



NOAA FISHERIES SERVICE

Pelagic Longline “Weak” Hook Use Required to Reduce Bluefin Tuna Bycatch

April 2011

Beginning May 5, 2011, all vessels fishing for highly migratory species (HMS) in the Gulf of Mexico with pelagic longline (PLL) gear onboard must possess, use, and deploy only circle hooks that are described at Title 50 of the U.S. Code of Federal Regulation (CFR) § 635.21(c), and that are constructed of corrodible round wire stock that is no larger than 3.65 mm in diameter. This requirement is intended to reduce bluefin tuna bycatch by the regional PLL fishery.

Why is NOAA Fisheries Service interested in reducing bluefin tuna bycatch in the Gulf of Mexico PLL fishery?

Under existing regulations, Atlantic bluefin tuna may be retained in the PLL fishery only as limited bycatch associated with catch of target species, such as yellowfin tuna. Bycatch mortality is a problem, particularly in the Gulf of Mexico, as it is the only known spawning area of Western Atlantic bluefin tuna. Tuna researchers working on tagging projects in the Gulf of Mexico have noted that bluefin tuna caught by PLL vessels have a high mortality rate, as a result of high metabolic stress associated with capture in the warm Gulf of Mexico waters.

Western Atlantic bluefin tuna are managed in accordance with conservation and management recommendations established by the International Commission for the Conservation of Atlantic Tunas (ICCAT) and NOAA Fisheries Service’s 2006 Consolidated HMS Fishery Management Plan and implementing regulations. In 2010, ICCAT’s Scientific Committee advised the Commission that it may wish to protect the 2003 bluefin tuna year class as it begins to reach maturity and contributes to spawning biomass. Based on size at age and fishery landings data, this year class is on the verge of spawning, and of being large enough for harvest by the U.S. commercial fishery under current regulations.

Research results from a NOAA Fisheries Service study conducted with vessels from the PLL fleet from 2008 to 2010 found that the use of new “weak” hook gear technology can reduce bluefin tuna bycatch in the Gulf of Mexico PLL fishery.

What is a “weak” hook and how does it work?

A weak hook is a circle hook that meets NOAA Fisheries Service current



The difference between the weak hook (right) and the traditional circle hook (left) can barely be seen with the naked eye, but the weak hook is more likely to bend when a large bluefin tuna is hooked.

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size and offset restrictions, but is constructed of round wire stock that is thinner-gauge (i.e. no larger than 3.65 mm in diameter) than the circle hooks currently used in the PLL fishery. The difference between the traditional circle hook and the weak hook is barely detectable to the naked eye; however, the weak hook is more likely to straighten when a large fish such as a bluefin tuna is hooked. When the hook straightens, the fish may be released. In a recent study in the Gulf of Mexico, NOAA Fisheries Service found a statistically significant reduction in the catch of bluefin tuna of 56 percent, but no statistically significant difference in the catch of yellowfin tuna, swordfish, dolphin fish, or escolar on weak hooks compared to traditional hooks. The catch of wahoo significantly decreased on the weak hook. There was a decrease in the number of swordfish retained for sale with the weak hook; however, the decrease was not statistically significant. Data for the participating vessels show variability in results and generally showed increasing success maintaining prior levels of target catch with increased experience using the new hook.

Are weak hooks rigged the same as traditional hooks? Where can I purchase them?

Yes, weak hooks are rigged the same as traditional hooks. The two circle hook models listed below currently meet the weak hook requirement. Other hook manufacturers may offer models that also meet the requirements, and NOAA Fisheries Service does not endorse any particular make or model.

- Mustad Model #39988D – 16/0
- Eagle Claw Model # L2048LM – 16/0

Two fishing equipment suppliers that have carried weak hooks are Hi-Liner Tackle Co. (954-783-1320, www.hiliner.com) or SNL Tackle (772-589-3087, www.snllcorp.com). Other fishing equipment suppliers may carry or be able to obtain hooks that meet the weak hook requirement, and NOAA Fisheries Service does not endorse any particular fishing equipment supplier.



Hooks that retained bluefin tuna during the experiment: traditional hooks in the top row and weak hooks in the bottom.

Are weak hooks mandatory in the PLL Gulf of Mexico Fishery?

Yes, as of May 5, 2011, all vessels fishing in the Gulf of Mexico with PLL gear onboard must possess, use, and deploy (only) weak hooks year-round. Enforcement agents and officers can easily check the diameter of the hook wire using a gauge designed for this purpose. Vessels fishing outside the Gulf of Mexico with PLL onboard are not required to use weak hooks. Current regulations governing gear in the PLL fishery are found at 50 CFR 635.21(c).

How can I find more information?

The Federal Register notice and other rulemaking documents are available at <http://www.nmfs.noaa.gov/sfa/hms/>. For additional information about use of weak hooks, including rigging, contact Charlie Bergmann (Charles. Bergmann@noaa.gov) 228-549-1760.

For additional information about PLL regulations and fishing in the Gulf of Mexico, contact the Atlantic HMS Management Division Southeast Regional Office at 727-824-5399.

For additional information about management of Atlantic Highly Migratory Species, please see our website at: <http://www.nmfs.noaa.gov/sfa/hms> or sign up for Atlantic HMS News at: <http://www.nmfs.noaa.gov/sfa/hms/newslist/>