

# SAFMC Shrimp Workgroup

## *Facilitated Information Gathering Session*

To meet the goals of the workgroup and develop an action plan to be presented to the SAFMC, the workgroup should focus on gathering information from the following areas:

1. **Shrimp Fishery**
2. **Species Biological Research**
3. **Bycatch and Bycatch Reduction Strategies**

Information from all topical areas should then be combined to recommend workable solutions to reduce interactions with giant manta rays and smalltooth sawfish. This exercise will help us discuss **what information could be useful, identify workgroup members with relevant experience** in each area, and **assign action items for subsequent meetings**.

For each question below, the goal is to determine:

1. What information can be used to answer the question?
2. Who is the workgroup member that can best gather info/answer the question?
3. Where do data gaps exist and how can we work collaboratively to fill these gaps?

## 1. SHRIMP FISHERY

- What is the best fleet and gear characterization data source (s)?
- How is South Atlantic shrimp effort distributed spatially (across depths and region) and temporally (month or season)?
- Which specific shrimp fishery(ies) have witnessed or interacted with giant manta ray (GMR) or smalltooth sawfish (SS) within the last 5 yrs?
- Are there specific areas where the shrimp fishery witnesses or interacts with GMR or SS? If so, what are they?
- Are there gear and operation practices that the shrimp fishery employs to reduce interactions with GMR or SS? If so, what are they?
- Are there species handling practices that the shrimp fishery employs to reduce interaction mortality with GMR or SS? If so, what are they?
- Are there mitigation practices used by industry when interactions do occur (safe handling and release practices)? If so, what are they?
- What practices are used to reduce interaction with other species and could any help with GMR or SS?
- Have there been any changes in the amount of interactions or times you witness these species over the years? Please explain the timeline for these changes.
- With regards to the previous question, have there been any other changes (i.e. environmental changes, technological advances) that have coincided with the change in GMR or SS interactions?

## 2. SPECIES BIOLOGY

### Giant Manta Ray

- What is the size range of animals we would expect to interact with shrimp fisheries?
- What do we know about species behavior that could inform how interactions occur?
- What do we know about species distribution or seasonal patterns of occurrence in specific areas?
- Are there habitat preferences or habitat hotspots within the South Atlantic?
- Are there specific habitat requirements for GMR (i.e temperature requirements, presence of prey species) that could help identify possible habitat areas for GMR?
- With regards to the shrimp fishery, what are the greatest threats to GMR?
- Are there any other significant threats to GMR outside of the shrimp fishery in the South Atlantic?
- What are major life history limiting factors of GMR that could contribute to population decline?
- What data collection programs exist for GMR, what information do they collect?

### Smalltooth Sawfish

- What is the size range of animals we would expect to interact with shrimp fisheries?
- What do we know about species behavior that could inform how interactions occur?
- What do we know about species distribution or seasonal patterns of occurrence in specific areas?
- Are there habitat preferences or habitat hotspots within the South Atlantic?
- Are there specific habitat requirements for SS (i.e temperature requirements, presence of prey species) that could help identify possible habitat areas for SS?
- With regards to the shrimp fishery, what are the greatest threats to SS?
- Are there any other significant threats to SS outside of the shrimp fishery in the South Atlantic?
- What are major life history limiting factors of SS that could contribute to population decline?
- What data collection programs exist for SS, what information do they collect?
- How does the spinning mortality event factor into bycatch probability? Does it make individuals more susceptible to interacting with the shrimp fishery? Have individuals identified in lethal takes been tested for HAB neurotoxins thought to cause this mortality event?

### **3. BYCATCH AND BYCATCH REDUCTION DATA**

- What are the sources of bycatch data in the South Atlantic?
- What can we learn from characterization of observed interactions?
- What do we know based on the latest GMR and SS bycatch shrimp trawl estimates?
- Are there any bycatch reduction strategies being developed/tested currently? This could be outside of the South Atlantic region or United States.
- How can existing information be used to recommend interaction reductions?
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- How can bycatch be monitored in the future?