

Alabama's At-Sea Observer Program

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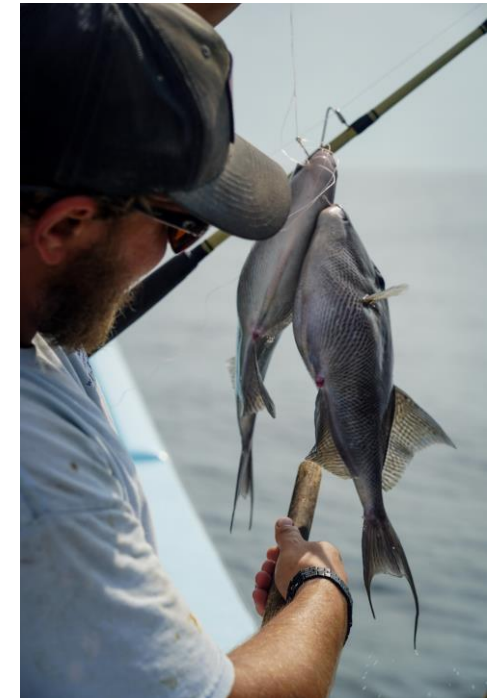


Background

- 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.
- ~172 state and federal for-hire vessels in our charter fleet that have federal reef permits and/or gulf reef fish endorsement.
- Fishing effort increases during the months from March to October with peak fishing effort in May through August.
- Charter trips generally target Red Snapper, Vermilion Snapper, Gray Triggerfish, Greater Amberjack and Groupers when seasons are open.

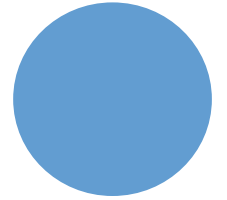
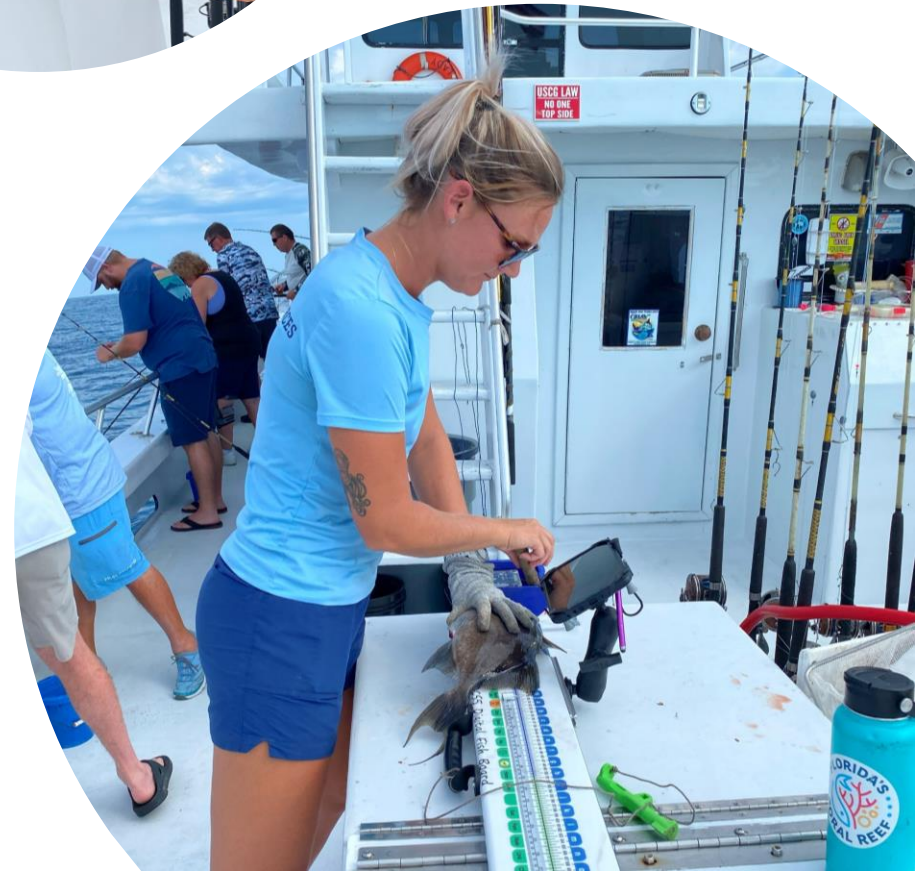
At-Sea Observer Programs in Alabama

- **NFWF At-Sea Observer Program (2015-2019)**
 - Focus: Discard and mortality rates of reef fish species aboard for-hire vessels.
- **Return 'Em Right (RER) Gulf Coast At-Sea Observer Program (2022-Present)**
 - Focus: Monitor for-hire 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 upon capture.
 - Survivability: Data on the condition of released fish and recapture data.
 - Management Effects: Evaluation of fisheries management impacts on fishery behavior.



Improvement in 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.



Electronic Data Collection

- Big Fin Scientific DCS5 Micro Fish Board with Samsung Galaxy Tab Active 3 tablet combo.
- DCStream app is used to create the fields for the data collection process.
- Angler observations are recorded in real-time.
- Post assignment, data is exported as a .CSV file and stored in excel.
- Transitioning staff to tablet/e-board based collection was smooth.



Paper vs. E-Board/Tablet Based Collection

Transitioning in using to Electronic technology has increased our efficiency in data collection:

- Streamlined data review, entry, and QA/QC processes by minimizing errors associated with transcribing data from paper into a centralized database.
- Data uploaded daily and available to fishery managers monthly.

Differences Between Paper and E-board/Tablet Data Collection in Peak Season (May-August)						
Year	Collection Method	Total # of Trips	Mean Trip Length (hr)	Mean # of Fish Lengths per Trip	Mean # of Fish Tagged per Trip	% of Tagged Fish
2022	Paper	33	6.9	38	14	20
2023	Tablet/E-board	42	7.6	37	18	49
2024	Tablet/E-board	48	7.4	41	17	34

Pros and Cons

- Pros

- Reduces personnel time spent post processing the data.
- Increases efficiency in data collection.
- Improves timeliness of data transfer and availability to fishery managers.

- Cons

- Increases time required for hardware/software setup and personnel training.
- High initial start-up cost ~ \$6,800.00 per board/e- tablet combo
 - Additional software license renewal costs ~ 2 years.
 - Replacement parts
 - External battery packs
- Requires 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
 - Gray 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.

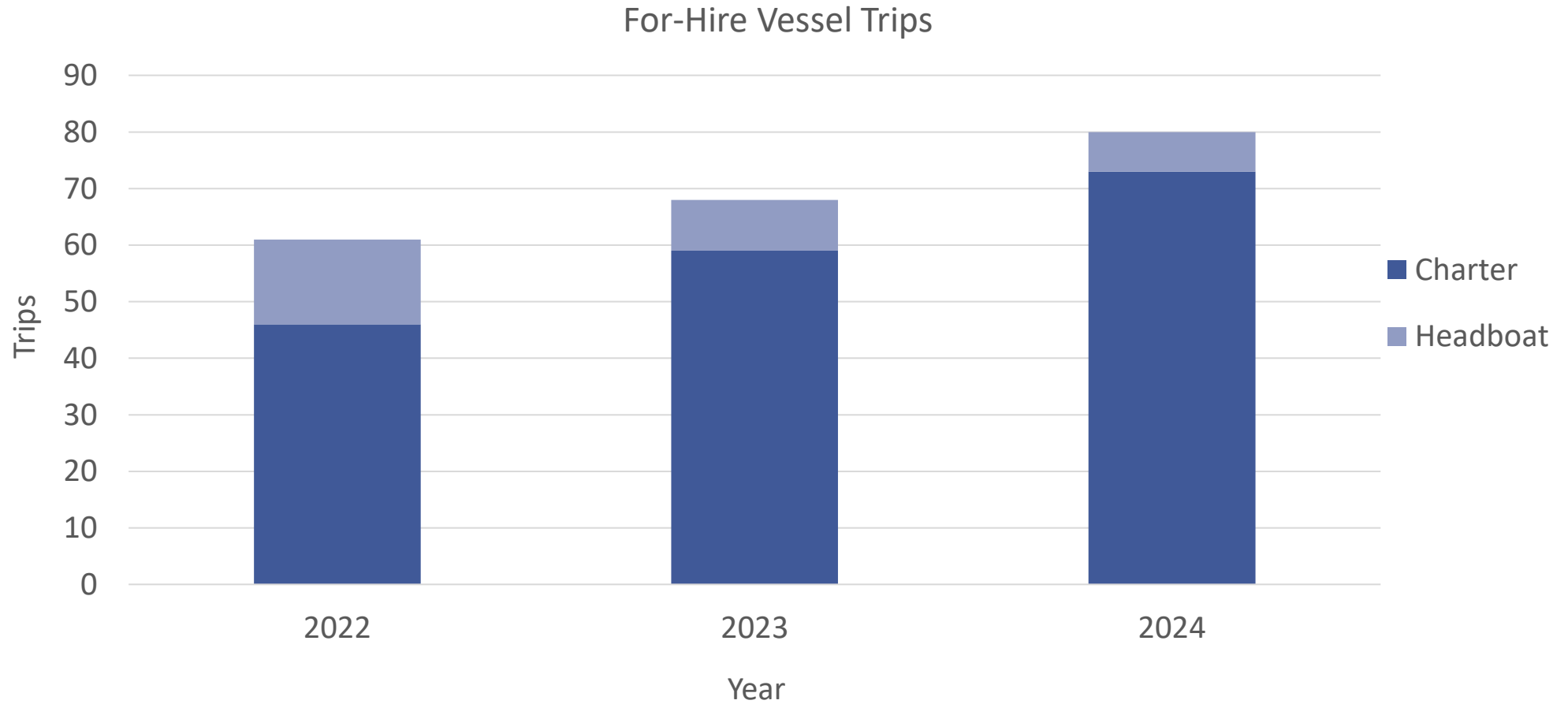
- **Tag Rewards:**

- Anglers who report their tagged fish receive RER gear.

Results



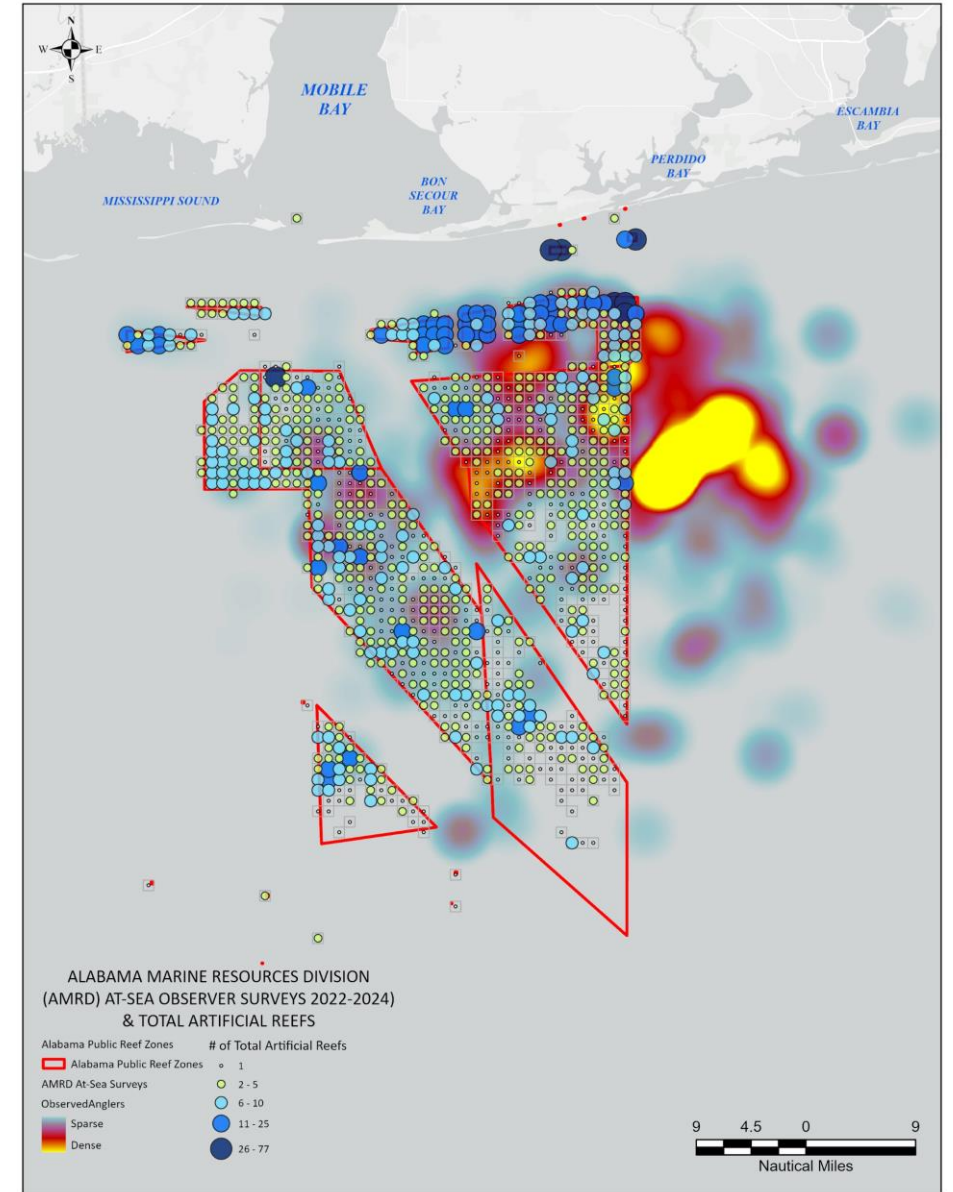
For-Hire Vessel Trips



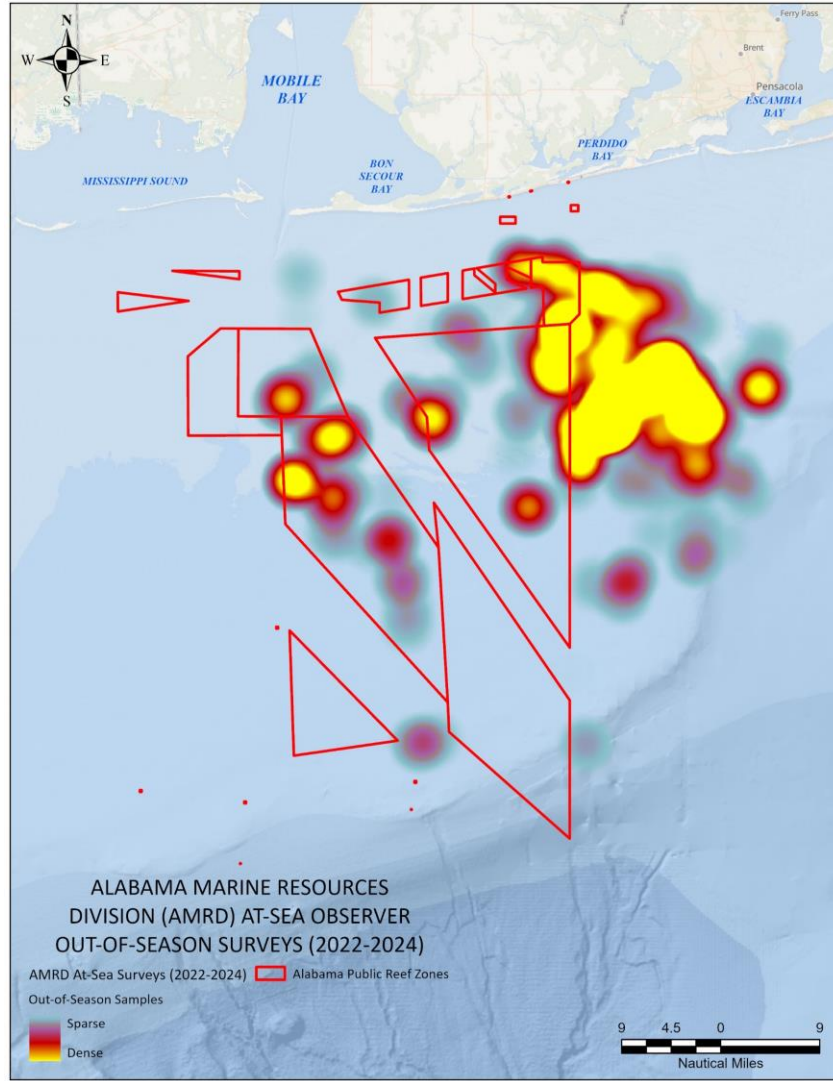
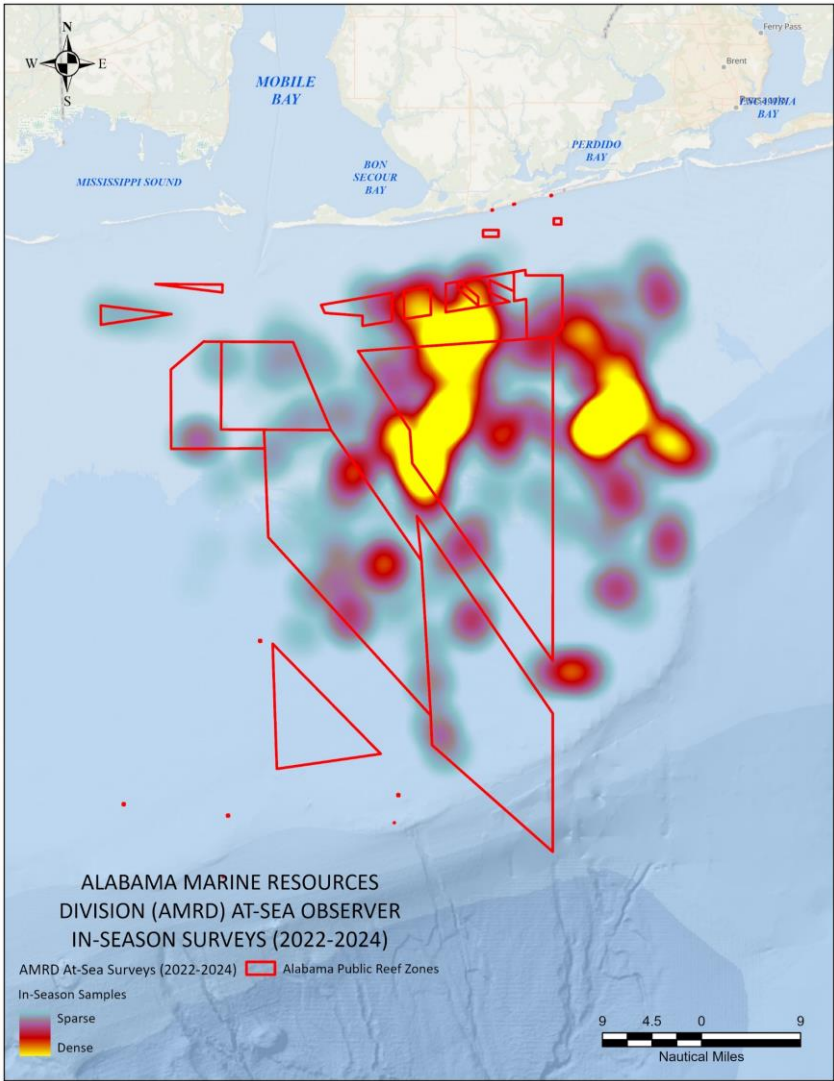
Participating Alabama Vessels

Alabama Cooperative Vessels

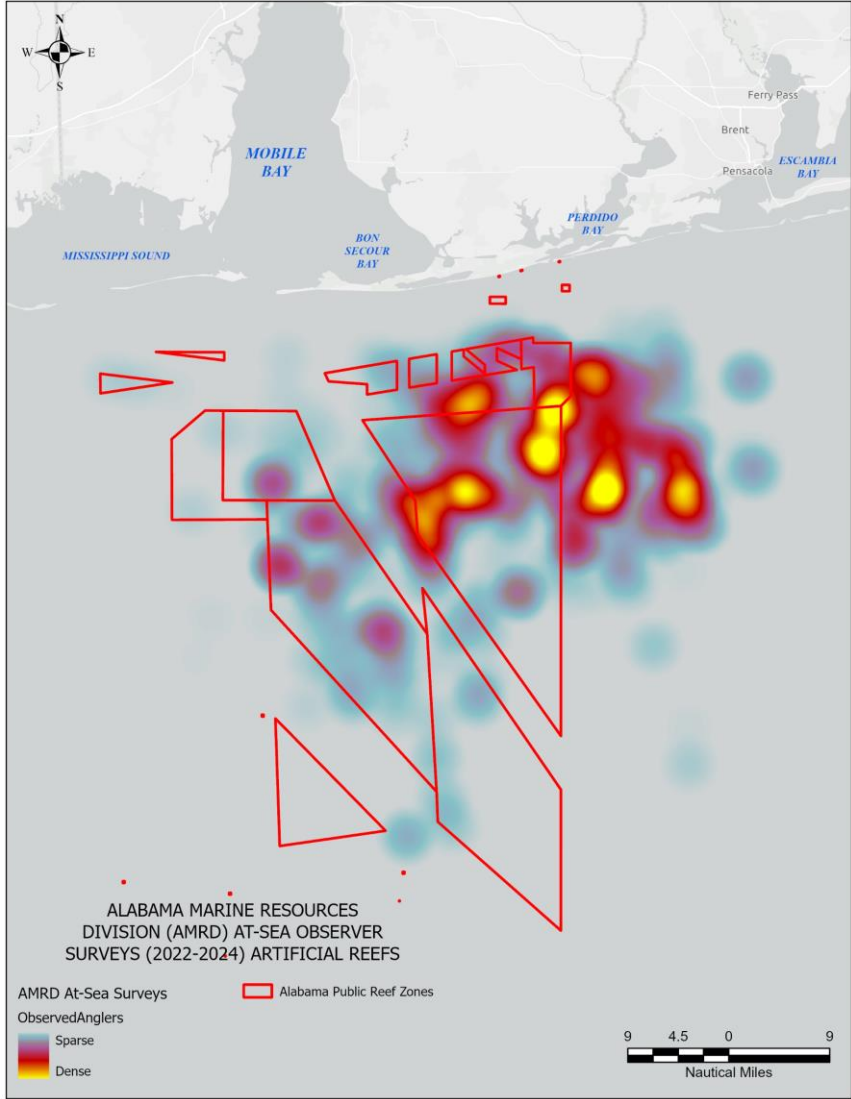
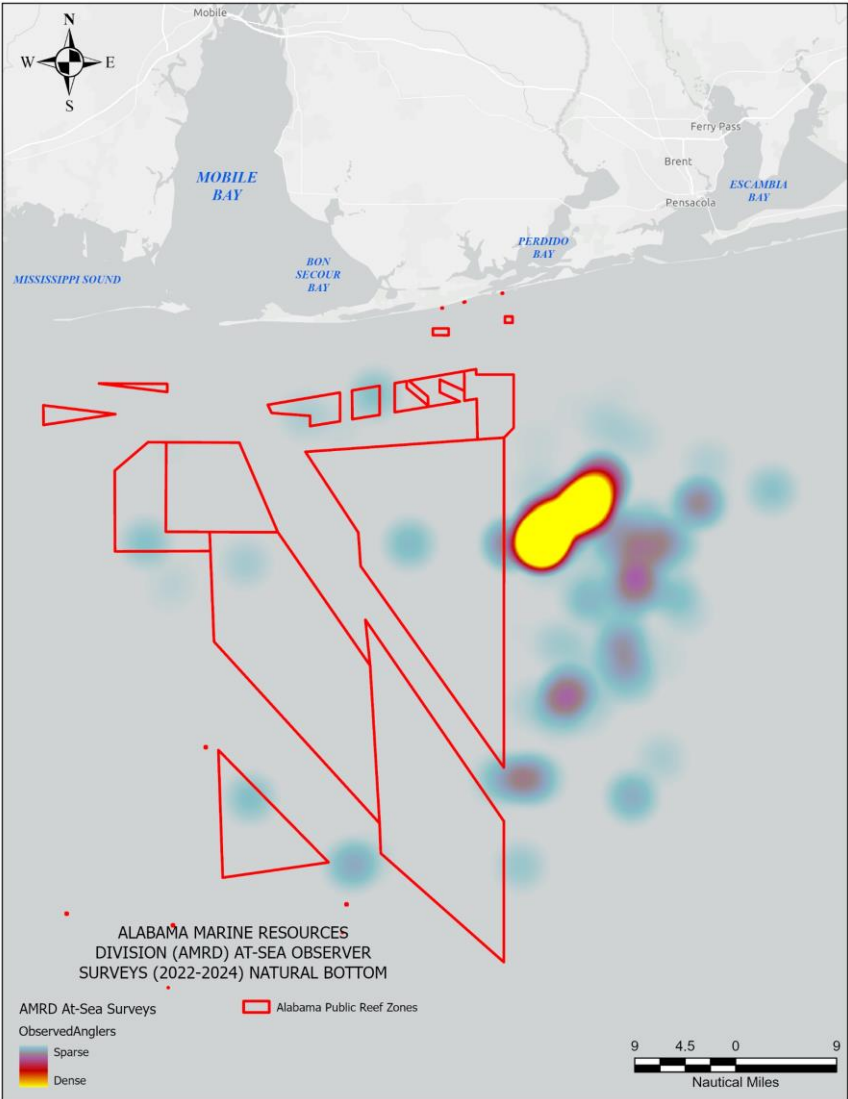
Type	At-Sea Vessels	Total Vessels with GRFE	% Participating
C-Federal	44	56	79
C-Headboat	3	7	43
C-State	16	109	15



Combined relative sampling effort (stations) during in-season and out-of-season Alabama At-Sea trips (2022-2024)



Combined relative sampling effort (stations) by artificial reef and natural bottom from Alabama At-Sea trips (2022-2024)

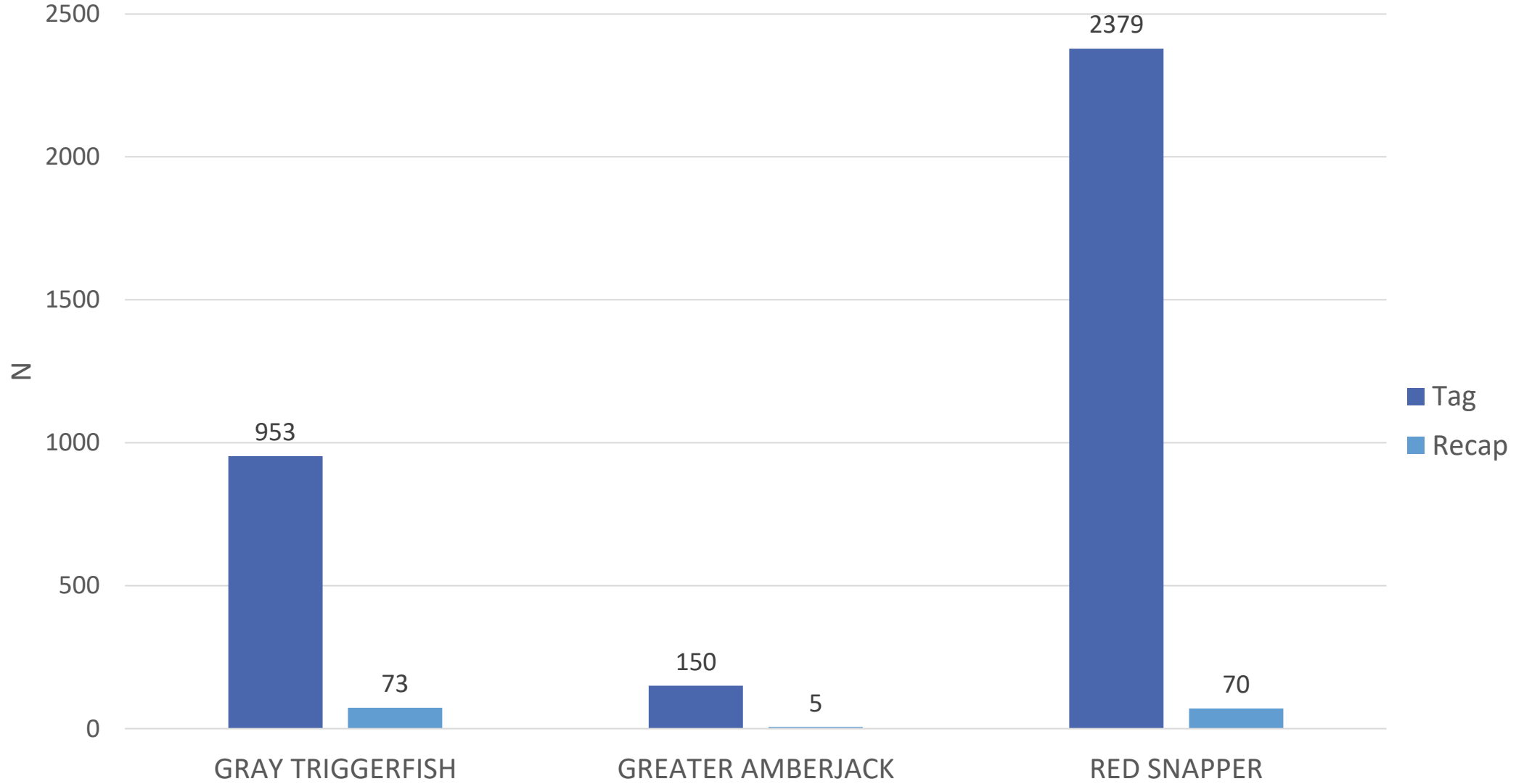


Catch and Discards

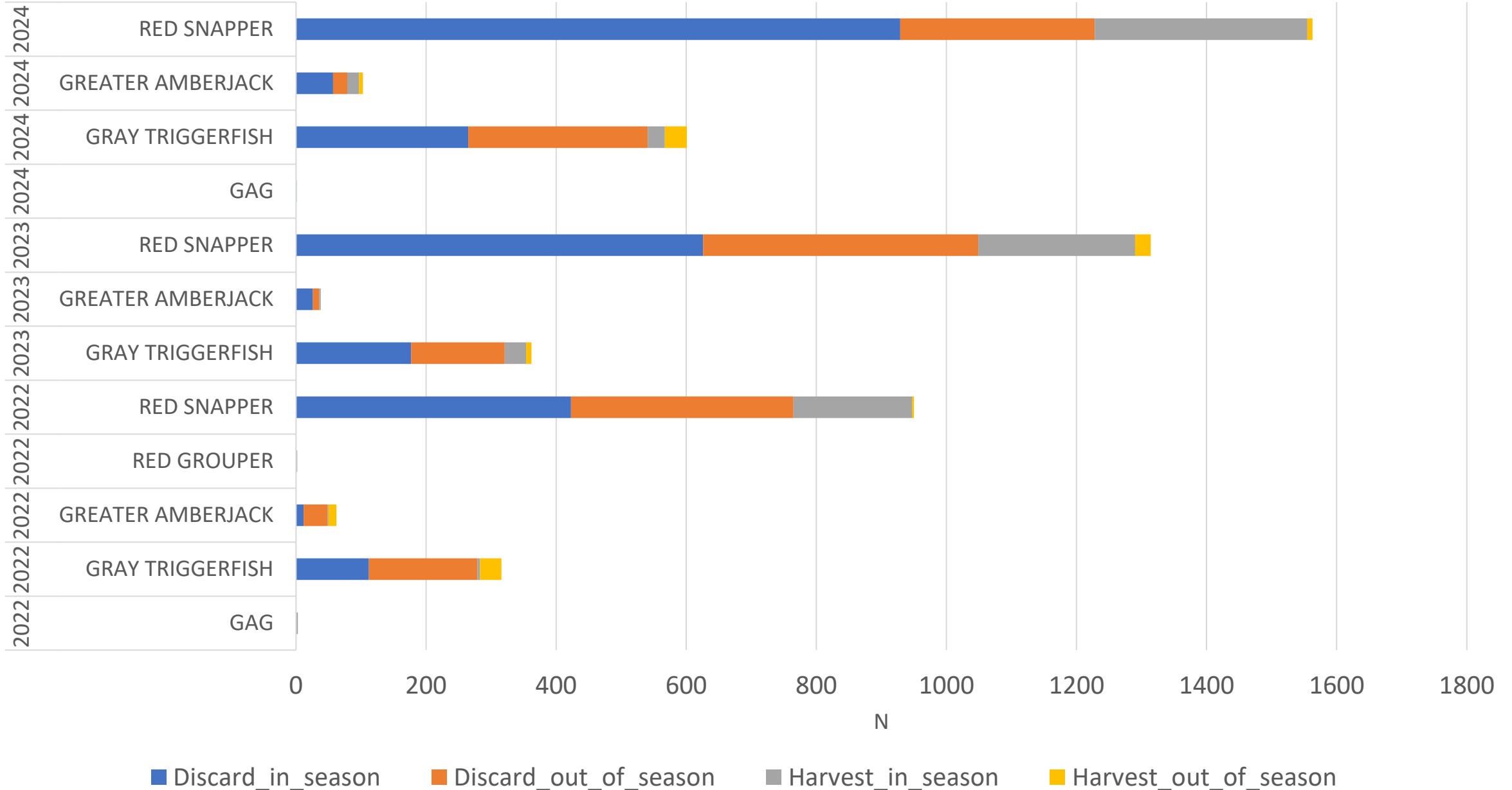
- Total Trips Observed=205
- Total Fish Observed= 9,855
 - 57% of observed fish were Red Snapper, Gray Triggerfish, Gag, and Greater Amberjack
- Measured= 4,627
- Discarded= 5,258 (56%)
 - Not legal discards= 4,335 (82%)
- Harvest=4,597 (50%)
- Vented vs. Descended
 - 2,599 discarded not vented
 - 2,640 vented
 - 19 descended using SeaQualizer[®]



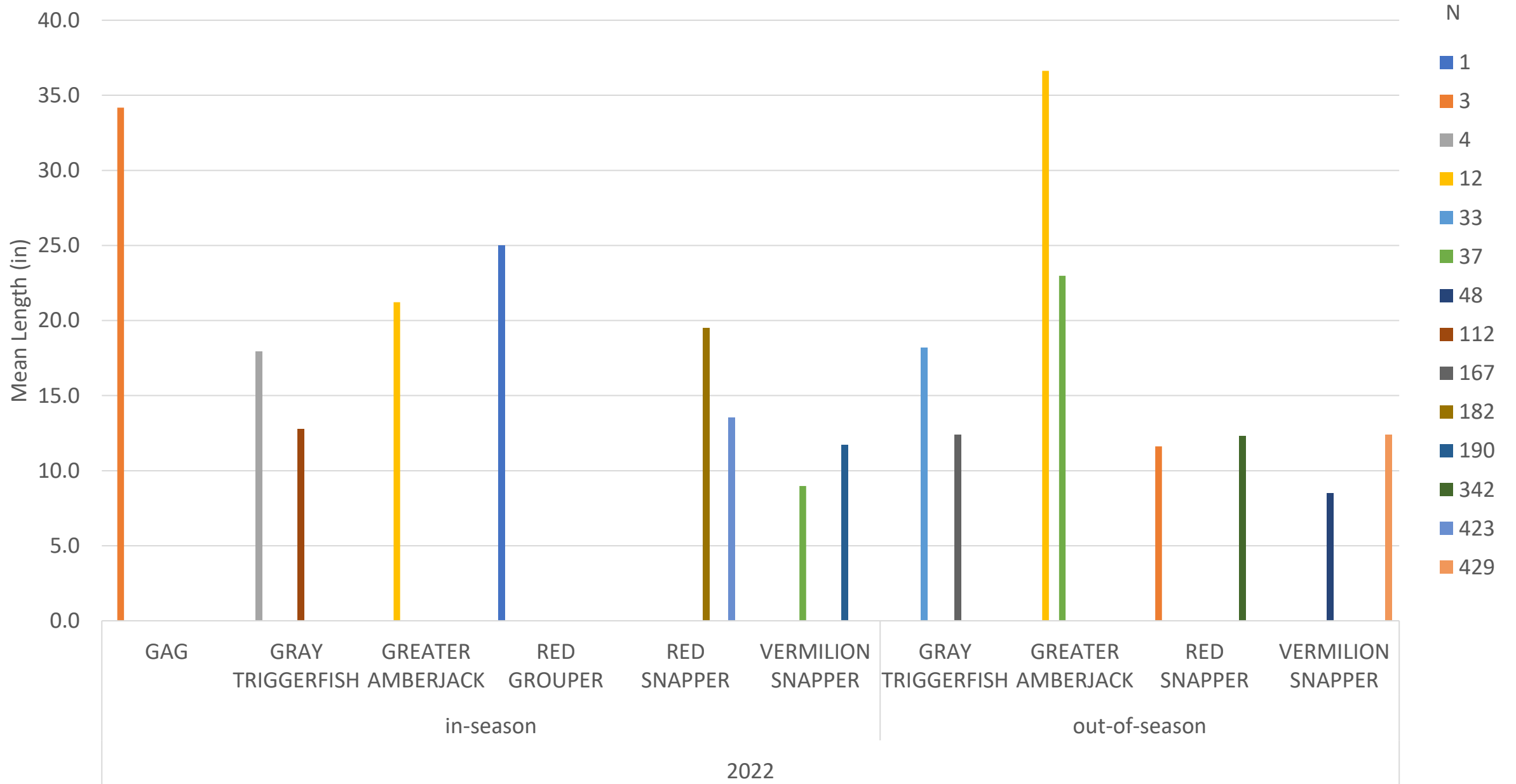
Tags and Recaptures 2022-2024



Discarded and Harvested Species by Year and Season within Federal Red Snapper Season

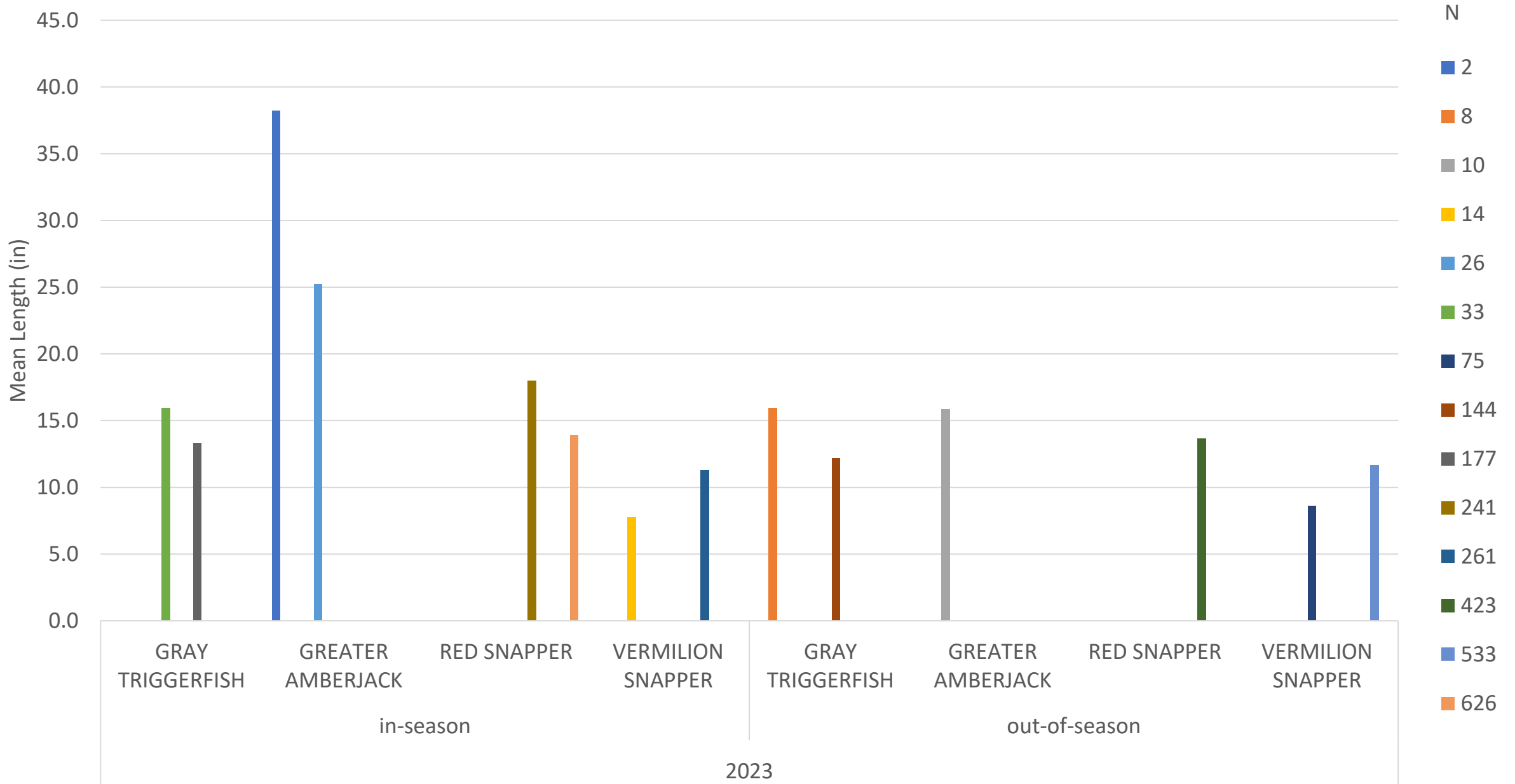


Number of Fish Observed and Average Lengths by Species, Season by Year

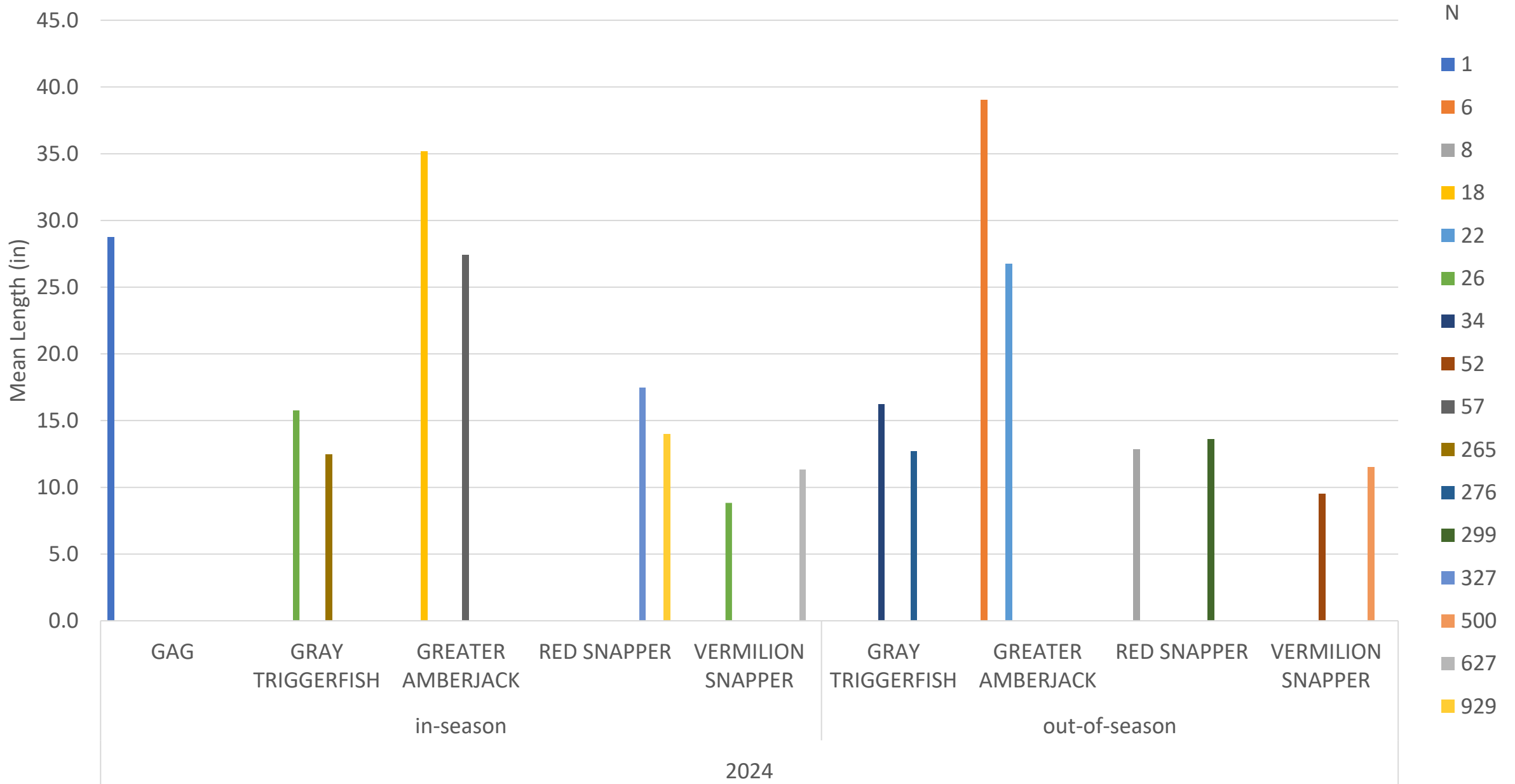


2022

Number of Fish Observed and Average Lengths by Species, Season by Year

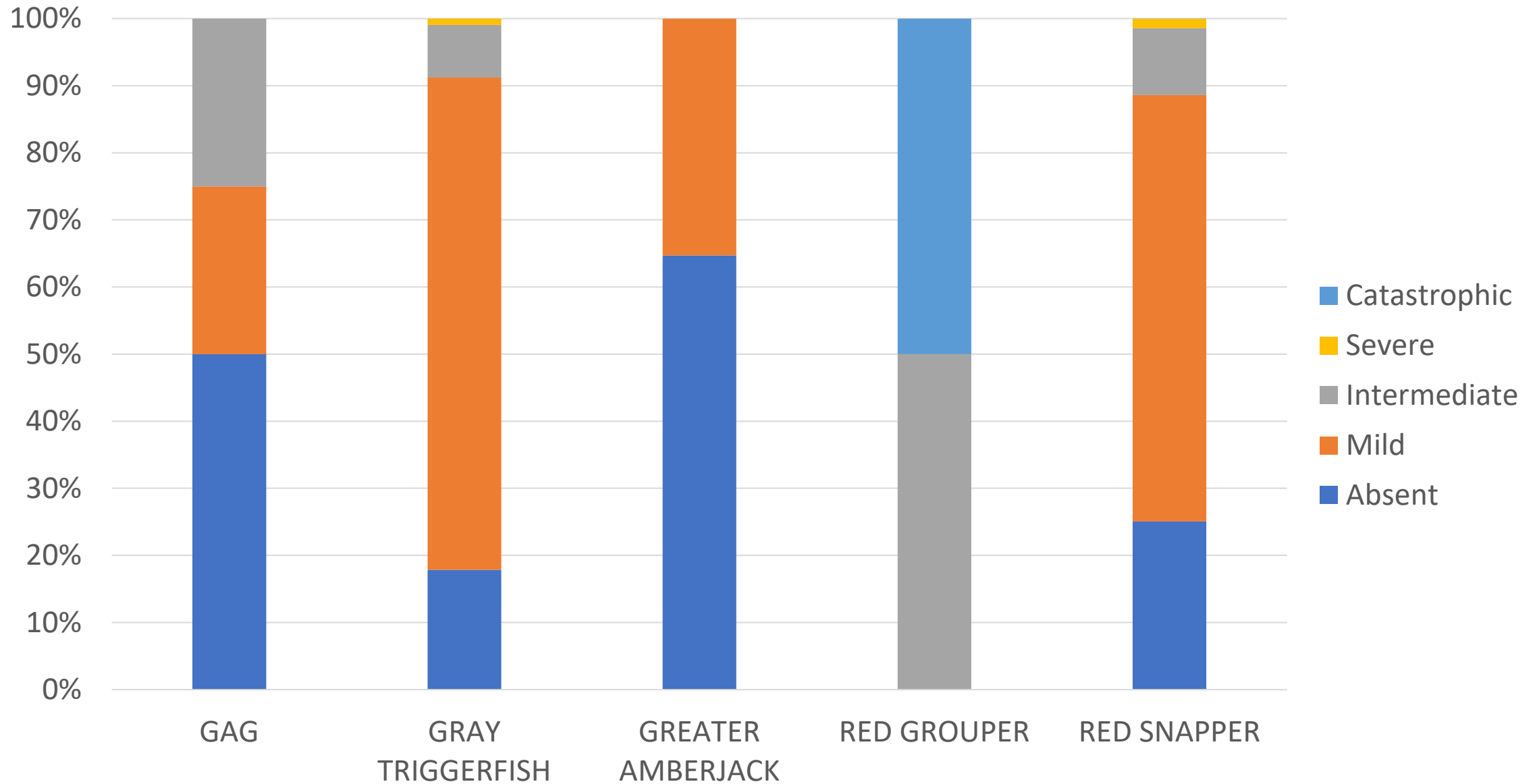


Number of Fish Observed and Average Lengths by Species, Season by Year



2024

Observed barotrauma effects of select fish species, 2022-2024



Observed barotrauma effects and average depth (ft) for select species, 2022-2024

