



Mississippi Shrimp Action Plan

Updated February 2019

Prepared by:

Audubon Nature Institute

Gulf United for Lasting Fisheries (G.U.L.F.)



Introduction

The Mississippi shrimp fishery improvement project (FIP) is run by Gulf United for Lasting Fisheries (G.U.L.F.), the sustainable seafood program of Audubon Nature Institute. In 2013, under the Oil Disaster Recovery Program (ODRP), the Gulf States Marine Fisheries Commission requested G.U.L.F. to create sustainability projects across the Gulf of Mexico. G.U.L.F. developed the G.U.L.F. Sustainability Benchmarking Report (SBR) based on the United Nations Food and Agriculture Organization (FAO) Code of Conduct for Responsible Fisheries (CCRF) and gathered comprehensive information through interviews with management and industry representatives, public documents, and research publications to assess the fishery against this standard. G.U.L.F. then adapted the Marine Stewardship Council (MSC)-based fishery improvement project (FIP) model to create marine advancement plans (MAPs) based on the CCRF assessments, including the Mississippi shrimp MAP.

The concept of 'basic' FIPs, (FIPs without an MSC pre-assessment and/or FIPs that do not target an unconditional pass of the MSC standard) grew in recognition in the years that followed the creation of G.U.L.F.'s MAPs. In June 2016, G.U.L.F. took over the Louisiana and Texas shrimp FIPs previously led by the Sustainable Fisheries Partnership (SFP) and converted the Mississippi and Alabama shrimp MAPs to basic FIPs according to the Conservation Alliance for Seafood Solutions' *Guidelines for Supporting Fishery Improvement Projects*.

Scope

Species:

- White shrimp (*Litopenaeus setiferus*)
- Brown shrimp (*Farfantepenaeus aztecus*)

Location

- Mississippi state territorial waters (three nautical miles(nm))
- U.S. Exclusive Economic Zone (EEZ, 3-200 nm)

Gear

- Otter trawl
- Skimmer trawl

Management

- National Oceanic and Atmospheric Administration (NOAA)
- Gulf of Mexico Fishery Management Council (GMFMC)
- Mississippi Department of Marine Resources (MDMR)

Participants

[C.F. Gollott and Son Seafood](#) - Joined March 2017

F/V Fair Maiden - Joined November 2017

[Gulf Pride Enterprises, Inc.](#) - Joined May 2016

[M&M Shrimp/Biloxi Freezing](#) - Joined July 2016

[Mississippi Commercial Fisheries United](#) - Joined June 2016

[Oceans 97](#) - Joined August 2017

[St. Michael's Fuel and Ice](#) - Joined March 2017

Status of the Fishery

The Mississippi shrimp fishery primarily harvests brown (*Farfantepenaeus aztecus*) and white shrimp (*Litopenaeus setiferus*) in Mississippi state territorial waters and federal waters in the U.S. Gulf of Mexico. Total shrimp harvest landed in Mississippi in 2017 was 15.5 million pounds with a dockside value of approximately \$17.3 million. Harvest of brown shrimp peaks in the summer (spring season: mid-May to July), and harvest of white shrimp peaks in the fall (fall season: mid-August to December). Brown and white shrimp stocks are found in both state and federal waters in the U.S. Gulf of Mexico and are assessed regionally. Stock assessments conducted by the National Oceanic and Atmospheric Administration (NOAA) Fisheries Galveston Lab indicate that neither shrimp species is overfished or experiencing overfishing. The Gulf of Mexico Fishery Management Council (GMFMC) and NOAA Fisheries manage the fishery in federal waters and the Mississippi Department of Marine Resources (MDMR) manages the fishery in state waters.

The primary gear types used in the Mississippi fishery are otter trawls and skimmer trawls. Otter trawls are primarily used offshore and both are used inshore. Butterfly nets and cast nets are also legal gear in Mississippi but landings from these gear types are minimal.

Turtle excluder devices (TEDs) are required in otter trawls in both state and federal waters by federal regulation and this regulation is enforced by NOAA, the U.S. Coast Guard (USCG), and MDMR. Skimmer trawls are exempt from TED requirements, but must adhere to tow time limits (55 minutes from April 1 - October 31, 75 minutes from November 1 - March 31).

All shrimp trawls in federal waters are required to use certified bycatch reduction devices (BRDs). BRDs are not required in Mississippi state waters; however, many fishermen do pull BRDs in state waters, with recent research indicating that approximately 45% of skimmer trawls pull BRDs. Fishermen in Mississippi are allowed to retain bycatch species for sale or personal consumption within regulatory requirements for those species.

Notable improvements made in the shrimp fishery in recent years include stock monitoring, bycatch

reduction, area closures, and sea turtle nesting enhancement projects.

G.U.L.F. completed a Sustainability Benchmarking Report in September 2015 to assess the current status of the Mississippi shrimp fishery and identify areas of potential improvement. Initial sustainability gaps identified include the following:

- Bycatch ratios are still high in comparison to other U.S. trawl fisheries;
- Observer coverage is low (1-2% on otter trawl fleet and <1% on skimmer trawl fleet);
- Recent research suggests that compliance with tow time regulations is low and Kemp’s ridley turtle captures in skimmers have been documented;
- The TED compliance rate has fluctuated close to the required levels in past years, but currently remains above minimum threshold;
- Bycatch data and information regarding use of BRDs in state waters is limited;
- Mississippi does not have an industry task force for shrimp; and
- The state Fishery Management Plan is outdated.

Work Plan

ACTION 1	GEAR TUNING
Reference	MSC PI 2.3.3 G.U.L.F. SBR: 7.2.2 (d), 7.2.2 (g)(iii), 7.6.9 (a)(i,ii,iii), 8.5.1 (a), 12.10(c)
Participants	All

Data on sea turtle interactions with the fishery are collected and monitored through enforcement and compliance checks carried out by NOAA, USCG, state resource agencies and trained Sea Grant agents. The NOAA TED Compliance Policy was implemented in September 2016. Increasing courtesy inspections will provide participants with verification that the vessels they source from are in full compliance and operating efficiently. Documentation of voluntary inspections will increase the data available for use in meeting the requirements of the NOAA TED Compliance Policy. Participants agree to work with harvesters and docks to facilitate courtesy TED and BRD inspections. Participants will seek to increase vessel participation annually. G.U.L.F. compiles and maintains records of voluntary inspections.

ACTION 1 PROGRESS				
	Vessels Inspected	Fully Compliant	Non-compliant	Non-compliance Fixed*
2018	26	16	10	2
2017	14	7	7	6
2016	19	12	7	7

* Some gear adjustments required more time than available during site visit. Participants acknowledged any issues and are committed to resolving them.

2018 GEAR EVALUATIONS								
	Date	Vessel #	# of TEDs	FC*	Minor NC**	Major NC**	NC fixed?*	Add'l advice?
1	3/12/18	BMS1	4	4				
2	3/12/18	BMS2	4	3	1			
3	3/12/18	BMS3	4	4				
4	3/12/18	BMS4	4	2	1	1		
5	3/16/18	BMS5	2	2				
6	3/30/18	PGM1	1	1				
7	4/3/18	PC1	2		2		Y	
8	4/26/18	BPD1	2	1		1		Y
9	4/26/18	BWG1	4	3		1		Y
10	5/9/18	BPD11	2	2				
11	5/9/18	BPD2	2	2				
12	5/9/18	BPD3	4	4				
13	5/9/18	BPD5	2	2				
14	5/9/18	BPD6	2	2				
15	5/16/18	OSMS1	2	2				
16	5/22/18	BPD9	4		4			Y
17	5/30/18	BPD10	4	4				
18	5/30/18	BPD4	2	2				
19	5/30/18	BPD7	2	2				
20	6/4/18	BPD12	6		6			
21	6/4/18	BPD13	2	1	1		Y	
22	7/19/18	BPD8	2	2				
23	7/19/18	BPD14	2	2				
24	7/19/18	BPD15	2	1	1			
25	7/19/18	BPD16	4	4				
26	11/11/18	BWG2	4	3	1			Y

* FC= fully compliance

** NC= non-compliance

ACTION 2	TOW THE TIME CAMPAIGN
Reference	MSC PI 2.3.3 G.U.L.F. SBR: 7.2.2 (d), 7.2.2 (g)(iii), 7.6.9 (a)(i,ii,iii), 8.5.1 (a), 12.10(c)
Participants	All

NOAA Observer Program reports indicate that compliance with mandated tow times for skimmer trawls without TEDs is low. Tow time infractions appear partially due to misunderstandings or lack of information on current tow time regulations.

According to 50 CFR 223.206 (d)(3) “The tow time is measured from the time that the trawl door enters the water until it is removed from the water. For a trawl that is not attached to a door, the tow time is measured from the time the cod end enters the water until it is removed from the water.” The tow time method used by the Observer Program (Scott-Denton et al. 2014) does not measure tow times according to this legal definition. In a 2014 Technical Memorandum (Observer Coverage of the 2014 Gulf of Mexico Skimmer Trawl Fishery) the authors state, “In this study, tow time out was not recorded until the cod ends were brought fully on board.” Skimmer fishermen will remove the codends from the water, but leave frames in the water while bags are either checked or dumped. The Scott-Denton study also states that, “For tows when the frames remained in the water between tows, the subsequent tow’s start time was recorded as the next whole minute after the previous tow’s end time.” This is also inconsistent with the definition of tow time in the CFR. This methodology could lead to “noncompliances” recorded due to tow times not being measured based on the legal definition, which is used by fishermen. Such deviation may inaccurately create large noncompliance ratios for observed tows. Additionally, the report indicates that a large portion of non-compliances reported were within 5 minutes of the legal tow time requirement. The average tow time observed from May to June was around 63 minutes, which may be accounted for in the method of observers starting a tow while the codend was still on the vessel.



In 2014, G.U.L.F. launched the Tow the Time campaign in partnership with Louisiana Sea Grant to increase awareness of tow time restrictions. G.U.L.F. outreach staff will conduct dock visits to distribute accurate tow time information and Tow the Time decals to skimmer vessels. FIP participants agree to distribute materials to their supply chains (docks and vessels) and ensure that skimmer vessels are properly educated and adhering to tow time limits.

Public comment period for a proposed rule requiring TEDs in skimmer, butterfly, and pusher-head trawls closed on February 14, 2017. Participants will monitor the progress of the ruling and assist industry in transitioning when the final rule is published.

ACTION 2 PROGRESS		
April 2016	Distributed Tow Time stickers to MSCFU board for distribution to members.	Completed
December 2016	NOAA published a Draft EIS and proposed rule to eliminate tow times and require TEDs in skimmers, butterfly, and wing nets.	Ongoing
December 2016	Participants continue to encourage tow time compliance until new rule is finalized.	Ongoing
January 2017	Participants attended NOAA scoping meetings on proposed rule for TEDs in skimmers.	Completed
February 2017	Participants coordinated an educational workshop for industry members to further discuss the proposed rule and solicit public comment from industry.	Completed
March 2017	Visited two docks to distribute 50 Tow Time decals.	Completed
June 2017	Distributed 10 Tow Time stickers at the docks in Biloxi, MS.	Completed
March 2018	Distributed Tow Time decals at Louisiana Fisheries Forward Summit and continue to distribute to docks and other agencies.	Completed
November 2018	Distributed Tow Time decals at Mississippi Commercial Fisheries United Annual Meeting.	Completed

ACTION 3	SKIMMER TRAWL PROJECT
Reference	MSC PI 2.3.3 G.U.L.F. SBR: 7.2.2 (d), 7.2.2 (g)(iii), 7.6.9 (a)(i,ii,iii), 8.5.1 (a), 12.10(c)
Participants	Mississippi Commercial Fisheries United

While the status of the final rule regarding requiring TEDs in skimmer trawls is unknown, participants agree to explore other avenues for encouraging tow time compliance and documenting compliance within the fleet. Shorter tow times not only decrease likelihood of sea turtle interaction, but also result in a higher quality shrimp. Several options exist for documenting and enforcing tow times and participants will explore the best fit for their businesses. As of summer 2018, G.U.L.F. is working with Mississippi Commercial Fisheries United on the funding and development of a mobile application to track and record tow times which would increase compliance and provide data on shrimp quality.

ACTION 3 PROGRESS		
September 2017	G.U.L.F. and Mississippi Commercial Fisheries United developed a proposal for a tow time mobile application and are seeking funding and development opportunities.	Ongoing

ACTION 4	DEVELOPMENT OF A BYCATCH MANAGEMENT STRATEGY	
Reference	MSC Principle 2 - bycatch; endangered, threatened, and protected species; ecosystem G.U.L.F. SBR 7.2.2 (d), 7.2.2 (g)(iii), 7.6.9 (a)(i,ii,iii), 8.5.1 (a), 12.10(c)	
Participants	All	

Participants agree to work with MDMR to develop a bycatch management plan for state waters and agree to work with vessels to encourage use of BRDs in state waters. MDMR anticipates an updated state bycatch study in 2020.

Task 1 - Determine voluntary BRD use through industry surveys.

Task 2 - Determine current level of bycatch utilization vs discard.

Task 3 - Engage NOAA regarding including BRD compliance on TED boarding form.

ACTION 4 PROGRESS		
September 2017	G.U.L.F. and members of the Gulf of Mexico Shrimp Supply Chain Roundtable (the Roundtable) wrote a letter of support to NOAA's Cooperative Research Program for a proposal on bycatch data collection and observer coverage.	Completed
June 2018	G.U.L.F. developed a survey to assess voluntary use of BRDs in state waters which was distributed through MDMR's Spring 2018 newsletter. The survey response rate was low and G.U.L.F. is assessing other avenues to obtain information on BRD use and bycatch utilization.	Ongoing

ACTION 5	EXPLORATION OF A TRACEABILITY SYSTEM	
Reference	Industry Recommendation	
Participants	TBD	

Participants expressed an interest in traceability to differentiate domestic product. G.U.L.F. is currently exploring the development of a traceability system for pilot testing with Gulf fisheries.

ACTION 5 PROGRESS

March 2019	G.U.L.F. contracted development of a traceability system to pilot test in Gulf fisheries in 2019 and 2020.	Ongoing
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ACTION 6**EVALUATION OF OBSERVER COVERAGE LEVELS AND STATISTICALLY APPROPRIATE COVERAGE**

Reference	MSC PI 2.1.3, 2.2.3, 2.3.2 G.U.L.F. SBR 7.7.3(ii), 8.4.3(b)
Participants	Gulf Pride Enterprises, Inc., M&M Shrimp/Biloxi Freezing, Oceans 97 (as members of the Gulf of Mexico Shrimp Supply Chain Roundtable)

The Observer Program for the Gulf of Mexico Shrimp fishery is currently considered a “Pilot/Baseline” program according to the NOAA U.S. National Bycatch Report (NBR). The NBR indicates that bycatch estimates for the fishery may be based on inconsistent or unreliable information and/or that sampling levels may have been inadequate or inconsistent. Further analysis is needed to determine appropriate observer coverage levels for the fishery. Participants will continue to work in conjunction with the Sustainable Fisheries Partnership (SFP) Gulf of Mexico Shrimp Supply Chain Roundtable (the Roundtable), participants agree to pursue further evaluation of the Observer Program. Initially this action sought analysis of the Observer Program through NOAA. NOAA has since indicated that a forthcoming update to the National Bycatch Report, initially expected in fall 2017, will include updated information relevant to this task. Participants are seeking additional analysis from independent researchers that would supplement this information and further demonstrate the robustness of observer data.

ACTION 6 PROGRESS

November 2016	In August 2016, the Roundtable sent a letter to the NOAA Observer Program requesting a statistical analysis of observer coverage for the Gulf of Mexico shrimp fleet. Receiving no response, the letter was resent in November. In February 2017, the Roundtable held a call with the Galveston lab.	Completed
March 2017	In February 2017, the Roundtable sent a letter to the NOAA Southeast Fisheries Science Center (SEFSC) requesting evaluation of the Observer Program. In March 2017, the SEFSC responded indicating that an update to the National Bycatch Report was expected in fall 2017 and would contain updated analysis on shrimp observer coverage. As of January 2019, the update is still pending.	Completed

ACTION 6 PROGRESS		
September 2017	Members of the Roundtable submitted letters of support to NOAA's Cooperative Research Program supporting a proposal focused on data collection for bycatch and observer coverage. Ultimately, the proposal did not receive funding.	Completed
July 2018	Recognizing the limited capacity of NOAA to provide further analysis of observer coverage, the Roundtable hosted a workshop in July 2018 to develop alternative methods to demonstrate robustness of observer data.	Completed
December 2021	Participants at the July 2018 workshop proposed a white paper using electronic logbook data to verify accuracy of observer data. Detailed proposal and budget are expected in 2019.	Ongoing

ACTION 7	EVALUATION OF OBSERVER PROGRAM DATA COLLECTION METHODS AND PROTOCOLS	
Reference	MSC PI 2.1.3, 2.2.3 G.U.L.F. SBR 7.2.2(g)(iii), 7.6.9(a)(i,ii,iii), 8.5.1(a), 12.10(c)	
Participants	Gulf Pride Enterprises, Inc., M&M Shrimp/Biloxi Freezing, Oceans 97 (as members of the Gulf of Mexico Shrimp Supply Chain Roundtable)	

There is currently onboard observer coverage for the Gulf of Mexico federal shrimp fleet which collects data on non-target species caught in the fishery. Current observer reports, however, contain some large categories of unidentified finfish, crustaceans, and invertebrates with catch percentages higher than 5%. Both the MSC and G.U.L.F. RFM standards requires demonstration that fishing activity does not cause significant impact to non-target species, which requires classification of non-target species into categories based on the percentage of the catch they comprise, whether they are managed, and whether they are vulnerable species. It is unclear if all species that fit these categories are identified. Through the Roundtable, participants engaged the NOAA Galveston Lab on this issue. Recognizing the limited capacity of the Observer Program to provide further bycatch characterization, participants are seeking additional analysis from independent researchers that would supplement observer data.

ACTION 3 PROGRESS		
September 2017	Members of the Roundtable submitted letters of support to NOAA's Cooperative Research Program supporting a proposal focused on data collection for bycatch and observer coverage. Ultimately, the proposal did not receive funding.	Completed

ACTION 3 PROGRESS		
July 2018	Recognizing the limited capacity of the Observer Program to provide full bycatch characterization, the Roundtable hosted a workshop in July 2018 to develop alternative methods to characterize bycatch.	Completed
December 2018	Participants at the July 2018 workshop proposed a study which would involve storage, transport, and land-based work-up of the uncharacterized portion of observer samples, conducted by independent researchers. Researchers submitted a proposal for funding with a decision expected in 2019.	Ongoing

ACTION 8	DEVELOPMENT OF A WELL-DEFINED HARVEST CONTROL RULE
Reference	MSC PI 1.2.2
Participants	Gulf Pride Enterprises, Inc., M&M Shrimp/Biloxi Freezing, Oceans 97 (as members of the Gulf of Mexico Shrimp Supply Chain Roundtable)

MSC pre-assessments for similar U.S. shrimp FIPs note that there is a generally understood harvest control rule (HCR); however, it is currently unclear what tools the management system would use should the abundance drop to levels near PRI (point of recruitment impairment). The initial action plan outlined the need for pre-agreed upon management actions to be taken if stock starts to decline. However, further exploration of the MSC standard has called into question whether shrimp management measures constitute a well-defined harvest control rule given the highly reproductive and annual nature of the shrimp stock, the limited fishing effort (controlled through limited access; seasonal closures; and gear restrictions and documented through trip tickets), and the history of the stock fluctuating above the established proxy for biomass at maximum sustainable yield and PRI (for additional information on the rationale for minimum parent stock as an appropriate proxy, see [Amendment 13 to the Fishery Management Plan for the Shrimp Fishery of the Gulf of Mexico](#)). In light of this, this issue will be explored in more depth with an assessment body. Additional actions will be developed, if needed, based on that assessment.

ACTION 8 PROGRESS		
December 2018	HCR to be revisited with a certification body in context of the relatively light fishing effort in comparison to the highly productive stock.	Ongoing

Completed and Inactive Actions

ACTION 1	DEVELOP MISSISSIPPI SHRIMP TASK FORCE
Reference	Industry recommendations, G.U.L.F. SBR - 7.1.2(a, b)
Participants	All

Participants agreed to work with Mississippi shrimp industry members and MDMR to develop a task force with representatives from each area and each aspect of the industry (skimmer and otter trawl fishermen, dealers, processors, biologists, and managers). Due to lack of interest on the Mississippi Commission on Marine Resources (MCMR), participants determined that best path is to engage MCMR informally with updates on FIP progress. Should need for industry task force arise in future, participants will support formation and continue to be engaged.

ACTION 1 PROGRESS		
December 2016	Mississippi Commission on Marine Resources met to vote on establishment of Mississippi Shrimp Task Force. Motion did not carry.	Completed
January 2017	Due to lack of interest from MCMR, determined that best path forward is to engage the Commission informally and update on progress of project. Should need for industry task force arise in future, Committee will support formation and continue to be engaged.	Completed

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