

*Science, Service, Stewardship*



# Proposed Rule to Require Use of Weak Hooks on Pelagic Longline (PLL) Vessels in the Gulf of Mexico (GOM)

Atlantic Highly Migratory Species (HMS)  
Management Division

Public Hearings – February 2011

**NOAA  
FISHERIES  
SERVICE**



## What is a weak hook?



- This proposed rule would require the use of weak hooks by PLL vessels fishing in the GOM.
- A **weak hook** is a circle hook that meets NOAA Fisheries' current size and offset restrictions and 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;
- Can allow incidentally hooked bluefin tuna (BFT) to escape capture because the hooks are more likely to bend and potentially straighten when a large fish is hooked;



## Proposed Rule Objectives

1. Increase the survival of spawning BFT in the GOM, particularly the 2003 year class.
2. Enhance BFT stock rebuilding by increasing spawning potential and subsequent recruitment into the fishery,
3. Minimize negative ecological impacts of the PLL fishery on non-target or protected species



## Objectives (continued)

4. Allow the PLL fleet to continue to fish year-round for yellowfin tuna and swordfish, with less risk of closure due to insufficient incidental bluefin tuna sub-quota as allocated by annual specifications.
5. Reduce the need for BFT sub-quota reallocation from directed fisheries (or the Reserve) to cover PLL BFT bycatch.



## Need for Action: BFT Stock Status

Western Atlantic BFT is managed under ICCAT recommendations:

- Strict country quotas
- No directed fishing in GOM (only known spawning area for western stock)
- Western stock is overfished with overfishing occurring
- ICCAT Standing Committee for Research and Statistics advised that ICCAT may wish to protect the strong 2003 year class until it reaches maturity and can contribute to spawning



## Need for Action: BFT Survival in the GOM

- Spawning occurs April through mid-June; some BFT are also present in the GOM outside of the spawning season
- Researchers have noted that BFT caught by PLL vessels in the GOM have a high mortality rate due to high metabolic stress endured during capture from the warm water
- The presence of the strong 2003 year class on the spawning grounds could increase incidental PLL catch and discards



## Need for Action: Weak Hook Research

- NMFS researchers found that the use of weak hooks could result in the quick release of large BFT caught by PLL gear, some large pelagic sharks were also released
- Initial results show potential for increasing the biomass of western BFT stock in the short- and long-term with some potential adverse impacts to directed fisheries



**Need for Action:  
Weak Hook Research  
(2008-10, preliminary results)**



| <b>Species</b>                                      | <b>% Change in CPUE<br/>(# fish/1,000 hooks)</b> |
|---|--|
| <b>Bluefin tuna caught</b>                          | <b>-56.5</b>                                     |
| <b>Wahoo caught</b>                                 | <b>-26.6</b>                                     |
| <b>Yellowfin tuna retained for sale</b>             | <b>-7.0</b>                                      |
| <b>Swordfish retained for sale</b>                  | <b>-41.2</b>                                     |
| <b>White marlin/roundscale<br/>spearfish caught</b> | <b>52.7</b>                                      |





## Need for Action: PLL Subquota Overages

- NMFS implements the ICCAT-recommended U.S. quota, dividing the quota per the Consolidated HMS FMP allocations
- PLL vessels are currently allocated the Longline Subquota (8.1% of the BFT quota) for the incidental retention of BFT while directing on other target species
- In 2009, PLL landings exceeded the Longline sub-quota
- Dead discards must be accounted for



## Longline Quotas, Landings, Dead Discards and Catch, 2008-2009

|      |                        | Metric tons (rounded)       |                       |                            |             |
|------|------------------------|-----------------------------|-----------------------|----------------------------|-------------|
|      | Area                   | Adjusted Quota <sup>1</sup> | Landings <sup>2</sup> | Dead Discards <sup>2</sup> | Total Catch |
| 2009 | NED <sup>3</sup>       | 25                          | 51                    | 5                          | 56          |
|      | East Coast (~LL North) | 30                          | 46                    | 77                         | 123         |
|      | GOM (~LL South)        | 45                          | 33                    | 78                         | 111         |
|      | <b>Total</b>           | <b>100</b>                  | 131                   | 160                        | <b>291</b>  |
| 2008 | NED                    | 25                          | 9                     | 5                          | 14          |
|      | East Coast (~LL North) | 23                          | 40                    | 67                         | 107         |
|      | GOM (~LL South)        | 34                          | 26                    | 86                         | 112         |
|      | <b>Total</b>           | <b>82</b>                   | 75                    | 158                        | <b>233</b>  |

1 Adjusted quota as published for LLN and LLS in annual quota specifications (N & S of 31° N. lat.)

2 Landings and dead discards as reported by ICCAT Statistical Area in 2010 U.S. Report to ICCAT

3 NMFS applied target catch requirements when 2009 NED set-aside met, effective Oct. 20-Dec. 31



## Need for Action: PLL Subquota Overage

- In 2011, in accordance with an ICCAT recommendation, carry-forward of underharvest will be reduced from 50% of a country's total quota to no more than 10%
- If the U.S. quota for 2011 and beyond remains at current levels, or less, and directed fishing categories land their full subquotas, there may not be sufficient underharvest to cover overharvest in other categories.
- Implementation of weak hooks in the GOM PLL fishery is one management measure that could reduce the likelihood of needing other management measures to constrain PLL landings and dead discards to allocated sub-quota



## Alternatives



### **Alternative 1 - Status Quo / No Action**

Maintain existing regulations in PLL GOM Fishery. (No Action)

### **Alternative 2 - Require all PLL vessels fishing in GOM to use weak hooks (Preferred Alternative)**

Require vessels with PLL gear onboard, at all times, in all areas of the GOM open to HMS PLL fishing, to possess onboard and/or use only circle hooks meeting current size and offset restrictions as well as being constructed of only round wire stock that is no larger than 3.65 mm in diameter



## Alternatives

### **Alternative 3 - Additional time/area closures in the Gulf of Mexico**

Close all, or a portion, of the GOM to PLL fishing, for a specified time period



## Alternatives Considered but not Analyzed Further

Includes consideration of such actions as:

- No BFT retention in GOM (*i.e.*, no incidental retention allowed)
- Adjustment of target catch limits
- Allow retention of all BFT caught during PLL trips

These alternatives do not meet the objectives of the action and were not considered further.



## Alternative 1 – Status Quo/No Action

### Ecological Impacts

- Maintain current ecological impacts in short-term
- Could have long-term negative ecological impacts on BFT
  - Continued bycatch and bycatch mortality of spawning age BFT at current rates
  - No additional protection of 2003 cohort
- May not further the rebuilding of western BFT stock to the same extent as the preferred alternative



## Alternative 1 – Status Quo/No Action

### Social/Economic Impacts

- No short-term economic or social changes expected
- Adverse economic impacts may occur in the medium- and long-term if the Longline category incidental quota is exceeded and other management measures to constrain landings and dead discards are implemented.





## Alternative 2 – Require Weak Hooks in the GOM PLL Fishery (preferred)

Require vessels with PLL gear onboard, at all times, in all areas of the GOM open to HMS PLL fishing, to possess onboard and/or use only circle hooks meeting current size and offset restrictions as well as being constructed of only round wire stock that is no larger than 3.65 mm in diameter

Examples of weak hook models:

- **Mustad Model # 39988 D – 16/0**
- **Eagle Claw Model # L2048ELM - 16/0**

Other hook manufacturers may offer models that also meet the requirement, and NMFS does not endorse any particular make or model.



## Alternative 2 – Require Weak Hooks in the GOM PLL Fishery (preferred)

### Ecological Impacts

- Could reduce the BFT catch in the GOM PLL fishery by ~56.5%
  - Avg. number of BFT caught per year (2006-09) = 285 fish could be reduced to approximately 124 fish
  - Positive impacts for spawning BFT
  - Implementation by 2011 spawning season could aid in survival of and spawning by the large 2003 year class
- Benefits for: YFT; SWO; wahoo; some pelagic or large coastal sharks
- Weak hooks may be easier to dislodge from incidentally captured/foul hooked leatherback sea turtles



## Alternative 2 – Require Weak Hooks in the GOM PLL Fishery (preferred)

### Ecological Impacts

- No significant difference in bycatch of blue marlin or sailfish
- Research indicated a 52.7% increase (marginally statistically significant) in bycatch of white marlin and roundscale spearfish combined
- White marlin dead discards may increase in the GOM PLL fishery from 275 fish to 419 fish (an increase of 144 fish)
- NMFS is unable to estimate the additional roundscale spearfish dead discards that could occur
- Not likely to have population effects for white marlin or roundscale spearfish because the predicted increase of dead discards represents <0.8 % of the total international white marlin catch (which includes recreational landings and commercial dead discards) in the N. Atlantic



## Alternative 2 – Require Weak Hooks in the GOM PLL Fishery (preferred)

### Mitigation of Ecological Impacts

- National Standard 9 – minimize bycatch and bycatch mortality
  - BFT and other species caught on PLL gear
- NMFS plans to continue research and monitoring of white marlin and roundscale spearfish bycatch.
- If increased catches of white marlin and roundscale spearfish continue, NMFS will investigate potential mitigation measures to reduce the bycatch and/or bycatch mortality associated with the catches. These might include:
  - Seasonal application of the weak hook
  - Modification or removal of the weak hook requirement



## Alternative 2 – Require Weak Hooks in the GOM PLL Fishery (preferred)

### Social/Economic Impacts

- Positive impacts for the PLL fishery and targeted BFT fishery if PLL landings and discards are brought more into alignment with sub-quotas
- May lessen the need for management actions with negative impacts for quota management purposes
- May lessen the need for quota transfers from directed BFT fisheries
- Research results varied - some vessels experienced increases and others decreases of target species catch



## Alternative 2 – Require Weak Hooks in the GOM PLL Fishery (preferred)

### Social/Economic Impacts

- Negative social and economic impacts are expected - the magnitude and duration of impacts depends on fishermen's ability to utilize the weak hook
- Fishermen tend to generally improve performance with a new gear over time
- Average gross revenue per trip for GOM PLL vessels (2006-09) attributed to BFT, YFT, SWO, and wahoo may decrease from \$15,314 to approximately \$13,049 (14.8% reduction) due to reductions in catch of these species
- However, some vessels that participated in the weak hook research saw an increase in targeted species catch and are voluntarily using weak hooks year-round in the GOM



## Alternative 2 – Require Weak Hooks in the GOM PLL Fishery (preferred)

### Social/Economic Impacts

- Weak hooks cost = \$.36 each (\$.02 more than the currently required standard circle hook)
- Cost of 1,000 hooks to outfit a vessel for a trip = \$360
- Increased replacement cost is <\$3.00 per 1,000 hooks set
- The standard circle hook currently in use would continue to be used in the U.S. Atlantic
- NMFS solicits comment on gear stowage procedures that could allow vessels entering or exiting GOM with hooks not meeting the weak hook requirement.



## Alternative 2 – Require Weak Hooks in the GOM PLL Fishery (preferred)

### Mitigation of Social/Economic Impacts

- NMFS intends to explore opportunities to mitigate compliance costs for PLL fishermen if the weak hook is finalized as a requirement
- Third party sponsorship of a voucher program to obtain an initial supply of weak hooks?
- NMFS requests comments about such a potential voucher program





## Alternative 3 – Additional Time/Area Closures in the GOM

### Ecological Impacts

- NMFS analyzed time/area closure alternatives In the 2006 Consolidated HMS FMP
- A range of negative and positive ecological impacts were possible depending on the extent and type of time/area closure
- Considering redistribution of fishing effort, GOM closures were expected to result in increased bycatch for some species considered
- GOM time/area closures may not fully realize the purpose of reducing bycatch of spawning BFT and may have effects on BFT outside the closed areas



## Alternative 3 – Additional Time/Area Closures in the GOM

### Ecological Impacts

- An extensive additional analysis and new analytical techniques, at this time, would likely preclude NMFS from implementing weak hooks in time for the 2011 BFT spawning season and would not rapidly provide protection to the 2003 BFT year class
- The 2006 Consolidated FMP closure analysis still reflects impacts that are likely to occur with the time/area closure alternatives, particularly when considering redistribution of fishing effort
- When redistribution of effort was considered, all time/area closures in the 2006 analysis resulted in an increase in bycatch for some species, including BFT



## Alternative 3 – Additional Time/Area Closures in the GOM

### Social/Economic Impacts

- May cause shifts in effort to areas outside the GOM and/or fishermen to exit the fishery
- Increased travel distances would likely result in increased fuel, bait, ice, and crew costs
- Negative impacts for traditional ports of offloading, including processors, dealers, and supply houses
- Positive impacts for any newly selected ports of offloading



## Timeline for Rulemaking

Proposed rule published January 13, 2011 (76 FR 2313)

Public comment period ends **February 12, 2011**

|                                |                   |         |
|--------------------------------|-------------------|---------|
| Public hearings:               | Silver Spring, MD | Feb. 7  |
|                                | Panama City, FL   | Feb. 9  |
|                                | Kenner, LA        | Feb. 10 |
| HMS Advisory Panel Conf. Call: |                   | Feb. 8  |



## Public Comments

Please identify comments with "**0648-BA39**"

Federal eRulemaking Portal - <http://www.regulations.gov>

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