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 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

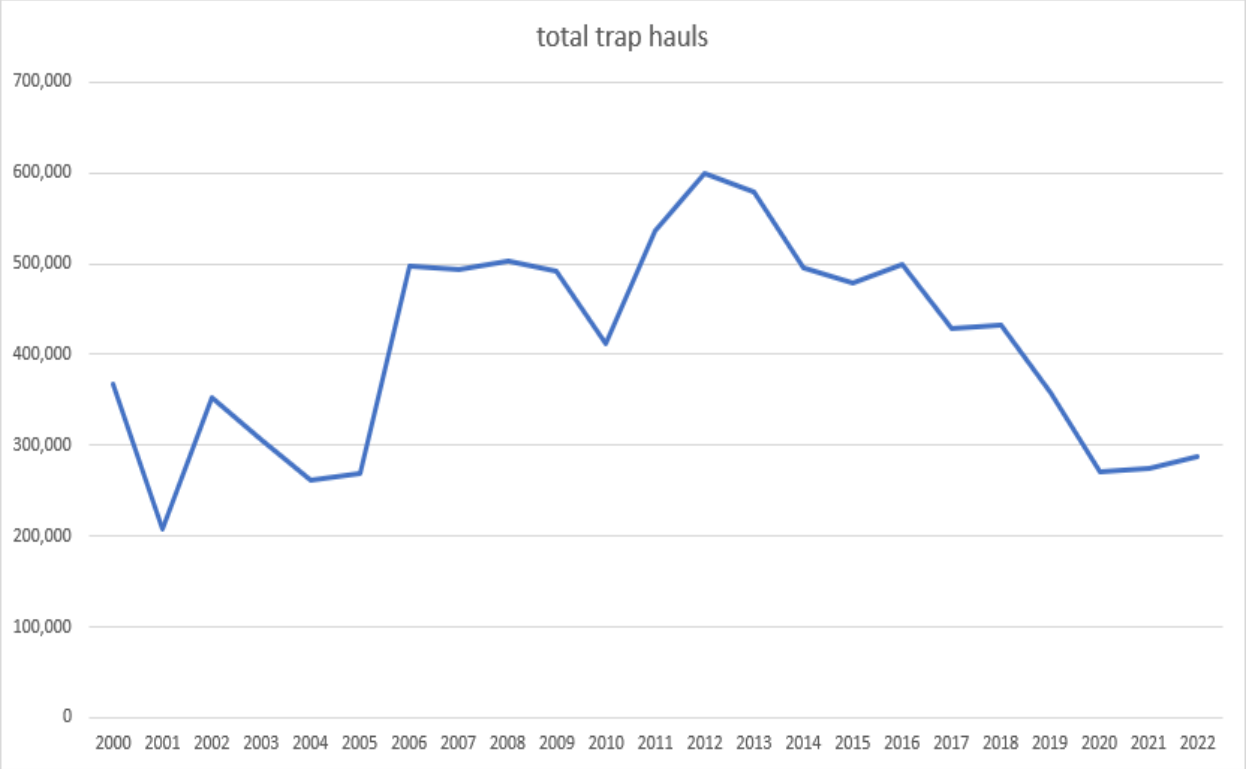
SOURCE: SAFIS Dealer Reports, 12/4/2023, ED

[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