

*Science, Service, Stewardship*



# The 2012 Shrimp Biological Opinion on the Sea Turtle Conservation Regulations (Including Proposed Skimmer Trawl Rule) and Federal Shrimp Fisheries

Jennifer Lee  
Southeast Regional Office,  
Protected Resources Division

June 11, 2012

**NOAA  
FISHERIES  
SERVICE**



## Components of the Shrimp Biological Opinion

- Consultation History
- Proposed Action
- Status of the Species
- Environmental Baseline
- Effects of the Action
- Cumulative Effects
- Jeopardy Analysis
- Conclusion
- Incidental Take Statement



## Consultation History (Section 1)

- Numerous past consultations/biological opinions: 1987, 1992, 1994, 1996 [2], 1998, 2002 for all listed species and 2005 and 2006 for sawfish only
- Reinitiation of 2002, 2005 and 2006 biological opinions to address:
  - May 4, 2009: Smalltooth sawfish in the South Atlantic
  - February 18, 2010: Smalltooth sawfish in the Gulf of Mexico
  - August 16, 2010: Sea Turtles in the Gulf and South Atlantic
  - Proposed changes to the sea turtle conservation regulations
  - A new species listed that may be affected (i.e., Atlantic sturgeon)



## Proposed Action & Action Area (Section 2)

- The proposed action that was subject to analysis:
  - Continued implementation of the sea turtle conservation regulations under the Endangered Species Act, as proposed to be amended (i.e., changes proposed via 77 FR 27411) in state and federal waters of the Gulf and South Atlantic
  - Continued authorization of Southeast U.S. shrimp fisheries in federal waters under the Magnuson-Stevens Act



## Skimmer Trawl Proposed Rule

- NOAA Fisheries proposes to withdraw the alternative tow time restriction and require all vessels using skimmer trawls, pusher-head trawls, and wing nets (butterfly trawls) to use TEDs.
- The following TED exemptions would still apply:
  - Has on board no power or mechanical-advantage trawl retrieval system (i.e., any device used to haul any part of the net aboard).
  - Is a bait shrimper that retains all live shrimp on board with a circulating seawater system, if it does not possess more than 32 lb. (14.5 kg) of dead shrimp on board, if it has a valid original state bait-shrimp license, and if the state license allows the licensed vessel to participate in the bait shrimp fishery exclusively.



## Status of Listed Species/Critical Habitat in the Action Area (Section 3)

### Marine Mammals:

- Blue whale (E)
- Fin whale (E)
- Humpback whale (E)
- Northern right whale (E)
- Sei whale (E)
- Sperm (E)

### Designated Critical Habitat for:

- Northern right whale
- Gulf sturgeon
- Elkhorn & staghorn corals
- Smalltooth sawfish

### Sea Turtles:

- Loggerhead NWA DPS** (T)
- Green** (T&E\*)
- Hawksbill** (E)
- Kemp's ridley** (E)
- Leatherback** (E)

\*Listed as threatened except for the Florida breeding population, which is listed as endangered.

### Fish:

- Atlantic sturgeon** (T)
- Gulf sturgeon** (T)
- Smalltooth sawfish** (E\*\*)

\*\*Listed as the U.S. distinct population segment

**Red Font=Species/CH Likely to Be Adversely Affected**



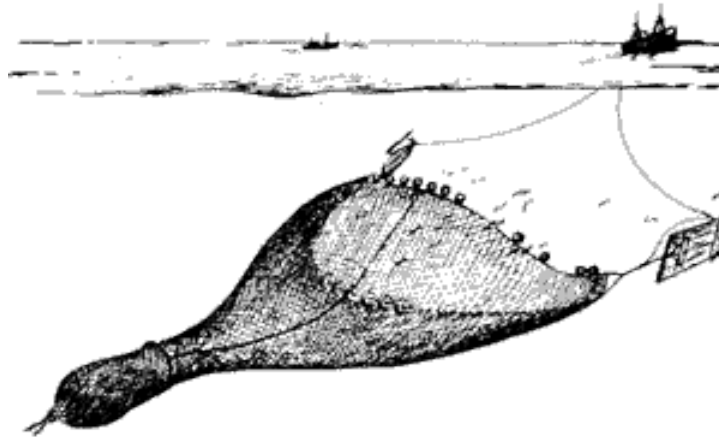
## Scope and Overall Approach to Effects Assessment

- The consultation considers the effects that:
  - NOAA Fisheries Service's exemption of the take of sea turtles through its sea turtle conservation regulations have on listed species,
  - The sea turtle conservation regulations themselves have on listed species, and
  - Federally-authorized shrimp fisheries (also subject to the sea turtle conservation regulations) have on listed species.



## Effects of the Action (Section 5)

- For each listed species likely to be adversely affected, we:
  - Examined the types of interactions when exposed to trawl gears
  - Considered factors affecting the likelihood of exposure
  - Evaluated and quantified effects using the best available information







## Sea Turtles (Sections 5.1)

- Key considerations that were accounted for:
  - Decreases in shrimp otter trawl effort since 2001
  - Substantial increases in Kemp's ridley and green sea turtle abundance since 1997/1998
  - Sea turtle conservation regulatory fleet compliance expectations based on recently documented compliance levels
  - Estimated effects of turtle excluder device (TED) violations on release rates of small and large-sized sea turtles and quantitative analysis of vessel boarding data



## Sea Turtles (Sections 5.1)

- Increases in estimated and anticipated interactions, captures, and mortalities compared to the 2002 opinion estimates attributed to the incorporation of:
  - Population growth estimates for Kemp's ridley and green sea turtles
  - Recent TED compliance data and associated capture rates (i.e., rather than assuming 100 percent compliance)
  - Skimmer trawl and try net effects; previously these gear types had been analyzed only qualitatively.
- Sources of error and uncertainty in actual estimates= MANY (see Section 5.1.5 and 5.1.6)

Sea Turtle Interactions, Captures, and Mortalities For All Gear Types						
	Gear Component	Loggerhead	Green	Leatherback	Kemp's ridley	All of these Species Combined
Interactions	Otter Trawl	78,405	12,391	1,393	402,083	494,272
	Skimmer Trawl	1,255	1,175	0	25,698	28,128
	Try Nets	1,960	310	34	10,052	12,356
	All Gears Combined	81,620	13,876	1,427	437,833	534,756
Captures	Otter Trawl	9409	1487	167	48,250	59,313
	Skimmer Trawl	202	202	0	3,646	4,050
	Try Nets	1,960	310	34	10,052	12,356
	All Gears Combined	11,571	1,999	201	61948	75,719
Mortalities	Otter Trawl	7,656	1,339	144	42,466	51,605
	Skimmer Trawl	45	43	0	841	929
	Try Nets	0	0	0	0	0
	All Gears	7,701	1,382	144	43,307	52,534



## Sawfish (Section 5.2)

- Relied on new bycatch estimates based on extrapolation of observer data (NMFS-SEFSC 2011)
  - Take estimates calculated based on combined effort across areas (Gulf and South Atlantic) and years (2008 and 2009)=79.80 sawfish captures annually or 240 every three years; statistical zones 1-4 and 24-26
- Estimated mortality (37.5%) based on information from the eight observed sawfish interactions ( $3 \div 8$ ) or 90 smalltooth sawfish mortalities every three years.
- TEDs not likely to have significant impact on capture rates, but would certainly not increase the likelihood of capture or the magnitude of impacts resulting from capture.



## Atlantic Sturgeon (Section 5.3)

- Estimated otter trawl and try net captures in federal waters based on observed CPUE extrapolated to fleet based on federal effort
- Estimated otter trawl interactions based on data demonstrating TEDs result in an 87 percent reduction in Atlantic sturgeon bycatch by number of individuals
- Mortalities estimated by observed mortality rate (11%); conservative relative to other studies
- TED compliance not believed to be an important consideration except for egregious violations (i.e. no TED or sewn shut) and not accounted for in estimates



## Gulf Sturgeon (Section 5.4)

- Only two observed takes documented in SEFSC observer programs (one in state waters and one in federal waters); quantitative extrapolation to entire fishery deemed inappropriate
- Estimated observed captures will not exceed one per year
- TEDs in shrimp trawl fisheries likely benefits Gulf sturgeon by providing a route of escape when rare interaction events occur



## Jeopardy Analyses (Section 7)

- Effects of the proposed action on the likelihood of survival and recovery
  - Looked first at whether there is a reduction in the reproduction, numbers, and distribution of any species
    - Concluded there would be a reduction in #'s from lethal captures and associated reproduction losses for all adversely affected listed species



## Jeopardy Analyses

—Then evaluated whether any such reduction would cause an appreciable reduction in the likelihood of survival and recovery:

- *Survival* means the species' persistence... beyond the conditions leading to its endangerment, with sufficient resilience to allow recovery from endangerment.
- *Recovery* means improvement in the status of a listed species to the point at which listing is no longer appropriate under the criteria set out in section 4(a)(1) of the Act.





## Jeopardy Analyses

- Considered, in part:
  - Population status, trends, environmental baseline
  - The proposed action's effects on recovery goals and objectives pertinent to the threats posed by the fishery



## Conclusion

- The proposed action is **NOT** expected to cause an appreciable reduction in the likelihood of both the survival and recovery of any listed species and thus, **NOT** likely to jeopardize the continued existence of any listed species



## Anticipated Take Authorized Via the Incidental Take Statement

- Take proxy used for sea turtles: Take of sea turtles will be considered exceeded and effects on sea turtles will be considered greater than analyzed if:
  - 2009 and/or 2010 effort levels are exceeded (132,900 days fished in the Gulf of Mexico and 14,560 trips in the South Atlantic) **and/or**
  - Compliance levels are expected to result in TEDs being less effective than the predicted 88 percent effective



## Anticipated Take Authorized Via the Incidental Take Statement

- Interactions, captures, and mortalities specified for Atlantic sturgeon and smalltooth sawfish:
  - 1731 total Atlantic sturgeon interactions overall, including 243 captures of which 27 are expected to be lethal every three years
  - 240 total smalltooth sawfish interactions, of which 90 are expected to be lethal every three years
- Gulf sturgeon take not exempt, therefore not included in ITS



## Reasonable and Prudent Measures

### For Sea Turtles, NMFS must:

1. **Monitor effort** in state and federal fisheries and continue to work to better determine their effects on sea turtles
2. **Monitor TED compliance** and must ensure compliance with TED regulations is at the anticipated levels in the ITS of this opinion
3. Continue to coordinate with the sea turtle stranding and salvage network (STSSN) and the states to **monitor strandings** and work to **improve the utility of the stranding database** for monitoring effects of shrimp fisheries
4. Continue outreach programs to **train fishermen and net shop personnel in the proper installation** and use of TEDs and continue to work with industry on gear and TED development.



## Reasonable and Prudent Measures

### **For Smalltooth sawfish, NMFS must:**

5. Conduct research to better understand the nature of smalltooth sawfish interactions with shrimp trawls
6. Conduct outreach to fishers that fish in Southwest and South Florida to ensure that they know and use the safe handling guidelines for sawfish release to minimize post release mortality

### **For Atlantic sturgeon, NMFS must:**

7. Conduct research to better understand the nature of Atlantic sturgeon interactions with the shrimp fishery.



## Key Term and Conditions (T/Cs) Pertaining to Sea Turtle RPMS

- **RPM 1, T/C 1:** NOAA Fisheries Service must **coordinate with the states to monitor shrimp fishing effort** in major gear types and must use this information to determine trends in shrimp fisheries and possible effects of these trends on sea turtles.
- **RPM 2, T/C 8:** NOAA Fisheries, Southeast Protected Resources Division must **coordinate with the Southeast Fishery Science Center Gear Monitoring Team, the SEFSC Observer Program, NOAA Fisheries Office of Law Enforcement, U.S. Coast Guard, and state enforcement agencies to gather information on compliance with TED regulations in the shrimp fisheries.** The gear compliance data will be made available to SERO for **6-month analyses** and analyzed in the same manner as the compliance data used in this opinion to develop estimates of average capture rates.



## Key Term and Conditions Pertaining to Sea Turtle RPMS

- **RPM 2, T/C 9:** If capture rates based on compliance data are above 12% (the anticipated level in the Proposed Action section and ITS of this opinion) for any six month time period, NOAA Fisheries must use a step wise approach to deal with low levels of TED compliance and use the data on TED compliance to target outreach, enforcement effort, and emergency rules ranging from possible TED modifications to closures of areas to shrimp fishing.
- **RPM 2 T/C 9 part (d):** If after six months capture rates based on compliance data continue to be above 12 %, NMFS must consider using its authority under section 11(f) of the ESA to close the area/areas of non compliance to shrimp fishing for up to one year. NMFS can choose to lessen this time if it can demonstrate that continued outreach will improve compliance in the area such that the capture rate will be at acceptable levels within less than one year.





## Conservation Recommendations

- For sea turtles, NMFS *should*:
  - Support in-water abundance estimates
  - Assess the feasibility of alternative regulatory, permitting, and analytical approaches to reduce bycatch in western North Atlantic fisheries more rapidly and more comprehensively
- For smalltooth sawfish, NMFS *should*:
  - Conduct or fund reproductive behavioral studies, surveys or alternative methods for determining sawfish abundance in federal fishing areas
  - Investigate whether exclusion from trawls may be improved by lining or replacing the section of the net ahead of the TED with a difference material



## Conservation Recommendations

- For sturgeon, NMFS *should*:
  - Collect data describing Atlantic and Gulf sturgeon location and movement in the Atlantic and Gulf of Mexico, respectively, by depth and substrate
  - Collect information on incidental catch rates and condition of sturgeon captured in shrimp trawls
  - Continue to collect information on rates of sturgeon escape from shrimp trawl gear through TEDS



## Conservation Recommendations

- For sturgeon, NMFS *should*:
  - Collect data describing Atlantic and Gulf sturgeon location and movement in the Atlantic and Gulf of Mexico, respectively, by depth and substrate
  - Collect information on incidental catch rates and condition of sturgeon captured in shrimp trawls
  - Continue to collect information on rates of sturgeon escape from shrimp trawl gear through TEDS



## Draft Environmental Impact Statement

June 24, 2011: NOAA Fisheries announced in the *Federal Register* its intent to prepare an environmental impact statement and to conduct scoping meetings. Six scoping meetings were held in July 2011.

May 18, 2012: A notice of availability on the Draft Environmental Impact Statement (DEIS) to Reduce Incidental Bycatch and Mortality of Sea Turtles in the Southeastern U.S. Shrimp Fisheries was published in the *Federal Register*.



## Management Alternatives Evaluated in the DEIS

- Alternative 1: No action.
- Alternative 2a: Amend alternative tow time restriction, which would require vessels 30 feet and greater in length using skimmer trawls, pusher-head trawls, and wing nets (butterfly trawls) to use TEDs.
- Alternative 2b: Amend alternative tow time restriction, which would require vessels 20 feet and greater in length using skimmer trawls, pusher-head trawls, and wing nets (butterfly trawls) to use TEDs.
- **Alternative 2c: Withdraw alternative tow time restriction, which would require all vessels using skimmer trawls, pusher-head trawls, and wing nets (butterfly trawls) to use TEDs (50 CFR 223.206(d)(2)(ii)(A)(3)).**



## Management Alternatives Evaluated in the DEIS

- Alternative 3a: Close all shrimp fishing in state waters from the Texas-Louisiana state boundary, eastward to the Alabama-Florida state boundary from March 1 through May 31.
- Alternative 3b: Close all shrimp fishing in state waters from the Louisiana-Mississippi state boundary, eastward to the Alabama-Florida state boundary from March 1 through May 31.
- Alternative 3c: Close all shrimp fishing in state waters from the Texas-Louisiana state boundary, eastward to the Alabama-Florida state boundary from April 1 through May 15.
- Alternative 3d: Close all shrimp fishing in state waters from the Louisiana-Mississippi state boundary, eastward to the Alabama-Florida state boundary from April 1 through May 15.



## Locations and Dates of Public Hearings

**Morehead City, NC – May 30, 2012, 2pm-4pm, Crystal Coast Civic Center, 3505 Arendell Street, Morehead City, NC 28557 – Approx 25 attendees**

Larose, LA – June 4, 2012, 6pm-8pm, Larose Regional Park and Civic Center, 307 East 5th Street, Larose, LA 70373 – Approx. 30 attendees

Belle Chasse, LA – June 5, 2012, 4pm-6pm, Belle Chasse Community Center, 8398 Highway 23, Belle Chasse, LA 70037 – Approx. 90 attendees

D'Iberville, MS – June 6, 2012, 4pm-6pm, L.H. "Red" Barnett Senior Center, 10450 Lamey Bridge Road, D'Iberville, MS 39540 – Approx. 25-30 attendees

Bayou La Batre, AL -- June 13, 2012, 2pm-4pm, Bayou La Batre Community Center, 12745 Padgett Switch Road, Bayou La Batre, AL 36509 - ?



## Proposed Rule Comment Period

### **Public Comment Period Ends July 9, 2012**

Comments accepted electronically, by mail, fax, or in person:

- Electronic Submissions: Submit all electronic public comments via the Federal e-Rulemaking Portal: <http://www.regulations.gov>.
- Mail: Michael Barnette, Southeast Regional Office, NOAA Fisheries Service, 263 13<sup>th</sup> Avenue South, St. Petersburg, FL 33701.
- Fax: 727-824-5309; Attention: Michael Barnette.





## DEIS Comment Period

### **Public Comment Period Ends July 2, 2012**

Comments accepted by mail, fax, or e-mail. Please include the phrase “Sea Turtle DEIS” in the subject line of the letter, fax, or e-mail:

- Mail: Michael Barnette, Southeast Regional Office, NOAA Fisheries Service, 263 13<sup>th</sup> Avenue South, St. Petersburg, FL 33701.
- Fax: 727-824-5309; Attention: Michael Barnette, Sea Turtle DEIS.
- E-mail: [Michael.Barnette@noaa.gov](mailto:Michael.Barnette@noaa.gov). Subject line: Sea Turtle DEIS.



## For Additional Information on the Opinion or Proposed Rule

- [http://sero.nmfs.noaa.gov/pr/ShrimpFishery\\_SeaTurtle.htm](http://sero.nmfs.noaa.gov/pr/ShrimpFishery_SeaTurtle.htm)

