MARINE FISHERIES ADVISORY COMMISSION
BUSINESS MEETING AGENDA
9AM
December 19, 2023
Via Zoom
Login: https://us02web.zoom.us/j/88691230487
Call In: 305-224-1968
Webinar ID: 886 9123 0487

1. Call to Order and Routine Business (9:00 - 9:15)
    a. Introductions and Announcements
    b. Review of December 2023 Business Meeting Agenda
    c. Review and Approval of November 2023 Draft Business Meeting Minutes
2. Comments (9:15 – 9:45)
    a. Chairman
    b. Law Enforcement
    c. Commissioner
    d. Director
3. Future Public Hearings on Commercial Fisheries Management (9:45 – 11:45)
    a. Striped Bass Limits
    b. Temporary Stay to Whelk Gauge Size Schedule
    c. Horseshoe Crab Management
    d. State Waters Groundfish and May Commercial Groundfish Closure
    e. Mackerel Trip Limit for State Waters
    f. Smooth Dogfish Trip Limits
4. Discussion Items (11:45 – 12:45)
    a. Interstate Fisheries Management Update
    b. Federal Fisheries Management Council Update
    c. Wind Energy Update
    d. Vessel Tracker Update
5. Other Business (12:45 – 1:00)
    a. Future Business Meeting Dates
    b. Commission Member Comments
    c. Public Comment
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.

Future Meeting Dates

9AM
February 13, 2024
via Zoom

9AM
March 19, 2024
via Zoom

9AM
April 23, 2024
TBD

9AM
May 21, 2024
TBD

9AM
June 18, 2024
TBD

MARINE FISHERIES ADVISORY COMMISSION
Friday, November 17, 2023
DMF South Coast Field Headquarters at SMAST East
836 S Rodney French Blvd
New Bedford, MA 02744

In attendance:
Marine Fisheries Advisory Commission: Raymond Kane, Chairman; Michael Pierdinock, Vice-Chairman; Kalil Boghdan; Shelley Edmundson; and Bill Amaru. Absent: Tim Brady, Arthur "Sooky" Sawyer; and Bill Doyle

Department of Fish and Game: Commissioner Tom O'Shea

Division of Marine Fisheries: Daniel McKiernan, Director; Bob Glenn, Deputy Director; Kevin Creighton, Assistant Director; Story Reed, Assistant Director; Mike Armstrong, Deputy Director; Jared Silva; Julia Kaplan; Viny Manfredi; Mark Szymanski; Derek Perry; Tracy Pugh; Matt Camisa; Melanie Griffin; and Anna Webb.

Massachusetts Environmental Police: Lt. Matt Bass

Members of the Public: Phil Michaud, Domenic Santoro, Henry Lind, Renee Gagne, Suzanne Phillips

INTRODUCTIONS AND ANNOUNCEMENTS

Chairman Ray Kane thanked everyone for their attendance and called the November 17, 2023 Marine Fisheries Advisory Commission (MFAC) business meeting to order. Chairman Kane thanked DMF and the MFAC on behalf of former MFAC member Lou Williams. Lou's term on the MFAC expired in August 2023 and he was not reappointed.

REVIEW OF NOVEMBER 17, 2023 BUSINESS MEETING AGENDA

Chairman Kane asked if there were any amendments to the November 17, 2023 MFAC business meeting agenda. No amendments were sought.

REVIEW AND APPROVAL OF SEPTEMBER 19, 2023 DRAFT BUSINESS MEETING MINUTES

Chairman Kane asked if there were any amendments to the September 19, 2023 draft business meeting minutes. No amendments were sought.

The Chairman then requested a motion be made to approve the minutes. **Kalil Boghdan made the motion to approve the August 16, 2023 business meeting minutes. Shelley Edmundson seconded the motion. The motion passed unanimously 4-0-1 with Chairman Kane abstaining.**

CHAIRMAN'S COMMENTS

Chairman Ray Kane welcomed everyone and thanked the MFAC for their continued attendance. He then turned the floor over to Commissioner O'Shea.

COMMISSIONER'S COMMENTS

Commissioner Tom O'Shea discussed his recent experience in the field assisting Dr. Greg Skomal with white shark research and expressed his appreciation for those MFAC members who attended Governor's biodiversity executive order ceremony. He also mentioned Seafood Day at the State House and commended Senator Tarr for his efforts putting together the event; Tom was impressed by DMF's Seafood Marketing Steering Committee's meeting and noted the importance of assisting the industry in seafood marketing.

LAW ENFORCEMENT

Lt. Bass handled the comments for the Massachusetts Environmental Police (MEP). He highlighted the recent MFAC Law Enforcement Focus Group meeting. One of the issues discussed at this meeting was the libel and subsequent sale of non-conforming sized fish because large seizers can be difficult to donate. Lt. Bass, Shelley Edmundson, and Bill Amaru discussed potential ways to handle seizures involving a high volume of fish. Lt. Bass concluded his comments by discussing personnel and stated there are several officers about to start field training and several other officers completing the Police Academy.

Kalil Boghdan asked about gear removal efforts and if gear is identifiable when it is hauled. Lt. Bass stated that most gear is identifiable by trap tags or buoys.

DIRECTOR'S COMMENTS

Director Dan McKiernan stated that at the conclusion of today's MFAC business meeting, DMF would hold a ceremony to posthumously honor Mike Hickey with the 2023 Belding Award. Mike was the longtime DMF Shellfish Program Lead and was integral in the development of state and interstate shellfish management and research programs. DMF would present the award to his widow and son.

DMF met with the state's legislative Coastal Caucus earlier this year and briefed them on the agency's Derelict Gear Task Force. This task force developed a white paper that described how the current legal framework constrained efforts to remove and clean up lost, abandoned, and derelict gear and proposed a legislative solution to modernize state laws to enhance such efforts while continuing to protect private property rights. Dan was optimistic the legislature would move forward DMF's recommendations.

Dan then discussed the whelk fishery and various industry-driven concerns regarding the current schedule to increase the minimum gauge size to 50% size-at-maturity. He

anticipated there may be funding available for a SMAST PhD candidate to conduct a management strategy evaluation and develop potential alternative measures to address resource conservation in the whelk fishery.

Earlier this year, DMF submitted a petition to the Massachusetts Natural Heritage and Endangered Species Program (NHESP) to delist humpback whales. This was done in response to the 2016 federal delisting under the Endangered Species Act. However, DMF temporarily withdrew the petition to address concerns raised by NHESP's outside review team. NHESP also received a petition from the Pine Barren's Alliance of Southeastern Massachusetts to list horseshoe crabs as a species of special concern. NHESP indicated it did not intend to move forward with such a listing. However, substantial pressure remains to increase horseshoe crab conservation in Massachusetts. At the December 2023 MFAC business meeting, DMF will likely set out a regulatory proposal to be taken out to public hearing this winter.

He closed his comments by discussing an upcoming Shellfish Advisory Panel occurring via Zoom on Monday, November 20th at 3PM. Dan then welcomed any questions from the MFAC.

Bill Amaru asked if NOAA Fisheries had a population estimate for humpback whales. Bob Glenn stated the most recent assessment had the population at about 1,350 individuals.

ACTION ITEMS

Recreational Cod and Haddock Limits
Jared Silva reviewed DMF's final recommendation regarding recreational cod and haddock limits, which would make final the recently enacted emergency measures.

1. Gulf of Maine Cod. An open season of September 1 – October 31 with a 1 fish bag limit and 22" minimum size.
2. Georges Bank Cod. An open season of September 1 – May 31 with a 5-fish bag limit and 23" minimum size.
3. Gulf of Maine Haddock. An open season of April 1 – February 28 with a 15-fish bag limit and 18" minimum size for anglers onboard a for-hire vessel and a 10-fish bag limit and 17" minimum size for all other anglers.

There was no discussion.

The Chairman requested a motion be made to approve the proposed recreational cod and haddock limits. **Mike Pierdinock made a motion to approve the menhaden in-season adjustment, Bill Amaru seconded the motion. Chairman Kane moved the motion to a vote. The motion passed unanimously 4-0-1 with Chairman Kane abstaining.**

In-Season Adjustment to Period I Summer Flounder Limits
Jared Silva presented DMF's recommendation to decrease the 2024 Period I summer flounder limit from 10,000 pounds to 5,000 pounds through an in-season adjustment. This action as being recommended in response to a pending 56% reduction in the state's summer flounder quota for 2024 and 2025. Limited public comment was received and that which was received was from recreational fishing interests supporting the action. However, Jared did have verbal communications with a number of participants and dealers who supported the action. Jared noted this action would address the trip limit in 2024 and DMF would go out to public hearing with a complementary regulatory action to set the trip limit at 5,000 pounds for 2025.

Dan McKiernan briefly discussed the multi-state landing program. This program allows vessels permitted to land summer flounder in Massachusetts and other Atlantic coastal states to possess non-conforming quantities of this species when offloading the lawful limit in Massachusetts. Despite the quota reduction, DMF intended to maintain this program in 2024.

Bill Amaru and Kalil Boghdan opined on the potential environmental conditions that could be affecting the summer flounder resource and fishery.

No further comments were made.

The Chairman requested a motion be made to approve the in-season adjustment. **Kalil Boghdan made a motion to approve the menhaden in-season adjustment, Shelley Edmundson seconded the motion. The motion passed unanimously 4-0-1 with Chairman Kane abstaining.**

ITEMS FOR FUTURE PUBLIC HEARING

Proposals to Amend Shellfish Harvest and Handling Rules
DMF's Acting Shellfish Program lead, Chrissy Petitpas, provided the MFAC with an update regarding proposals to amend DMF's shellfish harvest and handling rules. First, *Vibrio* regulations need to be updated to be consistent with changes to the state's *Vibrio parahaemolyticus* (Vp) Control Plan. Updates include revised definitions of adequate icing and exempting harvesters from icing requirements if the primary buyer takes on the burden of icing at the landing site and within the time-to-icing window.

DMF also intends to amend the regulatory language at 322 CMR 16.00 to make clear that sanitary icing standards apply to all shellstock under all handling circumstances. This should eliminate any remaining confusion on the subject of not using non-sanitary sources of ice (e.g., skating rink ice) for product not bound for market (e.g., overwintering).

Chrissy then discussed the need for more precise identification of the shellfish harvest area on harvester tags. The proposed regulation would require any sub-area designation be included on the harvester tag. This will better conform the state's rule with the National Shellfish Sanitation Program Model Ordinance (Chapter VIII. Control

of Shellfish Harvesting).

Chrissy then moved on to discuss a regulatory proposal to adopt a blanket night closure on shellfish fishing. Current regulations only prohibit night harvest in state managed fisheries and DMF relies on municipal rules to similarly prohibit the activity in town managed fisheries. A state-wide rule would allow for MEP to enforce night closures in all shellfish fisheries. Moreover, it may aid DMF arguments in favor of limiting closures around sewage treatment plant outfalls.

Lastly, Chrissy described codifying an existing permit condition affecting the state's moderately contaminated shellfish fishery that requires harvesters follow DMF's Shellfish Depuration Digging schedule.

Kalil Boghdan asked for clarification regarding how the moderately contaminated shellfish fishery is permitted and managed. Chrissy provided an in-depth response explaining how the fishery occurs and the master and subordinate digger framework. Kalil asked if subordinate diggers were subject to trip limits; DMF staff indicated the fishery was not regulated by trip limits.

Jared Silva indicated these proposals would go out to hearing this winter and final recommendations would be brought back to the MFAC at an early-spring meeting.

Commissioner O'Shea discussed outreach regarding these proposals, specifically the more specific tagging requirements. Chrissy and Jared stated DMF frequently works through local shellfish constables to address compliance and enforcement. Moreover, there is an opportunity for education during the annual municipal permit renewal process.

Kalil Boghdan asked for clarification on who enforces shellfish rules. Chrissy clarified that it is a combination of MEP officers and local shellfish constables.

<u>Proposals to Amend Permit Transfer Rules</u>
Story Reed stated that DMF will proceed to public hearing to potentially amend its limited entry regulated fishery permit endorsement transfer regulations in the following ways:

1. Implement an Immediate Family Member Transfer Exception to allow a latent but otherwise transferable limited entry permit endorsement to be transferred to an immediate family member.
2. Expand the definition of Immediate Family Member to reflect a wider diversity of family structures.
3. Relax the transferability rule for Fluke, Sea Bass, and Tautog endorsements so that they only have to be actively fished in two out of the last five years, rather than the current four out of the last five years.

Shelley Edmundson asked if immediate family was inclusive of nieces or nephews. Story indicated it was not. However, under the current rules a permit can first move between siblings and then to their children to accommodate such a transfer.

Bill Amaru discussed a situation where a divorce has occurred and asked how it would impact permit transfers. Jared and Story stated that this is a comment that can be taken up during the public hearing regarding the proposals. They did not foresee any issues with transfers to children, but transfers to a divorced spouse may be complicated. There was further discussion among Chairman Kane, Bill Amaru, Shelley Edmundson, Dan McKiernan, and Jared Silva regarding potential out-of-the-ordinary permit transfer scenarios.

Update on Proposed Lobster Regulations and Addendum XXVII

At the August 2023 MFAC business meeting, Director McKiernan described a future public hearing proposal to adopt new rules consistent with Addendum XXVII to the Interstate Fishery Management Plan for American Lobster. This included measures to be immediately adopted for 2024 affecting the maximum gauge size and v-notch rules for the Outer Cape Cod Lobster Conservation Management Area and trap tag issuance rules affecting Lobster Conservation Management Areas 1 and 3. Dan also described a five-year schedule to amend gauge sizes and escape vent rules should the addendum's recruitment-based management trigger be fired. The Atlantic States Marine Fisheries Commission (ASMFC) Lobster Board met in October 2023 and the Technical Committee reported that the recruitment-based management trigger had been fired requiring the five-year schedule begin in 2024. Maine successfully argued for implementation to be delayed to coordinate trade implications with Canada and provide gauge makers and harvesters sufficient time to prepare. As a result, all aspects of Addendum XXVII now do not go into effect until January 1, 2025.

DISCUSSION ITEMS

Interstate Fisheries Management Update

Dan McKiernan and Mike Armstrong provided the MFAC with updates pertaining to the October 2023 ASMFC meeting. Discussion focused on Addendum II to the Interstate Fishery Management Plan for Striped Bass, which seeks to reduce removals by 14.5% to achieve the fishing mortality target. The ASMFC will host public hearings on this in November and December 2023 for a final action at their January 2024 meeting. Massachusetts will host a public hearing on December 5 at the Massachusetts Maritime Academy and on December 19 at DMF's Annisquam River Field Station in Gloucester. Dan McKiernan also provided updates on the Jonah crab stock assessment; a failed initiative to suspend the commercial tautog tagging program; as well as actions affecting other jurisdictions pertaining to menhaden and horseshoe crabs. Dan concluded his update by stating Joe Cimino from New Jersey was elected Chairman of the ASMFC for and he was elected Vice-Chair. These appointments are for two year periods (i.e., 2024 and 2025).

Bill Amaru questioned some of the data shown regarding Jonah crabs. DMF biologist Derek Perry, who is Chair of the ASMFC's Jonah Crab Technical Committee, explained some of the complexities related to the fishery dependent data and stated the recent drop in landings may not be reflective of abundance but can rather be attributed to lack of fishing effort driven by market conditions.

Mike Pierdinock asked about the option for mode splits in the striped bass fishery that would allow charter operators to have a higher bag limit, and if approved, whether this decision would be made on a coastwide basis or at the state level. Mike Armstrong stated there will be uniform regulations among the ocean states.

Commissioner O'Shea applauded Director McKiernan on his Vice-Chairmanship and was hopeful he would stay on to become Chair in 2026.

Federal Fisheries Management Council Update

Melanie Griffin provided the MFAC with a brief update on happenings at the New England Fishery Management Council. First, she discussed final actions at the September meeting, including the approval of red crab specifications for Fishing Years 2024 – 2027; approval of the Monkfish Research Set-Aside Working Group's final report recommending program improvements; and the adoption of the Sea Scallop Survey Guiding Principles. She then referred the MFAC to an October 12th email providing additional details from the September Council meeting. Looking ahead, Melanie briefed the Commission on the upcoming December Council agenda, which includes finalizing management priorities for 2024 and various specifications for the next two to three years. Melanie stated she will brief the Commission on outcomes at a future meeting. She welcomed questions from the Commission.

Mike Pierdinock stated he was happy to see that a Recreational Committee/Workgroup is included in Council's recommended 2024 priorities via Inflation Reduction Act funding. This would provide the recreational community the ability to participate in and comment on climate resilient recreational fishery management measures and shared governance of species in our waters due to changing stock distribution.

Quota Managed Species Update

Story Reed provided an update on the state's 2023 commercial quota monitored fisheries.

- Black sea bass closed as of September 13. While there was a quota overage, Massachusetts would not have to pay this back unless there was a coastwide overage. Even if this were to occur, the relative impacts would be nominal given the substantial quota increase for 2024.
- Bluefish quota has reached about 94% utilization.
- To date, the summer flounder fishery had landed about 62.5% of the quota.
- Tautog closed as of October 14th. He stated that there was an overage of about a day of fishing which will need to be paid back next year.

- The menhaden fishery underperformed its quota this year largely because the fish were not available this summer in Massachusetts.

Chairman Kane noted the bluefish quota for calendar year 2024 will be halved.

Commercial Surf Clam Industry Update

Dan McKiernan discussed his recent memo regarding the jurisdictional management issues affecting the commercial surf clam industry, particularly as it relates to the Wetlands Protection Act. Dan noted the issue is very complicated and nuanced, however, the memo does a good job at providing the necessary background and distilling the challenges. He encouraged the MFAC to take the time to familiarize themselves with the issue as it would likely be an area of focus in 2024.

MFAC Law Enforcement Focus Group

Jared Silva provided an overview of the MFAC Law Enforcement Focus Group meeting that occurred on November 7. Jared's summary focused on: (1) the efficacy of the Interstate Wildlife Violators Compact; (2) the sale of seized non-conforming sized fish by the Massachusetts Environmental Police; and (3) enforcement and compliance challenges in the state's commercial menhaden and striped bass fisheries.

OTHER BUSINESS

Commission Member Comments

Kalil Boghdan recommended that fellow Commission members and members of the public take a look at the scientific posters within the foyer of SMAST to learn about the projects that are currently taking place.

Bill Amaru discussed exports of fish from the Commonwealth abroad. He explained that exports typically have a better price per pound and emphasized that seafood marketing within the Commonwealth can help.

Mike Pierdinock asked about potential cuts to recreational scup, summer flounder, and black sea bass limits in 2024. Mike Armstrong acknowledged the Mid-Atlantic Fishery Management Council and Atlantic States Marine Fisheries Commission were addressing reductions in recreational harvest limits for these species in 2024. While cuts to harvest limits for scup and summer flounder will occur, there appears to be some flexibility with black sea bass. Moreover, the impacts of these cuts on Massachusetts will be affected by harvest rates this year, as calculated from MRIP data. Director McKiernan stated DMF would provide an update for the MFAC at the December meeting.

Mike P. then raised pending specifications at the Mid-Atlantic Fishery Management Council to set new commercial mackerel limits. Mike P. was concerned this action may negatively impact the commercial jig fishery in Massachusetts. Melanie Griffin stated it was a complicated management proposal, however, DMF was preparing comments for the Council's consideration that would address his concerns.

PUBLIC COMMENTS

Phil Coates urged DMF and the MFAC to consider using the recently established control date to limit entry into the fishery noting his longstanding petition to move forward on this issue.

Phil Michaud discussed the Massachusetts inshore dragger fleet and stated that they are facing strong economic headwinds and need support from the Commonwealth. Phil advocated for a number of potential management changes to provide the mobile gear fleet with more access to fishing opportunities. Jared Silva stated he would follow up with Phil and work to schedule a wintertime meeting with the fleet to discuss these issues.

ADJOURNMENT

Chairman Ray Kane requested a motion to adjourn the November 17 MFAC business meeting. **Shelley Edmundson made a motion to adjourn the meeting. The motion was seconded by Kalil Boghdan. The motion was approved by unanimous consent.**

MEETING DOCUMENTS

- November 17, 2023 MFAC Agenda
- September 19, 2023 Draft MFAC Minutes
- Final Recommendation on Recreational Cod and Haddock Rules
- Final Recommendation on Period I Summer Flounder In-season Adjustment
- Public Hearing Proposal on Shellfish Harvest and Handling
- Public Hearing Proposal on Permitting
- Public Hearing Proposal on Lobster Addendum XXVII
- 2023 ASMFC Annual Fall Meeting Summary
- September 2023 NEFMC Summary
- Surf Clam Memo on Updating Management and Interactions with WPA
- Law Enforcement Focus Group Meeting Summary

UPCOMING MEETINGS

December 19, 2023
via Zoom

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

MEMORANDUM

TO: Marine Fisheries Advisory Commission

FROM: Daniel McKiernan, Director

DATE: December 14, 2023

RE: **Future Public Hearing Proposal for Commercial Striped Bass Management**

Overview

I plan to take to public hearing this winter several potential revisions to the Commonwealth's commercial striped bass management measures for 2024. These include: 1) modifications to the open days in consideration of quota management and law enforcement input; and 2) adjustments to the primary purchase requirements in response to law enforcement input. These proposals were informed by the MFAC's Law Enforcement and Striped Bass focus groups, both of which met this fall. Several additional topics regarding the commercial tagging program and the permitting system will be continued for development during 2024 for possible 2025 implementation. The presentation provided to the Striped Bass Focus Group is enclosed, with specific slides referenced within this document.

Proposed Modifications to the Open Days for 2024

The current open days are Monday–Wednesday beginning June 16 through September 30, and Monday–Friday beginning October 1 through November 15 (or until the quota is met). The size limit is a 35" minimum and the possession limit is 15-fish for boat-based permits (while on the named vessel) and 2-fish for other permits.

The last two commercial striped bass seasons have faced quota closures in early August (Slide 4), which we consider earlier than generally desired to meet summertime demand and distribute access throughout the Massachusetts coastline (note the shift in landings from >90% south shore prior to 2019 to a more even north/south split since then; Slide 13). The pace of landings resulting from the three-day schedule amidst higher availability in 2022 and 2023 may have contributed to a lower ex-vessel price per pound (Slides 10–12). There is also the potential for a commercial quota reduction of up to 14.5% under Draft Addendum II to Amendment 7 of the interstate management plan, which would reduce Massachusetts' quota by over 100,000 pounds if adopted in full (from 735,240 pounds to 628,630 pounds). This possible lower quota amount would have shaved another week off the 2022 and 2023 fisheries if in place then (Slide 4).

Contributing to the high rate of landings may be the specific weekdays that are currently open. Law Enforcement recently raised the perennial issue of front-loading in the fishery (i.e., harvesting fish prior to the day they are landed). Having Monday—in particular—as the first open day may amplify front-loading, as there may be more opportunity to fish over the weekend. This is supported by landings trends often showing the highest daily total on the first open day (Slides 10–12). Consecutive open days also

lend themselves to harvesters getting an early start on the next day's landing limit; this type of front-loading can be harder to observe and enforce.

Any projections as to how the number and sequence of days may affect weekly landings and season length needs to consider the inter-annual variability in the fishery. For example, 2021 had daily landing rates mostly in the 10,000–20,000 pound range, whereas 2022 and 2023 had many days in excessive of 20,000 pounds, with 2023 reaching several 50,000–60,000 pound days (Slides 10–12). This type of variability supports the use of automatic in-season triggers like we have been implementing for numerous quota-monitored species in recent years—striped bass included, with its October 1 trigger to open two additional days per week.

Given these considerations, DMF plans to seek public comment on the following relative to modifying the current open days schedule:

1. Reducing the number of open weekdays at the season's start from three days to two days, excluding Monday as a possible open day;
2. Adopting open days that are either consecutive (e.g., Tues/Wed or Wed/Thurs) or non-consecutive (e.g., Tues/Thurs); and
3. Automatically adding a third open weekday as early as August 15 (maintaining the automatic addition of the other two weekdays on October 1), provided quota remains.

While the daily possession limit or season start date could also be modified to effect quota use, such changes are not proposed here. Lowering the possession limit would reduce the efficiency for the minority of harvesters that limit out while extending the season for the majority that sell only a handful of fish on average per trip, contributing to the perception of the striped bass fishery as a commercialized recreational fishery (See Slides 20–23 for effort analyses). Delaying the season start date may disproportionally impact access to the resource at different locations of our coast, while not actually lengthening the season merely shifting it later.

Proposed Adjustments to the Primary Purchase Requirements for 2024

The primary purchase is defined as "the first commercial transaction by sale, barter, or exchange of any striped bass after its harvest". While one might assume that this transaction necessitates both the harvester and the primary purchaser (or their agent) to be physically present, law enforcement have reported on a new, yet common, practice of primary buyers adopting "honor system" drop-off procedures for harvesters to deliver their catch to the primary buyer's facility unsupervised. This is frequently done to accommodate night-time fishing and the subsequent sale of fish on the open fishing day outside of the primary buyer's normal business hours. Harvesters are often racing against the clock to land and sell fish by midnight (given the midnight-to-11:59pm definition of a fishing day), which has reportedly also contributed to hazardous on-the-water boating behavior.

This drop-off transaction practice makes it difficult if not impossible for the primary buyer to uphold several of their regulatory requirements to not purchase non-conforming fish. Were the fish truly received before midnight on an open day or after midnight on a closed day? Did a single harvester drop off more than a day's limit by assigning the catch to two permits? Enabling this practice is that our commercial tagging requirements do not require the primary buyer to immediately tag the fish upon the primary purchase. When our tagging program was adopted in 2014, the dominant place of primary purchases of striped bass was at trucks sent to Cape Cod. Dealers were concerned about an immediate tagging requirement causing a lengthy queue of harvesters at the truck with only one or two staff present. Other than the extra hours this would cause, what would become of a harvester's catch if they got in line before midnight (on the open day) but didn't make it to the front of the line until after midnight (on a closed day)? In response, we adopted a rule that required the tag to be applied by the primary buyer "prior to

departing any ramp, pier, parking lot or other location of primary purchase." This makes for a very loose timeline for tags to be applied to fish received directly at the primary buyer's actual facility (i.e., just prior to departing there?), which is now common with the geographical shift in landings to the north with brick-and-mortar primary buyers available.

Given these considerations, DMF plans to seek public comment on the following relative to adjusting the primary purchase requirements:

1. Clarifying the definition of primary purchase to explicitly require that both the harvester and the primary buyer be present;
2. Revising the primary buyer's time-of-tagging requirement to be immediately upon receipt of the fish from the harvester; and
3. Amending the definition of an open fishing day from Midnight-to-11:59PM to a window (e.g., 8:00AM-to-7:59AM) that would recognize the common practice of night-time effort in this fishery, remove the race to land by midnight, and accommodate sale of fish from the prior 24 hours during normal business hours.

Considerations for Future Management

Enhanced Dealer Reporting and Tag Traceability

Planned changes to the SAFIS reporting system for 2025 would enable dealers to record not just the weight of striped bass purchased, but also the number of fish purchased, and the serial number of the tags associated with each purchase. The former (number of fish) would aid in enforcement of the possession limit and improve DMF statistics used in various capacities from development of stock assessment data to tag accountability. The latter (tag serial numbers) would enable traceability of any fish (and therefore non-compliance) back to the harvester, not just the dealer. These data could theoretically be collected in 2024 on a paper form, but we think it worth the wait for electronic reporting capability in 2025 given that all primary buyers have been required to report electronically since 2020.

Limited Entry Permitting

DMF reviewed striped bass endorsement issuance and activity trends with the Striped Bass Focus Group with an eye towards what a limited entry fishery would look like (Slide 4, 18–26). On average, only about a quarter of the 4,000 or more issued endorsements are fished, with an upward trend in the number of permits reportedly unfished. Concerns with the current open entry nature of the fishery include that the permit is acquired to evade the recreational limit or cover the cost of a day on the water, that fish kept for personal use are under-reported, and that it is impossible to implement tagging at the point-of-harvest with the current number of permit holders. DMF provided one example of limiting entry based on those that held a striped bass endorsement in 2023 and exceeded a landings threshold in any year from 2011–2021, with thresholds of 1 pound, 300 pound, and 1,000 pound. Even at a 1,000 pound threshold, the remaining pool of permit holders would be 652, well above what DMF Statistics Project staff think if feasible for a harvester-based tagging program (closer to 400 potentially). The Focus Group encouraged DMF to continue developing options using different types of filters and qualification years, and to consider other necessary elements of limiting entry, such as transferability, which DMF plans to do during 2024.

Commercial Maximum Size Limit

DMF also discussed the potential for a commercial maximum size limit with the Striped Bass Focus Group. Initially, the ASMFC Striped Bass Management Board was considering the inclusion of a coastwide maximum size limit requirement in Draft Addendum II but removed it from the options. This was due to it not being an effective tool to reduce fishing mortality (the intent of the addendum), while also adding uncertainty as to the level of future commercial removals and likely contributing to increased commercial discards. States may still adjust their commercial size limits through conservation

equivalency (i.e., with a quota adjustment to maintain spawning potential), and given the ongoing public interest in protecting the largest spawning fish, DMF reviewed implications for Massachusetts unilaterally taking action (Slides 14–16). The Focus Group was not supportive of DMF considering a commercial maximum size limit due to the uncertain reproductive benefit amidst a definite detriment to discards and that market and economic impacts are not well understood.

Enc:
DMF Presentation for December 1, 2023 Striped Bass Focus Group Meeting

Marine Fisheries Advisory Commission

Striped Bass Focus Group

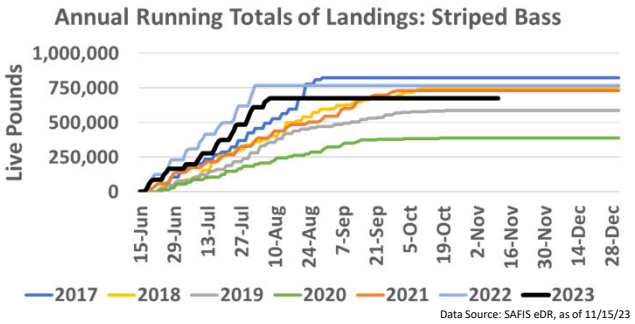
December 1, 2023

Agenda

- Overview of Issues
  1. Quota management under anticipated lower quota
  2. Public interest in commercial maximum size limit
  3. Law enforcement concerns
  4. Limited entry permitting
- Background Information & Analysis
- DMF Discussion Points
- Focus Group Responses
- Adjourn

1) Quota Management

- Draft Addendum II proposes up to a 14.5% commercial quota reduction
  - Under full reduction, MA quota reduced from 735,240 lb to 628,630 lb
- Fishery closures in early August the last two years
- Consider changes to open days, limit, or season start for 2024?

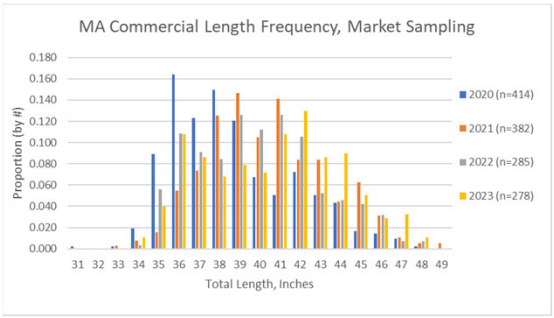


2021-2023 Consistent Measures
- June 16 – Sep 30: Mon/Tues/Wed
- Oct 1 – Nov 15: Mon-Fri
- 15 fish for vessel-based permits
- 2 fish for other permits
- 35" minimum size

Year	Quota	Closure Date	628,630 lb reached
2021	735,240 (99% used)	October 2	Sept 13
2022	735,240 (105% used)	August 4	July 31
2023	700,379 (96% used)	August 11	August 6

2) Commercial Max Size

- Public interest to protect largest, most fecund fish from harvest
- Coastwide maximum size limit removed from consideration in Draft Addendum II (does not contribute to reducing F while introducing more uncertainty; discard mortality concerns, esp. gill net)
- States may continue to amend commercial size limits through Conservation Equivalency; introducing a maximum size limit would further reduce MA quota to maintain spawning potential



	2020	2021	2022	2023	Avg
% ≥ 38"	59.9%	84.6%	74.0%	75.5%	**73.5%**
% ≥ 40"	32.9%	57.3%	53.0%	60.8%	**51.0%**
% ≥ 42"	21.0%	32.7%	29.1%	42.8%	**31.4%**
% ≥ 44"	8.7%	16.0%	13.3%	21.2%	**14.8%**
% ≥ 46"	2.7%	5.2%	4.6%	7.2%	**4.9%**

3) Law Enforcement Concerns

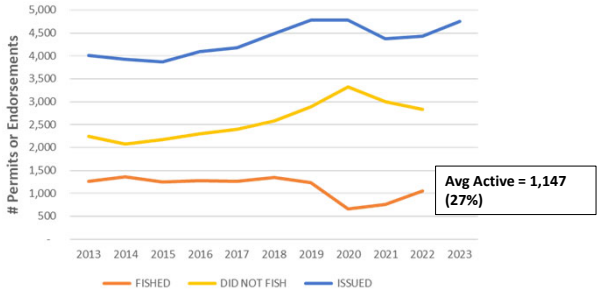
- MFAC Law Enforcement Subcommittee meeting on November 7
- Front-loading
  - Fishing on the closed day before an open day, i.e., Sunday under current M/T/W schedule; closed days are enforceable management tool but level of activity possibly made worse by being a weekend day.
  - After landing a limit on an open day, starting to fish that evening to land on the consecutive open day, which technically violates the daily possession limit for first day; more difficult to catch front-loading with consecutive days.
- Dealers not being present when fish received (drop off "honor system" at facility)
  - Dealer may be receiving non-conforming fish
  - Questionable labeling by harvesters at drop off
  - Can't trace fish to harvester

4) Limiting Entry

- Open access fishery with substantial latent effort
- Concerns
  - Permit acquired to evade recreational limit
  - Under-reporting of fish kept for personal use
  - Impossible to adopt tagging at point-of-harvest given # of permit holders

Striped Bass Endorsement Trend

Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Issued	4,015	3,921	3,864	4,094	4,181	4,490	4,781	4,781	4,373	4,427	4,747
Active	1,266	1,364	1,245	1,283	1,267	1,342	1,239	653	754	1,055	n/a



SOURCE: MA Permitting Database & Merged MA Trip-Level and Federal Vessel Trip Reports, as of 11/28/2023
"No Catch" trips are not included here.

Agenda

- Overview of Issues
  1. Quota management under anticipated lower quota
  2. Public interest in commercial maximum size limit
  3. Law enforcement concerns
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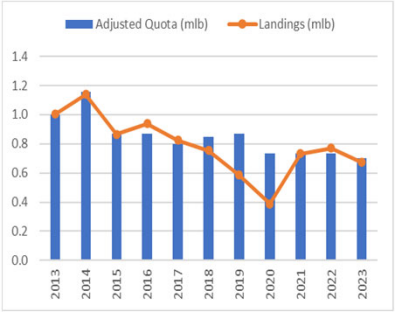
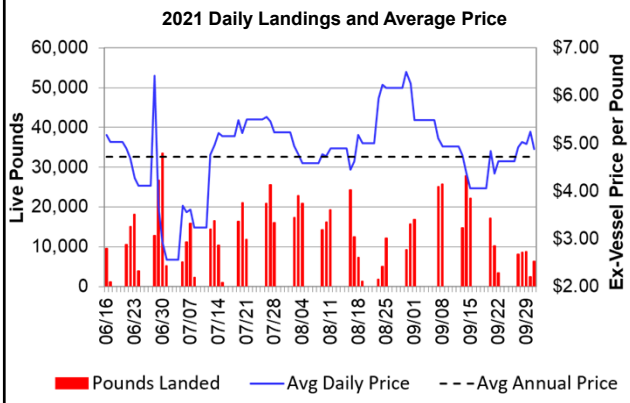
Recent Regulatory History

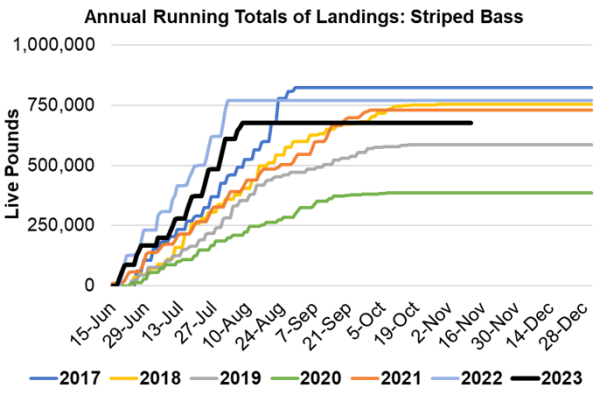
Years	Base Quota	Season	Open Days	Bag Limit	Size
2005-2013	1,159,750 lb	July 12 – Dec 31/Quota	Tue/Wed/Thu	30 fish	34" min
			Sun	5 fish	
2014	1,159,750 lb	June 23 – Dec 31/Quota	Mon/Thu	15 fish (vessel) 2 fish other	34" min
2015-2019	869,813 lb	June 23 – Dec 31/Quota	Mon/Thu	15 fish (vessel) 2 fish other	34" min
2020	735,240 lb	June 23 – Dec 31/Quota	Mon/Wed	15 fish (vessel) 2 fish other	35" min
2021-2023	735,240 lb	June 16 – Sept 30	Mon/Tue/Wed	15 fish (vessel) 2 fish other	35" min
		Oct 1 – Nov 15	Mon-Fri		



- 2014: Commercial tagging program implemented (at point-of-sale, i.e., done by primary buyers); for-hire sale limited to recreationally-compliant fish
- 2015: Commercial fin-clipping rule added (rescinded in 2020 when com/rec size overlap removed)
- 2018: July 3, July 4 and Labor Day added as closed days
- 2019: Unlawful to gaff sub-legal fish in commercial fishery added
- 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

Landings and Value Trends, 2021





2021 (orange): closed on October 2

SOURCE: SAFIS Dealer Reports, as of 11/20/23
* Confidential Data Not Displayed
[1] Preliminary

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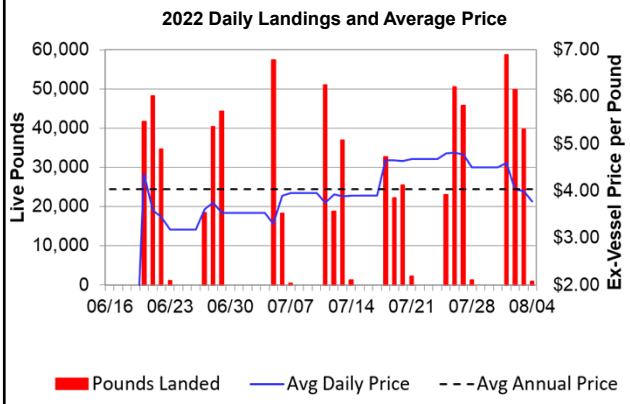
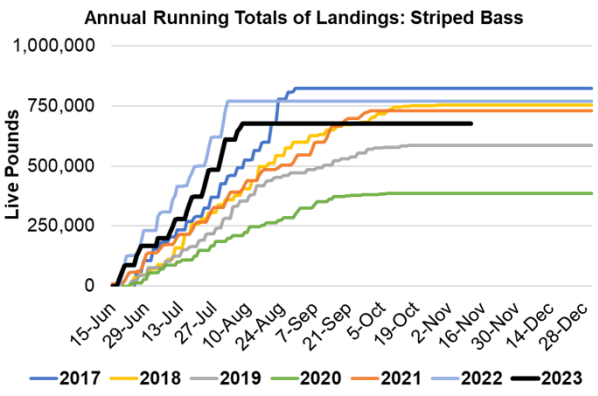
Landings and Value Trends, 2022





2022 (light blue): closed on August 4

SOURCE: SAFIS Dealer Reports, as of 11/20/23
* Confidential Data Not Displayed
[1] Preliminary

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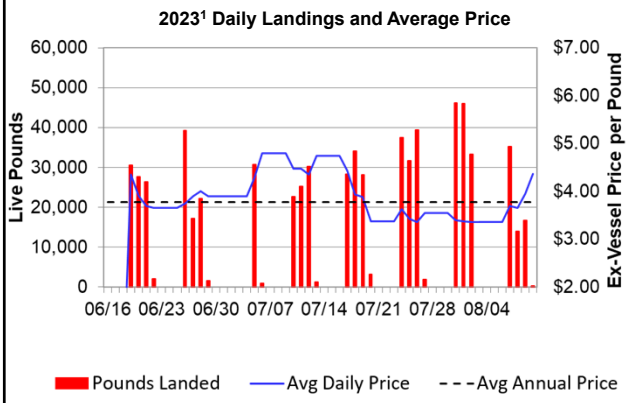
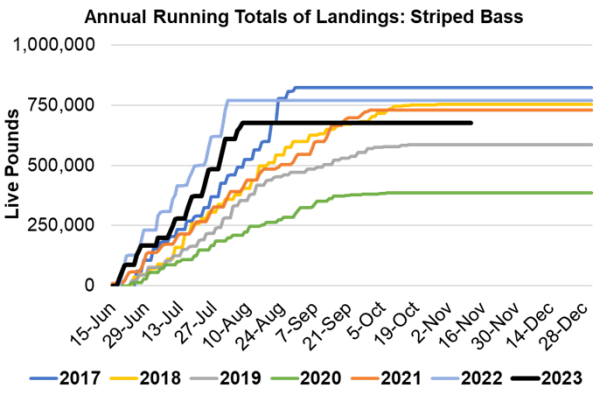
Landings and Value Trends, 2023





2023 (black): closed on August 11

SOURCE: SAFIS Dealer Reports, as of 11/20/23
* Confidential Data Not Displayed
¹ Preliminary

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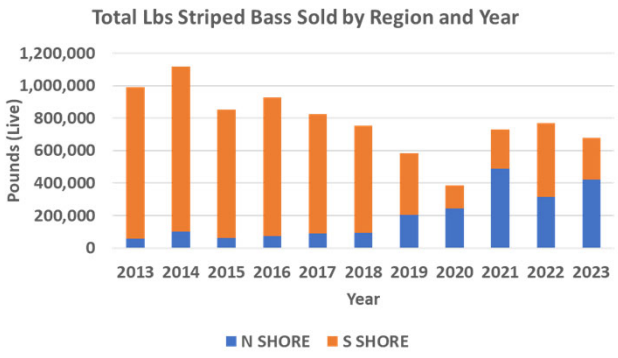
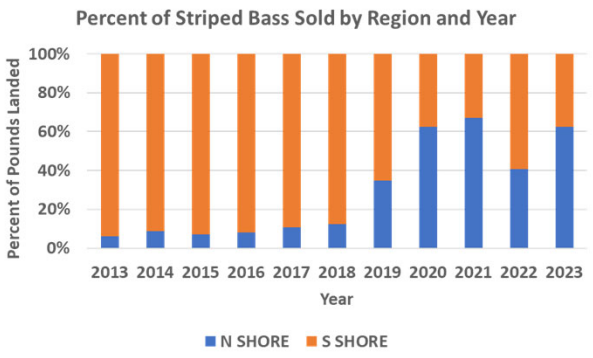
Regional Landings Trend





SOURCE: SAFIS Dealer Reports, as of 11/20/2023
* 2023 Preliminary

North Shore: Essex, Suffolk & Norfolk Counties
South Shore: Plymouth, Bristol, Barnstable, Dukes & Nantucket Counties

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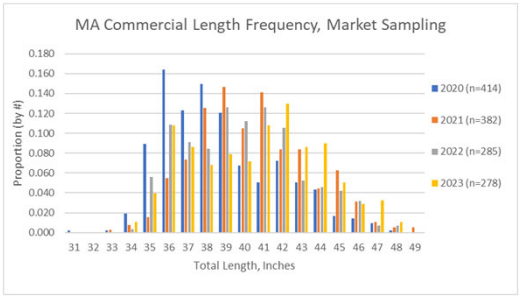
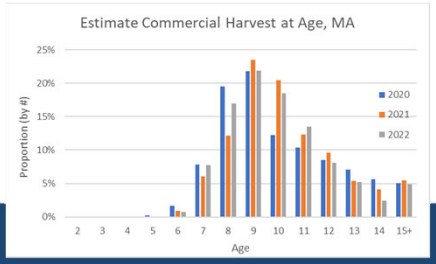
Size of Sold Fish





State	Size Limits	2022 Percent Landings by Gear Type	Mean Length and Range of Length Samples (TL in)	Mean Weight (lbs)	Mean Scale Age (years)
MA	35" min	100% hook & line	39.9 *Range: 35 - 48*	24.1	10
RI	General: 34" min FFT: 26" min	Conf % hook & line Conf % floating fish trap	34.8 *H&L Range 34 – 52* *FFT Range: 26 - 52*	18.2	8
NY	26-38" slot	62.2% gill nets (mostly sink) 18.3% hook & line 6.7% fixed gear 4.4% trawls	30.2 *Range: 24.1 – 38.7*	9.9	6.6
DE	GN: 28" min, 20" min DE Bay/River 2.15-5.31 H&L: 28" min	88.4% anchored gill net 11.6% drift gill net 0% hook & line	35.0 *Range: 20 - 45*	17.0	10
MD ocean	24" min	100% drift gill net	41.1 *Range: 32.6 – 47.6*	25.9	12
VA ocean	28" min	100% drift/anchored gill net	40.0 *Range 29 – 51*	24.8	14
NC	28" min	Beach seine, gill net, trawl	NA	NA	NA
MD Ches Bay	18-36" slot	53% pound net 42% drift gill net 5% hook & line	22.2 *GN Range: 17.7 - 35* *PN/H&L Range: 17.7 – 33.5*	4.6	5
PRFC	18" min; 36" max 2.15-3.25	67% anchored gill net 23% pound net 9% hook & line	23.8 *Range: 18.3 – 48.0*	6.3	5.7
VA Ches Bay	18" min; 28" max 3.15-6.15	84% drift/anchor gill net 12% pound net 4% hook & line	24.9 GN *GN Range: 18-49* 23.3 PN *PN Range: 17-36* 36.2 H&L *H&L Range: 18-28 and 41-49*	7.5 GN 5.6 PN 26.6 H&L	7.7 GN 5 PN 17 H&L

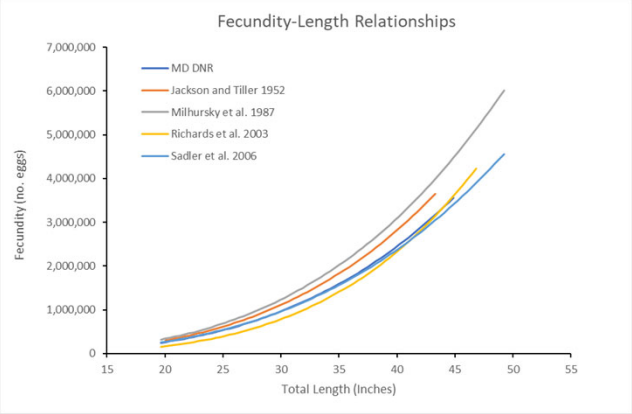
H&L=hook & line; GN=gill nets, FFT=floating fish traps; PN=pound net

Quota Implications of Maximum Size Limit

Starting from Current Quota			Starting from 14.5% Reduced Quota			% Com Harv ≥ Max (2020-2023 Avg)
Size Limit	Quota	% Reduction	Size Limit	Quota	% Reduction	
35" min	735,240	0.0	35" min	628,630	-14.5	
35 - 45"	713,810	-2.9	35 - 45"	610,307	-17.0	9.2%
35 - 44"	690,040	-6.2	35 - 44"	589,984	-19.8	14.8%
35 - 43"	650,988	-11.5	35 - 43"	556,595	-24.3	21.6%
35 - 42"	633,737	-13.8	35 - 42"	541,845	-26.3	31.4%
35 - 41"	599,542	-18.5	35 - 41"	512,608	-30.3	42.1%
35 - 40"	581,340	-20.9	35 - 40"	497,046	-32.4	51%
35 - 38"	545,028	-25.9	35 - 38"	465,999	-36.6	73.5%

- All examples maintain 35" minimum:
  - Maintain sector separation (Draft Addendum II: potential for 31 or 33" max recreational size)
  - Moving below a 35" min in 2024 would add pressure on 2015 year-class, further reduce quota, and likely accelerate quota use
- Other considerations: Is additional discard mortality a concern? Is the no gaffing rule still practical?

Fecundity



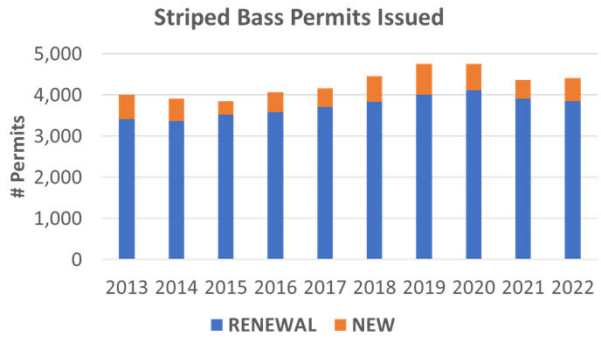
All Chesapeake Bay Studies

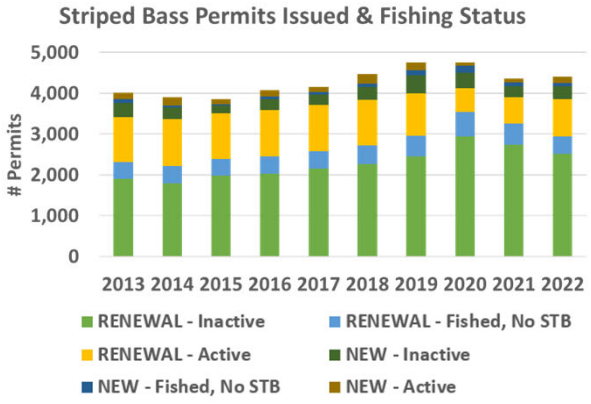
- Quota reductions associated with establishing a maximum size limit designed to maintain spawning potential ratio, i.e., the number of eggs produced by the stock. Conservation neutral in terms of # of eggs.
- If, however, eggs from larger fish have greater survival (i.e., not all eggs are equal), there is a conservation benefit.
- Relationship between female size & egg/larvae survival has been demonstrated in many fish studied, but not all.
- Mixed results for striped bass studies.

Primary purchase/chain of custody concerns

- Primary purchase:
  - "Primary Purchase means the first commercial transaction by sale, barter or exchange of any striped bass after its harvest." Require that both the commercial fisherman and primary buyer are present at the primary purchase.
  - Consider redefinition of "fishing day" (e.g., 8am – 7:59am)
- Better record of chain of custody:
  - "*Prior to departing* any ramp, pier, parking lot or other location of primary purchase, the Primary Buyer shall affix a Striped Bass ID Tag through the mouth and gills or through the lower jaw of each striped bass and lock the Striped Bass ID Tag into place." Require the tag to be affixed immediately upon the primary purchase.
  - Dealers record tag numbers associated with each transaction; would require separate paper report until SAFIS changes expected in 2025
  - Switch to point-of-harvest (i.e., harvester) tagging; impossible without limiting entry to reduce # of permit holders

Permitting Trends





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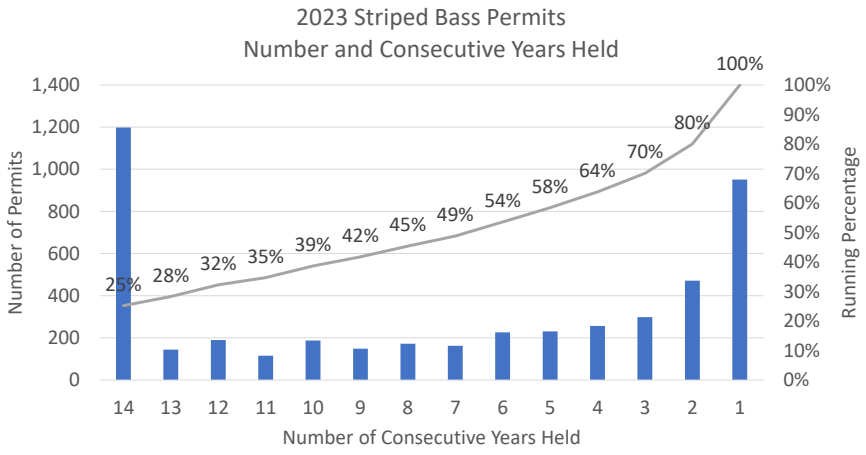
Permitting Trends



SOURCE: MA Permitting Database as of 11/28/2023

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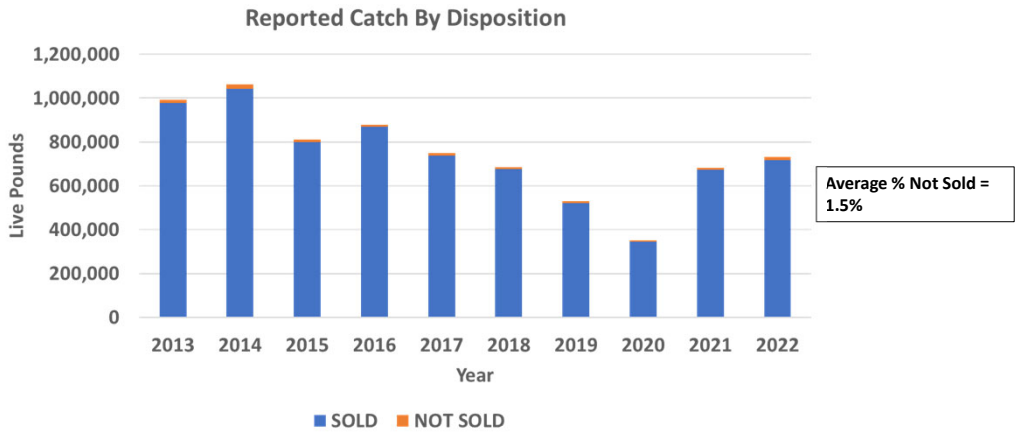
Harvester Reported Catch



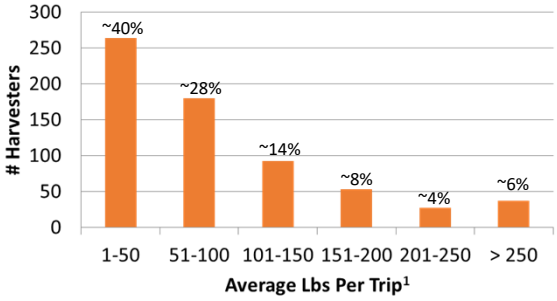
Average % Not Sold = 1.5%

SOURCE: MA Trip-Level Reports and federal Vessel Trip Reports, as of 11/28/2023.

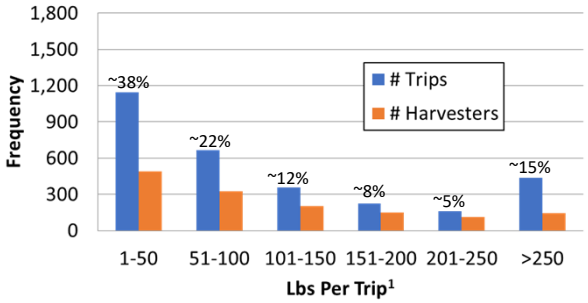
2020 Effort Analysis

Number of Active Harvesters	653
Total Number of Trips	2,990

# of Harvesters by Average Lbs/Trip



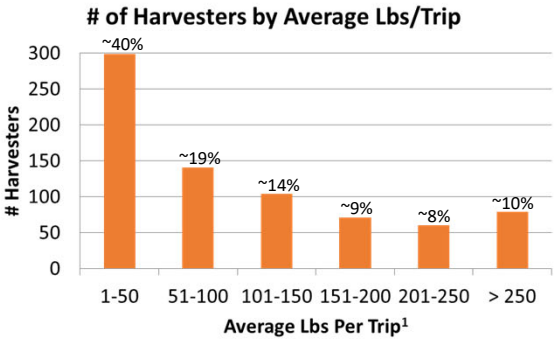
Frequency of Trips & Harvesters by Lbs/Trip

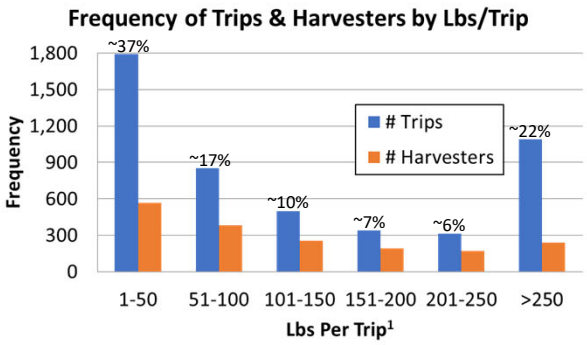


SOURCE: MA Trip-Level Reports and federal Vessel Trip Reports, as of 11/28/2023.
[1] Includes fish sold and not sold (personal consumption). "No Catch" trips are not included.

2021 Effort Analysis

Number of Active Harvesters	754
Total Number of Trips	4,962





SOURCE: MA Trip-Level Reports and federal Vessel Trip Reports, as of 11/28/2023.
[1] Includes fish sold and not sold (personal consumption). "No Catch" trips are not included.

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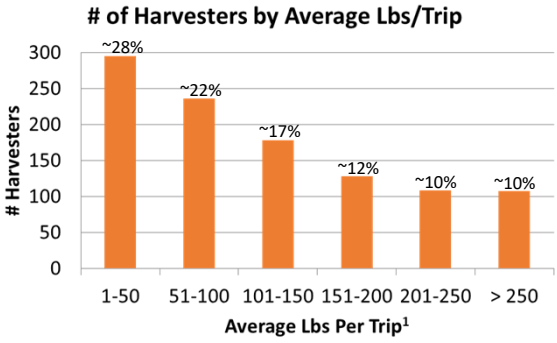
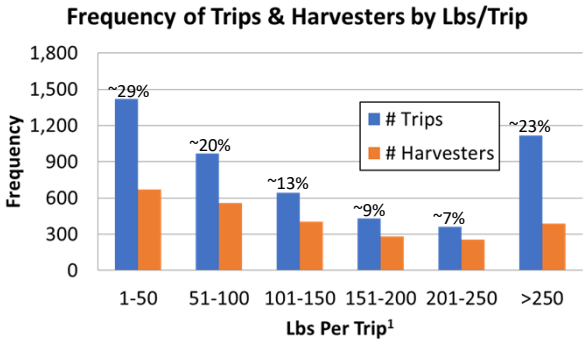
2022 Effort Analysis

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





SOURCE: MA Trip-Level Reports and federal Vessel Trip Reports, as of 11/28/2023.
[1] Includes fish sold and not sold (personal consumption). "No Catch" trips are not included.

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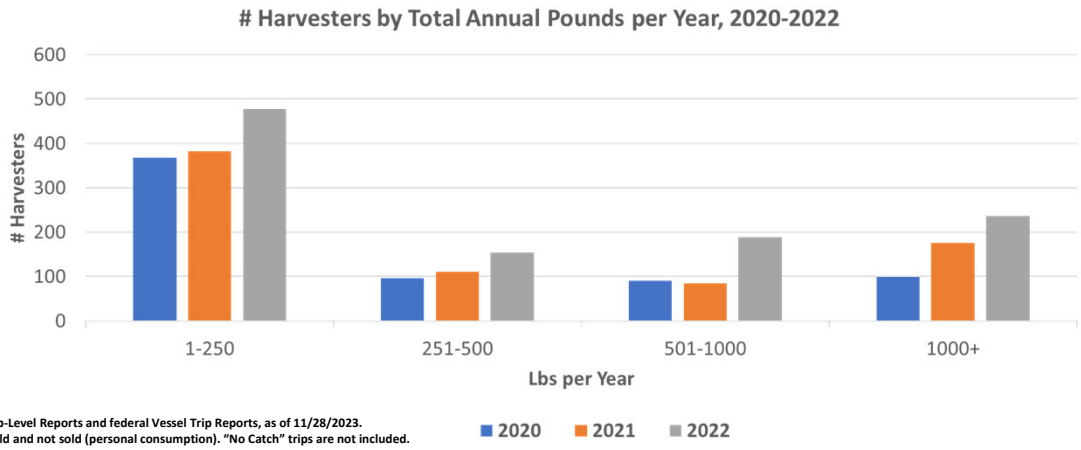
Harvester Annual Landings Distribution

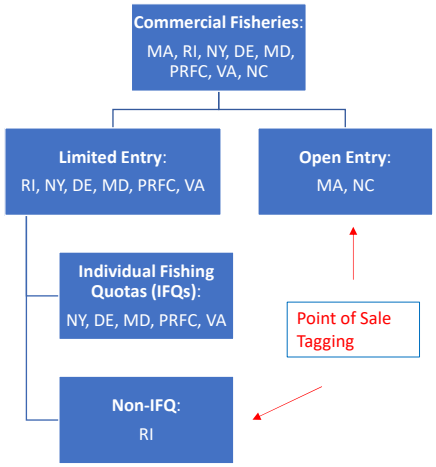


SOURCE: MA Trip-Level Reports and federal Vessel Trip Reports, as of 11/28/2023.
[1] Includes fish sold and not sold (personal consumption). "No Catch" trips are not included.

Example Scenario for MA Limited Entry

- Use harvester-reported data (sold fish)
- Control date: June 14, 2022
- Held a permit in 2023: 4,747 issued
- Landings threshold of X lbs in any year, 2011-2021:
  - 1 lb: 1,898 permits
  - 300 lb (approx. 1 day's 15-fish limit in pounds): 1,168 permits
  - 1,000 lb: 652 permits

Permitting: Open Access & Limited Entry



- **Rhode Island: limited entry permit without individual shares (FFT & RR fisheries)**
  - Moratorium on all permit categories in 1995 (only renewals/transfers).
  - Complete moratorium ended in 2002, but restricted species endorsements (required for quota monitored species) stay limited entry: acquired via transfer or through exit:entry ratios and prioritization process.
  - Exit:entry ratio for non-resident permits is effectively zero (no new issuance); whereas 1:1 for residents (going to 2:1 effective 1/1/24).
- **New York: limited entry permit with tiered equal IFQs (Mostly GN; also RR, PN, TRL)**
  - 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 (can move between).
  - Transfers limited to immediate family; exception upon death if designated recipient does not want.
- **Maryland: limited entry permit with ITQs (Mostly PN & GN, some RR)**
  - Capped at number or 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 transfers of partial or full shares allowed.
  - Permanent permit transfers allowed; waiting list for retired permits.
- **Virginia: limited entry permits with ITQs (Mostly GN, some PN, RR)**
  - 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. (Not an ITQ.)
  - 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).

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DMF Discussion Points for 2024

- Reduce the # of days from 3 to 2, with preference to exclude Monday.
  - Under reduced quota, if 30,000 lb/day (~2021-22 rate) = 21 days. Open through late August.
  - Under reduced quota, if 15,000 lb/day (~2020 rate) = 42 days. Open through mid-October, not counting for declining harvest rates in fall.
- Add 3rd day on September 1 (with 4th and 5th day added on Oct 1 per current rules)
- Consecutive or non-consecutive days
  - Tues/Thurs or Tues/Wed or Wed/Thurs
- Consider maximum size limit?
  - 45" (10-inch slot): shift ~10% harvest to smaller fish; additional 2.9% quota reduction
  - 44" (9-inch slot): shift ~15% harvest to smaller fish; additional 6.2% quota reduction
  - 43" (8-inch slot): shift ~22% harvest to smaller fish; additional 11.5% quota reduction
- Primary purchase/chain of custody improvements
  - Require that both the commercial fisherman and primary buyer are present at the primary purchase.
  - Require the tag to be affixed immediately upon the primary purchase.
  - Require primary buyer to record the tag numbers associated with each transaction.
  - Redefine what constitutes a fishing day.

DMF Discussion Points for Future Management

- Limited entry permitting (and harvester tagging)
  - Use of control date, which years prior to include in filter
  - Type of filters: minimum annual harvest or # transactions; minimum # years active; fishing income threshold, etc.
  - Different qualification for permit type (2 fish vs 15 fish limit)
  - Accommodating commercial harvesters or for-hire captains without striped bass history
  - Single common pool or tiered access
  - Transferability
  - Exit:entry ratio for retired permits
  - Goal for # permits: for harvester tagging ~400 permits feasible

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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 O'SHEA, Commissioner | DANIEL J. MCKIERNAN, Director

MEMORANDUM

TO: Marine Fisheries Advisory Commission (MFAC)

FROM: Daniel J. McKiernan, Director

DATE: December 14, 2023

SUBJECT: **Proposal to Temporarily Stay Scheduled Whelk Gauge Increases**

Proposal

DMF intends to go to public hearing this winter with a proposal to temporarily stay the whelk gauge increase schedule for a period of at least three years (2024 – 2026). If enacted, the $^{1}/_{8}$" gauge increase (from 3 $^{1}/_{8}$" to 3 $^{1}/_{4}$") scheduled for 2024 will be delayed until no sooner than 2027 (Table 1). This pause will provide time for an expected management strategy evaluation (MSE) for the channeled whelk fishery to be conducted, and for DMF to consider those results, before pursuing any additional gauge increases.

Rationale

Since the early 2010s, DMF has been concerned about the status of the whelk resource in Massachusetts. During the early 2000s, there was a rapid escalation of catch and effort in the so called "conch pot" fishery for channeled whelk[1]. Fishery dependent data indicated there was a substantial reduction in catch per unit effort after 2010 and a truncation in the sizes of whelk caught to around a minimum size standard that was not based on a biological metric[2].

In response, DMF conducted two size-at-maturity studies (2013 and 2015) that demonstrated no female channeled whelks in Massachusetts' waters were sexually mature at the existing minimum size, did not start becoming sexually mature until they were at a shell width of about 3 $^{1}/_{2}$", and did not reach 50% size at maturity until they reached a shell width of 3 $^{7}/_{8}$". Then in 2018, DMF completed a stock assessment for channeled whelk in Nantucket Sound[3] which concluded the resource was overfished and overfishing was occurring.

These studies and assessments prompted DMF and the MFAC to gradually increase the size-at harvest for whelks (both channeled and knobbed whelks) with the goal of eventually setting size at harvest at 50% size-at-maturity for channeled whelk (Table 2). While this management scheme has evolved over time, DMF regulations currently manage size-at-harvest through a minimum gauge size and method of

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[1] This was likely driven by changes in fishing behavior in response to the environmentally driven collapse of the Southern New England lobster stock.

[2] The original minimum size standard of 2 $^{7}/_{8}$" was set in the late-1980s based on dealer input regarding the smallest sized whelk they could process and market.

[3] Channeled whelk primarily occur in the inshore waters south and west of Cape Cod. Nantucket Sound has historically been and remains the primary harvest area for channeled whelk.

measurement, with the gauge size currently scheduled to increase by 1/8" every three-years until 2033[4]. This gradual approach recognized that this is a slow growing animal and was designed to offset anticipated economic impacts by allowing near legal sized whelks to recruit into the fishery before the next gauge increase would occur.

This management program has been the subject of routine criticism since it was first discussed around a decade ago. Given the documented differential growth rates—females growing larger than males—stakeholders have raised concerns that the fishery will eventually be harvesting exclusively female whelks and this may skew sex ratios in the population and potentially jeopardize any long-term recovery. Accordingly, there has been a persistent interest in other conservation and management strategies.

Despite the gradual management approach, effort and landings over the past decade are greatly diminished (Table 3 and Table 4, Figure 1). While DMF believes this is likely the result of persistent overexploitation, industry contends it has been driven (at least in part) by the continuous gauge increases, which result in large numbers of undersized whelks being routinely discarded. Industry is concerned that further gauge increases will continue to depress landings and effort, leading to the loss of shoreside infrastructure necessary to support the fishery. Thus far the economic viability of the fishery has largely been buoyed by increasing ex-vessel values driven by overseas markets. However, anecdotal reports from dealers this fall reveal that overseas market demand has fallen off dramatically resulting in a reduced ex-vessel value.

DMF staff have held routine meetings with industry representatives, MFAC members, SMAST researchers, and local state legislators to discuss the management of the conch pot fishery for channeled whelk. Recently there has been a strong interest for an SMAST PhD student to conduct an MSE to help all stakeholders better understand what various management alternatives DMF could consider. Once funded, DMF anticipates it may take three-years for the work to produce preliminary results that could be used for management. While my concerns remain about the long-term viability of this resource and this fishery, I support staying the gauge schedule for at least the next three-years to reconsider the scheduled gauge increases based on the progress of the MSE.

[4] The minimum shell width for whelks was increased from 2 3/4" to 3" through two annual 1/8" increases in 2014 and 2015. The MFAC did not support further changes until DMF completed a second size-at-maturity study and demonstrated the results confirmed its initial 2013 size-at-maturity study. This second study concluded in 2015, and in fact, confirmed the results of the 2013 study. In response to enforcement issues, DMF amended its whelk minimum size management strategy in 2017. This included adopting a standardized "any orientation" method of measurement and regulating size-at-harvest through a minimum gauge size rather than shell width given the asymmetry of the animal. Through this change, DMF adopted a 2 7/8" minimum gauge that corresponded to an animal with a shell width of roughly 3 1/10", slightly larger than the prior 3" minimum shell width standard. DMF then adopted a 10-year schedule to increase the minimum gauge size from 2 7/8" to 3 5/8" through a series of six biennial 1/8" gauge increases beginning in 2019 and concluding in 2029. The terminal minimum gauge size of 3 5/8" roughly corresponds to a 3 7/8" animal, a size at which DMF's studies found 50% of female channeled whelks would be sexually mature. Under this schedule, the gauge size was increased again in 2021 to 3 1/8". Prior to the scheduled increase in 2023, DMF amended the schedule so that it would occur every three-years thereby delaying the next increase to 2024.

Table 1. Proposed adjustments to schedule for increases to whelk gauge size

Gauge Size	3 1/8"	3 1/4"	3 3/8"	3 1/2"	3 5/8"
Current Schedule	2021 - 2023	2024 – 2026	2027 – 2029	2030 – 2032	2033
Proposed Schedule	2021 – 2026	2027 – 2029	2030 – 2032	2033 – 2035	2036

Table 2. Approximate shell width and percent size-at-maturity at each scheduled gauge size

Gauge Size	2 7/8"	3"	3 1/8"	3 1/4"	3 3/8"	3 1/2"	3 5/8"
Approximate Shell Width	3 1/10"	3 3/16"	3 5/16"	3 7/16"	3 5/8"	3 3/4"	3 7/8"
Percent size at maturity	0%	0%	0%	0%	5%	20%	50%

Table 3. Annual CPUE in conch pot fishery for channeled whelk, 2000 - 2021 (live pounds/trap-haul)

Year	CPUE
2000	5.14
2001	5.75
2002	5.26
2003	6.57
2004	6.64
2005	5.44
2006	5.16
2007	5.43
2008	5.36
2009	5.59
2010[1]	5.84
2011[1]	5.82
2012[1]	4.94
2013[1]	4.12
2014[1]	4.10
2015[1]	3.89
2016[1]	3.33
2017[1]	2.82
2018[1]	2.90
2019[1]	2.79
2020[1]	3.41
2021[1]	2.65
2022[1]	3.10

SOURCE: MA Commercial Catch Reports and NMFS VTRs

[1]Potentially lower due to permit holders not distinguishing between lobster and conch traps (increases effort in denominator)

Table 4. Dealer reported MA channeled whelk landings and value, 2005-2022

Year	Live Pounds[1]	Est. Value	Price/lbs.[2]
2005	1,354,823	$1,454,295	$1.07
2006	2,420,485	$3,104,622	$1.28
2007	2,496,500	$2,466,229	$0.99
2008	2,701,413	$3,212,108	$1.19
2009	2,847,046	$3,720,139	$1.31
2010	2,505,860	$3,949,373	$1.58
2011	3,042,873	$6,127,104	$2.01
2012	3,649,276	$6,274,158	$1.72
2013	2,275,298	$5,699,101	$2.50
2014	1,825,889	$4,866,230	$2.67
2015	1,698,660	$4,843,976	$2.85
2016	1,654,283	$4,861,039	$2.94
2017	1,132,393	$3,382,969	$2.99
2018	1,327,778	$4,667,283	$3.52
2019	1,091,291	$4,145,536	$3.80
2020	948,788	$3,154,889	$3.33
2021	766,872	$3,064,022	$4.00
2022	917,700	$3,803,336	$4.14
2023*	893,854	$2,922,532	$3.27

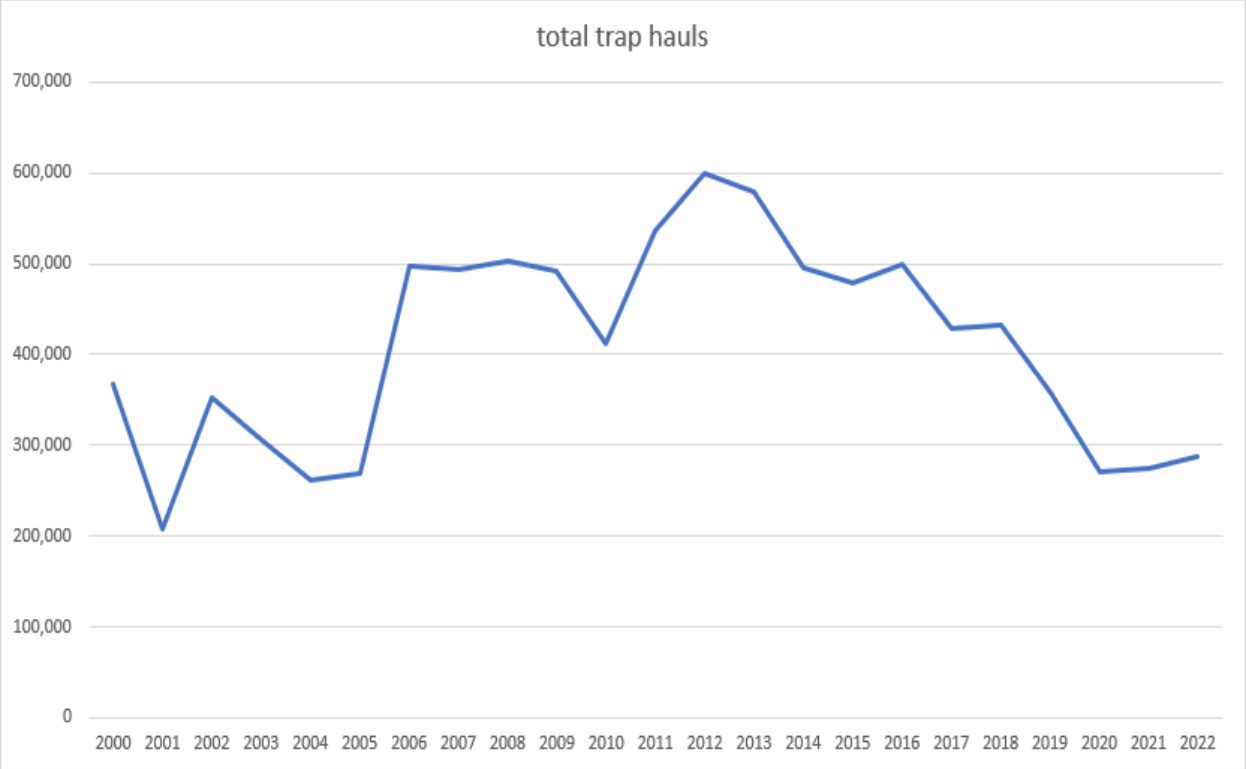
SOURCE: SAFIS Dealer Reports, 12/4/2023, ED

[1]All landings reported in bushels were converted to whole pounds (includes shell weight), at 1 bushel = 62.8 lbs.

[2]There are issues in early years of the timeseries with correctly reporting the different whelk species potentially further influencing the average price calculations.

*Preliminary; data through 12/2/2023.

Figure 1. Annual Number of Total Whelk Trap Hauls, 2000 - 2022



Source: MA trip-level reports and NMFS VTRs, 12/4/2023

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 O'SHEA, Commissioner | DANIEL J. MCKIERNAN, Director

MEMORANDUM

TO: Marine Fisheries Advisory Commission (MFAC)

FROM: Daniel J. McKiernan, Director

DATE: December 14, 2023

SUBJECT: **Proposal Affecting Horseshoe Crab Management—Spawning Closures and Trip Limit Adjustments**

Proposal

For potential implementation this upcoming spring, DMF intends to go to public hearing this winter with the following proposals affecting horseshoe crab management:

- Replace the existing lunar-based spawning closures with a prohibition on all retention of horseshoe crabs during the spring spawning season. The closure period would not extend longer than April 15 – June 7.
- Amend the commercial bait trip limits. This proposal is multifaceted. First, I am proposing to adjust the hand harvest trip limit of 400 crabs per 24-hour period beginning at 12PM (noon) so that the trip limit is reduced to 300 crabs and applies per calendar day. This will establish a uniform commercial trip limit for all commercial fishers with a regulated fishery limited entry permit endorsement for horseshoe crabs. DMF then intends to adopt two trip limit triggers to manage the available bait quota for various users. The first trip limit trigger will increase the trip limits to 400 crabs per calendar day if less than 50% of the annual quota is taken on August 1. The second trip limit trigger will automatically reduce the trip limit to 200 crabs if 80% of the annual quota is taken before September 15. DMF is not proposing to adjust the open entry trip limit for mobile gear fishers of 75 crabs, nor the biomedical trip limit of 1,000 crabs.
- Complement federal prohibitions on horseshoe crab harvest within the Monomoy National Wildlife Refuge and the Cape Cod National Seashore.

Status of the Stock

The Atlantic States Marine Fisheries Commission's (ASMFC) most recent stock assessment (2019) for horseshoe crabs indicates the northern region (RI-ME) stock improved from poor condition to neutral condition compared to the 1998 baseline. This improvement was driven largely by increases in DMF trawl survey indices. The next ASMFC Horseshoe Crab Stock Assessment is scheduled to be released in 2024. Additionally, the 2022 Green List Report from the International Union for Conservation of Nature (IUCN) has also noted improvement in the abundance of crabs in the northeast region, which includes Massachusetts. For the northeast region, the IUCN Green List Report states "there appears to be a balance between loss of habitat and continued harvest pressure vs conservation measures. Thus, horseshoe crab populations appear to be fairly stable."

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. South of Cape Cod, the DMF fall trawl survey is near time series median levels; however, the spring survey is still showing positive trends and remains above time series medians (Figure 2). The proportion of tows containing horseshoe crab is still generally showing positive signs in the Gulf of Maine in recent years, despite poor catch in 2023 (Figure 3). South of Cape Cod, the percentage of survey tows containing crabs remains above time series median for the spring survey but has declined in the fall survey (Figure 4). While most sites surveyed in the Massachusetts Spawning Beach Survey were below their time series medians in 2023, more than 70% of surveyed beaches show increasing trends over the last five and ten-year periods (Table 1).

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, with lesser amounts harvested from Cape Cod Bay (7%), Vineyard Sound (5.7%), Buzzards Bay (1.4%) (Figure 5), and less than 1% coming from all other areas combined. The biomedical fishery is similarly focused south and west of Cape Cod. However, Pleasant Bay—along the Outer Cape—has been an important site for the collection of biomedical crabs for nearly 50 years and has been closed to bait harvest since 2006.

Public Interest in a Spawning Closure

In January 2023, the Horseshoe Crab Conservation Association petitioned DMF to enact an annual horseshoe crab harvest closure through June 15 to protect spawning horseshoe crabs (Attachment 1). DMF considered this petition and proposed draft regulations to adopt a spawning closure through May 31. After reviewing public comment, DMF recommended the MFAC approve an April 21 – May 31 spawning closure. Ultimately, this recommendation was not approved by the MFAC due to prevailing concerns regarding the negative economic impact it may have on hand-harvesters, bait supply, and biomedical firms' business practices. Moreover, some MFAC members expressed skepticism about the lack of scientific evidence suggesting the horseshoe crab resource was declining and thus necessitating a management action.

The general public, including many in the conservation community, remain strongly committed to the enhanced conservation of the horseshoe crab resource. Specifically, they have argued that harvest should be substantially limited given the cultural and ecological value of horseshoe crabs. Some have expressed opinions that the horseshoe crab resource is depleted compared to historic levels and recent improvements in abundance trends are insufficient to support population recovery. Further, some insist the current management scheme serves only to maintain existing population levels sufficient for commercial harvest and does not address the ecological services provided by horseshoe crabs and horseshoe crab eggs[1].

These positions are evidenced in the public comment received during this past winter's rule making process and more recently in a letter from Massachusetts Audubon to the Department of Fish and Game (Attachment 2). Audubon's letter advocated[2] that the Department—and its Divisions—pursue horseshoe

[1] While it is difficult to quantify the benefits of horseshoe crab egg production on forage, shorebird advocates have long made arguments that spawning closures are necessary to increase the horseshoe crab eggs available on beaches to shorebirds. Similar forage arguments are now being extended to other species (e.g., sea turtles).

[2] Specifically, Massachusetts Audubon argued the Commonwealth should: (1) adopt a January 1 – June 30 spawning closure; (2) phase out all bait harvest; (3) improve performance standards and monitoring for the biomedical industry to reduce mortality and sub-lethal impacts; (4) increase interagency coordination to monitor the population status of horseshoe crabs in the context of their relationship to other species (e.g., shore birds); and (5) consider coastal resiliency in the context of climate change when developing strategies to restore horseshoe crab populations and other species (e.g., shorebirds).

crab population recovery initiatives as part of the Governor's Executive Order No. 618 on Biodiversity and Conservation in Massachusetts.

Rationale for a Spawning Closure

DMF has a long-standing history of constraining state-managed commercial fisheries from targeting known aggregations of spawning fish and has generally supported similar efforts at the federal and interstate level. As a general rule, it is advisable—and typically embraced by stakeholders—to provide animals protection from harvest during spawning events. This is particularly true for horseshoe crabs given they are exceptionally vulnerable to harvest during the spawning season because of their shallow subtidal staging behavior and easy access while on the spawning beaches. This is why DMF adopted the springtime lunar-based horseshoe crab harvest closures in 2010 and it is why I want to expand spawning horseshoe crab protections now.

Over the past decade, our survey data generally indicate improving population trends, but some recent data points are reverting towards time series medians. Additionally, we primarily observe animals that are three-to-four years away from maturity and older in our trawl survey, while only mature adults are observed in the spawning beach survey. At present, there is not a viable survey method available to us that can accurately enumerate young-of-the-year nor forecast future recruitment. Absent such an early warning system, DMF can only respond to trends observed in the adult or sub-adult segment of population. Moreover, horseshoe crabs are negatively impacted by the degradation of coastal beaches and consequent loss of spawning habitat. These conditions may accelerate in the coming decades given anticipated sea level rise and resulting erosion and shoreline armoring. For these reasons, I think it appropriate to manage this fishery with precaution and work to bolster the reproductive success of the current and future spawning stock biomass.

DMF's spawning beach survey data (2015-2022) show that both north and south of Cape Cod horseshoe crab spawning activity typically begins in May and concludes by mid-to-late June (Figure 6 and Figure 7). These data demonstrate that the proposal will protect approximately 90% of spawning females by delaying the annual bait and biomedical harvest through June 7th. Having the spawning closure begin to apply in mid-April also enhances spawning protections. First, it protects horseshoe crabs from harvest as they stage in nearshore areas immediately prior to the spawning event. This is particularly important in the context of the primary harvest area—Nantucket Sound—as the nearshore mobile gear closures do not go into effect until May 1[3] (Figure 8). Additionally, a mid-April closure would mitigate potential interannual variability in the timing of spawning, particularly should the spawning event begin earlier in the year (e.g., due to a warmer than usual spring).

This proposed action would also bring us in line with what is occurring in some other states. Massachusetts is one of four states—along with Rhode Island, Maryland, and Virginia—that currently have bait and biomedical fisheries. Each of these states provide spawning horseshoe crabs with more protections than they are currently afforded in Massachusetts. Rhode Island prohibits bait harvest in May and has lunar closures in May for its biomedical fishery; Maryland has a complex myriad of rules that prohibits directed bait fishing during the spawning season, prohibits the year round harvest of females for bait, and limits the biomedical harvest of females during the spawning season; and Virginia prohibits bait harvest within 1,000 feet of shore from May 1 – June 7 and bans the harvest of females in waters east of the COLREGS line (i.e., ocean zone). As for the rest of the northeast, Connecticut recently prohibited hand harvest in its bait fishery and does not have a biomedical fishery; New York features lunar closures

[3] 322 CMR 4.06(2) annually closes those waters within a boundary that approximates the three nautical mile line from Eastham to Mashpee from May 1 – October 31 to mobile gear except surf clam and ocean quahog dredges and dredges used in municipal managed shellfish fisheries.

in May and June affecting its bait fishery and does not have a biomedical fishery; and New Jersey does not have a bait fishery and prohibits harvest in its biomedical fishery until June 1.

This proposal is not without negative impacts. If adopted, it will disproportionately impact hand-harvesters who capture horseshoe crabs as they stage in shallow waters and come up on the beaches to spawn. Nearly all annual hand harvest has historically occurred between the last week of April and the first week of June (Table 2). Over the past three years we have had roughly 50 active hand harvesters with about 30 individuals participating in the fishery in any given year. While there may be some continued opportunity for hand harvest after the first week of June[4], I suspect effort and landings will be limited during this period because harvesters will likely pursue other work due to the loss of the peak season and because crab availability is more limited.

The loss of the springtime hand harvest fishery will also likely impact the bait supply for the spring channeled whelk ("conch") pot fishery, particularly in the first year of implementation. These impacts may be particularly acute in 2024 given the performance of the horseshoe crab fishery in 2023. In most years, it is common for bait dealers to have a surplus of horseshoe crabs at the end of the fall season that can be stored and made available to supplement bait demand when the conch pot fishery re-opens in the spring. However, it is my understanding that this is generally not the case at present. The early season (August 6) quota closure in 2023 of the horseshoe crab bait fishery limited the local bait available to the fall conch pot fishery requiring dealers to import additional bait from other states to meet demand. However, the economics of the conch pot fishery[5], coupled with the cost of bait, may have had a limiting impact on the volume of bait crabs being imported. Undoubtedly, the changing market conditions for channeled whelk complicate our understanding of impacts relative to the bait market and increases uncertainty moving forward. That said, I do suspect there may be a horseshoe crab bait shortage to start the spring conch pot season in 2024 regardless of my spawning closure proposal. Also, there are alternative—but purportedly less favorable—baits available to conch pot fishers[6] and they may be forced to switch over to those alternatives. Note that should poor market conditions persist for whelk there may also be much reduced conch pot fishing effort and subsequent demand for bait.

To address both the displacement of hand harvesters and potential bait shortages, I am interested in enhancing green crab fishing opportunities. Green crabs are an invasive species commonly found throughout nearshore marine habitats in Massachusetts, particularly our estuaries, saltmarshes, and mudflats. While industry feedback generally suggests horseshoe crabs are the most effective whelk bait, green crabs are also commonly used to supplement bait demand. It is worth exploring the potential for green crabs to become a more substantial part of the bait mix to offset the impacts of horseshoe crab conservation and to create market-based incentives to fish down this invasive species. To wit, I am interested in creating a more robust fishery for green crabs and will work with staff to streamline permit conditions and permit availability for commercial green crab trapping. Funding to outfit displaced horseshoe crab hand harvesters with green crab trap gear would be a creative legislative solution to help mitigate the impacts of these proposals.

Prior public comment would also suggest the biomedical industry may be concerned that spawning closures will limit their access to horseshoe crabs for Limulus Amebocyte Lysate ("LAL") production by seasonally eliminating the biomedical harvest of horseshoe crabs, as well as crabs available through the

[4] Based on our spawning beach survey data, some low level of spawning activity continues throughout June and post-spawning crabs may remain in shallow embayments where they are accessible by hand.
[5] Conch dealers informed DMF staff that the ex-vessel value of channeled whelk was depressed coastwide this fall. This is reportedly a product of economic conditions affecting the Chinese live market. SAFIS dealer data for Massachusetts shows ex-vessel value was about $3 per pound in November and early-December of this year, which is about 25% less than the average ex-vessel value in 2021 and 2022.
[6] These alternative baits include green crabs, molluscan shellfish, fish or fish racks, and other fish waste from processors.

rent-a-crab program. Given the critical importance of LAL production to global public health and safety, I am willing to consider potentially exempting some biomedical harvest from the proposed spawning closure to ensure Massachusetts' biomedical firms can obtain locally sourced horseshoe crabs to create this lifesaving product. Such an exemption—if adopted—would likely include certain conditions, such as a total cap on harvest during the spawning season (e.g., a capped percentage of the biomedical quota) and limitations on where harvest can occur (e.g., no harvest near spawning beaches or in nearshore areas where crabs may be staging to spawn). In the end, it would be my preferred outcome that the harvesters, dealers, and biomedical processors all amend their business plans to work around the spawning closure without such an exemption that could weaken the closure's enforceability and overall compliance.

Rationale for Bait Fishery Trip Limit Adjustment

The first aspect of this proposal is to adopt a uniform bait fishery trip limit of 300 horseshoe crabs per day for all limited entry permit endorsement holders. This will eliminate the higher trip limit of 400 crabs which applies per 24-hour period beginning at 12PM (noon) and enables fishers to fish two tides in a single calendar day. I perceive this as having several benefits. I anticipate this will reduce the potential harvest at the tail end of the spawning season once the proposed spawning closure has ended. In doing so, the potential for front loading the bait quota to meet rent-a-crab demand will also be reduced. This may help uniformly distribute bait landings across the year, with the intention of ensuring that supply and demand are well-linked in time. Lastly, a single trip limit for all bait permit holders would improve enforcement and compliance.

The second aspect of my proposal is to establish two triggers to automatically adjust trip limits at a certain date based on quota usage. For instance, should more than 50% of the quota remain available on August 1, I propose increasing the trip limit to at least 400 crabs per calendar day. This will allow mobile gear fishers to better access available quota later in the season to meet bait demand for the fall conch pot fishery and supplement biomedical demand through the rent-a-crab program. Additionally, I propose a trigger be adopted so that if 80% of the annual quota is taken before September 15, the trip limit is automatically reduced to no more than 200 crabs per calendar day. This may help the fishery postpone or avoid a quota closure. In turn, this would maintain a steady supply of bait to the market; reduce regulatory discarding in mobile gear fisheries—particularly the clam dredge fishery—that may occur into the late fall and early winter; and serve as a signal to biomedical firms to rely more on other sources of crabs (e.g., biomedical quota) to meet their annual production needs.

Rationale for Complementing Federal Harvest Closures

Federal rules affecting both the Cape Cod National Seashore and the Monomoy National Wildlife Refuge prohibit the harvest of horseshoe crabs within the park and refuge boundaries (Figure 9 and Figure 10). I intend to adopt complementary closures as part of DMF's horseshoe crab management regulations to enhance enforcement and compliance by allowing the Massachusetts Environmental Police to enforce harvest ban in specific geographic areas.

Additional Discussion

Performance of the 2023 Fishery

This year, the bait fishery closed on August 6 with 99.8% of the quota being taken[7]. This is only the second time ever that the annual bait quota was achieved, and the fishery was closed. In 2019, the fishery closed on August 31, about three-and-a-half weeks later than this year's closure. This year's early closure restricted the ability for mobile gear fishers to retain and land horseshoe crabs throughout the end of the summer and fall. This likely had a negative economic impact on our state waters mixed trawl fishery in

[7] To prevent an even earlier closure, DMF and the MFAC made an in-season adjustment on July 10 to reduce the bait crab trip limit for mobile gear fishers from 300 crabs to 200 crabs for limited entry endorsement holders and form 75 crabs to 50 crabs for open access fishers.

Nantucket Sound and quahog dredge fisheries. However, the negative economic impacts for some trawlers were mitigated by their ability to participate in the biomedical fishery[8]. Note, in 2023 DMF voluntarily reduced its annual horseshoe crab quota by 25,000 crabs (from 165,000 crabs to 140,000 crabs annually) to offset growth in the biomedical fishery and cap total mortality at near 2022 levels.

The early quota closure in 2023 was driven in part by an unprecedented spike in early season bait harvest. Landings during the proposed closure period (April 15 – June 7) approached 85,000 crabs[9], which is substantially higher than what we have experienced in recent years (Figure 11). There are several likely reasons as to why this occurred. Uncertainty regarding the future of the hand-harvest fishery may have driven an increase in fishing effort and activity, particularly as final rules were not approved by the MFAC until mid-May and did not go into effect until mid-July. Additionally, the early season bait quota usage was likely artificially inflated by biomedical demand from firms seeking to utilize bait crabs that they bled and returned to the bait market ("rent-a-crab"); this harvest is counted toward the 140,000-crab bait quota. It was also reported that the elevated early season crab harvest caused market gluts that may have in turn reduced bait availability during this fall's conch pot fishery and contributed to the at-sea releases of crabs in May, of which many ultimately washed ashore dead near Stage Harbor. The spawning closure and trip limit proposals outlined above should result in the quota being spread out over the fishing season thereby avoiding market gluts and early season closures. In the biomedical fishery, landings are still being tallied, but DMF expects the biomedical annual quota to be essentially taken. Note that in 2024 we will have enhanced reporting, as all commercial horseshoe crab fishers—both bait and biomedical—will be required to report the landings electronically on a daily basis.

DMF has monitored horseshoe crab fisheries since 2000, including collection of size and sex data from both the bait and biomedical harvest streams. This includes sampling within Associates of Cape Cod, which was the only biomedical firm in the state from 1974 to 2022. The addition of Charles River Laboratories in 2022 brought more attention from the public. Some members of the public were frustrated by a lack of transparency in the biomedical fishery due to confidentiality laws and requested DMF increase observation of the fishery. The biomedical industry, frustrated by misinformation being spread about their operations, also requested DMF conduct more sampling trips. In addition to continuing to collect biological data within the biomedical facilities, DMF began observing biomedical collection trips, holding areas, and biomedical release trips, conducting 50 trips in total (Table 3). Eleven different DMF scientists collected data on over 11,000 crabs. Information collected included mortalities, biomedical recaptures, size, and sex. The data have not been completely analyzed yet, but the number of observed mortalities from collection to release was very low.

Right-sizing Bait Harvest

I am interested in managing the bait fishery for horseshoe crabs in a manner that considers local demand for bait. Based on bait usage surveys and reported pot haul data, DMF estimates the Massachusetts' conch pot fishery likely required about 136,000[10] horseshoe crabs per season during the ten-year period from 2013 – 2022. However, during the most recent five-year stanza (2018 – 2022), the mean number of horseshoe crabs needed was about 107,000. This usage is generally in-line with the current horseshoe

[8] Out of abundant precaution, DMF does not currently allow shellfish dredge boats to participate in the biomedical fishery as there are concerns that are not currently well understood about how this rigid, metal gear may impact the overall health, fitness, and survivability of horseshoe crabs.

[9] DMF obtains gear type data through harvester reports and 2023 harvester data will not be available until the spring of 2024. However, given our understanding of how this fishery functions, the increase in landings during the spring of 2023 is likely attributable to hand harvest.

[10] Estimated number of crabs needed to supply bait for Massachusetts whelk pot hauls was derived by multiplying the number of annual whelk pot hauls by 0.33 (a third of a crab). Most respondents to a 2016 survey by DMF and ASMFC of commercial whelk harvesters claimed they used a quarter of a female crab, or half a male. Using sex data provided by bait harvesters, there are 2 females harvested for every male. Using a weighted mean by sex, the average bait use is estimated to be 0.33 crabs per trap.

crab quota. However, the declining trend in pot hauls (Figure 12), declining channeled whelk stock conditions, and international market issues likely portend further declines in the pot fishery. Should this bear out over the next few years, I may consider proposing further reductions to the bait quota.

Attachments

1. January 9, 2023 Petition from Horseshoe Crab Conservation Association to DMF
2. October 26, 2023 Letter from Massachusetts Audubon to Commissioner O'Shea

Table 1. Massachusetts Spawning Beach Survey trends by survey site, region, and survey period (day or night).

Beach	Region	Time of Day	2023 vs Median	10-year trend	5-year trend
Duxbury	Cape Cod Bay	Day	below	decreasing	increasing
Duxbury	Cape Cod Bay	Night	above	decreasing	increasing
Long Beach	Cape Cod Bay	Day	below	NA	decreasing
Long Beach	Cape Cod Bay	Night	below	NA	increasing
Millway	Cape Cod Bay	Day	below	increasing	increasing
Millway	Cape Cod Bay	Night	above	increasing	increasing
Long Pasture	Cape Cod Bay	Day	above	increasing	increasing
Sanctuary Beach	Cape Cod Bay	Day	below	increasing	increasing
Indian Neck	Cape Cod Bay	Day	below	decreasing	decreasing
Indian Neck	Cape Cod Bay	Night	below	increasing	decreasing
Great Island	Cape Cod Bay	Day	below	increasing	increasing
Priscillas Landing	Outer Cape Cod	Day	above	increasing	decreasing
Marsh 2-3	Outer Cape Cod	Day	above	increasing	increasing
Erica's Beach	Outer Cape Cod	Day	below	increasing	decreasing
Stage Harbor	Nantucket Sound	Day	NA	NA	NA
Stage Harbor	Nantucket Sound	Night	NA	NA	NA
Bass River	Nantucket Sound	Day	below	NA	increasing
Bass River	Nantucket Sound	Night	above	NA	increasing
Monomoy	Nantucket Sound	Day	equal	increasing	NA
Monomoy	Nantucket Sound	Night	below	increasing	NA
Warrens Landing	Nantucket Sound	Day	above	increasing	increasing
Warrens Landing	Nantucket Sound	Night	above	increasing	increasing
Tashmoo	Nantucket Sound	Day	NA	increasing	NA
Tashmoo	Nantucket Sound	Night	NA	increasing	NA
Tahanto	Buzzards Bay	Day	NA	increasing	increasing
Tahanto	Buzzards Bay	Night	NA	increasing	NA
Swifts Beach	Buzzards Bay	Day	below	decreasing	decreasing
Swifts Beach	Buzzards Bay	Night	below	decreasing	increasing

*The fourth column indicates whether the 2023 survey data point was above or below the time series median for that site. The fifth and sixth columns indicate whether the survey linear trends are increasing or decreasing over the last ten or five years. Positive trends (above time series medians or increasing survey trends) are shaded green. Negative trends (below time series medians, decreasing trends) are shaded red. Unshaded areas are either equal to the time series median, or inadequately sampled.

Table 2. Hand harvest landings (in number of horseshoe crabs) by season 2010 - 2023

MA HSC Bait Hand Fishery Annual Landings (# of Crabs)		
YEAR	**JAN 1 - MAY 31**	**JUN 1 - DEC 31**
2010	43,815	5,612
2011	28,882	6,303
2012	50,030	3,049
2013	59,716	10,681
2014	49,640	27,395
2015	55,168	12,898
2016	54,554	9,381
2017	46,113	22,441
2018	43,149	27,494
2019	52,044	27,142
2020	54,833	12,019
2021	39,525	13,421
2022	30,342	10,069
2023	77,000*	N/A

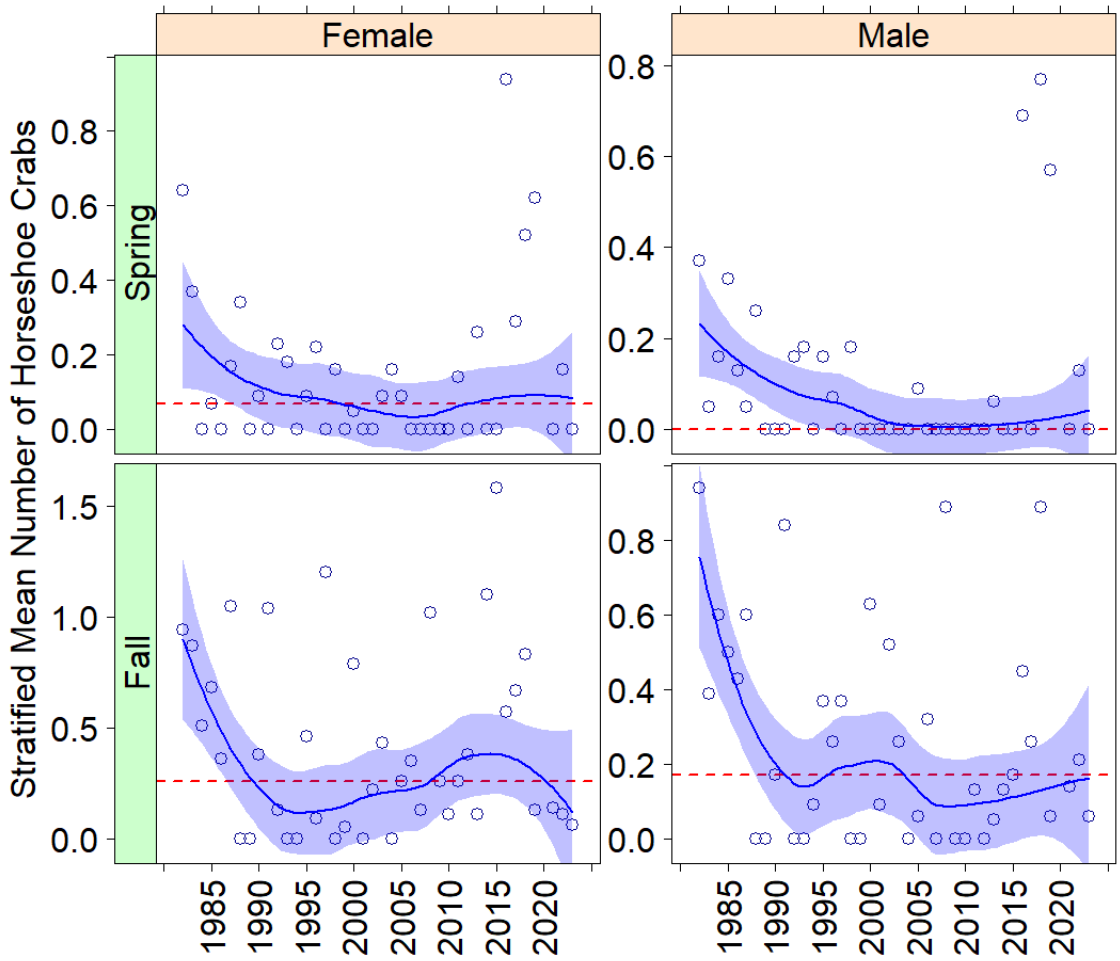
Data Source: MA Trip-Level Reports and NMFS VTRs, as of 10/2/2023, *except for 2023 which is estimated from SAFIS eDR reports and historical gear types of the harvesters named in the dealer reports.

Table 3. Summary of sampling conducted and horseshoe crabs observed by DMF (2023).

	# of 2023 Trips	# of Crabs Observed
Bait market sampling	4	984
Biomedical market sampling	9	3,009
Collection Trips	9	>1,685*
Pen Checks	14	2,645
Release Trips	14	2,898
Total	50	>11,221*

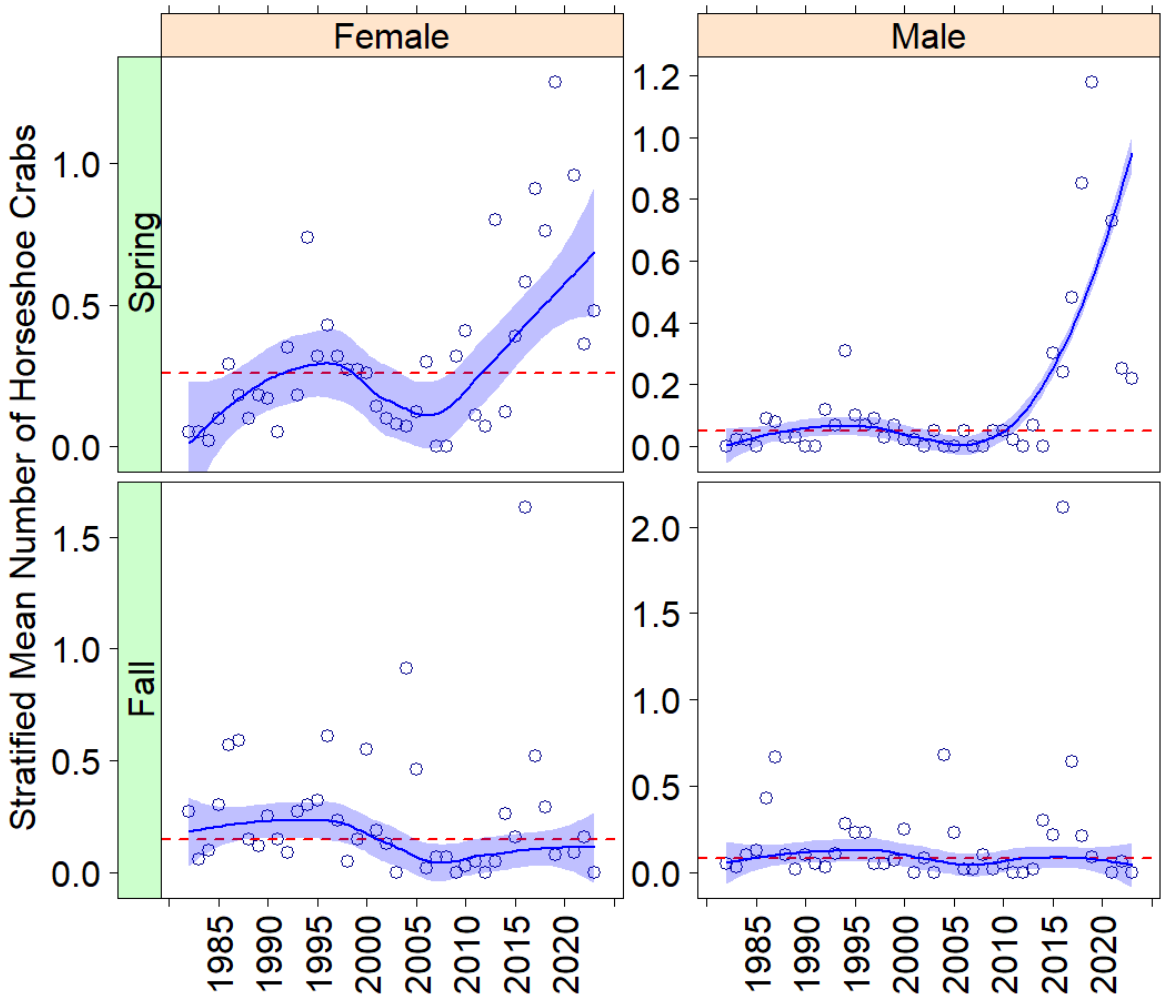
* Most 2023 sea sampling trips (collection trips) have not been transcribed yet, so the number of crabs observed is expected to increase substantially once audio recordings of trips are transcribed.

Figure 1. Stratified mean number of horseshoe crabs per tow 1982-2023 – North of Cape Cod



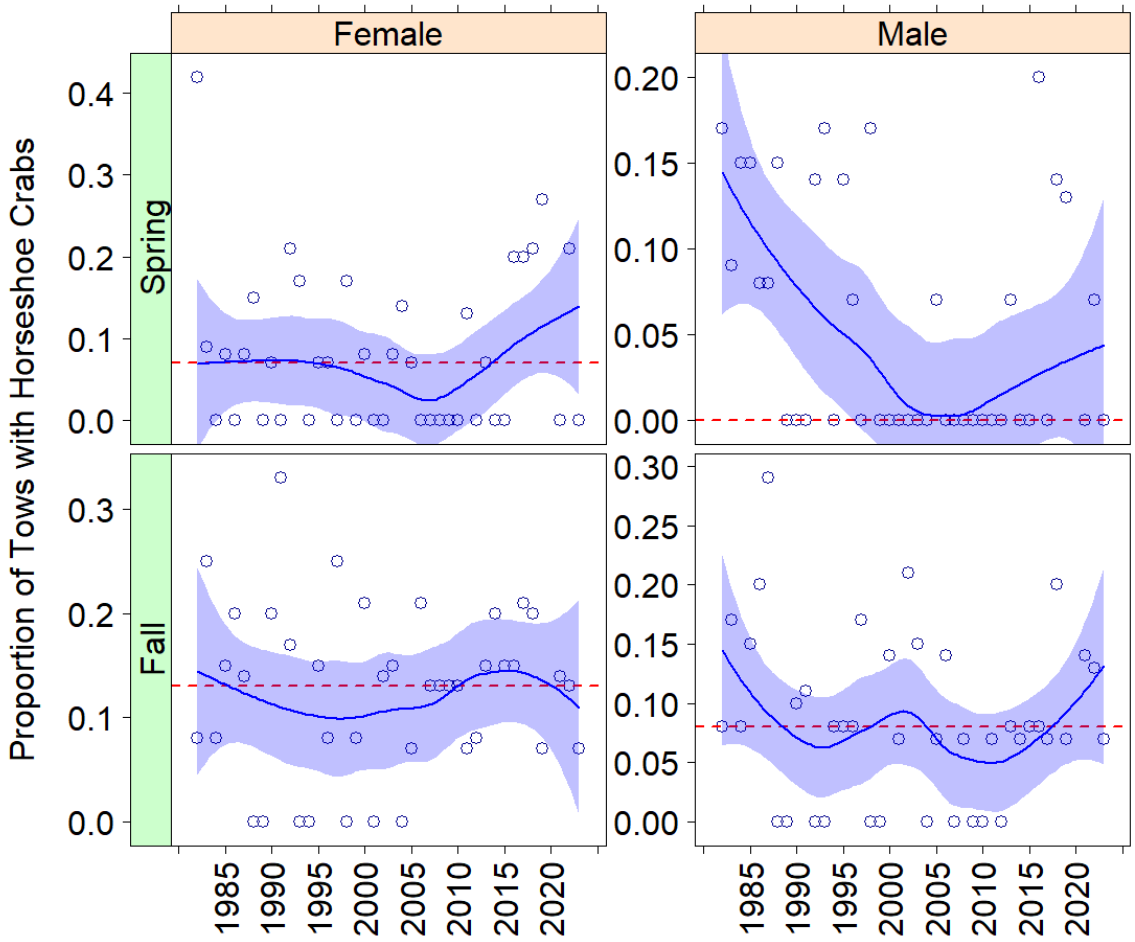
DMF Trawl Survey North of Cape Cod. Red, dashed line is the time series median, loess fitted line is blue, the light blue shaded area is an approximate 95% confidence interval for the loess fitted line. Note there was no survey conducted in 2020 (spring or fall) due to Covid.

Figure 2. Stratified mean number of horseshoe crabs per tow 1982-2023 – South of Cape Cod



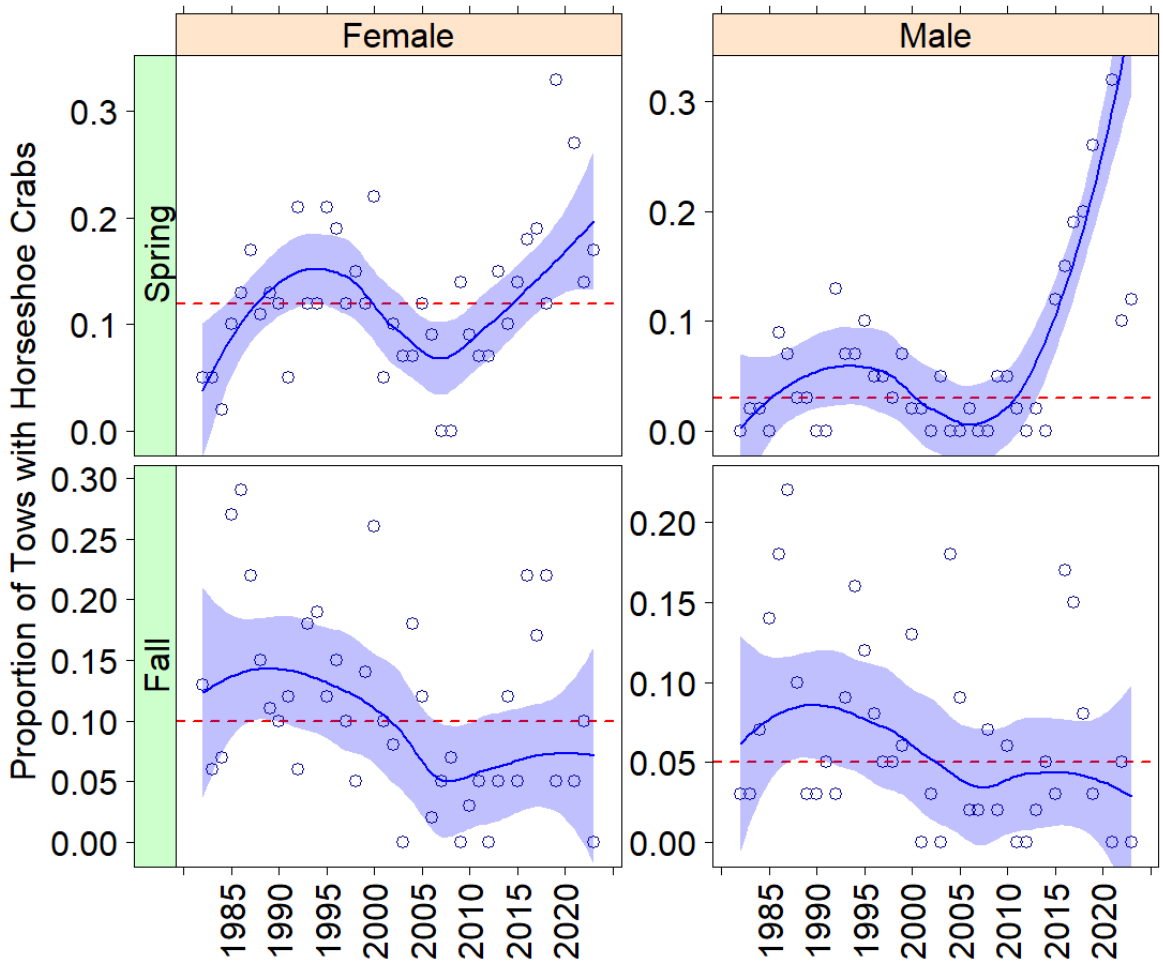
DMF Trawl Survey South and East of Cape Cod. Red, dashed line is the time series median, loess fitted line is blue, the light blue shaded area is an approximate 95% confidence interval for the loess fitted line. Note there was no survey conducted in 2020 (spring or fall) due to Covid.

Figure 3. Proportion of tows with horseshoe crabs present 1982-2023 – North of Cape Cod



DMF Trawl Survey North of Cape Cod. Red, dashed line is the time series median, loess fitted line is blue, the light blue shaded area is an approximate 95% confidence interval for the loess fitted line. Note there was no survey conducted in 2020 (spring or fall) due to Covid.

Figure 4. Proportion of tows with horseshoe crabs present 1982-2023 – South of Cape Cod



DMF Trawl Survey South and East of Cape Cod. Red, dashed line is the time series median, loess fitted line is blue, the light blue shaded area is an approximate 95% confidence interval for the loess fitted line. Note there was no survey conducted in 2020 (spring or fall) due to Covid.

Figure 5. Proportion of 2022 horseshoe crab landings in bait fishery by region

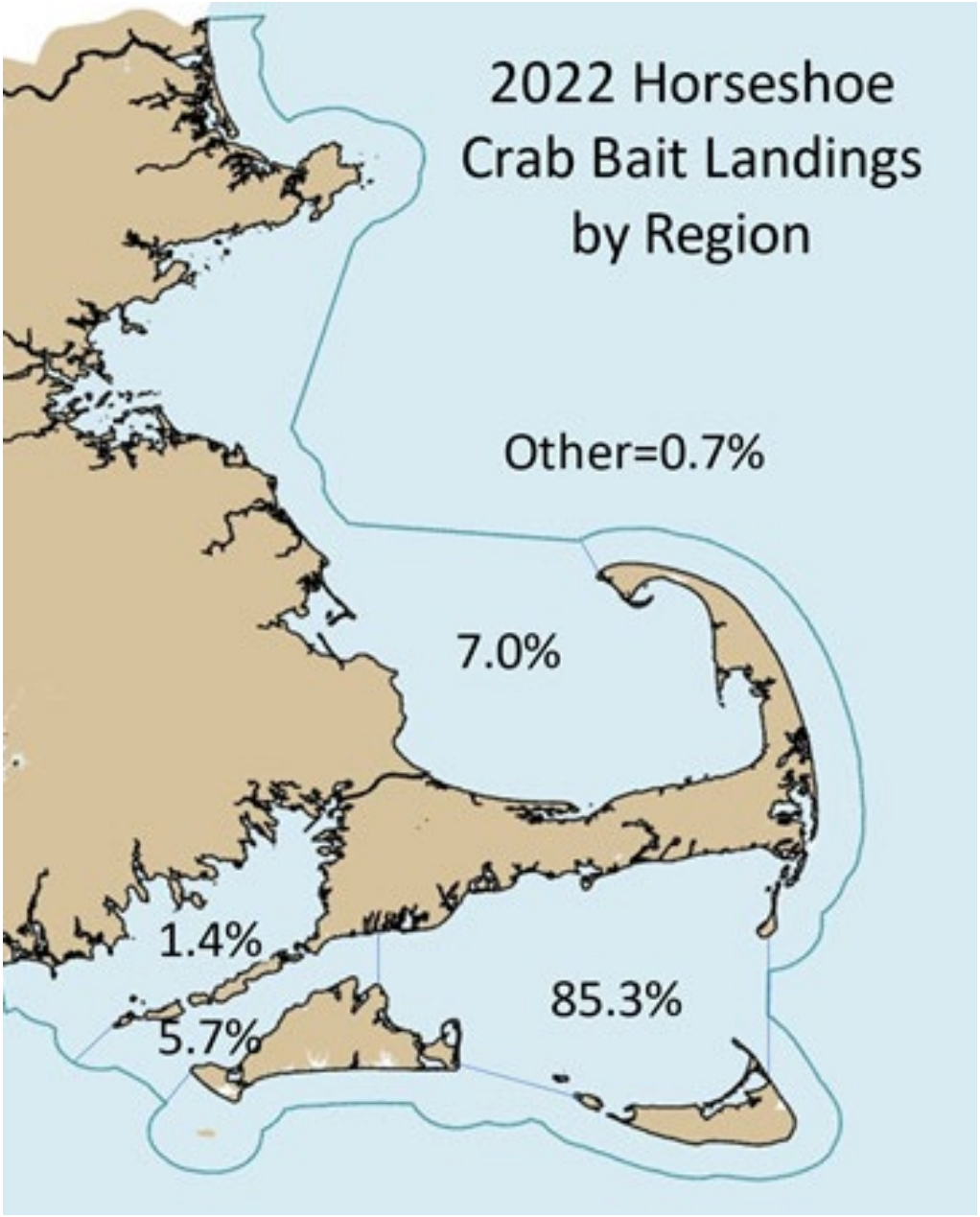


Figure 6. Cumulative percent of spawning females observed by date during spawning beach surveys North of Cape Cod, 2015-2022

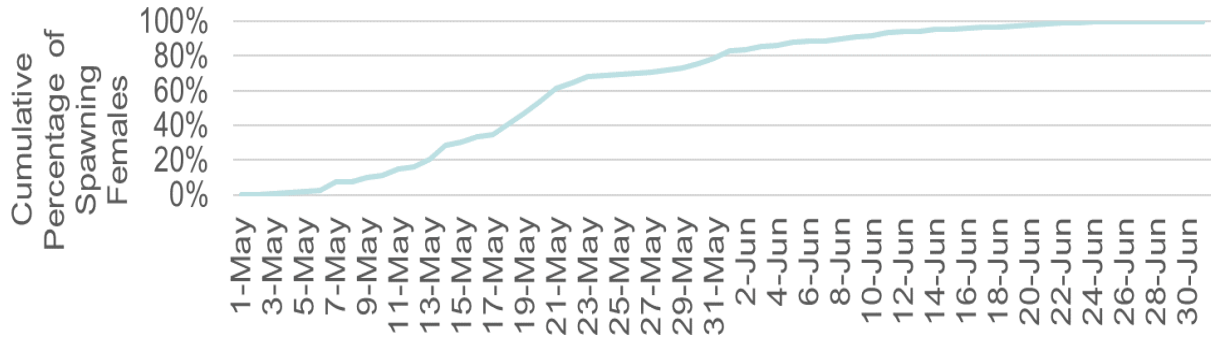


Figure 7. Cumulative percent of spawning females observed by date during spawning beach surveys in Southern Massachusetts and Outer Cape Cod, 2015-2022

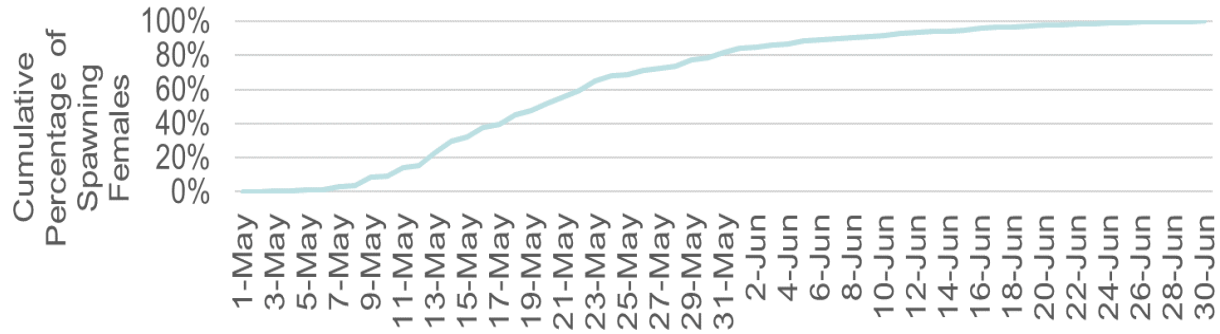
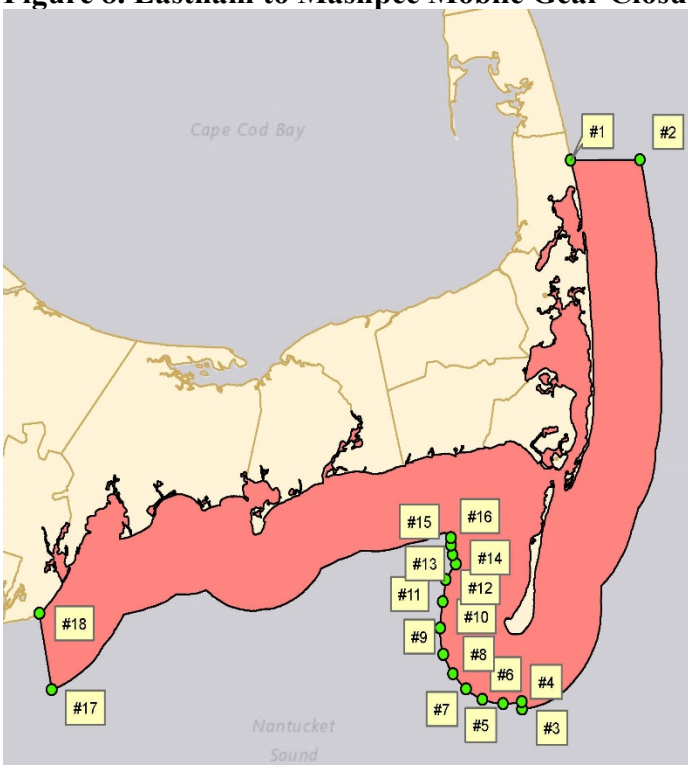


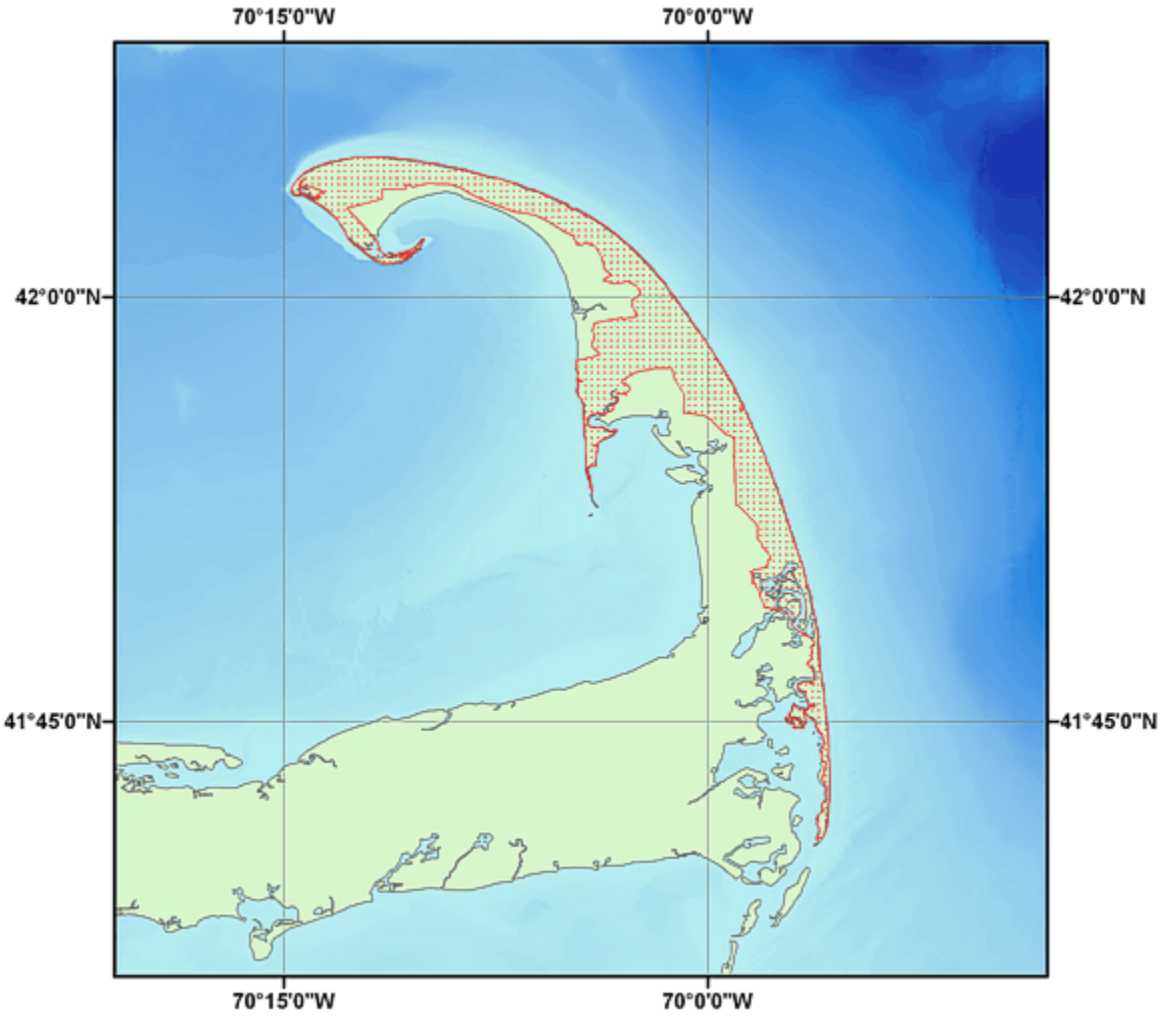
Figure 8. Eastham to Mashpee Mobile Gear Closure, May 1 – October 31 (322 CMR 4.06)



Coordinates for Area 5 Eastham to Mashpee Closure May 1 - October 31				
Points	Latitude Deg Min Sec	Longitude Deg Min Sec	Latitude Deg Dec Min	Longitude Deg Dec Min
1	41° 51' 40" N	Nauset Beach	41° 51.666'	Nauset Beach
2	41° 51' 40" N	3 nautical mi line	41° 51.666'	3 nautical mi line
3	3 nautical mi line	70° 00' 00" W	3 nautical mi line	-70° 0.000'
4	41° 29' 48" N	70° 00' 00" W	41° 29.805'	-70° 0.000'
5	41° 29' 43" N	70° 01' 05" W	41° 29.724'	-70° 1.087'
6	41° 29' 54" N	70° 02' 20" W	41° 29.904'	-70° 2.335'
7	41° 30' 19" N	70° 03' 19" W	41° 30.323'	-70° 3.313'
8	41° 30' 56" N	70° 04' 05" W	41° 30.926'	-70° 4.079'
9	41° 31' 43" N	70° 04' 40" W	41° 31.718'	-70° 4.665'
10	41° 32' 47" N	70° 04' 52" W	41° 32.780'	-70° 4.870'
11	41° 33' 51" N	70° 04' 42" W	41° 33.842'	-70° 4.702'
12	41° 34' 45" N	70° 04' 31" W	41° 34.748'	-70° 4.510'
13	41° 35' 22" N	70° 03' 55" W	41° 35.372'	-70° 3.915'
14	41° 35' 45" N	70° 04' 06" W	41° 35.749'	-70° 4.098'
15	41° 36' 09" N	70° 04' 13" W	41° 36.147'	-70° 4.211'
16	41° 36' 26" N	3 nautical mi line	41° 36.431'	3 nautical mi line
17	3 nautical mi line	70° 28' 05" W	3 nautical mi line	-70° 28.086'
18	Succonessett Point	70° 28' 50" W	Succonessett Point	-70° 28.828'

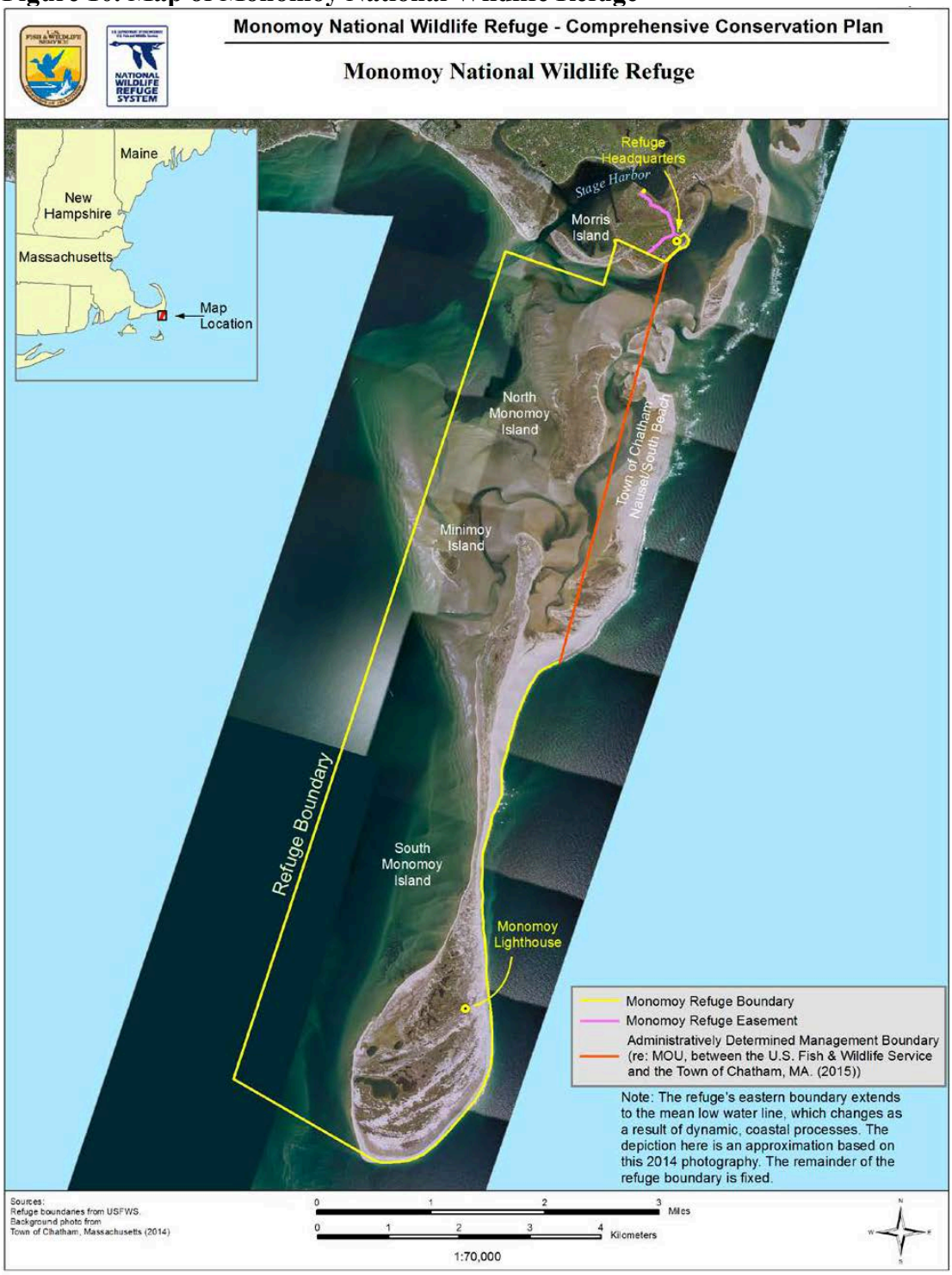
Mobile Gear Closure

Figure 9 Map of Cape Cod National Seashore Boundary



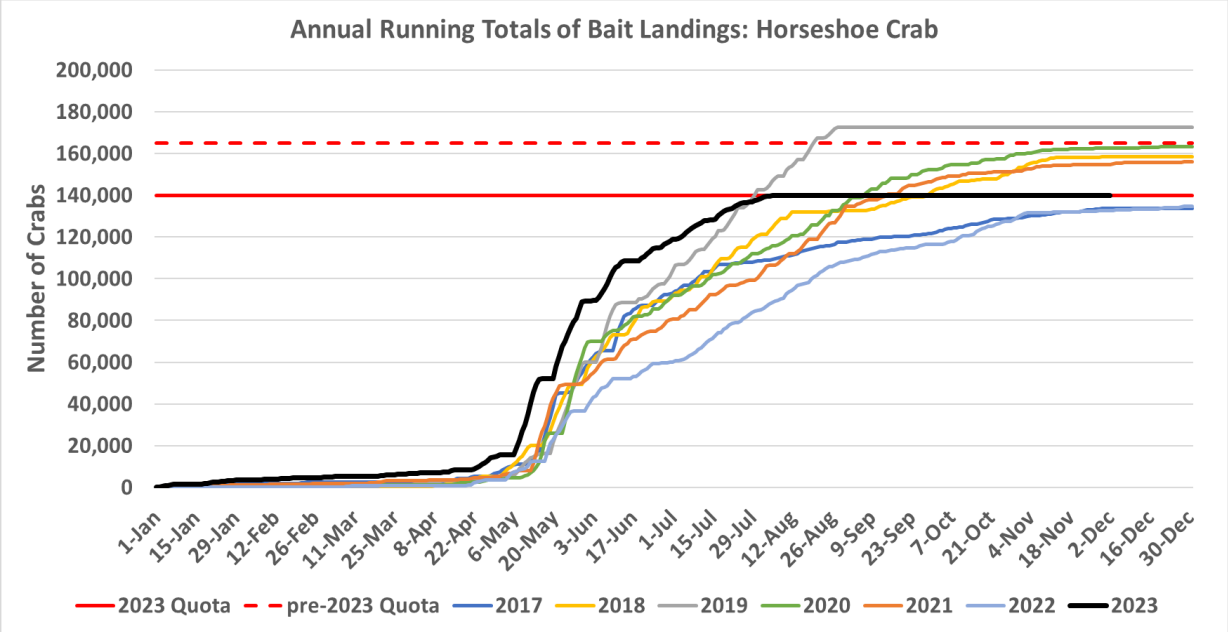
Source: USGS Publications Warehouse

Figure 10. Map of Monomoy National Wildlife Refuge



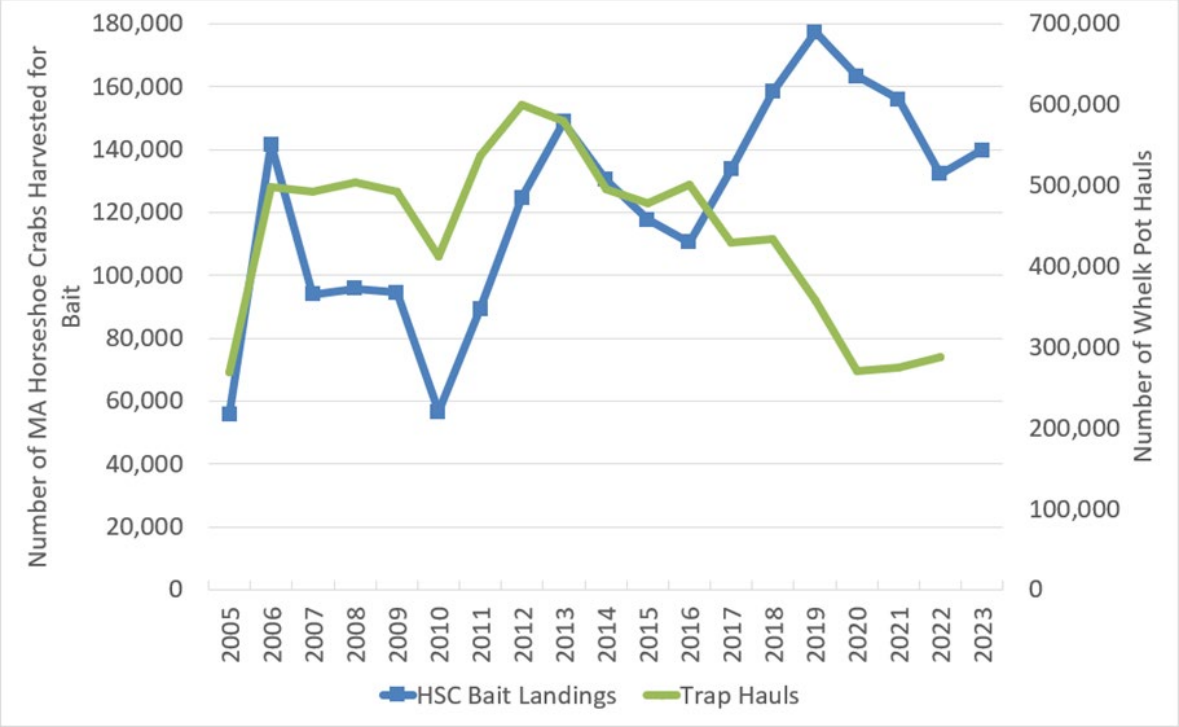
Source: Map 1.1, Monomoy Wildlife Refuge Comprehensive Conservation Plan

Figure 11. Running total of horseshoe crab bait landings (2017-2023).



Data Source: SAFIS eDR as of 12/7/2023.

Figure 12. Annual trends (2005-2023) in pot hauls in the conch pot fishery compared to landings in the horseshoe crab bait fishery.



Source: MA commercial catch reports and NMFS VTRs (whelk trap hauls) and SAFIS dealer reports (horseshoe crab landings).

Attachment 1

Horseshoe Crab Conservation Association
P.O. Box 2334
Orleans, MA 02653-2334

January 9, 2023

Dan McKiernan, Director
Derek Perry, Invertebrate Fisheries
Mass. Division Marine Fisheries
836 Rodney French Blvd.
New Bedford, MA 02744

Dear Dan and Derek,

Thank you for welcoming a petition from the Horseshoe Crab Conservation Association. We appreciate the complexity of your task and the opportunity to participate.

Sincerely,

Brenda J. Boleyn
for the HCCA

The goal of the Horseshoe Crab Conservation Association is to ensure long-term sustainable populations of horseshoe crabs in the coastal estuaries and embayments of Massachusetts through increased regulatory attention and broadened public education.

Horseshoe Crab Conservation Association
P.O. Box 2334
Orleans, MA 02653-2334

Petition to MA DMF to Protect HSC Spawning

09 Jan 2023

For information contact:
Paul Ward at
wardpj@aol.com

The Horseshoe Crab Conservation Association proposes the Massachusetts Division of Marine Fisheries (MA DMF), under their authority to regulate the harvest of the American Horseshoe Crab, *Limulus polyphemus*, modify the current rule by designating June 15 as the earliest start date of each year for both bait and biomedical harvest with exceptions granted only for approved research studies.

On 17 Feb 2016, the International Union for Conservation of Nature and Natural Resources (IUCN) listed the American Horseshoe Crab as "Vulnerable", one level from "Endangered", in their Red List Assessment of Threatened Species. Their report noted, "Continuing decreases were found in… the New England… areas… Thus, *Limulus* is Vulnerable at the species level with potential for assignment to a higher risk category at the regional and sub-regional levels, particularly the… New England area… Specifically, population reductions over 40 years were projected to be… 92% in New England…" In addition, the IUCN 21 July 2022 Green List Assessment of species recovery and the impact of conservation designates *Limulus* as 'Moderately Depleted' and indicates the Population Trend as 'Decreasing'.

With the implementation of this start date, selected as a consensus date where essentially most horseshoe crab spawning in Massachusetts waters is complete, some current MA DMF rules, i.e., the 'lunar closure' and vessel quotas, could be dropped. MA DMF bait harvest quotas, as well as continued monitoring and enforcement of industry Best Management Practices, should be retained.

The proposed rule change aligns with current harvest moratoria and post-spawning start dates in New Jersey, Delaware, Maryland, and Virginia. The abundant spawning activity and successful population on the Monomoy National Wildlife Refuge, where no harvest is allowed, provides an indication of the expected results if this rule change is implemented.

DMF trawl survey data for Nantucket Sound support that commercial fisheries (bait and biomedical) will not be harmed by this change. Since horseshoe crabs harvested for bait are often frozen, collection following a June 15 start date will have no impact on bait availability.

This rule change will, over time, rebuild the diminished stock and ensure the sustainability of horseshoe crabs for all stakeholders.

Supporting Information:

Horseshoe crabs are a public asset and have economic value for biomedical stakeholders and fisheries stakeholders. Just as important, horseshoe crabs have intrinsic value as an essential part of our history, our stories, and as a distinct part of Massachusetts' natural and cultural heritage.

A more robust horseshoe crab population will support endangered birds and various marine species that depend on horseshoe crab eggs and juveniles for food.

This rule change recognizes that horseshoe crab spawning is not rigidly linked to the lunar cycle but is moderated by weather and will occur throughout the spawning season. After 12 years of lunar closures there has been no consistent sign of improved spawning data.

Bait species should be abundant and quick to reproduce. Horseshoe crabs are neither which makes spawning protection even more imperative.

Attachment 2

Mass Audubon

October 26, 2023

Commissioner Thomas O'Shea
Department of Fish and Game
100 Cambridge Street, 6th Floor
Boston, MA 02114

Re: Biodiversity Goals and Horseshoe Crab Population Recovery

Dear Commissioner O'Shea:

We were deeply appreciative last month when Governor Healey signed Executive Order No. 618 on Biodiversity Conservation in Massachusetts, which sets the stage for the Commonwealth to lead the nation in addressing the biodiversity crisis. Full implementation and the realization of the goals envisioned by E.O. 618 will be a generational challenge, and will involve all the agencies under your purview, and many outside of it as well.

Mass Audubon and our 160,000 members and supporters will be reliable allies for this work. Meanwhile, we have established a shorter-term goal for the recovery of the horseshoe crab. We now look to your leadership as we chart out immediate steps to set the population on an upward trend, and hope you will connect that goal with your broader coastal and marine ecosystem biodiversity goals.

As you know, horseshoe crabs are a valuable and widely-recognized element of our rich natural heritage, and they play a vital role in our marine ecosystems, by bringing important nutrients into the water column, and supporting many other species in severe decline, such as the federally-threatened Red Knot and the endangered Loggerhead Sea Turtle. In addition, in states with larger populations, they are the center of a multi-million-dollar ecotourism industry, and there is potential for a similar industry here in Massachusetts. And, as you know, their blood is used to make the only FDA-approved test for endotoxin contamination of certain drugs and medical devices, and as of yet, the U.S. has not approved synthetic alternatives to the lysate derived from horseshoe crab blood for these tests.

For all of these reasons, we recommend and request that you empower and order the Division of Fisheries and Wildlife, Natural Heritage and Endangered Species Program (NHESP), and the Division of Marine Fisheries (DMF) to advance the population recovery of the horseshoe crab.

First steps toward that recovery should include:

- Prohibition on harvesting horseshoe crabs during the spawning season (Jan 1 through June 30)
- Phasing out of the bait harvest[1]

[1] Horseshoe crabs are used as an optional bait in the channeled whelk fishery, which DMF has determined is depleted and overfished. https://www.mass.gov/info-details/whelks-and-whelk-management

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- Improved performance standards and monitoring for the lysate bleeding industry to reduce mortality and sublethal impacts on horseshoe crabs
- Interagency coordination and increased funding for monitoring horseshoe crabs' status, relationship to other species including shorebirds, and progress toward recovery goals
- Inclusion of plans for protecting and restoring horseshoe crabs' habitats including breeding beaches in the context of climate impacts (sea level rise and coastal erosion), in addition to the importance of these habitats for other species like coastal nesting birds

Today, the population in Massachusetts is a fraction of naturally occurring levels. While precise data on historic populations is not known, it is clear that this species has declined considerably since the mid-1900s due to historical eradication programs, and more recently from coastal development, sea level rise, loss of critical beach and salt marsh habitats, and nitrogen pollution, in addition to direct harvest for the bait and biomedical fisheries.

Maintenance of the existing, artificially-low population level has been the goal of fisheries regulations in Massachusetts. This goal needs to be substantially revised and replaced with a goal for recovery of the species. Moreover, the declining size of females and low presence of juveniles in many locations, in a species that takes a decade to reach reproductive maturity, indicates that even the current population level is likely at risk. The trawl data are not reliable indicators of the overall population, as they are subject to several sampling factors that have not been considered in application of this information.

As you also know, many wildlife activists and advocacy organizations in Massachusetts are supporting a listing under the Massachusetts Endangered Species Act of the horseshoe crab by the NHESP. While we recognize that the horseshoe crab likely does not meet the regulatory criteria for listing, Mass Audubon nonetheless urges the agencies to act decisively to put the species on track toward recovery of populations levels.

We seek partnership with you, your office, and your sister agencies on the realization of what we hope are shared goals for this important and remarkable species.

Sincerely,

Michelle Manion

VP of Policy and Advocacy

Jocelyn Forbush

Chief Conservation Officer

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 O'SHEA, Commissioner | DANIEL J. MCKIERNAN, Director

MEMORANDUM

TO: Marine Fisheries Advisory Commission (MFAC)

FROM: Daniel J. McKiernan, Director

DATE: December 14, 2023

SUBJECT: **State Waters Groundfish: Proposal to Decrease Spatial Extent of May Commercial Groundfish Closure; Review of Recent Fishery Performance and Expectations for FY24; and Considerations Regarding Future Management**

This memorandum serves to: (1) provide the Marine Fisheries Advisory Commission (MFAC) with an overview of the state waters groundfish fishery in the Gulf of Maine (GOM) management area (i.e, all state waters north of 42° 00 north latitude and Cape Cod Bay); (2) describe the recent performance of this fishery relative to federally allocated state-waters sub-components; and (3) review a DMF public hearing proposal—based on a request from a commercial fisher—to amend the southern boundary of the May commercial groundfish closure so as to shrink it by five minutes latitude and have it occur from Nahant (42°25'N) to New Hampshire rather than Boston (42°20'N) to New Hampshire.

Background

Under the Magnuson Stevens Fishery Conservation and Management Act (MSA), states are authorized to regulate federally managed species—such as those within the northeast multispecies groundfish complex—within their jurisdictional waters provided state action does not undermine federal conservation and management programs (16 U.S.C. 1856). DMF accomplishes this through a series of input and output controls (e.g., trip limits, size limits, spatio-temporal closures, spawning protections) subject to MFAC approval. Additionally, overall fishing effort is constrained through a limited entry permitting scheme that limits the use of certain gears (e.g., trawls and gillnets) and the harvest of groundfish species by non-federal permit holders (State Waters Groundfish Endorsement or "GE")[1].

Under the federal Northeast Multispecies (Groundfish) Fishery Management Plan (FMP), NOAA Fisheries accounts for the portion of a stock's Total Annual Catch Limit[2] (ACL) caught in state waters by non-federal vessels by approving a State Waters Sub-Component[3] ("sub-component"). These state waters sub-components cover expected catch for all New England states (i.e., not state-specific) and are based generally on the most recent three-year average of catch. The sub-components are neither allocations nor hard quotas with real-time monitoring. However, NOAA Fisheries and the New England states conduct

[1] Federal groundfish permit holders may fish within the waters under the jurisdiction of the Commonwealth under their federal permit and in compliance with all relevant state fishing regulations (e.g., trip limits, closures) and gear permitting requirements (e.g., must hold Coastal Access Permit to fish mobile gear or gillnet permit to fish gillnet gear).

[2] NOAA Fisheries describes the annual catch limit or ACL as "a level of catch intended to ensure overfishing does not occur. ACLs are set less than or equal to the overfishing limit and acceptable biological catch."

[3] Sub-components are implemented for those stocks with catch in state waters, offshore stocks like Georges Bank yellowtail flounder do not have a state waters sub-component.

annual year-end[4] catch accounting to reconcile groundfish catch reporting and determine what catch is attributable to the state-waters-only fishery and the utilization against the sub-components. Payback of any overage is not required of the New England states should their aggregate catch of any stock exceed that stock's sub-component. In the event of a sub-component overage, there is no impact if the ACL is underutilized, but should an ACL be exceeded, then federal accountability measures are triggered potentially affecting federal permit holders and the recreational fishery[5]. Therefore, the expectation is that states will manage their state-waters-only fisheries in a conservative manner to ensure sub-components are not exceeded, particularly for certain highly utilized stocks given the potential for triggering accountability measures.

Massachusetts state waters groundfish fishery occurs primarily in the GOM management area; groundfish catch in the Southern New England Management Area (i.e, all state waters south of 42° 00 north latitude excluding Cape Cod Bay) by Massachusetts fishers is generally limited to a nominal harvest of winter flounder caught incidentally in the commercial trawl fisheries in Nantucket and Vineyard Sound. While these sub-components are for all the New England states, state-waters-only catch from other states is nominal. In the GOM, Massachusetts is the only state with a commercially viable inshore groundfish resource and a fleet of state-waters-only vessels to harvest them.

The management of the state waters groundfish fishery in Massachusetts is a complicated partnership. Massachusetts has long championed the closure of spring and winter cod spawning grounds in state and federal waters. Those closures continue to evolve and Massachusetts has adopted complementary measures for any federally driven changes. To support federal conservation and management objectives, DMF generally adopts trip limits that, along with spatio-temporal closures, constrain state waters catch. Additionally, we must manage the fishery to address conditions that are specific to Massachusetts state waters and our state waters fleet. The result is a highly complex regulatory environment.

The state waters only fishery involves a small number of participants and activity has waned in recent years. This reduced activity is likely the product of limited state-waters groundfish fishing opportunities, economics favoring other fishing activity (e.g., lobster, scallops), and the non-transferable status of the state gillnet endorsement. Much of the landings occur in the summer months and are driven primarily by the few remaining gillnet fishers (four were active in FY22, which is half those active in FY19) and a handful of trawlers. While there is some trawl fishing effort as well, many of the previously active trawlers have either stopped fishing or now fish under a federal groundfish permit. More recently, hook fishing activity has increased, but it still remains a small component of overall landings. Effort from the existing fleet is expected to continue to decline as permit holders retire out or pursue other state or federal fishing opportunities. Given this low level of activity, the activation of new fishing effort in this fishery can demonstrably impact landings and create situations whereby sub-components may be exceeded and this latent effort is a concern[6].

Public Hearing Proposal

DMF intends to hold a public hearing this winter to propose a nominal reduction in the spatial footprint of the May commercial groundfish closure in Massachusetts Bay. At present, this commercial groundfish closure occurs from May 1 – May 31 within those state waters between the Massachusetts-New Hampshire maritime border and 42° 20' north latitude (Boston). The proposal would shrink the closure by moving the southern boundary northward to 42° 25' north latitude (Nahant). See Figure 1.

[4] The federal fishing year runs from May 1 – April 30.

[5] The commercial sector fishery is subject to pound-for-pound payback and the recreational fishery is subject to rule changes to constrain catch.

[6] For example, the trawlers who have switched to primarily federal fishing still separately retain a state-only vessel and associated GE and can readily move back into the state waters fishery.

Rationale
In recent years, Chris Chadwick, a prominent North Shore state waters gillnet fisher has requested DMF move northward the southern boundary of the May commercial groundfish closure. His argument is that such an action would provide fishers with improved access to the sub-components for certain flatfish stocks, primarily GOM winter flounder, while also reducing seasonal steaming times and resulting overhead costs for North Shore fishers. Initially, Chadwick's request was for DMF to roll back the closure to 42° 30' north latitude (Marblehead). However, DMF denied this request given the poor status of the GOM cod resource and the presence of known spawning cod aggregations on Eagle Ridge (east of Marblehead). In 2023, Chadwick revised his request so that the closure would only be rolled up to 42° 25' north latitude (Nahant), thereby maintaining protections for the Eagle Ridge spawning aggregation. DMF received the request too late for it to be evaluated and implemented for May 2023, but informed Chadwick it would be considered for 2024. Based on this following evaluation, I support adopting Chadwick's request for this coming fishing year.

The likely negative impacts of this opening on the resource are negligible. As described above, catch and effort in the state waters fishery has been steadily declining—a trend that is likely to continue. Should this area be open, there are also a variety of other regulatory controls constraining fishing effort and protecting spawning fish (both during May and throughout the calendar year). These include mobile gear closures north of Cape Cod (Figure 2); broad and fine scale seasonal groundfish closures to protect spawning cod (Figures 3-8); a February 1 – May 31 winter flounder spawning closure that prohibits most commercial groundfish fishing nearshore (Figure 9), and a seasonal state-wide gillnet closure to protect right whales that is annually lifted between May 1 and May 15[7]. Catch and effort may be additionally limited by fishable bottom and the seasonal presence of target groundfish species. I strongly anticipate this proposed action will only provide a limited number of North Shore-based gillnetters and hook fishers with a small additional area to target flatfish closer to port during May (particularly the latter half when the gillnet closure to protect right whales is likely lifted). I do not anticipate new trawl fishing effort in this area given the limited availability of towable bottom seaward of the mobile gear closures. I am doubtful that this proposed change will expose existing springtime spawning cod aggregations to commercial fishing effort. While this area (i.e., state waters between 42° 20 and 42° 25' north latitude) may have historically hosted spring spawning cod aggregations—including as recently as the period of 2003 – 2007 when DMF conducted its first Industry Based Survey (IBS1) —the most recent Industry Based Surveys (IBS2)—conducted from 2007 - 2019—did not observe spawning cod in this area. Moreover, the proposed closure will be maintained to the north protecting the spawning cod aggregation on Eagle Ridge, which were observed during both IBS1 and IBS2. Lastly, should this proposal be adopted, I do not expect our state waters landings will approach the state waters sub-component for any stock. As the current fishing year (FY23) remains ongoing, DMF must rely on FY22 catch data to inform decision making. In comparing the FY22 catch data to the FY24 and FY25 state waters sub-components for key GOM groundfish stocks (Table 1) [8], it is my estimation that there should be ample fish available to accommodate whatever additional landings may be realized because of this proposed change.

Expectations for State Waters Groundfish Fishery for FY24 and FY25
Sub-components are reviewed generally after an assessment and the GOM stocks of interest in state waters (e.g., cod, haddock, and certain flounders) are typically assessed in even years. Despite this (2023) being an odd year, the Council is reviewing GOM haddock limits given recent emergency actions and pending Science and Statistical Committee (SSC) advice to set annual catch limits for FY24. These and other sub-components subject to review were finalized as part of Framework 66 by the New England

[7] 322 CMR 12.04(1) establishes a January 1 – May 15 closure of all state waters to commercial gillnet fishing to protect right whales. This closure may be extended past May 15 or rescinded after April 30 based on the presence or absence of right whales.
[8] The FY22 catch data is aggregated for all New England states to avoid potential data confidentiality issues that may arise by exclusively depicting Massachusetts state waters only catch. However, most of the reported catch for these stocks is attributable to Massachusetts' state waters only fishery.

Fishery Management Council (NEFMC) on December 7th. See Tables 1-3 for a summary of proposed FY2024 and FY2025 sub-components and expected utilization as well as historical catch.

The state waters sub-component for Gulf of Maine cod will not change for FY24. Under status quo effort, we would expect utilization to remain well below the sub-component for FY24—GOM cod catch has been around 50,000 pounds since 2019, as targeted fishing is limited in time and space by spawning closures. FY25 is uncertain as the NEFMC will not set those specifications until December 2024.

GOM haddock catch limits, including the state waters sub-component, have been trending downwards as the exceptional 2017 year-class aged out of the fishery. The fishery is now relying on the uncertain strength of the 2021 year-class and management is trying to balance this against the fact that overfishing is now found to be occurring. The very low FY22 sub-component (83,776 pounds) jumped up in FY23 (127,868 pounds) due to the setting of overall catch limits off an Acceptable Biological Catch[9] (ABC) value of 100% Fmsy. As the fishery moves off this emergency action, the limits will once again decline as they will now be based on an ABC of 90% Fmsy and will likely move back down to 75% Fmsy in the near future. GOM haddock utilization is high in the federal fishery given the drastic declines in ACLs, putting pressure on the state waters fishery to avoid contributing to overfishing and perhaps mitigate impacts in the federal fishery. Despite the more complicated management context, we can also expect status quo effort in state waters to keep catch well below the sub-components for GOM haddock.

The sub-components for GOM yellowtail flounder and American plaice were previously approved in Framework 65 and are set to experience nominal cutbacks based on approved reductions in ABC for FY24 and FY25[10]. Status quo utilization for GOM yellowtail flounder is the highest of any of the inshore stocks of interest to the GE fishery (68% in FY25) but still results in more than a quarter of the sub-component going unutilized. American plaice is barely utilized at under 15 percent of the sub-component for either FY24 and FY25.

The sub-components for GOM winter flounder and witch flounder ("grey sole") will remain status quo based on constant ABCs approved previously in Framework 65. GOM winter flounder catch has fluctuated annually with changes in effort, but catch has been under 200,000 pounds since 2019. Additionally, catch of the other flatfish species has been well within their set asides. Neither stock is likely to tip over 50% utilization in FY24 or FY25 based on status quo effort.

Given these expected sub-components and recent performance (Tables 1-3), I do not anticipate the state waters catch (driven by Massachusetts) will approach the federally allocated sub-components for any stocks of interest to the state waters only fishery in the GOM under status quo regulation. Indeed, analysis shows allowance for some nominal and well-constrained growth.

GOM haddock is the only potential stock of concern. As recently as FY19, state waters catch exceeded its sub-component (which was buffered by underutilization of the overall ACL). Additionally, catch in FY20 exceeded the anticipated state waters set asides for FY23 and FY24. However, as stock conditions wane, we can expect haddock to be less available in state waters, as it is less suitable habitat (Brodziak and Tarsus, 2005). Moreover, a large portion of the landings in FY19 and FY20 were attributable to a single inshore dragger who is no longer active in the fishery. I would not expect additional fishing access in May favoring gillnet and hook fishing to produce a large increase in haddock landings, given inshore

[9] NOAA Fisheries defines Acceptable Biological Catch or ABC as, "a scientific calculation of the sustainable harvest level for a species or species group, and is used to set the upper limit on the range of potential total allowable catch."

[10] The current state waters sub-components for GOM yellowtail flounder and American plaice are 34 metric tons (74,957 pounds) and 29 metric tons (63,934 pounds), respectively. Per draft Framework 66, the proposed sub-components for FY24 and FY25 for GOM yellowtail flounder are 30 metric tons (66,139 pounds) and 28 metric tons (61,729 pounds), and for American Plaice, the FY24 and FY25 proposed sub-components are 28 (61,729 pounds) metric tons and 26 metric tons (57,320 pounds).

availability at that time of year and catchability with a gillnet gear given the state's minimum gillnet net mesh size (6.5-inches).

Considerations for Future Management

Federal groundfish rebuilding efforts remain protracted and likely impacted by broader environmental factors. Choke stocks[11] can shift with annual changes in catch limits causing run-on impacts in the quota leasing market, shoreside infrastructure, and maintaining market demand. Accordingly, redistribution of underutilized sub-components and sub-ACLs is a frequent topic at the New England Fishery Management Council. This raises several concerns for DMF.

First, our state waters only fishery is small both in the number of active participants and our sub-components for target stocks. Slight changes in effort may have substantial impacts on catch. While there are a number of fishers who participate in this fishery year in and year out, there are also several fishers who may participate in the fishery intermittently to tie a fishing year together. While we do anticipate continued attrition in the state waters only fishery, maintaining viable sub-components to the few inshore stocks accessible in state waters is a priority so that small dayboat fishers can be afforded the diversity of fishing opportunities needed to maintain their profitability from year-to-year.

Second, there is very little opportunity to increase spatio-temporal access to the state waters groundfish resource without undermining broader conservation goals. As Figures 3-6 show, broad scale spawning cod protections limit fishing opportunities during times of years when fish have historically been available inshore. This is not coincidental, as groundfish stocks—particularly GOM cod—use state waters as spawning grounds. Any action that would substantially increase spatio-temporal access to groundfish would likely involve rolling back critical spawning protections. Work by senior DMF biologist, Micah Dean, has demonstrated there are two discrete sub-populations of GOM cod that exhibit different seasonal peaks in spawning activity—the so-called "spring spawners" and the so-called "winter spawners." The relative importance of these two cohorts to the overall stock has changed over time. At present, nearly all recruitment comes from the winter-spawning cohort, but as recently as the early 2000s, the spring spawning cohort accounted for most recruitment. Conserving both cohorts is critical for the recovery of the GOM cod stock.

In turn, adjusting trip limits becomes the primary mechanism to increase opportunities to harvest the available sub-components. DMF staff have recently spoken with several Cape Cod based dayboat draggers who are interested in enhancing opportunities for dayboat trawl fleet to address difficult economic conditions[12]. One interest is increasing the winter flounder trip limit from 500 pounds up to as high as 750 pounds. DMF cannot take this action unilaterally, as the stock is managed through an interstate fishery management plan at the Atlantic States Marine Fisheries Commission. Specifications for 2024 are already in place with a 500-pound maximum trip limit. The soonest any such change could be accommodated is 2025. While this is an item I intend to investigate, it is not without potential downside. Offshore shifts in abundance and the metapopulation structure of stocks should be considered. Moreover, prior history indicates that changes to the winter flounder trip limits will foster a negative reaction among certain recreational fishers—among these anglers there is a prevailing sentiment that commercial fishing (and the 2013 trip limit increase to 500 pounds) has had a deleterious impact on availability, particularly around Boston Harbor.

[11] Choke stocks are those with limited ACLs that can restrict the ability of fishers to fully catch or access other stocks.

[12] DMF intends to schedule a public meeting with the inshore trawl fleet in early January in New Bedford to discuss a variety of concerns and interests. Time and date to be determined. DMF will then work through the MFAC to address these issues throughout 2024 and beyond.

Figure 1. May Commercial Groundfish Management Closure Amendment Proposal

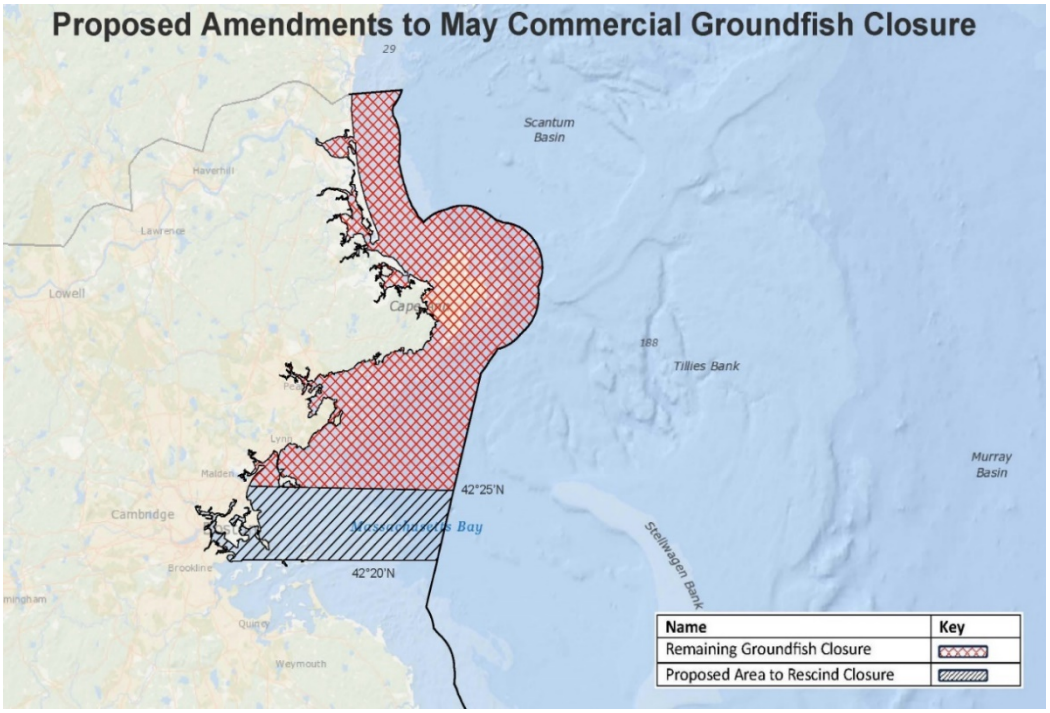

Figure 2. Mobile Gear Closures North of Cape Cod (322 CMR 4.06)

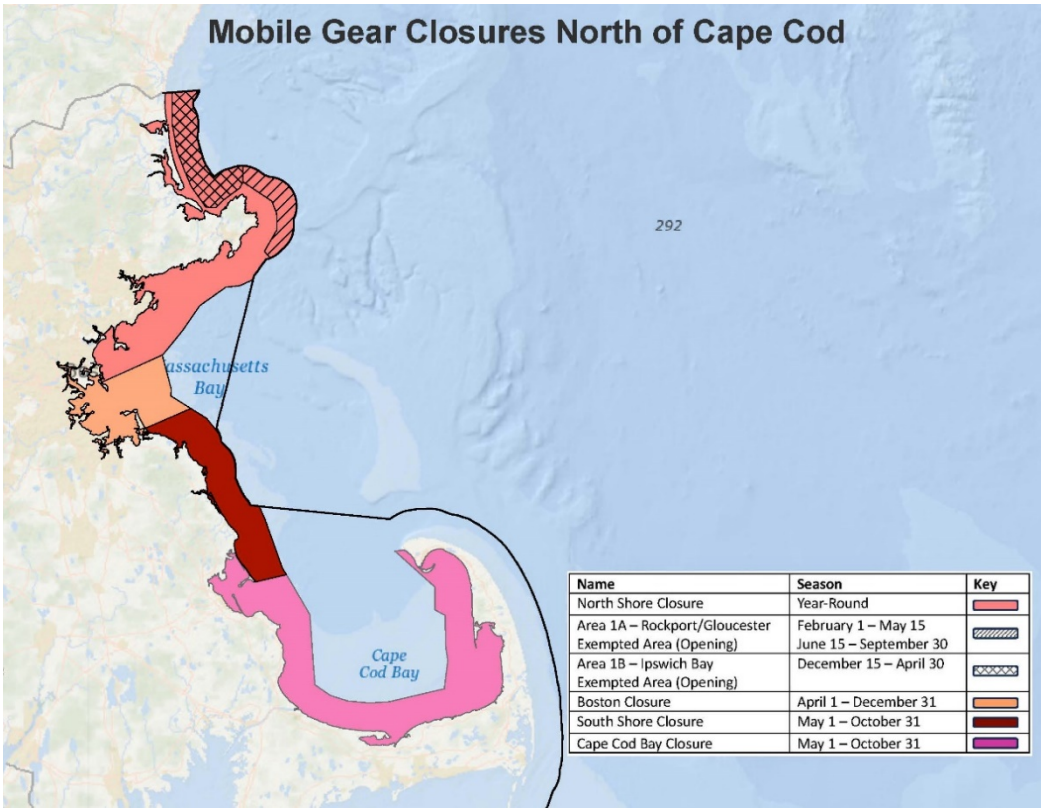

Figure 3. April Plymouth to New Hampshire Commercial Groundfish Closure (322 CMR 8.05)

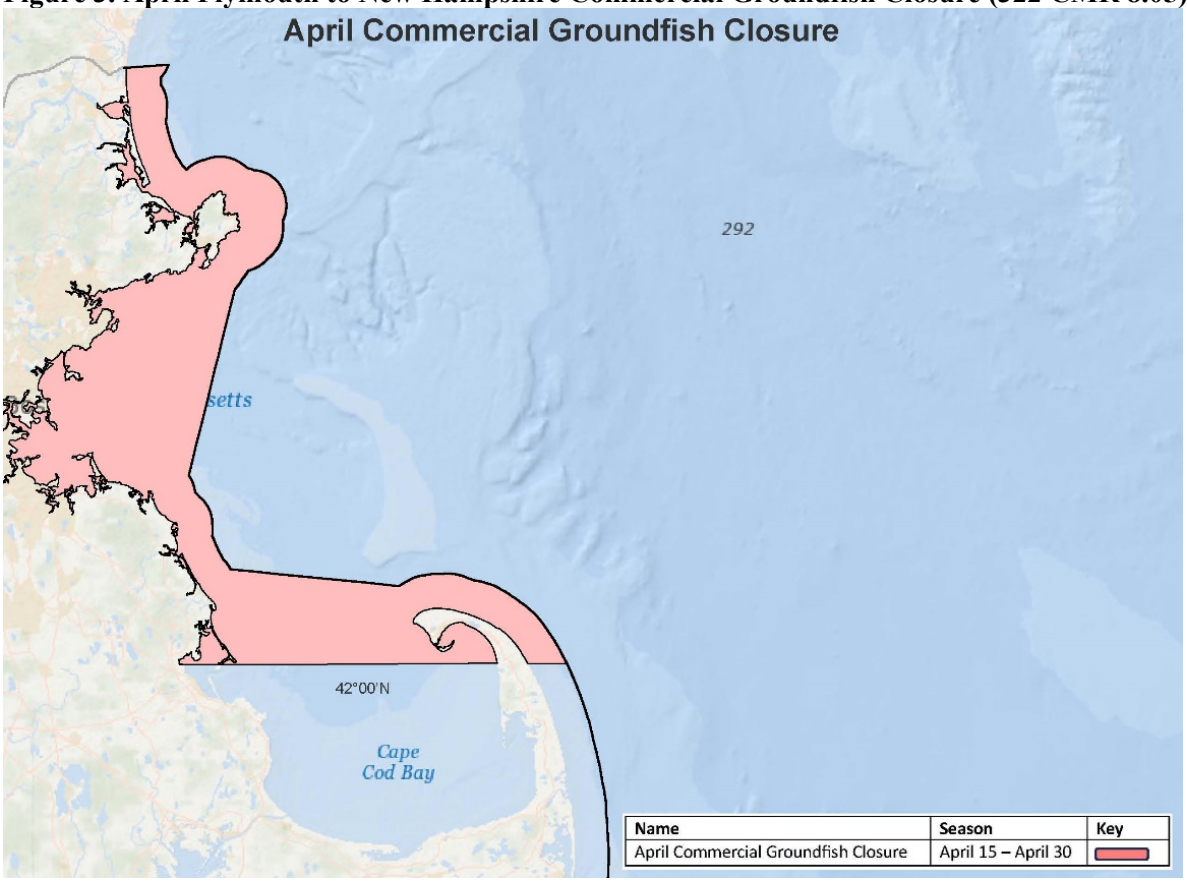

Figure 4. May Boston to New Hampshire Commercial Groundfish Closure (322 CMR 8.05)

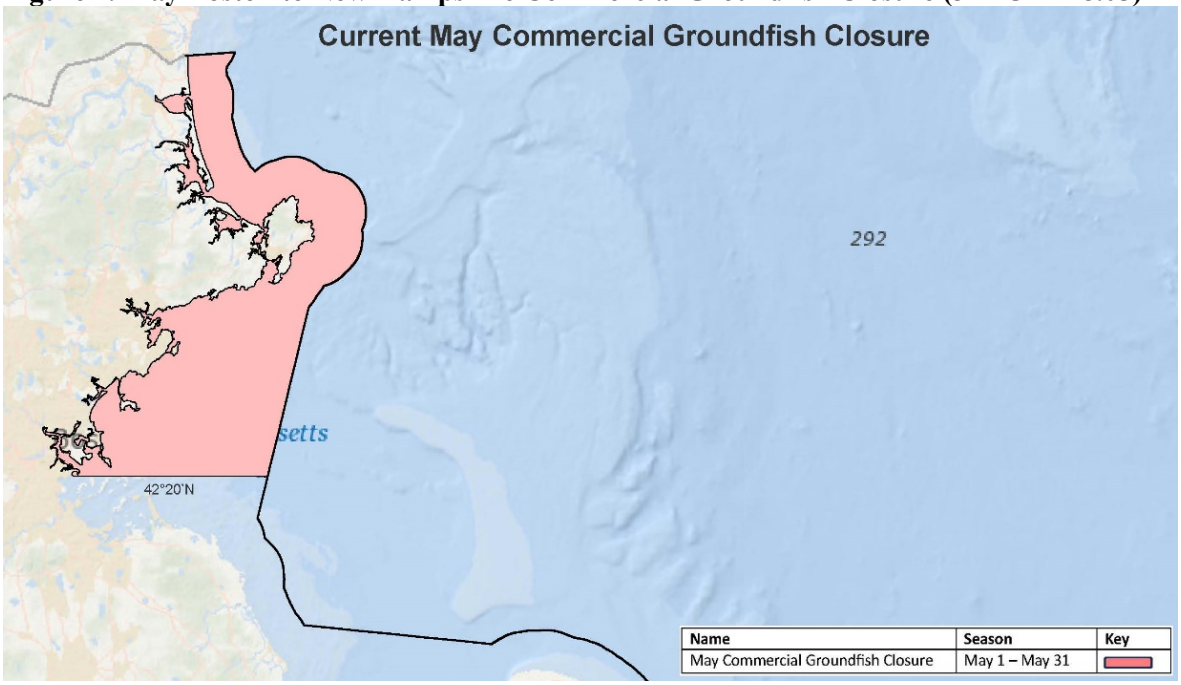

Figure 5. June Marblehead to New Hampshire Commercial Groundfish Closure (322 CMR 8.05)

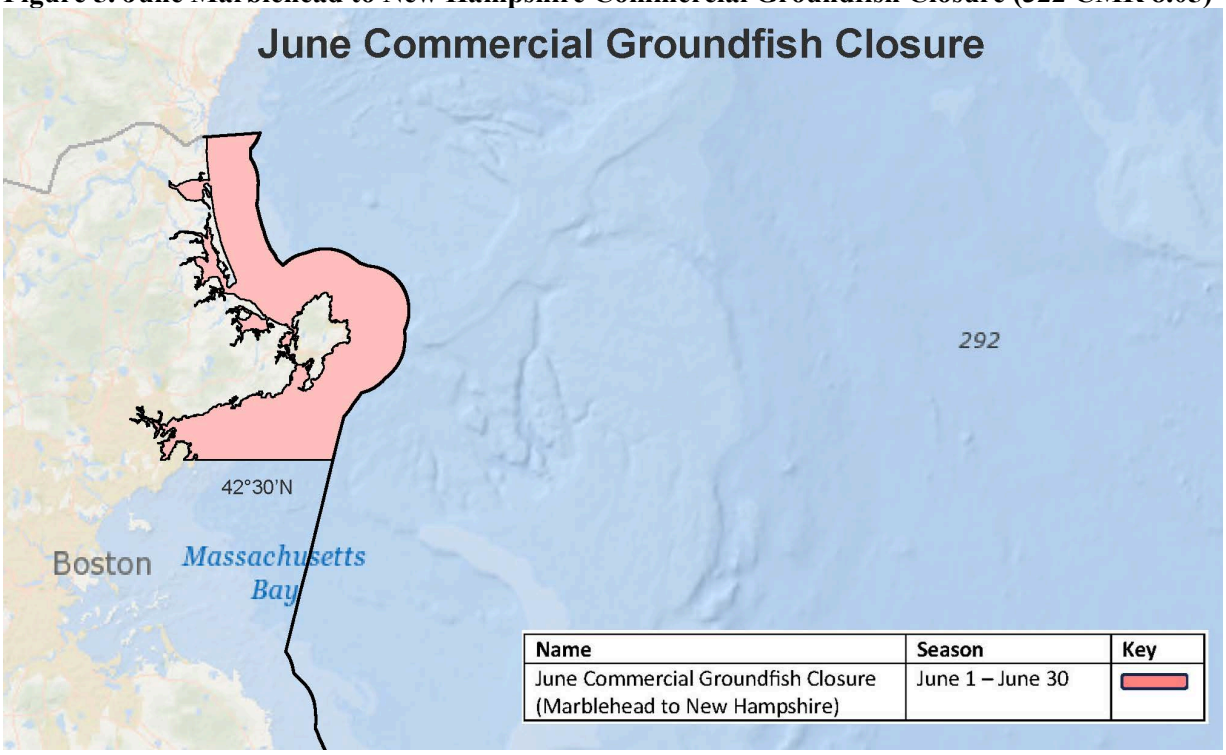

Figure 6. Winter Plymouth to Marblehead Commercial Groundfish Closure (322 CMR 8.05)

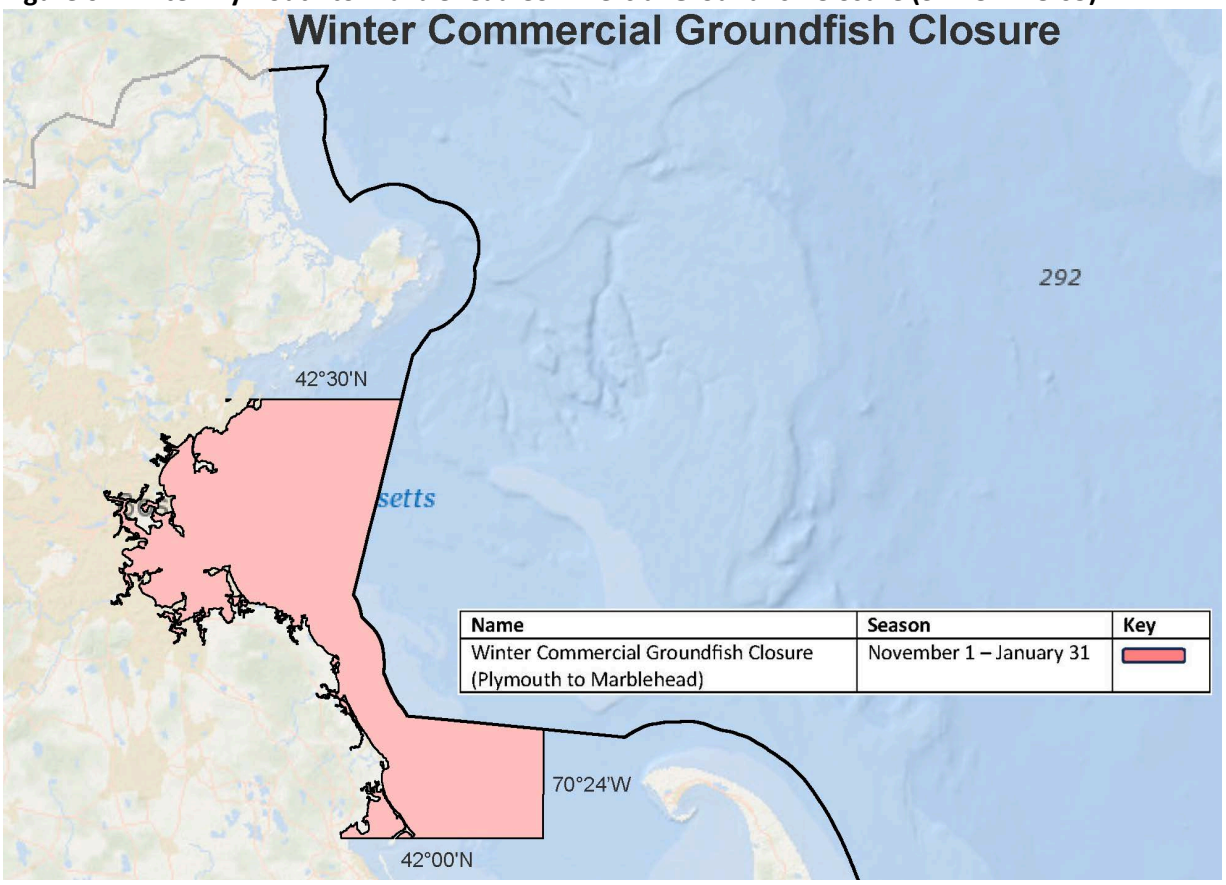

Figure 7. Spring Cod Conservation Zone Closure (322 CMR 8.07)

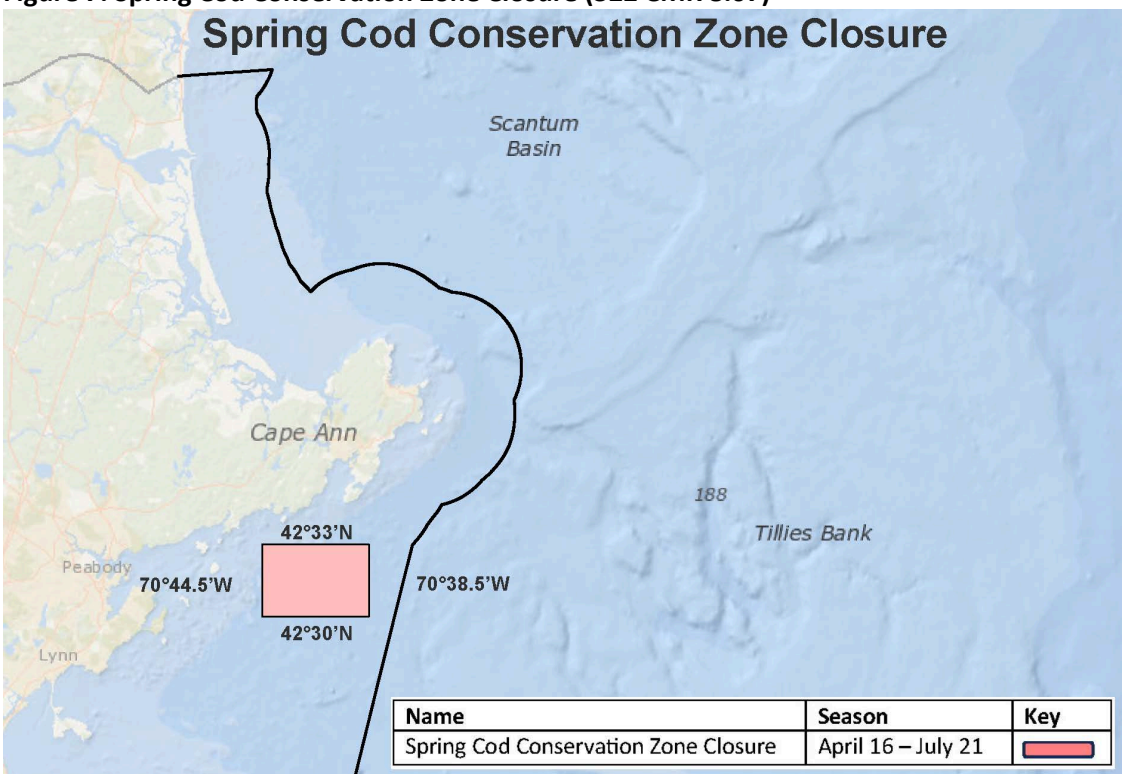

Figure 8. Winter Cod Conservation Zone Closure (322 CMR 8.07)

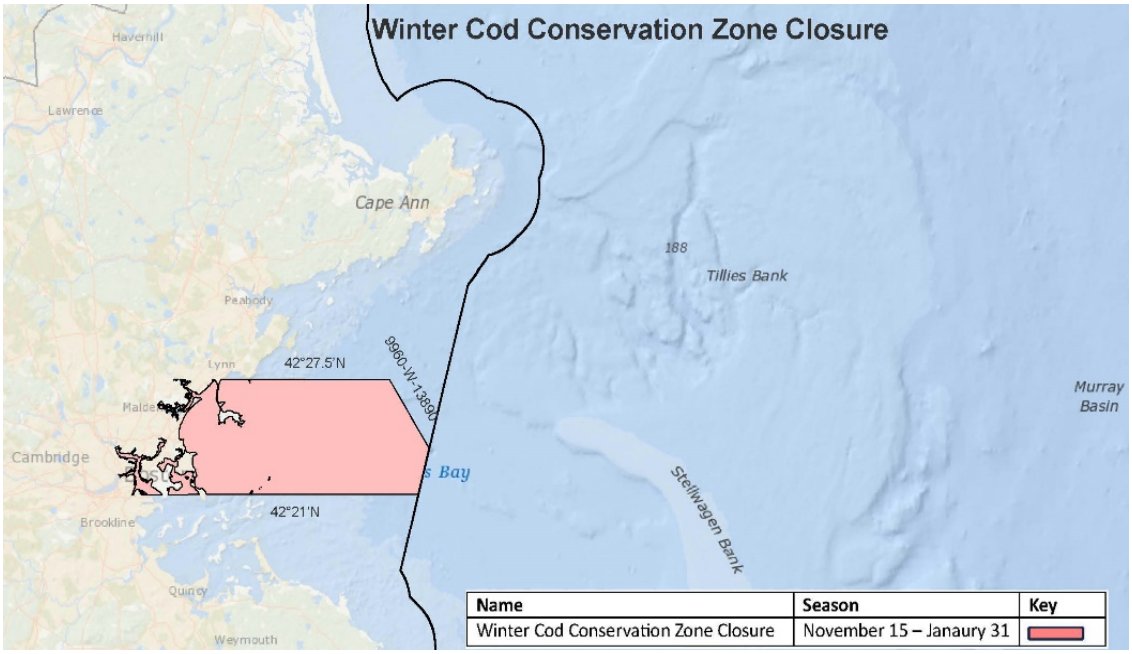

Figure 9. Winter Flounder Spawning Area Closure (322 CMR 8.04)

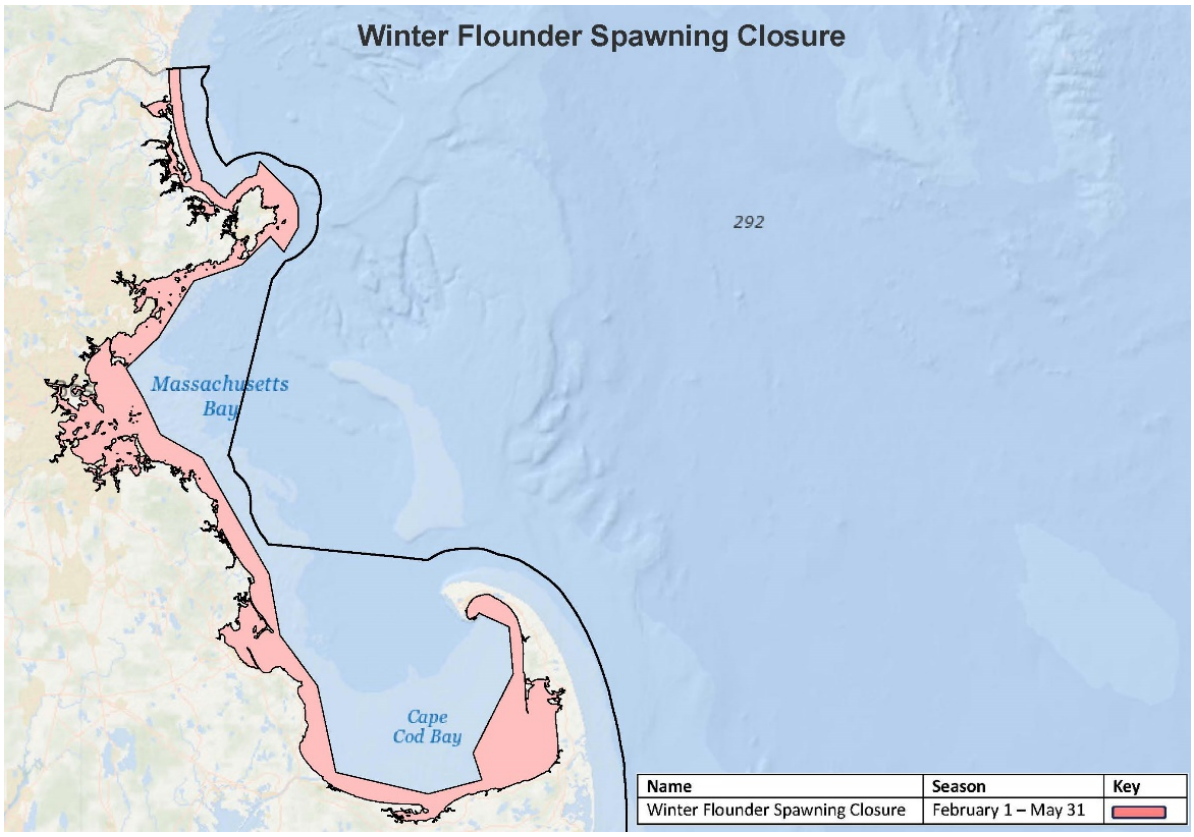

Table 1. FY22 state waters (SW) catch* compared to expected FY24 and FY25 sub-components (pounds)

Stock	FY22 SW Catch*	FY24 Sub-Component	Percent Utilization	FY25 Sub-Component	Percent Utilization
GOM Cod	54,454	105,822	51%	TBD	N/A
GOM Haddock	64,154	105,822	61%	103,617	62%
Witch Flounder	13,669	41,888	33%	41,888	33%
GOM Winter Flounder	143,300	337,307	42%	337,307	42%
GOM Yellowtail Flounder	41,888	66,139	63%	61,729	68%
Plaice	7,055	61,729	11%	57,320	12%

*Source: NMFS Greater Atlantic Regional Fisheries Office Final Year End Report September 26, 2023, run date of September 10, 2023

Table 2. State waters sub-components for FY23 – FY25 (pounds)

Stock	FY23 Sub-Component	FY24 Sub-Component	FY25 Sub-Component
GOM Cod	105,822	105,822	TBD
GOM Haddock*	127,868	105,822	103,617
Witch Flounder	41,888	41,888	41,888
GOM Winter Flounder	337,307	337,307	337,307
GOM Yellowtail Flounder	74,957	66,139	61,729
Plaice	63,934	61,729	57,320

* FY23 sub-component value based on federal emergency action setting GOM haddock ABC at value equal to 100%Fmsy.

Table 3. Performance of state waters catch against annual sub-components, FY19 – FY22 (pounds)

	FY22			FY21			FY20			FY19		
Stock	**SW Sub-component**	**SW Catch**	**Percent Utilization**	**SW Sub-component**	**SW Catch**	**Percent Utilization**	**SW Sub-component**	**SW Catch**	**Percent Utilization**	**SW Sub-component**	**SW Catch**	**Percent Utilization**
GOM Cod	105,822	54,454	51%	105,822	35,715	34%	105,822	33,290	31%	103,617	63,714	61%
GOM Haddock	83,776	64,154	77%	123,459	85,319	69%	143,300	113,979	80%	200,620	330,252	165%
Witch Flounder	97,003	13,669	14%	97,003	20,503	21%	97,003	39,904	41%	88,185	44,974	51%
GOM Winter Flounder	427,696	143,300	34%	427,696	177,472	41%	306,442	102,074	33%	147,710	186,952	127%
GOM Yellowtail Flounder	127,868	41,888	33%	127,868	57,982	45%	127,868	72,752	57%	112,436	93,917	84%
American Plaice	61,729	7,055	11%	63,934	16,094	25%	70,548	22,928	33%	70,548	27,117	38%

The Commonwealth of Massachusetts
Division of Marine Fisheries

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

MEMORANDUM

TO: Marine Fisheries Advisory Commission (MFAC)

FROM: Daniel J. McKiernan, Director

DATE: December 14, 2023

SUBJECT: **Proposal to Adopt a State Waters Commercial Trip Limit for Atlantic Mackerel**

Proposal

DMF intends to go to public hearing this winter to adopt a state waters trip limit for Atlantic mackerel of 5,000 pounds until 80% of the fishing quota is taken that is then reduced to 2,500 pounds for the remainder of the fishing year. DMF will allow federal permit holders to possess and land non-conforming quantities of mackerel lawfully taken in federal waters. This allowance will specify that when lawfully in possession of non-conforming quantities of fish the federally permitted vessel may steam directly through state waters to port for the purpose of landing mackerel provided further that the vessel does not set gear or conduct any fishing activity in state waters. This is similar to what is authorized in other federally managed fisheries for which there are disparate state waters trip limits (e.g., sea scallops and groundfish).

Background and Rationale

At its December business meeting, the Mid-Atlantic Fishery Management Council (MAMFC) adopted Acceptable Biological Catch[1] (ABC) limits and specifications for FY2024 and FY2025 to limit directed Atlantic mackerel fishing without creating excessive regulatory discards. Particularly relevant for state waters is the newly established open access permit trip limit of 5,000 pounds until 80% of the quota is taken then reduced to 2,500 pounds for the remainder of the fishing year. DMF strongly supported this action, as evidenced by our recent letter to Executive Director Moore (Attachment 1).

With this action approved by the MAFMC, I now seek to adopt a state waters trip possession limit that complements the federal open access trip limit. This would control fishing activity by both state-only fishers and federally permitted vessels fishing in state waters. Based on landings data, this proposed limit should not constrain current state waters fishing activity as most trips do not land in excess of 1,000 pounds. Keeping state-only limits consistent with federal open access trip limits is a best management practice employed across numerous fisheries to ensure state management does not undermine federal conservation and management objectives—as required by the Magnuson Stevens Fishery Conservation and Management Act (16 U.S.C. 1856)—and by preventing vessels from entering Massachusetts state waters to avoid federal open access catch limits. Lastly, by controlling possible displacement into state waters, we will be limiting the potential for user group conflicts between any prospective new entrants and existing recreational and commercial fishers in state waters.

[1] NOAA Fisheries defines Acceptable Biological Catch or ABC as, "a scientific calculation of the sustainable harvest level for a species or species group, and is used to set the upper limit on the range of potential total allowable catch."

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Dr. Chris Moore
Executive Director
Mid-Atlantic Fishery Management Council
800 North State St., Suite 201
Dover, DE 19901

RE: Atlantic Mackerel Possession Limits

Dear Dr. Moore:

As an epicenter of Atlantic Mackerel fishing, the Commonwealth of Massachusetts remains an interested partner in rebuilding a sustainable Atlantic mackerel fishery. Recently, the Commonwealth worked closely with the Council and our neighboring states to ensure sustainable regulation of recreational fishing for Atlantic mackerel in state waters. At its December meeting, the Mid-Atlantic Council will consider final Acceptable Biological Catch (ABC) and fishery specifications to limit directed Atlantic mackerel fishing without creating excessive regulatory discards. The Commonwealth of Massachusetts would like to express support for measures that best achieve this goal while most equitably distributing the consequent economic impacts.

Preliminary specifications set by the Mid-Atlantic Council call for a 5,000-lb incidental limit for limited access permit holders and a 1,000-lb year-round limit for open-access permit holders. While the 5,000-lb incidental limit established in FW12 was expected to constrain directed trawling for Atlantic mackerel, it has sustained a jig fishery; a fishery with little bycatch that is highly dependent on Atlantic mackerel. The preliminary proposal of 1,000-lb Atlantic mackerel possession limit for open access permit holders we believe would likely result in the shuttering of a few, small, highly dependent businesses engaged in the jig fishery here in Massachusetts. Moreover, it is strategic to retain these small-scale fisheries as we plan for future fisheries development in offshore wind development areas.

In December, the Mid-Atlantic Council will receive final ABC advice from its Science and Statistical Committee and a full range of specification alternatives from its Monitoring Committee. That advice includes an option to set the ABC based on an average approach and corresponding trip limits as follows:

	2024	**2025**
ABC	868mt	868mt
Initial Trip Limits in pounds (Limited Access/Open Access)	20,000 /5,000	20,000/5,000
Trip Limit in pounds after 80% Catch Trigger (Limited Access/Open Access)	10,000/2,500	10,000/2,500

I strongly urge the Mid-Atlantic Council consider final specifications for 2024 and 2025 that establish an incidental possession limit no lower than 2,500-lb for the open access fishery. Staff analyses indicate these measures keep the fishery within the commercial quota and allow for the same 61% probability of rebuilding by 2032 as the year-specific ABCs and Council's initial trip limit recommendation. But unlike the initial recommendation, the average ABC approach and consequent trip limits benefit from avoiding an extremely low ABC in 2024 that could result in excessive regulatory discards. Constant catch advice for all gear types should help stabilize fishing operations over the next two years while avoiding disproportionate negative economic impacts to any one gear. And ultimately, these measures should support our shared goal of rebuilding a sustainable Atlantic mackerel fishery.

Thank you for your consideration.

Sincerely,

Daniel J. McKiernan
Director, Massachusetts Division of Marine Fisheries

Cc: Peter Hughes, Chair MAFMC MSB Committee
Jason Didden, MAFMC
Cate O'Keefe, NEFMC Executive Director
Eric Reid, NEFMC Chair
MA Marine Fisheries Advisory Commission

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MEMORANDUM

TO: Marine Fisheries Advisory Commission (MFAC)

FROM: Daniel J. McKiernan, Director

DATE: December 14, 2023

SUBJECT: **Proposal to Increase Smooth Dogfish Commercial Trip Limit**

Proposal
DMF intends to go to public hearing this winter to increase the regulatorily established commercial trip limit for smooth dogfish from 100 pounds to 300 pounds.

Rationale
Recall that at the June 2023 business meeting, the Marine Fisheries Advisory Commission unanimously approved an in-season adjustment to increase the 2023 commercial trip limit for smooth dogfish from 100 pounds to 300 pounds. This responded to an industry request to allow commercial fishers—particularly those individuals participating in the summertime mixed species trawl fishery south of Cape Cod—to better access the underutilized smooth dogfish quota. I also indicated that DMF would make this in-season adjustment for 2023, review fishery performance this year, and consider adopting the 300-pound trip limit by regulation for 2024. While the 2023 landings data are confidential pursuant to G.L. c. 130, §21[1], I can say that several vessels took advantage of this trip limit increase in 2023 and we improved the utilization of the state's quota. For these reasons, I am in support of amending our smooth dogfish regulations to adopt the trip limit increase moving forward.

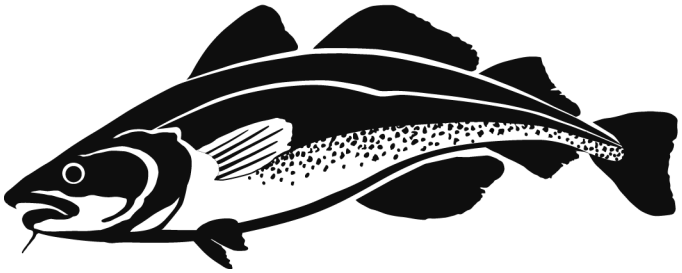
Background
In 2014, Addendum II to the Interstate Fishery Management Plan for Coastal Sharks implemented state-by-state quota allocations for smooth dogfish. These quota allocations were based on landings during 1998–2010, with Massachusetts receiving 0.433% of the coastwide quota. The addendum did not establish trip limits, but instead authorized states to do so in a manner that best meets their needs contingent on approval by the Atlantic States Marine Fisheries Commission's Coastal Sharks Management Board. Since 2007 (prior to Addendum II) and until the in-season adjustment was made earlier this year, Massachusetts smooth dogfish trip limit had been 100 pounds. Our smooth dogfish quota has been 17,195 pounds since 2017, and during the 2017–2022 period, less than 25% of the state's quota was landed each year, and as low as 4%. The Management Board approved our increase to a 300-pound trip limit in June 2023.

[1] G.L. c. 130, §21 requires DMF hold commercial and recreational fishing data collected by the agency "strictly confidential" except that such data may be released "in aggregate or summary form which does not directly or indirectly disclose the identity or business of any person who submits such statistics." To this we apply the so-called "rule of three" which requires any publicly disclosed data summary to include landings from at least three dealers, three harvesters, and three vessels.

Marine Fisheries Advisory Commission

December 19, 2023

MarineFisheries
Commonwealth of Massachusetts



Commercial Striped Bass Fishing Day Proposal

Proposal: Address quota management by adjusting number and sequence of open fishing days.

1. Reduce number of open days from 3 to 2.
2. Eliminate Monday as open fishing day.
3. Consecutive or non-consecutive days? (e.g., Tuesday/Wednesday, Tuesday/Thursday).
4. Consider in-season trip limit trigger? (e.g., add third day on August 15 based on quota use).

Rationale:

- Quota closure in early-August in 2022 and 2023 due to high daily landings (>20,000 pounds).
  - Addendum II may reduce commercial quota by 14.5% from 735,240 pounds to 628,630 pounds.
  - Quota reduction would have shaved another week off length of commercial fishery in 2022 and 2023.
- Reducing number of days per week could extend fishery through summertime, consistent with longstanding management objectives.
- Could build in triggers to automatically add days in-season if catch rates are low and quota underutilized.
- Monday is often the biggest landing day of the week, perhaps due to frontloading over weekends.

Proposal on Primary Purchase of Striped Bass

Proposal: Address enforcement and compliance issues related to night fishing and ability to sell fish.

1. Clarify the primary buyer and harvester must both be present at primary purchase (no drop offs).
2. Require primary buyers tag striped bass immediately upon primary purchase?
3. Redefine open fishing day from a calendar day to a landing window? (e.g., 8am to 7:59am).

Rationale:

- Epicenter of fishery has shifted from Cape Cod to Cape Ann in recent years, with notable difference:
  - Cape Cod fishery occurred throughout day with fish sold to trucks.
  - Cape Ann fishery is predominately night-time with fish being sold to brick and mortal dealers.
- Night fishing and open day rules conspire to create a “race against the clock” to offload fish to dealer.
  - Fish are frequently being dropped off at an unsupervised dealer facility making it difficult to enforce size limit and bag limit rules.
  - Want to accommodate night fishing but ensure product is being lawfully caught and sold.
- Compliance would be enhanced by having both parties present at primary purchase and tags immediately applied.
  - Current tagging rules were developed with consideration towards lengthy queues of harvesters at boat ramps selling to trucks and not brick and mortal facilities.
- Race against the clock has also led to reports of boating safety issues.

Proposal to Stay Whelk Gauge

Proposal: Stay current schedule to increase whelk gauge sizes until 2027.

Rationale:

- Allows to potential MSE to inform future management
- Addresses industry-based concerns regarding female-only fishery and loss of industry infrastructure.

Proposed adjustments to schedule for increases to whelk gauge size					
Gauge Size	3 1/8"	3 1/4"	3 3/8"	3 1/2"	3 5/8"
Current Schedule	2021 - 2023	2024 – 2026	2027 – 2029	2030 – 2032	2033
Proposed Schedule	2021 – 2026	2027 – 2029	2030 – 2032	2033 – 2035	2036

Approximate shell width and percent size-at-maturity at each scheduled gauge size							
Gauge Size	2 7/8"	3"	3 1/8"	3 1/4"	3 3/8"	3 1/2"	3 5/8"
Approximate Shell Width	3 1/10"	3 3/16"	3 5/16"	3 7/16"	3 5/8"	3 3/4"	3 7/8"
Percent size at maturity	0%	0%	0%	0%	5%	20%	50%

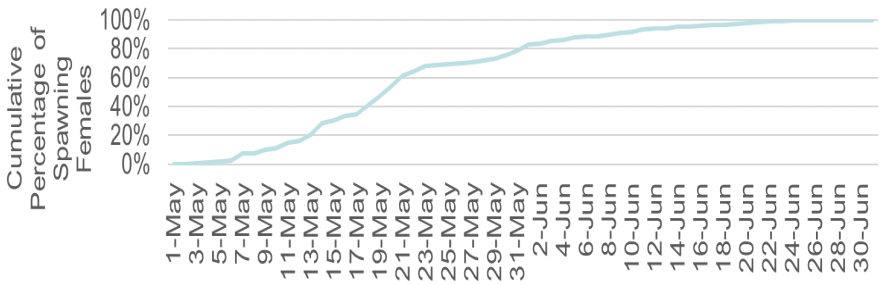
Horseshoe Crab Spawning Closure

Proposal: Enact an April 15 – June 7 closure to harvest of horseshoe crabs.

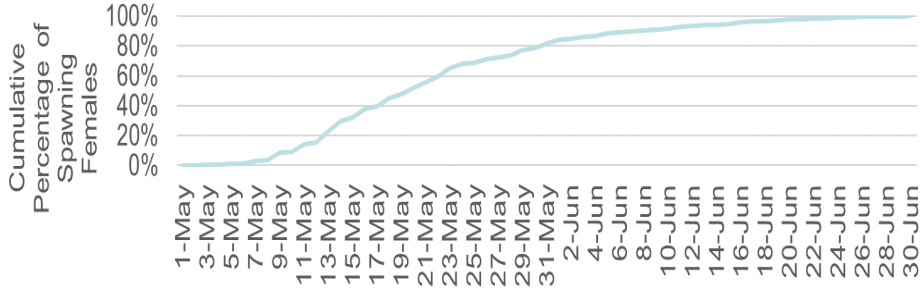
Rationale:

- Horseshoe crabs are exceptionally vulnerable to harvest during spawning season.
- While population trends have been generally good, some data points are reverting towards time series medians.
- No available survey method to forecast future recruitment to serve as “early warning”.
- Degradation of coastal beaches and consequent loss of spawning habitat.
- Bring Massachusetts in line with other states that have both biomedical and bait fisheries.
- Will capture 90% of spawning activity.

Cumulative percent of spawning females observed by date during spawning beach surveys North of Cape, 2015-2022



Cumulative percent of spawning females observed by date during spawning beach surveys in South and East of Cape, 2015-2022



Horseshoe Crab Trip Limit Proposals

Proposal: Establish a uniform bait fishery trip limit of 300 crabs per day, eliminating the hand harvest trip limit from 400 crabs per 24-hour period beginning at noon.

Rationale:
- Reduce harvest during tail end of spawning season.
- Constrain front loading of bait quota.
- More uniformly spread quota out through the year.
- Better link supply and demand for bait in time.
- Enhance enforcement and compliance.

Proposal: Adopt triggers to automatically adjust trip limits on a date certain based on quota usage.
1. Should 50% of quota remain on August 1, increase trip limit to at least 400 crabs per day.
2. Should 80% of the quota be taken before September 15, the trip limit is reduced to no more than 200 crabs per day.

Rationale:
- More uniformly spread quota out through the year.
- Better link supply and demand for bait in time.
- Reduce potential for regulatory discarding in mobile gear fisheries during fall and winter.

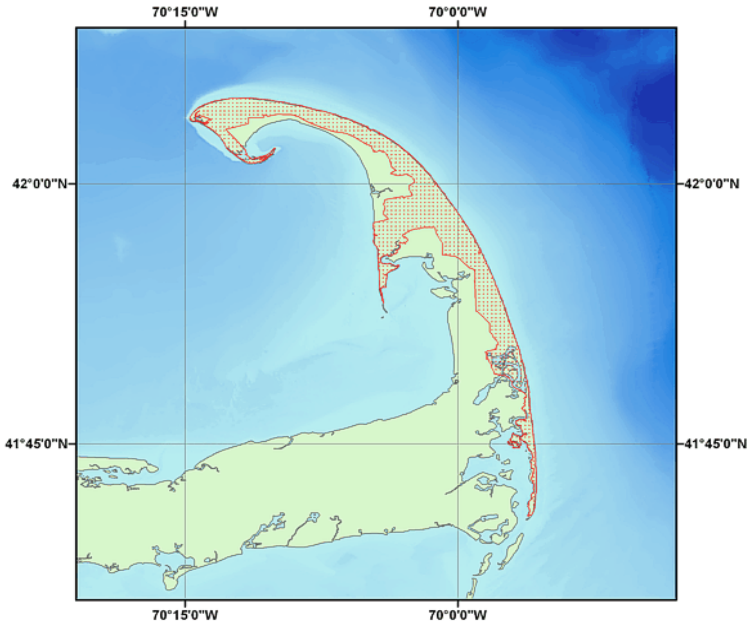
Matching Federal Horseshoe Crab Closures

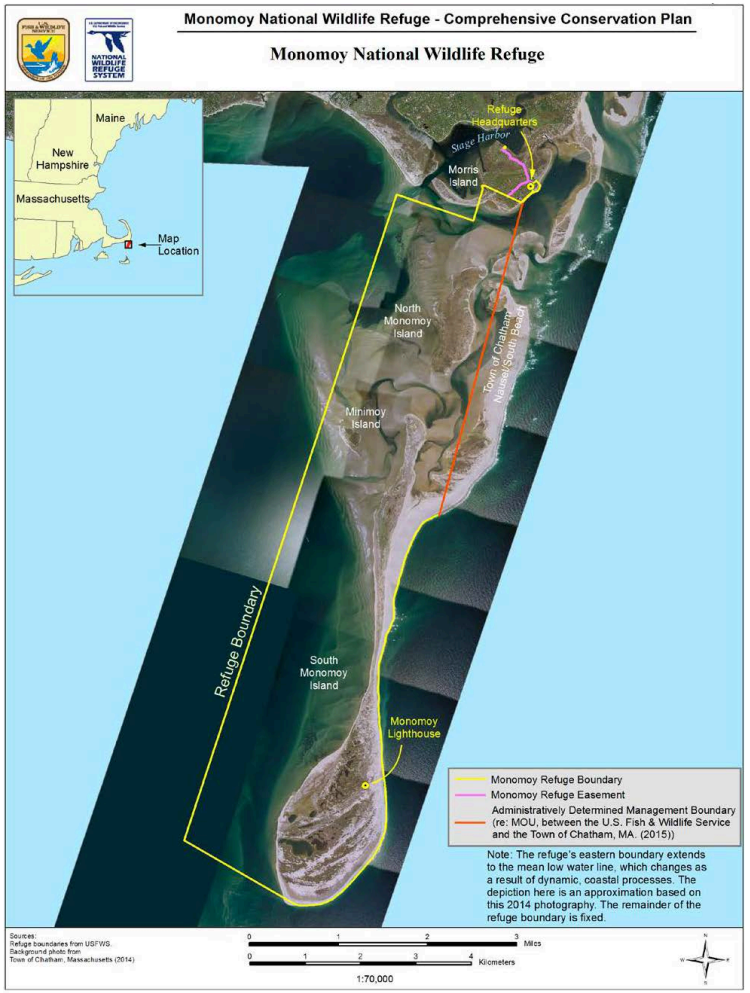
Proposal: Complement federal horseshoe crab harvest closures for Cape Cod National Seashore and Monomoy National Wildlife Refuge.

Rationale:

- Enhance enforcement and compliance.
- Allow for MEP to enforce DMF violation.

Map of Cape Cod National Seashore





State Waters Groundfish Fishery Performance

Performance of state waters catch against annual sub-components, FY19 – FY22 (pounds)

	FY22			FY21			FY20			FY19		
Stock	SW Sub-component	SW Catch	Percent Utilization	SW Sub-component	SW Catch	Percent Utilization	SW Sub-component	SW Catch	Percent Utilization	SW Sub-component	SW Catch	Percent Utilization
GOM Cod	105,822	54,454	51%	105,822	35,715	34%	105,822	33,290	31%	103,617	63,714	61%
GOM Haddock	83,776	64,154	77%	123,459	85,319	69%	143,300	113,979	80%	200,620	330,252	165%
Witch Flounder	97,003	13,669	14%	97,003	20,503	21%	97,003	39,904	41%	88,185	44,974	51%
GOM Winter Flounder	427,696	143,300	34%	427,696	177,472	41%	306,442	102,074	33%	147,710	186,952	127%
GOM Yellowtail Flounder	127,868	41,888	33%	127,868	57,982	45%	127,868	72,752	57%	112,436	93,917	84%
American Plaice	61,729	7,055	11%	63,934	16,094	25%	70,548	22,928	33%	70,548	27,117	38%

State Waters Groundfish Fishery Performance

FY22 state waters (SW) catch* compared to expected FY24 and FY25 sub-components (pounds)					
Stock	FY22 SW Catch*	FY24 Sub-Component	% Use	FY25 Sub-Component	% Use
GOM Cod	54,454	105,822	51%	TBD	N/A
GOM Haddock	64,154	105,822	61%	103,617	62%
Witch Flounder	13,669	41,888	33%	41,888	33%
GOM Winter Flounder	143,300	337,307	42%	337,307	42%
GOM Yellowtail Flounder	41,888	66,139	63%	61,729	68%
Plaice	7,055	61,729	11%	57,320	12%

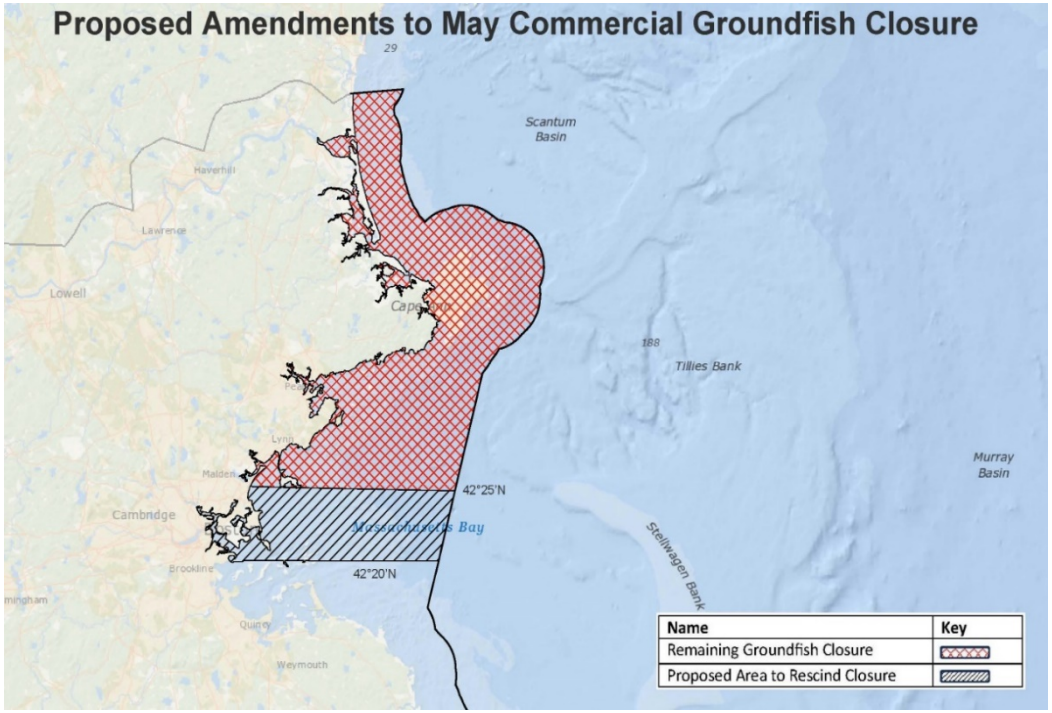
*Source: NMFS Greater Atlantic Regional Fisheries Office Final Year End Report September 26, 2023, run date of September 10, 2023

May Groundfish Closure Proposal

Proposal: Reduce spatial footprint of May commercial groundfish closure in Massachusetts Bay by moving southern boundary north by 5 min latitude from Boston (42 °20'N) to Nahant (42°25'N)

Rationale:

- Responds to request from industry to provide soft bottom to target available flatfish.
- Reduces steaming time and overhead for North Shore fishers.
- Avoids existing spring spawning cod aggregations (e.g., Eagle Ridge).
- Adequate sub-component available to accommodate additional harvest.
- Catch and effort limited by other closures, fish availability, fishable bottom, trip limits, and waning activity.



Atlantic Mackerel Trip Limit Proposal

Proposal:

- Adopt a 5,000-pound state waters trip limit for mackerel.
- Reduce trip limit to 2,500 pounds once 80% of annual quota is taken.
- Allow federal permit holders fishing lawfully in federal waters to transit state waters in excess of the state's trip limit to land fish.

Rationale:

- Complements recent open access trip limits set by MAFMC.
- Ensures state management does not undermine federal conservation objectives.
- Control fishing activity in state waters by state-only and federal permit holders.
- Prevents state waters from become an area for vessels to avoid federal open access limits.
- Limits potential user group conflicts stemming from increased fishing activity in state waters.
- Limit exceeds current state-waters only landings (maxes out at ~1,000 pounds per trip).

Smooth Dogfish Trip Limit Proposal

Proposal: Increase trip limit from 100 pounds to 300 pounds.

Rationale:

- Industry requested DMF increase limit to provide additional access to available quota.
  - Quota has been 17,195 pounds since 2017
  - During 2017-2022, less than 25% of quota was taken each year.
- MFAC approved this for 2023 via in-season adjustment.
  - Several vessels took advantage of trip limit increase
  - Improved utilization of state quota (data confidential).
- Primary benefits trawlers in summertime Nantucket Sound fishery.

Interstate Fisheries Management Update

Joint ASMFC/MAFMC December Meeting

- Summer Flounder, Scup, and Black Sea Bass
- Spiny Dogfish

Upcoming ASMFC Winter 2024 Meeting

Marine Fisheries
Advisory Commission

December 19, 2023

Recreational Fluke, Scup, and Black Sea Bass Measures

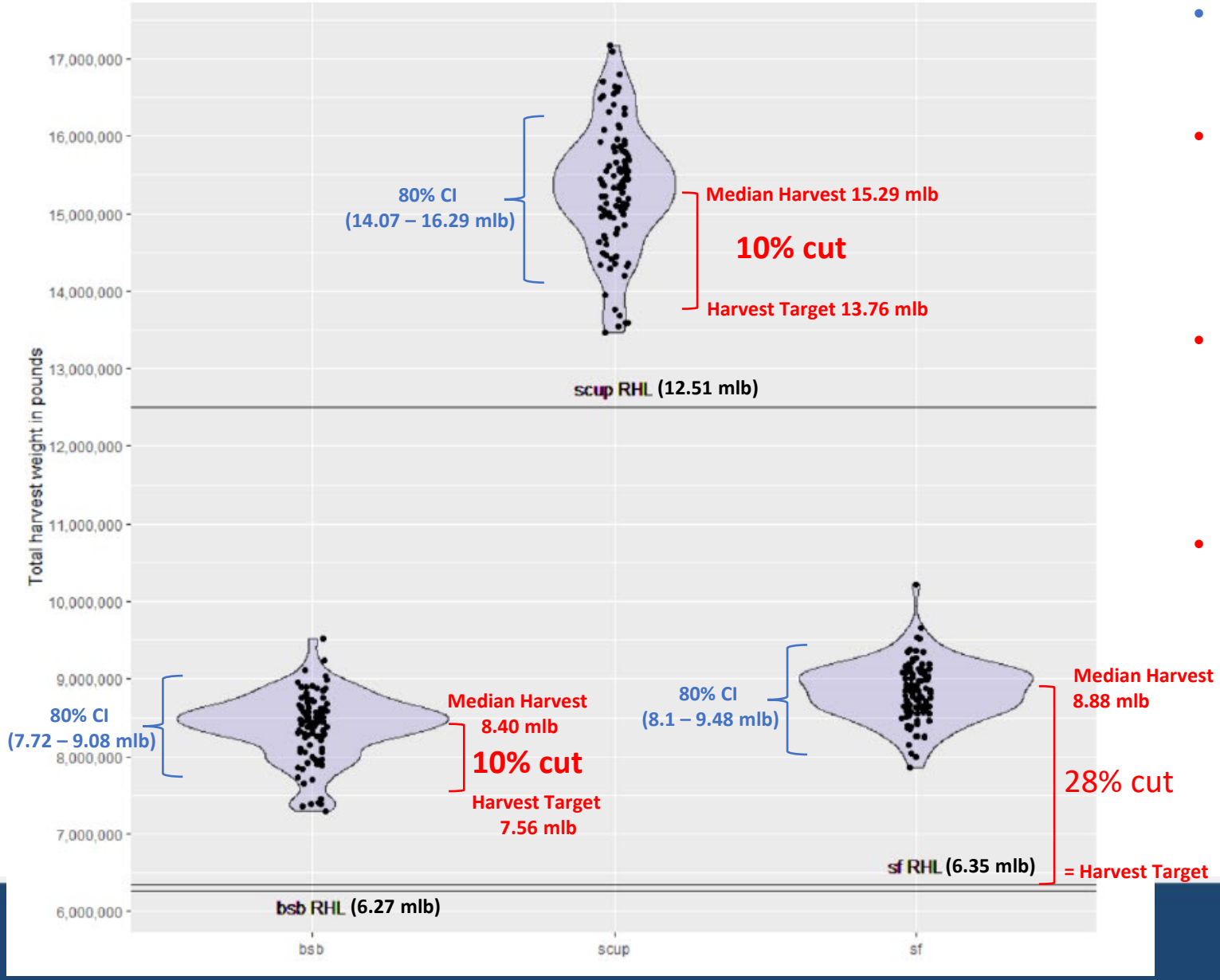
Commercial Quotas and Recreational Harvest Limits

		2023	2024	2025
Fluke	Quota	15.27	8.79 (-42%)	8.79
	RHL	10.62	6.35 (-40%)	6.35
Scup	Quota	14.01	21.15 (+51%)	18.80
	RHL	9.27	13.18 (+42%)	11.84
Black Sea Bass	Quota	4.80	6.00 (+25%)	n/a
	RHL	6.57	6.27 (-4%)	n/a

Percent Change Approach

Future RHL vs Harvest Estimate	Stock biomass compared to the target stock size (B/B_{MSY})	Change in Harvest
Future 2-year average RHL is **greater than** the upper bound of the harvest estimate confidence interval (harvest is expected to be lower than the RHL)	**Very high** (at least 150% of the target stock size)	**Liberalization** percent based on the difference between the harvest estimate and the 2-year average RHL, not to exceed 40%
	High (between the target and 150% of the target stock size)	**Liberalization** percent based on the difference between the harvest estimate and the 2-year average RHL, not to exceed 20%
	Low (below the target stock size)	**Liberalization**: 10%
Future 2-year average RHL is **within** the confidence interval of the harvest estimate (harvest is expected to be close to the RHL)	**Very high** (at least 150% of the target stock size)	**Liberalization**: 10%
	High (between the target and 150% of the target stock size)	**No change:** 0%
	Low (below the target stock size)	**Reduction:** 10%
Future 2-year average RHL is **less than** the lower bound of the harvest estimate confidence interval (harvest is expected to exceed the RHL)	**Very high** (at least 150% of the target stock size)	Scup & Black Sea Bass **Reduction:** 10%
	High (between the target and 150% of the target stock size)	**Reduction** percent based on the difference between the harvest estimate and the 2-year average RHL, not to exceed 20%
	Low Fluke (below the target stock size)	**Reduction** percent based on the difference between the harvest estimate and the 2-year average RHL, not to exceed 40%

Projected total harvest under SQ measures



- *All 3 species have projected harvest (80% CI) above their RHL under status quo measures.*
- ***Scup**: because biomass >150% target, take a 10% cut from median projected harvest (instead of an 18% cut to RHL).*
  - *2-year specs, so 2025 status quo with 2024*
- ***Fluke**: because biomass <100% target, take full reduction from median projected harvest to RHL: 28% cut.*
  - *2-year specs, so 2025 status quo with 2024*
- ***Black sea bass**: because biomass >150% target, take a 10% cut from median projected harvest (instead of a 25% cut to RHL)*
  - *1-year specs because 2024 assessment*
  - *Instead, treat 2024 as year-2 of 2023/2024: 10% cut taken in 2023, with 2024 status quo.*

Recreational Fluke, Scup & Black Sea Bass Measures

	2023 Massachusetts Regulations				2024 Change Needed
Species	Mode	Season	Bag	Size	
Fluke	All Modes	May 21 – Sep 29	5 fish	16.5” min	28% state-specific reduction
Scup	Shore	May 1 – Dec 31	30 fish	9.5” min	10% regional (MA-NY) reduction
	Private Vessel	May 1 – Dec 31	30 fish	10.5” min	
	For-hire Vessel	May 1 – June 30	40 fish	10.5” min	
		July 1 – Dec 31	30 fish		
Black Sea Bass	All Modes	May 20 – Sept 7	4 fish	16.5” min	Status quo; small seasonal adjustments may be possible (e.g., Saturday start of May 18 in 2024 through CE)

Known Timeline:

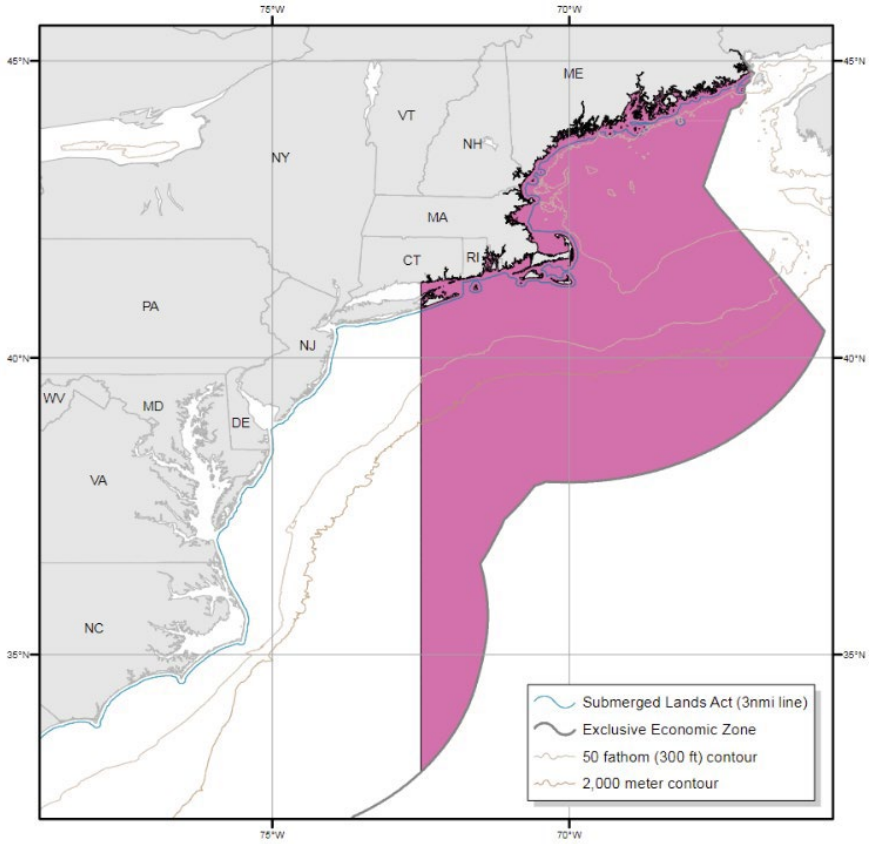
- Board meeting to approve state proposals (range of options) in mid-February
- Emergency rule-making to implement changes by May 1 in Massachusetts

Tentative Dates:

- States’ range of options developed now through mid-January
- Technical Committee meeting to review proposals
- DMF collect public input on options in late Feb./early-March
- March 19 MFAC meeting to agree on state approach

Commercial Fluke Trawl Mesh

- No additional consideration of changing trawl minimum mesh (5.5” diamond or 6” square) without further study
- Potential MAFMC/ASMFC action in 2024 to
  - revise boundary for Small Mesh Exemption Program (map)
  - revise definition of “flynet” in the Flynet Exemption Program
  - update how these exemptions are evaluated



Commercial Spiny Dogfish Quota

- New assessment: not overfished or overfishing but spawning output declined supporting lower quotas (2023: 12.01 mlb)

	2024	2025	2026
Committee Recommend.	10.15 mlb	10.41 mlb	10.65 mlb
MAFMC Approved	10.70 mlb	10.97 mlb	11.22 mlb

- Discards deduction is determining factor. GARFO voted against MAFMC motion; NEFMC and ASMFC to take up still.

ASMFC Winter 2024 Meeting: January 23-25

Agenda: https://www.asmfc.org/home/2024-winter-meeting

Final Actions on:

- Spiny Dogfish 2024-2026 Specifications
- Striped Bass Draft Addendum II
    - Commercial and recreational options to reduce fishing mortality to target level
    - Second MA public hearing tonight in Gloucester

New England Fishery Management Council

OVERVIEW: New England Council Meeting – December 2023

The New England Fishery Management Council (NEFMC) met December 5 -7 in Newport, RI. Below, find highlights on NEFMC actions and discussions. **Council motions** denoted in **bold** (consensus unless tallied). The Council meets next January 30 – February 1 in Portsmouth, NH.

COUNCIL FINAL ACTIONS

ATLANTIC SEA SCALLOP – The Council finalized Scallop Framework Adjustment 38 (FW38) for fishing year (FY) 2024 specifications and FY2025 defaults, and added a measure to increase vessel monitoring system (VMS) ping rates for scallop trips. The Council **recommended updated specifications as preferred** (2024 OFL = 33,406 mt, ABC available to fishery = 21,497 mt; 2025 OFL = 35,241 mt, ABC = 22,586 mt). For FY2024, the Council **selected a full-time limited access scallop vessel allocation of three 12,000-lb access area trips (two to Area II, one to New York Bight) and 20 open area days-at sea (DAS)**; **a part-time vessel allocation of one 14,400-lb trip and 8 open area DAS (to Area II and NYB)**; and **a collective allocation to limited access general category (LAGC) vessels of 856 access area trips, available to be fished in Area I, Area II, and NYB**. In addition to continued closures of the Area I-Sliver and Nantucket Lightship, the Council added a new one-year research closure within Area I (named the "Rhombus") to allow for grow-out of transplanted scallops as part of an ongoing Research Set Aside (RSA) project. The Council **agreed to allow Scallop RSA Program compensation fishing in Area II**, in addition to what is currently allowed in the Northern Gulf of Maine (NGOM). Regarding NGOM management, the Council **agreed to close Platts Bank to directed scallop fishing for two years to protect small scallops**, and to **set the 2024 NGOM TAL = 454,152 lb** (F = 0.21) resulting in a **2024 set-aside of 420,598 lb** for NGOM permit holders (200 lb/ trip). To enhance fishery enforcement, the Council agreed to transit prohibitions for scallop vessels through certain closures and rotational areas when not on an access area trip (see details/map in press release). And, to an **increased VMS ping rate for vessels on a declared scallop trip, from the current 30-min interval to a 5-min interval, once seaward of the VMS declaration line**. Note, this VMS change would not apply to vessels participating in state-waters scallop fisheries/exemption program. With these recommendations, the Council **approved Scallop FW38 for submission to NOAA Fisheries** with target implementation April 1, 2024 (VMS measures soon thereafter).

GROUNDFISH/NORTHEAST MULTISPECIES – The Council finalized Groundfish Framework Adjustment 66 (FW66) for FY2024-FY2025 total allowable catches for US/CAN Eastern Georges Bank (GB) cod, GB haddock, and GB yellowtail flounder; FY2024-2025 specifications of GB yellowtail, Gulf of Maine (GOM) haddock, and white hake; and FY2024-FY2026 specifications for redfish, northern windowpane flounder, and southern windowpane flounder. The Council **selected revised specifications** for groundfish stocks **and to remove the management uncertainty buffer for sectors for certain allocated stocks (white hake & GOM haddock) if the ASM target coverage rate is set at 90% or greater.** The Council **agreed to modify the trigger for implementing Atlantic halibut accountability measures (AM) for the commercial fishery** such that if the total ABC is not exceeded, the AM is not triggered, and **agreed to a temporary modification to the trigger for the Atlantic sea scallop AM implementation policy for GB yellowtail flounder.** The Council intends to revisit AM performance for GB yellowtail and northern windowpane flounders in 2024 through IRA priority funding (see Priorities). With these recommendations, the Council **agreed to submit FW66, as amended, to NOAA Fisheries** for target implementation May 1, 2024. In January, the Council will make recommendations on FY2024 recreational measures for GB cod, GOM cod, and GOM haddock.

SKATE COMPLEX – The Council finalized Skate specifications for FY2024-2025 through Framework Adjustment 12 (FW12), **recommending updated specifications as preferred** (ABC/ACL = 32,155 mt, Wing total allowable landings (TAL) = 10,453 mt, Bait TAL = 5,266 mt). Updated specifications represent a 26% reduction from the FY2022-2023 federal TAL. In FW12, the Council **recommended**

to increase wing possession limits for trips fishing on a DAS to 4,000 lb for Season 1 and 6,000 lb for Season 2, to increase wing possession limits by 25% for trips not on a DAS (to 625 lb) **and on a Northeast multispecies B-DAS** (to 220 lb), and to **remove species-specific possession restrictions for barndoor skate and smooth skate** (rebuilt stocks). With these recommendations, the Council **approved Skate FW12 for submission to NOAA Fisheries** for target implementation May 1, 2024.

WHITING – The Council finalized Small-mesh Multispecies (Whiting) fishery Specifications for FY2024-2026, for northern silver hake, southern whiting, and northern and southern red hake stocks. The Council **recommended updated specifications** (table below) including an adjustment to account for the high red hake discard estimate in 2020-2022 (influenced by a small number of observed lobster trap trips) by alternatively applying the 2017-2019 discard estimate. With these recommendations, the Council **approved the 2024-2026 Whiting Specifications document for submission to NOAA Fisheries** for target implementation May 1, 2024.

Whiting Stock	OFL (mt)	ABC (mt)	ACL (mt)	TAL (mt)
Northern silver hake	79,473	40,868	38,825	31,347
Southern whiting	35,149	20,149	19,142	13,881
Northern red hake	Unknown	3,129	2,973	1,274
Southern red hake	Unknown	1,826	1,735	314

2024 COUNCIL PRIORITIES – The Council finalized its 2024 work priorities, including multiyear priorities. The **Executive Committee's recommendations for 2024 Council Priorities were approved as amended**. Changes included removal of a Scallop priority to develop VMS ping rate measures (already included in FW38), removal of EBFM deep dive workshops in 2024, and addition of a Whiting priority under Inflation Reduction Act (IRA) proposals to evaluate governance, permitting, and catch allocation aligned with redistribution of fishery resources (e.g., climate-resilient fishery management). In January, the Council will receive an update on IRA proposals submitted.

COUNCIL UPDATES & DISCUSSION

HABITAT – Council staff summarized comments submitted to BOEM on the Gulf of Maine Draft WEA, provided a progress update on NEFMC/MAFMC joint work to revise Essential Fish Habitat (EFH) designations (last updated in 2018), and noted that the CCC's interactive web map of Area-Based Management showing the eight Councils' fishery conservation areas is now live.

NORTHERN EDGE ACTION – Staff presented an update on the action to develop a scallop rotational harvest program within the Area II Habitat Closure Area on the Northern Edge of Georges Bank. The Council's four concept areas are being analyzed by Habitat & Scallop technical teams. Next steps include estimating scallop biomass, reviewing SMAST RSA substrate/scallop data from 1999-2024, and input from ASMFC's lobster technical committee. Final action anticipated in Sep/Dec 2024.

RISK POLICY – The Risk Policy Working Group provided progress on revising the Council's Policy Statement (2014) and Roadmap (2016); a draft is expected in June. The WG meets January 10 in New Bedford to compare approaches that use southern red hake as a 'mock trial'.

RESPONSIBLE OFFSHORE SCIENCE ALLIANCE (ROSA) – ROSA's Exec. Director overviewed priority directions including a strategic plan, offshore wind (OSW) monitoring database, and sector-based coordination sessions for OSW monitoring plans. Melissa Smith will represent the Council on ROSA.

EAST COAST CLIMATE COORDINATION (ECCC) – ECCC's Coordination Group meeting outcomes were overviewed, including roles, responsibilities, and actionable next steps for the Councils & ASMFC.

SEPTEMBER 2023 MANAGEMENT TRACK STOCK ASSESSMENTS (MTA) – NEFSC staff reviewed MTAs for stocks peer-reviewed in September including Acadian redfish, Atlantic mackerel, red hake, skates, windowpane flounder, and Atlantic spiny dogfish. The Review Panel Report published in November.

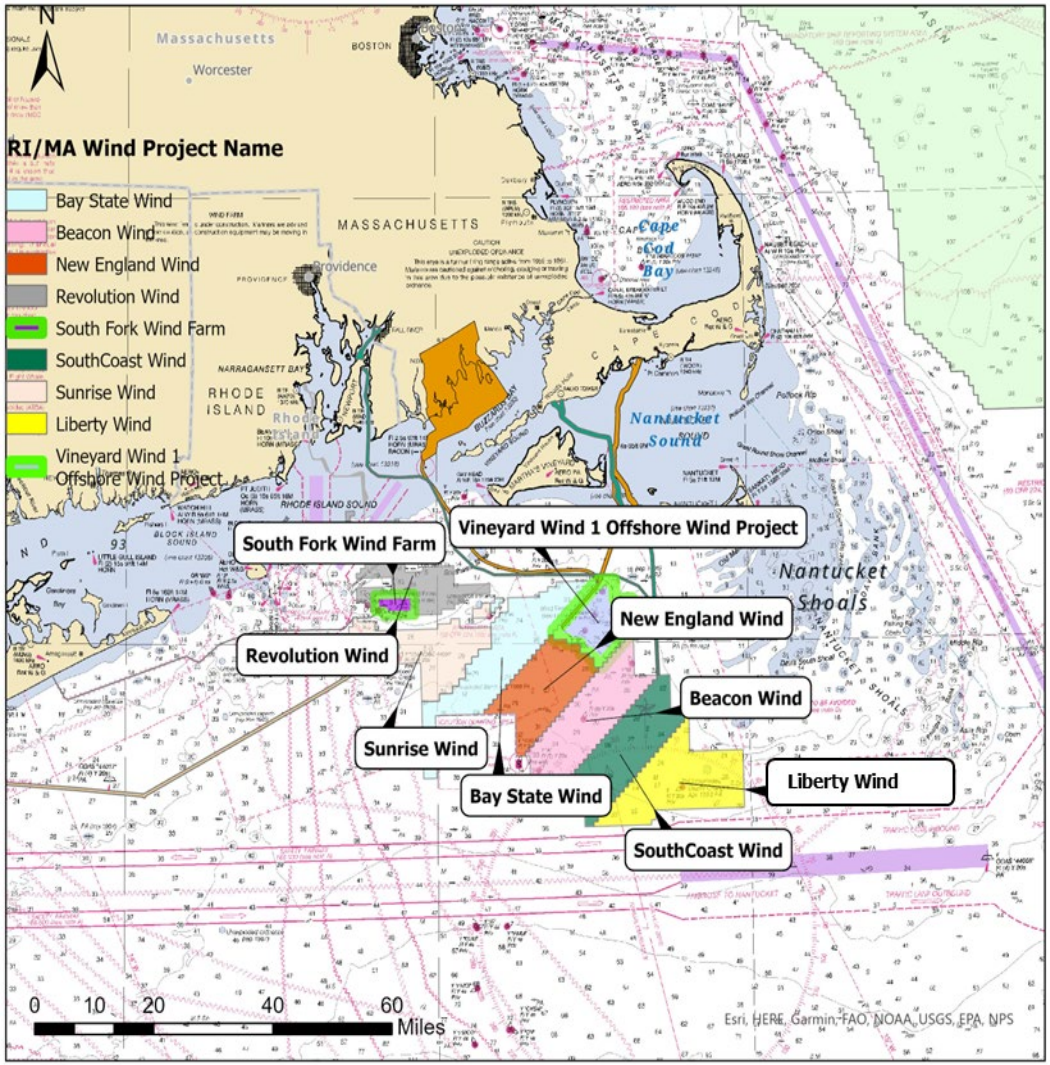
AGENCY REPORTS – Council Executive Director, GARFO, NEFSC, MAFMC, ASMFC, US Coast Guard, NOAA Enforcement, Northeast Trawl Advisory Panel (NTAP)

Offshore wind update

MFAC December 2023 meeting

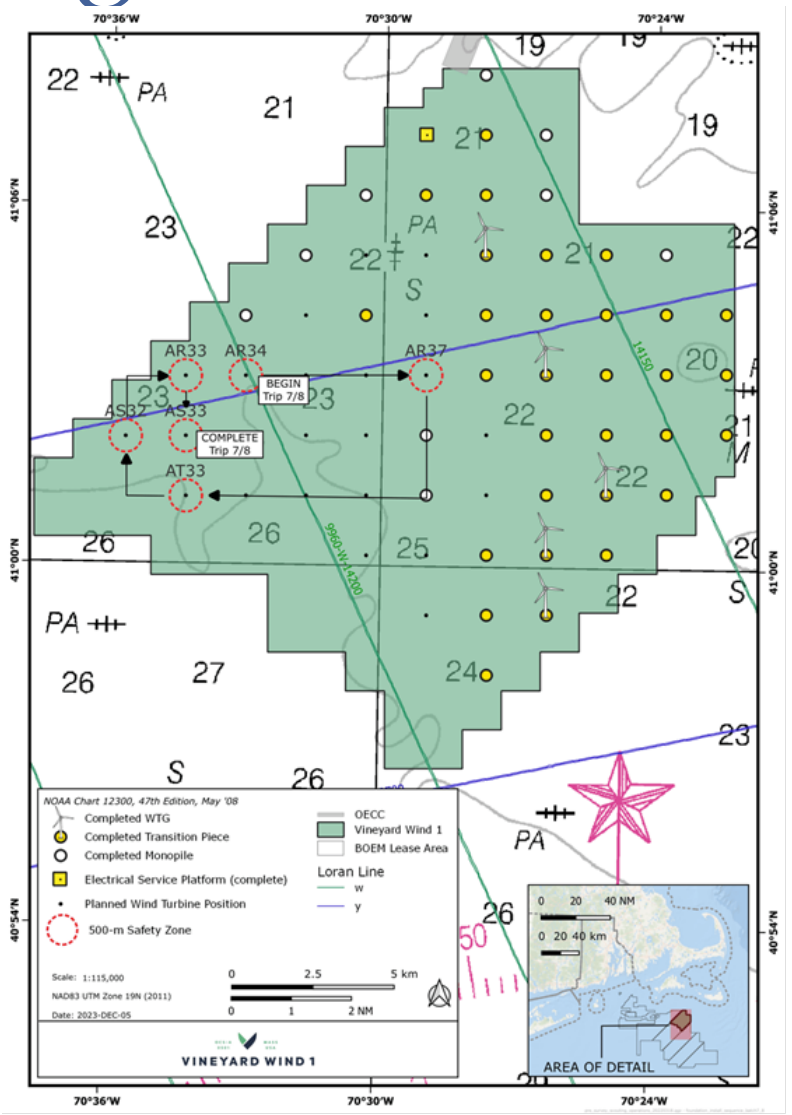
Southern New England Wind

- Vineyard Wind 1 (Vineyard Offshore) and South Fork (Orsted & Eversource) have installed turbines
- VW 1 monopiles and inter-array cables installation
- 5 turbines in VW 1 will be delivering power to MA by Jan 2024
- Revolution Wind ROD and COP approved
- All other projects are under various phases of environmental review and siting



Southern New England Wind

https://www.vineyardwind.com/press-releases/2023/10/18/avangrid-cip-announce-successful-installation-of-the-first-turbine-for-vineyard-wind-1



Fisheries mitigation status

New England Wind (Park City LLC)

Direct Compensation Program

- compensate commercial and for-hire fishers and shoreside businesses impacted by OSW development

Total = 5,859,471

MA fisheries innovation fund

- support grant programs for tech, innovation, and fisheries resource impacts

Total= $1,500,000

Comp total= $7,359,471

Sunrise Wind

Compensatory Mitigation Fund

Direct Compensation Program

$8,788,000= commercial and for-hire

$1,000,000 = Decommission Fund

$1,000,000= Coastal Community Fund

$500,000= Navigational Enhancement Training Program

Comp total = 11,288,000

Fisheries Compensation continued

South Fork and Vineyard Wind

- both are currently accepting gear loss claims

- Websites for how to process direct compensation claims will be available in January 2024

- Eligibility for direct compensation determined by independent third-party

Vineyard Wind application period will be 45-days in Jan 2024

South Fork Wind application timeline and start is TBD

DMF plans to assist dissemination of application materials on website and to permit holders

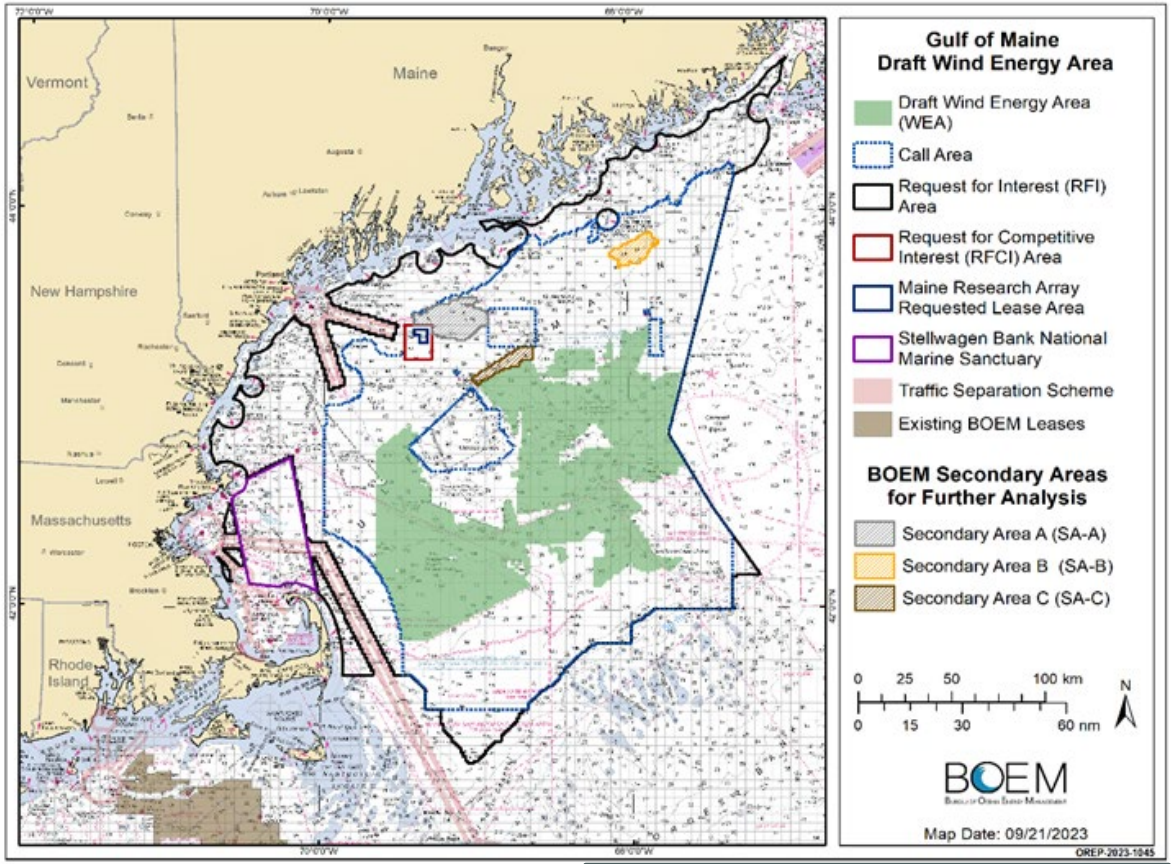
Gulf of Maine Draft WEA

- BOEM drafted Gulf of Maine WEA

-WEA determined by spatial suitability model that contained four sub-models

- Floating offshore turbines likely for entire WEA

MA goals: 10GW from GoM by 2050



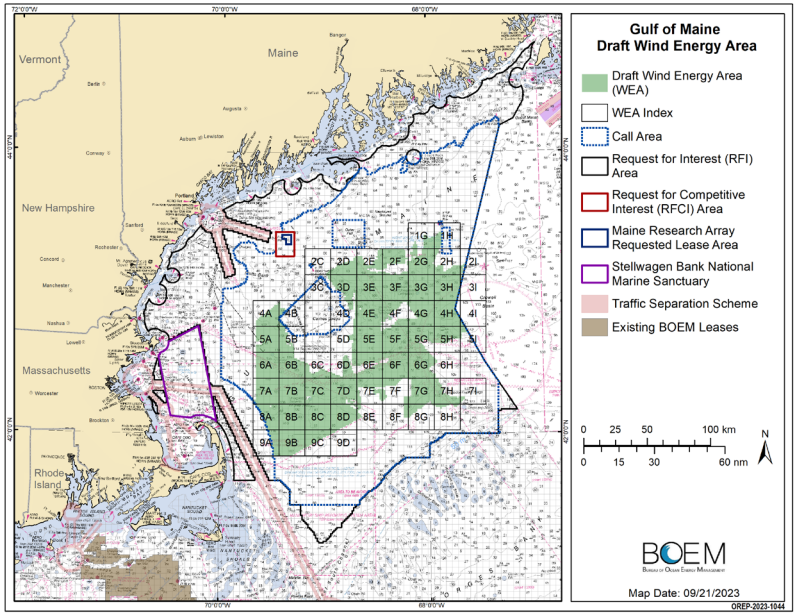
3.5 million acres

64% reduction from Call Area

Average depth 120m or 393 ft.

Earliest construction ETA: 2030

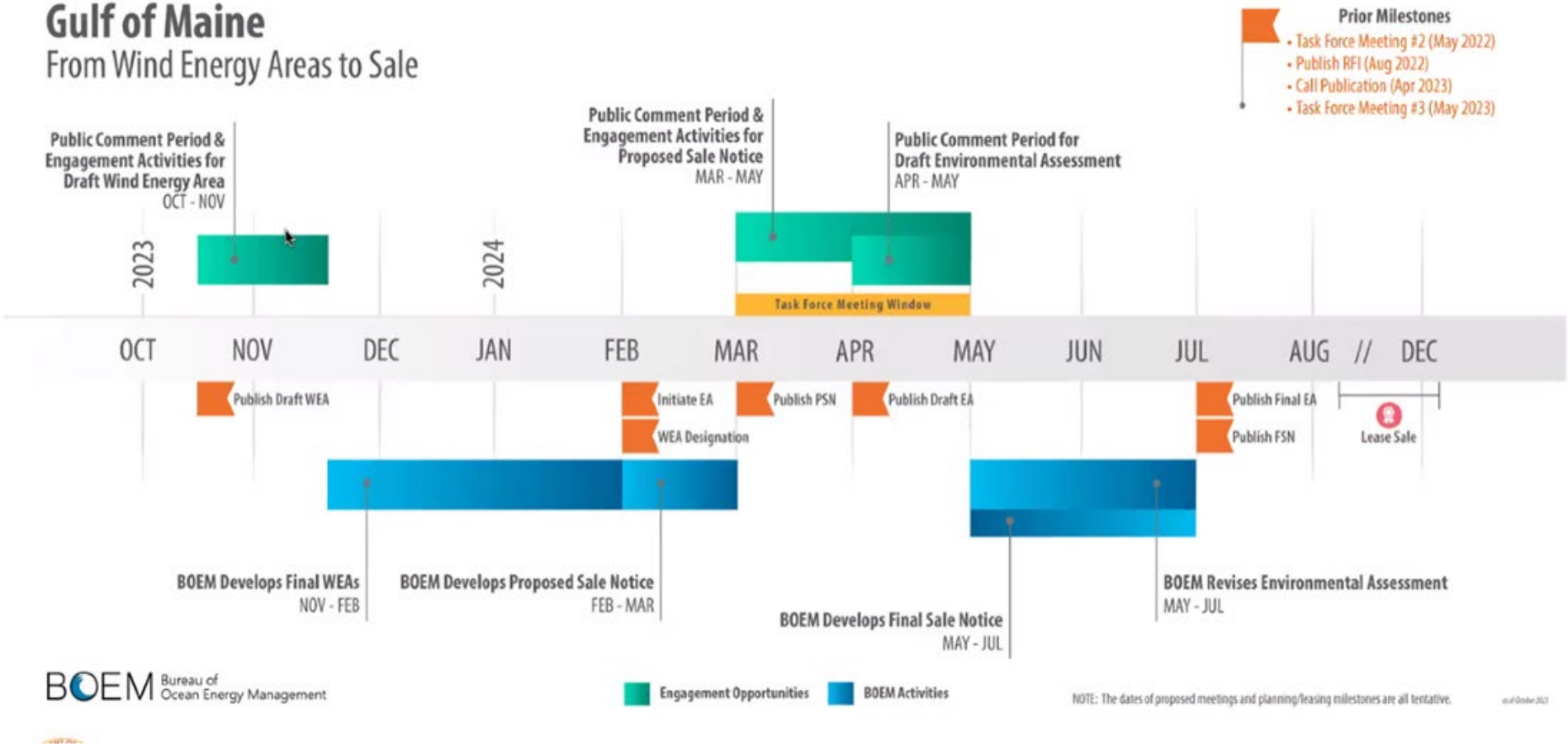
General comments from MA fishing groups on draft Gulf of Maine WEA



- Groundfish industry suggested removal of columns A,B
- Small groundfish fleet safety, flexibility, and displacement concerns within westernmost sections of WEA
- BOEM should place evidence on more recent years of VMS data to account for shifts in effort
- Larger buffers around Cashes Ledge, and around Georges Bank
- Use VMS data <4 knots to inform width of transit corridors

Next steps

- BOEM will finalize WEA by February 2024



Proposed Sale Notice Details

Proposed Sale Notice is used by BOEM to inform developers about upcoming lease auctions

Components include:

- Description of Lease Area (issues of concern)
- Fiscal terms
- Auction details and bidding procedure
- Performance requirements (environmental stipulations)
- Feedback and public comment

DMF next steps on Gulf of Maine

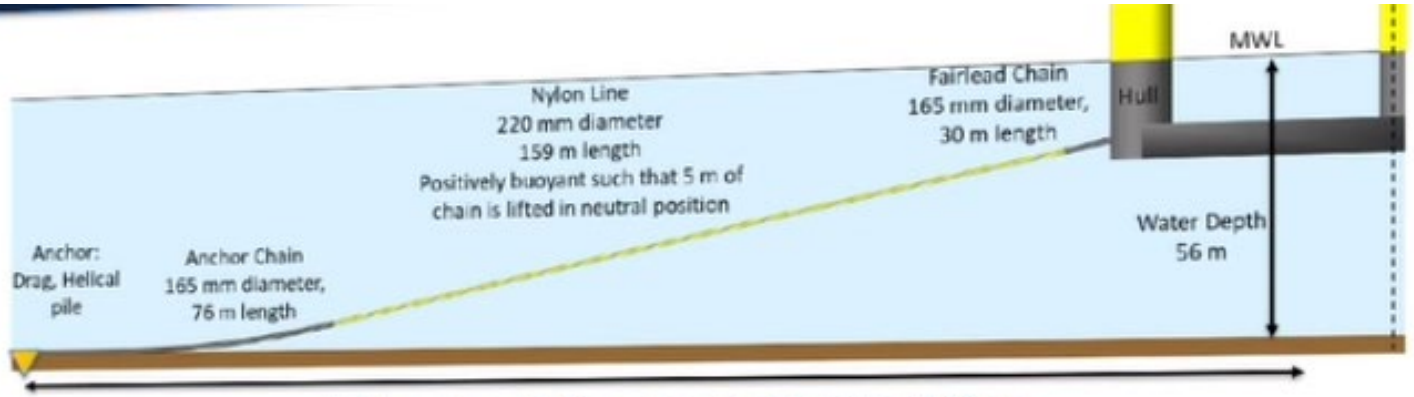
- Plan to assist CZM in prioritizing areas of most concern once final WEAs are identified
- Review and comment on BOEM compensation guidance and lease stipulations
- Identify portside impacts on groundfish fleet from VMS data
- Review bidding credits and requirements of developer constructions and operations plans

Questions

- Offshore wind updates on MA DMF Offshore Wind Website
  - https://www.mass.gov/info-details/massachusetts-division-of-marine-fisheries-offshore-wind
- Offshore wind map viewer- MA CZM
  - https://www.mass.gov/info-details/status-of-offshore-wind-lease-development-in-the-northeast-online-viewer
- Contact info
  - justin.j.bopp@mass.gov
  - (978)-619-0019 (extension 0019)

Backup slides

floating technology



Total radius = 300 m, mooring radius = 242 m

Property	General Layout
Mooring Radius	300m
Fairlead Length	10 m
Synthetic Length	159 m
Anchor Chain Length	76 m

Property	Line Properties	
Type	Chain (R3)	Nylon
Diameter (mm)	165	220
MBL (kN)	16,435	13,168
Buoyancy	-	10 kg/m

Spencer Hallowell, Ph.D., Senior Engineer
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Research, Education, and Economic Development

Floating Wind Designs

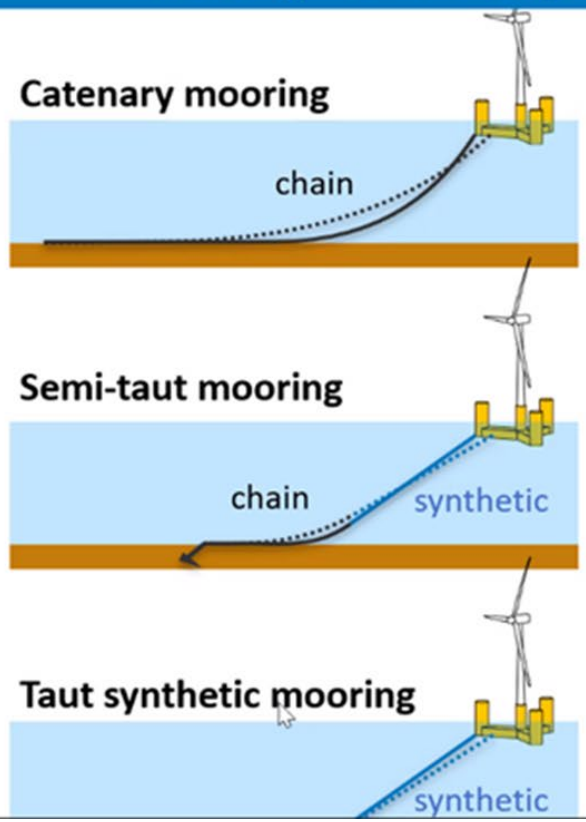
Recording

You are viewing walt musial's screen | View Options

Talking: walt musial

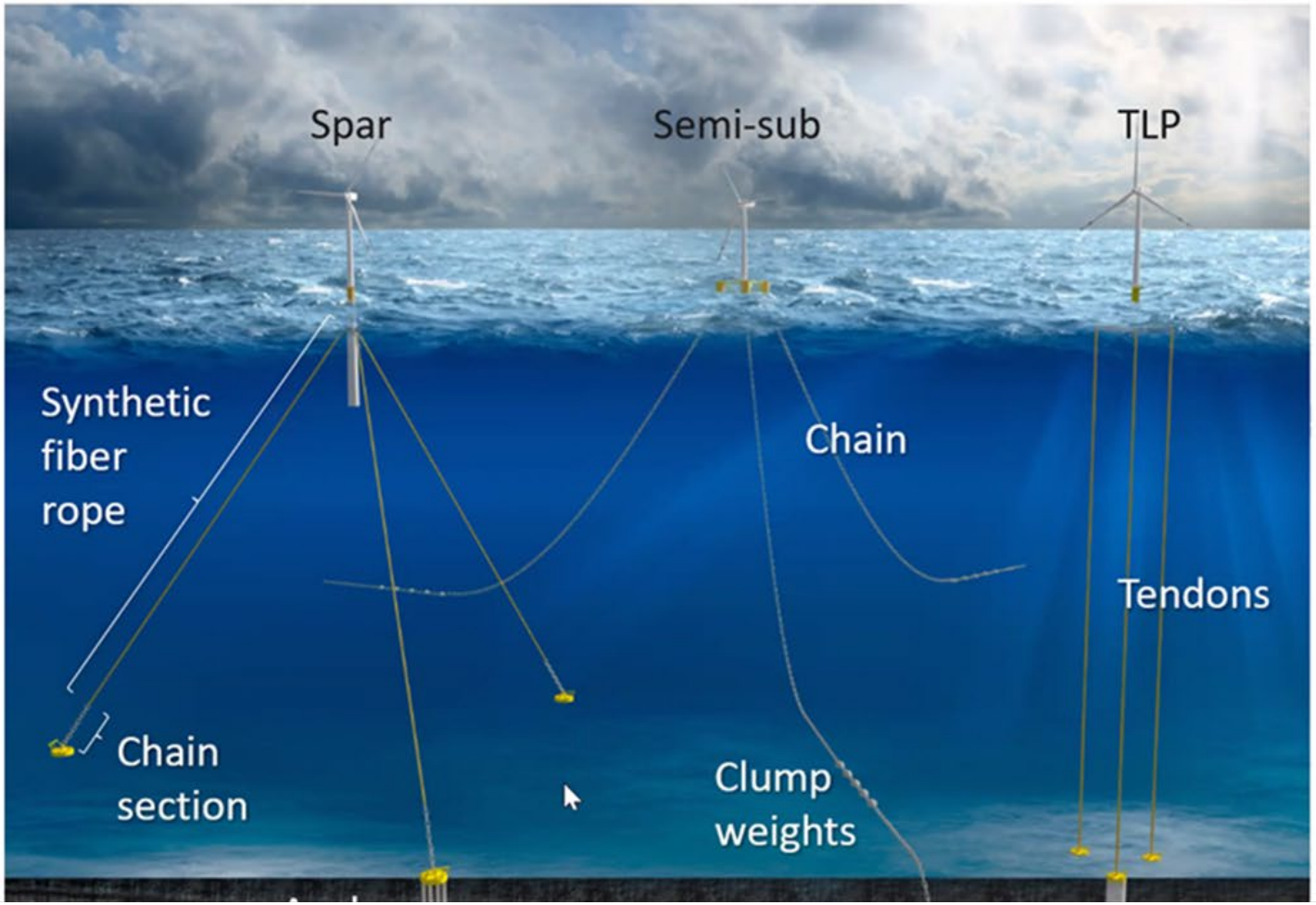
Adapting Mooring Systems for Co-existence with F

Reducing Anchor Footprints

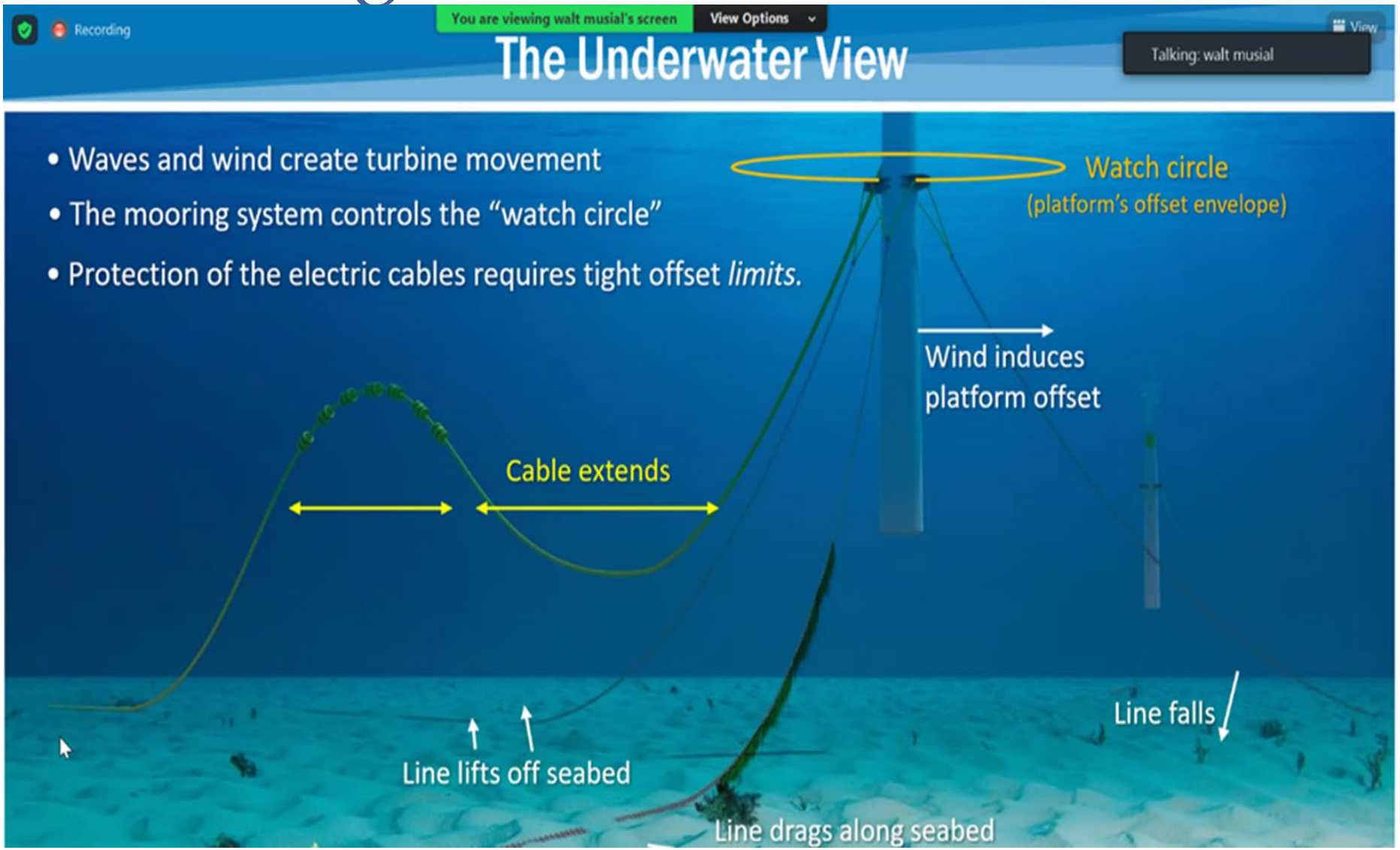


- **Catenary moorings** have the largest footprint but are the simplest.
- **Semi-taut moorings** significantly reduce the anchor distance from the turbine without changing anchor types or substructure design.
- **Taut moorings** reduce the anchor circle by more than 50% but require vertical load anchors and more

Floating Wind Designs



Floating wind underwater view



Vessel Tracking Update

Marine Fisheries Advisory Commission

December 19, 2023

Vessel Tracking Implementation

March

- DMF began outreach campaign including mailing distribution.
- Mailing included a detailed project description, requirements, vendor information, application for reimbursement, and installation affidavit

May 1

- Vessel tracking requirement for federal lobster trap permit holders landing in Massachusetts went into effect (322 CMR 7.11)

May – Now

- Hired Kiera Lawlor as Vessel Tracking Coordinator
- Affidavits and Reimbursement applications submitted and processed. All approved applications have been paid.
- Data validated and compliance with tracking requirements monitored.

Dec/Jan

- Permit renewals may be affected if permit holders have not responded to communication regarding tracking compliance.

Two devices are currently used in MA. Vendors provide ongoing support for devices.

Viatrax Boat Command

Woods Hole Group NEMO Unit

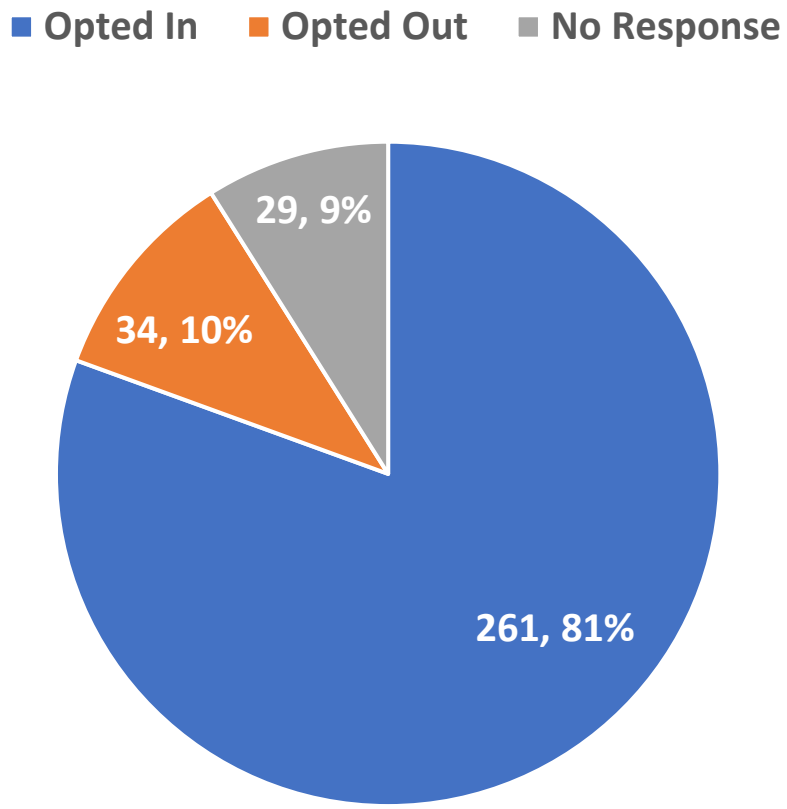
Vessel Tracking Administration

- Permit holders must certify a device is installed on their vessel or opt-out of trap fishing for the federal fishing year via an affidavit.

- DMF staff confirms each device is functioning and provides a receipt to the permit holder confirming that the device is working.
  - If data are not received, permit holders are alerted.
  - We received data from 241 vessels as of November 8th, 2023. Currently, we expect that number to be approximately 250.

- Data are validated and monitored for non-compliance regularly by reviewing a mix of trip reports, dealer reports, permit information, and tracking data.

- DMF maintains support via webpage, email, and phone.

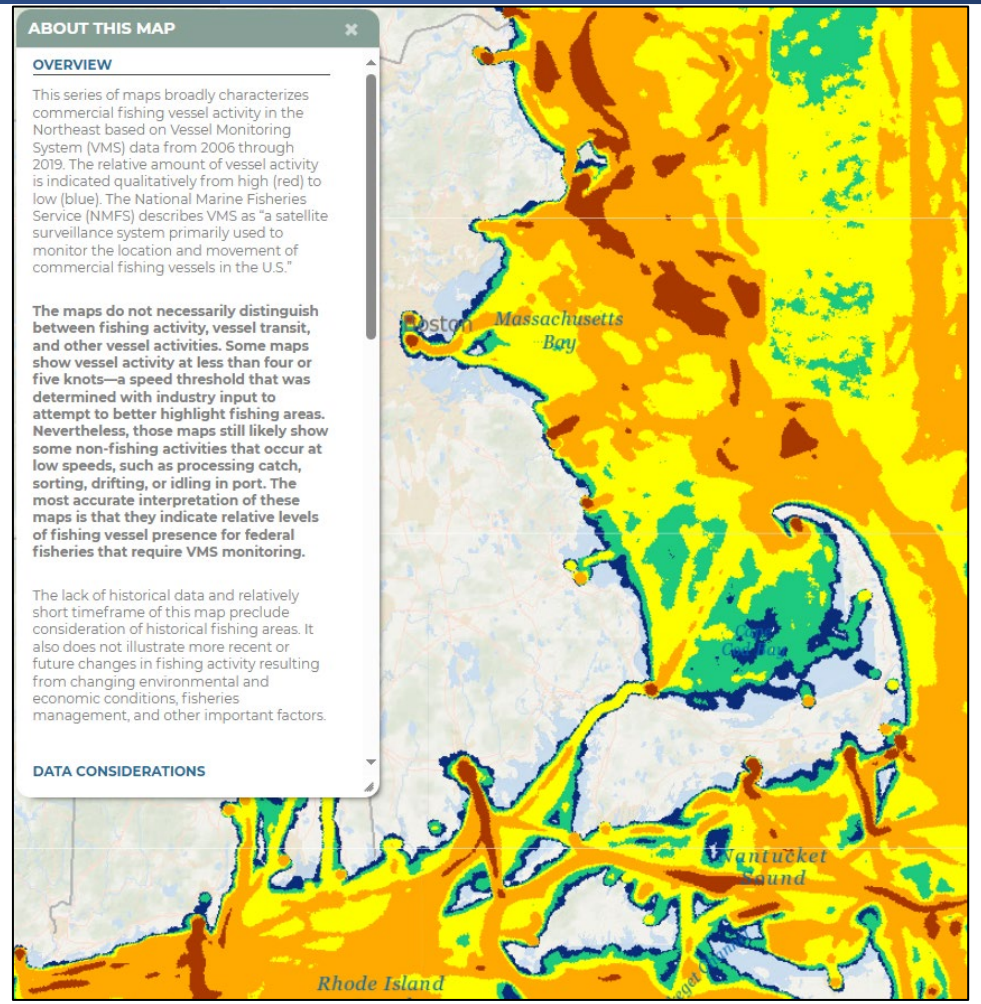


Tracking Data

- A comprehensive review of device performance will be conducted after a minimum of 1 year of data collection.
  - After this analysis, DMF will coordinate with ASMFC to inform device vendors of any performance issues and create resolutions.

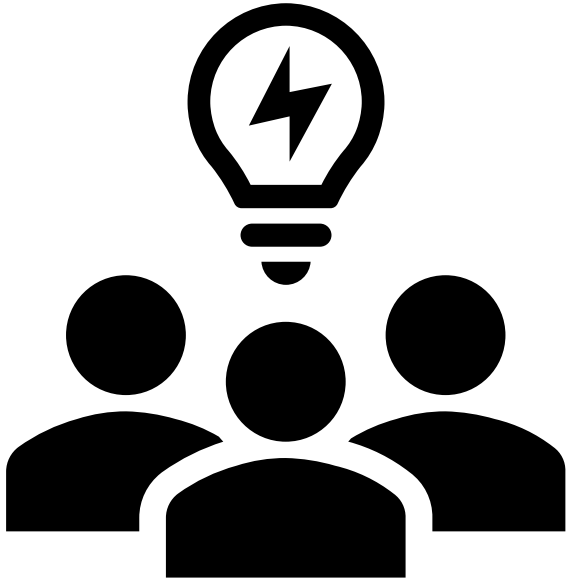
- Vessel tracking data is a large data set and kept strictly confidential.
  - Data access is restricted and monitored closely.

- DMF plans to hire a geospatial data analyst to work with vessel tracking data. The primary goals for these analyses are to:
  - Develop/use analysis tools that identify fishing effort within a track. Maine already has some initial work completed.
  - Produce and release heat maps of federal lobster trap activity. This output is expected to be similar to that presented in the Northeast Ocean Data Portal. A snapshot of all VMS vessels is displayed on the right as an example.



Screenshot taken 12/19/23 of all VMS vessels from May 2015 - May 2019 as seen in the Northeast Ocean Data Portal for Commercial Fishing. The caveat box is included for reference, and the full text can be read in the portal.

Partner Coordination



- MA is the first state to implement ASMFC Addendum XXIX vessel tracking requirements for federal lobster trap permit holders.
- DMF assisted with development and testing of ACCSP's vessel tracking application used to administer the program.
- Documents, outreach materials, and lessons learned have been shared with ASMFC and other state partners.
- DMF staff participate in the ASMFC tracking device approval working group and share nuances of each device with partners including strategies to confirm registration and evaluate device installation.
- Implementation of eVTRs for the federal lobster fishery will begin on April 1, 2024. eVTRS will facilitate monitoring tracking compliance.

Questions?

- **Contact info:**
  - **Email**: dmf.tracking@mass.gov
  - **Phone**: 978-491-6265
  - **Website**: www.mass.gov/Vesseltracking