

DUSKY SHARK CONSERVATION OUTREACH PLAN

AMENDMENT 5B TO THE 2006 CONSOLIDATED ATLANTIC HIGHLY MIGRATORY SPECIES FISHERY MANAGEMENT PLAN



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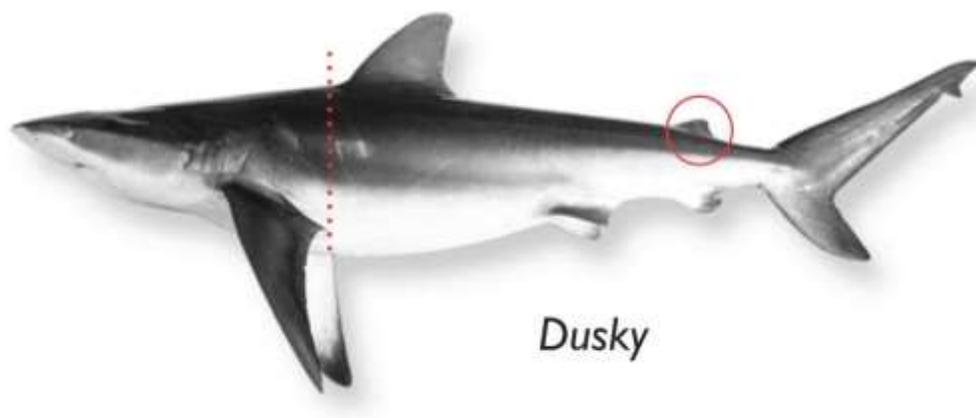
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Introduction

The National Marine Fisheries Service (NOAA Fisheries) is responsible for the conservation and management of U.S. Atlantic shark stocks. The dusky shark, *Carcharhinus obscurus*, is overfished and experiencing overfishing in the U.S. Atlantic, including the Gulf of Mexico and U.S. Caribbean. Along with a number of other shark species, the dusky shark is a prohibited species, meaning that it cannot be possessed or landed. However, fishing mortality is still occurring as a result of mistaken illegal harvest and bycatch in various fisheries.

To end overfishing of dusky sharks and rebuild the stock to sustainable levels, NOAA Fisheries developed Amendment 5b to the 2006 Consolidated Highly Migratory Species (HMS) Fishery Management Plan (FMP). A crucial element of Amendment 5b is to improve outreach and provide educational materials to recreational and commercial fishermen who are likely to encounter dusky sharks and other prohibited species to help ensure that they are avoided or released in a way that maximizes their chances of survival. These actions will help reduce dusky shark mortality. This document describes this Outreach Plan.



The overall goal of this Outreach Plan is to clarify how NOAA Fisheries' outreach efforts will help to reduce dusky shark fishing mortality. To achieve this goal, the Outreach Plan describes:

- The outreach resources that NOAA Fisheries will be creating and to whom they will be distributed,
- How fishermen will be provided the resources to properly identify dusky sharks and other prohibited species,
- How fishermen will be educated on the best practices to release sharks with a minimum of injury to the shark and the fishermen,
- How fishermen will be educated on the appropriate way to report dusky and other sharks, and
- How NOAA Fisheries will work to inform fishermen of the regulations and understand the reasons behind those regulations.

Effective outreach and education will help end overfishing and rebuild the dusky shark stock, and improve data collection on dusky shark catches to provide more accurate data for managing the stock and future stock assessments.

Outreach will not be limited to HMS fisheries, as dusky sharks are occasionally caught in other fisheries, including coastal and offshore recreational fisheries for various species (e.g., billfish, tunas, wahoo, bluefish, snapper/grouper, etc.) and a number of state and Regional Fishery Management Council-managed commercial fisheries in the U.S. Atlantic, Gulf of Mexico, and Caribbean. Thus, NMFS's goal is to broadly distribute education materials and intends to reach out beyond HMS.

Recreational Fisheries Outreach

Objectives

This Outreach Plan has several objectives regarding recreational anglers including:

- Informing anglers that HMS permit holders are required to obtain a shark endorsement to recreationally fish for or retain sharks (required as of January 1, 2018).
- Informing anglers of the requirement to use circle hooks when fishing for sharks and its few exceptions (required as of January 1, 2018).
- Improving shark identification skills among recreational shark anglers. This education will focus on knowing that sharks that have an interdorsal ridge are likely a prohibited species such as dusky sharks and should be released with a minimum of harm.
- Improving anglers' awareness of the minimum size and retention limits for sharks.
- Improving awareness, across a broad range of fisheries, of best practices for catching and releasing sharks with a minimum of harm to the shark and the angler.

Description of Target Audiences

1. **Atlantic HMS Recreational Permit Holders** – In 2015, NOAA Fisheries issued 23,789 Atlantic HMS vessel permits (20,193 HMS Angling and 3,596 HMS Charter/Headboat), authorizing recreational fishing for sharks in the federal waters of the Atlantic, Caribbean, and Gulf of Mexico. Under the new management measures, these permit holders will be required to obtain a shark endorsement to fish for, land, possess or retain sharks as of January 1, 2018.
2. **Atlantic HMS General Commercial Permit Holders** – In 2015, NOAA Fisheries issued 3,780 Atlantic Tunas General Category permits and/or Swordfish General Commercial permits. These permits authorize fishermen to participate in registered HMS tournaments, including recreational shark tournaments. As of January 1, 2018, these permit holders will be required to obtain a shark endorsement if they wish to fish for or retain sharks during registered HMS tournaments.
3. **Atlantic HMS Fishing Tournaments** - Since 2005, an average of 260 HMS tournaments have been registered each year, with 272 registered in 2015. In 2015, about a third of registered HMS tournaments included prize categories for shark species. NOAA Fisheries regularly provides outreach and education materials to HMS fishing tournaments on request, and includes shark related materials to shark tournaments. NOAA Fisheries Office of Law Enforcement (OLE) personnel and scientists also regularly attend tournaments for outreach, enforcement, and data collection purposes.
4. **Non-HMS Saltwater Anglers** – In 2015, nearly 10 million individuals participated in marine recreational fishing along the Atlantic and Gulf of Mexico coasts (Fisheries of the United States, 2015), and approximately 85 percent of all saltwater fishing trips took place in state waters where an HMS permit is not required to fish for or land sharks. For some popular species of coastal sharks, such as blacktip sharks, upwards of 95 percent of catches can be in state waters, including from the shore or dock, in a given year. Therefore, outreach to anglers that fish in state waters for sharks or other species, and who may not be required to hold an HMS permit, is an essential component of this Outreach Plan.

5. **State Fisheries Agencies, Commissions, and Councils** – The Atlantic HMS region encompasses 18 coastal states and two U.S. Territories (Puerto Rico and the U.S. Virgin Islands) each with their own marine fisheries agency, five Fishery Management Councils, and two Marine Fisheries Commissions. Each of these entities represents both a prospective audience for and partner in the dissemination of shark fishing outreach materials. These organizations will be particularly important for disseminating outreach materials to state water anglers and those anglers fishing for sharks from shore.
6. **Marine Recreational Fishing Media** – Recreational fishing media can be an important resource for disseminating information on federal fishing regulations to recreational anglers. Numerous publications target saltwater anglers that fish in both inshore and offshore waters. All of these media sources also have significant presences on the web and social media.
7. **Marinas, Saltwater Bait and Tackle Stores, and Fishing shows** – Targeting distribution of outreach materials to key marinas and bait and tackle stores can be a key means of getting outreach materials to recreational anglers. Saltwater fishing shows are also excellent venues for getting outreach materials to recreational anglers. NOAA Fisheries often has a presence at these events with members of OLE or local port agents in attendance to distribute materials on fishing regulations.

Summary of Applicable Regulations

The following summarizes regulations applicable to the recreational shark fisheries, whether through this Amendment or otherwise.

1. **Shark Endorsement:** Vessel owners must have a valid Atlantic HMS fishing permit and shark endorsement for their vessel to fish recreationally for sharks. These permits are required if the vessel intends to fish in federal waters of the Atlantic, Gulf of Mexico, and the Caribbean; however, once the permit is obtained, the vessel owner or operator must follow federal regulations regardless of where they are fishing, including in state waters, unless the state has more restrictive regulations and then the state regulations apply. All passengers on board a vessel with a valid HMS permit and shark endorsement may recreationally fish for and retain sharks under applicable conditions.
2. **Circle hooks:** Anyone fishing recreationally for sharks on a vessel with an Atlantic HMS permit and shark endorsement is required to use non-offset, non-stainless steel circle hooks whenever they are fishing for sharks south of 41° 43' N latitude (Chatham, MA), except when fishing with flies or artificial lures. Non-offset circle hooks, artificial lures, and flies are less likely to hook dusky sharks in the throat or gut, and instead will more often set in the jaw or corner of the mouth. Additionally, non-stainless steel hooks will more readily corrode if left in the shark due to a break off or cutting the line. Dusky sharks are not found north of 41° 43' N latitude (Chatham, MA), and therefore the circle hook requirement does not apply there.
3. **Prohibited Species Identification:** Twenty-one shark species, including dusky sharks, cannot be kept by recreational anglers. These include 19 species of sharks that are prohibited from retention in all fisheries, and two species (sandbar and silky sharks) that are currently prohibited from retention in the recreational fishery under other management measures. Dusky sharks can easily be confused with some shark species that are legal to retain, such as the bull, blacktip, and spinner shark. Dusky sharks have an interdorsal ridge, which is a visible line of raised skin between the dorsal fins and is a simple identification feature. Most sharks with an interdorsal ridge, including dusky and sandbar sharks, are prohibited sharks and cannot be retained. Exceptions are the tiger, oceanic whitetip, and smoothhound sharks, which have distinguishing features other than the interdorsal ridge.
4. **Size limits:** The minimum size for most sharks that can be kept recreationally is *54 inches* fork length (measured from the tip of the snout with closed mouth to the center of the fork in the tail).

This includes commonly targeted sharks such as blacktip, spinner, shortfin mako, and common thresher sharks. The minimum size for certain hammerhead sharks (great, scalloped, and smooth) is 78 inches fork length. Atlantic sharpnose, bonnethead, and smoothhound sharks have no minimum size.

5. **Retention Limits:** Recreational anglers can retain one shark per vessel and one Atlantic sharpnose and one bonnethead shark per person onboard; there is no retention limit for smoothhound sharks. If a vessel retains a hammerhead or oceanic whitetip shark, no tunas, billfish, or swordfish can be retained, or vice versa.
6. **Safe Catch and Release when fishing for sharks on a vessel:** The following are recommended guidelines for releasing sharks from a vessel.
 - a. HMS anglers are **required** to keep in the water sharks that they intend or are required to release, preferably at boatside and away from the propeller, while safely removing the hook using a dehooking device and safe handling gear. If you want pictures with the shark, have a third person on hand take them while you are in the process of releasing the shark. The whole process of releasing a shark should take no more than a couple of minutes.
 - b. If you cannot remove the hook or if removing the hook would cause danger to yourself or the shark, you should cut the leader as close to the hook as safely possible in order to minimize any trailing gear, or cut the hook itself with bolt cutters if that is a safe option.
 - c. You should use appropriately heavy fishing tackle to minimize fight time and ensure the shark is not fought to exhaustion as this will increase its chances for survival after release.
 - d. You should not gaff a shark that you plan on releasing, but should use a tail rope to keep control of the shark at boatside if it is a large one.
 - e. If you plan to keep the shark and are using a gaff, you should use a lip gaff in the lower jaw, which provides better control of the shark, as opposed to gaffing the shark in the body.
 - f. In order to measure the shark, you should be sure to rig a measuring device along the side of the vessel so the shark can be measured in the water.
 - g. When it is time to release the shark, you should allow water to flow over the gills by moving the shark forward in the water, or by positioning the shark so the current flows toward the head of the animal, until its energy returns.
 - h. **All prohibited sharks, including dusky sharks, must be released in the water with a minimum of harm.**
 - i. The whole process of landing and releasing a shark should take no more than a couple of minutes.
7. **Safe Catch and Release when fishing for sharks from the shore:** NOAA Fisheries does not regulate shark fishing in state waters, but the following recommendations are considered best practices for maximizing angler safety and survival of sharks released from the shore.
 - a. You should avoid crowded beaches when fishing for sharks as swimmers could get entangled in your line.
 - b. You should never fish for large sharks alone as a minimum of two people are required to handle them safely. You will need a third person accompanying you if you want to safely photograph the shark in a way that maximizes its chances of survival.
 - c. You should use appropriately heavy fishing tackle to minimize fight time and ensure the shark is not fought to exhaustion as this will increase its chances for survival after release.
 - d. Once the shark is brought into shallow enough water, you should keep a tight line to control the head of the shark while your fishing partner approaches the shark by the tail.
 - e. **If the shark is a prohibited species such as a dusky shark, shore anglers are advised to cut the line/leader as close to the shark as possible to minimize the**

chance of entanglement with trailing gear, and release the shark immediately. Do not bring prohibited sharks into shallower water for measurement or a photo opportunity, and never pull them on to the sand. All prohibited sharks, including dusky sharks, must be released in the water with a minimum of harm.

- f. If it is a species of shark that can be legally kept, then the shark may be handled slightly longer to obtain a measurement and photo. Use a tail rope to get control of a large shark and maneuver it into water shallow enough to remove the hook.
 - g. Avoid handling sharks in the breaking waves as this compromises both the angler's and shark's safety, but try to keep the shark in the lighter surf between the breakers and dry beach with its head facing the open water to maintain a regular flow of water over its gills.
 - h. Never drag a shark you plan to release onto dry sand, and never lift up its head for a photo. Dry sand can be extremely abrasive on a shark's skin, and can do damage if it gets into a shark's gills. Furthermore, both practices remove the shark's gills from contact with the water which cuts off their supply of oxygen and places the animal under stress that reduces its chances for survival after release.
 - i. Remove the hook quickly with a dehooker device, or cut the line if this cannot be accomplished quickly (within 10 seconds).
 - j. Once the hook is removed or line cut, guide the shark back into the open water, head first, until it can swim off on its own. If you want pictures with the shark, have a third person on hand take them while you are in the process of releasing the shark. The whole process of landing and releasing a shark should take no more than a couple of minutes.
- 8. Safe Catch and Release when fishing for sharks from a pier:** NOAA Fisheries does not regulate shark fishing in state waters but strongly discourages anglers from fishing for sharks from piers. Piers are not a safe platform from which to catch and release a large shark as there are often numerous bystanders, and the height of the pier above the water makes it impossible for the angler to release the shark safely while it is still in the water. Anglers that catch large sharks from piers generally have no choice but to walk the shark down the pier to land it on the beach. This requires maneuvering around other anglers, risks the shark entangling the line around a piling, and prolongs the fight with the shark, thus increasing its chances of dying post-release from exhaustion. Anglers that incidentally hook large sharks from piers are encouraged to make every effort to break off the shark as quickly as possible. Most fishing knots are weaker than the line itself, so breakoffs will often occur at the hook or leader connection. This can be accomplished by tightening the drag on the reel, and pointing the tip of rod directly at the fish with no bend in the rod while pulling the rod backwards sharply. This will maximize pressure on any knots in the fishing line. If the shark cannot be broken off at a distance, cut the line once the shark is brought closer to the pier to minimize the amount of trailing gear. Alternatively, if the line can be maneuvered in a way to place it across the shark's jaw, the shark may be able to cut the line itself. **All prohibited sharks, including dusky sharks, should be released in the water with a minimum of harm.**

Materials

1. **Shark Endorsement Training Course and Quiz** – Completion of a shark identification and fishing regulations training course and quiz is required to obtain the new shark endorsement required for HMS permit holders wishing to fish for sharks (as of January 1, 2018). The training course consists of a video on identification of dusky and other prohibited ridgeback shark species, and other shark fishing regulations. The video will be followed by a short quiz. No minimum score will be required to receive the shark endorsement, but the course and quiz will have to be completed.
2. **Atlantic HMS Recreational Fishing Website** – This NOAA Fisheries website provides links to agency web pages and materials related to Atlantic shark management. Anglers can find links to

the HMS Recreational Compliance Guide, Shark ID Placards, safe handling and release brochures, and permit websites.

3. **Recreational Shark Identification Placard** – This placard provides a key for identifying sharks that recreational anglers are permitted to retain, and select prohibited shark species including ridgeback sharks. http://www.NOAA Fisheries.noaa.gov/sfa/hms/species/sharks/rec_shark_id_placard.pdf
4. **Dusky Shark Identification Postcard** – This new, postcard-sized placard or sticker will supplement the Recreational Shark Identification Placard by providing a more detailed description of dusky sharks.
5. **Prohibited Shark Identification Placard** – This new placard will provide images and detailed descriptions of prohibited shark species that anglers are likely to catch, including dusky sharks. This will serve as an easy quick reference guide for anglers to identify sharks that must be released if caught.
6. **HMS Recreational Compliance Guide** – This compliance guide provides a summary of all Atlantic HMS recreational fishing regulations, including shark-fishing regulations, in plain language format. <http://www.NOAA Fisheries.noaa.gov/sfa/hms/compliance/guides/index.html>
7. **Amendment 5b Compliance Guide** – This addendum to the HMS Recreational Compliance Guide will outline the new recreational and commercial shark fishing requirements enacted under Amendment 5b, their purpose, to whom they apply and when, and how shark fishermen can comply with them.
8. **Safe Handling and Release Brochure** – This brochure provides guidance on safe handling and release techniques for recreationally-caught HMS, and will be updated with more focus on prohibited sharks. http://www.nmfs.noaa.gov/sfa/hms/compliance/guides/careful_release_brochure.pdf
9. **Social Media Posts** – Posts for social media sites like Twitter, Facebook, and Instagram for the NOAA Fisheries account will share information on new requirements for recreational shark anglers, and information on prohibited sharks and their identification with links to related web materials. The NOAA Fisheries Facebook page currently has over 60,000 “likes” and the Twitter account has over 36,000 followers.
10. **HMS Listserv Notices and Press Releases Targeting Recreational Fishing Media** – NOAA Fisheries will issue a series of HMS Listserv notices and press releases that will help to inform HMS permit holders and the relevant saltwater recreational fishing media about the new shark endorsement and circle hook requirements as well as new materials on prohibited shark identification. These will be issued upon release of relevant new materials, and again when the new shark fishing requirements go into effect at the beginning of the 2018 fishing season.

Dissemination Plan

Action	Timeline
Publication of Amendment 5b Final Rule in Federal Register	April 2017
HMS Listserv Notice announcing publication of final rule and that shark endorsement and circle requirements will be effective January 1, 2018	Upon filing of final rule and again in advance of effective date for 2018 season
Report to HMS Advisory Panel on new recreational requirements and presentation of draft shark endorsement training course and quiz	May 2017
Release of updated HMS Recreational Compliance Guide	Spring 2017
Release A5b Recreational Shark Fishing Requirements Factsheet	Spring 2017
Release HMS Recreational Size and Bag Limit Sheet	Spring 2017
Release Prohibited Shark Identification Placard	Summer 2017
Update HMS Shark Website	Spring/Summer 2017
Social media posts on new recreational shark fishing requirements	Summer 2017 thru Summer 2018
Shark endorsement and training course goes live on HMS Permit Shop – voluntary for anglers, beta testing	June 2017
Distribute shark recreational fishing outreach materials to state agency, council, commission, and recreational fishing media points of contact for distribution on their websites and at public events in 2018	Summer/Fall 2017
Distribute shark recreational fishing outreach materials at shark fishing tournaments, major regional saltwater fishing expos, and select marinas and bait and tackle shops	Throughout 2017 and beyond
Final shark endorsement and training course goes live on HMS Permit Shop – required for shark fishing starting January 1, 2018	November 2017

Commercial Fisheries Outreach

While unintentional bycatch of dusky sharks is uncommon in most fisheries, their occurrence over such a broad range and in numerous fisheries means that many commercial fishermen have a chance of encountering them. Therefore, any outreach should reach a broad audience across regional commercial fisheries.

Objectives

The Amendment 5b Outreach Plan has several objectives regarding commercial fishermen including:

- Informing HMS fishermen about the need to follow the new shark release protocols that require the use of a dehooker or cutting the gangion less than three feet from the hook as safely as practicable.
- Informing fishermen about the addition of the new shark identification and fishing regulation training course as a new part of existing Safe Handling and Release Workshops. The objective of this new training is to improve shark identification and safe handling skills among commercial pelagic longline, bottom longline, and shark gillnet fishermen. Shark identification materials will particularly focus on prohibited species such as dusky sharks, to reduce accidental landings of prohibited species, and improve data collected on discards.
- Inform commercial pelagic longline, bottom longline, and shark gillnet fishermen of the newly required fleet communication and relocation protocol. The protocol requires vessels to report the location of dusky shark interactions over the radio to other vessels in the area and that subsequent fishing sets by that vessel on that fishing trip must be at least 1 nautical mile (nm) from where the encounter took place.
- Inform commercial shark fishermen that fish with bottom longline of the new requirement to use circle hooks.

Description of Target Audiences

1. **Atlantic Shark Limited Access Commercial Permit Holders** – In 2015, NOAA Fisheries issued 186 directed swordfish, 72 incidental swordfish, 83 handgear swordfish, 223 directed shark, 271 incidental shark, and 280 tunas longline permits, authorizing fishing commercially for HMS in the federal waters of the Atlantic, Caribbean, and Gulf of Mexico.
2. **Non-HMS Permitted Commercial Fisheries** – There are numerous Council-managed, Commission-managed, and state-managed commercial fisheries in federal waters that have occasional bycatch of sharks, including dusky sharks. NOAA Fisheries will make its commercial outreach materials available to non-HMS commercial fisheries, with a focus on disseminating this information to the regions and fisheries with more frequent dusky shark interactions.
3. **State Fisheries Agencies, Commissions, and Councils** – The Atlantic HMS region encompasses 18 coastal states and 2 U.S. Territories (Puerto Rico and the U.S. Virgin Islands) each with their own marine fisheries agency, five Fishery Management Councils, and two Marine Fisheries Commissions. Each of these entities represents both a prospective audience for and partner in the dissemination of shark fishing outreach materials. These organizations will be particularly important for disseminating outreach materials to state water commercial shark fishermen, and non-HMS state and federal commercial fisheries that may have occasional bycatch of sharks.

- 4. Commercial Fishing Media** – The commercial fishing media can be an important resource for disseminating information on federal fishing regulations to commercial fishermen. Numerous publications target commercial fishermen that fish in both inshore and offshore waters. The HMS Advisory Panel may have recommendations for which media to target. These media outlets should also have significant presences on the web and social media.

Summary of Applicable Regulations

- 1. Shark Release Protocol:** Fishermen with an Atlantic shark limited access permits (directed or incidental) with pelagic or bottom longline gear onboard must release all sharks not being retained using a dehooker or cutting the gangion less than three feet from the hook as safely as practicable in order to minimize trailing gear on the shark.
- 2. Additional Training:** HMS pelagic longline, bottom longline, and shark gillnet vessel owners and operators are required to complete a shark identification and fishing regulation training course as a part of existing Safe Handling and Release Workshops.
- 3. Shark Identification:** There are 19 species of sharks, including the dusky sharks, that are prohibited from retention. Dusky sharks can easily be confused with some shark species (sometimes collectively called “brown sharks”) that are legal to retain, such as bull or blacktip sharks. Dusky sharks are identifiable by an interdorsal ridge, which is a visible line of raised skin between dorsal fins. It is important to note that sandbar sharks, which are also often confused with dusky shark and can be caught in the same areas as dusky sharks, can only be retained by commercial fishermen participating in the shark research fishery.
- 4. Circle hooks:** Non-stainless steel circle hooks are required for all HMS directed shark permit holders using pelagic and bottom longline gear.
- 5. Outreach and Fleet Communication Protocol:** If a dusky shark is caught, pelagic longline, bottom longline, and shark gillnet vessels are now required to relocate at least one nautical mile before resetting their fishing gear, and broadcast the position of the interaction over the radio to nearby vessels as quickly as practicable.
- 6. Trip Limits:** Retention limits for commercial shark fishermen vary by permit type, species group, and region (Atlantic or Gulf of Mexico). Currently, the default trip retention limit for shark directed permit holders is 45 large coastal sharks, 8 blacknose sharks, and unlimited pelagic or non-blacknose small coastal sharks. Conversely, the default trip retention limit for shark incidental permit holders is 3 large coastal sharks, 8 blacknose sharks, and 16 pelagic or non-blacknose small coastal sharks. The large coastal shark retention limit can vary throughout the year based on in-season adjustments meant to prevent quota overages.

Materials

- 1. Shark Identification and Fishing Regulations Training Course** – Completion of a shark identification and fishing regulations training course will be required as part of the regular Safe Handling and Release Workshops that pelagic longline, bottom longline, and shark gillnet fishermen are already required to complete every three years. The training will cover shark identification, particularly identification of prohibited species such as dusky sharks, the new shark release protocols, and the new fleet communication and relocation protocol.

2. **Atlantic HMS Website** – This NOAA Fisheries website provides links to agency web pages and materials related to Atlantic shark management. Commercial shark fishermen can find links to the HMS Commercial Compliance Guide, Shark ID Placards, and permit websites.
3. **HMS Commercial Compliance Guide** – This compliance guide provides a summary of all Atlantic HMS commercial fishing regulations, including shark-fishing regulations, in plain language format. <http://www.nmfs.noaa.gov/sfa/hms/compliance/guides/index.html>
4. **Amendment 5b Commercial Shark Fishing Requirements Factsheet** – This factsheet will use a Q&A format to outline the new commercial shark fishing requirements enacted under Amendment 5b, their purpose, to whom the new requirements apply and when, and how shark fishermen can comply with them.
5. **HMS Listserv Notices** – NOAA Fisheries will issue a series of HMS Listserv notices that will help to inform HMS permit holders about the new shark release protocols, fleet communication and relocation protocol, shark identification and fishing regulations training, and the new circle hook requirements in the bottom longline fishery. These will be issued upon release of the Amendment 5b final rule, release of relevant new materials, and again when the bottom longline circle hook shark fishing requirement goes into effect at the beginning of the 2018 fishing season.
6. **Other NOAA Fisheries Communications** – NOAA Fisheries will distribute its commercial outreach materials through other existing forms of communications including the NOAA Navigator *Commercial Fisheries News* insert, newsletters, port agents, and social media.

Dissemination Plan

Action	Timeline
Publication of Amendment 5b Final Rule in Federal Register	April 2017
HMS Listserv Notice announcing publication of final rule, the new commercial fisheries requirements, and their effective dates	Upon filing of final rule and again in advance of effective date for 2018 season
Report to HMS Advisory Panel on new commercial shark fishing requirements	May 2017
Release of updated HMS Commercial Compliance Guide	Spring 2017
Release A5b Compliance Guide Addendum	April 2017
Update the SHARKS page on the Atlantic HMS website	Spring 2017
Distribute shark commercial fishing outreach materials to state agency, council, commission, and commercial fishing media/organization points of contact for distribution on their websites and at public events in 2017 and 2018	Spring/Summer 2017

Assessing Effectiveness

NOAA Fisheries expects to monitor the effectiveness of this Outreach Plan in meeting the objectives of Amendment 5b, and will adjust the Plan as needed. This monitoring will include reviewing the following indicators:

Recreational Indicators

- Percentage of HMS recreational permit holders acquiring the shark endorsement and completing the shark identification and regulations training course and quiz. This will allow us to track the number of permit holders that are targeting sharks or want to have the opportunity to retain sharks caught incidentally while fishing for other species.
- Respondent answers to the shark identification and regulations quiz to identify areas where greater outreach and improvements to the training course are required.
- Percentage of recreational fishing trips landing sharks intercepted by the Large Pelagics Survey (LPS) where circle hooks are used. This will allow us to track compliance rates with the circle hook requirement, and inform estimates of post-release mortality of released dusky sharks for stock assessments. Hook types used is not currently recorded in Marine Recreational Information Program (MRIP) surveys other than the LPS.
- Trends in the reported recreational landings of dusky sharks and unidentified sharks to assess the success of shark identification materials. If shark identification training is effective, the proportion of sharks reported by anglers as unidentified to MRIP or LPS should decline, and there should be increased confidence in the accurate identification of dusky sharks and other species reported as released. Fewer dusky sharks should be mistakenly landed, and more released sharks should be identified to species by anglers when interviewed by MRIP or the LPS.
- HMS web page visitation and social media metrics. These indices will assist NOAA Fisheries in evaluating the distribution of outreach materials.
- NOAA Office of Law Enforcement metrics on recorded violations of HMS regulations. Compliance rates are expected to increase through these outreach efforts.

Commercial Indicators

- Trends in observed commercial shark trips correctly following the shark release protocols and dusky shark fleet communication and relocation protocols.
- Trends in the rate of deep-hooking of sharks caught on bottom longline gear as reported by observer programs. The occurrence of deep-hooking should decline if the required circle hooks are working as intended.
- Trends in observer and logbook-reported dusky shark interactions in the pelagic longline, bottom longline, and gillnet fisheries.
- Trends in bycatch reports of dusky sharks and other prohibited sharks from other non-HMS commercial fisheries in the Atlantic HMS region (Northeast Fisheries Observer Program, SE Gillnet Observer Program, etc.).

- NOAA Office of Law Enforcement metrics on recorded violations of HMS regulations. Compliance rates are expected to increase through these outreach efforts.

Stock Indicators

- Continued collection of fisheries dependent and independent survey data to support stock assessment time series.
- Next benchmark stock assessment for dusky sharks to determine if overfishing has ended and the stock is rebuilding as required.