



The Commonwealth of Massachusetts

Division of Marine Fisheries

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MEMORANDUM

TO: Marine Fisheries Advisory Commission (MFAC)
FROM: Daniel McKiernan, Director *Daniel J. McKiernan*
DATE: December 12, 2024
SUBJECT: Future Public Hearing Item—Commercial American Eel Management and Permitting

Overview

This memorandum serves to inform the MFAC of my interest to propose additional management for the state's commercial American eel fishery on yellow phase eels for 2026. I am proposing to go out to public hearing with management options that would either: 1) restrict access to the commercial fishery, or 2) institute a commercial harvest moratorium. Should a commercial harvest moratorium be enacted, DMF could consider the continued sale of eels by bait dealers provided they can provide paperwork demonstrating the product being offered for sale was harvested lawfully in another jurisdiction.

This proposal responds to the stock status of American eel and recent commercial permitting, reporting, and landings trends. DMF is concerned that the eel population has not responded positively to large reductions in commercial effort since the 1980s and that commercial permit reporting practices may not accurately be documenting current practices of using the commercial eel permit primarily to collect eels for personal use as commercial striped bass bait.

Background

Massachusetts Eel Fisheries: Harvest of American eel in Massachusetts is limited to yellow and silver phase eels (a 9" minimum size limit prohibits the harvest of elvers and the smallest of yellow eels). Such harvest may be for bait or food purposes. Harvest occurs mainly in coastal rivers and embayments between May and October. Most commercial harvest in Massachusetts is by pots, although other methods of take may include fyke nets, spearing, and angling. Note that Massachusetts Division of Fisheries and Wildlife regulations have prohibited the harvest of American eel from inland waters for personal use as bait or any commercial purpose since 2014; and there is no monitoring from which to estimate inland recreational harvest for consumption. Additional municipal controls such as permitting requirements, possession limits, and pot limits may apply in addition to the state measures discussed herein. Categories of saltwater harvest include:

1. Recreational harvest for personal use as bait or food. Such saltwater harvest is subject to DMF recreational licensing requirements and recreational possession limits. The latter includes a 25-eel recreational angler and 50-eel for-hire permit holder harvest and possession (while fishing) limit that is also applied to the vessel. Eels taken recreationally may not be used as bait for any commercial fishing activity during the same trip. MRIP provides the only source of recreational catch and effort data (limited to tidal waters). MRIP estimates for Massachusetts have very low precision but portray minor and intermittent recreational harvest.

2. Harvest under the authority of a DMF commercial permit (with eel endorsement) for personal use as bait or food. Unlike recreational harvest, there is no commercial possession limit, but several gear restrictions apply (e.g., eel pot minimum mesh size, net gear restriction in the fall to protect out-migrating silver eels). Although not sold, such harvest is still required to be reported on commercial harvester reporting forms (with distinct catch disposition codes for food or bait personal use). Based on changes in commercial permit reporting and anecdotal information, underreporting of such harvest is suspected by DMF, especially that intended for commercial bait use in other fisheries (primarily striped bass). Eels harvested under the authority of a commercial permit are not allowed to be used as bait for recreational fishing on the same trip.
3. Commercial harvest for sale as bait or food. Such harvest is required to be sold through a permitted primary buyer, and thus should be documented in dealer reporting records in addition to harvester reporting forms. Eels sold into the bait market are used in both commercial and recreational fisheries, primarily for targeting striped bass. Eels sold for food were historically for both domestic and export markets, though there is no evidence of the latter in recent years. According to NOAA Fisheries data, commercial landings (those sold) for the state peaked in the mid-1970s to early 1980s, with annual totals between 200,000–500,000 pounds, worth \$50,000–\$85,000 per year (in inflation adjusted ex-vessel value) (Figure 1). Landings subsequently declined and stabilizing around 25,000 pounds per year for about a decade. Since 1995, landings have been below 6,000 pounds annually, with an annual ex-vessel value under \$11,000. Data for multiple years are confidential due to the limited amount of activity. Based on anecdotal information, it is highly likely that some unknown quantity of eels is harvested and sold without proper harvester- or dealer-reporting. Relative to coastwide American eel yellow phase harvest, Massachusetts routinely contributes less than 1% (and is thus considered *de minimis* under the interstate FMP).

American Eel Permit Endorsement: DMF’s commercial American Eel Regulated Fishery Permit Endorsement is an open entry permit. Endorsement issuance and activity since 2001 (about when interstate management through the Atlantic States Marine Fisheries Commission began) are shown in Figure 2, alongside harvester- and dealer-reported landings data. Interestingly, the number of these open entry permits issued annually has increased steadily from less than 100 permits in 2001 to nearly 250 permits in 2023—while reported commercial landings have shown an overall declining trend. Over the last 10 years, the number of permittees reporting commercial harvest has dropped to ten or less per year, and three or less the past four years. These data raise questions about the reason for this apparent large amount of latent effort and the potential for underreporting of harvest for commercial purposes.

Stock Status: The most recent ASMFC stock assessment for American eel was a benchmark that underwent peer review in late 2022 and was accepted for management use in 2023. Since the first coastwide assessment in 2012, the assessment team has struggled with biological data limitations and the extremely complex life history of the species to assess the stock. Traditional stock assessment models that can provide biomass estimates and reference points have not been possible, and data poor methods based on trend analysis have been used.

The 2023 assessment concludes that the stock is depleted and at or near historically low levels due to a combination of historical overfishing, habitat loss, food web alterations, predation, turbine mortality, environmental changes, toxins and contaminants, and disease (consistent with the results of the 2012 and 2017 stock assessments). Despite exploring additional approaches for assessing American eel that were suggested in past stock assessments, overfished and overfishing determinations still could not be made due to data limitations. However, the 2023 stock assessment found that the yellow eel population has declined since the previous assessment (2017) and recommended reducing yellow eel harvest.

In response to the assessment, the American Eel Management Board reduced the coastwide cap for yellow eel commercial landings through Addendum II to the Interstate FMP in 2024. Unlike previous assessments, the 2023 assessment identified an index-based tool to provide management advice. Using this tool (“I_{TARGET}”), the yellow eel cap was reduced from 916,473 pounds (based on historical harvest) to 518,281 pounds, a 43% reduction. If the coastwide cap is exceeded by 10% for two consecutive years, then states with landings greater than 1% of the coastwide total in the year(s) when the management trigger is tripped will be responsible for reducing their landings to achieve the coastwide cap in the subsequent year. With coastwide landings declining, it’s feasible that Massachusetts yellow eel landings could increase to be more than 1% of coastwide harvest with only a small increase in fishery participation or better reporting.

Proposal

My proposal would have two options:

1. a) Adopt a December 31, 2024 control date for the American Eel Endorsement;
b) Cease the issuance of new American Eel Endorsements and limit renewals in 2026 to those that meet a minimum level of activity prior to the control date (examples in Table 1) (note: must have held an American Eel Endorsement in 2024 and 2025 to meet this criteria); and
c) Consider making the endorsements non-transferable and owner-operator; **or**
2. Establish a commercial fishery moratorium for American eel (no sooner than 2026).

Table 1. Preliminary Number of Eel Endorsements Eligible for Renewal in 2026 Under Proposed Range of Landings Criteria. Permit holder landings history based on harvester records. Results are out of the 234 Eel Endorsements issued in 2024. 2024 harvester data not yet available but would be included for final determination. Data subject to change.

Reference Period	Landings Threshold	
	1 lb sold in any year	1 lb sold or kept for personal use in any year
January 1, 2015–December 31, 2024 (10 years prior to control date)	7	9
January 1, 2020–December 31, 2024 (5 years prior to control date)	3	3

Rationale

The yellow eel population of American eels is in need of additional protection as determined by the most recent stock assessment. While Massachusetts’ reported contribution to the coastwide harvest of yellow eels may excuse us from participating in additional anticipated interstate management, our permitting trend of increased issuance without reported catch—plus DMF biologists’ observations of fishing activity—suggests that underreporting of commercial harvest is occurring to some unknown extent. This is likely a long-standing, but apparently worsening, situation that presents accountability and conservation concerns. Activation of any truly latent permits or other new effort would also undermine interstate goals of reducing yellow eel harvest. The part of the fishery that is being recorded has eroded to such a degree that it no longer represents an economically viable commercial industry, and the administration and enforcement of the commercial fishery is out of balance with the limited benefit of its existence. Finally, American eel provides a valuable forage source for a wide range of important commercial and recreational marine fish, especially at juvenile life stages. It is in the interest of marine resource management to protect and improve the eel stock status also for forage contributions.

Consequently, I am considering two alternative paths to modify or eliminate the commercial yellow eel fishery in Massachusetts which differ in their timeline for achieving this result. For a more immediate result, DMF could establish a commercial fishery moratorium (as early as 2026). Very few harvesters would be affected based on the number of permits with reported landings, and the economic impact on those affected appears minor based on the magnitude of reported catch and value. With the adoption of a commercial harvest moratorium, regulations would also be needed to require documentation for legally imported eels to be sold by bait dealers.

Alternatively, if there is interest to grant historical users continued access, DMF could limit entry to the fishery through the adoption and application of a control date that removes all but active permits from the permit pool. This proposal would include making the remaining endorsements non-transferable and owner-operator such that permit issuance will decline and eventually cease upon retirement of the permit holder from fishing activity. The resulting level of fishing activity would likely maintain state landings below the 1% contribution to coastwide landings needed to avoid additional interstate management while still contributing to the interstate goals of reduced yellow eel harvest as the fishery comes to its sunset.

Under either approach, anglers could still harvest American eel under the recreational limit for personal use; however, if to be used as bait in commercial fishing, that activity is not allowed to occur on the same trip.

Figure 1. Massachusetts American Eel Commercial Landings and Value of Sold Fish, 1950–2022*.
Source: NOAA Fisheries query tool, 11/5/24.

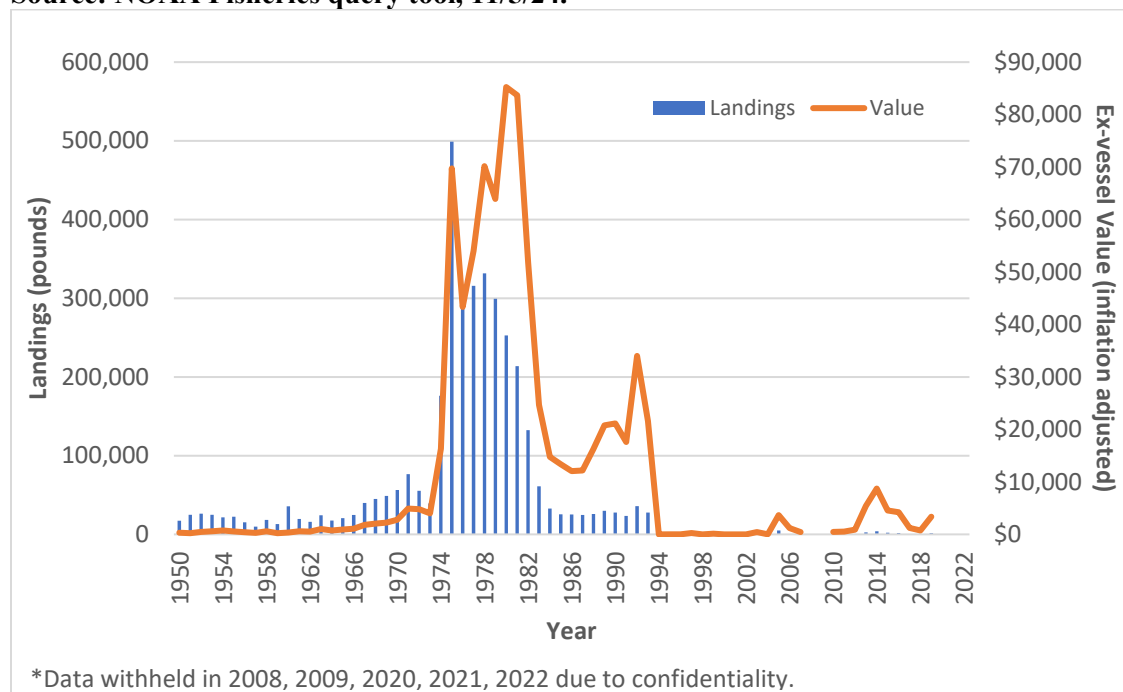


Figure 2. Massachusetts American Eel Endorsement Issuance and Reported Activity, 2001–2023*.
Source: Harvester and dealer reporting records.

