Age Structure of U.S. South Atlantic Red Snapper, *Lutjanus campechanus*, Landed In June, July and August 2009

Compiled and Written by

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The data for this report were gathered in response to a request from the South Atlantic Fishery Management Council (SAFMC) to determine the age structure of red snapper captured in commercial and recreational fisheries operating from North Carolina through the east coast of Florida during the summer months of 2009. This report is a compilation of age data provided by staff from the NMFS SEFSC in Beaufort, NC, FL FWC, GA DNR. The researchers responsible for ageing red snapper had participated in an age workshop to ensure consistency in age readings.

The center of the red snapper abundance is located off the coast of northeast Florida. Peak spawning occurs during the summer, July through September (SEDAR15). Fishers from northeast Florida have commented that more large red snapper are available to the fishery during the summer months. They would like to know the current age structure of this population.

Effort to collect red snapper landed by the commercial and recreational fisheries in June, July and August of 2009 was intensified in the northeast Florida area – Jacksonville to Cape Canaveral. Directed effort was also applied to the For-Hire sector of the recreational fishery off the coast of Georgia during this time. All agencies and programs involved in sampling maintained their respective agency's random sampling protocol. Therefore, other than a bias in effort to collect red snapper age samples, there should have been no bias in size selection of the fish to be sampled (Table 1).

A table of sample size and number of trips sampled by area and fishery (Table 1) and a table of percent of fish at each age (Table 2) are presented, as well as frequency plots of fish size (Figure 1) and ages (Figure 2), and a figure illustrating length-at-age (Figure 3) of red snapper from the different areas. All lengths are reported as total length in inches; the ages of the fish are reported as calendar age in years. All fish were sampled from vertical hook and line gear with the exception of 21 samples from commercial dive operations. In northeast Florida, 6% (n=73) of the fish were older than ten years (Table 2). The oldest fish was 37 years and was 37 inches total length. In the Georgia samples, 5% (n=9) were older than age 10 (Table 2). The oldest fish in the sample was 22 years and was 36 inches total length. The modal age for northeast Florida and Georgia was 4 years representing 57% and 58% of the samples, respectively (Figures 2a and 2b).

The data presented in this report are not directly comparable to the age composition data used in the SEDAR15 model. The age data used in the assessment model are weighted by the landings for each fishery, gear and state. In addition, age compositions are expected to fluctuate from year to year, reflecting variations in year-class strength. Nonetheless, these samples appear to support results of the SEDAR15 stock assessment in at least two respects. First, the distribution of ages contains far more, younger fish than would be expected from a healthy population of red snapper. Second, the assessment model predicted strong age-1 year classes in 1998, 1999, and 2000. Those fish should now be ages 10 through 12, and indeed, they appear to be reflected in the 2009 age compositions.

Table 1. Number of age samples and trips sampled ( ) of red snapper landed in the U.S. South Atlantic in June, July and August 2009.
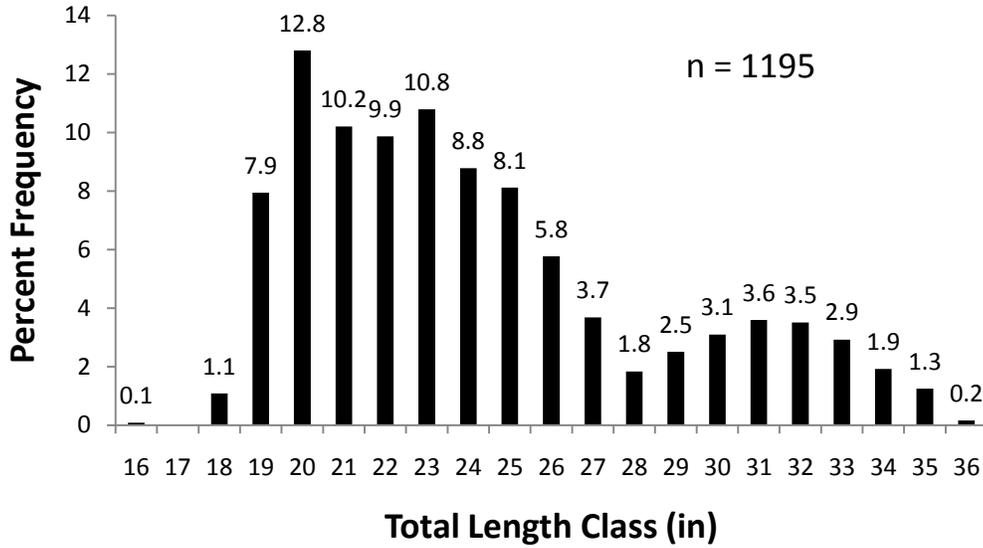
Month	Northeast Florida				Florida Keys	North Carolina		South Carolina		Georgia
	Commercial	Headboat	Charter Boat	Private Boat	Charter Boat	Commercial	Headboat	Commercial	Headboat	
June	336 (21)	2 (2)				14 (8)	2 (1)	26 (12)	1 (1)	86 (11)
July	439 (23)	110 (31)	120 (22)	12 (3)	12 (2)	11 (5)	1 (1)	7 (3)	4 (2)	55 (10)
August	100 (4)	35 (14)	41 (10)			12 (2)				36 (5)
Total	875 (48)	147 (47)	161 (32)	12 (3)	12 (2)	37 (15)	3 (2)	33 (15)	5 (3)	177 (26)

Table 2. Age frequency of red snapper sampled from commercial and recreational fisheries operating off northeast Florida and Georgia during June, July, and August 2009.
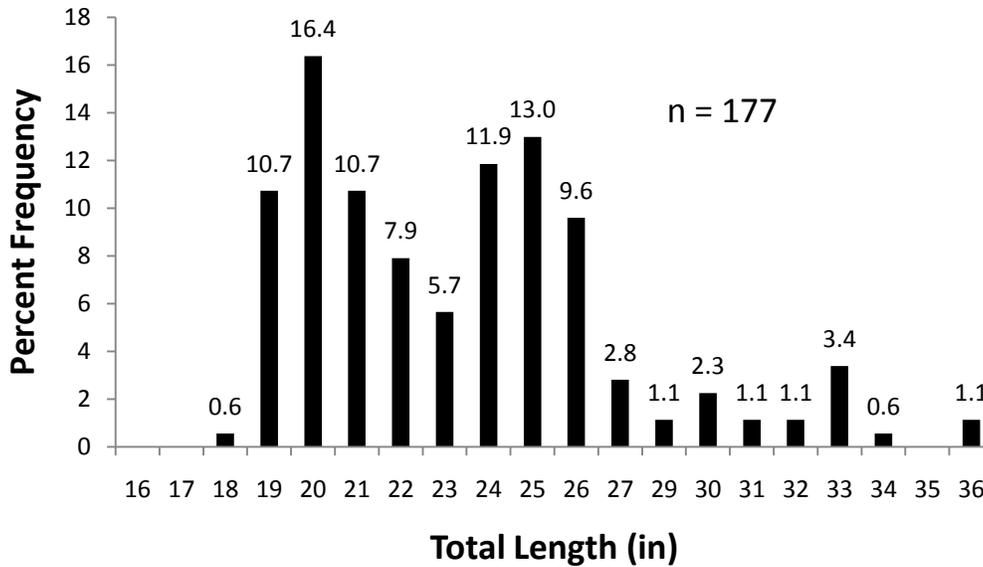
Age	Northeast Florida (n= 1195)		Georgia (n= 177)	
	Percent	Cumulative Percent	Percent	Cumulative Percent
1				
2	0.2	0.2	0.6	0.6
3	22.3	22.4	27.7	28.3
4	56.5	78.9	58.2	86.4
5	0.8	79.7	2.3	88.7
6	1.2	80.8	2.3	91.0
7	5.2	86.0		
8	2.4	88.5	1.7	92.7
9	3.2	91.6	0.6	93.2
10	2.3	93.9	1.7	94.9
11	2.1	96.0	2.3	97.2
12	1.3	97.3	0.6	97.7
13	0.3	97.7		
14	0.5	98.2		
15				
16	0.3	98.5		
17	0.7	99.2		
18	0.2	99.3		
19			1.7	99.4
20	0.1	99.4		
21	0.1	99.5		
22			0.6	100.0
23				
24	0.1	99.6		
25				
26				
27				
28				
29				
30				
31				
32	0.2	99.8		
33				
34				
35	0.1	99.8		
36	0.1	99.9		
37	0.1	100.0		

Figure 1. Total length (in) frequency of commercially and recreationally caught red snapper sampled for age structures in June, July and August 2009 from (a) northeast Florida, (b) Georgia, and (c) North Carolina, South Carolina and Florida Keys.

a. Northeast Florida

b. Georgia

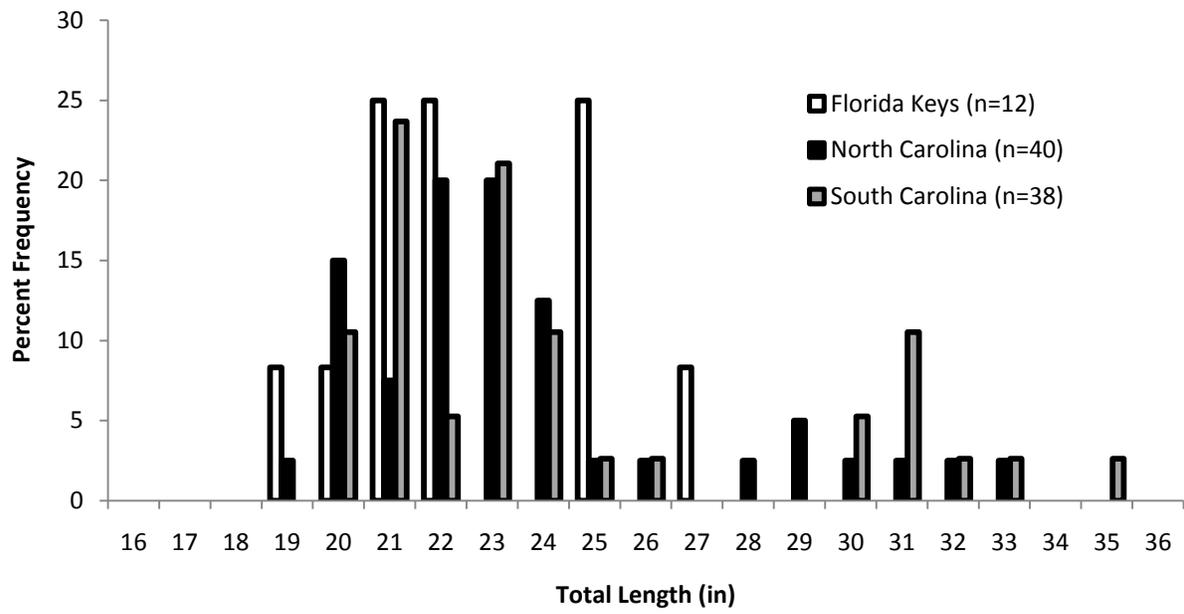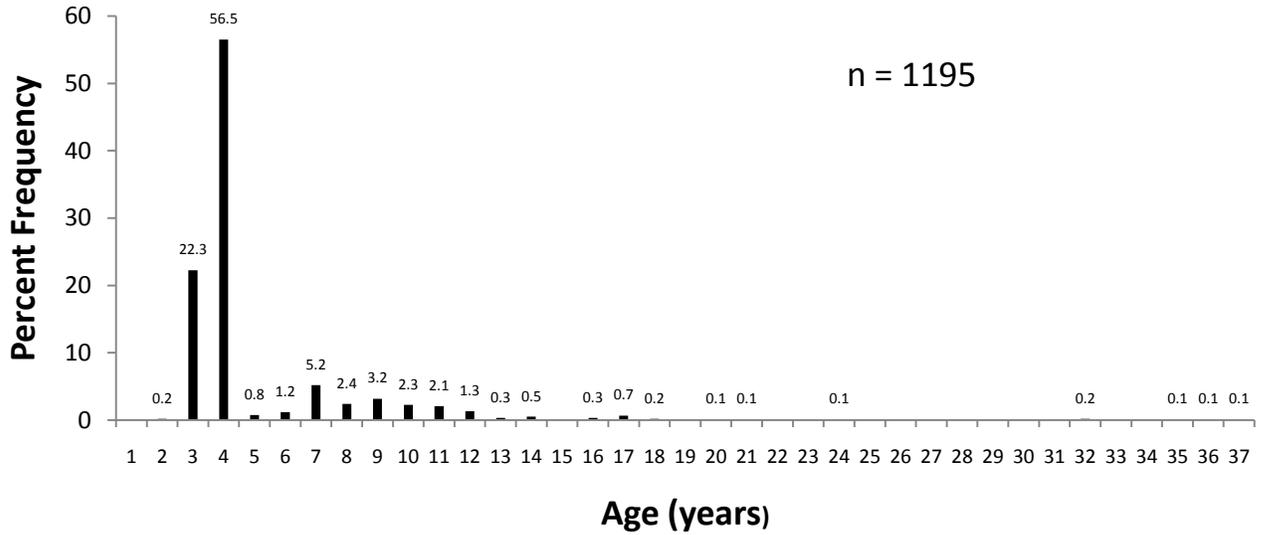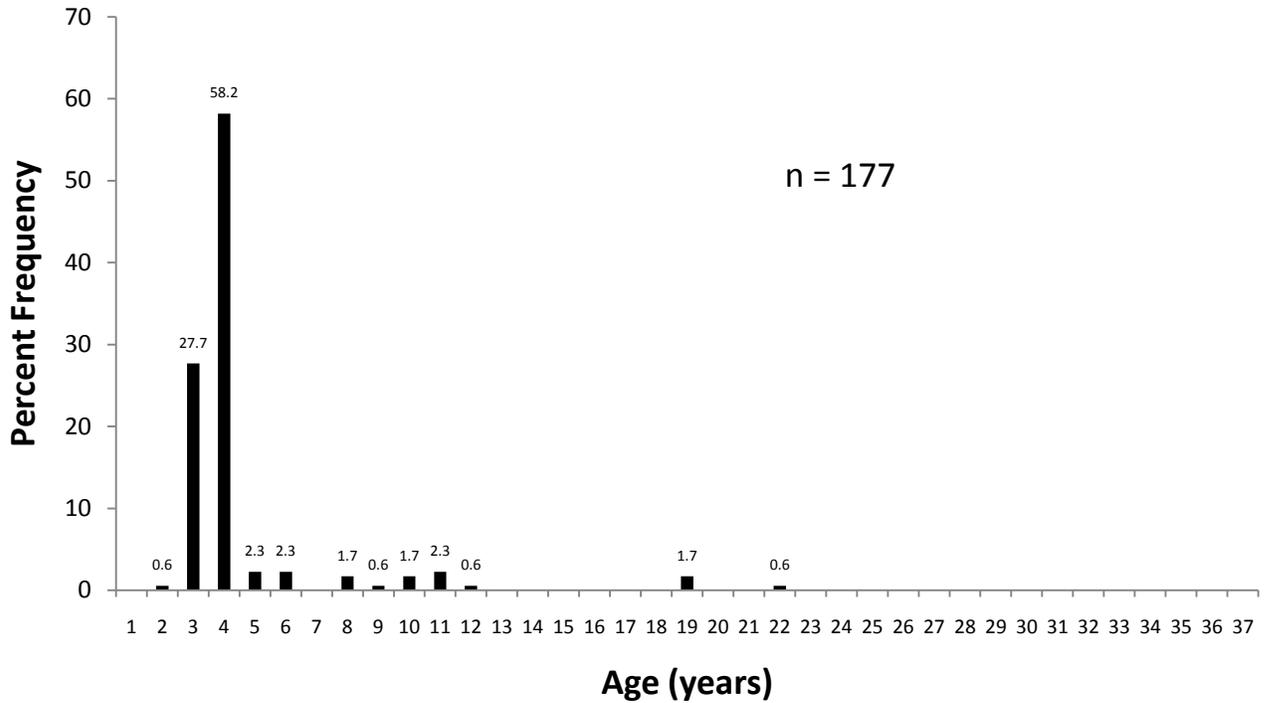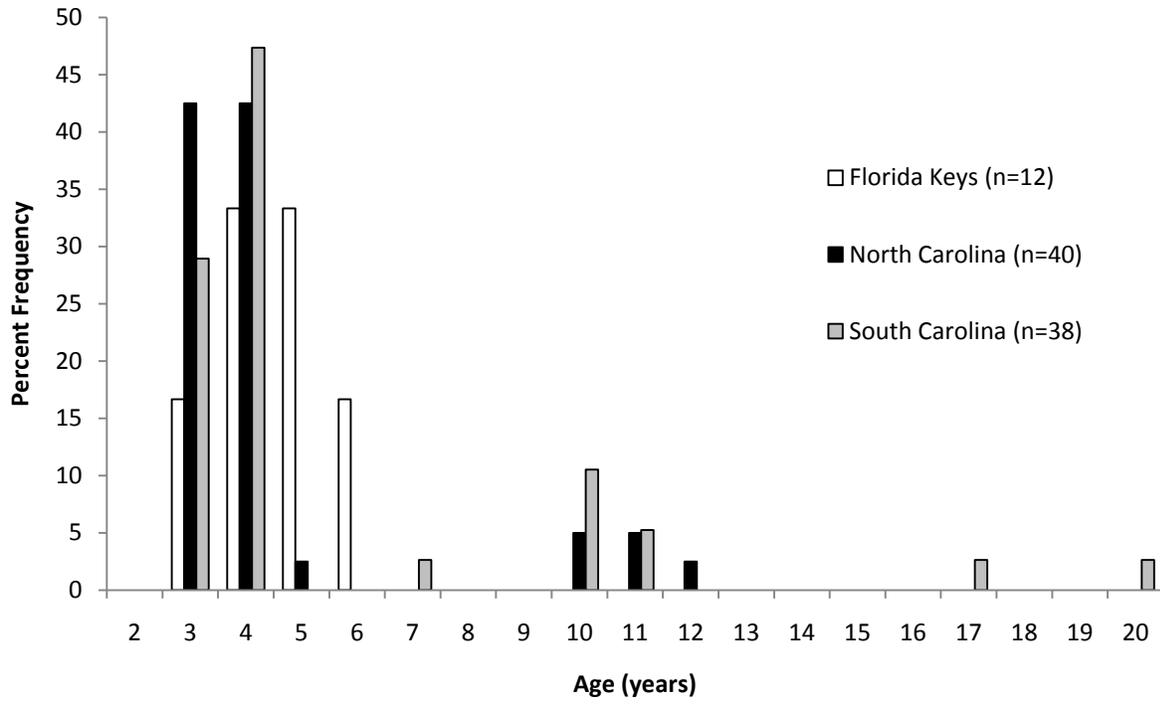c. North Carolina, South Carolina and Florida Keys

Figure 2. Age (years) frequency of commercially and recreationally caught red snapper sampled in June, July and August 2009 from (a) northeast Florida, (b) Georgia, and (c) North Carolina, South Carolina and Florida Keys.

a. northeast Florida

b. Georgia
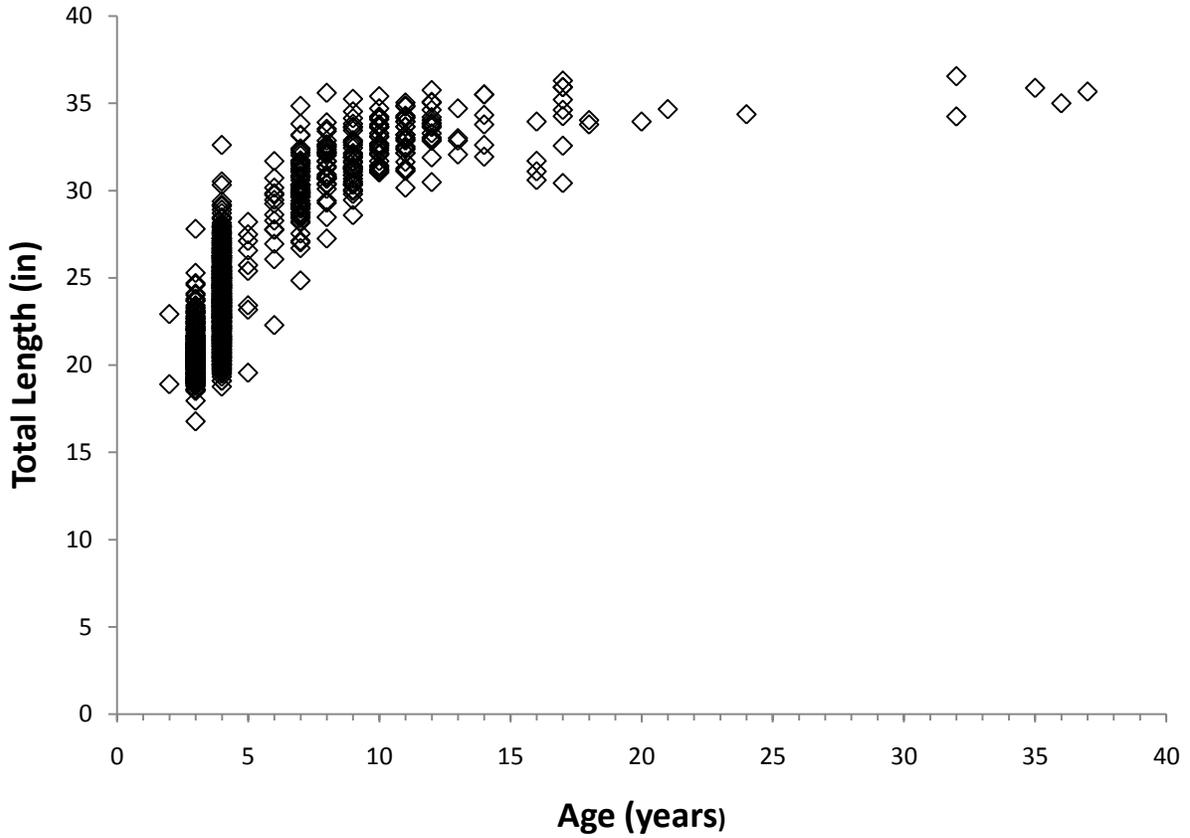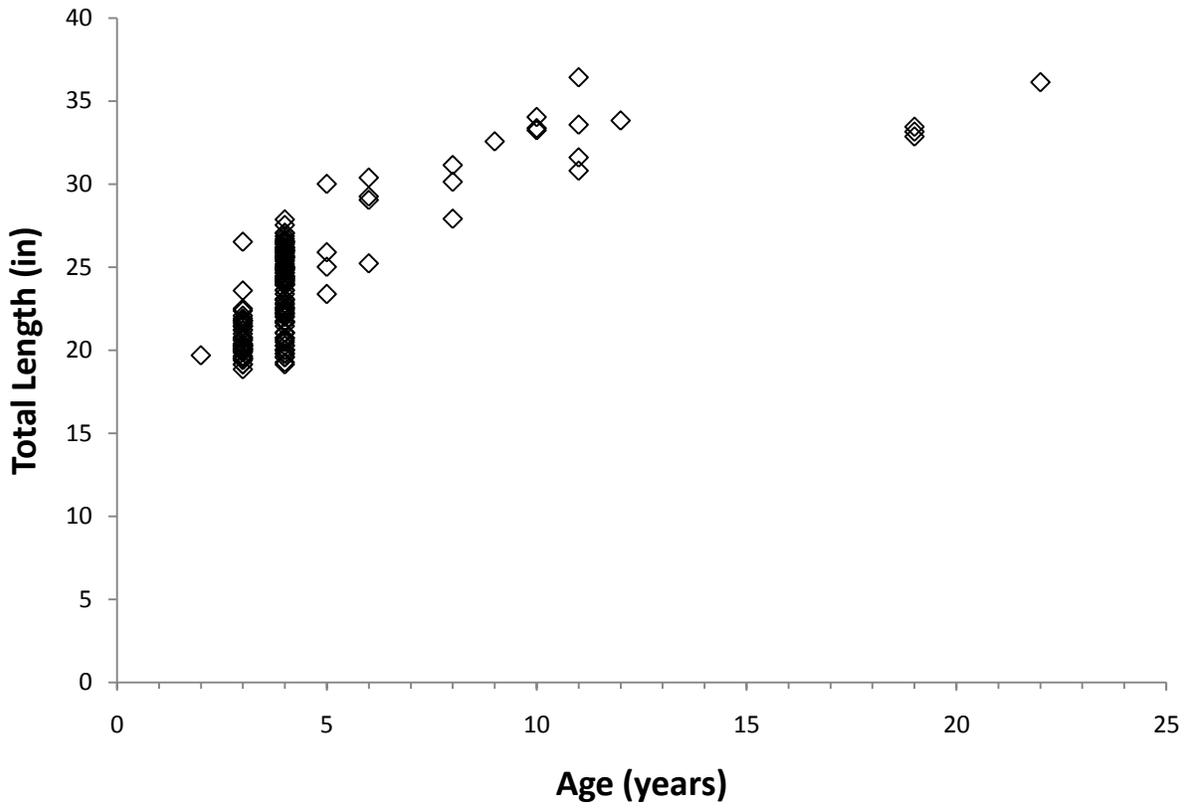
c. North Carolina, South Carolina and Florida Keys

Figure 3. Total length-at-age of commercially and recreationally caught red snapper sampled in June, July and August 2009 from (a) northeast Florida, (b) Georgia, and (c) North Carolina, South Carolina and Florida Keys.

a. northeast Florida

b. Georgia

c. North Carolina, South Carolina and Florida Keys