



COLIN ROBSON

ATLANTIC HERRING

A Keystone Species in the Northwest Atlantic

The Atlantic herring (*Clupea harengus*) is one of the most important fishes in New England.

This energy-rich species plays a vital role in the region's marine ecosystem, serving as food for many of the ocean's key predators. Recent research reveals that predators can consume 300,000 tons of herring a year—roughly three times the amount caught by fishermen annually. Given the major role herring play in the food chain, managers need to take into account the needs of predators when setting fishing limits for herring.

Source: Overholtz, W.J., and J.S. Link. 2007. *ICES Journal of Marine Science* 64:83-96.

Decade of Decline

While herring may appear abundant, their numbers have declined in the past decade. And many of their major predators are now depleted. If predator populations are to rebound, the availability of major food sources—such as herring—must increase. Careful and cautious management is critical not only to the health of herring populations, but also to the ocean predators that depend on them.



Herring abundance fell 24 percent between 2000 and 2008, according to the 2009 stock assessment update.

Source: Shepherd, G., et al., 2009. TRAC Reference Document 2009/04, Table 19, p. 26.

Predators in Peril



KEITH ELLENBOGEN

Atlantic bluefin tuna

Thunnus thynnus

Status: Overfished

One of the ocean's top predators, giant bluefin tuna migrate thousands of miles to feed on herring in New England waters. Declines in landings of bluefin tuna and in the health of those tuna caught coincided with the arrival of an industrial-scale midwater trawl fleet that depleted herring schools in inshore waters.

Source: Golet, W.J., et al., 2007. *NOAA Fishery Bulletin* 105:390-395.



BHWW.CO/LILLED WHALE

Humpback and fin whales

Megaptera novaeangliae and *Balaenoptera physalus*

Status: Endangered

These massive animals rely on abundant schools of herring to fuel their long oceanic migrations. Industrial-scale fishing along the inshore Gulf of Maine may have contributed to declines in reported whale sightings.

Sources: Endangered Species Act of 1973; Weinrich, M.T., et al., Abstracts of the 16th Biennial Conference on the Biology of Marine Mammals, Dec. 12-16, 2005.



DIETER CRAASMANN

Atlantic cod

Gadus morhua

Status: Overfished

Atlantic cod are a top predator of herring. However, the abundance of adult Georges Bank cod has dropped by more than 80 percent in the last three decades. With recovery plans in place, cod populations are expected to increase, provided they have enough food, including herring, to support their growth.

Sources: National Marine Fisheries Service; Northeast Fisheries Science Center. 2008. NEFSC Reference Document 08-15.



ALEXANDER PERRY

Atlantic puffin

Fratercula arctica

Status: Threatened

Puffins and other seabirds in the Gulf of Maine rely on abundant herring for successful breeding and reproduction. However, studies conducted in 2005 suggested that the availability of herring for nesting colonies had declined and could be linked to increased harvesting by highly efficient midwater trawlers.

Sources: Maine Department of Inland Fisheries and Wildlife Endangered Species Program; National Audubon's Seabird Restoration Program, Egg Rock Update 2005, p. 4.

The Herring Alliance is a growing coalition of environmental and public interest organizations dedicated to protecting and restoring marine wildlife populations and ecosystems by reforming the Atlantic herring fishery.

Case Studies: The Road to Recovery

GULF OF MAINE: THE OCEAN COMES BACK TO LIFE

Each year, large schools of Atlantic herring draw marine predators to the Gulf of Maine for a summer feeding frenzy. In the 1990s, however, a fleet of midwater trawlers began fishing for herring on an industrial scale. Soon, whale watch boat operators and fishermen noticed fewer whales, tuna and eventually herring. In 2007, these businesses joined conservationists and concerned citizens to persuade fishery managers to ban midwater trawlers from fishing inshore during the herring spawning season. Within months, more herring, marine mammals, bluefin tuna and seabirds were observed than had been seen in years.



BHWW CO-ALLIED WHALE

Man is the most effective predator of herring.

Herring and the fish that feed on them are under siege by a fleet of midwater trawlers.

These industrial-scale vessels:

- › reach 165 feet;
- › hold 1 million pounds of fish;
- › drag two-inch mesh nets the size of a football field and six stories high;
- › often tow nets using two vessels in a practice called pair trawling;
- › have the power to catch everything in their path.

Sources: Code of Federal Regulations, Title 50, Part 648; Plaintiffs' Motion for Summary Judgment, *Taylor et al. v. Locke et al.*, No. 09-2289 (D.D.C. filed Dec. 2, 2009).

What Can You Do?

Join the conversation on our website and sign up for our e-mail newsletter to get the latest campaign updates. Contact the Herring Alliance with any questions or ideas at 617.728.0300 or info@herringalliance.org.



www.HerringAlliance.org

GROUNDFISH CLOSED AREA: NOT FAIR YET

Mid-1990s: Small-scale boats fishing for cod and other groundfish are banned from four designated closed areas to protect juvenile and spawning fish.

February 1998: Industrial-size midwater herring trawlers are permitted to fish in closed areas under the assumption that their gear does not catch groundfish.

2004–08: Large bycatch events documented by federal observers reveal that trawlers do catch groundfish.

December 2007: Midcoast (Maine) Fishermen's Association files a lawsuit, still pending, to exclude midwater trawlers from closed areas because of the threat posed to groundfish recovery.

October 2008: After a massive bycatch of haddock in Closed Area 1, the National Marine Fisheries Service requires fishery observers on herring vessels accessing the area.

December 2009: Hook fishermen from Chatham, Mass., file an appeal to overturn a loophole that allows midwater trawlers to dump unsampled catch.



HERB SWANSON

“The current rules undermine our hard work to protect New England fish and preserve a livelihood for future generations of fishermen. This comes down to fairness. When the rules are applied unevenly, everybody suffers, most importantly the fish.”

Glen Libby, commercial fisherman and Midcoast Fishermen's Association chairman

Measures to Protect the Ecosystem

1. Access

Prohibit industrial midwater trawlers from fishing in groundfish closed areas and other specific parts of the ocean, especially within coastal areas and during spawning. This practice gives smaller-scale fishermen access to fish, provides nursery areas for recovering cod stocks and allows big predators such as whales and tuna to feed.

2. Limits

Ensure that fishery managers set catch limits for the Atlantic herring fishery that leave sufficient herring in the ecosystem for predators, so that industrial trawlers are not allowed to strip the Northwest Atlantic of its keystone species.

3. Observers

Improve the monitoring of industrial trawlers by increasing at-sea observer coverage and plugging other loopholes, so estimates of herring catch—and bycatch of other important populations, such as cod and haddock, river herring, tuna and marine mammals—are accurate.