



# Atlantic States Marine Fisheries Commission

## NEWS RELEASE

*Vision: Sustainably Managing Atlantic Coastal Fisheries*

FOR IMMEDIATE RELEASE  
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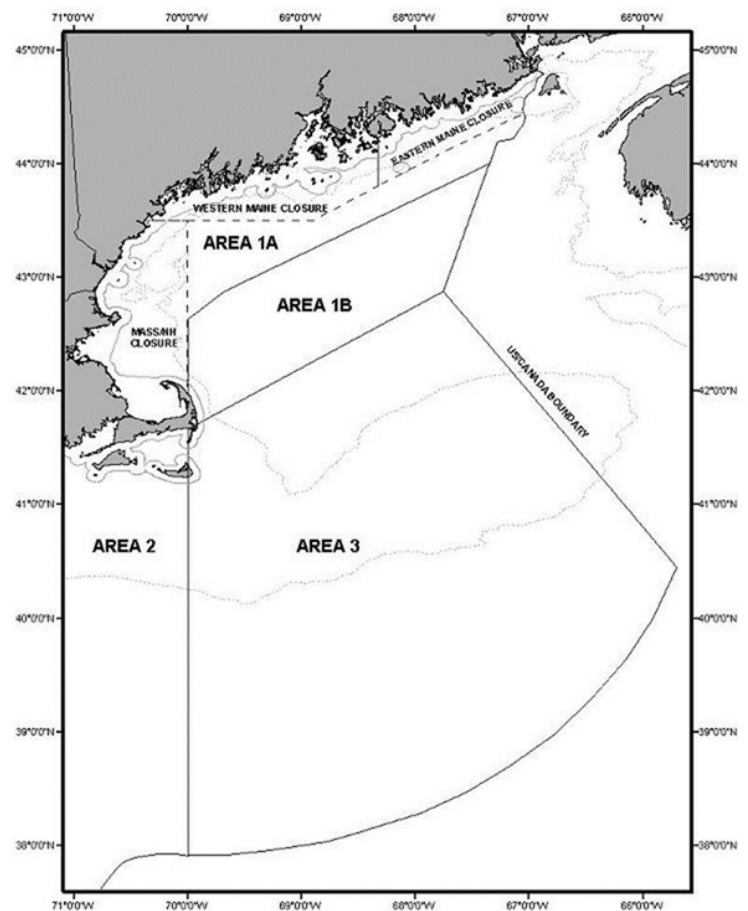
### ASMFC Atlantic Herring Section Launches New Website on Atlantic Herring Area 1A Spawning Monitoring System

Arlington, VA – In May, the Commission’s Atlantic Herring Section approved the continued use of the GSI<sub>30</sub>-based forecast system to predict when the population will be spawning and when spawning closures should be set based on the development of herring gonads (reproductive organs) in Area 1A (inshore Gulf of Maine). GSI stands for gonadosomatic index and in its simplest terms assesses the onset of spawning based on the ratio of the weight of a female herring’s ovaries to its body weight. This new system, which was successfully piloted in 2016, uses the observed rate of increase in GSI to predict when spawning will occur and when the fishery will be closed. This replaces an earlier system that simply closed the fishery when the observed GSI was above a threshold value.

Stakeholders can see the spawning forecast model in real time here:

<https://www.massmarinefisheries.net/herring/>.

Atlantic herring spawn in the late summer or early fall of each year. The timing of this event can vary by several weeks, which necessitates sampling the population each year to determine when the spawning closure should occur. Once three samples have been collected that show a



**Figure 1. Map of the Eastern Maine, Western Maine, and Massachusetts-New Hampshire Atlantic Herring Spawning Areas.**

The Atlantic States Marine Fisheries Commission was formed by the 15 Atlantic coastal states in 1942 for the promotion and protection of coastal fishery resources. The Commission serves as a deliberative body of the Atlantic coastal states, coordinating the conservation and management of nearshore fishery resources, including marine, shell and anadromous species.

positive progression in gonadal development, a forecasted closure date can be determined by projecting forward when the population is likely to cross the spawning threshold. This forecasted closure date is continuously updated as new samples are acquired, and the closure is finally set within 5 days of the forecast date.

If not enough samples can be collected to forecast a closure date, a default closure date will go into effect. This date varies slightly by region:

- Eastern Maine: August 28<sup>th</sup>
- Western Maine: October 4<sup>th</sup>
- Massachusetts-New Hampshire: October 4<sup>th</sup>

Whether initiated by the forecast model or a default date, the spawning closure lasts four weeks. If more than 25% of sampled fish are still in spawning condition when the fishery is reopened, the fishery will reclose for another two weeks.

For more information, please contact Toni Kerns, ISFMP Director, at [tkerns@asmfc.org](mailto:tkerns@asmfc.org) or 703.842.0740.



## KEY TERMS

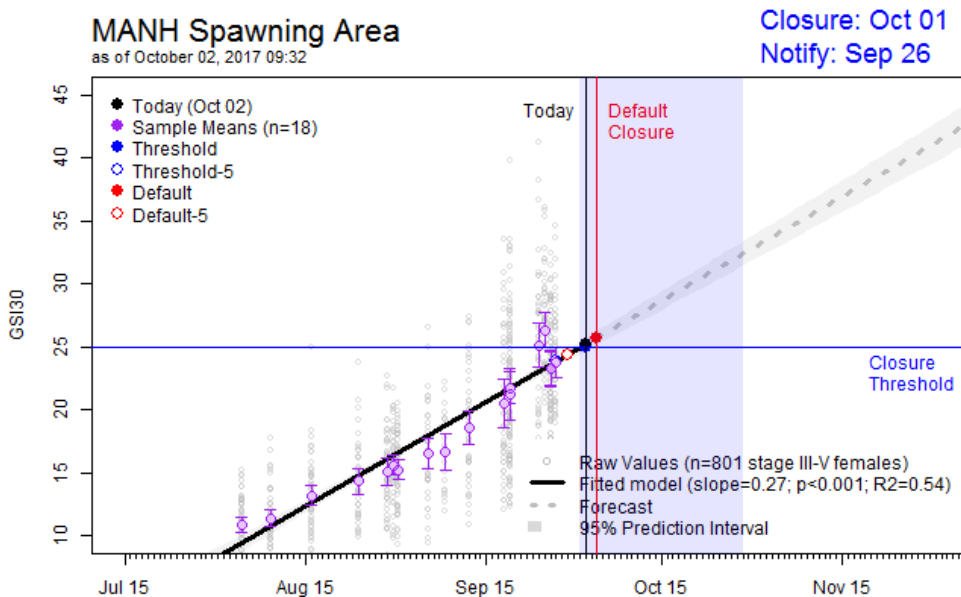
### *GSI (Gonadosomatic Index):*

The ratio of a female fish's ovary weight to its body weight. This value increases in a predictable way as female fish approach spawning.

**Forecasted Closure Date:** The date when GSI is projected to exceed the GSI trigger value. It is used as the starting date for the spawning area closure (assuming there is enough data to allow for a prediction).

**GSI Trigger Value:** When the forecasted GSI crosses this value, the spawning area closure begins. A value near the high end of observed GSI for mature female fish was selected by the ASMFC herring section, because it represents a compromise between protecting pre-spawning fish and providing adequate coverage for the majority of the population.

**Default Closure Date:** A preselected date at which the spawning closure begins, if not enough samples have been collected to forecast a closure date. This represents the average date when population has crossed GSI Trigger Value in past years.



**Figure 2. Modeling Projection of the Spawning Area Closure Date for Massachusetts-New Hampshire.** Similar projections can be found for Eastern and Western Maine at <http://www.massmarinefisheries.net/herring/>. All projections on this webpage may be updated due to new data.

Key: The purple points show the average GSI of female fish on each day they are sampled and are used to plot a line predicting average GSI for the population over the next couple months. The GSI trigger value (closure threshold) is a preselected GSI value, and when the population's average GSI crosses that threshold, the spawning area closure begins. If not enough samples can be collected by the time the default closure date comes, that is the date used for the start of the spawning area closure.