

Atlantic States Marine Fisheries Commission

Northern Shrimp Section

*May 1, 2018
4:00 – 5:00 p.m.
Arlington, Virginia*

This meeting will be available to the public via conference call. Information to connect to the telephone line are below:

Telephone: 1-888-394-8197, passcode: 499811

Draft Agenda

The times listed are approximate; the order in which these items will be taken is subject to change; other items may be added as necessary.

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| 1. Welcome/Call to Order (<i>S. Train</i>) | 4:00 p.m. |
| 2. Section Consent | 4:00 p.m. |
| • Approval of Agenda | |
| 3. Public Comment | 4:05 p.m. |
| 4. Discuss Potential Inclusion of a Second Management Issue in Draft Addendum I to Extend Current Fishing Season Range in FMP | 4:15 p.m. |
| 5. Other Business/Adjourn | 5:00 p.m. |

The meeting will be held at the Westin Crystal City, 1800 S. Eads Street, Arlington, Virginia; 703.486.1111

Vision: Sustainably Managing Atlantic Coastal Fisheries



Atlantic States Marine Fisheries Commission

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MEMORANDUM

TO: Northern Shrimp Section
FROM: Megan Ware, FMP Coordinator
DATE: April 13, 2018
SUBJECT: Briefing Document for Discussion on Northern Shrimp Fishing Season

At their May 1st meeting, the Northern Shrimp Section is scheduled to discuss the potential of adding a second issue to Draft Addendum I. This second issue would consider extending the current fishing season in order to provide a greater opportunity for fishermen to harvest age 4-5 shrimp which have already dropped their eggs. The following memo provides information on the timing of egg hatch, recent fishing seasons, and migration patterns. It is intended to synthesize applicable information ahead of the Section's discussion.

Current Fishing Season

Per Amendment 3, the Section may establish a fishing season to occur anytime between December 1 and May 31.

Egg Hatch Timing and Duration

The timing of northern shrimp egg hatch varies annually, but typically occurs in the months of February and March. Figure 1 shows the timing and duration of egg hatch in the Gulf of Maine, based on the day of year. In 2015 and 2016, most of the female shrimp were still carrying eggs in late January and early February, but had hatched off their eggs by the middle of March. In 2017, the egg hatch midpoint was February 21, earlier than 2015-2016 but still within the historical time series range. With the exception of a few years, the figure does show that, on average, egg hatch in the Gulf of Maine is typically 90% complete around the 80th day of the year (~March 20th). For reference, May 31st is the 151st day of the year.

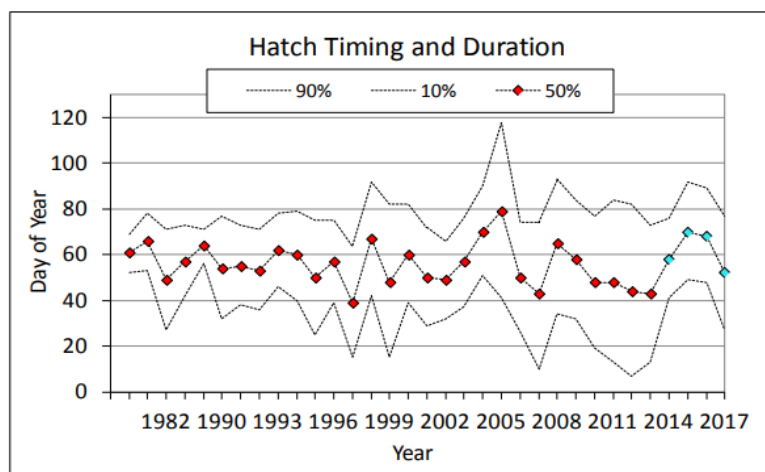


Figure 1: Timing and duration of egg hatch for Gulf of Maine northern shrimp. Turquoise points indicate winter sampling done by the states while the fishery was closed. (Source: 2017 Stock Status Report)

The timing of egg hatch can exhibit regional trends, with hatch typically beginning earlier in the western Gulf of Maine and later in the eastern Gulf of Maine. Using 2017 as a case study, samples taken on trawl vessels show that the approximate day of the year corresponding with 50% egg hatch was day 36 in Massachusetts, day 47 in western Maine, and day 58 in eastern Maine.

Distribution of Landings by Month and Season

The harvest of Gulf of Maine northern shrimp has typically occurred in late winter, with some catch reported in early spring. Table 1 shows the catch, in metric tons, of northern shrimp by fishing year, state, and month. Given management action can impact the timing and magnitude of harvest, the fishing season and landing day restrictions are also listed. The table includes information from 2006 through 2013, and does not include more recent years given the moratorium in the fishery.

Table 1: Distribution of landings (metric tons) in the Gulf of Maine northern shrimp fishery by fishing year, state, and month (2006-2013). (Source: 2017 Stock Status Report¹)

	<u>Dec</u>	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Other</u>	<u>Season Total</u>
2006 Season, 140 days, Dec 12 - Apr 30								
Maine	144.2	691.6	896.9	350.8	118.0			2,201.6
Mass.	conf	conf	30.0	conf	conf			30.0
N.H.	3.4	27.9	9.6	50.3	conf			91.1
Total	147.6	719.5	936.5	401.1	118.0	0.0	0.0	2,322.7
2007 Season, 151 days, Dec 1 - Apr 30								
Maine	761.9	1,480.5	1,590.4	481.9	154.2	0.4	0.03	4,469.3
Mass.	conf	27.5	conf	conf				27.5
N.H.	52.5	222.6	81.6	26.1	conf			382.9
Total	814.4	1,730.6	1,672.0	508.1	154.2	0.4	0.0	4,879.7
2008 Season, 152 days, Dec 1 - Apr 30								
Maine	408.6	1,053.6	2,020.4	983.8	49.3		0.1	4,515.8
Mass.	conf	conf	15.4	14.5				29.9
N.H.	94.2	123.7	161.6	37.4	conf			416.8
Total	502.7	1,177.3	2,197.3	1,035.7	49.3	0.0	0.1	4,962.4
2009 Season, 180 days, Dec 1 - May 29								
Maine	134.6	595.9	988.2	560.1	34.9	1.8	0.2	2,315.7
Mass.& NH	conf	112.9	72.6	conf	conf			185.6
Total	134.6	708.8	1,060.8	560.1	34.9	1.8	0.2	2,501.2
2010 Season, 156 days, Dec 1 - May 5								
Maine	264.1	1,689.2	2,956.0	524.3	254.4	33.0	0.4	5,721.44
Mass.	conf	16.9	18.2	conf	conf			35.1
N.H.	112.8	152.4	200.0	14.2	27.4	conf		506.8
Total	376.9	1,858.6	3,174.2	538.5	281.8	33.0	0.4	6,263.3
2011 Season, 90 days, Dec 1 - Feb 28								
Maine	722.7	2,572.2	2,274.3	0.5				5,569.7
Mass.	20.8	100.9	74.7					196.4
N.H.	93.1	304.0	234.4					631.46
Total	836.6	2,977.0	2,583.4	0.5	0.0	0.0	0.0	6,397.5
2012 Season, Trawling Mon,Wed,Fri, Jan 2- Feb 17 (21 days); Trapping Feb 1-17 (17 days)								
Maine	0.5	1,130.6	1,088.2	0.5				2,219.9
Mass.		58.4	19.4					77.8
N.H.		119.2	68.6					187.8
Total	0.5	1,308.2	1,176.2	0.5	0.0	0.0	0.0	2,485.4
2013 Season, Trawling 3 to 7 days/wk, Jan 23 - Apr 12 (54 days); Trapping 6 or 7 days/wk, Feb 5 - Apr 12 (62 days)								
Maine		64.9	179.7	42.5	2.6			289.7
Mass.		5.3	8.9	4.7				18.9
N.H.		13.8	16.3	6.9	conf			36.9
Total	0.0	84.0	204.9	54.1	2.6	0.0	0.0	345.5

¹ Atlantic States Marine Fisheries Commissioner. 2017 Stock Status Report for Gulf of Maine Northern Shrimp (*Pandalus borealis*). http://www.asmf.org/uploads/file/5a1deb972017NorthernShrimpAssessment_Final.pdf

Spawning and Migration Patterns of Northern Shrimp

Female northern shrimp exhibit seasonal migration patterns, in which they move inshore during the fall and winter months, and return offshore in the spring and summer months. Females typically extrude eggs in the early fall before they migrate inshore in the late autumn to hatch their eggs. Once the eggs are hatched (see above: *Egg Hatch Timing and Duration*), females can migrate back offshore to rejoin the younger males and repeat the spawning process. Juveniles often remain in coastal waters for a year or more before migrating to offshore waters, where they mature as males. Spawning between males and females typically takes place in offshore waters, beginning in July. (Source: 2017 Stock Status Report)

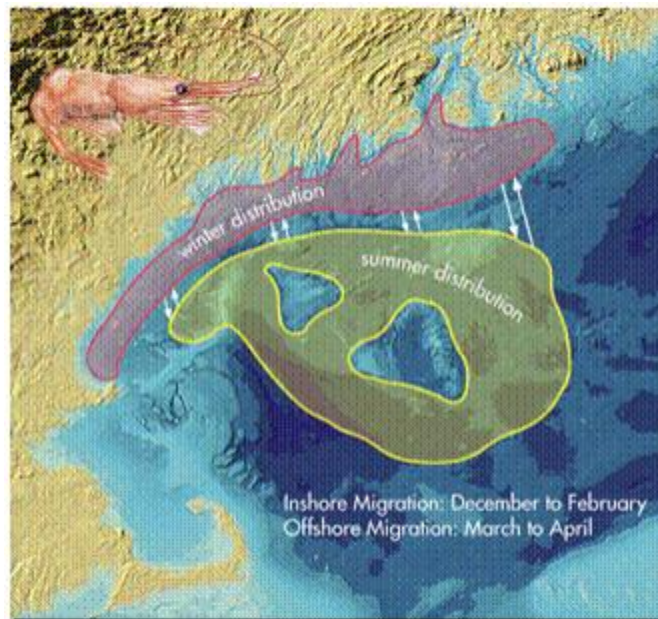


Figure 2: Distribution of adult female northern shrimp. (Source: North Atlantic Marine Alliance, 2006)²

² North Atlantic Marine Alliance (NAMA). 2006. Ecosystem relationships in the Gulf of Maine — combined expert knowledge of fishermen and scientists. NAMA Collaborative Report 1:1–16, 2006.