

Alabama's At-Sea Observer Program

Marie Head

Alabama Department of Conservation and Natural Resources, Marine Resources Division



Background

- Alabama's coastline stretches for 60 miles along the Gulf of Mexico providing various fishing access points for recreational saltwater anglers.
- Alabama's artificial reefs complex is ~1,000 mi² with over 10,000 artificial reefs structures providing habitat for reef fish.
- ~150 state and federal for-hire vessels in our charter fleet that have federal reef permits and/or gulf reef fish endorsement licenses.
- Fishing effort increases during the months from March to October with peak fishing effort in
- Charter trips generally target Red and Vermilion Snapper, Gray Triggerfish, Greater Amberjack and Groupers when seasons are open.
- Provides an opportunity for staff to ride along charter for-hire trips and collect information on key reef fish species.

At-Sea Observer Programs in Alabama

- NFWF At-Sea Observer Program (2015-2019)
 - Focus: Discard and mortality rates of reef fish species aboard forhire vessels.
- Return 'Em Right (RER) Gulf Coast At-Sea Observer Program (2022-Present)
 - Focus: Monitor fisheries discards and analyze trends in the use of best release tools in the Gulf.
- Objectives of RER program
 - Catch and Size Composition: Detailed data for stock assessments.
 - Discard Information: Comprehensive data on discards.
 - Discard Behavior: Analysis of what, where, when, and how discards occur.
 - Release Methods: Examination of handling and release practices.
 - Survivability: Data on the condition of released fish and recapture data.
 - Management Effects: Evaluation of fisheries management impacts on fishery behavior.









Methods

• Training Components

- Procedure Manual: Detailed guidelines for observers.
- Fish ID Guides: Resources for species identification.
- Training Overview: Outline of training objectives.
- Hands-On Training: Aboard a vessel (~6 trips) with a trained observer.
- Safety Equipment
 - Personal Flotation Device (PFD)
 - Personal Locator Beacon (PLB)
 - Cellphone: For communication and emergencies.

Supplies

Foul Weather Gear: Protection against adverse conditions.

- Gloves: For safety and handling.
- Waterproof backpack

Equipment

BigFin Scientific Tablet/E-board: For data collection and analysis.

Waterproof Backpacks: To store equipment securely.

Tagging Equipment: Tools used for tagging fish. Otolith Collection Tools: For gathering otolith samples.



Methods

Data Collection Post Process

- Data Upload: Observers upload collected data from tablets to a computer for initial review.
- Email Submission: Data is then emailed to the supervisor.
- Supervisor QAQC: Quality assurance and quality control conducted by the supervisor.

• Vessel Participation

- Vessel information: derived from MRIP site directory.
- Eligible vessels: For-hire vessels holding an Alabama Saltwater commercial party boat license, as well as a federal reef permit and/or Gulf reef fish endorsement license, are invited to participate voluntarily.
- Vessel List: comprised of state for-hire, federal for-hire, and headboats interested in participating in the observer program.
- Participating vessels receive compensation for each observer trip.
- Additional Resources
 - RER and Tagging Information: Documentation related to the Return 'Em Right program and tagging practices.
 - Tag Return Application: Application for the return of tagged fish.
 - RER Business Cards: For outreach and communication.

At Sea Assignments

Assignment Coordination:

- Each week, approximately 10-15 vessels are randomly selected from the participation list and contacted by staff to inquire about their bottom fishing trips and the possibility of an observer joining the trip.
- Supervisor coordinates and schedules with staff to conduct trips.
- Staff must contact the vessel owner/operator a day before the trip to confirm the details and verify that the trip is still scheduled.

Observer Arrival and Responsibilities:

- Arrival Time: Observers arrive 30 minutes before departure.
- Compensation Paperwork: Observers provide captains with necessary paperwork for trip compensation.
- Communication:
 - Discuss roles and expectations with the captain and crew.
 - Trip Information Received:
 - Fishing plan
 - Number of crew members
 - Total passengers
 - Number of fishermen
 - Gear type and rigging details

Data collection

Four Levels of Information

- Trip Information
 - Vessel Name, MRIP Vessel ID, Trip Duration, Number of Crew, Number of Passengers, Target Species
- Station Information
 - Station Number, Fishing Start/End Time, GPS Coordinates, Fishing Mode, Bottom Depth, Bottom Structure, Number of Anglers Fishing, Weather and Sea Conditions, Predation Interactions
- Angler Information
 - Time of Observation, Angler ID, Rig Type, Hook Type Hook Size, Number of Hooks
- Fish Information

DCNR/Marine Resources Division

 Species, Length (mm), Tag Number, Barotrauma Code, Hook Location, Release Method, Venting Tool, Recompression Tool Release Condition, Disposition



Data collection

- In 2021, an opportunity was made available through GSMFC for the Return 'Em Right Program to continue an At-Sea observer program.
- Funds were available through the grant to purchase supplies and equipment necessary to complete the tasks.
- Streamlining data processes were identified as a priority to improve efficiency by integrating electronic technology.
- The initial year of at-sea sampling, observer data collected via paper, using traditional measuring board for lengths.
- Fully transitioned to using e-boards and tablets for observer data collection.

DCNR/Marine Resources Division



Electronic Data Collection

- Big Fin Scientific DCS5 Micro Fish Board with Samsung Galaxy Tab Active 3 tablet combo.
- DCSLinkStream app is used to create the fields for the data collection process.
- Observations are recorded in real-time.
- Post assignment, data is exported as a .CSV file and stored in excel.
- Tablet/E-Board combination operational in most weather conditions and able to handle a variety of fish lengths up to 100cm.
- Transitioning staff to tablet/e-board based collection was smooth.



Paper vs. E-Board/Tablet Based Collection

- Transitioning in using electronic technology has:
- Streamlined data review, entry and QA/QC processes by reducing errors.
- Data uploaded daily and available to fishery managers monthly .
- Utilizing the board has increased our efficiency in data collection.

Differences Between Paper and E-board/Tablet Data Collection								
Year	Collection Method	Total # of Trips	Mean Trip Length (hr)	Mean # of Fish Lengths per Trip	Mean # of Fish Tagged per Trip	% of Total Released Fish Were Tagged		
2022	Paper	22	6	17	15	47		
2023	Tablet/E- board	21	7	23	17	52		

Pros and Cons

• <u>Pros</u>

- Reduce personnel time spent post processing the data.
- Increase efficiency in data collection.
- Improve timeliness of data transfer and availability to fishery managers.
- <u>Cons</u>
- Time required for hardware/software setup and personnel training.
- Initial start-up cost ~ \$6,800.00 per board/e- tablet combo
 - Additional software license renewal costs ~ 2 years.
 - Replacement parts
 - External battery packs
- Basic understanding in the use of electronic devices and software programs.



Tagged Fish Returns

• Tagging High-Priority Fish

- **Target Species**: During at-sea observer trips, high-priority fish such as:
 - Red Snapper
 - Gag
 - Red Grouper
 - Grey Triggerfish
 - Greater Amberjack

• Tagging Process:

• Fish are tagged with dart tags before release.

• Tag Information:

- Each tag includes the division's website for reporting.
- Tags display a corresponding tag number for tracking purposes.
- Tag Rewards:
 - Anglers who report their tagged fish receive RER gear.





Vessels Cooperation and Coverage

Alabama Cooperative Vessels							
Туре	# registered	Total GRFE (Gulf Reef Fish Endosment) *	% cooperative				
C-Federal	44	95	46%				
C-Headboat	3	7	43%				
C-State	16	150	11%				

* Total GRFE includes federal and state licensed vessels with Reef Endorsement



For-Hire Vessel Trips

Alabama For-Hire Vessel Trips



■ Charter ■ Headboat



Catch and Discards

- Total Fish Observed= 9,269
 - 82% of fish observed were Red Snapper, Gray Triggerfish , Vermilion Snapper, and Greater Amberjack
 - Measured= 4,328
 - Discarded= 6,615 (71%)
 - Not legal discards= 6,064 (92%)
 - Harvest=3,550 (38%)
- Vented vs. Descended
 - 4,953 discarded not vented
 - 1,662 vented
 - 3 discarded fish vented then descended



Barotrauma



Tags and Recaptures 2022 - 2024*



QUESTIONS