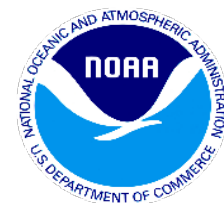
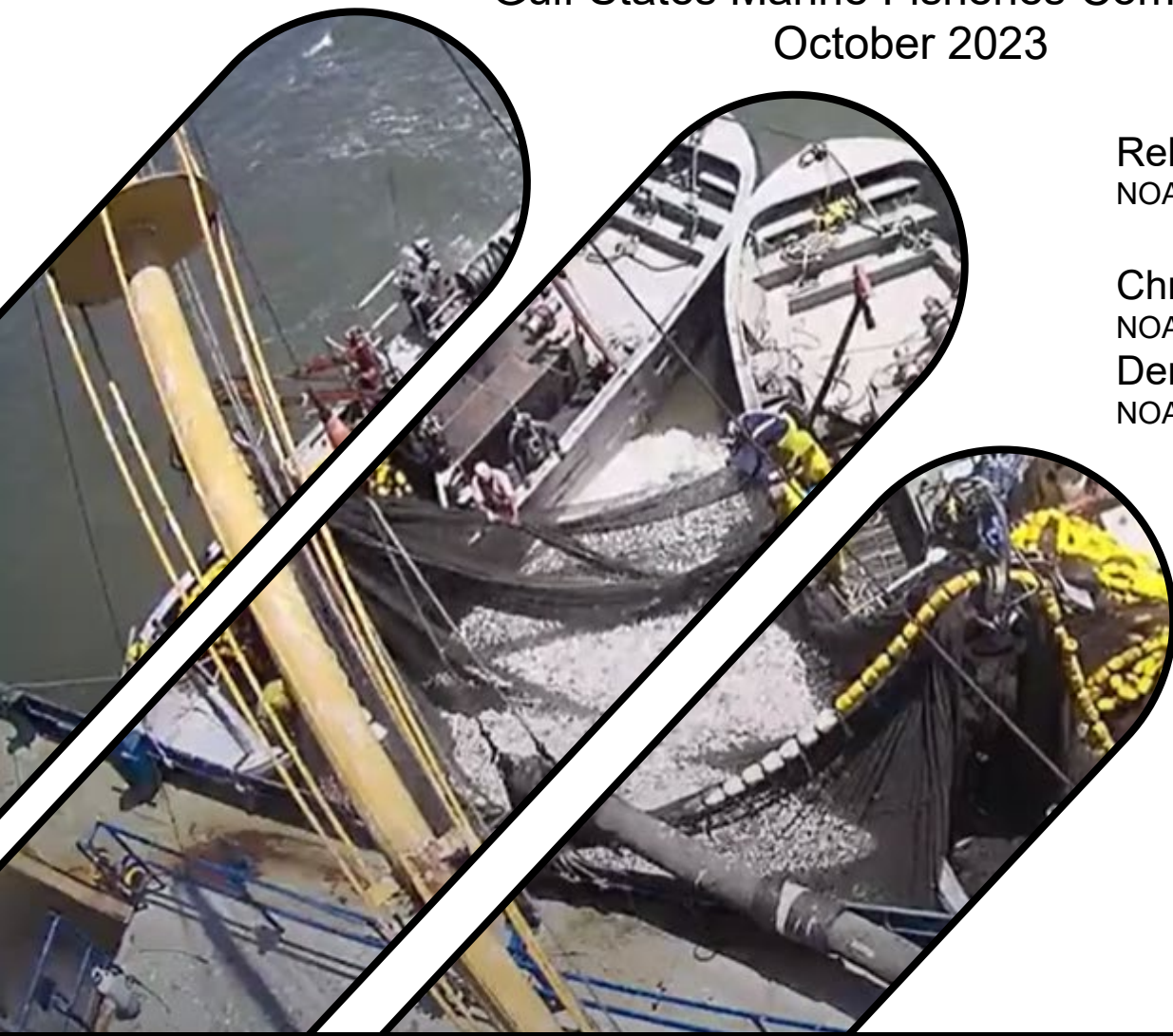


Developing Methods to Observe Sea Turtle Interactions in the Gulf of Mexico Menhaden Purse Seine Fishery

Gulf States Marine Fisheries Commission
October 2023

Rebecca Hazelkorn (presenting)
NOAA Southeast Regional Office

Christy Fellas
NOAA Office of Habitat and Conservation
Dennis Klemm
NOAA Southeast Regional Office



Project Approval and Funding

- This project was funded through the Deepwater Horizon Open Ocean Trustee Implementation Group in Restoration Plan 2
- A total of 6 sea turtle restoration projects were selected and funded
- This project began in 2021 and is expected to conclude in 2024

Project Funding



Project goals

The goal of the project is to **develop effective observer methods** to collect information about interactions with sea turtles and other protected species in the GOM menhaden purse seine fishery, and **to identify opportunities for voluntary measures to avoid and reduce interactions.**

The specific project objectives include:

- Establish a **Project Steering Committee**
- Implement a **Proof-of-Concept** observer trial to evaluate feasibility and effectiveness to move towards a Pilot
- Implement a **1–2-year Pilot** data collection effort to understand observer methods over longer period and identify nature/extent of interactions for future voluntary practices if needed

Project Funding

Goals

Proof of Concept

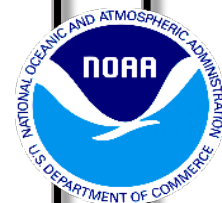
Results

Year 1 Efforts

Yr 1 Results

Year 2 Efforts

Next Steps



Steering Committee

Members – 13 in total

- NOAA Southeast Regional Office (2)
- NOAA Office of Habitat and Conservation (1)
- NOAA Office of Protected Resources (1)
- NOAA Southeast Fisheries Science Center (2)

Menhaden Industry – includes representative from parent companies and the fishing operation companies

- Omega Protein (1)
- Ocean Harvesters (3)
- Daybrook Fisheries (1)
- Westbank Fishing LLC (2)

Role

The Steering Committee's primary role is to help guide the project to meet project objectives and goals.

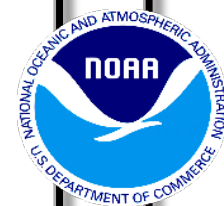
Industry Representatives have:

- Provided information at captain's meeting to inform fleet of upcoming projects
- Provided insight into feasibility of various methods to be tested
- Provided vessels to perform proof of concept
- Selected vessels for appropriate observer method
- Attend regularly scheduled meetings to discuss results and provide updates and recommendations
- Reviewed documentation in the form of project reports that are made available to the public
- Participate in ongoing discussions to ensure the project is collaborative



Proof of concept (2021)

- Work with formed Steering Committee to identify options of potential observation methods to test
 - Short timeframe – PoC to only last ~7 days
 - To be conducted during regular fishing operations
 - May include testing various configurations for observer(s) placement and/or alternative monitoring technologies, may include the use of replicas
- Ideas identified to test included
 - Human observers from an alternate platform
 - Electronic monitoring
 - Drone observations



Project Funding

Goals

Proof of Concept

Results

Year 1 Efforts

Yr 1 Results

Year 2 Efforts

Next Steps

Project Funding

Goals

Proof of Concept

Results

Results from Proof of Concept

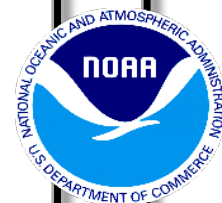
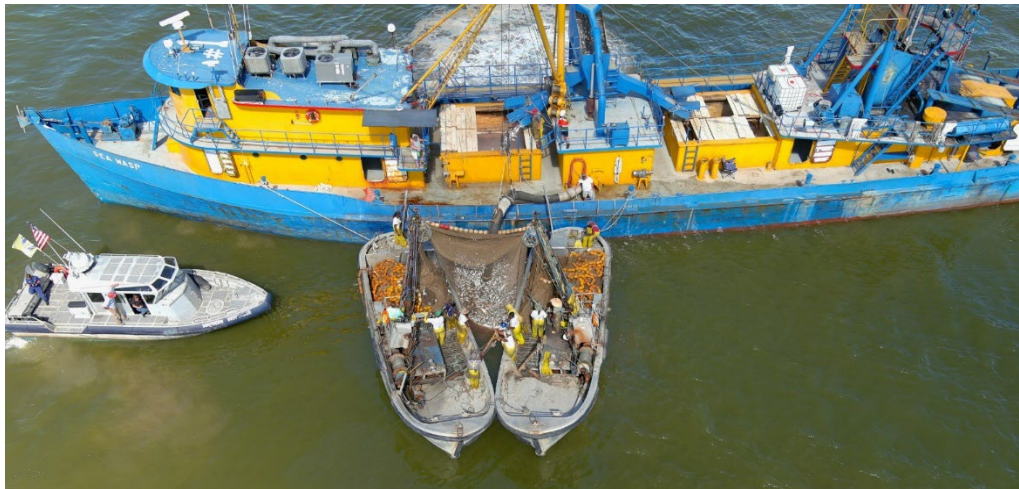
- Following written report and discussion on all 3 methods tested, the Steering Committee deemed:
 - Human observers from Alternate Platform
 - VIABLE
 - Electronic monitoring
 - VIABLE
 - Drones
 - NOT VIABLE

Year 1 Efforts

Yr 1 Results

Year 2 Efforts

Next Steps



Pilot Year 1 (2022) efforts

Following the Proof of Concept:

- Two methods were chosen for Pilot Year 1
 - Human observers
 - Observers utilized an alternate platform to obtain observations of as many sets from as many vessels as possible
 - Electronic Monitoring
 - 8 vessels in total, spanning eastern to western port locations, were selected from industry recommendations and were outfitted with a camera on the crow's nest to view the pumping operation as well as a camera at the sorting grate



Project Funding

Goals

Proof of Concept

Results

Year 1 Efforts

Yr 1 Results

Year 2 Efforts

Next Steps



Results from Pilot Year 1 - 2022 fishing season

Takeaways

- Many logistical challenges were faced
 - Timely EM install
 - Ability of human observers to view pumping
 - Locating vessels
 - Timely EM retrieval, review, and report out
- 9.7% set coverage based on 2022 set totals

Project Funding

Goals

Proof of Concept

Results

Year 1 Efforts

Yr 1 Results

Year 2 Efforts

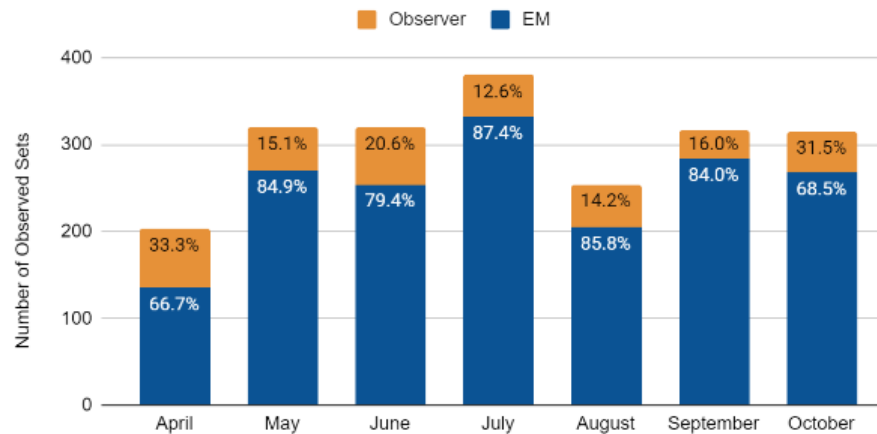
Next Steps



Results from Pilot Year 1 - 2022 fishing season

Total Sets Monitored for 2022		
Month	EM	Observer
April	135	68
May	270	50
June	254	66
July	332	48
August	205	49
September	284	32
October	268	47
Total	1,748	360

Total Sets Observed by Monitoring Method



Project Funding

Goals

Proof of Concept

Results

Year 1 Efforts

Yr 1 Results

Year 2 Efforts

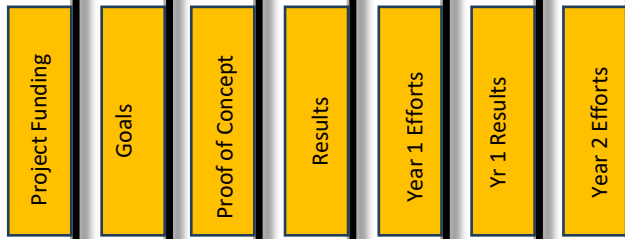
Next Steps

Results from Pilot Year 1 - 2022 fishing season

	Total number of sets with interactions	Total number of animals observed	Released at the finish of pumping	Release condition "Alive"	Release condition "Unknown"	Release condition "dead"
Sea Turtles	6	6	6	6	0	0
Marine Mammals	8	14	13	5	7	1

- All animals shown in this chart were released from the net
- Release condition is based on review of video by contractor and NOAA species experts





Pilot Year 2 (2023) efforts

Second and final year of observations is currently underway

Following Pilot Year 1:

- Electronic Monitoring selected to move forward for a pilot year 2 with modifications
 - Selection of different vessels – as prescribed by Industry representatives
 - Different method of hard-drive retrieval
 - No longer require vessel captains to mail in hard drives
 - Contractor for hard drive retrieval every 2 weeks
 - Modifications to contactors review schedule to provide timely analysis of data for Steering Committee review

Total Sets Monitored		
Month	2022	2023
April	135	232
May	270	712
June	254	506
July	332	575
August	205	426
September	284	Data analyzed by Nov 14
October	268	Data analyzed by Dec 3
Total	1748	2451

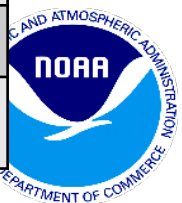


Pilot Year 2 (2023) efforts

Interactions				
	Sea Turtles		Marine Mammals	
Month	2022	2023	2022	2023
April	0	2	0	3
May	5	9	0	7
June	1	6	0	3
July	0	1	1	12
August	0	3	2	1
September	0	1*	4	1*
October	0	n/a	7	n/a
Total	6	22	14	27

* updated as of Oct 13th

2023 *as of Oct 13th	Release condition "Alive"	Release condition "Unknown"	Release condition "Dead"
Sea Turtles	20	2	0
Marine Mammals	8	13	6



Project Funding

Goals

Proof of Concept

Results

Year 1 Efforts

Yr 1 Results

Year 2 Efforts

Next Steps



Next Steps

Following the end of the 2023 fishing season:

- Final report summarizing POC and two years of field work
- Not intended to extrapolate number of sea turtle interactions
- Use these data to identify if there are any areas where different methods/practices could be employed to decrease impact on marine mammals and sea turtles
 - Discussions would be continued with SC personnel
- Currently no proposed follow-up project in the works





Thank you
&
Questions?

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