

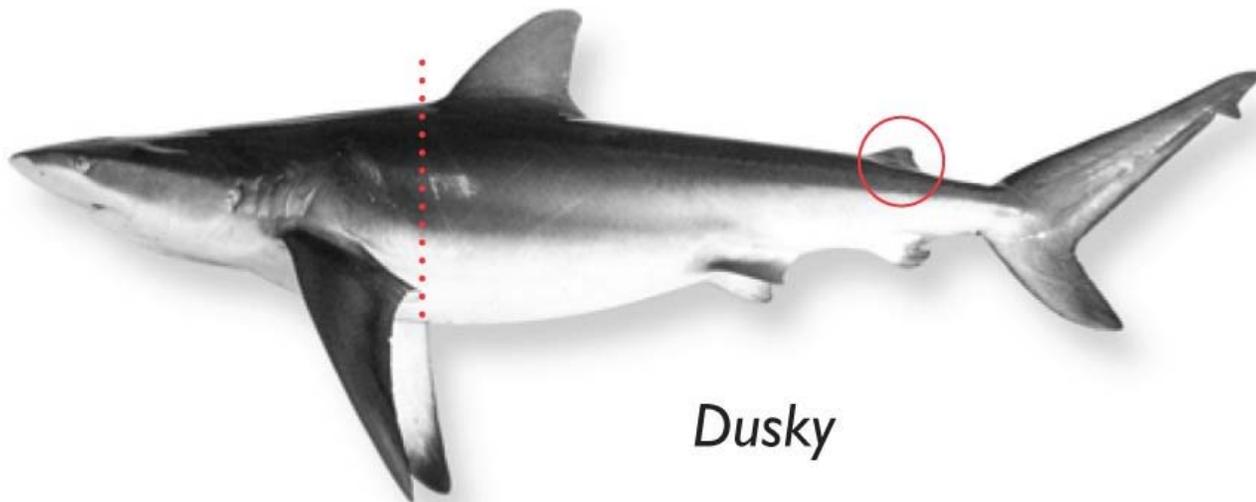


**NOAA**  
**FISHERIES**

# Atlantic Highly Migratory Species

Amendment 5b - Dusky Shark  
Management Measures:

Proposed Rule



*Dusky*

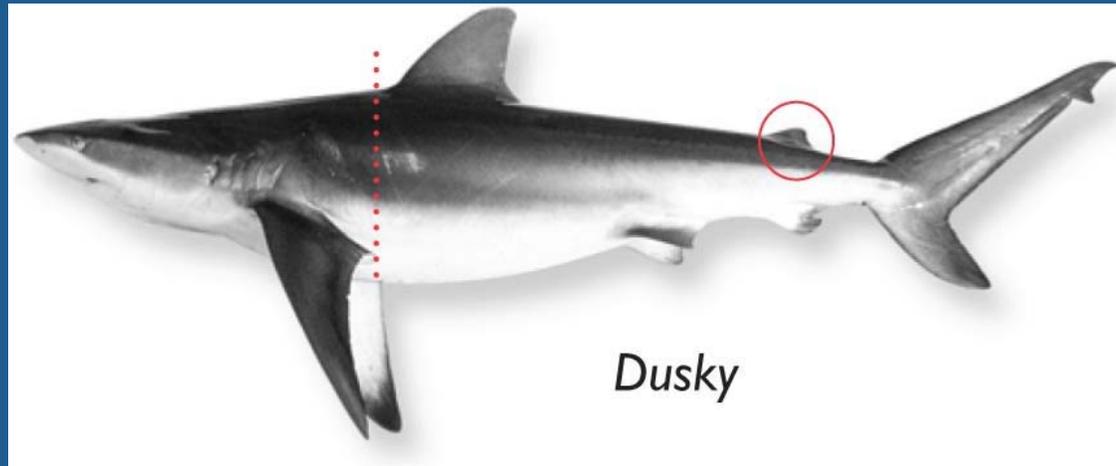
HMS Advisory Panel Dec. 2016

# Outline

- Background
  - Management History
  - SEDAR 21 Update and Addendum
- Alternatives Considered
  - Recreational
  - Commercial
- ACLs and AMs for Prohibited Species
- Request for Comments



# Management History and Stock Status



# Management History

- 1993: Shark FMP adopted with dusky sharks managed as part of Large Coastal Shark group
- 2000: Possession of dusky sharks prohibited
- 2006: First dusky shark assessment – overfished/overfishing
- 2008: Amendment 2 – rebuilding plan established (rebuild by 2108)
- Aug. 2011: SEDAR 21 – still overfished/overfishing
- Oct. 2011: Notice of Intent to prepare Amendment 5
- Nov. 2012: Draft Amendment 5 & Proposed rule - multiple shark species
- April 2013: Notice of Intent for Amendment 5b – dusky shark specific
- May 2013: Positive 90-day Finding on Dusky Shark ESA petition



# Management History

- March 2014: Amendment 5b Predraft released for comment
  - Incorporated comments on Draft Amendment 5 and HMS AP input from previous meetings and included new range of alternatives
- Dec. 2014: NMFS determined ESA listing not warranted
- Sept 2015: NMFS presented updated trend analyses and potential management alternatives for HMS AP consideration/discussion
- Oct. 2015: Oceana filed complaint regarding dusky shark management
- May 2016: Settlement agreement reached --
  - Submit proposed rule to the Federal Register by 10/14/2016
  - Submit final rule to the Federal Register by 3/31/2017
- Oct. 2016:
  - SEDAR Update and addendum results - still overfished/overfishing
  - Draft Amendment 5b and proposed rule released



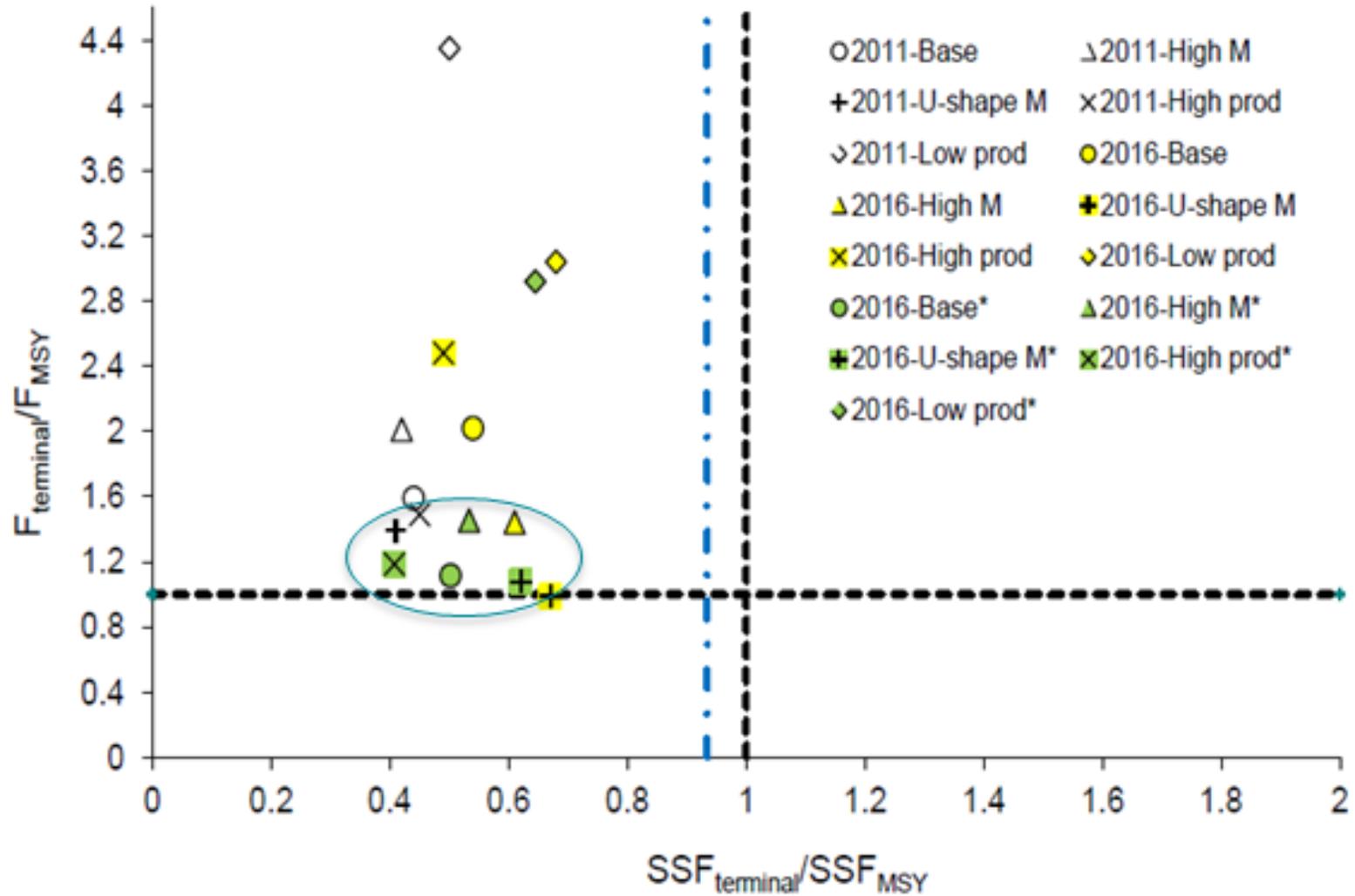
# SEDAR 21 Update and Addendum

- Status determination published 10/5/2016 (81 FR 69043)
- Still overfished and experiencing overfishing
- Need to reduce fishing mortality by 35%
- Rebuild by 2107

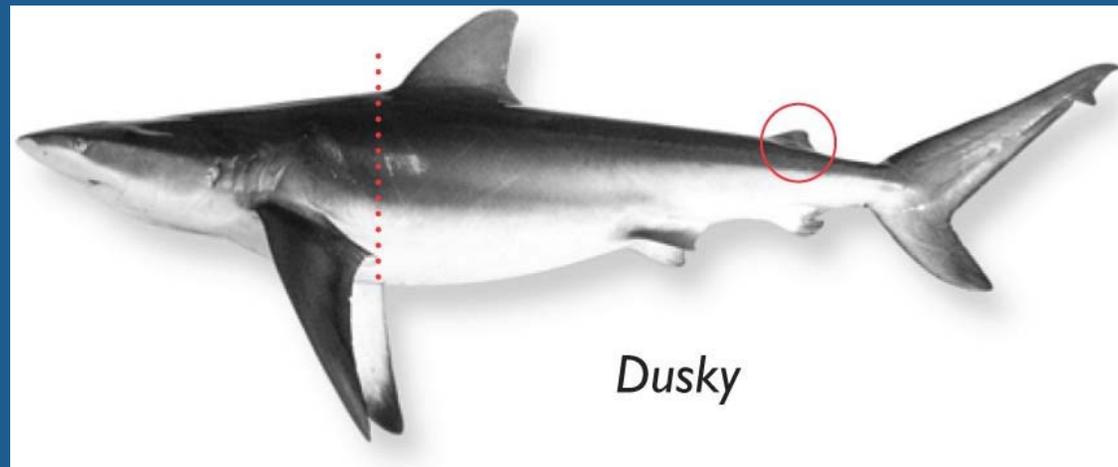
Scenario	Terminal conditions			YearF=0p70	Year <sub>rebuild</sub>	<i>F</i> -Year <sub>rebuild</sub>		TAC-Year <sub>rebuild</sub> (lb dressed weight)	
	F <sub>2015</sub>	F <sub>2015</sub> /F <sub>MSY</sub>	SSF <sub>2015</sub> /SSF <sub>MSY</sub>			P50	P70	P50	P70
Base	0.028	1.12	0.50	2053	2093	0.020	0.017	32413	24188
High <i>M</i>	0.017	1.45	0.53	2097	2137	0.007	0.004	18984	10956
U-shaped <i>M</i>	0.017	1.08	0.62	2067	2107	0.011	0.008	27346	17711
High Prod	0.046	1.18	0.41	2044	2084	0.035	0.032	47400	36101
Low Prod	0.015	2.92	0.64	2164	2204	0.003	0.001	7117	3507



# SEDAR 21 Update and Addendum

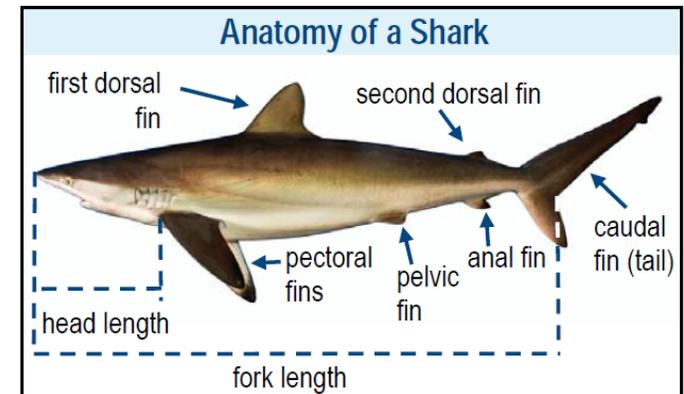


# Preferred Recreational Alternatives



# Preferred Recreational Alternatives

- **Alternative A2:** Require HMS permit holders fishing for sharks recreationally to obtain a shark endorsement, which requires completion of an online shark identification and fishing regulation training course, in order to retain sharks
  - Allows for focused outreach to shark anglers
  - Includes a coordinated outreach, education, and enforcement campaign to:
    - Improve handling and release techniques
    - Improve compliance regarding prohibited species
    - Improve species identification
    - Improve monitoring of recreational catch
  - Expected to:
    - Decrease accidental retention of dusky sharks
    - Decrease dusky fishing mortality in recreational fisheries



# Preferred Recreational Alternatives

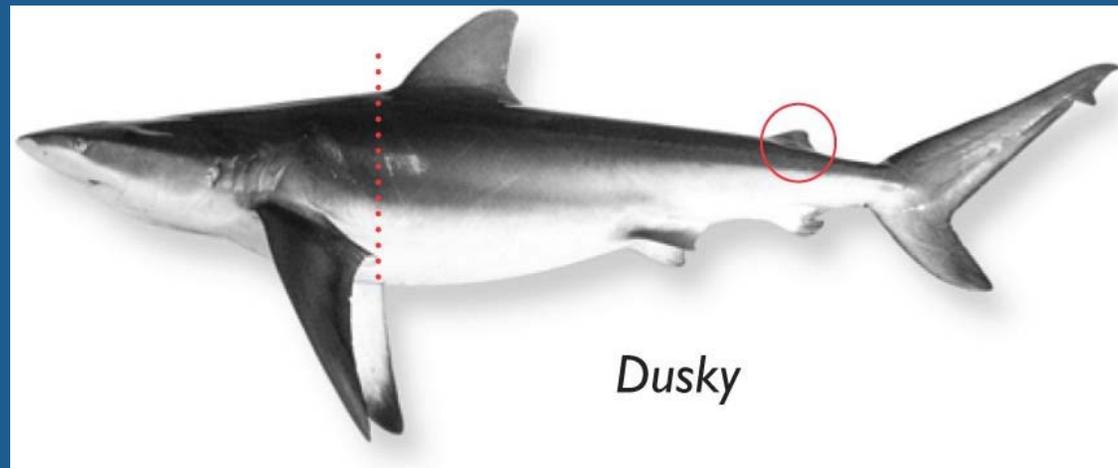
- Alternative A6a: Require the use of circle hooks by all HMS permit holders with a shark endorsement when fishing for sharks recreationally when deploying natural bait while using a wire or heavy (200 lb test or greater) monofilament or fluorocarbon leader
  - Fishermen deploying natural bait while using a wire or heavy (200 lb test or greater) monofilament or fluorocarbon leader would be presumed to be fishing for sharks.
  - Could reduce mortality of sharks by approx. 48% by reducing deep hooking
  - Dusky sharks that are inadvertently caught in the recreational fishery would be released in better condition, reducing post-post-release mortality



\* Specific request for comments: will this approach ensure that the measure applies to the shark fishery or should different indicators of recreational shark fishing be adopted?



# Other Recreational Alternatives Considered



# Other Recreational Alternatives Considered

- Alternative A1: No action. Do not implement management measures to end overfishing and rebuild dusky sharks in the Atlantic recreational shark fishery
- Alternative A3: Require HMS permit holders fishing for sharks recreationally to have a NMFS – approved shark identification placard onboard when fishing for and/or retaining sharks

*If you don't know, let it go*

### Shark Identification and Federal Regulations for the Recreational Fishery of the U.S. Atlantic and Gulf of Mexico

Prohibited species are underlined in red

Authorized Species	Minimum Size (fork length)	Bag Limit (per trip)
Smoothhound shark	None	None
Atlantic sharpnose shark	None	1 per person
Bonnethead	None	1 per person
Hammerheads (great, scalloped, and smooth)	78 inches	1 per vessel (hammerhead OR other shark)
Other sharks	54 inches	

Federal fishing permit required in Federal waters | Purchase at [hmspermits.noaa.gov](https://hmspermits.noaa.gov)

#### Anatomy of a Shark

**All ridgeback sharks are prohibited, except for tiger, oceanic whitetip, or smoothhound sharks**

**Prohibited ridgeback sharks:** blonose, Caribbean reef, dusky, Galapagos, night, sandbar, and silky sharks

**Ridgeback sharks** are sharks with an **interdorsal ridge** (a visible line of raised skin between dorsal fins)

**Oceanic whitetip shark:** young sharks have black mottling on most fins; does not always have interdorsal ridge; max. size 8 ft; offshore. **Cannot be retained if tuna, swordfish, or billfish are onboard**

**Tiger shark:** snout length much shorter than mouth width; markings fade with age; max. size 15 feet; coastal and offshore

**There is no Federal permit requirement, minimum size, or bag limit for spiny dogfish**

**Smoothhound:** (a.k.a. smooth dogfish and Florida/Gulf smoothhound) interdorsal ridge present; second dorsal fin slightly smaller than first dorsal fin and much larger than anal fin; max. size 5 ft; coastal and offshore

**Spiny dogfish:** max. size 4 ft; coastal and offshore

**Scalloped hammerheads, great hammerheads, and smooth hammerheads cannot be retained if tuna, swordfish, or billfish are onboard**

**Scalloped hammerhead:** max. size 11 ft; coastal and offshore

**Great hammerhead:** max. size 15 ft; coastal and offshore

**Smooth hammerhead:** max. size 12 ft; coastal and offshore

**There is no minimum size for Atlantic sharpnose sharks or bonnetheads**

**Atlantic sharpnose shark:** max. size 3 ft; coastal and offshore; similar species: smalltail sharks have very reduced labial furrows and Caribbean sharpnose sharks lack white spots

**Bonnethead:** small, black spots on body; max. size 4 ft; mostly coastal

All sharks within a species are not identical; however, these are common characteristics for the majority of individuals. Young sharks can vary in appearance from adults. Maximum sizes are approximate.

Prepared by W.B. Driggers III, E.R. Hollmayer, J.J. Castro, K.S. Davis, M. Carr, and P. Cooper. National Marine Fisheries Service. <https://www.nmfs.noaa.gov/sharks>. Photographs and illustrations provided by NMFS, J. Castro, W.B. Driggers III, E.R. Hollmayer, and S. Iglesias. Revised January 2016.

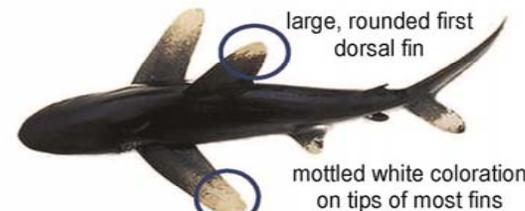
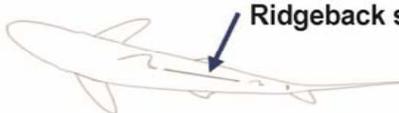
# Other Recreational Alternatives Considered

- Alternative A4: Prohibit retention of all ridgeback sharks, including oceanic whitetip, tiger, and smoothhound sharks, in the Atlantic recreational shark fishery

**All ridgeback sharks are prohibited, except for oceanic whitetip, tiger, or smoothhound sharks**

Ridgeback sharks are sharks with an **interdorsal ridge** (a visible line of raised skin between dorsal fins)

Prohibited ridgeback sharks:  
**bignose, Caribbean reef, dusky, Galapagos, night, sandbar, and silky sharks**



**Oceanic whitetip shark:** young sharks have black mottling on most fins; does not always have interdorsal ridge; max. size 8 ft; offshore  
**Cannot be retained if tuna, swordfish, or billfish are onboard**

**Tiger shark:** snout length much shorter than mouth width; markings fade with age; max. size 15 feet; coastal and offshore

- Alternative A5: Increase the recreational minimum size to 89 inches fork length for all sharks based on dusky shark size at maturity

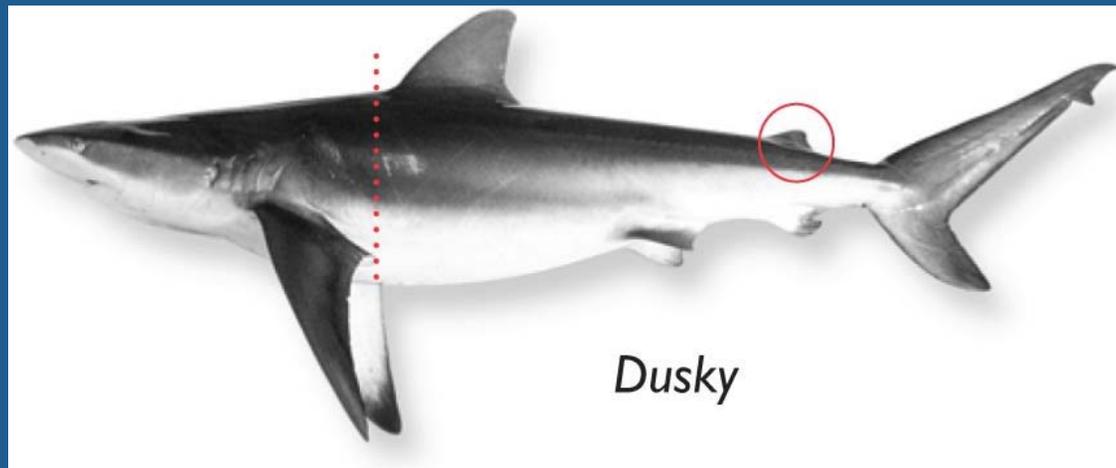


# Other Recreational Alternatives Considered

- **Alternative A6b:** Require the use of circle hooks by all HMS permit holders with a shark endorsement when fishing for sharks recreationally (when deploying natural bait while using a 5/0 or larger hook size)
- **Alternative A6c:** Require the use of circle hooks by all Atlantic HMS permit holders participating in fishing tournaments when targeting or retaining Atlantic sharks
- **Alternative A7:** Allow only catch and release of all Atlantic sharks by HMS permit holders. Anglers could fish for and target sharks but retention of all recreationally-caught sharks would be prohibited



# Preferred Commercial Alternatives



# Preferred Commercial Alternatives

- **Alternative B3:** Fishermen with an Atlantic shark limited access permit with pelagic longline gear must release all sharks not being retained using a dehooker or by cutting the gangion less than three feet from the hook
  - Would reduce the amount of trailing gear attached to released dusky sharks
  - Approach is similar to the approach for sea turtles and marine mammals, in that such animals released with a minimum of gear are assumed to have a greater likelihood of surviving
  - Would apply to all sharks not being retained, due to the difficulties in identifying dusky sharks from other shark species, particularly when sharks remain in the water



# Preferred Commercial Alternatives

- **Alternative B5:** Require completion of a shark identification and fishing regulation training as a new part of the Safe Handling and Release Workshop for vessel owners and operators of a HMS limited access permitted vessel that fishes with pelagic longline, bottom longline, or shark gillnet gear
  - Would apply to all HMS pelagic longline, bottom longline, and shark gillnet vessels owners and operators that are currently required to take Safe Handling and Release Workshop Training
  - Vessel owners and operators would be introduced to new material during next scheduled workshop; no need to attend workshop immediately
  - Would provide vessel owners and operators the best practices to avoid interacting with dusky sharks and how to minimize mortality of dusky sharks caught as bycatch



# Preferred Commercial Alternatives

- Alternative B6: Increase dusky shark outreach and awareness through development of additional commercial fishery outreach materials, and require pelagic longline, bottom longline, and shark gillnet vessels with shark limited access permits to abide by a dusky shark fleet communication and relocation protocol
  - Vessel operators would need to report the location of dusky shark interactions over the radio to other vessels in the area
  - Subsequent fishing sets on that fishing trip could be no closer than 1 nautical mile (nm) from where the encounter took place
  - Expected to reduce dusky shark bycatch
  - Expected to reduce the discard mortality rates of accidentally caught dusky sharks, in combination with Alternative B5 (workshop training)

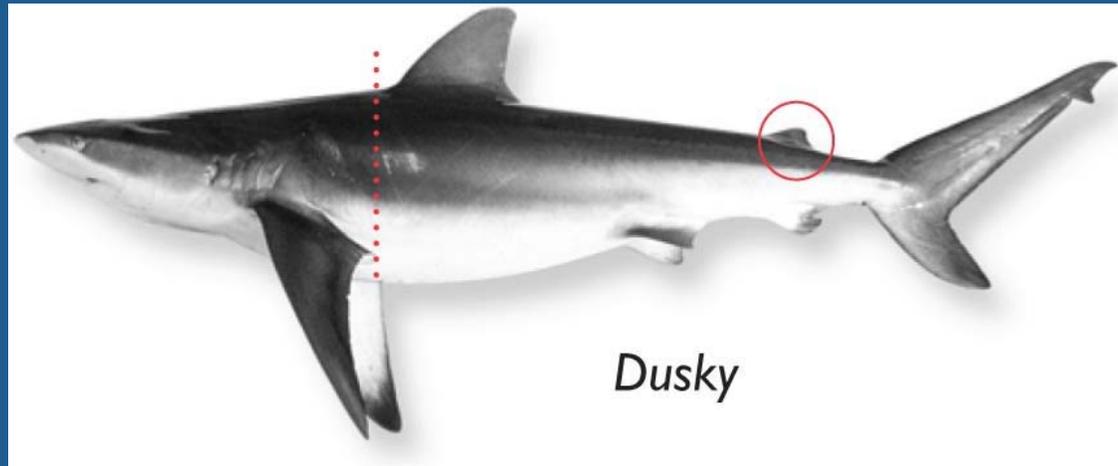


# Preferred Commercial Alternatives

- **Alternative B9:** Require the use of circle hooks by all shark directed limited access permit holders in the bottom longline fishery
  - Could reduce mortality of deep-hooked sharks by approx. 48%
  - Dusky sharks that are inadvertently caught in the commercial fishery would be released in better condition, reducing post-post-release mortality
  - Approximately 25 percent of bottom longline vessels do not currently solely use circle hooks



# Other Commercial Alternatives Considered



# Other Commercial Alternatives Considered

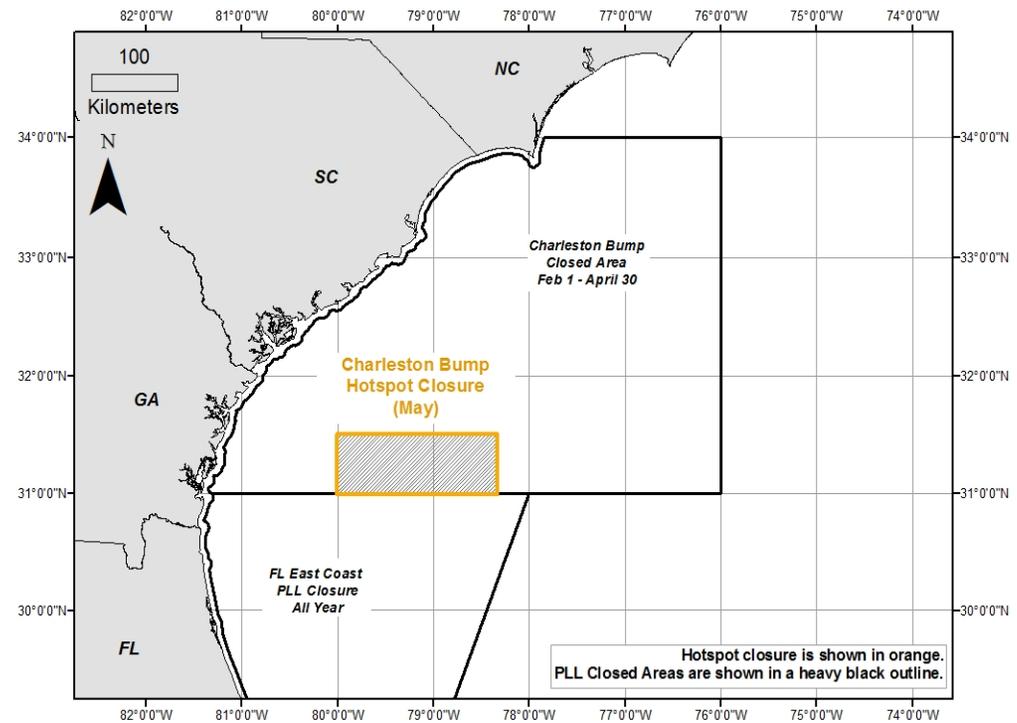
- **Alternative B1:** No action. Do not implement additional management measures to end overfishing and rebuild dusky sharks in commercial HMS fisheries
- **Alternative B2:** Fishermen with an Atlantic shark limited access permit and pelagic longline gear onboard would be limited to 750 hooks per pelagic longline set and no more than 800 assembled gangions onboard at any time

Target Species	Average Number of Hooks per PLL set (2008-2015)
Swordfish	726
Bigeye tuna	751
Yellowfin tuna	653
Mix of tuna species	744
Shark	392
Dolphin	1,056
Other species	389
Mix of species	748



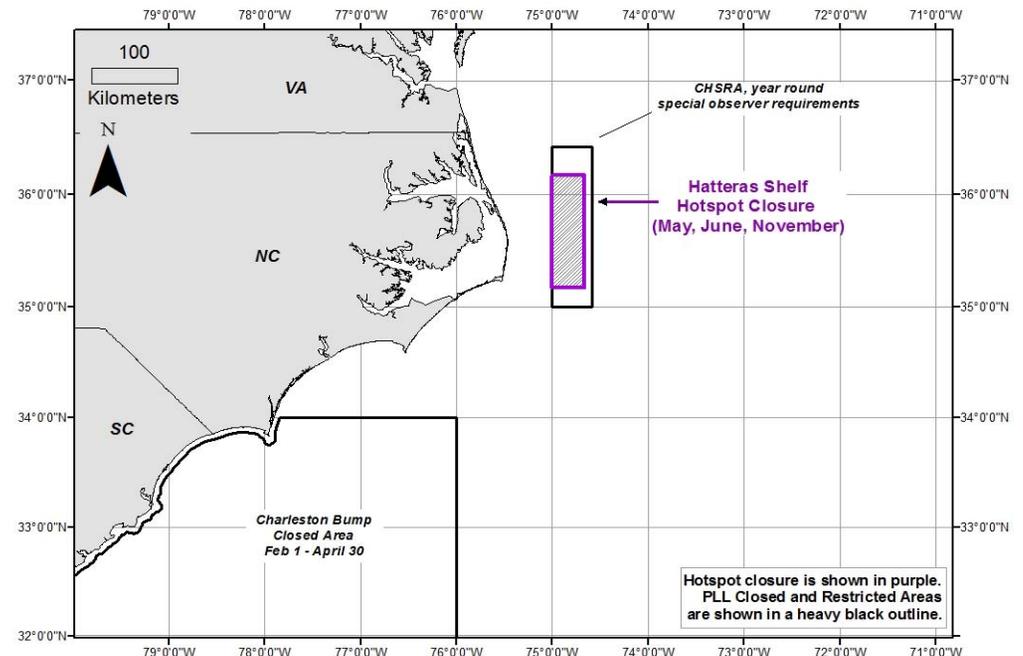
# Other Commercial Alternatives Considered

- **Alternative B4a:** Prohibit the use of pelagic longline gear in HMS fisheries in a portion of the Charleston Bump during the month of May (Charleston Bump Hotspot May)



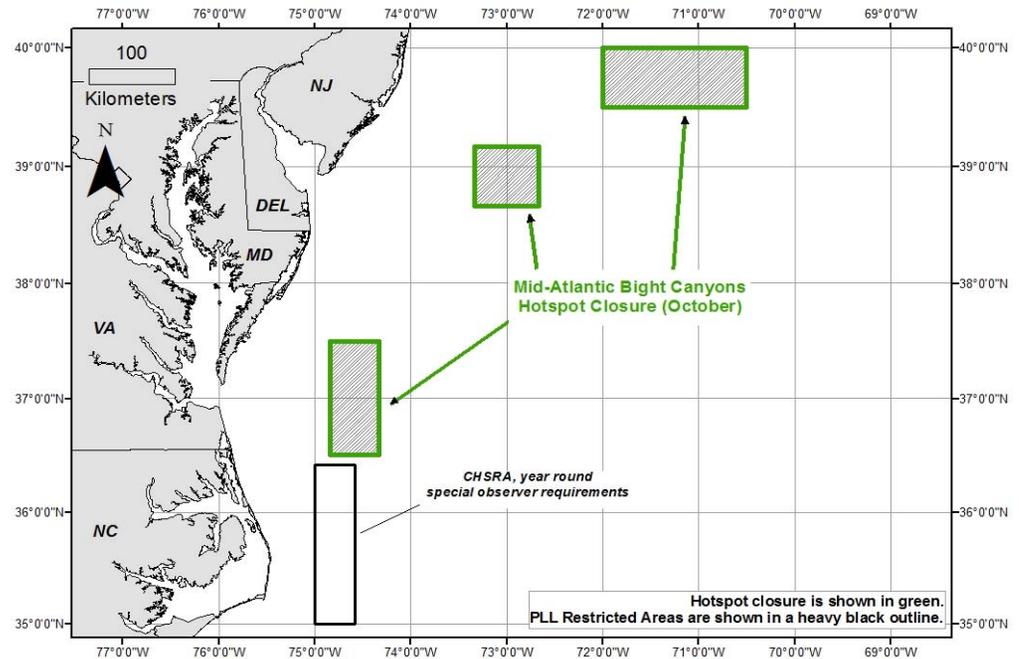
# Other Commercial Alternatives Considered

- **Alternative B4b:** Prohibit the use of pelagic longline gear in HMS fisheries in the vicinity of the Cape Hatteras Special Research/Hatteras Shelf Area during the months of May (Hatteras Shelf Hotspot May)
- **Alternative B4c:** Prohibit the use of pelagic longline gear in HMS fisheries in the vicinity of the Cape Hatteras Special Research/Hatteras Shelf Area during the months of June (Hatteras Shelf Hotspot June)
- **Alternative B4d:** Prohibit the use of pelagic longline gear in HMS fisheries in the vicinity of the Cape Hatteras Special Research/Hatteras Shelf Area during the months of November (Hatteras Shelf Hotspot November)



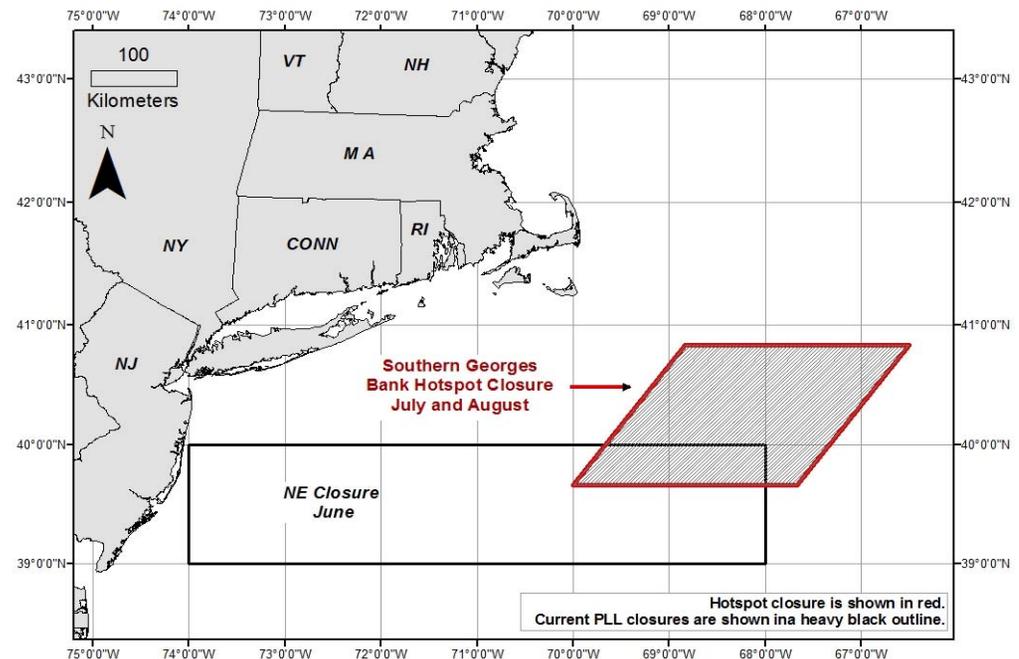
# Other Commercial Alternatives Considered

- Alternative B4e: Prohibit the use of pelagic longline gear in HMS fisheries in three distinct closures in the vicinity of the Mid Atlantic Bight Canyons (Canyons Hotspot October)



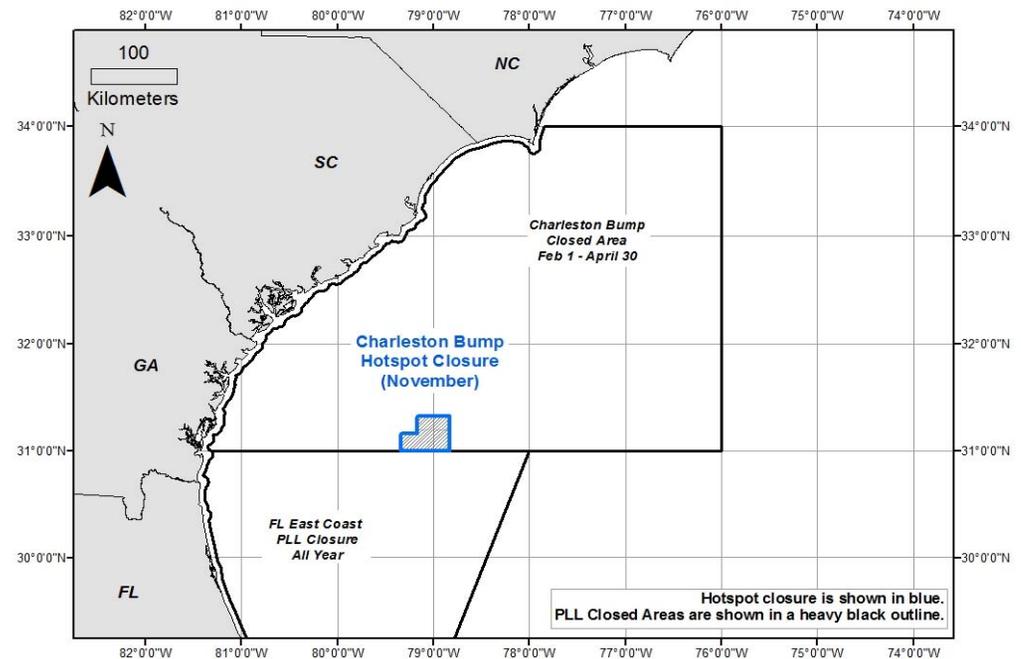
# Other Commercial Alternatives Considered

- Alternative B4f: Prohibit the use of pelagic longline gear in HMS fisheries in an area in the vicinity of the existing Northeastern closed area during the months of July (Southern Georges Banks Hotspot July)
- Alternative B4g: Prohibit the use of pelagic longline gear in HMS fisheries in an area in the vicinity of the existing Northeastern closed area during the months of August (Southern Georges Banks Hotspot August)



# Other Commercial Alternatives Considered

- **Alternative B4h:** Prohibit the use of pelagic longline gear in HMS fisheries in a portion of the Charleston Bump during the month of November (Charleston Bump Hotspot November)



# Other Commercial Alternatives Considered

- **Alternative B4i:** Allow conditional access to dusky shark hotspot closure areas for HMS vessels fishing with pelagic longline gear

NMFS would allow conditional access to dusky shark hotspot closure areas for the vessels fishing with pelagic longline gear who report or are observed interacting with the fewest dusky sharks in a year

- **Alternative B4j:** Implement dusky shark bycatch caps in the pelagic longline fishery

NMFS would establish specific limits or caps on how many dusky sharks could be caught in each hot spot area and allow pelagic longline vessels in those hot spot areas as long as there is an observer onboard; once the dusky shark bycatch cap for a particular area is reached, that area would close



# Other Commercial Alternatives Considered

- **Alternative B7:** Request that certain states (NJ, DE, MD, VA) and the ASMFC extend the end of existing Mid-Atlantic shark time/area closure from July 15 to July 31
- **Alternative B8:** Close the Atlantic HMS Pelagic Longline Fishery
- **Alternative B10:** Implement Individual Dusky Shark Bycatch Quotas (IDQs) for the commercial pelagic and bottom longline fisheries
  - NMFS would annually allocate a certain number of transferable dusky shark interactions to each permit holder
  - When the IDQ is reached, the vessel could no longer fish for HMS that year
  - Would require electronic monitoring on all pelagic and bottom longline vessels



# Summary

- The preferred alternatives should:
  - End overfishing on dusky sharks by reducing fishing mortality levels by at least 35% relative to 2015 levels
  - Ensure that fishing mortality levels on dusky sharks are maintained at or below levels that would result in rebuilding by 2107

## Preferred Recreational Alternatives

### Alternative A2

Require HMS permit holders fishing for sharks recreationally to obtain a shark endorsement, which requires completion of an online shark identification and fishing regulation training course, plus additional recreational fisheries outreach.

### Alternative A6a

Require the use of circle hooks by all HMS permit holders fishing for sharks recreationally and when using natural baits and using wire or heavy (200 lb or greater test) monofilament or fluorocarbon leaders.

## Preferred Commercial Alternatives

### Alternative B3

Fishermen with an Atlantic shark limited access permit with pelagic longline gear onboard must release all sharks not being retained using a dehooker or cutting the gangion less than three feet from the hook.

### Alternative B5

Require completion of a shark identification and fishing regulation training course as a new part of all Safe Handling and Release Workshops for HMS pelagic longline, bottom longline, and shark gillnet vessel owners and operators.

### Alternative B6

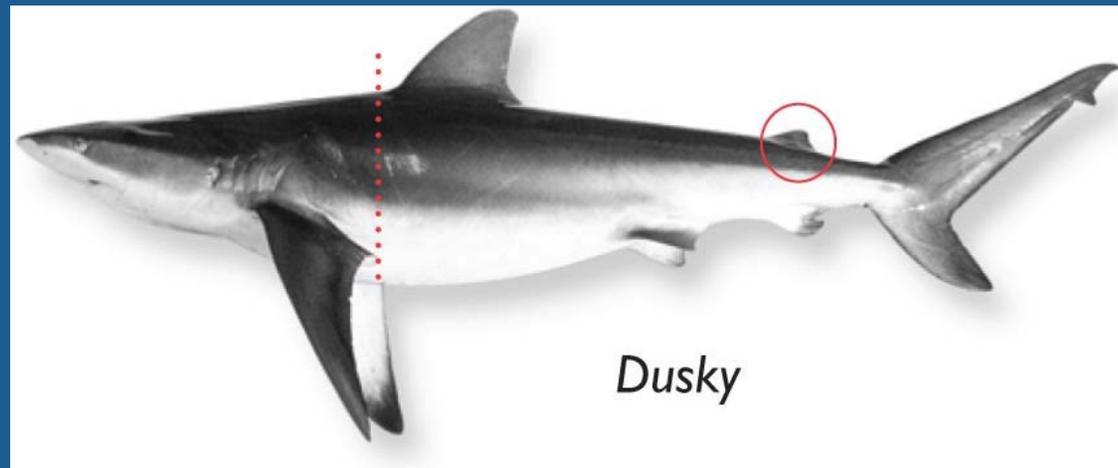
Increase dusky shark outreach and awareness through development of additional outreach materials, and require HMS pelagic longline, bottom longline, and shark gillnet vessels to abide by a dusky shark fleet communication and relocation protocol.

### Alternative B9

Require the use of circle hooks by all HMS directed shark permit holders using bottom longline gear.



# ACLs & AMs for Prohibited Sharks



## Annual Catch Limits (ACLs) & Accountability Measures (AMs)

- ACLs and AMs established for all sharks in Amendment 3 (2010)
- Draft Amendment 5b clarifies ACLs and AMs for the 19 prohibited sharks

ACL = 0

Basking <i>Cetorhinus maximus</i>	Dusky <i>Carcharhinus obscurus</i>	Sand Tiger <i>Carcharias taurus</i>	Sevengill <i>Heptranchias perlo</i>	Bigeye Sand Tiger <i>Odontaspis noronhai</i>
Bigeye Thresher <i>Alopias superciliosus</i>	Galapagos <i>Carcharhinus galapagensis</i>	Whale <i>Rhincodon typus</i>	Sixgill <i>Hexanchus griseus</i>	Bigeye Sixgill <i>Hexanchus nakamurai</i>
Bignose <i>Carcharhinus altimus</i>	Longfin Mako <i>Isurus paucus</i>	White <i>Carcharodon carcharias</i>	Narrowtooth <i>Carcharhinus brachyurus</i>	Smalltail <i>Carcharhinus porosus</i>
Caribbean Reef <i>Carcharhinus perezi</i>	Night <i>Carcharhinus signatus</i>	Atlantic Angel <i>Squatina dumeril</i>	Caribbean Sharpnose <i>Rhizoprionodon porosus</i>	

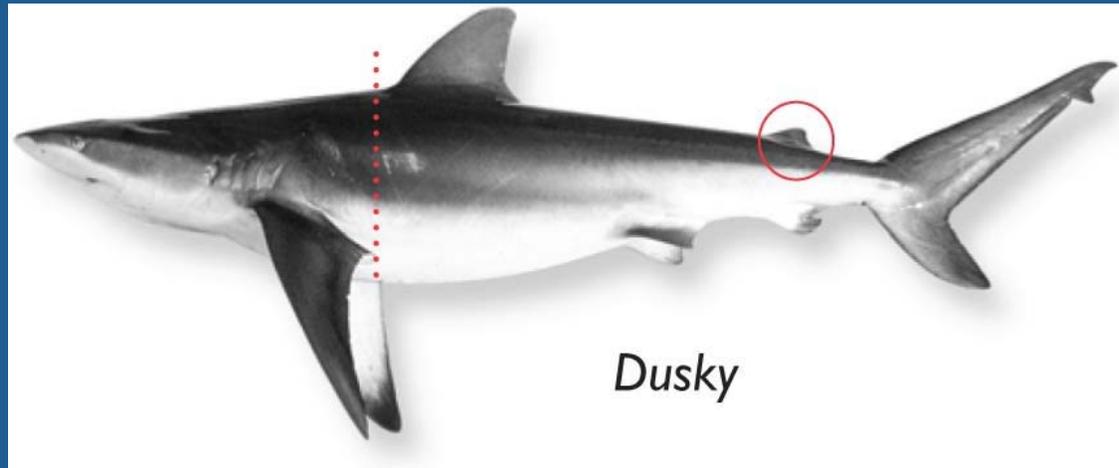


## Annual Catch Limits (ACLs) / Accountability Measures (AMs)

- Small amounts of bycatch are permissible where the ACL is set to zero and the bycatch is small and does not lead to overfishing
- There is a small amount of bycatch and illegal landings of prohibited sharks; this bycatch is not causing overfishing for most species
  - The most recent 3-year average (2013-2015) was 498 prohibited sharks
  - The 3-year averages from 2008 through 2015 ranged from 498 to 1,434 sharks; the mean 3-year average (2008-2015) = 921 sharks
  - The 3-year average is monitored annually to evaluate if additional management measures are needed
- For dusky sharks, the small levels of bycatch are causing overfishing
- The measures proposed in Draft Amendment 5b are AMs
- Additional AMs are not needed for dusky sharks and other prohibited sharks



# Request for Public Comments



# Specific Request for Public Comments

- Mortality reduction and rebuilding objectives based upon SEDAR 21 update
- ACL and AM approach for prohibited sharks
- Alternative A2
  - How can NMFS effectively implement the shark endorsement?
    - Appropriate effective date
    - Implementation strategy
- Alternatives A6a and A6b
  - Will the circle hook approach ensure the measure applies to the shark fishery?
    - Should different indicators of the recreational shark fishery be used?
    - Are  $\geq 200$  lb test monofilament or fluorocarbon leaders good indicators?
    - Is 5/0 or greater size hook a good indicator?
- Paperwork Reduction Act collection of information necessity



## Public Hearing/Webinar Dates

Venue	Date/time	Meeting locations	Location contact information
Public Hearing	November 9, 2016, 5 p.m. – 8 p.m.	Manalapan, NJ	Monmouth County Public Library – Headquarters 125 Symmes Road, Manalapan, NJ 07726
Public Hearing	November 15, 2016, 5:30 p.m. – 8:30 p.m.	Newport, RI	Hotel Viking 1 Bellevue Ave, Newport, RI 02840
Public Hearing	November 15, 2016, 5 p.m. – 8 p.m.	Belle Chasse, LA	Belle Chasse Branch Library 8442 Louisiana 23, Belle Chasse, LA 70037
Public Hearing	November 16, 2016, 5 p.m. – 8 p.m.	Houston, TX	Clear Lake City-County Freeman Branch Library 16616 Diana Lane, Houston, TX 77062
Public Hearing	November 21, 2016, 5 p.m. – 8 p.m.	Satellite Beach, FL	Satellite Beach Public Library 751 Jamaica Blvd., Satellite Beach, FL
Public Hearing	November 28, 2016, 5 p.m. – 8 p.m.	Manteo, NC	Commissioners Meeting Room, Dare County Administration Building 954 Marshall C. Collins Dr., Manteo, NC 27954
Conference call/Webinar	December 12, 2016, 2 p.m. – 4 p.m.	<p>To participate in conference call, call: ((888) 790-3514); Passcode: 1029249</p> <p>To participate in webinar, RSVP at:  <a href="https://noaaevents2.webex.com/mw3100/mywebex/default.do?nomenu=true&amp;siteurl=noaaevents2&amp;service=6&amp;rnd=0.5722618598976709&amp;main_url=https%3A%2F%2Fnoaaevents2.webex.com%2Fec3100%2Feventcenter%2Fevent%2FeventAction.do%3FtheAction%3Ddetail%26%26%26EMK%3D4832534b0000000274c902c10b1213f88484f05821429342e756fdecbad04e74e804da6c498aaf5f%26siteurl%3Dnoaaevents2%26confViewID%3D422630081%26encryptTicket%3DSDJTSwAAAAJC7aKRCiFiqT_gqFItkrAG9vq8AwtwiNksxtKEngpmzQ2%26">https://noaaevents2.webex.com/mw3100/mywebex/default.do?nomenu=true&amp;siteurl=noaaevents2&amp;service=6&amp;rnd=0.5722618598976709&amp;main_url=https%3A%2F%2Fnoaaevents2.webex.com%2Fec3100%2Feventcenter%2Fevent%2FeventAction.do%3FtheAction%3Ddetail%26%26%26EMK%3D4832534b0000000274c902c10b1213f88484f05821429342e756fdecbad04e74e804da6c498aaf5f%26siteurl%3Dnoaaevents2%26confViewID%3D422630081%26encryptTicket%3DSDJTSwAAAAJC7aKRCiFiqT_gqFItkrAG9vq8AwtwiNksxtKEngpmzQ2%26</a> </p>	



# Summary of Public Comments To Date

- Recreational Measures
  - Shark Endorsement Training/Quiz should be short, focused on dusky sharks
  - Allow flexibility in adding/cancelling Shark Endorsement
  - Circle hook requirement should not apply north of dusky shark range (~New England)
  - Definition of shark fishing (natural bait + heavy wire/mono leader) should not affect fishing for other species (dolphin, wahoo, billfish, swordfish)
  - NMFS needs to improve recreational catch estimates of dusky sharks (and other species)
  - Compliance with HMS Angling permits is low. How can NMFS improve this?



# Summary of Public Comments To Date

- **Commercial Measures**
  - Cutting PLL gangions less than 3 feet from the hook has safety concerns
  - Is 1 nautical mile enough distance to reduce bycatch after a dusky interaction?
  - One commenter suggested that circle hooks may not reduce mortality on BLL, and that J-hooks still tend to hook sharks in the mouth
- **Other Comments**
  - Why not implement measures in non-HMS fisheries that have bycatch?
  - Why not use the TAC estimates in the assessment update?
  - Will outreach and education contribute to the needed mortality reductions?
  - What about dusky shark mortality in state waters?
  - How will NMFS monitor progress?



# Breakout Discussions

- **Recreational Group**
  - How/when can NMFS effectively implement the shark endorsement?
  - How should NMFS implement the circle hook requirement to capture all shark fishing activity without impacting fishing for other species (i.e., gear/bait combinations)?
- **Commercial Group**
  - Do any measures result in legitimate safety concerns and can those be mitigated?
  - Can the fleet notification and relocation protocol be improved?
- **All**
  - Is the ACL/AM approach for prohibited species understandable?
  - What types of outreach materials are recommended (e.g., paper, web, placards, videos, magazine articles)?



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# Request for Public Comments

Comment period closes on:  
**December 22, 2016**

Please submit comments to:

<http://www.regulations.gov>

Keyword - "NOAA-NMFS-2013-0070"

Comments can also be submitted via fax: 301-713-1917, Attn: Tobey Curtis

Or Mail: NMFS SF1, 1315 East-West Highway, Silver Spring, MD 20910

Please identify comments with NOAA-NMFS-2013-0070

For more information go to: <http://www.nmfs.noaa.gov/sfa/hms/> or contact Tobey Curtis [tobey.curtis@noaa.gov](mailto:tobey.curtis@noaa.gov) or Karyl Brewster-Geisz [karyl.brewster-geisz@noaa.gov](mailto:karyl.brewster-geisz@noaa.gov) at (301) 427-8503