SCOPING DOCUMENT FOR PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT STATEMENT TO REDUCE INCIDENTAL BYCATCH AND MORTALITY OF SEA TURTLES IN THE SOUTHEASTERN U.S. SHRIMP FISHERY

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PURPOSE OF THE SCOPING DOCUMENT

The National Marine Fisheries Service (NOAA Fisheries) intends to promulgate regulations to reduce the mortality of sea turtles in the shrimp fishery of the southeastern United States. This scoping document is prepared as an aid to the public on the scoping process that NOAA Fisheries is about to undertake. The scoping process will be the first stage in a multi-step process required by the National Environmental Policy Act (NEPA) to ensure that Federal agencies evaluate the environmental impacts of major Federal actions. During the scoping process, the public is provided with an opportunity to assist NOAA Fisheries in determining the scope of issues that require analysis. The analysis of issues and the environmental impacts of the proposed actions will be presented in a Draft Environmental Impact Statement (EIS), which will be made available for public comment.

Over the past two years NOAA Fisheries has documented elevated sea turtle strandings in the northern Gulf of Mexico, particularly throughout the Mississippi Sound area. In the first three weeks of June 2010, over 120 sea turtle strandings were reported from Mississippi and Alabama waters, none of which exhibited any signs of external oiling to indicate effects associated with the Deepwater Horizon spill event. During March through May of 2011, 240 sea turtle strandings were reported from Mississippi and Alabama waters. In both the 2010 and 2011 events, Kemp's ridley sea turtles composed more than 90 percent of the reported strandings. These stranding numbers are significantly greater than reported in past years; the average number of reported sea turtle strandings from Mississippi and Alabama waters for March through June averaged 16 turtles for the period 2005-2009, though it should be noted that stranding coverage has increased considerably due to the Deepwater Horizon spill event. NOAA Fisheries expects there are also significant strandings occurring along the Louisiana coast, but due to the abundance of marsh habitat the reporting of stranded sea turtles in Louisiana is significantly hampered. Nonetheless, considering strandings represent only a small fraction of actual mortality, these stranding events represent a serious impact to the recovery and survival of the local sea turtle populations. Necropsy results indicate a significant number of stranded turtles from both the 2010 and 2011 events likely perished due to forced submergence, which is commonly associated with fishery interactions.

Information from NOAA and Mississippi Department of Marine Resources enforcement, stemming from the monitoring of Mississippi Sound skimmer trawl vessels in 2010, indicate the alternative tow time requirements are exceeded by the skimmer trawl fleet. At this time, the extent that tow time requirements are exceeded by the skimmer trawl fleet in other areas of the northern Gulf of Mexico and in North Carolina is unclear. Furthermore, many skimmer trawl vessels have increased the size and amount of gear fished beyond what was originally established within the fishery, allowing them to fish in deeper water. In some cases, vessels are rigged with both skimmer trawl frames and outriggers for use with conventional otter trawl nets. As a result of these larger skimmer trawl nets, there is a possibility that a sea turtle could be captured within the mouth of the net and not visible during a cursory cod end inspection, a scenario that is compounded by the fact that many vessels fish at night. Due to these factors, coupled with the apparent

increased abundance of sea turtles in the northern Gulf of Mexico, particularly Kemp's ridley sea turtles, NOAA Fisheries is re-evaluating the efficacy of turtle conservation requirements associated with the skimmer trawl fishery.

Additionally, NOAA Fisheries has noticed compliance issues with TED requirements in the shrimp fishery. During numerous evaluations conducted in Texas through Florida, we have noted a variety of compliance issues ranging from lack of TED use, TEDs sewn shut, TEDs installed improperly, and TEDs being manufactured that do not comply with regulatory requirements. Two issues of great concern are TEDs with excessively steep grid angles (i.e., installed at angles above the 55-degree maximum angle) and escape openings with insufficient measurements (i.e., less than the required minimum measurements). Steep TED-grid angles are of particular concern to small, juvenile sea turtles, as TED testing by NOAA Fisheries has documented even small variances above the 55-degree maximum angle will prevent sea turtles from escaping the net. In contrast, escape openings with insufficient measurements will prevent larger, adult sea turtles from escaping the net. Aside from these two critical issues, NOAA Fisheries has also noted a host of other discrepancies with TED requirements, including excessive overlap of double-cover escape opening panel flaps, bar spacing in excess of the 4-inch maximum, improper flotation, excessive escape panel flap length beyond 24 inches, and other technical issues. While these issues do not represent as significant a threat as steep TED angles and insufficient escape openings, they still can hinder turtle escapement from a trawl net. Because of these TED compliance issues, NOAA Fisheries is considering additional management measures for the otter trawl component of the shrimp fishery.

This scoping document will provide the public with information for their consideration and comment related to the management of the shrimp fishery and its interactions with threatened and endangered sea turtles. This document describes the major issues, current management and legal requirements, and identifies potential management measures to reduce interactions, and in particular, lethal interactions, between sea turtles and trawl fisheries. NOAA Fisheries will use comments received during this scoping period in designing the options for rulemaking to reduce the take of sea turtles in commercial trawl fisheries. NOAA Fisheries will hold public scoping meetings in July 2011, and will accept comments through August 8, 2011.

NOAA Fisheries believes that public involvement is critical during the development and drafting of any regulatory action. Through public input, NOAA Fisheries will be better able to explore the full range of management alternatives. Therefore, NOAA Fisheries is seeking the comments from commercial and recreational fishermen, regional fishery management councils, the states, conservation and scientific communities, and the general public. NOAA Fisheries anticipates that additional issues and options will be identified by the public during the scoping meetings. These additional issues and options will also be considered when drafting the proposed rule. The resulting regulation will likely affect commercial trawlers in the shrimp fishery.

It is important to note that the potential alternatives presented in this document are not the final management alternatives and may not be analyzed in the NEPA EIS process. Also,

the options presented in this document are not necessarily endorsed by NOAA Fisheries at this time. Rather, these represent a number of management measures, not necessarily mutually exclusive of each other, that NOAA Fisheries has developed over the last several years. This document represents NOAA Fisheries' best efforts to capture a range of viewpoints on this subject. NOAA Fisheries will consider these options, as well as other options provided by the public, through the scoping process when developing management alternatives to reduce the mortality of sea turtles in fisheries and to meet the goals of the Endangered Species Act (ESA).

STATUS OF SEA TURTLES

All sea turtles that occur in U.S. waters are listed as either endangered or threatened under the Endangered Species Act of 1973 (ESA). The Kemp's ridley (*Lepidochelys kempii*), leatherback (*Dermochelys coriacea*), and hawksbill (*Eretmochelys imbricata*) turtles are listed as endangered. The loggerhead (*Caretta caretta*) and green (*Chelonia mydas*) turtles are listed as threatened, except for breeding populations of green turtles in Florida and on the Pacific coast of Mexico, which are listed as endangered.

On March 16, 2010, NOAA Fisheries and the U.S. Fish and Wildlife Service (USFWS) published a proposed rule in the Federal Register to list nine DPSs of loggerhead sea turtles as endangered or threatened under the ESA (75 FR 12598). This proposed rule represents NOAA Fisheries' and USFWS' 12-month findings on petitions to list North Pacific populations and Northwest Atlantic populations as endangered and includes a proposed rule to designate nine DPSs worldwide. As per the proposed rule, the Loggerhead Biological Review Team concluded, and NOAA Fisheries concurred, that nine DPSs exist worldwide and are comprised of the following: (1) Northwest Atlantic Ocean (endangered); (2) Northeast Atlantic Ocean (endangered); (3) South Atlantic Ocean (threatened); (4) Mediterranean Sea (endangered); (5) North Pacific Ocean (endangered); (6) South Pacific Ocean (endangered); (7) North Indian Ocean (endangered); (8) Southeast Indo-Pacific Ocean (endangered); and (9) Southwest Indian Ocean (threatened). The agencies, however, are continuing to analyze the available information prior to making a final determination on the listing status (threatened or endangered) of the DPSs to be listed (76 FR 15932, March 22, 2011).

NOAA Fisheries and the USFWS have joint jurisdiction under the ESA to protect and recover sea turtles. The services are required under the ESA to "seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of the purposes of this Act." Therefore, the services seek to address the threats to the recovery of sea turtle populations. NOAA Fisheries has the lead for in-water conservation of sea turtles.

Sea turtles are incidentally taken and killed as a result of numerous activities, including fishery-related activities in the Gulf of Mexico and along the Atlantic seaboard. Under the ESA and its implementing regulations, taking sea turtles is prohibited, with exceptions identified in 50 CFR 223.206, or if in accordance with the terms and conditions of a biological opinion issued under section 7 of the ESA or an incidental take permit issued under section 10 of the ESA.

To reduce the likelihood of sea turtle bycatch in fisheries, NOAA Fisheries has promulgated several regulations. Beginning in the late 1980s and into the early 1990s, NOAA Fisheries required shrimp fishermen in the Gulf of Mexico and south of the North Carolina border to use TEDs. More recently, NOAA Fisheries has extended that requirement into the flounder fishery south of the North Carolina border. NOAA Fisheries has also placed restrictions on the use of gillnets in Pamlico Sound, North Carolina. NOAA Fisheries later restricted the use of gillnets with stretched mesh size larger than 8 inches (20.3 cm) in the Mid-Atlantic Exclusive Economic Zone. In the Cheseapeake Bay, NOAA Fisheries required modified pound net leaders in order to reduce sea turtle bycatch. In the Atlantic, Gulf of Mexico, and Caribbean Sea, pelagic longline vessels are required to use circle hooks with certain bait combinations, have onboard sea turtle release equipment, and comply with specified sea turtle handling and release protocols. Lastly, in the Gulf of Mexico, NOAA Fisheries has restricted the bottom longline fishery targeting reef fish with effort reductions, time and area closure, and limits on amount of on-board gear.

In 2007, NOAA Fisheries published a rule under the ESA to require fishing vessels that are identified through an annual determination process to take observers at NOAA Fisheries request. Through this process, NOAA Fisheries will be able to have a better understanding of sea turtle interactions in state and Federal fisheries.

ADDITIONAL BACKGROUND

The incidental taking of turtles during shrimp trawling is exempted from the taking prohibition of section 9 of the ESA if the conservation measures specified in the sea turtle conservation regulations (50 CFR 223) are followed. The regulations require most shrimp trawlers operating in the southeastern United States (Atlantic and Gulf areas, see 50 CFR 223.206) to have a NOAA Fisheries-approved TED installed in each net that is rigged for fishing to provide for the escape of sea turtles. TEDs currently approved by NOAA Fisheries include single-grid hard TEDs and hooped hard TEDs conforming to a generic description, and one type of soft TED – the Parker soft TED (see 50 CFR 223.207). However, skimmer trawls, as well as pusher-head trawls and wing nets (butterfly trawls), may employ alternative tow time restrictions in lieu of TEDs, pursuant to 50 CFR 223.206(d)(2)(ii)(A). The alternative tow time restrictions limit tow times to 55 minutes from April 1 through October 31, and 75 minutes from November 1 through March 31.

TEDs incorporate an escape opening, usually covered by a webbing flap, which allow sea turtles to escape from trawl nets. To be approved by NOAA Fisheries, a TED design must be shown to be 97% effective in excluding sea turtles during testing based upon specific testing protocols (50 CFR 223.207(e)(1)). Most approved hard TEDs are described in the regulations (50 CFR 223.207(a)) according to generic criteria based upon certain parameters of TED design, configuration, and installation, including height and width dimensions of the TED opening through which the turtles escape.

On February 21, 2003, NOAA Fisheries issued a final rule (68 FR 8456), amending the sea turtle conservation regulations to protect large loggerhead, green, and leatherback sea

turtles. The February 2003 final rule requires that all shrimp trawlers fishing in the offshore waters of the southeastern United States (Atlantic and Gulf areas) and the inshore waters of Georgia and South Carolina use either a double cover flap TED, a single-grid hard TED with a 71-inch (180-cm) opening, or a Parker soft TED with a 96-inch (244-cm) opening in each net rigged for fishing. In inshore waters, except those of Georgia and South Carolina, the rule allows the use of a single-grid hard TED with a 44-inch (112-cm) opening, a Parker soft TED with a 56-inch (142-cm) opening, and a hooped hard TED with a 35-inch (89-cm) by 27-inch (69-cm) escape opening.

POTENTIAL ALTERNATIVES TO REDUCE SEA TURTLE MORTALITY

Alternative 1 (No Action): This alternative would allow the shrimp fishery to be fished in the same manner as it is currently fished. The current TED requirements would remain in place and no additional measures would be required to reduce potential sea turtle interactions.

Alternative 2: This alternative would withdraw the alternative tow time restriction at 50 CFR 223.206(d)(2)(ii)(A)(*3*), and require skimmer trawls, pusher-head trawls, and wing nets (butterfly trawls) rigged for fishing to use TEDs in their nets. This could apply to vessels in only the Gulf of Mexico or the Atlantic Ocean, or apply to all vessels.

Alternative 3: This alternative would close waters (area to be determined) to shrimp trawling during a specific time frame (period to be determined). This alternative could apply to all shrimp vessels or only to a specific sector of the fishery (e.g., otter trawlers, skimmer trawlers, etc.).

FISHERIES DESCRIPTION

A complete description of the affected fishery and its effects on the human environment can be found in the Gulf of Mexico Fishery Management Council's *Fishery Management Plan for the Shrimp Fishery of the Gulf of Mexico, U.S. Waters* (GMFMC 1981) and its subsequent plan amendments, as well as the South Atlantic Council's *Fishery Management Plan for the Shrimp Fishery of the South Atlantic Region* (SAFMC 1993) and its subsequent plan amendments. The following summarizes the gear used within the shrimp fishery.

Various types of gear are used to capture shrimp, including but not limited to: cast nets, haul seines, stationary butterfly nets, wing nets (butterfly trawls), skimmer nets, traps, and beam trawls. The otter trawl, with various modifications, is the dominant gear used in offshore waters and is the gear being addressed in the regulation, which is the primary subject of this consultation. A basic otter trawl consists of a heavy mesh bag with wings on each side designed to funnel the shrimp into the "cod end" or "tail bag." A pair of otter boards or trawl doors positioned at the end of each wing hold the mouth of the net open by exerting a downward and outward force at towing speed.

Shrimp trawl nets are usually constructed of nylon or polyethylene mesh webbing, with individual mesh sizes ranging from as small as 1-1/4" to 2". The sections of webbing are

assembled according to the size and design (usually flat, balloon, or semi-balloon) of trawl desired, which affects the width and height of the trawl's opening and its bottom-tending characteristics. The tongue or "mongoose" design incorporates a triangular tongue of additional webbing attached to the middle of the headrope pulled by a center towing cable, in addition to the two cables pulling the doors. This configuration allows the net to spread wider and higher than conventional nets and as a result has gained much popularity for white shrimp fishing.

Until the late 1950s, most shrimp vessels pulled single otter trawls, ranging from 80 to 100 feet in width, directly astern of the boat. Double-rig trawling was introduced into the shrimp fleet during the late 1950s. The single large trawl was replaced by two smaller trawls, each 40 to 50 feet in width, towed simultaneously from stoutly constructed outriggers located on the port and starboard sides of the vessels. The advantages of double-rig trawling include: (1) increased catch per unit of effort, (2) fewer handling problems with the smaller nets, (3) lower initial gear costs, (4) a reduction in costs associated with damage or loss of the nets, and (5) greater crew safety.

In 1972, the quad rig was introduced in the shrimp fishery, and by 1976 it became widely used in the EEZ of the western Gulf. The quad rig consists of a twin trawl pulled from each outrigger. One twin trawl typically consists of two 40- or 50-foot trawls connected to a center sled and spread by two outside trawl doors. Thus, the quad rig with two twin trawls has a total spread of 160-200 feet versus the total spread of 110 feet in the old double rig of two 55-foot trawls. The quad rig has less drag and is more fuel efficient.

The quad rig is the primary gear used in federal waters by larger vessels. Smaller boats and inshore trawlers often still use single- or double-rigged nets. In recent years, the skimmer trawl has become a major gear in the inshore shrimp fishery in the northern Gulf and also has some use in inshore North Carolina. Information from Louisiana Department of Wildlife and Fisheries indicate there were 6,705 skimmer net licenses sold in 2010; Louisiana issues a license for each net, so this approximates a universe of approximately 3,300 skimmer vessels in Louisiana (LA DWF statistics). The Mississippi Department of Marine Resources does not differentiate gear type within the shrimp fishery, but current estimates indicate there are approximately 200 skimmer boats in the Mississippi shrimp fishery (Dale Diaz, Mississippi Department of Marine Resources, pers. comm.), and likely the same number of skimmer boats in the Alabama fishery. Skimmer vessels in North Carolina have declined in recent years, from 99 vessels in 2006 to 64 active vessels in 2010 (NC DMF statistics).

Try nets are small otter trawls about 12 to 16 feet in width that are used to test areas for shrimp concentrations. These nets are towed during regular trawling operations and lifted periodically to allow the fishermen to assess the amount of shrimp and other fish and shellfish being caught. These amounts in turn determine the length of time the large trawls will remain set or whether more favorable locations will be selected.

Butterfly nets (wing nets or "paupiers") were introduced in the 1950s and used on stationary platforms and on shrimp boats either under power or while anchored. A

butterfly net consists of square metal frame which forms the mouth of the net. Webbing is attached to the frame and tapers back to a cod end. The net can be fished from a stationary platform or a pair of nets can be attached to either side of a vessel. The vessel is then anchored in tidal current or the nets are “pushed” through the water by the vessel.

Vietnamese fishermen began moving into Louisiana in the early 1980s and introduced a gear called the "xipe" or "chopstick" net around 1983. The chopstick was attached to a rigid or flexible frame similar to the butterfly net; however, the frame mounted on the bow of the boat was attached to a pair of skids and fished by pushing the net along the bottom. As with butterfly nets, the contents of the net could be picked up and dumped without raising the entire net out of the water as is necessary with an otter trawl.

The skimmer trawl was developed for use in some areas primarily to catch white shrimp, which has the ability to jump over the cork line of standard trawls while being towed in shallow water. The skimmer net frame allows the net to be elevated above the water while the net is fishing, thus preventing shrimp from escaping over the top. Owing to increased shrimp catch rates, less debris or bycatch, and lower fuel consumption experienced by otter trawlers, the use of skimmer nets quickly spread throughout Louisiana, Mississippi, and Alabama.

The basic components of a skimmer trawl include a frame, the net, heavy weights, skids or “shoes,” and tickler chains. The net frame is usually constructed of schedule 80 steel or aluminum pipe or tubing and is either L-shaped (with an additional stiff leg) or a trapezoid design. When net frames are deployed, they are aligned perpendicularly to the vessel and cocked or tilted forward and slightly upward. This position allows the net to fish better and reduces the chance of the leading edge of the skid digging into the bottom and subsequently damaging the gear. The frames are maintained in this position by two or more stays or cables to the bow. The outer leg of the frame is held in position with a “stiff leg” to the horizontal pipe and determines the maximum depth at which each net is capable of working. To the bottom of the outer leg is attached the skid or “shoe,” which allows the frame to ride along the bottom, rising and falling with the bottom contour. Tickler chains and lead lines comprise the bottom of this gear.

SCHEDULE OF PUBLIC SCOPING MEETINGS

The dates, times, and locations of the meetings are scheduled as follows:

1. *Gray, LA* -- July 12, 2011, 12pm-2pm, Terrebonne Parish Public Library, North Terrebonne Branch, 4130 West Park Avenue, Gray, LA 70359.

2. *Belle Chasse, LA* -- July 12, 2011, 6pm-8pm, Belle Chasse Community Center, 8398 Highway 23, Belle Chasse, LA 70037.

3. *Biloxi, MS* -- July 13, 2011, 4pm-6pm, Mississippi Department of Marine Resources, 1141 Bayview Avenue, Biloxi, MS 39530.

4. *Bayou La Batre, AL* -- July 14, 2011, 12pm-2pm, Bayou La Batre Community Center, 12745 Padgett Switch Road, Bayou La Batre, AL 36509.

5. *Morehead City, NC* -- July 18, 2011, 2pm-4pm, Crystal Coast Civic Center, 3505 Arendell Street, Morehead City, NC 28557.