

*Science, Service, Stewardship*



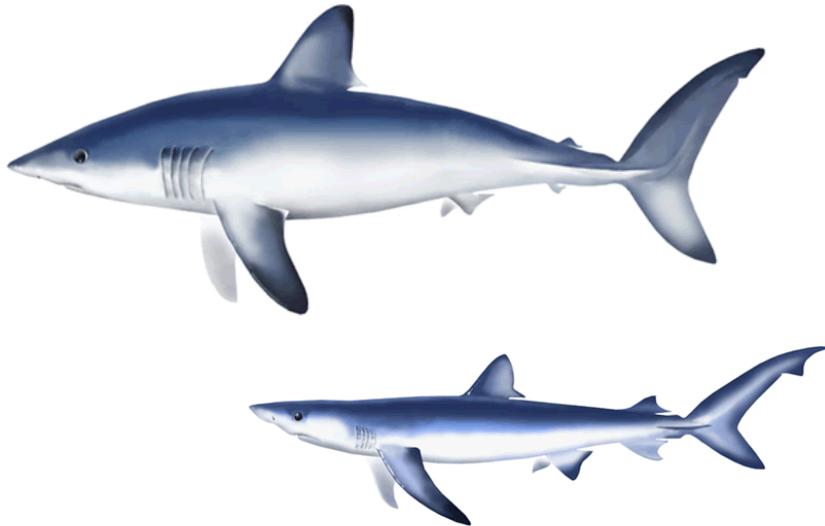
Implementation of Species  
Working Group  
Recommendations for  
Research and Management

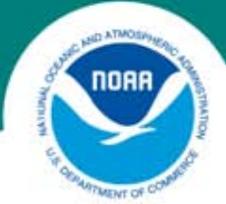
IAC, October 2010

**NOAA  
FISHERIES  
SERVICE**



# Swordfish/Shark Working Group





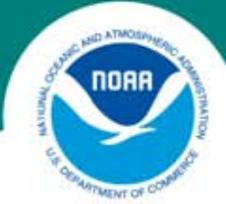
## Swordfish/Shark Working Group

- Recommendations:
  - Undertake research on the characterization of the swordfish “deep-drop” fishery, including catch and fishery parameters.
- Actions
  - Some collaborative work initiated



## Swordfish/Shark Working Group

- Recommendations:
  - Undertake collection of swordfish biological samples in expectation of future retrospective analyses.
- Actions
  - Potential sampling opportunities through the pelagic longline observer program.



## Swordfish/Shark Working Group

- **Recommendations:**

- Expand long-term pop-up archival tagging research of swordfish and pelagic sharks to determine migration patterns and characterization of essential fish habitat.

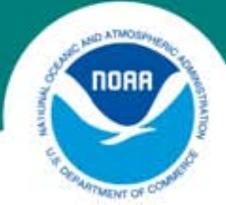
- **Actions**

- A three year collaboration with the Canadian Dept. of Fisheries and Oceans, the swordfish harpoon fleet and the University of New Hampshire began in 2005. To date, results of PSAT tag deployments suggest a more complex stock structure than was previously understood and indicate that swordfish appear to exhibit fidelity to their feeding sites. (SCRS/2009/115; Nielson and Smith).
- Deployed electronic satellite tags on several species of pelagic sharks in the USA and in collaborative studies with Uruguay (4 blue sharks to date) and Brazil.



## Swordfish/Shark Working Group

- **Recommendations:**
  - The SCRS should conduct a data review for oceanic whitetip sharks with the goal of a future assessment.
- **Actions**
  - The Shark Workplan calls for a data preparatory meeting in 2011 to generate the information needed to conduct an Ecological Risk Assessment for as many species as possible in 2012.



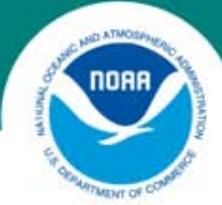
## Swordfish/Shark Working Group

- **Recommendations:**

- Gear Modification/Bycatch Mortality

- Development of additional gear technology and modifications to reduce bycatch and bycatch mortality (e.g., weak hook and circle hook studies).
    - Assessment of a relatively “clean” fishery technology (e.g., swordfish buoy gear) in geographic areas other than the Florida straits.

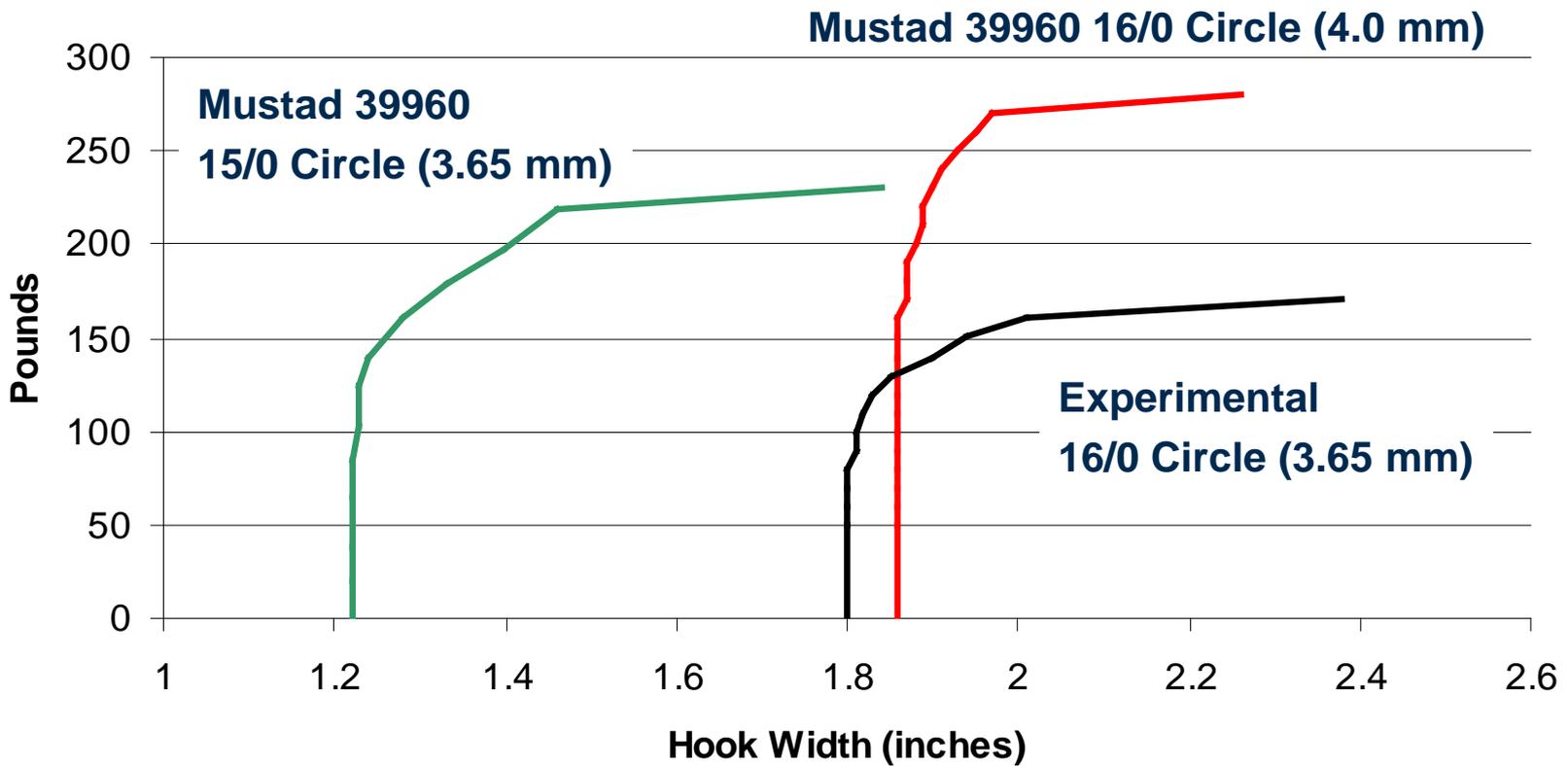
- **Actions**



# Hook Pull vs Strain



Standard 16/0      Experimental 16/0





## 2008-10 Gulf of Mexico PLL Bluefin Tuna Mitigation Research

### 2008 – 2010 Research

- 5 Vessels
- 260 Sets
- 172,573 hooks

### 2010 Summer (ongoing)

- 2 Vessels
- July-September
- 50 Sets



## Swordfish/Shark Working Group

- **Recommendations:**
  - Continue cooperative research programs with CPCs.
- **Actions**
  - Ongoing



# Bigeye, Albacore, Yellowfin and Skipjack (BAYS) Tunas Working Group





## BAYS Tunas Working Group

- Recommendations:

- Data Reporting*

- The Working Group expressed concern over the inability to distinguish between juvenile yellowfin and bigeye landings in the Gulf of Guinea and recognized Ghana's commitment to improve data collection and reporting. The Working Group recommends that the United States request the segregation of Gulf of Guinea catches of bigeye and yellowfin data in Task I and Task II data reports from other members fishing in the area.

- Actions

- The SCRS Tropical Tunas work plan for 2011 includes a special working group tasked with examining the available Ghanaian data, sampling and reporting programs in detail, as well as the relevant programs in Côte d'Ivoire for estimating "faux poisson", with the goal of proposing data treatments and sampling schemes.



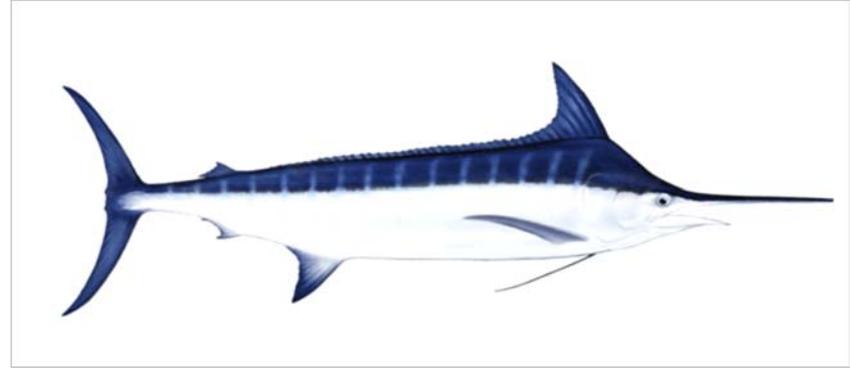
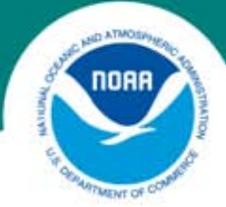
## BAYS Tunas Working Group

- Recommendations:
  - *Time-Area Closure*
    - The Working Group expressed concern over the vague language contained in the 2009 SCRS report regarding the time/area closure in the Gulf of Guinea. The Working Group recommended that the United States continue to support SCRS's scientific review of the efficacy of the current Gulf of Guinea time area closure versus the previous (1999-2004) larger time/area closure.
- Actions
  - The SCRS conducted analyses in 2010 and concluded that the initial voluntary time-season moratoria and ICCAT Recs. (98-01, 99-01) appeared to fulfill the objective of reducing FAD sets and therefore catches of juveniles. ICCAT Rec. 04-01 also reduced effort, but the closure was not large or long enough to provide substantial reductions. Studies also suggest that the proposed closed area in [08-01] might be more effective if expanded to the west.



## BAYS Tunas Working Group

- Recommendations:
  - *Albacore Stock Assessment*
    - The Working Group recognized that Mediterranean albacore will likely be assessed in 2011 and congratulated the United States on its efforts to move ahead with this assessment. The Working Group recommends that the United States continue to support SCRS efforts to collect data on this stock and complete the assessment as scheduled.
- Actions
  - The SCRS plans to assess Mediterranean, and possibly South Atlantic, albacore in 2011.
  - The SCRS has proposed a research program for North Atlantic albacore.



# Billfish Working Group





## Billfish Working Group

- Recommendations:
  - The SCRS should investigate alternative CPUE indices and assessment techniques, such as larval recruitment studies
- Actions
  - Following from the work by Prince et al. 2010 on habitat compression in the Atlantic, the SCRS explored the development of a standardized CPUE series for BUM using Japanese LL data from inside and outside the eastern tropical Atlantic oxygen minimum zone.
  - Further investigations planned for upcoming assessments in 2011-2012.



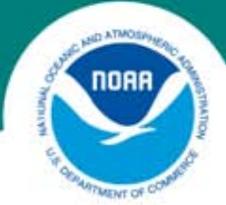
## Billfish Working Group

- Recommendations:
  - *Increase the emphasis on collection and analysis of life-history data for billfish.* Noting that many of the basic life-history parameters for billfish are still poorly understood, such as age, growth, natural mortality, and population structure, the BSWG encourages continuing basic billfish research. Specifically, this recommendation extends to all life-stages, including increasing research in known and potential billfish spawning areas.
- Actions
  - U.S. scientists have developed successful procedures for sampling genomic DNA from live billfishes and swordfish using surface mucous. This nondestructive and less invasive procedure promotes increased survival of released specimens. These procedures could be useful for determination of population structure.



## Billfish Working Group

- Recommendations:
  - *Continue research to better understand species composition of billfish throughout the Atlantic, including differentiation between species.* The BSWG noted that this research is crucial for effective management of billfish.
- Actions
  - SEFSC and other US scientists, along with scientists from other CPs, are currently collaborating to analyze historic genetic samples of billfishes to construct a time-series of species composition. Preliminary results suggest a substantial degree of misidentification of billfishes, particularly white marlin and round-scale spearfish.
  - Seeking to build capacity to complete these analyses in 2011 to permit a WHM assessment in 2012.



## Billfish Working Group

- Recommendations:
  - Investigate alternative fishing gear technologies, including greenstick gear, to decrease billfish mortality in the Gulf of Mexico yellowfin tuna fleet.
- Actions
  - Ongoing



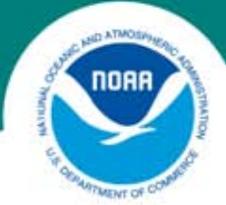
## Billfish Working Group

- Recommendations:
  - *Conduct additional research regarding the control of the depth distribution of hooks deployed by pelagic longline vessels, emphasizing a greater diversity of gear configurations.*
- Actions
  - ?



## Billfish Working Group

- **Recommendations:**
  - Encourage NMFS to continue cooperative research programs with CPCs and enhance current information regarding potential differences in the catchability of non-target finfish species on pelagic longline gear when deploying circle hooks versus J-hooks.
- **Actions**
  - Mexico was receptive to initial proposals (during the recent MexUS scientific meetings) to collaborate on a study in the Mexican PLL fishery comparing J-hook and circle hook catch rates.



# Bluefin Tuna Working Group





## Bluefin Tuna Working Group

- Recommendations:
  - ✓ The SEFSC director should attend IAC meetings in order to participate in discussions on prioritizing and funding HMS research programs.
- Actions



Dr. Bonnie Ponwith

Science Director, Southeast Fisheries Science Center



## Bluefin Tuna Working Group

- Recommendations:
  - The United States should honor its funding commitment to the Grande Bluefin Year Program and promote the involvement of NOAA Fisheries leadership in the implementation of the program.
  - NMFS should establish a process for consistent funding of extramural HMS research.
- Actions
  - The U.S. contribution to GBYP (more than \$227K) exceeded the commitment expected; the E.U. contribution was \$2 million. (NOTE: few other countries have contributed, so the program is still underfunded with respect to meeting the 20/80 split with the E.U.)
  - The U.S. also made more than \$1.5 million in in-kind contributions for additional research programs.



## Bluefin Tuna Working Group

- **Recommendations:**
  - The United States should undertake a sampling program at a similar scale to the historical Large Pelagic Biological Survey program.
- **Actions**
  - A major pilot study was initiated in 2010 with the goal of conducting comprehensive hard part sampling of the BFT commercial and recreational fisheries so as to permit direct ageing and a detailed analysis of stock structure. This includes sampling through the LPBS and at dealers, and collaboration with other scientists. Other tunas being sampled as well.



## Bluefin Tuna Working Group

- Recommendations:
  - The current NMFS weak hook studies (to reduce BFT bycatch in the Gulf of Mexico) should continue. Efforts should be made to export the technology to other countries, in particular Mexico.
- Actions
  - Study ongoing, as described earlier.



## Bluefin Tuna Working Group

- Recommendations:
  - The Working Group acknowledges the success of SEFSC's program in the Gulf of Mexico in which PLL vessels are compensated \$200 to bring on board for sampling a BFT determined to be dead by an on board observer and continues to support this program.
- Actions
  - Ongoing



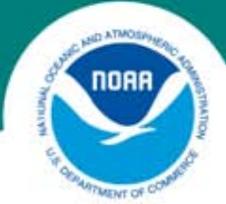
## Bluefin Tuna Working Group

- **Recommendations:**
  - The United States should pursue collaborations with Mexico to improve WBFT scientific information (e.g., conduct biological sampling of Mexico's incidental catch in the Gulf of Mexico and larval surveys). To facilitate this process, the SEFSC should send a scientist to Mexico.
- **Actions**
  - Mexico agreed at the MexUS meetings to conduct biological sampling of their incidental catch (they have at least one experienced scientist), and Mexican scientists have participated on the larval surveys.



## Bluefin Tuna Working Group

- **Recommendations:**
  - In advance of each stock assessment, the SEFSC should host a BFT workshop for the sharing of best available science and prioritizing future research.
- **Actions**
  - We are interested in enhancing coordination of research.



## Bluefin Tuna Working Group

- Recommendations:
  - The United States should continue scientific research to obtain a greater understanding of BFT distribution and abundance, including:
    - the decline in coastal fishery catches (e.g., examine hypotheses regarding shifts in distribution, overall stock declines, and other factors such as prey availability and the impacts of climate change)
    - stock structure and mixing
    - early life history, reproductive and maturity schedules, and recruitment processes
    - Spawning
- Actions
  - Golet et al. SCRS paper examined shifts in distribution; Hard part sampling for stock structure and ageing is underway; several U.S. SCRS papers examined the maturity schedules and available biological samples.
  - Larval sampling cruises planned for 2011 include coverage of western Caribbean.



## Bluefin Tuna Working Group

- Recommendations:
  - Conduct tagging studies to estimate post-release mortality in recreational and commercial fisheries.
- Actions
  - In progress



## Bluefin Tuna Working Group

- Recommendations:
  - Explore the development of fishery independent estimates of abundance.
- Actions
  - Refinements/improvements to the larval survey are being explored, including expanding area covered and new sampling techniques that hold promise for increasing encounter rates.