



The Commonwealth of Massachusetts

Division of Marine Fisheries

251 Causeway Street, Suite 400, Boston, MA 02114

p: (617) 626-1520 | f: (617) 626-1509

www.mass.gov/marinefisheries



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Governor

KARYN E. POLITO
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Secretary

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DANIEL J. MCKIERNAN
Director

MEMORANDUM

TO: Marine Fisheries Advisory Commission (MFAC)

FROM: Daniel J. McKiernan, Director 

DATE: August 12, 2022

SUBJECT: **Petition to Adjust Schedule to Increase Whelk Gauge Width**

Overview

I plan to take to public hearing a petition to adjust the schedule to increase the whelk gauge size so that they occur every third-year rather than every other year. I shared this petition with you earlier this spring and indicated my intent to bring it out to public hearing this fall for a potential rule change prior to April 15, 2023—the start of next year’s conch pot fishery and the effective date of the next pending gauge increase.

Background

For more than a decade, DMF has been concerned about the status of the state’s whelk resource, particularly channeled whelk. These concerns were driven by a rapid escalation of catch and effort in the pot fishery during the early 2000s and 2010s (likely in response to declining inshore lobster resource south and west of Cape Cod); life-history traits making the resource prone to becoming overfished; and fishery dependent data (e.g., reduced catch per unit effort and truncation of catch around minimum size) indicating localized depletion was occurring.

In response, DMF initiated two size-at-maturity studies (2011 and 2015). The studies found that in Nantucket Sound—the principal harvest area—female whelks began to reach sexual maturity at a shell width of approximately 3 5/8” and reached 50% maturity at a shell width of about 3 7/8”. Size-at-maturity data was similar, albeit with animals reaching maturity slightly smaller shell width, in other important harvest areas (i.e., Buzzards Bay and Vineyard Sound). Moreover, the existing minimum size management program did not protect any sexually mature female whelks. Then in 2019, DMF completed a stock assessment for channeled whelks in Nantucket Sound, which found the whelk resource to be overfished with overfishing occurring.

As a result of this scientific work, DMF and the MFAC implemented changes to the state’s minimum size management program. Most recently, in 2019, new regulations were implemented to increase the whelk gauge width by 1/8” every other year until 2029 resulting in a terminal gauge size of 3 5/8” (Table 1). The 3 5/8” terminal gauge width corresponds to a 3 7/8” shell width, the size that DMF’s study found 50% of female whelks to be sexually mature.

As catch had truncated around the minimum size and these animals are slow growing, large increases to the minimum size would have severe economic impacts on this important inshore fishery. Therefore, any immediate increases to bring size-at-harvest to a level where it would protect any female spawning stock would produce substantial economic impacts. Accordingly, DMF opted for a gradual approach to increasing the size-at-harvest and recommended a ten-year schedule with biennial 1/8" increases to allow for a recoupment of some harvest between gauge increases.

Table 1. Schedule for Whelk Gauge Increases, Corresponding Shell Widths at 50% Retention, and Percentage of Mature Female Whelks at Shell						
	2019	2021	2023	2025	2027	2029
Chute Gauge Width	3"	3 1/8"	3 1/4"	3 3/8"	3 1/2"	3 5/8"
Shell Width at 50% Legal	3 3/16"	3 5/16"	3 7/16"	3 5/8"	3 3/4"	3 7/8"
Percent Female Size at Maturity	0%	0%	0%	5%	20%	50%

This past spring, DMF received a petition from the Massachusetts Conch Association, who represent members of the inshore conch pot fishery for channeled whelks and wholesale seafood dealers who process whelks. The petitioners argue the fishery is experiencing severe declines in landings and participation that coincide with the current gauge width schedule and are concerned that the continued decay of this fishery may result in the loss of shoreside infrastructure necessary to support it moving forward. To offset this economic impact, the petitioners seek to add an additional year between gauge width increases (Table 2). They also argue this change would provide for additional time to study various environmental and biological factors that may be impacting the whelk resource and improve fishery management.

Table 2. Comparison of Current and Proposed Gauge Schedules and Percent of Mature Females at Gauge Size					
Current Schedule	2021 – 2022 3 1/8"	2023 – 2024 3 1/4"	2025 – 2026 3 3/8"	2027-2028 3 1/2"	2029 3 5/8"
Proposed Schedule	2021 – 2023 3 1/8"	2024 – 2026 3 1/4"	2027 – 2029 3 3/8"	2030-2032 3 1/2"	2033 3 5/8"
Percent Size at Maturity	0%	0%	5%	20%	50%

Ultimately, DMF's whelk gauge size management approach was designed to be gradual to offset potential economic impacts. Consistent with that, I do not object to taking this petition out to public hearing for public comments. The petitioned change will delay milestones for protected female spawning stock. However, I think it is appropriate to consider the impacts of such delays against the concerns about the long-term viability of the fishery and claims that shoreside infrastructure is at risk.