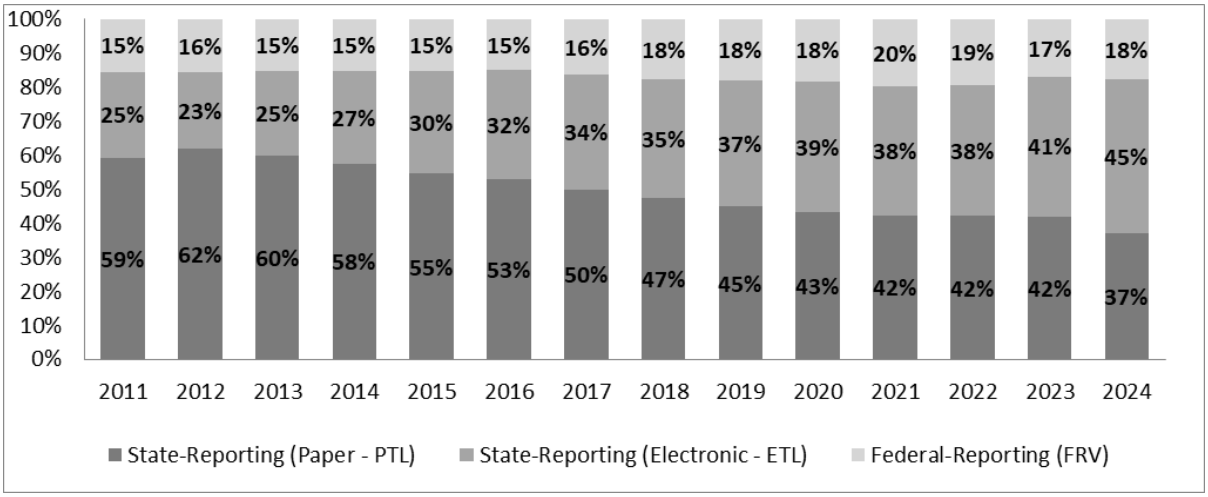


Figure 1. Percentage of commercial harvesters with reporting requirements by their selected reporting method, 2011-2024.

The Program has offered optional electronic reporting to harvesters since 2010, and the percentage of harvesters choosing this method has steadily increased over time (**Figure 1**). In 2024, over 50% of

harvesters reporting to the state chose this method, our highest voluntary participation to date. However, only 41% of the positive trips were entered electronically in 2024. The remainder of electronically reporting harvesters primarily reported “did not fish” reports or did not follow through on their electronic selection and submitted paper instead. Thus, the data entry burden on Program staff remains significant.

In 2024, DMF mandated that any harvester holding either a Horseshoe Crab or Menhaden endorsement report electronically contributing to the increase in electronic reporting seen in that year in Figure 1. While the Program initially believed a staggered rollout of the electronic reporting requirement would be best, it quickly learned that such a rollout plan is difficult to manage and requires far more work than anticipated. This is especially true given the large ongoing burden of paper report management.

Electronic Reporting Evolution and Improvements

Both paper and electronic reporting have benefits and flaws. For paper reporting, the benefits include multiple rounds of manual review prior to loading data into the database for final storage. This effort catches most errors leading to cleaner data available for data consumers. However, this review, entry, and load process is a high effort process that persists on continuously reduced funds. Additionally, the burden of data entry is not evenly distributed throughout the year. While trip level reports for a given month are due by the 15th of the following month, reports are often late and not submitted until the end of the year (**Figure 2**) resulting in the bulk of data entry for a given year occurring between January and June of the following year. This bottleneck can be further exacerbated by any unexpected issues that arise during peak entry periods. Together, these issues cause a given year’s harvester data to be unavailable to users until late summer of the following year. Such data users include stock assessment scientists, technical committee members, fishery management plan coordinators, and state fishery managers. These delays can cause further management delays or the use of less current data.

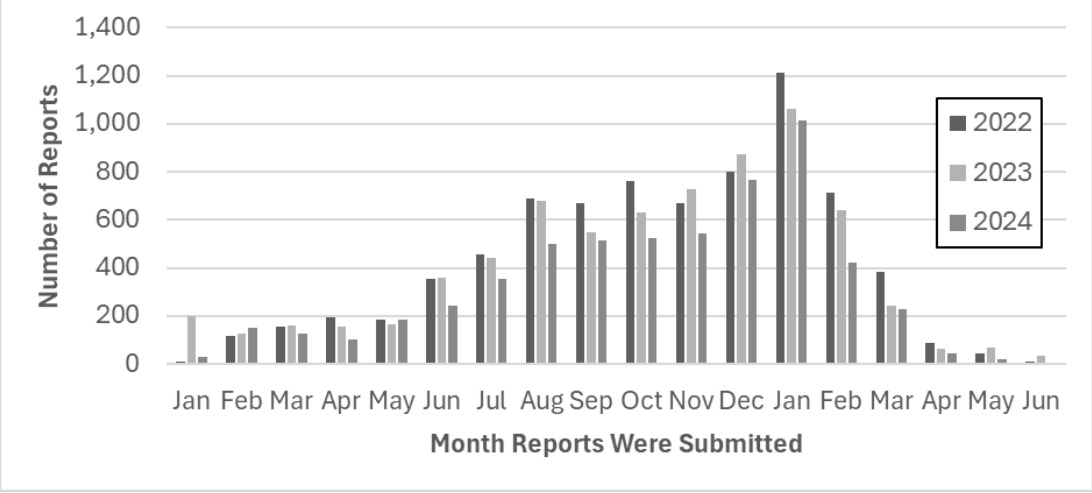


Figure 2. Number of paper reports by month of submission to DMF for 2022-2024 across the calendar year and the six months of the following year. Paper reports solely reporting ‘did not fish’ are not included here.

Easy-to-use mobile and web-based versions of the free Standard Atlantic Fisheries Information Systems (SAFIS) applications exist for users via the ACCSP. Mobile applications can be used while onboard a

vessel during a fishing trip and as such, work offline storing data to be submitted once re-connected to internet service. Electronic reporting can be much timelier than paper reporting as it is loaded directly to the SAFIS database upon submission, but still encounters some delays when harvesters wait until the end of the year to submit reports. However, given that most electronic reports must be entered prior to the limited entry and striped bass permit renewal deadline of February 28th, these data should be available sooner than with paper reporting.

Until 2025, the initial data quality of electronically submitted reports residing in SAFIS was much poorer than that loaded from paper reports since they lack the thorough review prior to entry. Moreover, with the high volume of paper report processing, quality control, and data entry taking up much of the staff time, they are limited in their capacity to review submitted electronic data resulting in many errors propagated forward in time. Several large-scale audits, particularly of fixed gear, have been conducted by the Program to improve data quality, but more efficient data auditing programs would be needed prior to a full rollout of electronic reporting. The implementation timeline proposed here provides the time and opportunity for Program staff to develop an efficient real-time auditing tool to identify and rectify errors in electronically submitted reports.

In the summer of 2025, state and federal partners will be able to utilize a new data validation tool provided by ACCSP which should greatly improve the initial data quality of electronically submitted reports. This tool will provide feedback to fishers immediately upon entering a value that is outside of normal parameters. This will further reduce the time spent reviewing submitted data and improve the turnaround time for data consumers. The implementation timeline will give the Program time to refine this tool to best support our user base. Thus, by 2027, the improvements to these platforms should make electronically submitted data equal or better quality than paper reported data upon entry into the database.

Lastly, harvesters in Massachusetts may have permits from other federal and state jurisdictions, requiring different trip-level reporting elements. A project called 'one stop reporting' (OSR) is underway that provides harvesters with an opportunity to complete requirements from any governmental agency in a single trip report. Electronic reporting for all participating partners is necessary for OSR to be adopted. Massachusetts harvesters participating in fisheries that require additional separate reports to other jurisdictions such as bluefin tuna reports required by SERO and HMS would benefit from this streamlined approach.

New Electronic Reporting Program Plan

Technology has been embraced by more industry members over the last 15 years. Most harvesters have far more exposure to electronic applications in 2025 than they had in 2010, and many more are likely to expect this transition and embrace the change. This shift in perception coupled with a clearly defined exemption program should make for a simple and smooth transition in 2027.

The Program chose the March 1, 2027 implementation date to specifically accommodate paper reporting for the upcoming 2026 calendar year. Harvesters cannot renew their commercial fishing permit unless they are compliant with trip-level reporting requirements, so by allowing paper through

February 28, 2027, which is the limited entry permit and striped bass renewal deadline, this allows harvesters to complete paper reports for 2026 before transitioning.

The new reporting program will have a clearly defined exemption to electronic reporting for harvesters to account for a variety of issues out of the control of the Program. Similar programs in other jurisdictions include exemptions based on age and/or disability, and we expect to mirror these programs. Any medical information shared with the Program for these purposes will be kept strictly confidential and no details will be saved in any files. Additional reasons for exemptions may be identified and will be addressed on an ad hoc basis. Those harvesters awarded an exemption will continue to report to DMF on paper.

A lack of hardware will not qualify someone for an exemption. Harvesters will be expected to supply their own hardware, and any device, such as a smartphone, tablet, or computer with a modern internet browser, with available hard drive space to run the application and the ability to connect to the internet will suffice. This is one of the reasons we recommend approximately 1.5 years of lead time for this requirement thus giving harvesters ample time to acquire the hardware necessary if they do not already have it. Approved reporting applications are currently all free to users.

Upon the 100% electronic reporting requirement taking effect, the current Program data entry staff would transition to primarily reviewing electronically submitted data and secondarily entering any exempted paper reports. These staff will use the newly developed auditing processes to identify issues, contact harvesters, and follow up on potential errors in to the reports. This role is well suited for the data entry staff who have years of experience interpreting paper reports and contacting harvesters regarding reporting errors as well as providing customer support for the electronic applications.

Currently, Program staff spend significant amount of time working with harvesters to tailor their reporting experience to their activities. Program staff will continue to provide phone, email, and in-person support, and intend to provide at least three opportunities for in-person training events as part of the transition plan. Many instructional materials have been developed for harvesters already, and more are planned prior to 2027. There is an additional 24/7 vendor-supplied help desk available for mobile application users.

Program staff will spend the intervening time prior to implementation doing the appropriate outreach and training on the applications to both internal and external users. This will include building improved audit processes to handle increased electronically submitted trips and more real-time communication back to harvesters regarding questions and issues and upgrading permitting applications to ensure smooth management of trip-reporting designations on permits. Finally, Program staff will use this time to investigate translation services available to users of the applications. Translated application instructions are already available to any user.

Next Steps

Upon approval and with your support, DMF plans to announce this program and begin a substantial outreach program as soon as possible, ideally no later than next month (August 2025). This timeline gives harvesters ample time to acquire hardware and prepare for the transition to electronic reporting

in 2027. The initial steps of the outreach program include presentations to the Marine Fisheries Advisory Commission, a public advisory, email campaign, and presentations to other groups. As we approach the transition date, more targeted outreach will be added as described above.

The Commonwealth of Massachusetts
Division of Marine Fisheries
(617) 626-1520 | www.mass.gov/marinefisheries

August 12, 2025

Jamie Bassett
Shellfish Broker LLC
95 Commerce Park #5
South Chatham, MA 02659

RE: Response to Proposal to Restrict Access to Biomedical Dealer Permit for Horseshoe Crabs

Jamie,

DMF has reviewed your June 6, 2025 letter that sets forth why DMF should consider restricting access to the Biomedical Dealer permit for horseshoe crabs to only existing entities. While I understand your concerns and share your interest in maintaining high performance standards in the biomedical horseshoe crab fishery, I do not intend to support your proposal nor move it forward to public hearing.

Ensuring horseshoe crabs are available to the biomedical industry for the production of Limulus Amebocyte Lysate (LAL) is critical to safeguarding public health here in America and globally. Accordingly, DMF is committed to ensuring horseshoe crabs are made available to our state's biomedical firms in a manner that does not jeopardize the long-term health of the resource. Since establishing this permit type in 2024, DMF has issued three Biomedical Dealers permits each of the last two years and expects we may issue additional permits this year to assist in the procurement of horseshoe crabs by Biomedical Processors. With any limited entry permit program attrition is expected as permit loss occurs over time for various reasons. While I believe the current scale of the fishery is appropriate, I am very concerned that limiting access to the Biomedical Dealer permit would have a chilling effect on availability of horseshoe crabs to Biomedical Processors. Should the expected attrition occur, this could substantially limit the entities that Biomedical Processors may work with to acquire horseshoe crabs.

Further, we presently require Biomedical Dealers to have a working relationship with a Biomedical Processor to ensure the horseshoe crabs obtained are used for biomedical purposes. It is our view the Massachusetts' Biomedical Processors have a strong interest in and commitment to maintaining high performance standards from harvest to release and will work with DMF and their partners at the dealer level to ensure this occurs. While a new Biomedical Dealer may present the potential for growing pains, our experience is such issues can be generally resolved

cooperatively, and if such challenges become unwieldy, it would be in the interest of the affiliated Biomedical Process to cease relations with the Biomedical Dealer. Additionally, DMF can always take action to revoke a Biomedical Dealer permit for non-compliance with the biomedical horseshoe crab handling regulations.

Despite our difference of opinion on this issue, DMF appreciates your interest in and commitment to the biomedical horseshoe crab fishery and look forward to working with you in the future.

Regards,

Daniel J. McKiernan, Director
Massachusetts Division of Marine Fisheries

cc:
Marine Fisheries Advisory Commission

June 6, 2025

Director Dan McKiernan

Massachusetts Division of Marine Fisheries

836 S. Rodney French Blvd.

New Bedford, MA 02744

Subject:

Proposal to Restrict Biomedical Wholesale Dealer Permits for Horseshoe Crabs to Existing Authorized Entities

Dear Director McKiernan,

We write to you on behalf of Shellfish Broker LLC, a long-standing and reputable biomedical wholesale dealer operating in the Commonwealth of Massachusetts. Since 2022 our company has transported, handled, managed, and overseen the responsible disposition of 418,446 Horseshoe Crabs.

As an entity that has consistently adhered to the highest standards of regulatory compliance, transparency, conservation, and best management practices, we remain committed to ensuring the sustainable management of horseshoe crab populations while maintaining the economic integrity of the biomedical sector.

In line with the Massachusetts Division of Marine Fisheries' decision to restrict biomedical processing permits to two entities — Charles River Laboratories and Associates of Cape Cod — we respectfully submit the attached proposal to extend this regulatory framework to Biomedical Wholesale Dealer Permits.

Our proposal recommends the establishment of a closed license category for biomedical wholesale dealers, limiting eligibility to currently authorized entities that have at least a three-year proven track record of experience in this sensitive field and have actually operated and been permitted to operate

as a biomedical wholesale dealer in the Commonwealth. We believe that implementing this framework will provide significant benefits, including:

- Enhanced Resource Management: Preventing free-for-all, derby-style overharvesting and maintaining sustainable populations of horseshoe crabs.
- Regulatory Consistency: Aligning regulatory policy across both processing and wholesale sectors.
- Market Stability: Protecting established dealers from market saturation and price undercutting, which could precipitate a deterioration in established best management practices required by the Atlantic States Marine Fisheries Commission (ASMFC).
- Compliance Oversight: Streamlining monitoring and enforcement, ensuring that only proven, experienced entities handle this fragile and highly scrutinized resource.
- An additional bulwark against potential environmentalist activist claims of mismanagement and/or lack of regulatory oversight.

Shellfish Broker LLC has consistently demonstrated its commitment to sustainable harvesting practices, a proven track record and intentional strict adherence to DMF and ASMFC guidelines, and the responsible handling of biomedical horseshoe crabs. In light of the proven efficacy of the limited entry framework applied to biomedical processors, we believe that extending this approach to wholesale dealers is a logical and necessary step to safeguard both the resource and the industry.

We would welcome the opportunity to discuss this proposal further and to provide additional data or context as needed. Please feel free to contact me directly at jamie@shellfishbroker.com or at 508-292-3060 should you find value in further discussing the contents of the proposal.

Thank you for your consideration of this matter and for your continued commitment to the sustainable management of our state's vital marine resources.

Sincerely,

Shellfish Broker LLC

Chatham, MA 02633

Jamie Bassett, Co-Founder, President / CEO

jamie@shellfishbroker.com

Matt Belson, Co-Founder, Finance / COO

matt@shellfishbroker.com

Phone: 508-292-3060

****

Formal Proposal to Limit Biomedical Wholesale Dealer Permits for Horseshoe Crabs in Massachusetts

Date: June 6, 2025

To: Massachusetts Division of Marine Fisheries (DMF)

From: Shellfish Broker LLC, Chatham, MA. MA-12576-SP

Subject: Proposal to Limit Biomedical Wholesale Dealer Permits for Horseshoe Crabs to Existing Authorized Entities

Overview:

The Massachusetts Division of Marine Fisheries (DMF) has established a regulatory framework that limits the number of biomedical processors of horseshoe crabs to two firms — Charles River Laboratories (CRL) and Associates of Cape Cod (ACC). This strategic policy decision effectively stabilizes the industry, mitigates environmental impact, and ensures strict oversight of harvesting practices.

In line with this established regulatory approach, there is a compelling and prudent case for similarly limiting the issuance of Biomedical Wholesale Dealer Permits to existing, established, and experienced entities currently operating in the horseshoe crab industry. The rationale for this approach is as follows:

I. Executive Summary

This proposal recommends that the Massachusetts Division of Marine Fisheries (DMF) implement a regulatory framework that restricts the issuance of Biomedical Wholesale Dealer Permits for horseshoe crabs to currently authorized entities. This approach would align with the existing regulatory structure that limits biomedical processing permits to two firms — Charles River Laboratories (CRL) and Associates of Cape Cod (ACC) — ensuring market stability, resource sustainability, and regulatory consistency.

II. Background and Context

In Massachusetts, the biomedical harvesting of horseshoe crabs (Limulus polyphemus) is a highly regulated sector, primarily due to the species' ecological significance and the sensitivity of Limulus Amebocyte Lysate (LAL) production. Currently, only two firms, CRL and ACC, hold the exclusive rights to process horseshoe crabs for LAL production.

However, the issuance of Biomedical Wholesale Dealer Permits remains open, creating the potential for a deterioration in best management practices, market saturation, resource depletion, and regulatory challenges. As a leading biomedical wholesale dealer in Massachusetts, Shellfish Broker LLC seeks to establish a framework that restricts this permit category to existing, authorized entities that have demonstrated measurable expertise in safeguarding industry integrity and resource sustainability.

III. Justification for Limiting Biomedical Wholesale Dealer Permits

1. Conservation and Resource Management:

- Controlled Harvesting and Resource Sustainability:
    - Limiting the number of biomedical dealers is crucial to preventing overexploitation of horseshoe crab populations.
    - Maintaining a finite number of licensed dealers allows the DMF to more effectively monitor and manage crab populations, ensuring sustainable harvest levels.

- Risk of Overharvesting:
    - Expanding the number of biomedical dealers would increase demand for crabs, potentially exceeding the established 200,000-crab annual quota, undermining conservation goals and parameters.

2. Regulatory Oversight and Compliance:

- Enhanced Monitoring and Enforcement:
    - The DMF has already established a closed licensing structure for biomedical processors to streamline monitoring and enforcement.
    - Applying the same framework to biomedical dealers would enable the DMF to continue effectively track and regulate harvest volumes, ensuring compliance with established quotas.

- Experienced and Proven Entities:
    - An existing biomedical wholesale dealer, such as Shellfish Broker LLC, has demonstrated consistent compliance with DMF regulations, operating under strict protocols to ensure crab welfare and regulatory adherence.
    - New entrants will definitively lack the experience and infrastructure necessary to meet stringent handling, transport, and reporting requirements.

3. Economic Stability and Market Protection:

- Preventing Market Saturation:
    - Allowing additional biomedical dealers to enter the market would increase competition for a finite resource, leading to potential price undercutting and supply chain disruptions.

- Protecting Investments and Existing Infrastructure:
    - Established dealers have made significant capital investments in infrastructure and equipment to meet regulatory standards.
    - Limiting the number of biomedical dealers would protect these investments, ensuring a stable and predictable market environment.

4. Regulatory Consistency and Precedent:

- Precedent of Limited Entry Licensing:
    - The DMF's existing policy to limit biomedical processing permits to two firms serves as a regulatory precedent for restricting wholesale dealer permits.
    - Aligning the regulatory structure for both processing and wholesale distribution would create a consistent policy framework, reducing regulatory ambiguity and enforcement challenges.
    -

IV. Proposed Framework and Implementation

- Implementation of a Closed License Category:
    - The DMF shall establish the Biomedical Wholesale Dealer Permit as a closed license category, restricting eligibility to currently authorized entities that have a proven track record.
    - Existing biomedical wholesaler dealer permits will be reviewed to ascertain and confirm that they have the requisite experience, licensing, permitting, infrastructure, and equipment to operate in this scrutinized category.
    - No new biomedical wholesale dealer permits will be issued beyond those currently operating as of the effective date of this policy.

- Permit Renewal and Compliance Monitoring:
    - Existing dealers shall be required to renew permits annually, contingent upon demonstrated compliance with DMF regulations and conservation guidelines.
    - A comprehensive compliance review and audit shall be conducted annually to assess adherence to reporting requirements, handling protocols, equipment infratstructure, and sustainability measures.
- Reevaluation and Adaptive Management:
    - The DMF may revisit this policy after three years to assess the impact on horseshoe crab populations, market dynamics, and industry compliance.
    - Adaptive management measures, such as quota adjustments or conservation set-asides, may be implemented based on the findings of this review.

V. Precedent of Limited-Entry Fisheries in Massachusetts

To support the rationale for restricting Biomedical Wholesale Dealer Permits for horseshoe crabs to currently authorized entities, it is critical to demonstrate that such limited-entry frameworks are not novel but rather a longstanding and well-established regulatory tool employed by the Massachusetts Division of Marine Fisheries (DMF) across multiple fisheries. These measures have been introduced to promote sustainable resource use, prevent market saturation, and support effective regulatory oversight.

The following is a chronological overview of fisheries or license categories in Massachusetts that have been closed to new entrants or transitioned to limited-access frameworks:

- **Chronological List of Closed/Limited-Entry Fisheries in Massachusetts, to our knowledge**

  - **1970s – Coastal Lobster Permits**

    The DMF implemented a limited-entry system for Coastal Lobster Permits. This action was among the earliest efforts to control fishing efforts and promote sustainable management of the state's lobster fishery. Under this limited-entry system, new Coastal Lobster Permits are not generally issued. Instead, existing permits can be transferred under specific conditions, often involving the sale of fishing business assets. This approach helps to maintain a balance between economic interests and conservation efforts, ensuring the long-term viability of the lobster population.

  - **1992 – Mobile Gear Fisheries**

    DMF implemented control dates to restrict new entry into mobile gear fisheries (e.g., gillnet, trammel net, otter trawl), laying the groundwork for future limited-access endorsements.

  - **1994 – Groundfish Closed Areas**

    Creation of Closed Areas I & II, the Nantucket Lightship Closed Area and Cashes Ledge to protect overfished stocks such as Atlantic cod and haddock.

  - **1998 – Western Gulf of Maine Closure Area (WGoMAC)**

    Closure to most groundfish effort year-round to support cod stock recovery; only exempted gear types permitted.

- **Early 2000s – Coastal Access Permit (CAP)**

  CAP was introduced as a limited-entry requirement for mobile gear use in state waters. New entrants are restricted; permits can only be renewed or transferred.

- **2003 – Offshore Lobster Permits (Federal Waters)**

  A moratorium on new Offshore Lobster Permits has been in place since February 6, 2003. Transfers are restricted and require approval from the Director.

- **2010s – Pot Fisheries (Conch, Black Sea Bass, Scup)**

  DMF created limited-entry endorsements for these fisheries to control rapid growth and protect stock sustainability. Permits are transferable but not available to new applicants.

- **2015 – Atlantic Red Crab Fishery**

  This deep-sea crustacean fishery was designated limited access to control effort and ensure consistent management of a sensitive and economically valuable species.

- **2020 – Commercial Tautog Fishery**

  The DMF instituted a limited-entry system for the commercial tautog fishery. Under this system, renewals were restricted to fishermen who held a commercial tautog regulated fishery permit endorsement in 2018 or 2019 and had sold at least 120 pounds of tautog in any year during 2010–2016. This measure aimed to reduce the number of potential harvesters from approximately 2,000 to about 200, aligning with recent activity levels and ensuring effective administration of the commercial program.

- **2023 – Biomedical Horseshoe Crab Dealer Permits**

  Massachusetts formalized regulations limiting biomedical dealer permits to existing entities associated with LAL production. This shift recognized the sensitive nature of horseshoe crab stocks and the need for tight controls on industry entry.

This record clearly illustrates DMF's longstanding use of limited-entry programs as a conservation and management strategy. By adopting a closed entry system for Biomedical Wholesale Dealer Permits—just as it has for processors and multiple other high-impact fisheries, the DMF would be acting in full alignment with past regulatory precedent, legal defensibility, and sustainable fisheries policy.

VI. Risk Assessment

Potential risks to both the horseshoe crab population, the fishing category as a whole, fishing industry participants, and the Massachusetts Division of Marine Fisheries (DMF) if a closed-entry system for Biomedical Wholesale Dealer Permits is not adopted:

- **Risks to the Horseshoe Crab Population**

  - **Overharvesting Pressure**

    More permit holders could significantly increase demand, possibly pushing harvest levels beyond the sustainable quota (currently 200,000 for biomedical use).

    Even if quotas are not immediately exceeded, increased competition may incentivize aggressive, potentially unlawful derby-style harvesting strategies, heightening stress on local populations.

- **Spawning Disruption**

  Untested, unproven, and additional dealers permitted by the DMF, depending upon their scruples, may promote harvest and poaching during the main time frame of the spawning season in violation of closures. The DMF has no guarantee nor does it have any history from any such potentially permitted dealers that would prove responsible compliance.

  Disruption of spawning behaviors can reduce recruitment and weaken long-term population stability.

- **Higher Pre-Bleeding and Post-Mortality**

  New or inexperienced dealers may lack best-practice protocols for crab handling, transport, and storage, leading to increased stress and mortality.

  For example, improper temperature control or improper and/or overhandling, or inadequate equipment and infrastructure can directly contribute to crab deaths even if quotas are not violated.

- **Enforcement and Oversight Burden**

  With limited resources and budgetary constraints, how would the DMF maintain and/or augment the current level of regulatory Enforcement should new entrants, that may not possess the requisite level of experience, be permitted to operate?

  More permit holders mean more operations to monitor for compliance with pre-bleeding, holding, post-bleeding, transport, and live broadcast release regulations.

  Increases the likelihood of unintentional or willful non-compliance going undetected due to limited enforcement resources, personnel, capacity and bandwidth.

- **Regulatory Inconsistency**

  Allowing open access for dealers while maintaining closed entry for processors undermines the internal logic and consistency of DMF's regulatory framework.

  This could open DMF to criticisms of policy incoherence or favoritism.

- **Reduced Data Accuracy and Monitoring Integrity**

  More operators make it harder to maintain accurate, standardized reporting of harvest volumes, mortality, and return locations.

  Inconsistent data impairs DMF's ability to model populations and assess the effectiveness of conservation measures.

- **Risk of Undermining Public Confidence**

  Perceptions of unchecked growth or lack of control over biomedical harvests could lead to additional criticism from environmental organizations, coastal communities, and the public.

  May erode the credibility of DMF's conservation mission and damage its reputation.

- **Litigation and Legal Challenges**

  If open-entry results in harmful ecological outcomes, DMF may face legal challenges under the Massachusetts Endangered Species Act, NEPA, or from public interest lawsuits.

  Failure to adopt a more restrictive policy could be construed as regulatory negligence in the face of known risks

- **Industry Risks:**

  ## The High-Stakes Landscape of the Biomedical Horseshoe Crab Industry

  The biomedical horseshoe crab industry occupies a uniquely precarious position at the intersection of public health necessity and environmental conservation. The Atlantic horseshoe crab (Limulus polyphemus), often termed a “living fossil,” has become indispensable due to its blue blood, which contains Limulus Amebocyte Lysate (LAL)—a substance critical for detecting bacterial endotoxins in vaccines and medical devices. This singular utility has elevated the industry’s profile, making it both vital and vulnerable.

  Environmental organizations across the United States have increasingly targeted this industry, advocating for stringent regulations or complete cessation of horseshoe crab harvesting despite any positive scientific information on the subject such as that which has been exhaustively and responsibly presented at such meetings as the public 2025 Massachusetts Horseshoe Crab Science Meeting held at the Massachusetts Division of Marine Fisheries on March 14, 2025. The concerns of, often ill-informed environmental organizations, too numerous to list here, center on the ecological repercussions of overharvesting, particularly the decline of shorebird populations like the red knot, which rely on horseshoe crab eggs for sustenance during migration. Any misstep—be it from inexperienced operators, inadequate procedures, or unforeseen accidents—could amplify these concerns, leading to heightened scrutiny, legal challenges, and potential shifts in regulatory oversight.

  The Massachusetts Division of Marine Fisheries is aware of past occurrences that have indeed brought, and/or could have brought ill-informed and unscientific commentary, scrutiny, opinion, knee-jerk reactions and negative press to the fishery. The DMF stands at the forefront of this delicate balance. Maintaining rigorous standards and ensuring only qualified and tested entities participate in the biomedical harvesting of horseshoe crabs is paramount. Failure to do so risks not only ecological harm but also the possibility of the DMF ceding control to other state or federal agencies or perhaps even facing industry-wide

shutdowns possibly precipitated by nothing more than uninformed conjecture.

Here is a chronological overview of negative press and legal challenges in regard to the biomedical horseshoe crab industry:

Chronological Overview of Negative Press and Legal Challenges

An examination of the past two decades reveals a pattern of escalating scrutiny and legal actions:

- 2014 – “Blue Bloods” Article in The New Yorker
  This piece brought national attention to the practice of bleeding horseshoe crabs, highlighting concerns about mortality rates and the lack of transparency in the industry.
- 2018 – Frontiers in Marine Science Review
  A comprehensive review examined the biomedical industry’s impact on horseshoe crab populations and the derivative effects on shorebirds, emphasizing the need for sustainable harvesting strategies.
- 2023 – Court Orders Halt to Harvesting in South Carolina
  A federal judge blocked Charles River Laboratories from harvesting horseshoe crabs in the Cape Romain National Wildlife Refuge, citing violations of environmental laws and the potential harm to red knot populations.
- 2024 – Lawsuit Demands Transparency in Maryland
  The Center for Biological Diversity filed a lawsuit against the Maryland Department of Natural Resources, seeking data on horseshoe crab deaths and injuries, alleging that the state was concealing critical information.
- 2025 – Maryland Court Orders Release of Mortality Data
  A Maryland judge ruled in favor of the Center for Biological Diversity, mandating the release of previously withheld data on horseshoe crab mortality associated with biomedical harvesting.

- 2025 – Pharmaceutical Companies Shift Away from Horseshoe Crab Blood
  Reports indicated that major pharmaceutical companies began adopting synthetic alternatives to LAL, driven by environmental concerns and public pressure.

VII. Conclusion and Recommendation

Given the sensitive nature of the horseshoe crab resource, the ecological importance, the vital medical significance of LAL production, the established regulatory precedent of limited entry licensing for biomedical processors, the optics, and political pitfalls of the industry, we would argue that it is both logical, prudent, and strategically sound to extend this regulatory structure to qualified and proven biomedical wholesale dealers, post haste.

Implementing a closed permit category for biomedical dealers will:

- Ensure sustainable harvesting practices and prevent overexploitation.
- Protect against derby style harvesting practices.
- Ensure consistent compliance with best management practices.
- Protect existing investments and market stability.
- Maintain regulatory consistency across the biomedical sector.
- Enhance monitoring and compliance capabilities for DMF.

Shellfish Broker LLC respectfully urges the Massachusetts Division of Marine Fisheries to adopt the proposed framework, augmenting and reinforcing the state's commitment to resource sustainability and regulatory integrity.

Shellfish Broker, LLC
Chatham Fish Pier
Chatham, Massachusetts

August 8, 2025

To:
Dan McKiernan, Director
Massachusetts Division of Marine Fisheries
251 Causeway Street, Suite 400
Boston, MA 02114

Subject: Request to Transfer Horseshoe Crab Bait Quota to Biomedical Quota

Dear Director McKiernan,

Thank you for your consideration of the following:

Shellfish Broker, LLC respectfully submits this request to the Division of Marine Fisheries and petitions the agency to consider a management action that would allow for rolling transfers of horseshoe bait quota into the biomedical category to be determined at intervals during the remainder of the fishing season starting September 1st as well as to re-evaluate the horseshoe crab bait fishery as a whole. This would help to ensure that this valuable and tightly regulated marine resource is utilized to its fullest benefit — economically, scientifically, environmentally, and locally. We also believe that any transfer should remain in the open catch market and not divided between any firms, a policy which would result in the hobbling of the biomedical fishery and the unnecessary suppression of the Free Market.

We understand the sensitivity of the horseshoe crab topic, but we would like to know if it would be possible to have this subject placed on the September 2025 MA Marine Fisheries Advisory Commission (MFAC) for public discussion. We would of course make ourselves available for any discussion of the topic, and / or updates, prior to the MFAC's regularly scheduled meeting.

Demonstrated Success of Best Management Practices

Over the past several years, we have adhered to and actively cooperated with all DMF regulations and oversight. We were pleased to see the findings from the March 14, 2025 Horseshoe Crab Science Meeting, which affirmed that current biomedical harvest operations — including those conducted by Shellfish Broker — are among the most scientifically monitored and responsibly executed fisheries in the Commonwealth.

Key findings include:

• Zero mortality observed among 3,117 horseshoe crabs sampled at-sea by DMF biologists in 2024.
• Pre-bleeding mortality rates were just 0.0% for males and 1.0% for females, per DMF biomedical pen and lab sampling.
• Post-release mortality rates at the time of release were similarly low: 0.6% for males and 1.7% for females.
• A portion (3%) of discarded mobile gear crabs were found to bear biomedical marks from the prior year — strong evidence of post-bleeding survivability.
• No dead crabs were reported across any of the seven 2024 at-sea sampling trips.
• Biomedical harvest now represents the third most observed fishery in Massachusetts, with 35 dedicated trips and nearly 11,000 crabs sampled in total by DMF staff.

These findings confirm what responsible operators already know: this fishery is being conducted in a sustainable, controlled, and transparent manner. Shellfish Broker, in particular, operates under tightly defined daily limits, weather-dependent access, and consistent interaction with DMF staff and inspectors.

Waste in the Bait Sector and Diminishing Demand

We would like to comment on the unused portion of the 140,000-crab bait quota, which continues to be underutilized in Massachusetts and, in some cases, sold out of state.

In 2024, our company accounted for 59,909 bait crabs. Of these:

- 29,909 were sold, by us, at a deeply discounted price of $0.50 per crab to another Massachusetts dealer (an 83% discount from the $3.00 retail price), who either froze them or sold them out of state. The true disposition of these crabs is unknown as the DMF does not track secondary, or tertiary sales.

- The remaining 30,000 were sold, by us, at $0.50 per crab to an out-of-state conch dealer where there was strong demand. This is obviously not our preference as we would like to supply Massachusetts fishermen and not subsidize other states fisheries.

We have a strong and knowledgeable background in the bait industry and it is our opinion that if Massachusetts conch fishermen had strong demand for these bait crabs (which we have yet to experience) it is logical to posit that they might have seized this historic pricing opportunity. They did not and they still do not purchase crabs in any quantity, although we have made the bait resource readily available to them. To date, we have sold at $0.25 cents, approximately 3,000 horseshoe crabs to a small handful of Massachusetts conch fishermen, this while incurring freezer costs. In our opinion, this indicates systemic overcapacity in the

bait quota, which stands in contrast to the highly regulated biomedical quota that will run up against harvest ceilings.

In the early part of this season, we handled a small amount of bait horseshoe crabs in order to keep two bait horseshoe crabbers working. One was a hand harvester who has relied on hand harvesting for decades (his season ended in early July as the crabs moved offshore) and the other is a quahog dragger that is currently bringing in small quantities of crabs (40-70) each time he goes, weather permitting. Other than that, we are not handling or purchasing any bait horseshoe crabs. The bulk of our 100% Rent-A-Crab participation ended in early July and we have mainly focused on our allotment of the biomedical quota, while trying to accommodate the quahog dragger's extremely small catch. We do have out of states markets for the bait Rent-A-Crabs but we are trying to conserve these for Massachusetts conch fishermen as we believe this is the DMF's preference.

Compounding this issue is the overall decline in the Massachusetts whelk fishery, which is the primary consumer of bait horseshoe crabs. The following table, to the best of our knowledge, highlights the stark downward trends:

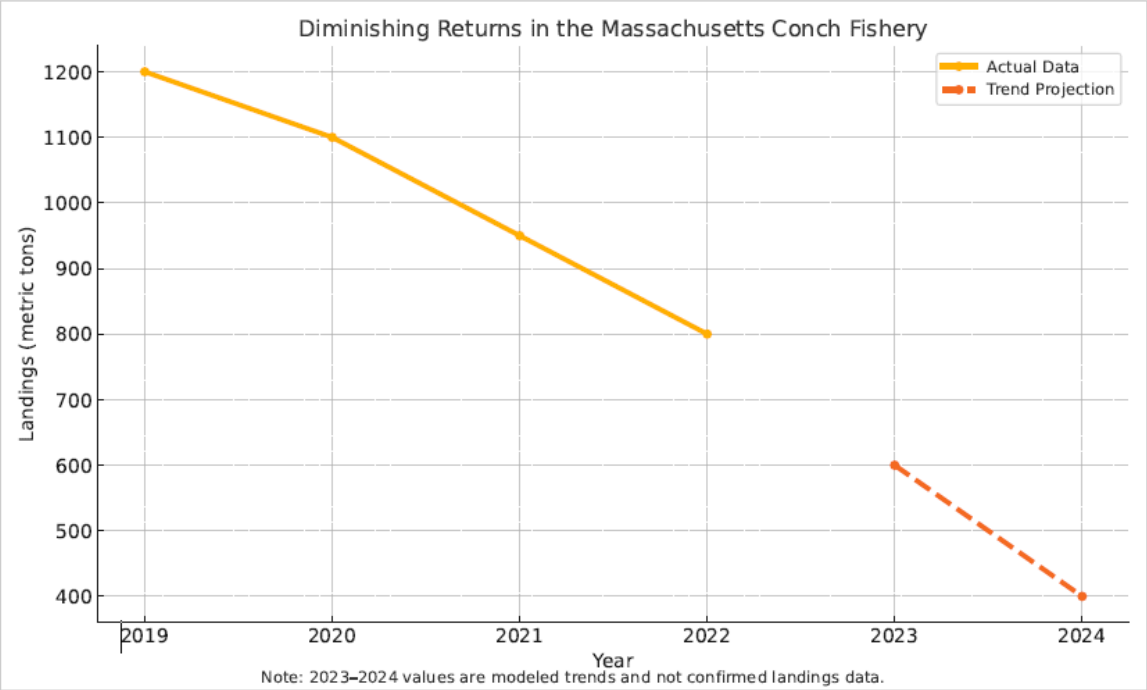
Year	**Active Permits**	**Traps Hauled**
2018	79	433,351
2023	47	249,725

This represents a 40% drop in active permits and a 30% decline in trap effort over just five years. In a fishery with declining participation and yield, maintaining a static bait quota—especially one that is routinely sold outside the state—is both biologically and economically inefficient.

This not only represents missed opportunities for Massachusetts to add value locally but also exposes us to criticism from environmental stakeholders regarding inefficient and non-localized use of our precious marine resources.

For the 2025, we are experiencing very small demand for bait horseshoe crabs. On June 18th 2025 we sent out a marketing postcard mailer to all 127 Massachusetts Conch Permit holders alerting them that we are offering conch bait for an even deeper discount at $0.25 per crab (a 91.7% discount from the $3.00 retail price) as mentioned above. We are not surprised by the uninterested response. To date we have received 3 inquiries to our efforts which equate to a 2.36% response rate. Separately, we have not received inquiries from any Massachusetts conch dealers which indicates that their freezers are possibly full, a familiar scenario that has happened in the past. We also hear that the per pound price for conch is fluctuating around $2.50 in Massachusetts and it is in shambles in Rhode Island where the price has been reported to be at $2.25 / lb.

The data and trend seem clear.



Possible Negative Impact of the Fluke Fishery on the Horseshoe Resource

Another issue that warrants reconsideration is the continued allowance for fluke trawler vessels to retain up to 300 bait horseshoe crabs per day as bycatch. While this policy may have initially been implemented to reduce waste, its practical effect appears to do the opposite. Despite this daily retention allowance, the actual in-state demand for bait horseshoe crabs has plummeted. In 2024, as mentioned, our company accounted for 42.79% of the total bait quota allocation (59,909 crabs used in the Rent-A-Crab Program), and of those approximately 30,000 were shipped out of state due to lack of interest from Massachusetts conch fishermen. This year, we are witnessing a similar severe market trend, offering bait crabs at $0.25—well below market average—yet, receiving virtually no interest, while refraining from entering the conch market directly. Meanwhile, fluke vessels continue to remove large quantities of crabs, not for their own use but to sell into a conch bait market that shows little evidence of genuine demand. Why is this happening? Is the bulk of this horseshoe resource being shipped out of state? This raises concerns of economic inefficiency, unnecessary mortality, and biological waste, especially when these crabs could have been released alive or redirected to the biomedical sector in Massachusetts, where they are used non-lethally for critical global health applications.

Would it not be preferable to retain, for Massachusetts, a resource that is so important rather than having it shipped out of state where it will experience 100% mortality and as conch bait for commercial fishermen that are not even Massachusetts residents? We urge the Division to evaluate whether this bycatch quantity policy remains justified in light of current market realities, and whether it is contributing to a pattern of overharvest and misallocation of an ecologically and medically important species.

The Rent-A-Crab Effect

Another significant point worth emphasizing is the role of the Rent-A-Crab program, which admirably and conservation mindedly seeks to maximize the utility of the 140,000 bait crab quota by encouraging that horseshoe crabs first be bled for biomedical use before being frozen and sold as conch bait. We support this approach and, in fact, have acted in direct alignment with these conservation goals. In 2024, Shellfish Broker handled approximately 59,909 bait horseshoe crabs through the Rent-A-Crab program—likely the highest number of any bait dealer in the state. If we conservatively hypothesize that others processed a comparable amount, that could mean that roughly 120,000 of the 140,000 bait crabs passed through the Rent-A-Crab program before going to bait. However, that leaves at least 20,000 (most likely much more) bait horseshoe crabs that were never utilized for LAL extraction and were instead sold directly into a conch bait market that continues to show weak or negligible demand. This represents a lost opportunity—not just from a conservation standpoint, but also from a biomedical one. It is worth noting that when DMF imposed the 200,000-crab limit on the biomedical fishery and split it evenly between two entities, we were left with no viable option but to participate in the Rent-A-Crab program if we wished to acquire crabs. In effect, our involvement supported DMF's stated conservation objectives, yet we cannot access additional biomedical quota under current regulations despite our demonstrated capacity, infrastructure, and track record of responsible harvest and processing. A policy modification allowing for the flexible transfer of unused bait quota to biomedical use would help ensure that every harvested crab contributes meaningfully to both conservation and public health goals.

The bait fishery filled its quota again in 2024 and closed early, despite being ranked just 28th in economic value among all Massachusetts commercial fisheries. These diminishing returns contrast sharply with the rising demand and critical importance of LAL (Limulus Amebocyte Lysate) testing in pharmaceutical, medical device, and vaccine safety.

Further, the 100% mortality rate of bait use, compared with the excellent onshore survival rate in biomedical use, speaks volumes. If conservation and a sustainable fishery is a shared goal, then diverting unused quota, at a certain time, to the biomedical sector is not only a rational choice — it's an environmental imperative.

The Horseshoe Crab Derby

Derby-Style Fishery Concerns: Addressed and Disproven

When the DMF initially established equal biomedical quotas for two entities, it did so in part to prevent a 'derby-style' fishery. The DMF's earlier prudent rationale for splitting the quota equally between processors – to prevent such a derby – may have been understandable at the time but has proven unnecessary in practice. This concern, to the best of our knowledge, has not materialized. But if the DMF believes that it has, we would be grateful if the Division could identify any issues so that we could be proactive and address them. After four years of operating in this space, we believe that the biomedical horseshoe crab fishery has remained stable, methodical, and respectful of trip limits. Bio-vessels under our management operate 5 trips per week at most, weather permitting, with low crew capacity and limited gear. There is no race to land. In fact, our pace is defined by handling and processing capacity and strict adherence to quota and sampling schedules — often in coordination with DMF biologists on board. Our infrastructure ensures a consistent, moderate harvest pace and categorically refutes any suggestion of a "derby-style" fishery. That noted, we are indeed thankful for the DMF's oversight and guidance at inception without which, the industry may not be where it is today, in our opinion, the model for best practices for Horseshoe Crab Husbandry along the Eastern Seaboard. The data now available through the DMF's own monitoring programs affirms that our operations are responsible, predictable, and consistent with best management practices and that we have not, and do not, engage in derby-style fishing practices. In contrast, we would urge the Division to determine whether or not there may be derby-style fishing practices in horseshoe crab bait fishery.

The Vital Role of Horseshoe Crab–Derived LAL in Global Health

As the DMF is well aware, the biomedical use of horseshoe crabs — specifically the extraction of Limulus Amebocyte Lysate (LAL) — plays an irreplaceable role in the protection of human health worldwide. LAL is used to test for the presence of bacterial endotoxins, which can cause fatal reactions if introduced into the human bloodstream. Every injectable pharmaceutical product — from insulin and cancer therapies to COVID-19 vaccines — must pass LAL testing to meet U.S. FDA and global pharmacopeial standards.

This includes not just drugs, but medical devices such as catheters, surgical implants, dialysis tubing, and IV fluids, as well as many vaccines, biologicals, and cell therapies. Without LAL, it would be impossible to safely manufacture or distribute these products. Disruption to the LAL supply chain could risk widespread contamination, product recalls, or

halted production lines — with grave consequences for global public health.

While synthetic alternatives like recombinant Factor C (rFC) have emerged and are used in some limited applications, the FDA does not yet consider rFC equivalent to LAL for all safety testing. Moreover, LAL remains the only universally accepted, validated, and scalable method for endotoxin detection across global markets. As a result, the demand for LAL is projected to remain strong or even increase, especially with the global expansion of biotech, biologics, and advanced therapies.

The role that the Massachusetts biomedical harvest plays in this global supply chain is both critical and highly regulated. Our ability to continue meeting this demand — safely and sustainably — requires flexible policies that promote full utilization of our existing quota framework. Redirecting unused bait quota toward biomedical use supports not only fisheries efficiency, but also global health resilience.

A Solution That Reflects Responsible Stewardship Of A Sustainable Resource

We respectfully propose that the Division adopt a flexible framework whereby projected unused bait quota may be transferred or reallocated to the biomedical sector under limited, regulated circumstances. This mechanism could be seasonal, conditional on evidence of unused bait quota by a certain date/s, or implemented administratively via permit-specific adjustments.

This proposal does not call for increased overall harvest, but rather for responsible reallocation of unused bait quota to maximize utility, reduce waste, and support a sector that has proven its sustainability and value as a local Massachusetts fishery through data and deed.

In Closing, we are grateful for your stewardship of Massachusetts' marine resources and for the Division’s continued commitment to science-driven management. Thank you for considering this request.

Respectfully,

Jamie Bassett, Founding Partner
Matthew Belson, Founding Partner
Shellfish Broker, LLC
Chatham, Massachusetts

Citations:

[1] U.S. FDA (2020). Guidance for Industry: Pyrogen and Endotoxins Testing. https://www.fda.gov/media/83477/download

[2] Novitsky, T. (2009). Biomedical Applications of LAL. Invertebrate Survival Journal, 6(2), 93–101.

[3] Maloney, T. et al. (2018). Saving the horseshoe crab: PLOS Biology, 16(10), e2006607.

[4] ASMFC (2023). Best Management Practices for Biomedical Horseshoe Crab Collection. http://www.asmfc.org/species/horseshoe-crab

The Commonwealth of Massachusetts

Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Charles D. Baker
GOVERNOR

Karyn E. Polito
LIEUTENANT GOVERNOR

Bethany A. Card
SECRETARY

Tel: (617) 626-1000
Fax: (617) 626-1081
http://www.mass.gov/envir

October 3, 2022

Zachary Jylkka
Bureau of Ocean Energy Management
Office of Renewable Energy Programs
45600 Woodland Road Mailstop: VAM-OREP
Sterling, VA 20166

Dear Mr. Jylkka:

The Massachusetts Executive Office of Energy and Environmental Affairs (EEA) respectfully submits these comments to the Bureau of Ocean Energy Management (BOEM) in response to the Request for Information (RFI) and Request for Competitive Interest (RFCI) to inform the ongoing planning and leasing for offshore wind in the Gulf of Maine. These comments support the overall goal of balancing the management of vital economic and natural resources in coastal and ocean waters of the shared Gulf of Maine with the introduction of a new ocean use: offshore wind. Ensuring the continuity of maritime commerce, recreation, and commercial fishing are priorities for the Commonwealth along with avoiding and minimizing impacts to existing maritime habitats and species as BOEM commences the planning process for potential commercial leasing of offshore wind in the Gulf of Maine.

In 2008 EEA formed two working groups, a Fisheries Working Group,[1] which includes fishing industry representatives, agencies, and interested non-governmental organizations and a Habitat Working Group,[2] which involves representatives from state and federal agencies, the offshore wind industry, and interested non-governmental organizations. Discussions within the work groups helped to inform the planning for the Massachusetts/Rhode Island (MA/RI) Wind Energy Areas (WEAs) and will also inform the planning for offshore wind in the Gulf of Maine. We solicited input from these working groups in preparation of this comment letter.

Reducing carbon emissions through the development of renewable energy, including offshore wind energy, is critical to combatting the global climate crisis. The Commonwealth strongly supports

[1] https://www.mass.gov/service-details/fisheries-working-group-on-offshore-wind-energy
[2] https://www.mass.gov/service-details/habitat-working-group-on-offshore-wind-energy

the Biden-Harris Administration's ambitious goals to achieve 30 gigawatts (GW) of offshore wind by 2030, 15 GW of floating offshore wind by 2035, and commercial leasing in the Gulf of Maine in 2024. We applaud the federal government's legislative actions in support of this goal, including the Bipartisan Infrastructure Law and the Inflation Reduction Act. The goals of the Commonwealth align closely with those of the Biden-Harris Administration. Since 2016, with the signing of the Act Relative to Energy Diversity, Massachusetts has been a national leader in offshore wind policy and market development and will host the first-in-the-nation commercial-scale offshore wind project in federal waters, the 800 MW Vineyard Wind 1 project. We have committed to renewable energy targets including a statutory authorization of 5.6 GW, 3.2 GW of offshore wind projects under contract to date and currently under development,[3] a schedule of future offshore wind procurements to ensure timely delivery of offshore wind to Massachusetts ratepayers, and a goal to achieve net zero emissions by 2050. Offshore wind leasing in the Gulf of Maine is critical for Massachusetts to meet its legislatively mandated offshore wind energy goals.

Modeling conducted for the Massachusetts 2050 Decarbonization Roadmap[4] indicates that offshore wind will be a significant component of the Commonwealth's and the region's electricity generation, requiring over 15 GW for Massachusetts alone by 2050, and approximately 30 GW for New England to achieve the region's renewable or clean energy targets. With nearly 7 GW currently under contract to Massachusetts, Rhode Island, Connecticut, and New York for projects in the existing lease areas off Southern New England, existing offshore wind procurement authorities and goals in the Northeast are expected to utilize the capacity of the existing lease areas over the next few years. To meet the states' long-term energy and decarbonization goals, new offshore wind areas will be needed. The commencement of the comprehensive planning and analysis process for commercial leasing in the Gulf of Maine is an important step, and the Commonwealth is committed to supporting BOEM through our role on the Intergovernmental Renewable Energy Task Force and in other capacities.

Request for Information

As we look to the Gulf of Maine as the next region to support offshore wind, it is important to consider how the siting of new lease areas can drive advancements in technology, competitive energy pricing, and efficient use of existing transmission infrastructure. As with the southern New England areas, the identification of multiple wind energy areas in the Gulf of Maine would support the offshore wind goals of the northeastern states, increase competition between offshore wind developers, support the industry's growth, and put downward pressure on costs for ratepayers. In the MA/RI WEAs, seven lease areas held by five different developers/leaseholders has led to a relatively competitive offshore wind market in the Northeast and resulted in cost-effective pricing for ratepayers in state procurements and robust commitments to economic and workforce development.

With that experience, to maximize the economic benefits, WEAs in the Gulf of Maine should also be geographically distributed, with sufficient WEAs to maximize competition among offshore wind developers, which in turn encourages competition and diversity in developers' strategies for siting and use of innovative floating wind technologies. In addition, ensuring a wide geographic distribution of WEAs would allow for multiple offshore transmission routes to access onshore

[3] Current Massachusetts offshore wind procurements totaling 3,204 megawatts (MW) are comprised of Vineyard Wind 1 (800 MW), Mayflower Wind (804 + 400 MW), and Commonwealth Wind (1,200 MW).
[4] https://www.mass.gov/info-details/ma-decarbonization-roadmap

interconnection points that would allow for cost-effective integration of renewable energy into the onshore power grid.

Finally, WEAs in the Gulf of Maine should be sized to allow developers to take advantage of economies of scale, which can help reduce costs for ratepayers and minimize siting impacts to existing maritime uses such as fishing as well as marine habitats and species. Recent offshore wind projects contracted by states have been sized at around 1,200 MW, which can allow for efficient use of high-voltage direct current (HVDC) cable technology that can reduce siting impacts from offshore cabling and maximize use of onshore grid interconnection points.

The Commonwealth supports the delineation of the RFI planning area for the Gulf of Maine which excludes areas from further consideration for the siting of offshore wind. Specifically, we agree with BOEM's determination that the following areas are incompatible with offshore wind development: areas within 3 nautical miles (nm) from shore and those beyond 200 nm from shore; National Parks, National Wildlife Refuges, National Marine Sanctuaries, or any National Monuments; Existing Traffic Separation Schemes (TSS), fairways, or other internationally recognized navigation measures; existing BOEM lease areas; and unsolicited lease request areas that are the subject of a separate request for competitive interest (e.g., State of Maine's requested research lease). In addition, with these comments, we recommend: 1) additional areas that should be excluded from further consideration for leasing by BOEM; and 2) areas that require further data gathering, analysis, and discussion with stakeholders to determine whether they are suitable for the siting of offshore wind in the Gulf of Maine. Below are more details related to these two topics.

While Massachusetts legislation sets out ambitious offshore wind goals, it also requires offshore wind developers exporting electricity to Massachusetts to site wind turbine generators (WTG) at least 10 miles from any inhabited shore.[5] Areas within 10 miles from the Massachusetts coastline should be excluded from further consideration for the siting of offshore wind. Additionally, we recommend an extended shoreline buffer of an additional 10 nm along the entire Gulf of Maine shoreline to account for the increase in WTG size since 2016 and the potential for even greater increases in WTG size due to technological advancements and increasing efficiency in energy generation. This additional buffer will reduce potential visual impacts along the Gulf of Maine coastline. Further, we acknowledge that nearshore waters tend to exhibit higher concentrations of maritime uses such as recreational boating and day boat commercial fishing. Other maritime activities located closer to shore include offshore disposal sites, pilot boarding areas, port-related vessel traffic, and identified danger zones. Thus, we support BOEM investigating the implementation of an additional 10 nm shoreline buffer to a total of 20 nm to avoid and significantly minimize the potential for conflicts with these existing maritime uses and reduce visual impacts (see attached map).

In addition to a shoreline buffer, we recommend that BOEM exclude offshore wind development from areas designated by the National Oceanic and Atmospheric Administration (NOAA) as Habitat Management Areas (HMA). Fishing by bottom tending mobile gear is prohibited in HMAs due to the areas' importance in supporting various fish populations. These areas include the Western Gulf of Maine HMA, the Fippennies Ledge HMA, the Cashes Ledge HMA, the Ammen Rock HMA, the Jeffreys Bank HMA, and the Eastern Maine HMA (see attached map). Further, we recommend regions of significant seafloor ledges which are known to support diverse populations of

[5] https://malegislature.gov/Laws/SessionLaws/Acts/2016/Chapter188

marine species, including marine mammals, be assessed for exclusion from siting of offshore wind. These areas may include areas encompassing and adjacent to Georges Bank, Jeffreys Ledge, Fippennies Ledge, Cashes Bank, and Platts Bank.

To reduce potential conflict between future wind development areas and offshore commercial fishing, we recommend that BOEM, with input from fishing industry representatives, advance efforts to accurately represent where fishing activity occurs and identify areas of high priority, value, and density to commercial fishing. Areas known to be highly productive fishing grounds for mobile fishing should be excluded from further consideration for offshore wind.

Highly productive areas should also be identified for the offshore lobster industry where geospatial data are limited but represent the single most commercially valuable wild-harvested species in the northeastern United States. Although geospatial data for the lobster fishery are incomplete, conclusions regarding the general distribution of lobster fishing activity across the Gulf of Maine relative to distance from shore and the federal Lobster Management Areas (LMAs) (see attached map) should inform the selection of areas for further consideration for the siting of offshore wind. Lobster trap densities are expected to be highest in inshore (0-3 miles) and nearshore (3-12 miles) waters where vessels of all sizes, including small open boats make day trips and return to port every day. The largest vessels in the lobster fleet make multi-day trips and frequent waters beyond 12 miles out to the limits of the Exclusive Economic Zone (EEZ). A separate Lobster Management Area (LMA 3) was created for these larger multi-day trip lobster vessels because this fleet is unique in its scale of operation (i.e., vessel size, crew size, trip length, and distance fished from shore). Since 1999, participation in the LMA 3 fishery has been limited and reduced by NOAA National Marine Fisheries Service (NMFS) through a limited entry system and individual, vessel-specific trap limits that are based on the vessel's fishing history. In subsequent years, trap allocations have also been reduced in LMA 3 for conservation purposes by 25% on a per-permit basis. As a result of these management actions, the amount of fishing in LMA 3 is comparatively low and has been substantially reduced with no potential for increases. In total, 123 permit holders and approximately 108,000 traps are allocated for LMA 3 that extends from the Canadian Border south to waters off Virginia. Further, LMA 1 has more dense lobster fishery activity—the trap density in LMA 1 is approximately 122 traps/mile^2 while the trap density in LMA 3 is 8 traps/mile^2. Lobster fishing decreases with distance from shore and specifically within LMA 3. Potential conflict with the lobster industry would be reduced if WEAs were sited in the easternmost portions of LMA 1, east of the Western Gulf of Maine HMA, and within LMA 3 (refer to attached map). BOEM should consider this pattern of lobster fishing activity as the planning and leasing process continues.

Although marine spatial data for the Gulf of Maine are robust, there are maritime uses and species for which a reliable and data-driven understanding of their spatial footprints requires further development and analysis. Some work is already underway to fill known data gaps. Vessel tracking on lobster vessels will be required for all federal permit holders by the end of 2023 (MA will require the same beginning in May 2023); additional aerial surveys targeted at North Atlantic right whales have begun in the Gulf of Maine RFI area; seafloor mapping to 24 nm is nearing completion; and tracking of avian species across the Gulf of Maine is ongoing. We recommend that BOEM continue to coordinate with states, federal agencies, and other stakeholders to gather and analyze data to incorporate into the planning and leasing for offshore wind. Further, with these and other data and supplemented by expert input, we suggest that BOEM identify and avoid the following areas in the siting of offshore wind in the Gulf of Maine.

- Areas of high-density fishing activity and value across fishing sectors and inclusive of all state fishing fleets
- Areas of dense concentrations of large whales, especially the North Atlantic right whale and other endangered whales[6]
- Priority migration corridors and nesting, staging and foraging areas for federal and state endangered and threatened avian species

As a new technology, there is some uncertainty surrounding the implementation of floating offshore wind technology and compatibility with existing maritime uses including fixed and mobile fishing gear as well as marine habitats and species including large mammals. We recommend that BOEM solicit information from developers and industry leaders on the emerging technology and lessons learned from Europe and Asia where demonstration and early commercial stage floating wind projects have been deployed. Specifically, information relating to the potential interactions between floating wind platforms and cables with fishing activity; offshore floating array orientation, spacing and configuration to minimize impacts on maritime navigation and fishing activity; and the implementation of floating platform substructure designs, tethering, and cabling to minimize impacts to seafloor habitats while advancing opportunities to enhance habitats.

The offshore wind developers and their equipment suppliers are likely to have the best available information about the evolution of technologies and implementation techniques associated with floating wind energy projects. Thus, we suggest that BOEM seek information from offshore wind developers relating to the placement of WEAs relative to distance from shore and proximity to ports and interconnection points.

Given that information regarding the location of some existing resources and uses is still under development (e.g., aerial whale sightings, avian migration corridors and foraging areas, lobster fishery activity) and given the vital importance of the Gulf of Maine to the coastal economies of surrounding states, we recommend that BOEM commit to a data-driven Ecosystem Based Management (EBM) approach to identify areas within the Gulf of Maine with the least conflict with proposed floating offshore wind activities. Such an EBM approach would clearly define the data used to winnow the RFI area, how these layers are considered in relative importance in the geospatial analyses, how priorities are determined, how the interactions between maritime uses is incorporated and would include robust stakeholder involvement from maritime uses and state and federal agencies. Specifically, my agencies have a wealth of knowledge and experience in marine spatial planning in Massachusetts waters and within the Gulf of Maine and should be directly engaged in the development of any such EBM approach.

Request for Competitive Interest

The Commonwealth supports the state of Maine's application to develop a floating wind research array in the Gulf of Maine. The research grant represents an important opportunity to test designs and methods, understand impacts and opportunities, and develop technologies for the emerging floating offshore wind industry. The research grant can be used to support a broad range of research interests from regional and national stakeholders and institutions, which in turn will help advance the floating offshore wind in the United States. We support ensuring that the timeline for the research array would closely align with that for commercial leasing in the Gulf of Maine. However, we

[6] Blue, Fin, Humpback, North Atlantic right, Sei, and Sperm whales are all listed as endangered in Massachusetts.

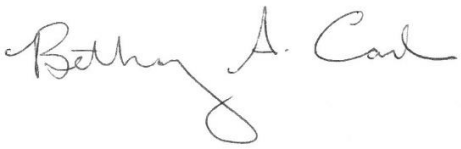
suggest that BOEM ensures that commercial leasing would not be delayed due to any anticipated or unanticipated timeline or pending research schedules associated with the Maine research array. As with commercial projects, the research array should minimize potential impacts to marine resources, habitats, and users.

The planning for commercial leasing of offshore wind in the Gulf of Maine will require input and participation from those representing the many existing maritime uses, habitats, and species in this incredibly diverse and unique ecosystem. Massachusetts is committed to continuing to work with our stakeholders, ranging from offshore wind technology developers, environmental non-governmental organizations, commercial and recreational fishing industry representatives, scientists, and others to gather the best available data and information to inform BOEM's planning for the Gulf of Maine. We also commit to working across the Gulf of Maine to consider and incorporate inter-state perspectives and interests.

Further, Massachusetts sincerely appreciates the ongoing collaborative efforts among the states of Maine, New Hampshire, and Massachusetts regarding shared interests in planning for offshore wind in the Gulf of Maine and we look forward to continuing our joint efforts in supporting BOEM as the process moves forward. We also appreciate the joint efforts of the six New England states and federal agencies in developing a joint transmission development framework that will support the long-term goals to advance the integration of necessary clean energy, including offshore wind. That effort will be a necessary component in the successful deployment of offshore wind.

Thank you for the opportunity to provide comments to BOEM on the RFI/RFCI for offshore wind development in the Gulf of Maine. The Commonwealth appreciates BOEM for its expertise in siting energy on the continental shelf and working with the various agencies and entities with an interest in Gulf of Maine resources and uses. My agencies and offices look forward to continuing to work with BOEM, key stakeholders like our commercial fishing operations, other federal agencies and the states of Maine and New Hampshire as the planning process for siting offshore wind in the Gulf of Maine continues.

Sincerely,



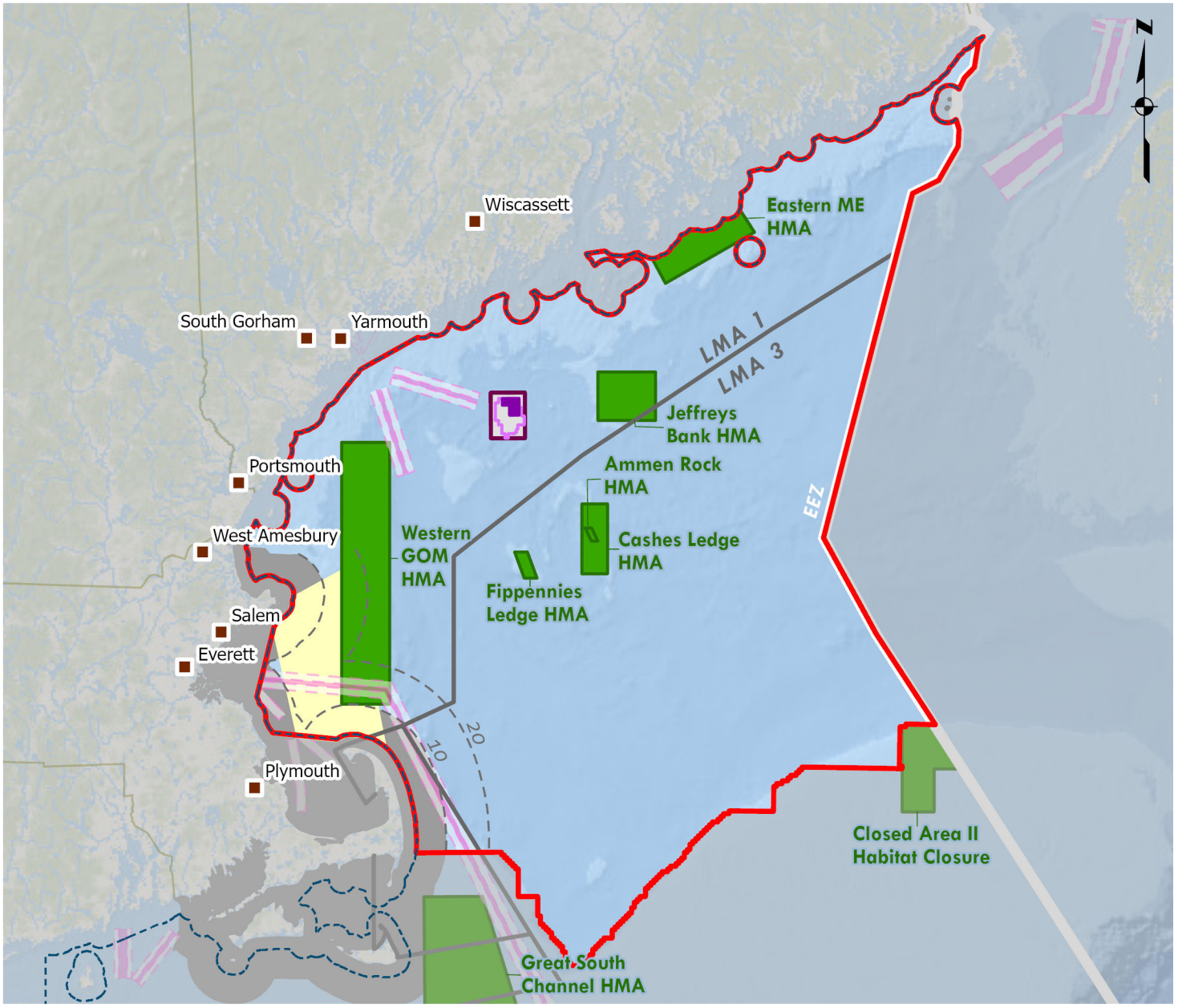
Bethany A. Card
Secretary

Attachment: BOEM Gulf of Maine RFI/RFCI map

cc:

James Bennett, David MacDuffee, Luke Feinberg, Bureau of Ocean Energy Management
Marc Sanborn, NH Department of Environmental Services
Dan Burgess, Maine Governor's Energy Office

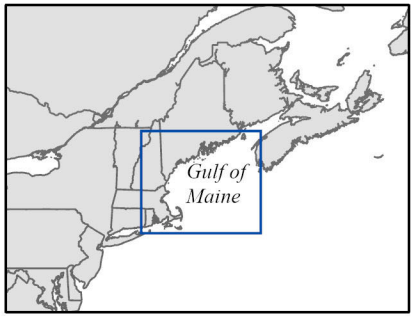
G:\agency_data\CZM\Gulf_of_Maine_WEA\GOM_WEA_WorkingProProject\GOM_WEA_WorkingProProject.aprx



Legend

- RFI Planning Area
- Gulf of Maine RFCI
- Maine Research Array Narrowed AOI
- Maine Research Array Requested Lease Area
- NOAA/NMFS Habitat Management Areas
- Stellwagen Bank National Marine Sanctuary
- Lobster Management Areas
- Traffic Separation Schemes
- Traffic Lanes
- Select New England Electrical Transmission Substations
- Submerged Lands Act Boundary
- *MA Shoreline Buffer (nm)
- *Area within 10 nm from MA shoreline

*Based on unofficial lateral seaward boundaries



Massachusetts Office of Coastal Zone Management
Executive Office of Energy & Environmental Affairs

10/3/2022

BOEM Gulf of Maine RFI/RFCI

The Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Maura T. Healey
GOVERNOR

Kimberley Driscoll
LIEUTENANT
GOVERNOR

Rebecca L. Tepper
SECRETARY

Tel: (617) 626-1000
Fax: (617) 626-1081
http://www.mass.gov/eea

July 1, 2024

Karen Baker
Office of Renewable Energy Programs
Bureau of Ocean Energy Management
45600 Woodland Road
Sterling, VA 20166

RE: Docket No. BOEM–2024–0026: Atlantic Wind Lease Sale 11 (ATLW-11) for Commercial Leasing for Wind Power Development on the U.S. Gulf of Maine Outer Continental Shelf – Proposed Sale Notice

Dear Chief Baker,

The Massachusetts Executive Office of Energy and Environmental Affairs (EEA) respectfully submits the following comments to the Bureau of Ocean Energy Management (BOEM) in response to the above-referenced Proposed Sale Notice (PSN). These comments incorporate input received through conversations with stakeholders and with subject matter experts from my agencies and offices. We look forward to continued engagement with BOEM, stakeholders, our fellow Gulf of Maine States, and other federal agencies regarding this and future lease sales in the Gulf of Maine, and throughout the development of wind energy projects in Gulf of Maine leases.

The development of floating offshore wind in the Gulf of Maine is critical to ensure the

Commonwealth of Massachusetts achieves its carbon emission reduction targets. Massachusetts strongly supports the Biden-Harris Administration's goals to achieve 30 gigawatts (GW) of offshore wind by 2030 and 15 GW from floating offshore wind by 2035 while reducing costs of floating offshore wind. These national goals align with the Commonwealth's requirement of achieving net-zero carbon emissions by 2050, a target which is expected to require at least 23 GW of energy from offshore wind, including 10 GW or more from the Gulf of Maine. Meeting these state and national decarbonization milestones on time will enable us to minimize the adverse impacts we are already witnessing in our ocean and coastal ecosystems, including warming ocean waters, sea level rise, and increased frequency and intensity of coastal storms.

Siting offshore wind within the already-busy Gulf of Maine is a complex challenge that requires careful analysis of numerous factors and engagement with an array of stakeholders. Existing ocean habitats, resources, and uses in the Gulf of Maine, including commercial and for-hire fisheries and the economic value they provide to the Commonwealth, are critically important to our economy, history, and culture. The planning and siting process conducted by BOEM for the Gulf of Maine has been robust and informed by best available data and significant stakeholder engagement. With spatial suitability models developed by the National Oceanic and Atmospheric Administration's (NOAA) National Centers for Coastal Ocean Science (NCCOS) and a transparent and iterative review process for applying and interpreting the model outputs, BOEM has taken into consideration the many marine uses and environmental concerns in the region. In siting the wind energy leases, and in developing this PSN, BOEM has responded to concerns raised by Massachusetts on behalf of its stakeholders, including comments in our previous letters of October 3, 2022, June 12, 2023, and November 20, 2023.

Bidding Credits

The Commonwealth generally supports the use of bidding credits in this lease sale to facilitate growth and stability of the offshore wind industry and to mitigate impacts to Gulf of Maine fisheries. As stated in our previous comments of November 20, 2023, in response to the release of the draft Wind Energy Area, we also recommend bidding credits for supporting environmental research for wildlife and habitats in the Gulf of Maine. Recognizing that BOEM will allocate at most 25% non-monetary factors in this lease sale, we request BOEM keep the existing Fisheries Compensatory Mitigation bid credit (with some adjustments as discussed below) at the same or similar percentage as it currently carries (12.5%), but split the remaining available percentage between the workforce/supply chain credit described in the PSN and a new credit for contributions to research on the impacts of offshore wind on Gulf of Maine wildlife and habitats. Awarding credit for financial contributions to research to better understand the potential impacts of offshore wind development on wildlife and habitats, including habitats that support commercial fisheries and critically endangered species, would be consistent with the power purchase agreement bid requirements in Massachusetts and other states. Funds derived from a bid credit for wildlife and habitat research and monitoring should be administered by the Regional Wildlife Science Collaborative for Offshore Wind.

Massachusetts is one of eleven states involved in the establishment of a regional fund that

would administer financial compensation for fisheries economic impacts resulting from offshore wind development off the Atlantic Coast. As such, we support the Bidding Credit for Fisheries Compensatory Mitigation for commercial and for-hire recreational fisheries that would be directed towards the regional fund. Also, we are encouraged that the proposed credit is higher in this PSN compared to previous lease sales in other regions. The Fisheries Compensatory Mitigation bid credit is especially critical in the Gulf of Maine given the value of the groundfish fishery in the area and the potential for exclusion of mobile gear from floating wind arrays. The fishing industry has indicated that demand for fisheries compensation in the Gulf of Maine over the course of these projects from planning, through construction, operations, and decommissioning will likely exceed the funds generated through a 12.5% bidding credit. However, the bid credit monies could be directed to near-term fisheries impacts related to those activities specifically authorized by this lease sale (such as site characterization surveys and site assessment), leaving the longer-term impacts from construction, operations, and decommissioning to be assessed and mitigated as part of BOEM's National Environmental Policy Act (NEPA) review of individual project COPs and/or state level reviews under the Coastal Zone Management Act. In addition to monies being put towards direct compensation, bid credit monies could be used to support coexistence between offshore wind and the fishing and seafood industries, for example through support of fisheries resource enhancement programs, innovation and research funds, or shoreside community funds.

For the Final Sale Notice, BOEM should consider adjustments to the implementation of the Fisheries Compensatory Mitigation credit and the Workforce Training credit so that they may better serve members of the fishing industry. In the southern New England lease areas off Massachusetts and Rhode Island to date, fisheries direct compensation is applicable and payable only to the owner of a fishing vessel that fished the area during the eligible baseline period defined by developers. If a permit is transferred between vessel owners, payments cease. BOEM should encourage developers through lease stipulations and Record of Decision conditions to allow fishing permit transfers among vessels to be included in direct compensation programs. Additionally, BOEM should consider making fisheries compensation available to vessels transiting through lease areas in addition to current compensation requirements listed in the PSN (page 35233) such as gear loss or damage and lost fishing access within the Gulf of Maine Lease Areas. As opposed to fixed foundation turbines in the southern New England WEAs, floating wind turbines will move within a watch circle when installed. This characteristic of floating arrays and the related safety concerns may exclude fishing vessels navigating through wind lease areas to a greater extent than for fixed foundation arrays. The Bidding Credit for Workforce Training should support opportunities for training within and around floating arrays, such as crew on scout vessels, for commercial fishing industry members to gain unique and transferable on-the-water skillsets.

Fisheries Compensatory Mitigation

While not the subject of this PSN, we recommend that BOEM review related policies that may need to be updated given this and other recent PSNs and renewable energy lease sales in areas where depths are expected to necessitate floating wind technology. Specifically, BOEM should update the "Guidelines for Mitigation Impacts to Commercial and Recreational Fisheries on the Outer Continental Shelf Pursuant to 30 CFR part 585" for wind lease areas to include the unique

characteristics and conditions of floating offshore wind technology, such as for the Gulf of Maine, particularly with respect to the payment structure during wind farm operation. The text currently written in the Operations section of the draft guidance for fisheries mitigation reads, "Generally, and as a minimum standard it should be assumed that there is an adjustment period for fisheries post construction. BOEM recommends that, at minimum, lessees consider the following payment structure be available for claimants: 100 percent of revenue exposure for the first year after construction, 80 percent of revenue exposure 2 years after construction, 70 percent of revenue exposure 3 years after construction, 60 percent after four years, and 50 percent after five years post construction. Compensatory mitigation beyond 5 years post-construction may be necessary and should be evaluated based on the activities proposed in the COP." However, the adjustment period for the commercial fisheries in the Gulf of Maine will likely differ significantly than that within fixed foundation arrays due to the floating technology, anchor types, spacing among turbines, and arrangement of moorings/cables in the water column that may preclude fishing operations. Therefore, we recommend that BOEM, in consultation with NOAA National Marine Fisheries Service (NMFS), increase both the duration of assumed operational impacts and percentage of revenue exposure per year post-construction in an updated draft guidance that accounts for floating wind technology. Pre- and post- construction monitoring of fishing activity within the lease areas should be gathered to inform the update to BOEM's Guidelines for Mitigation Impacts.

Potential impacts to commercial and for-hire fisheries, and the need for additional compensation, will vary between projects and according to their design, layout, and location. During its NEPA review, BOEM should consult with NMFS to determine the value of fisheries within each lease area and utilize their new socioeconomic tool[1] in wind lease areas to evaluate landings and revenue values according to lease areas, species type, gear type and port/state of landing. We recommend that BOEM consider enabling the fisheries communities to have more input on how fisheries compensation should be disbursed given some concern that monies used in previous compensation programs do not always address the fisheries (and fishing industry participants) most impacted by offshore wind development. Allowing the fishing industry to have more input regarding fisheries compensation could ameliorate impacts for those fisheries most impacted by offshore wind development and help inform the Eleven States Initiative.

Benthic Resource Protection

The Commonwealth supports a robust planning process to identify cable routes through federal waters that will be useful to the offshore wind industry while also minimizing impacts to existing resources and uses. The Massachusetts Office of Coastal Zone Management is working with the Stellwagen Bank National Marine Sanctuary (SBNMS) and NCCOS to identify potential cable routes through state waters and federal waters including those in SBNMS that minimize impacts to natural and cultural resources. BOEM should require lessees to consult with this group and consider using the routes identified through this effort before proposing cable routes in a Construction and Operations Plan (COP).

[1] https://www.fisheries.noaa.gov/resource/data/socioeconomic-impacts-atlantic-offshore-wind-development

The PSN includes an advisory that deep sea corals, sponges, and hardbottom habitat have been identified in the Gulf of Maine, and that these areas may be subject to protections during activities authorized by the lease or by any future COP. The Commonwealth supports restrictions that avoid and minimize impacts to deep-sea corals, sponges, and biologically sensitive benthic habitat. BOEM should include a restriction via lease stipulation on anchoring, sampling, or other bottom contact associated with survey vessels and other site characterization activities on or within a defined distance from hardbottom habitat, coral areas, fish spawning areas, and other sensitive areas as identified through consultation with NOAA or other relevant agencies. Given the paucity of data on the Gulf of Maine Seafloor, if anchoring, sampling, or otherwise making contact with the seabed will occur in areas without recent bathymetric or other surveys, those surveys should be conducted first to avoid impacts to protected habitats that have not yet been identified. The specific distance to keep from protected habitats during site assessment activities should be at least as great as that in similar stipulations on recent BOEM leases elsewhere. Likewise, any future COP approvals should include a requirement for a similar setback distance for construction-related anchoring and disturbance, especially any permanently installed anchor lines that may continuously disturb the seafloor such as catenary anchor lines on floating turbine platforms. When turbines and their foundations (whether floating or fixed) are installed, required setbacks from hard bottom and protected habitats should be considered during the micro-siting process and required by the COP terms and conditions.

Responses to BOEM Questions for Stakeholders

Number, Size, Orientation, and Location of the Proposed Lease Areas

The eight proposed lease areas include five that are partially or entirely located within 75 miles of shore. Since wind farm construction costs increase with distance, this arrangement will support the early phases of commercial scale floating offshore wind by reducing costs and barriers to entry as the industry becomes established. The eight lease areas are approximately equal in size and are arranged such that two are closest to possible grid interconnection points in Maine, and six are likely closer to interconnection points in Massachusetts. The geographical spread of the leases approximately aligns with the spread of expected demand for the energy they will produce, with Massachusetts requiring at least 10 GW of offshore wind power from the Gulf of Maine, and Maine requiring 3 GW.

The initial auction in the Gulf of Maine should include sufficient leased area to facilitate the development of at least 13 GW of offshore wind to support the combined offshore wind targets for Maine and Massachusetts, with additional area made available in subsequent auctions. The currently proposed eight leases will enable states to meet their requirements, and all should be offered for auction in 2024. While we expect and encourage BOEM to lease all eight areas, if for any reason the initial auction does not include them all, then those closest to shore (e.g., OCS-A 0562, OCS-A 0563, OCS-A 0564, OSC-A 0567, and/or OSC-A 0568) should be prioritized for this lease sale, with the rest included in a subsequent Gulf of Maine lease sale currently scheduled for 2028. With this PSN, BOEM has not offered all available area within the final WEA, with the expectation that some of the remaining area may be included in additional lease areas not yet

delineated as part of that future lease sale. Leasing in phases in this way will allow for needed collection and analysis of data on fisheries and habitat impacts from floating offshore wind development to occur in this first set of leases; this additional data may inform future refinements to lease areas, the overall WEA, or project designs for areas leased in 2028 or beyond.

The proposed lease areas avoid Rodgers Swell and Mayo Swell. These areas should not be leased now or in future auctions. We encourage BOEM to continue to engage stakeholders to ensure that all such seabed features important to fisherman are avoided in any other leasing within the current Wind Energy Area (WEA) or elsewhere within the Gulf of Maine. If BOEM eliminates or reduces the size of any lease areas or of the final WEA, we recommend that development be excluded from the top 3 quantiles of the Vessel Monitoring System (VMS) groundfish activity provided through the Northeast Seafood Coalition, especially near or at important fishing features including Rodgers Swell and Davis Swell. BOEM should also consider a 1.5-2 nautical mile (nm) setback along the eastern edge of Lease Area OCS-A 0564 with no subsurface or surface offshore wind infrastructure in that area due to the infrequent trips but high-volume landings of groundfish species (e.g., Acadian Redfish) there. The gaps between leases and the restrictions on development within the leases that together create transit corridors should also be retained in this and any future leases sales in the area.

The proposed lease stipulation "Surface Structure Layout and Orientation" in Addendum C would require lessees of lease areas that abut without a transit corridor gap to design a structure layout with two common lines of orientation across the adjacent leases, and if the lessees cannot agree on the same layout, each must have a 1 nm setback from the lease boundary. We recommend that BOEM clarify the definition of common orientation and layout given that offshore wind infrastructure may differ between abutting lease areas. BOEM should consider factors that may subtly change the layout of turbine foundations between abutting leases, such as foundation types, watch circle radii, mooring types and designs, and anchor types, that could change the effective spacing and therefore impact user navigability and operations. We agree that if lessees do not adhere to the same orientation and layout of wind turbine generators as part of the "good neighbor" stipulation, that a setback should be in place as a lease stipulation. To keep the spacing consistent with other transit corridors in the PSN (2.5 nm), we recommend the setback be modified from 1 nm to 1.25 nm if the same orientation among neighboring lease areas is not adopted.

Considerations for delineation of the proposed Lease Areas

As discussed above, the delineation of these lease areas will facilitate interconnections with both Massachusetts and Maine, and their orientation and distance from shore will allow multiple wind projects to potentially use alternating current (AC) rather than direct current (DC) high voltage (HV) transmission cables. HVAC will likely be preferred for the initial floating wind installations due to relative costs and the status of currently available technology. BOEM should continue to engage stakeholders in the offshore wind industry and supply chain to determine optimal delineations and orientations for maximizing energy production given the prevailing winds, meteorological conditions, ocean depths, and other characteristics of the Gulf of Maine.

Existing uses and how they may be affected by the development of the proposed Lease Areas

Numerous federal and state listed threatened and endangered species are present in the Gulf of Maine. Areas of important habitat for these and other species have been considered while siting of Gulf of Maine WEA and proposed lease areas, and BOEM has adopted many stakeholder and expert recommendations through this process. After leasing, BOEM and lessees should work with states and other local and regional organizations to develop appropriate minimization and mitigation strategies to offset impacts to protected species that may occur as a result of surveys, construction, and operations. Minimization and mitigation measures will be needed because while many important habitat areas have been removed from consideration for leasing in this proposed sale, some protected habitat and species, including the North Atlantic Right Whale, will likely have a presence in any energy lease that is sited in the Gulf of Maine. In addition, offshore wind poses a unique risk to avifauna because collision risk is difficult to mitigate, and because data on key bird parameters such as flight heights and migration paths are lacking and thus could not be included in the spatial suitability model. BOEM should encourage lessees to conduct or support research that will fill these data gaps and facilitate better minimization and mitigation in the future. In addition to the proposed lease stipulation for baseline monitoring, BOEM should also incentivize other types of habitat and wildlife research (i.e., going beyond required monitoring to fill data gaps) with the new bidding credit discussed above.

In a June 12, 2023, letter to BOEM, the Commonwealth identified an area of importance to the Multispecies Groundfish fishery in the northern portion of Wilkinson Basin and requested exclusion of this area from consideration for leasing. In a subsequent November 20, 2023 letter, the Commonwealth requested deferral of leasing for all areas in the top 10% of revenue for Multispecies Groundfish in the Planning Area (according to Vessel Trip Reports, years 2008-2020) and/or in the top 2 quantiles of fishing activity of that fishery within the Call Area (according to VMS in years 2009-2021 at 1 km^2 resolution, speed filtered to 4 knots or less) until more information on coexistence could be gained and technology developed. The delineation of the final WEA and subsequent designation of lease areas was responsive to our concerns about potential effects on the Massachusetts groundfish fleet. Just 3% of fishing revenue for all target species, and approximately 5% of revenue from the Multispecies Groundfish fishery specifically, generated in the original Gulf of Maine planning area are from the proposed lease areas.

While approximately 95% of the groundfish revenue in the Gulf of Maine has been avoided in the proposed lease areas, we recommend that BOEM conduct a portside analysis on the groundfish fishery, particularly of day-boats and vessel owners with few vessels in the South Region leases. Many small vessel owners actively fish closer to shore and leasing in these lease areas could disproportionally exclude operations of local fleets in the Gulf of Maine if they are not able to fish safely within the floating arrays. BOEM should consider economic viability of both small and large groundfish vessels to maintain fleet diversity and should identify which port economies will be most at risk for potential shoreside economic losses from various floating offshore wind designs and layouts. Over half of the Massachusetts small ports (i.e., excluding Boston, Gloucester, and New Bedford) had at least 50% of their respective groundfish vessels fishing within the current proposed lease sales based on Vessel Monitoring System (VMS) data

from 2008-2022. In addition, 32% of all vessels that land fish in the largest Massachusetts groundfish landing ports (Boston, Scituate, Chatham, Gloucester, and New Bedford) have fished and/or transited within the proposed lease areas based on groundfish VMS data from 2018-2022. Based on the Framework 66 report from the New England Fishery Management Council Northeast Multispecies Fishery Management Plan,[2] this could equate to impacting average annual Massachusetts groundfish revenues of $23,780,000 over the same period (2018-2022) from the ports of Boston, Scituate, Chatham, New Bedford, and Gloucester. However, we caution this estimated monetary value does not include an exact amount of groundfish landed from the proposed lease areas because it includes vessels that at least fished once within the proposed lease areas while also fishing outside of the lease areas from 2018 to 2022.

Baseline Monitoring

As described in the PSN, BOEM is considering a lease stipulation that "would require lessees to conduct baseline data collection activities for endangered and threatened marine mammals and their habitats in support of their construction and operations plans." Massachusetts strongly supports a lease stipulation to require baseline data collection on potentially impacted wildlife and habitats. BOEM should expand the proposed stipulation beyond marine mammals to require baseline data collection for other vulnerable species including endangered and threatened birds. Data collection on state- as well as federally-listed threatened and endangered species, and also species of concern, should be covered by this stipulation. All wildlife and habitat data should be shared following best practices including the guidance of the Regional Wildlife Science Collaborative (RWSC). As a part of any lease stipulation to collect baseline data, BOEM should require developers to coordinate (e.g., via RWSC) to ensure compatibility of that data between lease areas to facilitate a regional understanding of the Gulf of Maine. While this stipulation only covers baseline monitoring, such monitoring programs must be designed with long-term monitoring through the life of the project in mind, since additional monitoring is likely to be required by permits and consultations associated with COP approval. Therefore, baseline data collection that will continue should be collected in a way that will be compatible with the methods that will be available during construction and operations.

Wildlife surveys should be multi-year and multi-season to account for inter- and intra-annual variability. For mammals, surveys should include aerial surveys (via aircraft or drone with a proven technology), as well as Passive Acoustic Monitoring (PAM) to inform a baseline understanding of marine mammal usage of the Gulf of Maine. Oceanographic surveys of prey distribution and abundance should also be monitored during all phases of wind energy development in lease areas and proposed cable corridors to determine how marine mammals may change their distributions and migratory pathways from wind energy infrastructure. Aircraft survey design should mirror that from documents related to the Southern New England wind energy area Megafauna Surveys. Continuous archival PAM and acoustic telemetry monitoring should be conducted in the proposed lease areas to collect baseline information on the presence, distribution,

[2] NEFMC, 2024. Northeast Multispecies Fishery Management Plan Framework Adjustment 66. https://www.nefmc.org/library/northeast-multispecies-groundfish-framework-66

and seasonality of North Atlantic right whales and other marine Megafauna. Archival and real-time PAM should be used to collect baseline information on the presence, distribution, and seasonality of marine mammals, endangered species, and especially along anticipated transit routes. Archival PAM should also be used to establish baseline noise levels in the proposed lease areas and surrounding waters.

Baseline habitat data collection should include studies of key prey species (plankton, etc.) of threatened and endangered species, meteorological/oceanographic monitoring, and surveys for hard bottom areas, coral areas, and other key habitats. BOEM should require sufficient high-resolution geophysical surveys (including sub-bottom profiling) be completed during the initial site assessment phase to allow for effective avoidance and minimization of seafloor disturbance through informed siting of infrastructure including export cables outside of the lease areas. The existing bathymetry within the leases is over 60 years old and other data necessary for mapping seafloor habitats is nonexistent. Therefore, BOEM should work with other federal agencies, state partners, and eNGOs to fund the data collection necessary to provide baseline data within the lease areas.

Environmental DNA (eDNA) monitoring is recommended to detect presence of species in the marine environment because it is a non-invasive sampling technique that can be used at fine temporal and spatial scales and can be used to detect a multitude of wildlife and fish species from one water sample. eDNA is already being used to detect mammals, fish, invertebrates, and birds in the southern New England wind energy areas and the required technology and methodology (e.g., appropriately specific PCR primers) are available for many marine species. Given that floating offshore wind will likely preclude conventional survey tools such as bottom trawling from operating within lease areas, eDNA could provide a feasible alternative method for information on species presence for a variety of different species, including those that are otherwise difficult to detect, and should be initiated in the baseline period before structures are built. Sampling for eDNA should occur on a seasonal basis and across the water column (surface, midwater, bottom) to capture the presence/absence of pelagic and demersal species.

In addition to these baseline wildlife surveys, BOEM should encourage lessees to conduct or support research into key uncertainties associated with floating offshore wind impacts on fisheries, habitat, and wildlife. For example, floating offshore wind has a greater potential of exposing pelagic species to electromagnetic fields (EMF) vertically in the water column given that dynamic cabling will likely be used and will not be sheathed in steel foundations like in fixed arrays.[3] BOEM should require developers to estimate EMF impacts associated with their design when they submit their COP, and then measure EMF and monitor its effects on EMF-sensitive species throughout construction and operations. Monitoring should include studies on EMF impacts to behaviors and movements through methods such as acoustic telemetry. BOEM should also identify pelagic species that may be EMF sensitive in floating offshore wind arrays.

[3] Hutchison, Z.L., Secor, D.H. and Gill, A.B., 2020. The interaction between resource species and electromagnetic fields associated with electricity production by offshore wind farms. Oceanography, 33(4), pp.96-107.

A second key uncertainty for floating wind is the interactions of threatened and endangered species with floating wind infrastructure including the risk of secondary entanglement. BOEM should consider requiring subsea camera monitoring beneath floating wind turbine foundations and routine video monitoring along the mooring lines as a lease stipulation or as a condition of COP approval. Video monitoring could be used to examine species presence/absence and behavioral interactions of endangered/threatened species with floating wind infrastructure. Routine video monitoring and side scan sonar (i.e., seasonally) along the mooring and inter-array cables is also recommended to examine the frequency of snagged fishing gear. If left unchecked, snagged and derelict fishing gear in floating wind arrays could increase the risk of secondary entanglements to North Atlantic Right Whales and other marine mammal and fish species.

Corridors between Leases

The arrangement of the leases as proposed, combined with the undevelopable areas within lease block aliquots, creates 2.5 nm transit corridors between leases that facilitate transit by fisherman and other mariners. The transit corridors, including the gaps between leases plus the undevelopable areas within lease block aliquots, facilitate transit by fishing vessels and other mariners. BOEM has been responsive to requests to create these corridors. The 2.5 nm transit corridors mimic those established in the New York Bight lease areas and represent a strong starting point. As the Gulf of Maine lease areas are planned for development, additional data and maritime engagement will inform the final wind turbine array spacing and orientation including the final transit corridor widths.

To aid mariner navigation and safety between lease areas in transit corridors, BOEM should require that developers install AIS transponders and cell phone towers on peripheral turbines and/or buoys that demarcate lease boundaries. Navigation remains a major concern for mariners and BOEM should encourage all developers to maximize navigational aides to mariners and fishers to bolster safety on the water with offshore wind infrastructure. Cell phone towers can also enable real-time relay of data on real-time PAM networks.

Limits on the Number of Lease Areas per Bidder

BOEM is proposing to allow each bidder in the auction to bid for at most two of the eight leases. BOEM has also proposed two schemes to disperse each bidder's allotment of two geographically: in the first, bidders would be limited to two leases overall, with at most one of the two leases in the "North" part of the WEA. In the alternative scheme, bidders would still be limited to two leases overall, with at most one in each of three areas: "North", "East" and "South". The intended effect of the overall limit, and the geographic region limits, is to ensure states will have a competitive response to power purchase agreement solicitations by preventing any one company from having a controlling number of leases in an area. The Commonwealth agrees there is the benefit to ratepayers, the region, and the public created by fostering competition among bidders in state renewable energy procurements. We therefore support the limit of two lease areas per bidder in this lease auction. We also support the original lease area scheme with the "North" and "South" regions.

Thank you for the opportunity to provide comments on the PSN for the first renewable energy auction in the Gulf of Maine. The Commonwealth appreciates BOEM for its expertise in siting energy on the outer continental shelf and working with the interested agencies and entities through the Gulf of Maine Task Force. My agencies and offices look forward to continuing to work with BOEM, key stakeholders like our commercial fishing industry, other federal agencies, and the states of Maine and New Hampshire as the planning process for siting offshore wind in the Gulf of Maine continues.

Sincerely,

Rebecca Tepper
Secretary