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An Update on the Endangered Species Act Section 7 Consultation on the Authorization of the Southeast U.S. Shrimp Fisheries in Federal Waters Addressing Giant Manta Ray and Shrimp Trawl Interactions

**South Atlantic Fishery Management Council Meeting
Shrimp Committee
June 10, 2024**

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Presentation Overview

- Quick Recap: 2021 Biological Opinion and Triggers Met for Reinitiation of Section 7 Consultation
- Update on Bycatch Data and New Information
- Next Steps and Timing
- Giant Mant Ray and Smalltooth Sawfish Handling and Release Guidance Reminder

The 2021 Shrimp Biological Opinion

- Analyzed effects of ESA “TED regs” and authorization of southeast US. shrimp fisheries managed under the Magnuson-Stevens Act (i.e., the proposed action)
- Determined the proposed action is not likely to jeopardize the continued existence of sea turtles, sturgeon, giant manta ray, and smalltooth sawfish.
- Issued an incidental take statement (ITS) specifying the amount of anticipated incidental take for listed species over 5-year monitoring periods.

*Giant manta rays and smalltooth sawfish 5-year takes:

Species	Try Nets		Standard Nets		Total Mortalities
	Captures	Mortalities	Captures	Mortalities	
Smalltooth Sawfish	-	-	1,806	903	903
Giant Manta Ray	-	-	8,390	0	0

*Highly uncertain estimates. Smalltooth sawfish extrapolated from 17 sawfish captures over 12 years; assumed 50% mortality rate. Giant manta ray were extrapolated from 8 captures in one year; no giant manta ray mortalities anticipated because there were no lethal records at that time (Carlson 2020).

Section 7 Reinitiation Requirements

- Reinitiation of ESA formal Section 7 consultation required if discretionary involvement or control over the action has been retained (or is authorized by law) and:
 - The amount or extent of the taking specified in the ITS is exceeded.
 - New information reveals effects of the action that may affect listed species or critical habitat (when designated) in a manner or to an extent not previously considered.
 - The identified action is subsequently modified in a manner that causes an effect to listed species or critical habitat that was not considered in the biological opinion.
 - A new species is listed or critical habitat designated that may be affected by the identified action.



Reasons For Reinitiation and Scope

- **The amount or extent of the taking specified in the incidental take statement is exceeded**
 - Since the 2021 Shrimp Opinion was completed, giant manta ray mortalities have been observed.
 - Lethal takes have only been confirmed in the Gulf of Mexico, but take records in the South Atlantic Region include several giant manta rays caught where the disposition was unknown.
- **New information reveals effects of the action that may affect listed species in a manner or to an extent not previously considered**
 - Recent take data may constitute new information revealing effects of southeast shrimp fisheries on giant manta rays not considered in the 2021 Shrimp Opinion.
 - New publications contain information revealing effects of southeast shrimp fisheries on giant manta rays and smalltooth sawfish not considered in the 2021 Shrimp Opinion.

SCOPE: At this time, no triggers have been met for any of the other species that may be affected, so consultation limited to addressing only the above two species and their management under the Gulf and South Atlantic Shrimp FMPs and their implementing regulations.

Giant Manta Ray & Trawl Effects

Mortality resulting from asphyxiation:

- Obligate ram-ventilator requires constant movement to pass water over gills.
- Capture in trawls severely restricts movement and respiration resulting in asphyxiation.

Injury/Stress resulting from capture:

- Can directly influence ability to survive post release.
- Compacted against netting or TED by weight of catch, coupled with impaired respiration decreases likelihood of survival post release.
- Post release mortality is unknown.



Updated Bycatch Data

Observer Coverage = ~ or > than 2% Gulf/SA combined

Observed Takes (2019 – June 3, 2024*)

- 30 Alive; 6 Mortalities; 7 Unknown
= **Total: 43** (35 GOM; 8 SA)

**Recent 2024 Data Preliminary*

Immediate Mortality Estimate

- At least a 13.9% immediate known mortality rate ($6/43=13.9$) and possibly as much as 30% if unknowns treated as mortalities $[(6+7)/43]$ based on approx. 5 and a half years of data

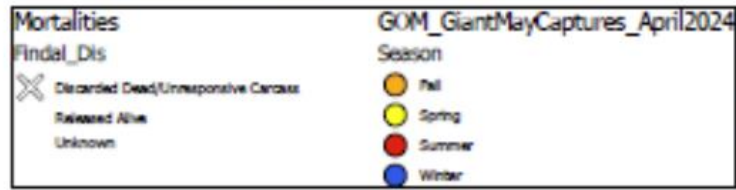
Spatial and Temporal Observations

- Gulf of Mexico interactions are occurring **offshore Louisiana (n=32)**, followed by Alabama (n=2), and Texas (n=1). North Atlantic interactions occurred offshore Georgia (n=6) and East Coast Florida (n=2).
- Most interactions occurring in Spring and Fall.
- Multiple interactions occurring on a single trip and at night.
- Majority of interactions at depths <100 ft.

Year	Disposition	Total
2019	Released Alive	4
2019	Unknown	4
2020	Released Alive	3
2021	Released Alive	5
2021	Mortalities	2
2022	Released Alive	8
2022	Unknown	2
2023	Released Alive	6
2023	Mortalities	2
2023	Unknown	1
2024	Released Alive	4
2024	Mortalities	2

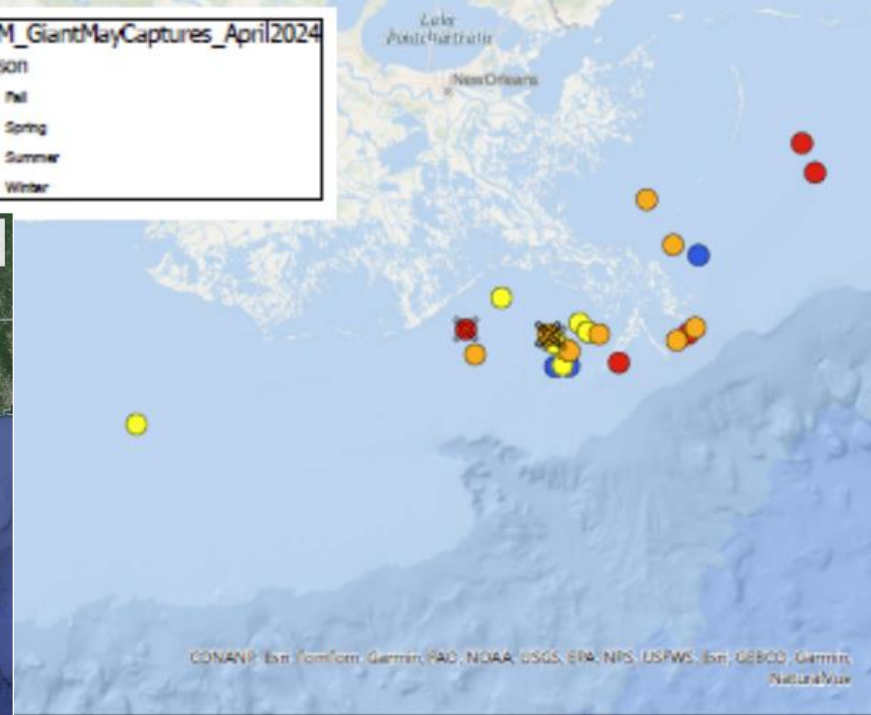
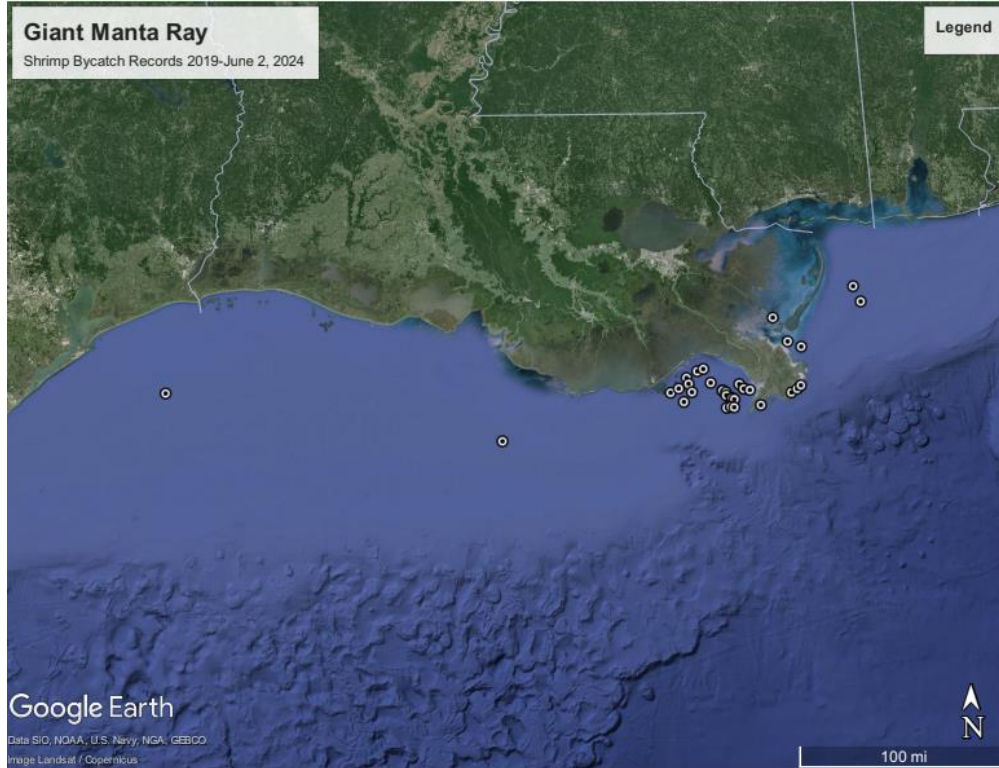


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Giant Manta Ray

Shrimp Bycatch Records 2019-June 2, 2024



Google Earth

Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image Landsat / Copernicus

100 mi



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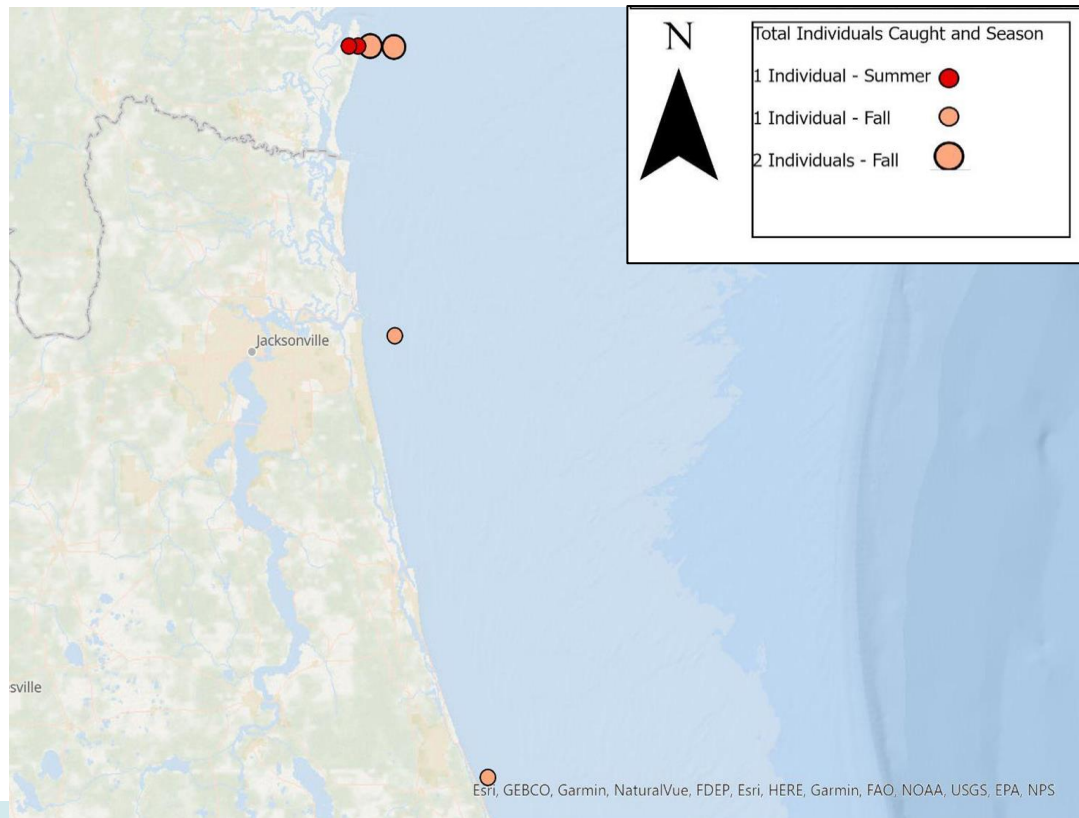
South Atlantic Region Shrimp Trawl Captures and Data

Importance of shore and nearshore Georgia and north-central Florida

- Migration (March - May) but also observed year round
- Courtship behavior, mating scars and foraging documented

Southeast Florida Juvenile Nursery Area described based on frequent observations, high site fidelity, and extend use over multiple years.

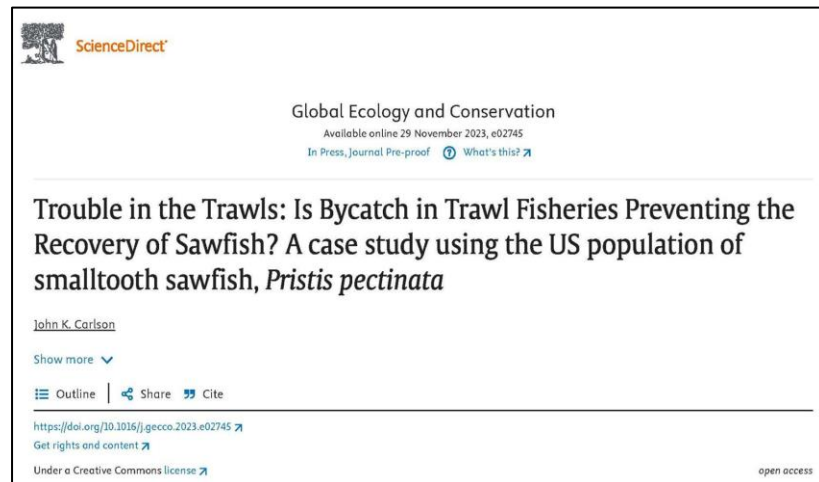
Low interactions may be a function of low observer coverage.



Smalltooth Sawfish Update

Carlson 2023 - Population Viability Analysis (PVA)

- Relies on recent studies (Feldheim et al. 2017, Smith 2021, Graham et al. 2022) to rerun the PVA Carlson and Simpfendorfer originally published in 2015.
- Considers multiple scenarios of population response to bycatch threats.
- High uncertainty in scenario outcomes; highlights importance of improving our understanding of sawfish life history, captures in fisheries and their associated post-release mortality.
- Full presentation available here:
https://gulfcouncil.org/wp-content/uploads/10.-Population-viability-Analysis-Presentation_Carlson.pdf



What is a PVA?

- A modeling tool that estimates the future size and risk of extinction for populations of organisms
- Predict the probability of the population persisting into the future - a useful tool to explore potential consequences of management actions in the light of uncertain data and an ambiguous future

Ongoing Smalltooth Sawfish Mortality Event in the Florida Keys

- Strange sawfish behavior and deaths in the lower Florida Keys since late January. Reports of smalltooth sawfish swimming erratically, thrashing in the shallows, and beaching themselves
- Affected sawfish are larger juveniles and adults, generally ranging in size from 10-14 ft.
- As of May 24, 2024, we're aware of 204 unique sawfish reports with 50 confirmed as mortalities (recovered carcasses) though we expect the total mortality to be higher.
- Cause is still under investigation but the leading theory is a toxin or a mixture of toxins.
- Given concern over the high mortality of smalltooth sawfish, NOAA and partners developed a rescue and rehabilitation effort and made the first rescue off Cudjoe Key on April 5th. After more than 20 days of rehabilitative care at Mote Marine Lab in Sarasota, the first rescued smalltooth sawfish has died.



Section 7 Consultation Next Steps and Timing?

- The initial target date for having all of the information needed for PRD to have a complete initiation package and conduct the consultation was April 2024.
- Shrimp effort data availability has pushed back the consultation schedule. The SEFSC is working to complete bycatch estimates and additional analyses based on effort data through 2022 (now available) by the end of July, and through 2023, when effort data are anticipated available later this year.
- PRD will evaluate the new bycatch data once received and share the information with both the Gulf and South Atlantic Councils via August/September meetings
- SERO will also need to consider any proposed Shrimp FMP-driven actions and any shrimp actions the Gulf or South Atlantic Councils consider in response to key data as it becomes available.
- SERO still anticipates completing the consultation near the end of 2024 or early 2025 and will keep all informed of any changes.



What Can You Do Right Now?

Ensure fishers are using the release guidance for giant manta ray and smalltooth sawfish. (**Now in English, Spanish, and Vietnamese**)

- <https://www.fisheries.noaa.gov/southeast/endangered-species-conservation/sea-turtle-smalltooth-sawfish-and-giant-manta-ray-release>

In addition to any required reporting, share data through:

- For Sawfish: 1-844-4SAWFISH (1-844-472-9347)
- For Manta rays: Email our Regional Giant Manta Ray Species Coordinator: Calusa.Horn@noaa.gov or manta.ray@noaa.gov



Southeast Shrimp Fisheries Giant Manta Ray Release Guidance

This guidance describes the procedures for releasing a manta ray from a shrimp trawl. Under these procedures, the trawl is retrieved in a normal manner. **The manta ray is not brought onboard the 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.

Step 1: The haulback of all nets should proceed as usual. Bring doors to the block.

Step 2: Position the vessel so that the manta/trawl is on the windward/upwind side of the boat. Reduce speed or take the engine out of gear if possible. This will reduce drag on the animal, allowing it to move towards the mouth of the net in subsequent steps.

Step 3: Retrieve the bag and dump the catch as usual.

Step 4: Using a whip/lifting line positioned forward of the TED, raise sections of trawl netting out of the water as high as possible, causing the animal to slide toward the trawl mouth.

- It may require several lifts/whips, moving forward in the trawl body with each lift, to move the animal toward the trawl mouth.
- If the animal stops moving, try lowering the trawl doors to the water. This will increase the angle of the whip line lifting point relative to the trawl mouth and help move the animal toward the trawl mouth.

Step 5: If the animal does not move after repetitive lifts are attempted, it may be necessary to cut portions of the trawl net webbing that appear to be under tension near or around the animal. Bring those areas of the trawl as close to the vessel as possible and make necessary cuts to relieve tension. Take care to avoid cutting the animal.

Step 6: Once released from the trawl, monitor the animal's direction of movement. Take care to maneuver the vessel away from the animal while it is recovering.

Step 7: Report the incident to manta_ray@noaa.gov or call Calusa Horn, NMFS Southeast Giant Manta Ray Recovery Coordinator at 727-824-5312



Photo: Josh Stewart



Photo: NOAA



Smalltooth Sawfish, Safe Handling and Release Procedures for Commercial Fisheries

The guidelines presented here describe procedures for releasing a smalltooth sawfish incidentally caught in commercial fishing gears. Sawfishes are listed as endangered under the U.S. Endangered Species Act and it is therefore illegal to harm, injure, or kill them.

General Handling and Release

- Sawfish must be released as quickly as possible and without harm
- Leave sawfish in the net or on the line until ready for release
- Keep sawfish in the water as much as possible
- Keep sawfish wet if it must be removed from the water
- Do NOT stand or sit next to the rostrum
- Tie rope around tip of saw or tail only if needed to control sawfish for safety

Line Gears (e.g., longline, rod and reel)

- Keep the sawfish, especially the gills, in the water
- Use line-cutting poles, long-handled dehookers, and/or boat hooks to remove line or gear
- DO NOT attempt to remove the hook, just cut the line as close to the hook as possible
- If line is tangled around the body or saw, untangle and remove as much of the line from around the sawfish as possible and then cut the line close to the hook

Net Gears (e.g., trawls and gillnet)

- Keep the sawfish, especially the gills, in the water as much as possible
- Roll netting away from the body of the sawfish
- Use line-cutting pole, scissors, and/or knife to cut free any net tangled around the saw by cutting the mesh along the length of the saw
- Once the mesh is cut, continue rolling the netting off the sawfish for release

Data Recording

- Date and time
- GPS coordinates
- Photographs and videos
- Sex (check for claspers by pelvic fins)
- Tag number, if applicable
- Length (estimate saw and total length)
- Release condition (alive, dead, injured)

Reporting: 1-844-4SAWFISH (1-844-472-9347)

For more information contact:
Adam Brame, Sawfish Recovery Coordinator
727-209-5958; Adam.Brame@noaa.gov



June 24, 2021