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**Southeast
Regional Office**

2021 Biological Opinion on ESA Sea Turtle Conservation Regulations and MSA Federal Shrimp Fisheries

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August 19, 2021

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S1: Consultation History

- Numerous past consultations/biological opinions: 1987, 1992, 1994, 1996 [2], 1998, 2002, 2005 and 2006 (sawfish only); 2012 and 2014
- Reinitiation of 2014 Consultation/Opinion Triggered By:
 - **New listed species** under the ESA (e.g., green sea turtle DPSs (5/26/16) and giant manta ray (2-21-18))
 - **New bycatch information** developed to better analyze the effects of the shrimp fisheries on sea turtle populations
 - The December 2019 Final Rule requiring TEDs for a portion of the skimmer trawl fisheries
- We also had to address issues raised in an October 2020 Court Decision remanding the 2014 Opinion back to us.

S2: Proposed Action and Action Area

- Proposed action identified and subject to consultation:
 - Authorization of shrimp trawling in the EEZ under Gulf and South Atlantic Fishery Management Councils' Shrimp Fishery Management Plans under MSFCMA.
 - Our sea turtle conservation regulations under the ESA for the southeast U.S. shrimp fisheries, extending regulatory authorization to incidentally taken sea turtles, subject to specific conditions.
 - Limited to over the next 10 years
- The Action Area is the Gulf and South Atlantic EEZ, and adjacent marine and tidal state waters of the Gulf and South Atlantic area

S3: Status of Species/CH in the Action Area

Marine Mammals

- Blue whale (E)
- Fin whale (E)
- North Atlantic right whale (E)/CH
- Sei whale (E)
- Sperm (E)
- Bryde's whales (E)

Corals

- Elkhorn and Staghorn (T)/CH
- Pillar (T)
- Lobed Star (T)
- Mountainous star (T)
- Knobby star (T)
- Rough-cactus (T)
- Lamarch's sheet (T)
- Elliptical star (T)

Sea Turtles

- **Loggerhead NWA DPS (T)/CH**
- **Green, NA DPS (T)**
- **Green, SA DPS**
- **Hawksbill (E)**
- **Kemp's ridley (E)**
- **Leatherback (E)**

**Red Font=
Determined
Likely to Be
Adversely
Affected**

Fish:

- Shortnose sturgeon (E)
- **Atlantic sturgeon (T)**
- **Gulf sturgeon (T)/CH**
- Nassau grouper (T)
- **Smalltooth sawfish US DPS (E)/CH**
- **Giant Manta Ray (T)**

**Underlined=New
Listed Species
Considered**



S4: Environmental Baseline

Analysis of the effects of activities in the action area:

S4.1: Federal Activities

- Fisheries
- Dredging
- Vessel Activity
- Military Activities
- Offshore Energy (Including DWH impacts)
- USACE-Permitted Fishing Piers
- Federally-Permitted Discharges
- ESA Section 10 Research Permits

S4.2: State or Private Actions

- State Fisheries
- Vessel Traffic
- Coastal Development
- Stochastic events
- Marine pollution and environmental contamination
- Conservation/Recovery Action

S4.3 Summary of 4.1 and 4.2

S4.4. Effects Climate Change on each species

Effects Analysis Scope

- The consultation considers the effect that:
 - Our exemption on sea turtle takes via our sea turtle conservation regulations have on listed species.
 - The existing sea turtle conservation regulations (e.g. TED regs and tow-times restrictions) have on listed species.
 - Federally-authorized shrimp fisheries (also subject to the sea turtle conservation regulations) have on listed species.

S5: Effects of the Action:

- All effect attributed to species interactions with acting fishing gear
- For each listed species likely to be adversely affected, we:
 - Summarized the types of interactions that occur when exposed to trawl gears.
 - Quantified the effects to listed species with estimates of bycatch/capture and mortality in an annual context to provide consistent metrics from a variety of available data sets.

Sea Turtles Effects: Otter Trawls

- Does not rely on Epperly et al (2002) or Shrimp Effort and TED compliance as a surrogate metric for sea turtle incidental take.
- Employed available shrimp trawl fishery observer and effort data in a Bayesian modeling approach, which resulted in bycatch estimates as documented in Babcock et al. (2018), in estimating the total effect of the shrimp fisheries on sea turtle populations.
- Calculated post-interaction mortality (PIM) for each species for trawl net and standard nets to determine total bycatch mortality.

Sea Turtles Effects: Non-Otter Trawls

- Estimates based on 2019 FEIS (NMFS 2019a) that analyzed alternatives to reduce the incidental bycatch and mortality of sea turtles in the southeast U.S. shrimp fisheries
- Refined PIM analysis for non-otter trawl vessels, estimated to be 27%
- Estimated sea turtle mortalities by species for skimmer trawl fisheries from species distribution of skimmer trawl observer data.

Atlantic and Gulf Sturgeon Effects

- Anticipated interactions in otter trawl standard and try net
- Estimated otter trawl and try net captures in federal waters based on observed CPUE (State and federal)) extrapolated to fleet based on federal effort

▪

Giant Manta Ray and Sawfish (Section 5.3-4)

- Interactions anticipated in otter trawls only
- New bycatch estimates based on Carlson (2020)
 - Estimates highly uncertain and most likely represent overestimates of the total bycatch.

S7: Integration and Synthesis of Effects

- Assessed each species' response, in terms of overall population effects, and whether those effects of the proposed action, in the context of the Status of the Species (Section 3), the Environmental Baseline (Section 4), and the Cumulative Effects (Section 6), are likely to jeopardize their continued existence in the wild.
- Considered potential changes in both the fisheries (e.g., effort) and the affected species (i.e., population changes) to what was estimated in Section 5.
- Concluded the proposed action is not likely to jeopardize the continued existence of any of the listed species that may be adversely affected.



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INCIDENTAL TAKE STATEMENT

Anticipated **total** take over a 5-year period

Species	Captures	Mortalities
Kemp's Ridley Sea Turtle	84,495	8,505
Loggerhead Sea Turtle	72,670	2,150
Green Sea Turtle	21,214	1,700
Leatherback Sea Turtle	130	5
Hawksbill Sea Turtle	170	5



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INCIDENTAL TAKE STATEMENT

Anticipated otter trawl take over a 5-year period

Species	Try Nets		Standard Nets		Total Mortalities
	Captures	Mortalities	Captures	Mortalities	
Kemp's Ridley Sea Turtle	21,060	385	29,005	2,200	2,585
Loggerhead Sea Turtle	53,015	1,010	16,525	600	1,610
Green Sea Turtle	5,891	194	13,090	1,119	1,313
Leatherback Sea Turtle	25	0	105	5	5
Hawksbill Sea Turtle	30	0	140	5	5
Atlantic Sturgeon	30	0	165	45	45
Gulf Sturgeon	-	-	5	1	1
Smalltooth Sawfish	-	-	1,806	903	903
Giant Manta Ray	-	-	8,390	0	0



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INCIDENTAL TAKE STATEMENT

Anticipated skimmer trawl take over a 5-year period

Species	Skimmer Trawl Captures	Skimmer Trawl Mortalities
Kemp's Ridley Sea Turtle	34,430	5,920
Loggerhead Sea Turtle	3,130	540
Green Sea Turtle	2,233	387

ITS Requirements: Reasonable and Prudent Measures and Terms and Conditions

- Monitoring: Fishing effort and observer data must be collected to produce take estimates over 5-year periods.
- Sampling: Collection and tagging activities of bycaught ESA species via observers following established protocols.
- Ecological Studies: Review and analyze available temporal and data for “Hot Spots”
- Handling: Ensure fishers (via outreach and education efforts) handle species in a manner that prevent injury and helps ensure survivability. Disseminate Sea Turtle Handling and Resuscitation Guidelines, Giant Manta Ray Release Guidelines; and Smalltooth Sawfish Handling, Release, and Reporting Procedures to fishers/shrimp vessels





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An Endangered Species:

- Smalltooth sawfish are listed as endangered under the Endangered Species Act (ESA)
- Federal law prohibits injuring or harming sawfish
- Captured sawfish should be released immediately

Materials Needed:

- Measuring tape
- Net pick or boat hook
- Knife, line cutter, scissors
- Ropes
- Water quality meter (if available)
- Datasheets
- GPS
- Camera
- PIT reader (if available)

Reporting:

Adam Brame
Sawfish Recovery Coordinator
727-209-5958
Adam.Brame@noaa.gov

1-844-4SAWFISH

Endangered Sawfish Handling, Release, and Reporting Guidelines for Individuals with Permitted Incidental Sawfish (non-targeted researchers, etc.)



General Handling and Release Guidelines

- Work quickly to free and release the saw
- Keep sawfish in the water as much as possible
- Keep sawfish wet if it must be removed
- Never remove the rostrum (saw)
- Do not stand or sit next to the rostrum
- Tie rope around tip of saw or tail only

Line Gear (longline, rod and reel, etc.) Specific

- Keep the sawfish, especially the gills, or gear
- Use line-cutting poles, long-handled d
- Do not attempt to remove the hook, j
- possible
- If line is tangled around the body or from around the sawfish as possible

Net Gear (trawls, gillnets, etc.) Specific

- Keep sawfish wet and in the net un
- Use line-cutting pole, scissors, and saw by cutting the mesh along the
- Once the mesh is cut, work it free

Data Recording

Please record as much information as you

- Date and time
- Latitude and longitude (or detail)
- Habitat description (water depth, markings, scars, wounds)
- Photographs (in/on gear, body, y
- Tag number and type if applica
- Lengths (saw and total, estimat
- Sex
- Release condition including an

U.S. Department of Commerce (National Oceanic and Atmospheric Administration)



Southeast Shrimp Fisheries Giant Manta Ray Release Guidelines

The guidelines presented here describe procedures for releasing a large ray from a shrimp trawl. These procedures, the trawl is retrieved in a normal manner and the ray is not brought onboard vessel. The objective is to bring portions of the net tail and body out of the water in order to maneuver the captured ray towards and out the mouth of the net.



Sea Turtle Handling and Resuscitation Requirements

Per federal regulations at 50 CFR 223.206(d)(1):

- Any sea turtle taken incidentally during fishing must be handled with care to prevent injury, evaluated to make sure it is active, and safely returned to the water.
- Unresponsive turtles could still be alive and resuscitation must be attempted.

- Turtles that are unresponsive after capture may survive if allowed to recover.
- Sea turtles should only be considered dead if the muscles are stiff (rigor mortis), their body becomes bloated with gas, or the skin is detaching.

Resuscitation of unresponsive or inactive sea turtles must be attempted using the following procedures:

- 1 **Elevate Tail End:** Place the turtle right side up and elevate the hindquarters at least 6" (~15 - 30") to help drain water from the lungs. A board, tire, boat cushion, coiled rope, or other object can be used for elevation.
- 2 **Rock Gently:** Occasionally rock the turtle gently side to side by holding the outer edge of the shell and lifting one side about 3", then alternate to the other side.
- 3 **Check Eye Reflex:** Periodically, gently touch the corner of the eye or eyelid to see if the eyelid moves. This reflex will return as the turtle recovers.
- 4 **Keep Cool and Moist:** In warm weather (over 75°F), keep the turtle shaded and moist. Place a water-soaked towel over the head, shell, and flippers or regularly wet the turtle with seawater to keep the turtle cool and moist. Never put the turtle into a container with water.
- 5 **Release Active Turtle Carefully:** Release active, resuscitated turtles as close to the water as possible. When doing so make sure fishing gear is not in use, the engine is in neutral, and avoid areas where the turtle may be recaptured or injured by other vessels.
- 6 **Give Them Time:** Attempt resuscitation for at least 4 hours. If there are no signs of life after 24 hours on deck, or if the muscles are stiff and/or the flesh has begun to rot, consider the turtle dead and return it to the water in the same manner (unless a NMFS observer retains the carcass).



Do not put the turtle on its back or pump the bottom shell (plastron) or try to force water out, as this is dangerous to the turtle.

Need assistance with a sea turtle or marine mammal in distress?

Call 844-SEA-TRTL (844-732-8785)



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Conservation Recommendations

- Gear/Sea Turtle Investigations
 - Investigate the efficacy of new TED designs for the otter trawl fisheries that would reduce the incidental bycatch and mortality of small sea turtles that would otherwise pass through the bars of currently required 4-in bar spacing.
 - Investigate the efficacy of TEDs in the skimmer trawl fisheries for vessels less than 40 ft in length.
 - Explore additional in-water sea turtle research to document sea turtle movements, distribution, and habitat use that could help predict potential high-, medium-, and low-risk areas for fisheries interactions/bycatch



Conservation Recommendations

- Monitoring/Data Improvements:
 - Explore and support solutions and funding options to improve the electronic logbook program in the Gulf of Mexico shrimp fisheries and establish an electronic logbook program in the South Atlantic shrimp fisheries.
 - Design a program for targeted electronic monitoring of the shrimp fisheries in areas where interactions of smalltooth sawfish are anticipated.
 - Continue efforts with the states to establish consistent data protocols for fisheries effort and landings data between the Gulf of Mexico and South Atlantic regions.

Conservation Recommendations

- Additional Recommendations
 - Explore rulemaking to require the Sea Turtle Handling and Resuscitation Guidelines (Appendix 2) be posted inside the wheelhouse or an easily viewable area on the vessel if there is no wheelhouse for all federally-permitted shrimp trawlers, and all state-licensed shrimp trawlers, to the extent practicable.
 - Create education and outreach material to communicate conservation messages for ESA-listed species through social media, websites, magazines, and print to federal agencies, local communities, and non-governmental organizations.

For Additional Information:

- http://sero.nmfs.noaa.gov/protected_resources/
- <https://www.fisheries.noaa.gov/southeast/bycatch/turtle-excluder-devices>
- Email: ted.info@noaa.gov

