

Shrimp Bycatch Methodology for Finfish Workgroup Update



July 2026, SSC Meeting

Workgroup Members



Gregg Bray, GSMFC – *Chair*

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Steve Saul – SSC

Don Behringer – Special Shrimp SSC

Jason Saucier – Special Shrimp SSC

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Steve Smith – SEFSC Contractor

Cheston Peterson – SEFSC Contractor

Nick Farmer – SERO

Leann Bosarge – Shrimp AP

Gary Graham – Shrimp AP

Justin Versaggi – Shrimp AP

Scope of Work



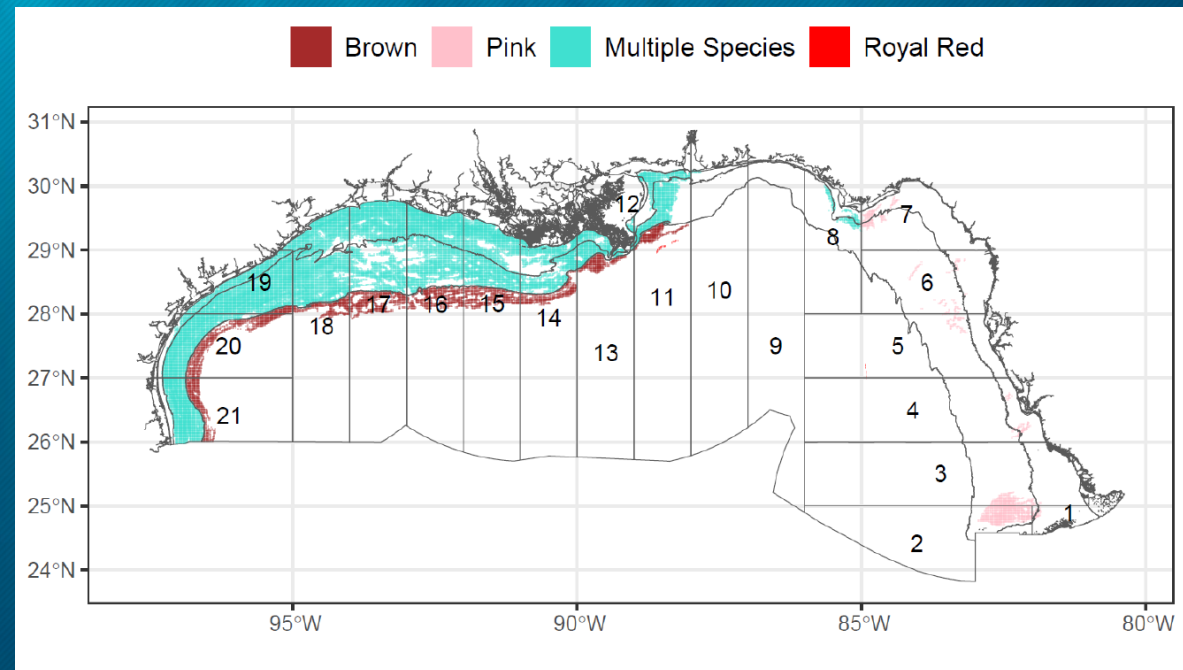
- Workgroup met May 11-12 via webinar to review:
 - Species-specific shrimp effort estimates to better inform bycatch
 - Methods to expand sample data to full bycatch estimates
 - Procedures to consider gear selectivity and efficiency
 - Methods used to estimate bycatch of red snapper and gray triggerfish in stock assessments

Key Takeaways: Species-specific Effort



- Effort estimates are informed by cELB data to estimate tow hours
- Trip tickets do not provide necessary data for species-specific effort
- Thus, SEAMAP data (proportions of each species, per strata) are coupled with effort data to produce estimates.
- **Workgroup feedback:** Good discussion and questions on this methodology. No specific concerns or recommendations on this topic. WG concluded effort by stat zone more relevant than by shrimp specific species.

Species-specific Effort Estimates

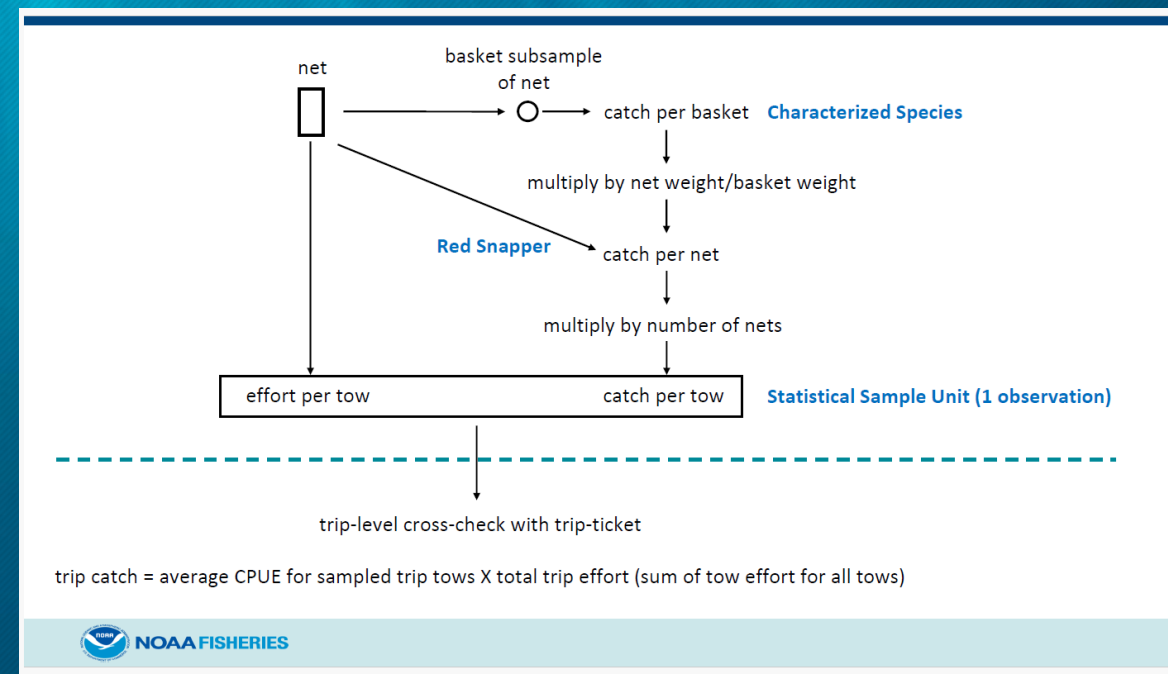


Key Takeaways: Expand Sample Data to Full Bycatch Estimate



- There are many strata to estimate (e.g., zones, depths, regions, seasons, time periods)
- Observer coverage in some strata is low and can reduce precision of expanded estimates in these strata
- **Workgroup feedback:** The group thought the procedures and methods were robust and reasonable

Expansion Procedure

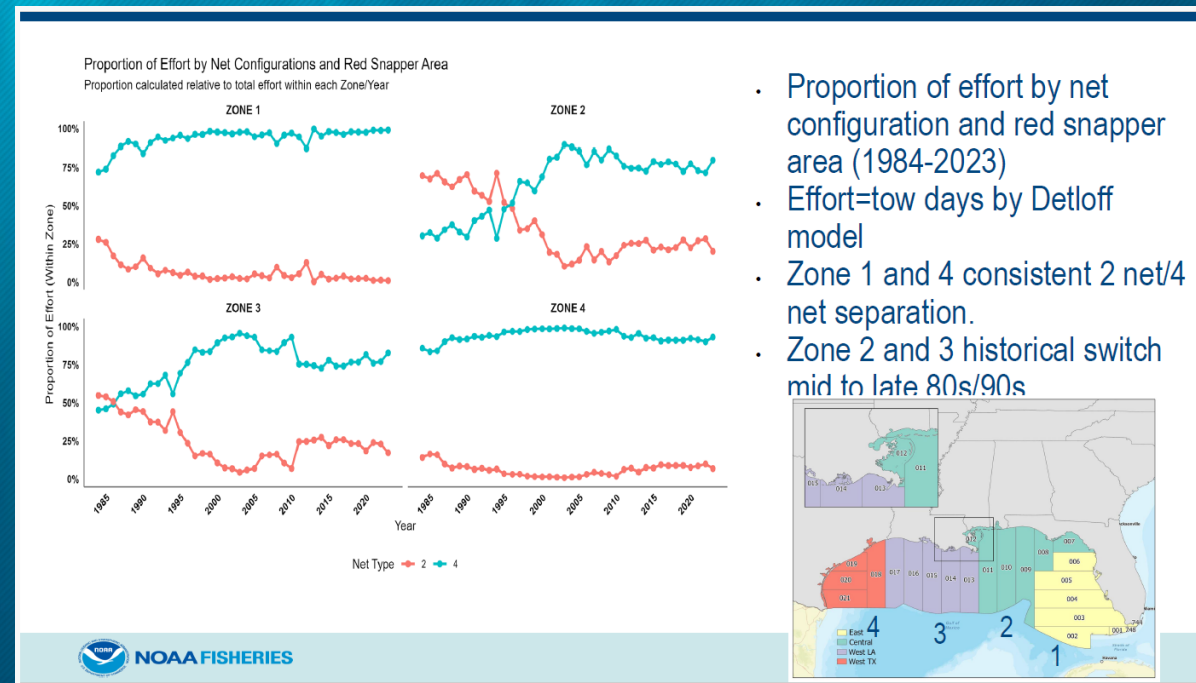


Key Takeaways: Gear Selectivity & Efficiency



- Gear configuration (2 vs 4 net), day vs. night, and shrimp species targeted affect gear efficiency and catch rates
 - 4-net configuration catches 1.23 times more shrimp than the 2-net configuration
- Incorporating this information provides additional precision to the estimates
- The program and the data could be improved with additional observer coverage
- **Workgroup feedback:** Good discussion and questions on the analyses. Did not have any specific concerns or recommendations on this topic.

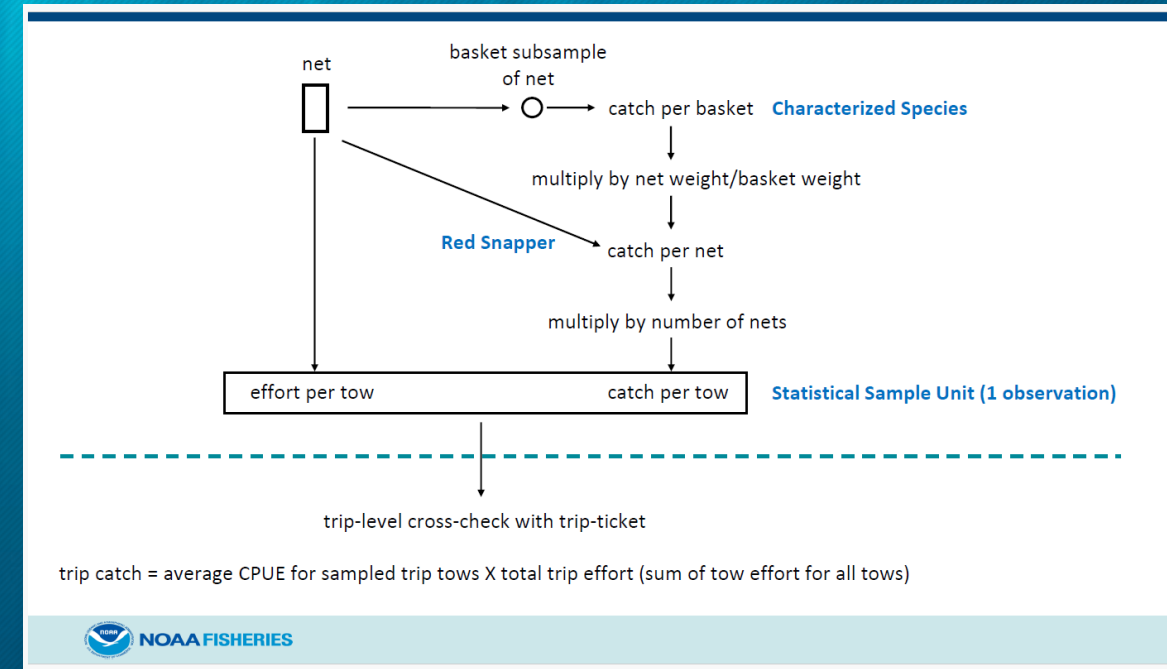
Net Configuration by Area



Key Takeaways: Red Snapper



- Red Snapper has been characterized and weighed/measured by the observer program since 2007
- Bycatch estimation: Shrimp observer data were used following the method used for red snapper (SEDAR 98-RD01)
- **Workgroup feedback:** The methodology using observer data that's been proposed and being used to estimate red snapper bycatch in the Gulf is acceptable.
- **WG also requested:** The methodology using observer data that's been proposed and being used to estimate red snapper bycatch in the Gulf needs to be reviewed for the **other characterized species in the observer data by the workgroup.**

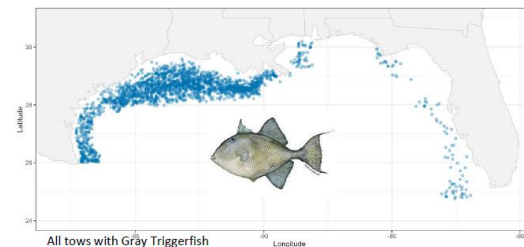
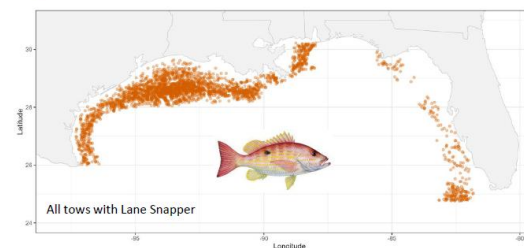


Key Takeaways: Gray Triggerfish

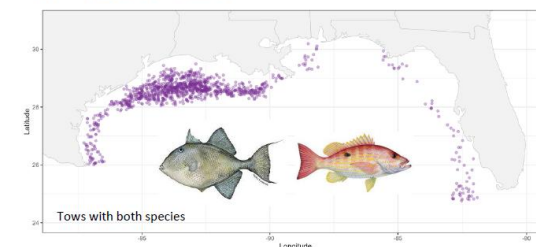
- Gray triggerfish was not characterized by observers until 2025. Thus, proxy species for gray triggerfish were needed to estimate bycatch in the shrimp fleet
- SEAMAP fall and summer surveys were used with a conversion factor to adjust bycatch from co-occurring species (lane and red snapper) for gray triggerfish
- The WG reviewed observer data from 2025 that **now** characterizes gray triggerfish reported encounters on 30% of the trips and 7% of the tows. Analyst stated and WG agreed data are useful but too sparse to estimate bycatch in all required strata at this time.
- Workgroup feedback:** The methodology reviewed for the gray triggerfish bycatch estimate was mathematically and statistically valid. However, using proxy species to develop ratios was questioned.

Co-Occurrence of Lane Snapper and Gray Triggerfish in SEAMAP Trawls

Species Co-Occurrence



Positive tows from filtered SEAMAP data
(n = 15,393 tows)



	Gray Triggerfish	Lane Snapper
Positive Tows	2452	3162
Proportion Positive	0.16	0.21
Total Catch (number of fish)	12,627	37,475

Key Take Aways: Additional Requests



- Due to the concerns over the application of a proxy species for gray triggerfish: WG recommended a consistent methodology be developed for bycatch estimation of other uncharacterized species in the observer data for use in Gulf finfish stock assessments
- The methodology using observer data that's been proposed and being used to estimate red snapper bycatch in the Gulf needs to be reviewed for the other characterized species in the observer data by the work group. The Workgroup thought king mackerel would be the next logical species to consider for this effort as it is characterized but probably rarely encountered and documented by the Gulf shrimp fleet observer program.

Questions?

