Summary of Red Snapper data collection from 2009 to 2024 in Georgia

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Starting in 2009, Georgia Department of Natural Resources Coastal Resources Division (CRD) staff initiated a special data collection effort to increase Red Snapper length and age data for the recreational fishery. This was a coordinated effort between two charter captains and CRD staff. The fishery was closed from 2010 to 2011, so there was no opportunity to collect samples during that time. The fishery opened for short time periods, referred to as mini-seasons, starting in 2012. The timing of these mini-seasons were sporadic and occurred anywhere from July to November from 2012 to 2014 and 2017 to 2024 (Tab 1). Biological sampling methods from 2009 were continued for the recreational fishery during all miniseasons and additional sampling of the commercial fleet outside of the Trip Interview Program (TIP) sampling began in 2013.

Methods

Biological samples of Red Snapper were collected from the recreational and commercial fisheries through a combination of dockside and carcass donation programs. Programs were expanded or changed dependent upon staff resources year to year (Tab 2). Effort data was collected for the for-hire charter fleet through a telephone survey from 2012 to 2020. Effort and catch were reported for commercial trips through Standard Atlantic Fisheries Information System (SAFIS) and for headboats through the Southeast Regional Headboat Survey (SRHS) so no additional effort data collection was necessary in those modes.

Commercial -

Dockside sampling: When possible, CRD staff met commercial vessels at a single location where
fish were unloaded to collect samples. Some years it was not possible to coordinate dockside
sampling due to either staff constraints or the dealer needing to sell Red Snapper whole and
unspoiled. Trip information collected included gear type, fishing location, depth, trip date, vessel
name, and captain name. Biological data collected included fork length (mm), maximum total
length (mm), sex, gutted weight (kg) and otoliths. Fin clips were collected for the South Atlantic
Red Snapper Research Project starting in 2021.

Recreational -

For-hire

• Marine Sportfish Carcass Recovery Project: Letters or emails were sent in advance of the season to notify captains about the request for Red Snapper carcasses and freezer locations. Posters and magnets were also placed on each freezer to draw further attention. Chest freezers were located at public access points in every county along the Georgia coast. Each freezer was clearly marked and contained a supply of plastic bags, pencils, and data cards. Captains were asked to place their filleted red snapper carcasses in plastic bags, along with a complete data card, in the freezer. A carcass card with additional questions applicable to Red Snapper was created in 2018 (Fig 1). Gift cards were offered as an incentive to participate.

- Dockside sampling: CRD staff coordinated with participating for-hire captains to be on site when trips returned with Red Snapper to collect biological samples. CRD staff coordinated with port samplers for the SRHS to avoid duplication of effort. Port samplers received priority for sampling the headboat fleet and CRD only collected samples on days the port sampler was not on site. Trip information collected included trip type (CH or HB), gear type, fishing location, depth, trip date, vessel name, and captain name. Biological data collected included fork length (mm), maximum total length (mm), sex, whole weight (kg) and otoliths. Fin clips were collected for the South Atlantic Red Snapper Research Project starting in 2021.
- Telephone catch and effort survey: CRD staff conducted telephone interviews with eligible forhire vessels (e.g., licensed for-hire captains who were known to be actively fishing and operated
 a vessel with a current South Atlantic Snapper-Grouper CH/HB permit). The purpose of the survey
 was to collect catch and effort data for all trips targeting Red Snapper during the open season.
 For 2012 and 2013, calls were placed on Monday following the fishing weekend, and repeated
 attempts were made throughout the week until the captains were reached. Starting in 2014, calls
 were initiated the Monday following the last week of fishing. Data included whether the trip
 targeted Red Snapper, number of anglers, number of fish released, and number of fish harvested.
 Participation was voluntary and ranged from 81-100% (Tab 3). The telephone catch and effort
 survey was discontinued when the SEFHIER program was created in 2021. Asking captains to
 participate in the For-Hire Telephone Survey, a mandatory logbook plus this extra telephone
 survey was believed to be too burdensome on the captains and would be duplicative to data
 already collected in the logbook.
- Catch and Effort estimation: For years when a complete census of eligible for-hire vessels was not possible, survey responses from the Telephone catch and effort survey were used to estimate the total number of charter boat trips targeting red snapper, angler trips, and numbers of red snapper harvested and discarded. The steps used to calculate the total boat trips, angler trips, and numbers of fish harvested and released for each year were:

Total boat trips = mean reported trips per boat * total eligible vessels

Total angler trips = mean reported anglers per trip * total boat trips

Number Harvested = total angler trips * mean reported harvest per angler

Number Released = total angler trips * mean reported discard per angler

Private Boat

- Marine Sportfish Carcass Recovery Project: Press releases were distributed prior to the opening of the season to notify the public about the program and location of freezers. Posters and magnets were also placed on each freezer to draw further attention. Chest freezers were located at public access points in every county along the Georgia coast. Each freezer was clearly marked and contained a supply of plastic bags, pencils, and data cards. Anglers were asked to place their filleted fish carcasses in plastic bags, along with a complete data card, in the freezer. A carcass card with additional questions applicable to Red Snapper was created in 2018 (Fig 1). Gift cards were offered as an incentive to participate.
- Dockside sampling: Private boats were sampled opportunistically if staff were on site to collect for-hire samples. Tournament sites where Red Snapper were targeted were added to the biological sampling plans in 2018, 2019 and 2020.

• Voluntary angler electronic catch survey (via Survey Monkey): Anglers were asked to complete a voluntary electronic catch survey for any fishing trips that targeted Red Snapper. Each completion of a survey represented one vessel trip. Data elements included trip date and duration, trip departure location (public or private access point), depth fished, artificial reef if applicable, number of anglers, number and size of harvested fish, number and size category (12-16 in, 16-20 in, >20 in) of released fish, and whether the harvested fish were donated to a CRD carcass freezer. Gift cards were offered as an incentive to participate. Survey was discontinued once MyFishCount web portal was created in 2017.

Results

A total of 2,895 biological samples were collected from 2009 to 2024 (Tab 4). A total of 2,793 were successfully aged. Results for charter, headboat and commercial fleet are not shown by year due to confidentiality (Tab 4). Participation in the carcass program steadily increased from 2012 to 2019 as familiarity with data collection programs increased but then declined after seasons were shorter in duration.

The number of eligible vessels, in which captain had For-Hire license in GA and a South Atlantic Snapper-Grouper CH/HB permit for the vessel, for the telephone survey ranged from 17 to 43 with an average response rate of 88% (Tab 3). Raw data was expanded to create an estimate for non-reporting when 100% census was not achieved. Only 2013 had full participation by all eligible captains/vessels and were not expanded.

The number of participants in the voluntary angler electronic catch survey was relatively low with only 7 to 13 private boat trips reported each year from 2012 to 2014 (Tab 5). Data is shown as reported without validation and have not been expanded. These numbers are not likely an accurate representation of catch for recreational anglers fishing from private vessels.

Age data

Otoliths were collected by CRD but processed and aged by the Florida Fish and Wildlife Conservation Commission Fish and Wildlife Research Center. A total of 2,793 samples were successfully aged (Tab 4).

Random designation -

Samples were considered random if collected in an unbiased manner. A sample was considered random if:

- 1. CRD staff were on site and could verify that all fish harvested on the vessel were sampled
- 2. Evidence was presented that all fish harvested during a trip were donated (e.g. total harvested reported on carcass cards or through charter telephone survey matched number donated)

Use and Justification

For-hire telephone catch and effort survey – Georgia effort and catch survey data was used in place of MRIP for recreational harvest estimates in SEDAR 41 for 2012 through 2014. This data was considered a

suitable substitute for MRIP since it was either a census of all active eligible charter vessels or had a larger sample size than MRIP. Participation declined from 2017 to 2019 (81-88%) and the recreational workgroup decided it was not appropriate to use these numbers in place of MRIP without an estimate of non-reporting. For this assessment, estimates were created from this survey data to account for non-reporting so should be representative of the for-hire fleet.

Age and length data – Age data from commercial and recreational fisheries through 2014 were used in SEDAR 41. Additional years of data from 2017 to 2019 were incorporated in SEDAR 73. Methodology did not change for 2020 to 2024 and should be appropriate to add to the data set and use in the current assessment.

Data on depth and use of descending devices were collected starting in 2018 and made available during SEDAR 73. After adding the Red Snapper carcass card in 2018, we had the ability to collect more trip information from any anglers that donated their carcasses (Fig 1). Overall, the reported average for recreational trips was 99.6 ft and reported average for commercial trips was 130.3 ft. Average depth fished in the for-hire sector (101.1 ft CH, 102.7 ft HB) was greater than for private boats (90.1 ft). Even though use of descending devices was encouraged and not mandated prior to July 2020, reports of private boats using these devices increased from 3 trips in 2018 to 18 trips in 2019. This data may be helpful during discussions for discard mortality.

Table 1. Dates and comments for open seasons 2009-2024.

Year	Commercial	Recreational	Comments	
2009	Year round	Year round	None	
2012	September 17 – 30	September 14 – 16, 21 – 23	Rough offshore 9/14 & 9/15	
2013	August 26 – October 8	August 23 – 25	Rough offshore 8/25	
2014	July 14 – September 8	July 11 – 13, 18 – 20, 25 – 26	Rough offshore 7/25	
2017	November 2 – December November 3 – 5, $10 - 12$, Dec $8 - 10$		Bad weather, most recreational trips occurred Nov 3 & 4	
2018	July 26 – December 31	Aug 10 – 12, 17 – 19	Unfavorable tides Aug 10 – 12	
2019	July 8 – August 30	July 12 – 14, 19 – 20	Anglers noted concerns about females full of eggs	
2020	July 13 – September 5	July 10 – 12, 17	None	
2021	July 12 – September 14	July 9 – 11	7/9 & 7/10 trips cancelled due to weather	
2022	July 11 – August 31	July 8 – 9	Rough offshore, majority of trips cancelled	
2023	July 10 – August 18	July 14 – 15	7/15 – rough in channel and offshore	
2024	July 8 – August 6	July 12	Low pressure disturbance S Atl. July 10, afternoon thunderstorms GA	

Table 2. Sampling methods and data collected in 2009 and during mini-seasons from 2012-2024 in GA. Unless noted, sampling methods were the same as the previous year. Carcass freezers were available in all six coastal counties. A charter captain was considered eligible for the for-hire effort survey if they had an active fishing license in GA and a operated a vessel with a current South Atlantic Snapper-Grouper CH permit. NA = sampling method did not occur that year. Unless noted, biological data collected included trip date, location, depth (if available), fork length (mm), maximum total length (mm), whole weight (kg), sex, and age.

Year	Commercial dockside	Carcass Program	For-hire dockside	For-hire effort survey	Survey Monkey	Recreational (other)
2009	NA	Carcasses donated opportunistically # Freezers = 11	Collection site: 1 For- hire location Dates: May to November	NA	NA	NA
2012	NA	Carcasses requested during open season. # Freezers = 15	Dates: open season	Calls began Monday following each weekend. Data collected: trip date, # of anglers, # of fish harvested and released	Data collected: date, duration, departure location, depth, # of anglers, # and size of harvested and released fish, and if carcasses were donated	NA
2013	Collection site: 1 Commercial dock; gutted weight (kg)	2 gift cards offered as incentive to donate carcasses. # Freezers = 15	Same as previous year	Same as previous year	Same as previous year	NA
2014	No dockside sampling, carcasses were donated from dealer	Decals added to freezer to increase awareness # Freezers = 12	Collection sites increased to 2 For-hire locations	Calls began Monday, July 28 th after season ended	Same as previous year	NA
2017	NA	# Freezers = 8	Collection sites increased to 3 For-hire locations	Calls began Monday following each weekend	Survey Monkey was discontinued once MyFishCount.com was created	NA
2018	No dockside sampling, carcasses were donated from dealer	New carcass cards (see Figure 1b); # Freezers = 14	Same as previous year	Same as previous year	NA	Collection site: 2 Tournaments
2019	Same as 2013	# Freezers = 15	Same as previous year	Same as previous year	NA	Collection site: 1 Tournament
2020	NA	# Freezers = 14	Same as previous year	Same as previous year	NA	Same as previous year
2021	NA	Added fin clips for SARSRP	Added fin clips for SARSRP	Discontinued after creation of SEFHIER	NA	NA
2022	Same as 2019 + finclips	Same as previous year	Same as previous year	NA	NA	NA
2023	NA	Same as previous year	Same as previous year	NA	NA	NA
2024	NA	Same as previous year	Same as previous year	NA	NA	NA

Table 3. Results of Georgia telephone catch (±SE) and effort survey of for-hire captains licensed by Georgia and possessing South Atlantic Snapper-Grouper CH/HB permit 2012-2020.

Year	Sample	# Captains	Response	# For-hire	# Angler trips	# Harvested	# Released
	Size	responded	rate	Boat trips			
2012	17	17	100%	14	76	52	25
2013	19	18	95%	10.83(±0.18)	56.53(±0.36)	33.35(±0.15)	5(±0.07)
2014	23	22	96%	38.41(±0.51)	197.43(±0.22)	159.92(±0.08)	82.92(±0.16)
2017	43	37	86%	10.32(±0.08)	52.94(±0.69)	53.47(±0.18)	86.29(±1.09)
2018	38	32	84%	55.86(±0.36)	268.69(±0.19)	284.81(±0.07)	290.18(±0.2)
2019	37	30	81%	50.69(±0.32)	218.98(±0.24)	260.59(±0.07)	188.32(±0.36)
2020	34	29	85%	47.94(±0.32)	246.01(±0.17)	307.51(±0.03)	516.62(±0.42)
TOTAL	211	185	88%	252.43(±0.14)	1,237.15.08(±0.10)	1,271.21(±0.03)	965.53(±0.15)

Table 4. Biological data samples from Georgia DNR data collection. Total number collected (aged) are presented by mode. Charter and Headboat columns include samples collected dockside and through carcass program. Private boat includes samples collected dockside, through carcass program or tournaments. Commercial includes samples collected either dockside or carcasses donated from restaurants or dealers. A red dash indicates data was collected from fewer than 3 vessels and is confidential.

Year	Charter	Commercial	Private Boat	Headboat	Total
2009	-	0 (0)	60 (60)	-	679 (679)
2012	-	0 (0)	23 (23)	-	65 (64)
2013	-	-	38 (34)	-	91 (86)
2014	93 (93)	-	97 (97)	-	283 (280)
2017	37 (35)	0 (0)	<mark>43 (40)</mark>	1	111 (105)
2018	166 (163)	-	<mark>157</mark> (<mark>150</mark>)	-	379 (369)
2019	124 (118)	-	<mark>257</mark> (244)	-	453 (415)
2020	126 (123)	0 (0)	147 (145)	1	384 (371)
2021	38 (37)	0 (0)	83 (83)	-	148 (141)
2022	-	-	10 (10)	-	32 (31)
2023	55 (52)	0 (0)	94 (92)	-	170 (164)
2024	-	0 (0)	81 (73)	-	100 (88)
TOTAL	907 (887)	-	1,090 (1,051)	-	2895 (2793)

Table 5. Voluntary angler electronic catch survey data from 2012 – 2014. Survey was discontinued once MyFishCount web portal was created in 2017. These data are all from private boat trips.

Year	Boat	Angler	#	Harvest Avg	#	Avg Depth
	trips	trips	Harvested	length (in)	Released	(ft)
2012	8	31	22	23.4	6	105.0
2013	13	53	41	29.1	13	94.0
2014	<mark>21</mark>	120	<mark>106</mark>	<mark>26.9</mark>	<mark>265</mark>	<mark>91.5</mark>
TOTAL	28	126	100	26.5	175	96.8

Figure 1. Carcass cards used for collection of Red Snapper in Georgia. a) Card used from 2009 to 2017. b) New card created in 2018 specifically for donated Red Snapper.

Conservation Today Means Fishing Opportunities Tomorrow Date (fish were caught)							
Fishing Location (please be spec	cific)						
Angler Name		E-mail address					
Mailing Address	City			State	/Zip		
Phone () -		nirt size S reward winner)	М	L	XL	2XL	3XL
Species in bag (circle each)	Comments						
Spotted Seatrout Weakfish Sheepshead Red Drum Black Drum Whiting Flounder							
pletail ***Fishing location and date must be present in order to				er to ne			

b)	Military
GEORGIA Red Snappe	r Carcass Cards Use for multiple bags:
DEPARTMENT OF NATURAL RISOURCES COASTAL RESOURCES DIVISION Please place of	one card in <u>EACH</u> bagof
Date:	Trip Type: Private/Rental Charter
Angler Name:	Charter captain (ıf applicable):
Address:	# Anglers: Depth (ft):
City:State:	Area fished:
Zip: T-shirt size (if selected):	Hours fished (time gear in water to nearest half-hour):
Phone:	Red Snapper Catch (per vessel)
Email:	# Released: Descending device used: Y N
One angler can fill out card for entire vessel	# Harvested: # Carcasses (in bag):
Please check the box if we may contact you for more inform	nation about your trip
Did you participate in a dockside interview? Yes No	Will you report your fishing trip through MyFishCount.com? Yes No

Thank you for your participation. Your support in evaluating the health of the Red Snapper stock is appreciated!