

Saltwater Information Program Marine Recreational Fisheries Catch and Effort Surveys

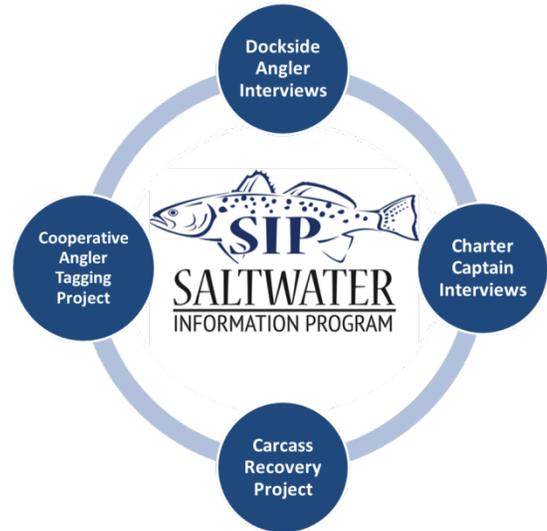
2016

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Marine recreational finfish data in coastal Georgia are collected through the Saltwater Information Program (SIP) by staff from the Georgia Department of Natural Resources Coastal Resources Division (GADNR CRD). The SIP is a suite of data collection programs reliant upon cooperating anglers and charter captains. Participants are surveyed dockside, as well as by telephone and mail, to determine their catch, harvest and effort (number of trips). This information is used along with biological data collected from donated fish carcasses and tagged fish to manage Georgia’s recreational fisheries. Participation in all surveys is voluntary, thus we rely heavily on cooperation with the recreational fishing community. High levels of participation result in more precise and accurate catch and effort estimates necessary for sound fishery management, as well as conservation at both the state and federal level. Currently these programs are 100% federally and privately funded, with no directed State funds.

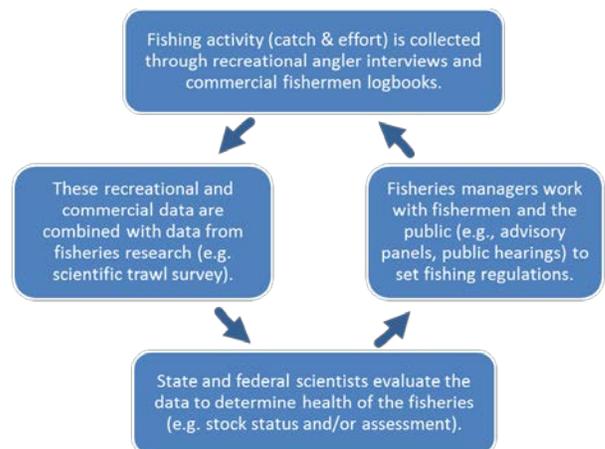


CRD staff works in conjunction with the federal National Oceanic and Atmospheric Administration’s (NOAA) Fisheries to conduct surveys of coastal Georgia anglers and for-hire charter and headboat captains. These surveys are part of NOAA Fisheries’ Marine Recreational Information Program (MRIP), and are used to produce estimates of finfish catch (including fish released and those retained as harvest) as well as numbers of angler fishing trips (effort). Every three to four years, angler expenditure questions are included to estimate the economic impact of marine recreational fishing. These data, along with commercial fisheries and other research data, are used to track trends in fishing effort and landings, determine appropriate regulations (e.g., size and bag limits), provide catch data for evaluating the health of the fisheries, and inform fishery management plans.



Marine Recreational Fisheries - Catch

Saltwater anglers returning to public access sites after fishing are asked to participate in a dockside survey. The interview takes just a few minutes to complete, is conducted by CRD staff, and consists of two major categories 1) Fishing Trip and 2) Catch Information.





- 1) Fishing Trip: fishing mode (shore, charter or private boat), number of anglers, hours spent fishing, general area fished (inshore vs. offshore), fish species targeted, angler's county, and state of residence.
- 2) Catch: finfish catch, including species, and number of fish released plus those kept (harvested). For released fish, staff asks whether the fish were used for bait, or released alive or dead. Anglers are also asked if their retained harvested fish can be measured and weighed.

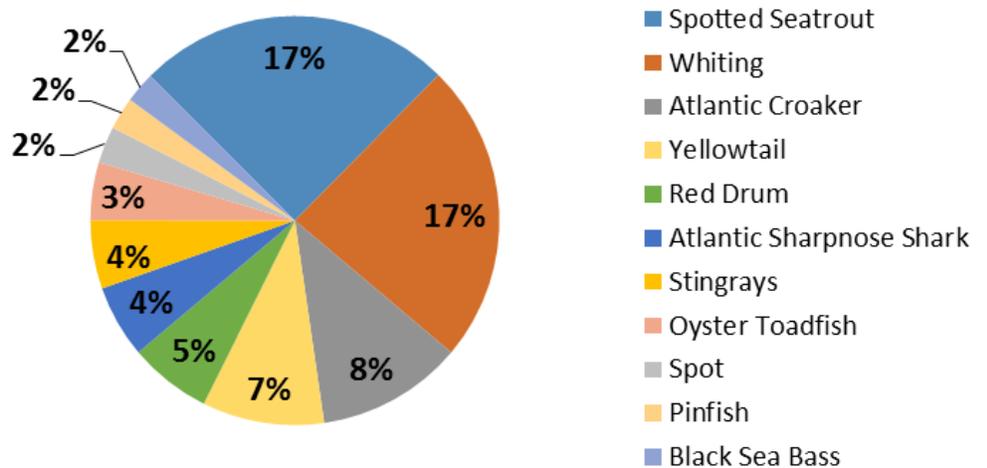
Of the approximately 2,100 annual angler interviews, about 50% are conducted at boat ramps and marinas. The remaining interviews are split between anglers who are returning from a charter fishing trip and those who are fishing from the shore (e.g., pier, dock, creek bank). From March through December, staff conducts interviews on weekdays and weekends at access sites throughout the six Georgia coastal counties. Estimates of marine recreational fishing in Georgia are not generated for January and February as saltwater fishing activity is limited. CRD staff also conducts at-sea observer trips aboard for-hire headboats to collect lengths of discarded catch.



Graphic depicting the top finfish species caught in Georgia during 2015.



**Top Species Caught in 2016
(based on number of fish)**



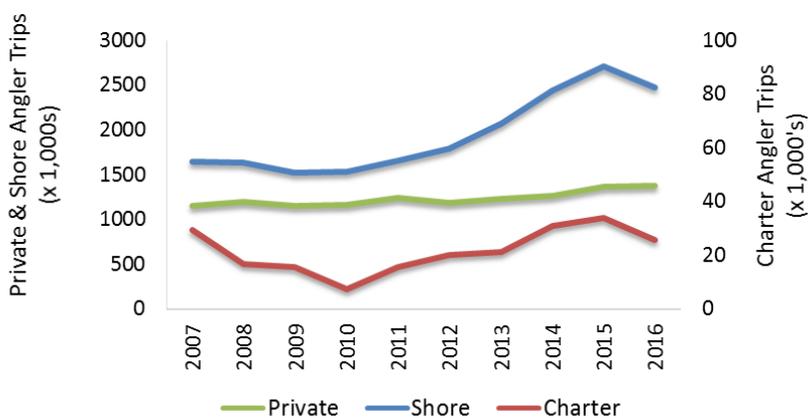
Marine Recreational Fisheries – Effort

NOAA Fisheries conducts a separate survey to determine whether residents within a contacted household have participated in saltwater fishing during the preceding two months. If they answer yes, a series of questions is asked which allows an estimate of the effort (number of trips) of those anglers fishing from private boats or shore sites to be calculated. NOAA Fisheries recently transitioned from contacting households via landline telephone to a mail-based Fishing Effort Survey (FES). With the increase in cell phone-only households, landline telephone surveys became highly inefficient. The United States Postal Service address database provides a far more accurate and thorough listing of households. Pilot surveys indicated a very high response rate and timely turn-around for mail surveys. To further improve the efficiency of the FES, the majority of the surveys is mailed to licensed marine recreational anglers. In Georgia, saltwater anglers are identified via the free annual SIP Permit. The telephone and mail surveys were conducted side-by-side (i.e., “benchmarked”) from 2015-2017 such that calibrations could be applied to estimates prior to 2018 when the FES was formally adopted as the method to estimate marine recreational fishing effort. Data included in this report are based on calibrated estimates.

Since anglers on charter fishing trips are often from noncoastal counties or out of state, a different survey is used to estimate effort in the charter sector. Every week, 10% of Georgia’s active marine fisheries charter captains are selected to participate in a telephone survey. Captains report number of fishing trips, number of anglers per trip, general area fished, and whether any finfish species were specifically targeted. From these telephone interviews, an estimate of the effort (number of trips) of those anglers fishing from charter boats is calculated. This telephone survey is conducted by CRD staff in conjunction with NOAA Fisheries.



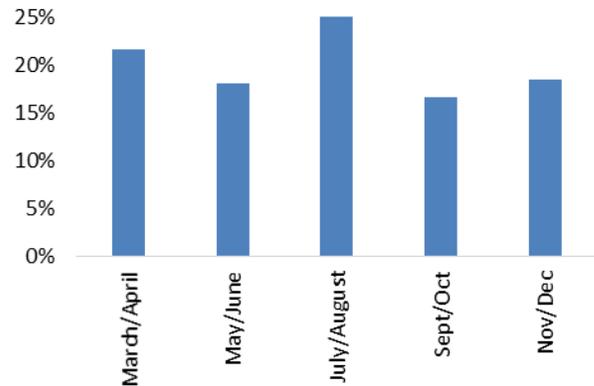
Angler Trips per Year by Fishing Mode



Angler Trips by Area Fished (averaged from 2012-2016)		
Area	# Angler Trips	% Angler Trips
Inshore (rivers & sounds)	2,561,380	71%
Ocean <3 Mi.	955,553	26%
Ocean >3 Mi.	90,245	3%
Total	3,607,178	

Anglers by Residency Type (averaged from 2012-2016)		
Residency	# Anglers	% Anglers
Coastal	109,742	42%
Non-Coastal	90,212	34%
Out-of-State	63,350	24%
Total	263,304	

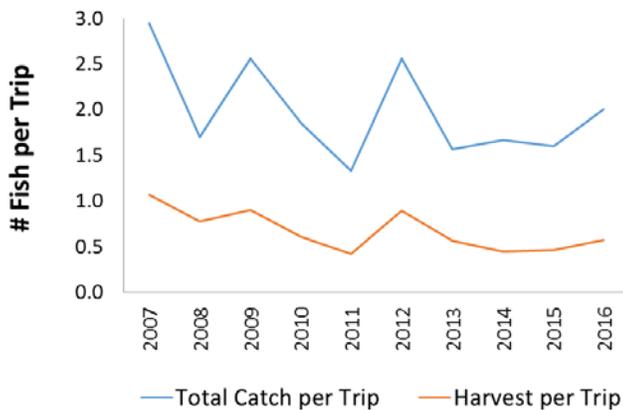
Percent of Angler Trips by Month
(averaged from 2012-2016)



Catch Per Unit of Effort

Data from the various surveys are combined to produce catch statistics such as the catch and harvest per unit of effort graphs below. Catch or harvest (measured in number of fish) per angler trip (i.e. effort) can then be compared across years as one indicator of stock status for popular sportfish such as Spotted Seatrout and Red Drum. For the years represented in the graphs, catch per angler trip (including released fish) has been more variable while harvest per angler trip has been fairly consistent.

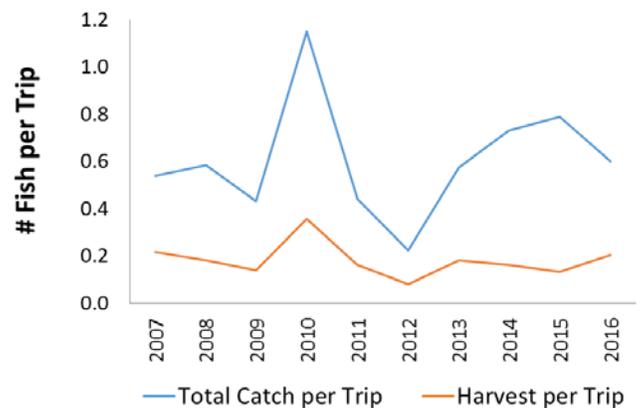
Spotted Seatrout Catch per Angler Trip



Note: These data represent landings and effort estimates from only the private/rental (PR) vessel fishing mode. The majority of total catch (85%) and total harvest (77%) during the most recent 10 years are from the PR fishing mode.



Red Drum Catch per Angler Trip



Note: These data represent landings and effort estimates from only the private/rental (PR) vessel fishing mode. The majority of total catch (94%) and total harvest (96%) during the most recent 10 years are from the PR fishing mode.

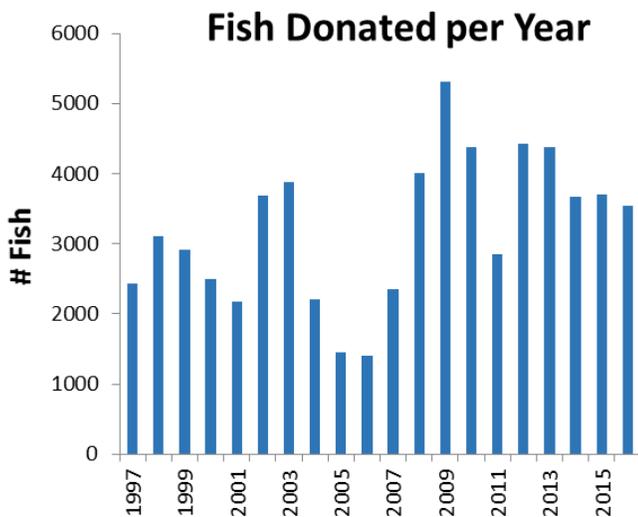
Carcass Recovery Project

The Marine Sportfish Carcass Recovery Project takes advantage of the fishing efforts of hundreds of anglers by turning filleted fish carcasses, which would normally be discarded, into a source of much needed data on Georgia’s marine sportfish. The project is a true partnership of saltwater anglers, charter captains, marine businesses, conservation groups, and CRD. The Georgia Power Foundation has also been instrumental in providing supplemental funding.

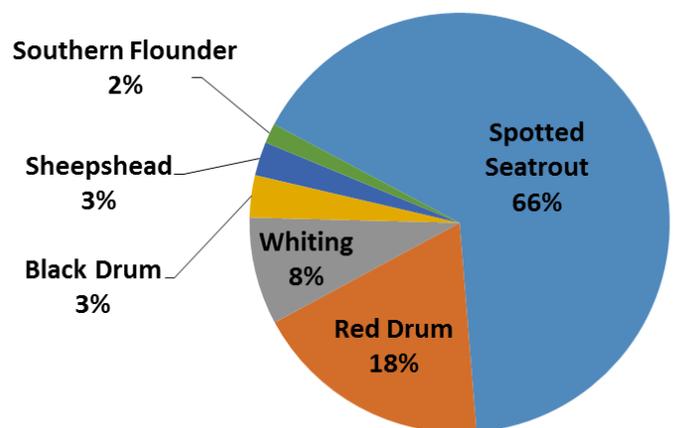


Chest freezers are placed near fish cleaning stations at select locations along the Georgia coast. Each freezer is marked with an identifying sign and a list of target fish species. Cooperating anglers and charter captains place filleted carcasses and a completed information card in a bag, and then place the bag in the freezer. CRD staff collects the frozen carcasses, and later identify each to species, measure length, determine sex when possible, and remove otoliths (i.e., “ear bones”). The otoliths are then analyzed using computer-aided image analysis to determine the age of the fish. This is accomplished by taking a thin cross section of the otolith and counting the rings (similar to counting the rings on a tree cross section to determine age). The age-at-length data from the carcass recovery program can then be used to estimate the ages of harvested fish of various lengths collected through the MRIP and other surveys. These age and length data provide estimates of reproductive spawning potential (i.e., approximately how many eggs a female fish of a given length produces in an average spawning season). These are critical pieces

of data used for assessing the status of fishery stocks and to develop appropriate management recommendations. Since 1997, a total of 64,362 carcasses have been donated by anglers and processed for information. In 2016, CRD staff processed a total of 3,547 sportfish carcasses from nine finfish species.

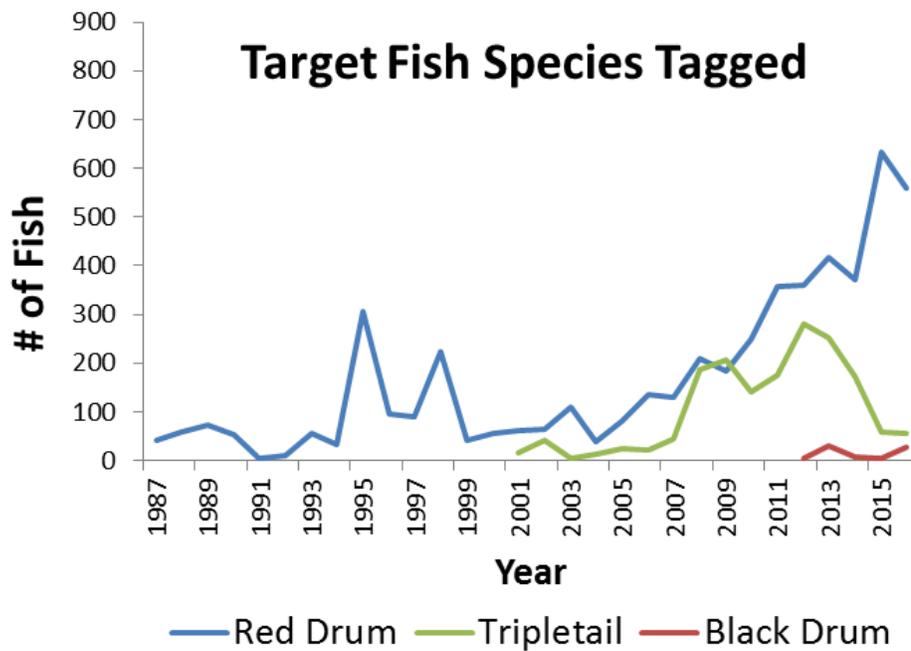


Percent of Fish per Species in 2016



Cooperative Angler Tagging Project

The cooperative endeavors between anglers, charter captains and CRD continue through the Cooperative Angler Tagging Project. CRD staff enlists participants to tag species of concern and gather information on growth, habitat preference and movement. Hook and line anglers are instructed in proper fish handling and tagging techniques. When a tagged fish is recaptured, data collected include length and status (e.g., released, harvested). This information is used to calculate the number of days at large, growth during the time at large, as well as total distance traveled (including north/south, east/west, and seasonal movement). Targeted species include primarily Red Drum, Tripletail, and Black Drum. Since 1987 the project has enlisted over 190 participants to tag and release more than 6,800 fish representing eight species. This effort has resulted in over 500 recapture events.



Additional Information

- ✓ Average expenditures from marine recreational anglers in Georgia account for \$238M in annual sales impacts to the economy of Georgia (during the time period 2011-2015).
- ✓ Of the roughly 257,000 SIP permits obtained in 2016 by recreational anglers, 90% were Georgia residents.
- ✓ Spotted Seatrout is the #1 targeted marine sportfish in Georgia, followed by Red Drum and whiting (Southern Kingfish).



Pertinent Websites

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| ❖ GADNR Coastal Resources Division | coastalgadnr.org |
| ❖ Saltwater Information Program (SIP) permit | coastalgadnr.org/SIPPermit |
| ❖ MRIP recreational fisheries data & queries | countmyfish.NOAA.gov |
| ❖ Atlantic Coastal Cooperative Statistics Program | accsp.org |
| ❖ South Atlantic Fishery Management Council | safmc.net |
| ❖ Atlantic States Marine Fisheries Commission | asmfc.org |

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