

Recreational Survey data for Scamp and Yellowmouth Grouper in the South Atlantic

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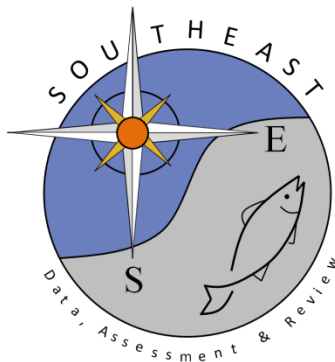
SEDAR68-DW-08

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SEDAR 68-DW-08

General Recreational Survey Data for Scamp and Yellowmouth Grouper in the South Atlantic

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10-14-2020

General recreational catch estimates for Scamp and Yellowmouth Grouper are compiled from the Marine Recreational Information Program (MRIP). Details on MRIP can be found in SEDAR68-DW-13.

Parameters for data prepared for SEDAR 68 recreational catch data:

Species: Scamp and Yellowmouth Grouper

Year Range: 1981 - 2018

Geographic Range: South Atlantic states from North Carolina to eastern Florida, including the Florida Keys.

Fishing Modes: Charter, Private, Shore

Survey Methodology: Fully calibrated estimates that take into account the change in the Fishing Effort Survey, the redesigned Access Point Angler Intercept Survey, and the For Hire Survey

Tables

Table 1. Annual landings (AB1) and discards (B2) of Scamp and Yellowmouth Grouper in numbers of fish by state and year (MRIP).

Table 2. Annual landings (AB1) and discards (B2) of Scamp and Yellowmouth Grouper in numbers of fish by mode and year (MRIP).

Table 3. Scamp and Yellowmouth Grouper landings in numbers of fish (AB1) with associated coefficients of variation (CV; Dettloff et al. 2020) by mode and year (MRIP). Sample size is provided both as the total number of primary sampling units (PSU) and angler trips (Trp) intercepted by MRIP samplers within a specified strata and, in parentheses, the number of PSUs and angler trips that intercepted Scamp and Yellowmouth Grouper.

Table 4. Scamp and Yellowmouth Grouper discards in numbers of fish (B2) with associated coefficients of variation (CV; Dettloff et al. 2020) by mode and year (MRIP). Sample size is provided both as the total number of primary sampling units (PSU) and angler trips (Trp) intercepted by MRIP samplers within a specified strata and, in parentheses, the number of PSUs and angler trips that intercepted Scamp and Yellowmouth Grouper.

Table 5. Total Scamp and Yellowmouth Grouper landings (AB1) and discards (B2), in numbers of fish, with associated coefficients of variation (CV; Dettloff et al. 2020) by year (MRIP). Sample size is provided both as the total number of primary sampling units (PSU) and angler trips (Trp) intercepted by MRIP samplers within a specified strata and, in parentheses, the number of PSUs and angler trips that intercepted Scamp and Yellowmouth Grouper.

Table 6. Estimated landings of Scamp and Yellowmouth Grouper in pounds whole weight by state and year (MRIP).

Table 7. Summary of length measurements (millimeters fork length) from MRIP-intercepted Scamp and Yellowmouth Grouper by state and year. Summaries include the number of fish measured by MRIP (Fish), the number of angler trips from which those fish were measured (Trp), and the minimum (Min), geometric mean (Avg), and maximum (Max) size of fish lengths.

Table 8. Summary of weight measurements (pounds whole weight) from MRIP-intercepted Scamp and Yellowmouth Grouper by state and year. Summaries include the number of fish weighed by MRIP (Fish), the number of angler trips from which those fish were weighed (Trp), and the minimum (Min), geometric mean (Avg), and maximum (Max) size of fish weights.

Table 9. Summary of length measurements (millimeters fork length) from MRIP-intercepted Scamp and Yellowmouth Grouper by mode and year. Summaries include the number of fish measured by MRIP (Fish), the number of angler trips from which those fish

were measured (Trp), and the minimum (Min), geometric mean (Avg), and maximum (Max) size of fish lengths.

Table 10. Summary of weight measurements (pounds whole weight) from MRIP-intercepted Scamp and Yellowmouth Grouper by mode and year. Summaries include the number of fish weighed by MRIP (Fish), the number of angler trips from which those fish were weighed (Trp), and the minimum (Min), geometric mean (Avg), and maximum (Max) size of fish weights.

Table 11. Summary of length (millimeters fork length) and weight measurements (pounds whole weight) from MRIP-intercepted Scamp and Yellowmouth Grouper by year. Summaries include the number of fish weighed by MRIP (Fish), the number of angler trips from which those fish were weighed (Trp), and the minimum (Min), geometric mean (Avg), and maximum (Max) size of fish weights.

Table 12. Recreational Fishing Effort (in angler trips) for South Atlantic anglers by state and year (MRIP).

Table 13. Recreational Fishing Effort (in angler trips) for South Atlantic anglers by mode and year (MRIP).

Figures

Figure 1. Comparison of charterboat landings (AB1) and discard (B2) estimates (with standard error intervals shown) for Scamp and Yellowmouth Grouper from the Coastal Household Telephone Survey (CHTS) and For-Hire Survey (FHS) from the South Atlantic between 1981 to 2003. The charterboat calibration approach is discussed in Dettloff and Matter (2019; SEDAR64-RD-12).

Figure 2. MRIP Base (BASE), APAIS Calibrated (ACAL), and Fully Calibrated APAIS and FES (FCAL) catch estimates for Scamp in the South Atlantic. Landings (AB1) and discard (B2) estimates are in thousands of fish. Estimates in this figure do not include the Florida Keys as that domain is not available from the MRIP online comparison tool (NMFS). The Headboat mode is also included as uncertainty estimates for catch across multiple modes are only available when all modes are selected.

Figure 3. Annual Scamp and Yellowmouth Grouper landings (AB1) and discards (B2), in thousands of fish, by state from 1981 to 2018 (MRIP).

Figure 3a. Percent of Scamp and Yellowmouth Grouper landings (AB1) and discards (B2), in numbers of fish, from each state by year (bar graph) and overall (pie chart) between 1981 and 2018 (MRIP).

Figure 4. Annual Scamp and Yellowmouth Grouper landings (AB1) and discards (B2), in thousands of fish, by mode from 1981 to 2018 (MRIP).

Figure 4a. Percent of Scamp and Yellowmouth Grouper landings (AB1) and discards (B2), in numbers of fish, from each mode by year (bar graph) and overall (pie chart) between 1981 and 2018 (MRIP).

Figure 5. Estimates of annual landings for Scamp and Yellowmouth Grouper in the South Atlantic, as estimated from MRIP: estimated landings in thousands of fish (top), estimated landings in thousands of pounds whole weight (middle), and average weight of landed fish (estimated lbs/estimated fish) (bottom). Average weight estimates are calculated by strata using the following hierarchy: species, region, year, state, mode, wave, and area (Matter and Rios 2013). The minimum number of weights used at each level of substitution is fifteen fish, except for the final species level where the minimum is one fish (Dettloff and Matter 2019).

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Table 1. Annual landings (AB1) and discards (B2) of Scamp and Yellowmouth Grouper in numbers of fish by state and year (MRIP).

Year	FLKeys		FLE		GA		SC		NC		Total	
	AB1	B2	AB1	B2	AB1	B2	AB1	B2	AB1	B2	AB1	B2
1981	32,780	0	1,682	0	0	0	0	0	0	0	34,462	0
1982	0	0	8,859	0	0	0	1,591	0	0	0	10,451	0
1983	0	0	0	0	0	0	1,048	0	0	0	1,048	0
1984	1,637	0	3,343	0	0	0	2,074	0	3,599	0	10,654	0
1985	0	0	31,317	0	137	0	937	0	0	0	32,391	0
1986	0	0	0	0	0	0	2,904	0	0	0	2,904	0
1987	0	0	0	0	0	0	136	0	1,391	0	1,527	0
1988	0	0	1,513	9,538	0	0	253	0	17,285	0	19,051	9,538
1989	0	0	1,538	0	0	0	76	20	17,677	0	19,291	20
1990	0	0	0	0	0	0	504	0	28,128	4,522	28,632	4,522
1991	0	0	0	0	0	0	927	0	9,464	0	10,391	0
1992	8,157	0	926	0	0	110	714	77	4,723	2,971	14,520	3,157
1993	7,669	7,712	0	862	0	0	0	0	11,726	8,197	19,394	16,772
1994	12,394	0	0	0	4,100	0	0	0	16,278	11,460	32,772	11,460
1995	0	0	0	0	0	273	0	991	95	3,050	95	4,314
1996	0	0	6,042	2,247	0	0	0	0	1,552	1,737	7,594	3,985
1997	2,585	0	0	0	0	0	578	210	0	5,857	3,164	6,067
1998	294	47	1,328	0	0	0	1,434	444	670	830	3,725	1,321
1999	58	21	2,716	2,691	4,650	950	64	0	440	0	7,928	3,663
2000	22	0	21,788	4,933	2,801	1,961	5,144	68	0	0	29,755	6,962
2001	420	76	8,308	5,280	888	0	0	0	5,089	8,913	14,706	14,269
2002	131	18	13,378	10,975	2,533	0	0	0	31,926	9,384	47,968	20,378
2003	9,763	149	6,437	1,105	578	243	7,787	8,955	10,639	13,610	35,204	24,062
2004	700	761	6,627	14,452	1,884	1,915	1,496	1,477	17,007	7,433	27,714	26,038
2005	62	0	4,201	1,265	413	332	38	7	21,968	4,247	26,682	5,851
2006	2,698	0	11,849	1,168	621	0	1,266	579	25,546	8,269	41,980	10,016
2007	2,687	0	12,299	3,252	142	0	2,354	5,597	24,967	39,087	42,449	47,935
2008	6,688	26	4,208	10,219	1,479	232	762	0	13,691	11,079	26,827	21,556
2009	68	3,400	0	11,542	59	25	2,278	0	12,079	6,953	14,483	21,919
2010	0	144	3,495	7,855	45	0	0	0	4,323	2,929	7,863	10,929
2011	0	123	507	2,181	69	44	0	0	4,271	923	4,847	3,271
2012	0	21,814	794	0	2,674	0	1,402	90	2,129	452	6,998	22,356
2013	162	1,382	3,392	0	0	0	2,907	555	2,333	7	8,794	1,945
2014	128	0	37,345	0	157	0	638	0	120	7	38,389	7
2015	0	3,183	2,097	2,822	0	0	555	83	2,578	60	5,230	6,148
2016	0	0	5,279	366	24	0	1,396	693	110	174	6,808	1,233
2017	314	0	1,108	16	0	0	10,885	0	0	0	12,307	16
2018	538	0	1,898	3,993	0	0	173	0	336	0	2,945	3,993

Table 2. Annual landings (AB1) and discards (B2) of Scamp and Yellowmouth Grouper in numbers of fish by mode and year (MRIP).

Year	Cbt		Priv		Shore		Total	
	AB1	B2	AB1	B2	AB1	B2	AB1	B2
1981	1,682	0	12,364	0	20,416	0	34,462	0
1982	1,591	0	8,859	0	0	0	10,451	0
1983	1,048	0	0	0	0	0	1,048	0
1984	7,500	0	3,154	0	0	0	10,654	0
1985	1,307	0	4,988	0	26,096	0	32,391	0
1986	613	0	2,291	0	0	0	2,904	0
1987	543	0	983	0	0	0	1,527	0
1988	14,133	0	4,918	9,538	0	0	19,051	9,538
1989	10,571	20	8,720	0	0	0	19,291	20
1990	15,496	0	10,488	4,522	2,649	0	28,632	4,522
1991	4,277	0	6,115	0	0	0	10,391	0
1992	4,101	3,157	10,419	0	0	0	14,520	3,157
1993	8,998	6,043	10,396	10,728	0	0	19,394	16,772
1994	15,496	7,143	17,276	4,317	0	0	32,772	11,460
1995	95	4,314	0	0	0	0	95	4,314
1996	3,756	3,985	3,838	0	0	0	7,594	3,985
1997	578	6,067	2,585	0	0	0	3,164	6,067
1998	2,085	1,321	1,641	0	0	0	3,725	1,321
1999	6,970	1,049	957	2,613	0	0	7,928	3,663
2000	5,577	2,320	24,178	4,643	0	0	29,755	6,962
2001	5,320	10,216	9,386	4,053	0	0	14,706	14,269
2002	36,468	9,948	11,500	10,429	0	0	47,968	20,378
2003	13,682	12,453	21,522	11,609	0	0	35,204	24,062
2004	7,541	5,967	20,173	20,071	0	0	27,714	26,038
2005	23,049	4,853	3,633	998	0	0	26,682	5,851
2006	9,612	2,759	32,368	7,257	0	0	41,980	10,016
2007	15,826	2,068	26,623	45,867	0	0	42,449	47,935
2008	5,816	4,313	21,011	17,244	0	0	26,827	21,556
2009	1,034	2,148	13,449	19,771	0	0	14,483	21,919
2010	2,313	1,512	5,550	9,418	0	0	7,863	10,929
2011	1,342	1,090	3,504	2,181	0	0	4,847	3,271
2012	925	665	6,073	21,692	0	0	6,998	22,356
2013	2,489	688	6,304	1,256	0	0	8,794	1,945
2014	569	7	37,820	0	0	0	38,389	7
2015	865	143	4,366	3,183	0	2,822	5,230	6,148
2016	900	174	5,908	1,059	0	0	6,808	1,233
2017	12,307	16	0	0	0	0	12,307	16
2018	509	0	2,436	3,993	0	0	2,945	3,993

Table 3. Scamp and Yellowmouth Grouper landings in numbers of fish (AB1) with associated coefficients of variation (CV; Dettloff et al. 2020) by mode and year (MRIP). Sample size is provided both as the total number of primary sampling units (PSU) and angler trips (Trp) intercepted by MRIP samplers within a specified strata and, in parentheses, the number of PSUs and angler trips that intercepted Scamp and Yellowmouth Grouper.

Year	Cbt				Priv				Shore			
	AB1	CV	PSU	Trp	AB1	CV	PSU	Trp	AB1	CV	PSU	Trp
1981	1,682	1.00	63 (1)	583 (2)	12,364	1.00	187 (1)	1,522 (1)	20,416	1.00	333 (1)	2,112 (1)
1982	1,591	0.51	57 (2)	520 (3)	8,859	0.85	422 (2)	3,872 (2)	0	0.00	590 (0)	4,642 (0)
1983	1,048	0.61	169 (3)	1,886 (3)	0	0.00	258 (0)	2,269 (0)	0	0.00	538 (0)	4,413 (0)
1984	7,500	0.54	226 (9)	2,592 (16)	3,154	1.00	260 (1)	2,673 (1)	0	0.00	514 (0)	4,856 (0)
1985	1,307	0.70	161 (4)	1,625 (8)	4,988	1.00	510 (1)	4,095 (1)	26,096	1.00	736 (1)	5,593 (1)
1986	613	1.00	249 (1)	2,260 (1)	2,291	0.68	832 (2)	7,551 (2)	0	0.00	360 (0)	2,398 (0)
1987	543	0.55	396 (5)	3,626 (5)	983	0.68	1,184 (3)	11,293 (3)	0	0.00	582 (0)	4,361 (0)
1988	14,133	0.44	422 (18)	3,560 (23)	4,918	0.59	1,174 (4)	10,464 (4)	0	0.00	728 (0)	5,725 (0)
1989	10,571	0.46	447 (17)	4,258 (20)	8,720	0.52	1,102 (8)	10,497 (8)	0	0.00	676 (0)	6,608 (0)
1990	15,496	0.53	323 (17)	3,440 (18)	10,488	0.55	929 (7)	10,380 (8)	2,649	1.00	507 (1)	5,252 (1)
1991	4,277	0.47	409 (8)	4,108 (11)	6,115	0.54	890 (5)	10,502 (7)	0	0.00	850 (0)	10,384 (0)
1992	4,101	0.39	561 (17)	5,127 (21)	10,419	0.49	1,303 (7)	14,472 (7)	0	0.00	1,008 (0)	11,350 (0)
1993	8,998	0.48	400 (10)	4,334 (15)	10,396	0.53	1,152 (4)	13,021 (4)	0	0.00	1,413 (0)	15,522 (0)
1994	15,496	0.35	491 (20)	6,263 (32)	17,276	0.48	1,363 (7)	15,411 (10)	0	0.00	1,530 (0)	18,074 (0)
1995	95	0.86	459 (2)	5,646 (2)	0	0.00	1,345 (0)	14,585 (0)	0	0.00	1,666 (0)	19,306 (0)
1996	3,756	0.75	640 (10)	8,359 (13)	3,838	0.86	1,512 (3)	16,349 (3)	0	0.00	1,492 (0)	18,267 (0)
1997	578	0.60	806 (5)	9,062 (6)	2,585	1.00	1,516 (1)	17,058 (1)	0	0.00	1,399 (0)	16,448 (0)
1998	2,085	0.34	912 (12)	23,381 (12)	1,641	0.61	1,419 (3)	16,805 (3)	0	0.00	1,309 (0)	16,125 (0)
1999	6,970	0.41	998 (24)	9,372 (30)	957	0.71	1,559 (2)	18,267 (2)	0	0.00	1,457 (0)	16,896 (0)
2000	5,577	0.39	1,065 (20)	11,741 (31)	24,178	0.45	1,433 (7)	31,546 (7)	0	0.00	1,209 (0)	14,888 (0)
2001	5,320	0.25	951 (24)	11,686 (31)	9,386	0.46	1,618 (6)	21,475 (6)	0	0.00	1,299 (0)	16,767 (0)
2002	36,468	0.31	1,008 (36)	11,144 (43)	11,500	0.48	1,468 (5)	19,771 (7)	0	0.00	1,304 (0)	16,858 (0)
2003	13,682	0.33	890 (35)	10,036 (41)	21,522	0.59	1,407 (5)	18,297 (5)	0	0.00	1,281 (0)	15,085 (0)
2004	7,541	0.24	682 (32)	8,098 (34)	20,173	0.53	1,260 (6)	15,854 (6)	0	0.00	1,036 (0)	12,378 (0)
2005	23,049	0.77	626 (16)	7,891 (18)	3,633	0.66	1,203 (3)	15,416 (3)	0	0.00	896 (0)	10,890 (0)
2006	9,612	0.40	560 (21)	6,706 (31)	32,368	0.65	1,538 (8)	20,214 (8)	0	0.00	846 (0)	10,489 (0)
2007	15,826	0.53	582 (22)	6,600 (23)	26,623	0.39	1,374 (9)	18,473 (9)	0	0.00	1,015 (0)	11,904 (0)
2008	5,816	0.35	729 (23)	7,170 (23)	21,011	0.42	1,304 (8)	17,083 (8)	0	0.00	1,113 (0)	12,620 (0)
2009	1,034	0.48	600 (15)	5,439 (16)	13,449	0.54	1,303 (7)	15,845 (8)	0	0.00	1,067 (0)	10,820 (0)
2010	2,313	0.54	775 (17)	7,402 (21)	5,550	0.60	1,780 (4)	20,068 (4)	0	0.00	1,514 (0)	14,612 (0)

Year	Cbt				Priv				Shore			
	AB1	CV	PSU	Trp	AB1	CV	PSU	Trp	AB1	CV	PSU	Trp
2011	1,342	0.55	741 (8)	7,067 (8)	3,504	0.66	1,672 (3)	18,062 (3)	0	0.00	1,569 (0)	13,881 (0)
2012	925	0.54	761 (5)	7,074 (5)	6,073	0.53	1,865 (5)	20,413 (5)	0	0.00	1,773 (0)	14,835 (0)
2013	2,489	0.90	418 (7)	3,310 (7)	6,304	0.44	1,508 (7)	13,826 (7)	0	0.00	979 (0)	9,791 (0)
2014	569	0.42	757 (11)	6,660 (11)	37,820	0.95	1,561 (3)	16,227 (7)	0	0.00	899 (0)	9,922 (0)
2015	865	0.70	818 (4)	6,976 (4)	4,366	0.71	1,599 (2)	16,293 (2)	0	0.00	951 (0)	9,929 (0)
2016	900	0.49	814 (9)	6,694 (9)	5,908	0.57	1,578 (4)	14,590 (6)	0	0.00	1,043 (0)	9,547 (0)
2017	12,307	0.84	731 (6)	6,129 (6)	0	0.00	1,619 (0)	15,873 (0)	0	0.00	1,103 (0)	9,697 (0)
2018	509	0.53	857 (5)	7,754 (5)	2,436	0.57	1,546 (3)	15,127 (3)	0	0.00	1,074 (0)	9,943 (0)

Table 4. Scamp and Yellowmouth Grouper discards in numbers of fish (B2) with associated coefficients of variation (CV; Dettloff et al. 2020) by mode and year (MRIP). Sample size is provided both as the total number of primary sampling units (PSU) and angler trips (Trp) intercepted by MRIP samplers within a specified strata and, in parentheses, the number of PSUs and angler trips that intercepted Scamp and Yellowmouth Grouper.

Year	Cbt				Priv				Shore			
	B2	CV	PSU	Trp	B2	CV	PSU	Trp	B2	CV	PSU	Trp
1981	0	0.00	63 (0)	583 (0)	0	0.00	187 (0)	1,522 (0)	0	0.00	333 (0)	2,112 (0)
1982	0	0.00	57 (0)	520 (0)	0	0.00	422 (0)	3,872 (0)	0	0.00	590 (0)	4,642 (0)
1983	0	0.00	169 (0)	1,886 (0)	0	0.00	258 (0)	2,269 (0)	0	0.00	538 (0)	4,413 (0)
1984	0	0.00	226 (0)	2,592 (0)	0	0.00	260 (0)	2,673 (0)	0	0.00	514 (0)	4,856 (0)
1985	0	0.00	161 (0)	1,625 (0)	0	0.00	510 (0)	4,095 (0)	0	0.00	736 (0)	5,593 (0)
1986	0	0.00	249 (0)	2,260 (0)	0	0.00	832 (0)	7,551 (0)	0	0.00	360 (0)	2,398 (0)
1987	0	0.00	396 (0)	3,626 (0)	0	0.00	1,184 (0)	11,293 (0)	0	0.00	582 (0)	4,361 (0)
1988	0	0.00	422 (0)	3,560 (0)	9,538	1.00	1,174 (1)	10,464 (2)	0	0.00	728 (0)	5,725 (0)
1989	20	1.00	447 (1)	4,258 (2)	0	0.00	1,102 (0)	10,497 (0)	0	0.00	676 (0)	6,608 (0)
1990	0	0.00	323 (0)	3,440 (0)	4,522	1.00	929 (1)	10,380 (1)	0	0.00	507 (0)	5,252 (0)
1991	0	0.00	409 (0)	4,108 (0)	0	0.00	890 (0)	10,502 (0)	0	0.00	850 (0)	10,384 (0)
1992	3,157	0.40	561 (11)	5,127 (13)	0	0.00	1,303 (0)	14,472 (0)	0	0.00	1,008 (0)	11,350 (0)
1993	6,043	0.64	400 (5)	4,334 (6)	10,728	0.75	1,152 (3)	13,021 (3)	0	0.00	1,413 (0)	15,522 (0)
1994	7,143	0.32	491 (13)	6,263 (38)	4,317	0.53	1,363 (4)	15,411 (7)	0	0.00	1,530 (0)	18,074 (0)
1995	4,314	0.44	459 (9)	5,646 (23)	0	0.00	1,345 (0)	14,585 (0)	0	0.00	1,666 (0)	19,306 (0)
1996	3,985	0.61	640 (8)	8,359 (17)	0	0.00	1,512 (0)	16,349 (0)	0	0.00	1,492 (0)	18,267 (0)

Year	Cbt				Priv				Shore			
	B2	CV	PSU	Trp	B2	CV	PSU	Trp	B2	CV	PSU	Trp
1997	6,067	0.97	806 (2)	9,062 (4)	0	0.00	1,516 (0)	17,058 (0)	0	0.00	1,399 (0)	16,448 (0)
1998	1,321	0.65	912 (4)	23,381 (4)	0	0.00	1,419 (0)	16,805 (0)	0	0.00	1,309 (0)	16,125 (0)
1999	1,049	0.79	998 (5)	9,372 (5)	2,613	0.59	1,559 (3)	18,267 (3)	0	0.00	1,457 (0)	16,896 (0)
2000	2,320	0.74	1,065 (5)	11,741 (9)	4,643	0.62	1,433 (3)	31,546 (3)	0	0.00	1,209 (0)	14,888 (0)
2001	10,216	0.41	951 (11)	11,686 (13)	4,053	0.73	1,618 (2)	21,475 (2)	0	0.00	1,299 (0)	16,767 (0)
2002	9,948	0.37	1,008 (12)	11,144 (14)	10,429	0.45	1,468 (6)	19,771 (6)	0	0.00	1,304 (0)	16,858 (0)
2003	12,453	0.43	890 (17)	10,036 (28)	11,609	0.72	1,407 (3)	18,297 (4)	0	0.00	1,281 (0)	15,085 (0)
2004	5,967	0.34	682 (18)	8,098 (26)	20,071	0.44	1,260 (7)	15,854 (9)	0	0.00	1,036 (0)	12,378 (0)
2005	4,853	0.65	626 (10)	7,891 (11)	998	1.00	1,203 (1)	15,416 (1)	0	0.00	896 (0)	10,890 (0)
2006	2,759	0.42	560 (9)	6,706 (12)	7,257	0.49	1,538 (5)	20,214 (5)	0	0.00	846 (0)	10,489 (0)
2007	2,068	0.63	582 (5)	6,600 (5)	45,867	0.52	1,374 (7)	18,473 (9)	0	0.00	1,015 (0)	11,904 (0)
2008	4,313	0.56	729 (11)	7,170 (14)	17,244	0.49	1,304 (7)	17,083 (7)	0	0.00	1,113 (0)	12,620 (0)
2009	2,148	0.70	600 (9)	5,439 (9)	19,771	0.52	1,303 (5)	15,845 (5)	0	0.00	1,067 (0)	10,820 (0)
2010	1,512	0.59	775 (7)	7,402 (10)	9,418	0.59	1,780 (5)	20,068 (6)	0	0.00	1,514 (0)	14,612 (0)
2011	1,090	0.55	741 (9)	7,067 (10)	2,181	1.00	1,672 (1)	18,062 (2)	0	0.00	1,569 (0)	13,881 (0)
2012	665	0.56	761 (4)	7,074 (7)	21,692	1.00	1,865 (1)	20,413 (1)	0	0.00	1,773 (0)	14,835 (0)
2013	688	0.82	418 (5)	3,310 (5)	1,256	1.00	1,508 (1)	13,826 (1)	0	0.00	979 (0)	9,791 (0)
2014	7	1.00	757 (1)	6,660 (1)	0	0.00	1,561 (0)	16,227 (0)	0	0.00	899 (0)	9,922 (0)
2015	143	0.68	818 (3)	6,976 (3)	3,183	1.00	1,599 (1)	16,293 (1)	2,822	1.00	951 (1)	9,929 (1)
2016	174	0.79	814 (2)	6,694 (4)	1,059	0.74	1,578 (2)	14,590 (2)	0	0.00	1,043 (0)	9,547 (0)
2017	16	1.00	731 (1)	6,129 (1)	0	0.00	1,619 (0)	15,873 (0)	0	0.00	1,103 (0)	9,697 (0)
2018	0	0.00	857 (0)	7,754 (0)	3,993	0.68	1,546 (2)	15,127 (2)	0	0.00	1,074 (0)	9,943 (0)

Table 5. Total Scamp and Yellowmouth Grouper landings (AB1) and discards (B2), in numbers of fish, with associated coefficients of variation (CV; Dettloff et al. 2020) by year (MRIP). Sample size is provided both as the total number of primary sampling units (PSU) and angler trips (Trp) intercepted by MRIP samplers within a specified strata and, in parentheses, the number of PSUs and angler trips that intercepted Scamp and Yellowmouth Grouper.

Year	AB1				B2			
	Total	CV	PSU	Trp	Total	CV	PSU	Trp
1981	34,462	0.69	583 (3)	4,217 (4)	0	0.00	583 (0)	4,217 (0)
1982	10,451	0.72	1,069 (4)	9,034 (5)	0	0.00	1,069 (0)	9,034 (0)
1983	1,048	0.61	965 (3)	8,568 (3)	0	0.00	965 (0)	8,568 (0)
1984	10,654	0.48	1,000 (10)	10,121 (17)	0	0.00	1,000 (0)	10,121 (0)
1985	32,391	0.82	1,407 (6)	11,313 (10)	0	0.00	1,407 (0)	11,313 (0)
1986	2,904	0.58	1,441 (3)	12,209 (3)	0	0.00	1,441 (0)	12,209 (0)
1987	1,527	0.48	2,162 (8)	19,280 (8)	0	0.00	2,162 (0)	19,280 (0)
1988	19,051	0.36	2,324 (22)	19,749 (27)	9,538	1.00	2,324 (1)	19,749 (2)
1989	19,291	0.34	2,225 (25)	21,363 (28)	20	1.00	2,225 (1)	21,363 (2)
1990	28,632	0.36	1,759 (25)	19,072 (27)	4,522	1.00	1,759 (1)	19,072 (1)
1991	10,391	0.37	2,149 (13)	24,994 (18)	0	0.00	2,149 (0)	24,994 (0)
1992	14,520	0.37	2,872 (24)	30,949 (28)	3,157	0.40	2,872 (11)	30,949 (13)
1993	19,394	0.36	2,965 (14)	32,877 (19)	16,772	0.53	2,965 (8)	32,877 (9)
1994	32,772	0.30	3,384 (27)	39,748 (42)	11,460	0.28	3,384 (17)	39,748 (45)
1995	95	0.86	3,470 (2)	39,537 (2)	4,314	0.44	3,470 (9)	39,537 (23)
1996	7,594	0.57	3,644 (13)	42,975 (16)	3,985	0.61	3,644 (8)	42,975 (17)
1997	3,164	0.82	3,721 (6)	42,568 (7)	6,067	0.97	3,721 (2)	42,568 (4)
1998	3,725	0.33	3,640 (15)	56,311 (15)	1,321	0.65	3,640 (4)	56,311 (4)
1999	7,928	0.37	4,014 (26)	44,535 (32)	3,663	0.48	4,014 (8)	44,535 (8)
2000	29,755	0.37	3,707 (27)	58,175 (38)	6,962	0.48	3,707 (8)	58,175 (12)
2001	14,706	0.31	3,868 (30)	49,928 (37)	14,269	0.36	3,868 (13)	49,928 (15)
2002	47,968	0.26	3,780 (41)	47,773 (50)	20,378	0.29	3,780 (18)	47,773 (20)
2003	35,204	0.38	3,578 (40)	43,418 (46)	24,062	0.41	3,578 (20)	43,418 (32)
2004	27,714	0.39	2,978 (38)	36,330 (40)	26,038	0.35	2,978 (25)	36,330 (35)
2005	26,682	0.67	2,725 (19)	47,767 (21)	5,851	0.56	2,725 (11)	47,767 (12)
2006	41,980	0.51	2,944 (29)	50,979 (39)	10,016	0.37	2,944 (14)	50,979 (17)
2007	42,449	0.31	2,971 (31)	50,547 (32)	47,935	0.50	2,971 (12)	50,547 (14)
2008	26,827	0.34	3,146 (31)	50,443 (31)	21,556	0.41	3,146 (18)	50,443 (21)
2009	14,483	0.50	2,970 (22)	45,674 (24)	21,919	0.48	2,970 (14)	45,674 (14)
2010	7,863	0.45	4,069 (21)	55,652 (25)	10,929	0.51	4,069 (12)	55,652 (16)
2011	4,847	0.50	3,982 (11)	52,580 (11)	3,271	0.69	3,982 (10)	52,580 (12)
2012	6,998	0.47	4,399 (10)	55,892 (10)	22,356	0.97	4,399 (5)	55,892 (8)
2013	8,794	0.41	2,905 (14)	26,927 (14)	1,945	0.71	2,905 (6)	26,927 (6)
2014	38,389	0.94	3,217 (14)	32,809 (18)	7	1.00	3,217 (1)	32,809 (1)
2015	5,230	0.60	3,368 (6)	33,198 (6)	6,148	0.69	3,368 (5)	33,198 (5)
2016	6,808	0.50	3,435 (13)	30,831 (15)	1,233	0.65	3,435 (4)	30,831 (6)
2017	12,307	0.84	3,453 (6)	31,699 (6)	16	1.00	3,453 (1)	31,699 (1)
2018	2,945	0.48	3,477 (8)	32,824 (8)	3,993	0.68	3,477 (2)	32,824 (2)

Table 6. *Estimated landings of Scamp and Yellowmouth Grouper in pounds whole weight by state and year (MRIP).*

Year	FLKeys	FLE	GA	SC	NC	Total
1981	61,884	11,587	0	0	0	73,471
1982	0	61,045	0	10,965	0	72,010
1983	0	0	0	7,224	0	7,224
1984	3,902	13,289	0	9,467	14,307	40,965
1985	0	193,384	945	6,455	0	200,784
1986	0	0	0	20,010	0	20,010
1987	0	0	0	938	9,581	10,520
1988	0	6,475	0	1,083	74,146	81,704
1989	0	6,196	0	305	63,712	70,213
1990	0	0	0	1,171	61,780	62,951
1991	0	0	0	4,281	32,329	36,610
1992	45,342	5,702	0	4,398	31,501	86,942
1993	42,628	0	0	0	53,308	95,936
1994	68,897	0	16,281	0	64,124	149,302
1995	0	0	0	0	655	655
1996	0	20,795	0	0	4,762	25,557
1997	17,843	0	0	4,809	0	22,653
1998	1,800	8,163	0	8,642	4,116	22,720
1999	196	33,178	66,202	784	5,377	105,736
2000	97	197,815	28,042	51,102	0	277,056
2001	1,964	58,877	6,377	0	31,516	98,733
2002	493	82,783	18,776	0	241,204	343,256
2003	33,983	57,580	8,721	71,342	64,408	236,035
2004	2,736	49,198	13,808	14,666	122,259	202,666
2005	190	20,931	1,992	183	108,991	132,287
2006	8,314	73,963	3,621	3,752	213,932	303,582
2007	7,240	88,909	990	16,366	164,440	277,944
2008	28,331	31,046	10,911	5,622	91,361	167,271
2009	287	0	440	17,089	85,271	103,087
2010	0	28,336	362	0	32,529	61,227
2011	0	4,301	583	0	36,173	41,057
2012	0	8,234	27,734	14,540	24,805	75,313
2013	557	32,210	0	27,603	23,608	83,977
2014	536	394,573	1,466	5,963	1,120	403,658
2015	0	15,908	0	4,210	19,555	39,673
2016	0	46,482	212	12,292	965	59,950
2017	1,746	7,636	0	74,998	0	84,380
2018	2,346	13,081	0	1,189	2,319	18,934

Table 7. Summary of length measurements (millimeters fork length) from MRIP-intercepted Scamp and Yellowmouth Grouper by state and year. Summaries include the number of fish measured by MRIP (Fish), the number of angler trips from which those fish were measured (Trp), and the minimum (Min), geometric mean (Avg), and maximum (Max) size of fish lengths.

Year	FLKeys					FLE					GA					SC					NC				
	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max
1981	3	2	180	345	445	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	2	2	330	462	595	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	2	470	676	840	0	0	0	0	0
1984	0	0	0	0	0	1	1	315	315	315	0	0	0	0	0	0	0	0	0	0	2	1	408	408	409
1985	0	0	0	0	0	3	3	430	485	521	1	1	760	760	760	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	3	331	636	780	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	416	601	780	9	5	435	598	920
1988	0	0	0	0	0	1	1	515	515	515	0	0	0	0	0	14	5	386	620	780	56	21	308	505	820
1989	0	0	0	0	0	1	1	386	386	386	0	0	0	0	0	4	4	331	582	755	65	23	270	442	910
1990	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	3	270	401	525	74	24	260	390	952
1991	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	3	543	568	643	37	15	305	460	595
1992	3	3	359	487	559	1	1	510	510	510	0	0	0	0	0	12	2	543	557	610	54	22	340	538	850
1993	3	3	610	703	753	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	49	16	359	554	800
1994	6	4	567	661	753	0	0	0	0	0	5	1	472	525	610	0	0	0	0	0	103	37	240	514	714
1995	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	510	601	692
1996	0	0	0	0	0	6	4	441	520	575	0	0	0	0	0	0	0	0	0	0	19	12	245	467	535
1997	1	1	565	565	565	0	0	0	0	0	0	0	0	0	0	17	6	453	577	767	0	0	0	0	0
1998	4	4	400	524	684	2	2	485	588	690	0	0	0	0	0	27	7	178	534	778	3	2	440	485	550
1999	4	4	383	466	521	24	12	456	626	762	23	8	575	723	800	2	2	518	559	600	5	4	440	475	505
2000	1	1	482	482	482	40	18	364	610	790	11	2	470	669	800	29	16	478	613	855	0	0	0	0	0
2001	9	5	426	515	575	29	14	445	572	845	7	5	470	580	710	0	0	0	0	0	24	13	450	560	770
2002	5	4	510	570	601	31	21	410	564	845	7	5	470	717	922	0	0	0	0	0	106	20	450	569	840
2003	3	3	449	511	571	51	19	416	621	927	20	12	470	701	875	3	1	450	495	575	32	11	491	559	710
2004	7	5	354	494	800	16	11	464	528	727	17	10	459	587	845	17	5	485	658	772	37	9	480	608	819
2005	2	2	390	444	497	9	6	471	525	671	10	5	459	537	640	1	1	344	344	344	22	7	473	534	694
2006	3	3	400	474	536	30	16	474	558	680	13	5	483	563	825	17	5	342	434	580	50	10	458	570	813
2007	15	7	372	516	677	38	10	378	600	749	4	3	483	593	825	5	2	342	539	750	36	10	461	569	797
2008	9	6	402	558	712	2	2	507	666	825	7	5	470	620	844	4	2	476	621	728	33	16	463	581	826
2009	1	1	471	471	471	0	0	0	0	0	5	4	464	648	910	9	5	430	607	835	39	14	463	593	811
2010	0	0	0	0	0	4	2	648	688	775	13	4	523	699	915	0	0	0	0	0	50	19	478	612	860
2011	0	0	0	0	0	2	1	513	538	563	2	2	523	686	850	0	0	0	0	0	26	8	473	645	850
2012	0	0	0	0	0	1	1	595	595	595	7	2	470	615	677	1	1	590	590	590	20	6	539	710	900

Year	FLKeys					FLE					GA					SC					NC				
	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max
2013	2	1	460	460	460	3	3	511	672	752	0	0	0	0	0	9	2	511	614	765	18	8	571	673	910
2014	6	2	476	535	585	23	11	513	624	812	1	1	511	511	511	2	1	545	568	590	9	3	575	686	812
2015	0	0	0	0	0	1	1	721	721	721	0	0	0	0	0	8	1	511	596	773	9	4	473	617	760
2016	0	0	0	0	0	9	7	498	634	755	1	1	820	820	820	4	4	511	608	779	4	3	491	627	779
2017	1	1	825	825	825	5	3	474	664	807	0	0	0	0	0	8	2	561	636	709	0	0	0	0	0
2018	1	1	470	470	470	2	2	487	577	667	0	0	0	0	0	2	1	607	658	709	8	4	536	689	940

Table 8. Summary of weight measurements (pounds whole weight) from MRIP-intercepted Scamp and Yellowmouth Grouper by state and year. Summaries include the number of fish weighed by MRIP (Fish), the number of angler trips from which those fish were weighed (Trp), and the minimum (Min), geometric mean (Avg), and maximum (Max) size of fish weights.

Year	FLKeys					FLE					GA					SC					NC				
	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max
1981	3	2	0.2	1.5	2.5	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0
1982	0	0	0.0	0.0	0.0	2	2	0.7	2.4	4.1	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0
1983	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	11	2	3.4	10.2	18.2	0	0	0.0	0.0	0.0
1984	0	0	0.0	0.0	0.0	1	1	1.1	1.1	1.1	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	2	1	3.3	3.3	3.3
1985	0	0	0.0	0.0	0.0	3	3	2.4	3.6	4.4	1	1	16.5	16.5	16.5	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0
1986	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	8	3	1.1	9.3	15.0	0	0	0.0	0.0	0.0
1987	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	3	3	2.3	7.1	12.1	9	5	3.6	8.3	19.6
1988	0	0	0.0	0.0	0.0	0	1	0.0	0.0	0.0	0	0	0.0	0.0	0.0	4	5	2.2	8.9	12.8	13	21	0.9	2.9	5.8
1989	0	0	0.0	0.0	0.0	1	1	1.8	1.8	1.8	0	0	0.0	0.0	0.0	4	4	1.1	9.0	16.5	65	23	0.5	3.7	25.0
1990	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	5	3	0.9	2.4	4.0	74	24	0.6	2.3	5.4
1991	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	9	3	8.2	10.1	15.5	37	15	1.0	3.2	6.9
1992	3	3	1.4	5.4	7.4	1	1	3.1	3.1	3.1	0	0	0.0	0.0	0.0	12	2	4.8	5.6	8.7	54	22	1.6	6.4	21.9
1993	3	3	6.3	11.8	15.7	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	49	16	2.0	4.4	11.0
1994	6	4	5.3	10.1	15.3	0	0	0.0	0.0	0.0	5	1	3.1	4.3	5.2	0	0	0.0	0.0	0.0	103	37	0.5	4.0	8.2
1995	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	2	2	3.1	6.6	10.2
1996	0	0	0.0	0.0	0.0	6	4	2.6	4.6	6.8	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	19	12	0.4	3.1	4.9
1997	1	1	9.3	9.3	9.3	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	17	6	3.3	8.3	16.4	0	0	0.0	0.0	0.0

Year	FLKeys					FLE					GA					SC					NC				
	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max
1998	4	4	3.5	8.2	16.2	2	2	4.5	13.8	23.1	0	0	0.0	0.0	0.0	27	7	0.4	5.9	14.9	3	2	3.3	3.6	3.8
1999	4	4	2.3	4.0	5.6	24	12	4.1	13.0	39.5	23	8	6.6	15.1	21.6	2	2	4.6	6.0	7.4	5	4	2.4	3.4	3.8
2000	1	1	3.5	3.5	3.5	40	18	1.7	9.0	19.3	11	2	5.2	18.7	34.2	29	16	4.0	9.8	23.6	0	0	0.0	0.0	0.0
2001	9	5	2.7	4.6	6.3	29	14	3.0	7.1	15.5	7	5	6.1	9.8	14.2	0	0	0.0	0.0	0.0	24	13	3.6	6.5	14.4
2002	5	4	4.2	6.0	7.0	31	21	2.1	6.4	15.7	7	5	3.5	12.3	22.5	0	0	0.0	0.0	0.0	106	20	3.2	7.4	21.8
2003	3	3	2.9	4.4	5.8	51	19	3.6	9.1	23.0	20	12	4.1	16.6	46.3	3	1	2.6	3.9	6.2	32	11	3.4	6.1	12.9
2004	7	5	1.4	5.0	17.4	16	11	3.0	4.9	11.9	17	10	2.9	7.3	17.4	17	5	3.3	9.8	14.8	37	9	3.4	7.4	13.9
2005	2	2	1.7	3.2	4.6	9	6	2.9	4.6	9.1	10	5	2.9	5.0	8.8	1	1	1.5	1.5	1.5	22	7	3.0	4.9	11.1
2006	3	3	2.1	3.5	4.6	30	16	3.4	6.0	9.9	13	5	2.9	6.3	16.1	17	5	1.5	3.0	6.4	50	10	3.0	6.6	17.5
2007	15	7	1.5	4.4	9.3	38	10	1.6	7.2	12.4	4	3	2.9	8.1	16.1	5	2	1.5	6.2	12.8	36	10	3.3	6.7	15.4
2008	9	6	2.1	6.0	10.9	2	2	4.1	10.1	16.1	7	5	3.3	7.9	16.5	4	2	3.2	8.3	14.1	33	16	3.2	7.0	15.4
2009	1	1	3.1	3.1	3.1	0	0	0.0	0.0	0.0	5	4	4.0	9.5	15.9	9	5	2.6	8.1	17.6	39	14	3.2	7.1	17.6
2010	0	0	0.0	0.0	0.0	4	2	8.0	10.1	13.9	13	4	5.1	10.4	19.8	0	0	0.0	0.0	0.0	50	19	3.2	7.3	19.0
2011	0	0	0.0	0.0	0.0	2	1	4.9	5.7	6.5	2	2	5.1	9.1	13.2	0	0	0.0	0.0	0.0	26	8	3.3	8.7	19.3
2012	0	0	0.0	0.0	0.0	1	1	7.9	7.9	7.9	7	2	3.2	7.6	9.7	1	1	6.4	6.4	6.4	20	6	4.9	11.7	22.0
2013	2	1	2.8	2.8	2.8	3	3	4.3	10.5	13.6	0	0	0.0	0.0	0.0	9	2	4.0	7.9	15.2	18	8	5.4	10.1	23.1
2014	6	2	3.9	5.6	8.4	23	11	4.4	9.0	22.7	1	1	4.0	4.0	4.0	2	1	4.9	5.6	6.4	9	3	6.3	11.7	22.7
2015	0	0	0.0	0.0	0.0	1	1	9.9	9.9	9.9	0	0	0.0	0.0	0.0	8	1	4.0	6.6	13.4	9	4	3.5	8.2	13.9
2016	0	0	0.0	0.0	0.0	9	7	3.8	8.5	15.2	1	1	17.4	17.4	17.4	4	4	4.0	7.9	14.8	4	3	3.5	8.1	14.8
2017	1	1	17.2	17.2	17.2	5	3	3.2	10.8	18.7	0	0	0.0	0.0	0.0	8	2	5.7	8.8	12.3	0	0	0.0	0.0	0.0
2018	1	1	4.0	4.0	4.0	2	2	3.8	6.7	9.6	0	0	0.0	0.0	0.0	2	1	7.3	9.8	12.3	8	4	5.3	11.6	23.1

Table 9. Summary of length measurements (millimeters fork length) from MRIP-intercepted Scamp and Yellowmouth Grouper by mode and year. Summaries include the number of fish measured by MRIP (Fish), the number of angler trips from which those fish were measured (Trp), and the minimum (Min), geometric mean (Avg), and maximum (Max) size of fish lengths.

Year	Cbt					Priv					Shore				
	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max
1981	0	0	0	0	0	2	1	410	428	445	1	1	180	180	180
1982	0	0	0	0	0	2	2	330	462	595	0	0	0	0	0
1983	11	2	470	676	840	0	0	0	0	0	0	0	0	0	0
1984	2	1	408	408	409	1	1	315	315	315	0	0	0	0	0
1985	2	2	505	632	760	1	1	521	521	521	1	1	430	430	430
1986	6	1	602	704	780	2	2	331	433	535	0	0	0	0	0
1987	7	5	416	635	920	5	3	460	547	775	0	0	0	0	0
1988	62	23	310	537	820	9	4	308	465	515	0	0	0	0	0
1989	46	20	270	475	910	24	8	290	399	498	0	0	0	0	0
1990	68	18	260	405	952	19	8	270	343	475	1	1	430	430	430
1991	26	11	305	486	643	20	7	397	474	595	0	0	0	0	0
1992	61	21	450	554	850	9	7	340	436	559	0	0	0	0	0
1993	44	15	479	567	800	8	4	359	537	747	0	0	0	0	0
1994	100	32	240	517	753	14	10	502	559	740	0	0	0	0	0
1995	2	2	510	601	692	0	0	0	0	0	0	0	0	0	0
1996	22	13	245	476	575	3	3	469	505	575	0	0	0	0	0
1997	17	6	453	577	767	1	1	565	565	565	0	0	0	0	0
1998	33	12	400	539	778	3	3	178	451	690	0	0	0	0	0
1999	56	28	383	642	800	2	2	456	511	566	0	0	0	0	0
2000	62	31	364	612	855	19	6	491	636	790	0	0	0	0	0
2001	56	31	426	548	770	13	6	483	619	845	0	0	0	0	0
2002	139	43	410	571	922	10	7	482	639	845	0	0	0	0	0
2003	102	41	416	615	927	7	5	449	553	845	0	0	0	0	0
2004	77	34	354	584	845	17	6	492	624	819	0	0	0	0	0
2005	40	18	344	523	694	4	3	471	537	671	0	0	0	0	0
2006	90	31	342	529	825	23	8	474	598	720	0	0	0	0	0
2007	70	23	372	586	825	28	9	342	537	750	0	0	0	0	0
2008	42	23	402	572	826	13	8	507	641	844	0	0	0	0	0
2009	37	16	463	594	910	17	8	430	607	835	0	0	0	0	0
2010	58	21	478	642	915	9	4	483	573	659	0	0	0	0	0
2011	20	8	473	617	850	10	3	525	688	800	0	0	0	0	0
2012	15	5	470	699	900	14	5	590	658	845	0	0	0	0	0
2013	21	7	460	638	910	11	7	511	653	758	0	0	0	0	0
2014	23	11	476	601	812	18	7	517	641	812	0	0	0	0	0
2015	16	4	473	610	773	2	2	559	640	721	0	0	0	0	0
2016	11	9	491	645	820	7	6	498	623	779	0	0	0	0	0
2017	14	6	474	659	825	0	0	0	0	0	0	0	0	0	0
2018	10	5	536	683	940	3	3	470	541	667	0	0	0	0	0

Table 10. Summary of weight measurements (pounds whole weight) from MRIP-intercepted Scamp and Yellowmouth Grouper by mode and year. Summaries include the number of fish weighed by MRIP (Fish), the number of angler trips from which those fish were weighed (Trp), and the minimum (Min), geometric mean (Avg), and maximum (Max) size of fish weights.

Year	Cbt					Priv					Shore				
	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max
1981	0	0	0.0	0.0	0.0	2	1	1.8	2.2	2.5	1	1	0.2	0.2	0.2
1982	0	0	0.0	0.0	0.0	2	2	0.7	2.4	4.1	0	0	0.0	0.0	0.0
1983	11	2	3.4	10.2	18.2	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0
1984	2	1	3.3	3.3	3.3	1	1	1.1	1.1	1.1	0	0	0.0	0.0	0.0
1985	2	2	4.0	10.2	16.5	1	1	4.4	4.4	4.4	1	1	2.4	2.4	2.4
1986	6	1	7.2	11.4	15.0	2	2	1.1	2.8	4.4	0	0	0.0	0.0	0.0
1987	7	5	2.3	9.4	19.6	5	3	3.6	5.9	13.3	0	0	0.0	0.0	0.0
1988	17	23	0.9	4.3	12.8	0	4	0.0	0.0	0.0	0	0	0.0	0.0	0.0
1989	46	20	0.5	5.0	25.0	24	8	0.7	2.1	5.0	0	0	0.0	0.0	0.0
1990	59	18	0.6	2.4	5.4	19	8	2.0	2.2	3.1	1	1	2.5	2.5	2.5
1991	26	11	1.0	5.4	15.5	20	7	2.2	3.5	6.9	0	0	0.0	0.0	0.0
1992	61	21	3.3	6.6	21.9	9	7	1.4	3.3	7.4	0	0	0.0	0.0	0.0
1993	44	15	2.5	4.8	15.7	8	4	2.0	4.8	13.3	0	0	0.0	0.0	0.0
1994	100	32	0.5	4.1	14.8	14	10	3.1	5.7	15.3	0	0	0.0	0.0	0.0
1995	2	2	3.1	6.6	10.2	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0
1996	22	13	0.4	3.4	6.8	3	3	2.4	3.9	6.2	0	0	0.0	0.0	0.0
1997	17	6	3.3	8.3	16.4	1	1	9.3	9.3	9.3	0	0	0.0	0.0	0.0
1998	33	12	2.4	6.1	16.2	3	3	0.4	9.4	23.1	0	0	0.0	0.0	0.0
1999	56	28	2.3	12.4	39.5	2	2	4.1	5.2	6.2	0	0	0.0	0.0	0.0
2000	62	31	1.7	10.9	34.2	19	6	3.5	9.3	17.3	0	0	0.0	0.0	0.0
2001	56	31	2.7	6.6	14.4	13	6	3.7	8.1	15.5	0	0	0.0	0.0	0.0
2002	139	43	2.1	7.2	22.5	10	7	3.6	9.3	16.3	0	0	0.0	0.0	0.0
2003	102	41	3.4	9.6	46.3	7	5	2.6	5.9	15.7	0	0	0.0	0.0	0.0
2004	77	34	1.4	7.0	17.4	17	6	4.5	8.2	13.9	0	0	0.0	0.0	0.0
2005	40	18	1.5	4.7	11.1	4	3	2.9	4.8	9.1	0	0	0.0	0.0	0.0
2006	90	31	1.5	5.3	17.5	23	8	3.4	7.7	15.4	0	0	0.0	0.0	0.0
2007	70	23	1.5	7.0	16.1	28	9	1.5	5.7	15.4	0	0	0.0	0.0	0.0
2008	42	23	2.1	6.4	16.1	13	8	4.1	9.6	16.5	0	0	0.0	0.0	0.0
2009	37	16	3.1	7.4	17.6	17	8	2.6	7.4	17.6	0	0	0.0	0.0	0.0
2010	58	21	3.2	8.4	19.8	9	4	3.6	6.0	9.2	0	0	0.0	0.0	0.0
2011	20	8	3.3	7.6	19.3	10	3	4.7	10.3	15.4	0	0	0.0	0.0	0.0
2012	15	5	3.2	11.2	22.0	14	5	6.2	9.5	19.2	0	0	0.0	0.0	0.0
2013	21	7	2.8	9.0	23.1	11	7	4.3	9.2	15.4	0	0	0.0	0.0	0.0
2014	23	11	3.9	8.0	22.7	18	7	4.6	9.8	22.7	0	0	0.0	0.0	0.0
2015	16	4	3.5	7.6	13.9	2	2	5.5	7.7	9.9	0	0	0.0	0.0	0.0
2016	11	9	3.5	9.2	17.4	7	6	3.8	8.2	14.8	0	0	0.0	0.0	0.0
2017	14	6	3.2	10.1	18.7	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0
2018	10	5	5.3	11.2	23.1	3	3	3.8	5.8	9.6	0	0	0.0	0.0	0.0

Table 11. Summary of length (millimeters fork length) and weight measurements (pounds whole weight) from MRIP-intercepted Scamp and Yellowmouth Grouper by year. Summaries include the number of fish weighed by MRIP (Fish), the number of angler trips from which those fish were weighed (Trp), and the minimum (Min), geometric mean (Avg), and maximum (Max) size of fish weights.

Year	Length					Weight				
	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max
1981	3	2	180.0	345.0	445.0	3	2	0.2	1.5	2.5
1982	2	2	330.0	462.5	595.0	2	2	0.7	2.4	4.1
1983	11	2	470.0	676.4	840.0	11	2	3.4	10.2	18.2
1984	3	2	315.0	377.3	409.0	3	2	1.1	2.6	3.3
1985	4	4	430.0	554.1	760.0	4	4	2.4	6.8	16.5
1986	8	3	331.2	636.3	780.0	8	3	1.1	9.3	15.0
1987	12	8	415.5	598.5	920.0	12	8	2.3	8.0	19.6
1988	71	27	308.0	527.7	820.0	17	27	0.9	4.3	12.8
1989	70	28	270.0	449.2	910.0	70	28	0.5	4.0	25.0
1990	88	27	260.0	391.7	952.0	79	27	0.6	2.3	5.4
1991	46	18	305.0	481.1	643.3	46	18	1.0	4.6	15.5
1992	70	28	340.0	538.6	850.0	70	28	1.4	6.2	21.9
1993	52	19	359.0	562.6	800.0	52	19	2.0	4.8	15.7
1994	114	42	240.0	521.9	753.0	114	42	0.5	4.3	15.3
1995	2	2	510.0	601.0	692.0	2	2	3.1	6.6	10.2
1996	25	16	245.4	479.3	575.2	25	16	0.4	3.4	6.8
1997	18	7	452.8	576.2	766.8	18	7	3.3	8.4	16.4
1998	36	15	178.0	531.8	778.0	36	15	0.4	6.4	23.1
1999	58	30	383.0	638.0	800.0	58	30	2.3	12.1	39.5
2000	81	37	364.0	617.6	855.1	81	37	1.7	10.5	34.2
2001	69	37	426.0	561.3	845.0	69	37	2.7	6.8	15.5
2002	149	50	410.0	575.1	922.0	149	50	2.1	7.4	22.5
2003	109	46	416.0	611.1	927.0	109	46	2.6	9.3	46.3
2004	94	40	354.0	591.1	845.0	94	40	1.4	7.2	17.4
2005	44	21	344.0	524.4	694.0	44	21	1.5	4.7	11.1
2006	113	39	342.0	542.8	825.0	113	39	1.5	5.8	17.5
2007	98	32	342.0	572.2	825.0	98	32	1.5	6.6	16.1
2008	55	31	402.0	588.0	844.0	55	31	2.1	7.2	16.5
2009	54	24	430.0	597.9	910.0	54	24	2.6	7.4	17.6
2010	67	25	478.0	633.1	915.0	67	25	3.2	8.1	19.8
2011	30	11	473.0	641.0	850.0	30	11	3.3	8.5	19.3
2012	29	10	470.0	679.1	900.0	29	10	3.2	10.4	22.0
2013	32	14	460.0	643.2	910.0	32	14	2.8	9.1	23.1
2014	41	18	476.0	619.0	812.0	41	18	3.9	8.8	22.7
2015	18	6	473.0	613.4	773.0	18	6	3.5	7.6	13.9
2016	18	15	491.0	636.8	820.0	18	15	3.5	8.8	17.4
2017	14	6	474.0	659.4	825.0	14	6	3.2	10.1	18.7
2018	13	8	470.0	650.0	940.0	13	8	3.8	10.0	23.1

Table 12. Recreational Fishing Effort (in angler trips) for South Atlantic anglers by state and year (MRIP).

Year	FL Keys	FLE	GA	SC	NC	Total
1981	4,087,356	31,660,427	1,140,686	3,499,698	6,836,050	47,224,217
1982	4,126,072	42,352,017	1,330,594	3,855,423	6,903,669	58,567,775
1983	4,536,545	40,631,469	1,393,987	4,392,586	10,203,830	61,158,417
1984	6,597,179	40,625,068	1,459,467	4,321,818	9,389,910	62,393,442
1985	3,344,156	39,643,873	1,684,391	4,285,327	8,876,360	57,834,107
1986	2,045,161	42,317,136	1,766,834	4,217,620	9,249,981	59,596,732
1987	4,818,584	44,172,997	1,773,450	4,119,771	9,122,728	64,007,530
1988	3,428,017	39,146,830	1,683,851	3,987,476	10,576,270	58,822,444
1989	4,735,258	39,253,969	1,801,763	4,321,550	10,754,246	60,866,786
1990	4,190,519	39,258,351	1,834,320	4,571,431	12,207,378	62,061,999
1991	9,796,902	41,678,398	1,804,463	4,904,800	11,315,841	69,500,404
1992	5,372,429	42,875,507	1,753,767	4,830,569	11,965,169	66,797,441
1993	6,237,753	41,980,014	1,769,651	4,977,833	10,933,941	65,899,192
1994	5,114,358	41,906,013	1,800,943	4,890,627	10,545,102	64,257,043
1995	5,719,470	38,928,615	1,743,589	4,643,418	10,020,835	61,055,927
1996	6,595,290	41,111,552	1,792,198	4,740,103	10,413,771	64,652,914
1997	5,027,584	42,185,109	1,794,338	5,117,321	11,109,149	65,233,501
1998	4,075,040	41,282,599	1,897,330	5,062,297	11,115,182	63,432,448
1999	3,661,112	39,870,443	2,061,785	5,368,897	12,669,214	63,631,451
2000	2,940,339	43,809,306	2,365,941	5,969,116	15,358,914	70,443,616
2001	3,250,891	43,765,525	2,312,729	6,070,604	15,144,269	70,544,018
2002	2,004,492	44,866,670	2,323,023	6,491,172	15,146,182	70,831,539
2003	2,827,229	45,044,832	2,500,555	6,499,483	15,539,344	72,411,443
2004	4,687,327	42,936,332	2,551,027	6,973,606	17,400,870	74,549,162
2005	2,394,525	47,794,997	2,717,106	7,156,559	17,150,375	77,213,562
2006	2,112,327	49,056,377	2,643,209	7,462,121	19,614,943	80,888,977
2007	3,262,066	48,447,259	2,823,131	7,364,699	18,146,146	80,043,301
2008	4,563,931	45,921,204	2,855,466	8,062,558	19,328,098	80,731,257
2009	2,251,195	49,009,618	2,692,566	7,557,887	19,345,187	80,856,453
2010	1,922,802	48,952,258	2,707,465	8,027,939	20,173,323	81,783,787
2011	2,339,547	45,795,256	2,902,422	8,507,040	19,468,850	79,013,115
2012	3,450,091	39,677,797	2,989,846	8,110,949	18,555,348	72,784,031
2013	3,797,787	37,306,011	3,319,694	9,751,329	18,085,862	72,260,683
2014	3,544,628	43,967,506	3,736,954	8,745,715	18,926,498	78,921,301
2015	3,280,973	42,395,466	4,108,912	8,962,210	20,322,840	79,070,401
2016	2,705,262	38,695,081	3,880,485	9,335,002	21,158,845	75,774,675
2017	2,502,559	40,403,524	4,624,303	9,388,908	22,452,276	79,371,570
2018	2,729,023	43,986,704	4,592,649	9,897,323	16,624,306	77,830,005

Table 13. *Recreational Fishing Effort (in angler trips) for South Atlantic anglers by mode and year (MRIP).*

Year	Cbt	Priv	Shore	Total
1981	443,445	11,061,600	35,719,171	47,224,216
1982	543,344	13,686,090	44,338,341	58,567,775
1983	549,886	12,624,744	47,983,787	61,158,417
1984	631,740	15,880,341	45,881,360	62,393,441
1985	647,288	13,834,345	43,352,474	57,834,107
1986	734,582	15,120,221	43,741,930	59,596,733
1987	684,175	16,117,325	47,206,030	64,007,530
1988	574,659	13,538,214	44,709,569	58,822,442
1989	703,403	15,444,757	44,718,625	60,866,785
1990	594,310	14,473,240	46,994,448	62,061,998
1991	615,933	16,717,086	52,167,385	69,500,404
1992	574,093	16,543,089	49,680,259	66,797,441
1993	617,079	17,777,777	47,504,336	65,899,192
1994	632,200	17,436,754	46,188,088	64,257,042
1995	647,404	16,353,858	44,054,666	61,055,928
1996	632,194	17,329,456	46,691,264	64,652,914
1997	574,241	17,753,982	46,905,278	65,233,501
1998	618,206	17,065,966	45,748,277	63,432,449
1999	555,961	17,628,410	45,447,080	63,631,451
2000	514,365	20,705,579	49,223,672	70,443,616
2001	600,971	19,463,855	50,479,192	70,544,018
2002	693,754	20,401,196	49,736,590	70,831,540
2003	658,098	22,137,279	49,616,067	72,411,444
2004	663,047	21,673,683	52,212,432	74,549,162
2005	614,999	22,332,397	54,266,164	77,213,560
2006	588,260	24,764,335	55,536,380	80,888,975
2007	630,150	25,901,061	53,512,091	80,043,302
2008	545,399	24,141,904	56,043,954	80,731,257
2009	558,034	24,949,760	55,348,659	80,856,453
2010	483,966	26,837,256	54,462,565	81,783,787
2011	509,413	24,406,769	54,096,933	79,013,115
2012	537,932	22,770,757	49,475,343	72,784,032
2013	518,665	22,554,404	49,187,614	72,260,683
2014	619,611	24,333,837	53,967,852	78,921,300
2015	693,462	23,251,246	55,125,694	79,070,402
2016	716,062	22,540,147	52,518,465	75,774,674
2017	677,522	22,440,708	56,253,340	79,371,570
2018	723,594	23,909,857	53,196,555	77,830,006

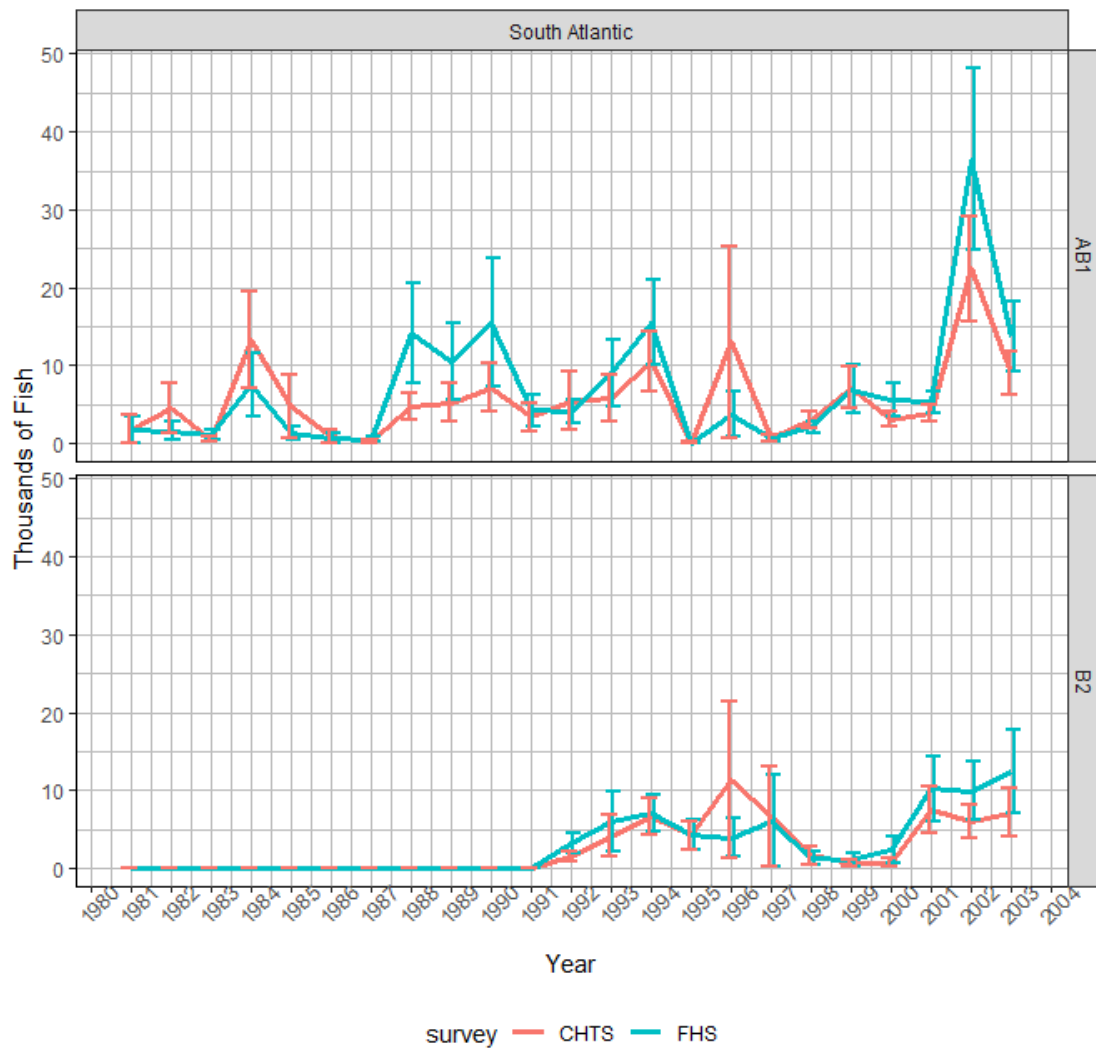


Figure 1. Comparison of charterboat landings (AB1) and discard (B2) estimates (with standard error intervals shown) for Scamp and Yellowmouth Grouper from the Coastal Household Telephone Survey (CHTS) and For-Hire Survey (FHS) from the South Atlantic between 1981 to 2003. The charterboat calibration approach is discussed in Dettloff and Matter (2019; SEDAR64-RD-12).

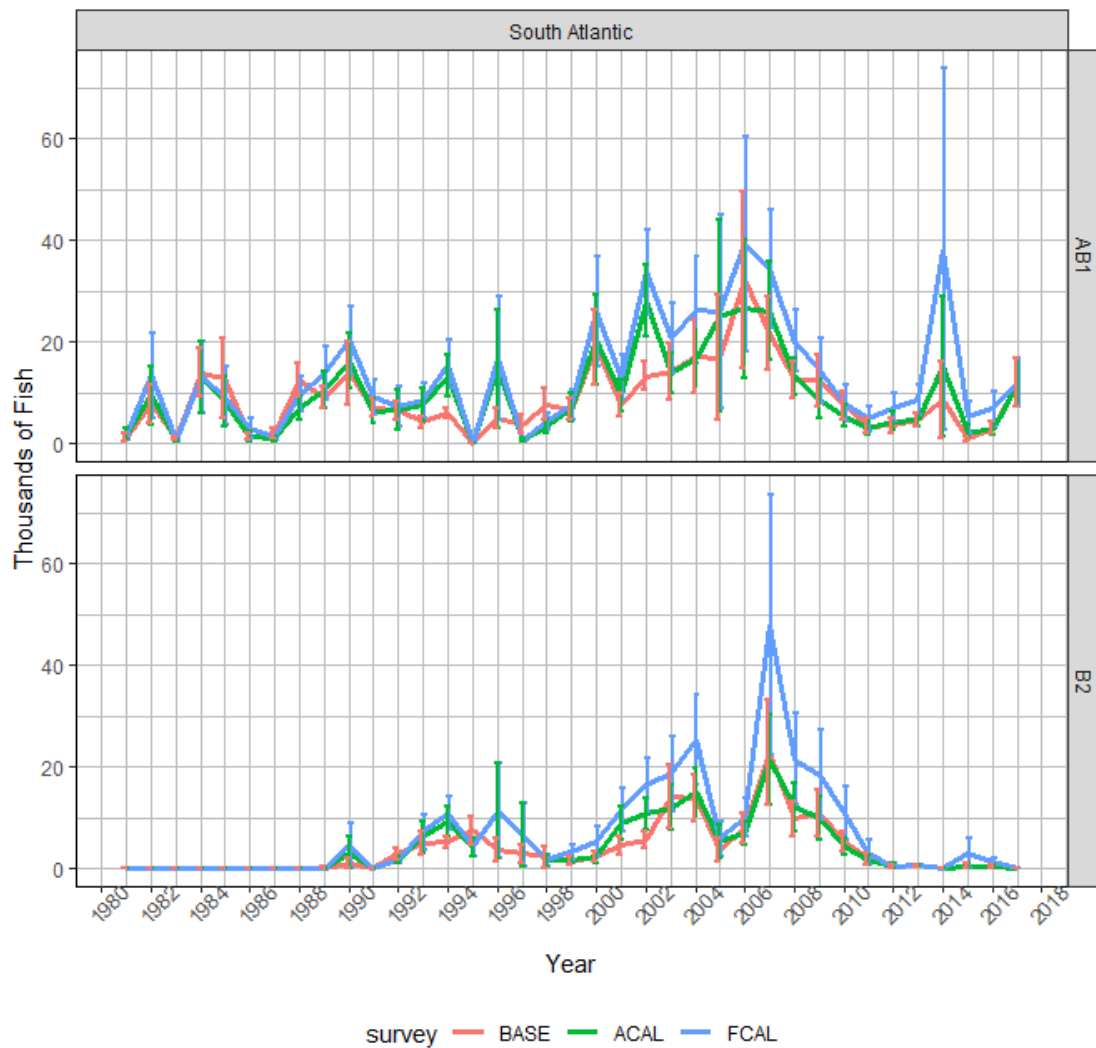


Figure 2. MRIP Base (BASE), APAIS Calibrated (ACAL), and Fully Calibrated APAIS and FES (FCAL) catch estimates for Scamp in the South Atlantic. Landings (AB1) and discard (B2) estimates are in thousands of fish. Estimates in this figure do not include the Florida Keys as that domain is not available from the MRIP online comparison tool (NMFS). The Headboat mode is also included as uncertainty estimates for catch across multiple modes are only available when all modes are selected.

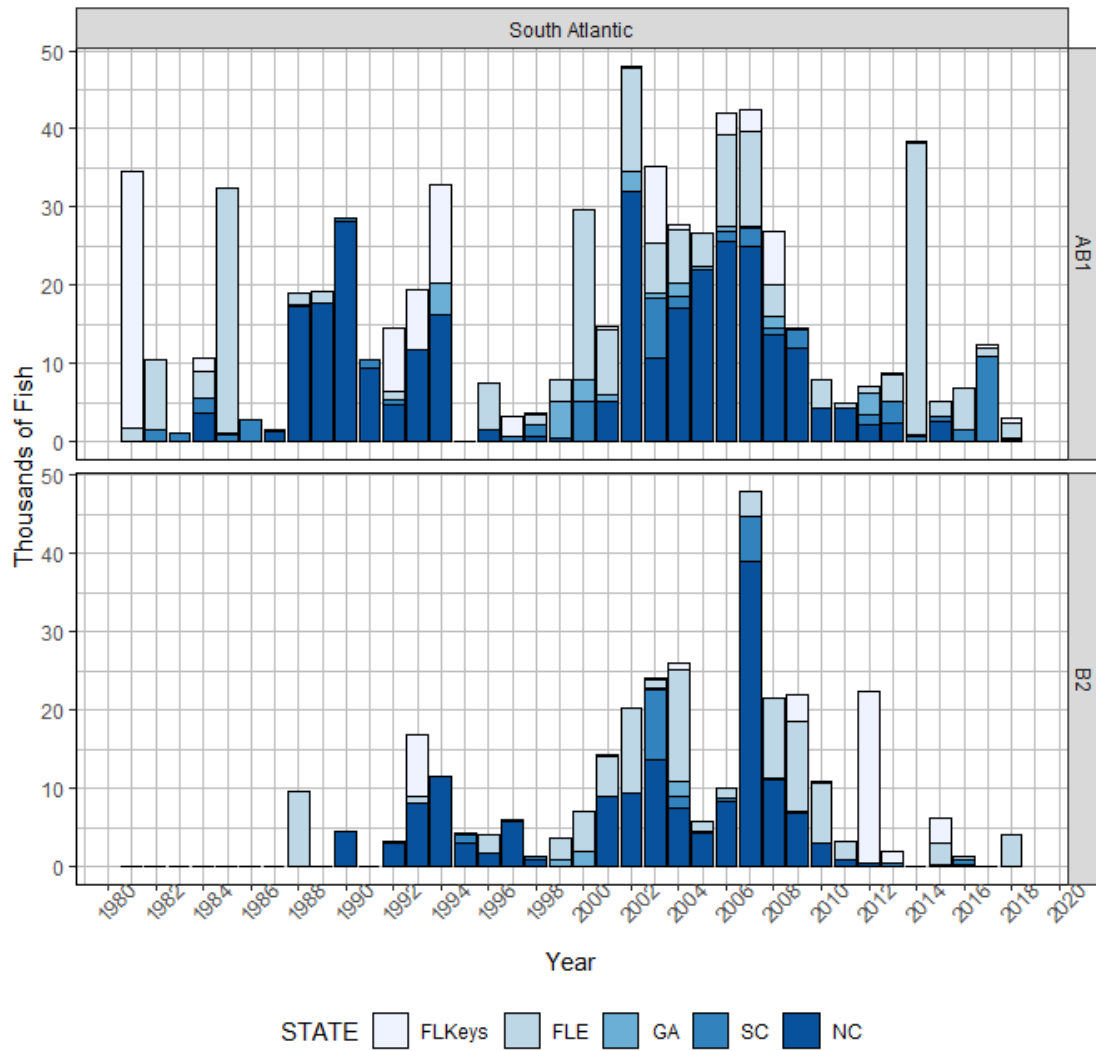


Figure 3. Annual Scamp and Yellowmouth Grouper landings (AB1) and discards (B2), in thousands of fish, by state from 1981 to 2018 (MRIP).

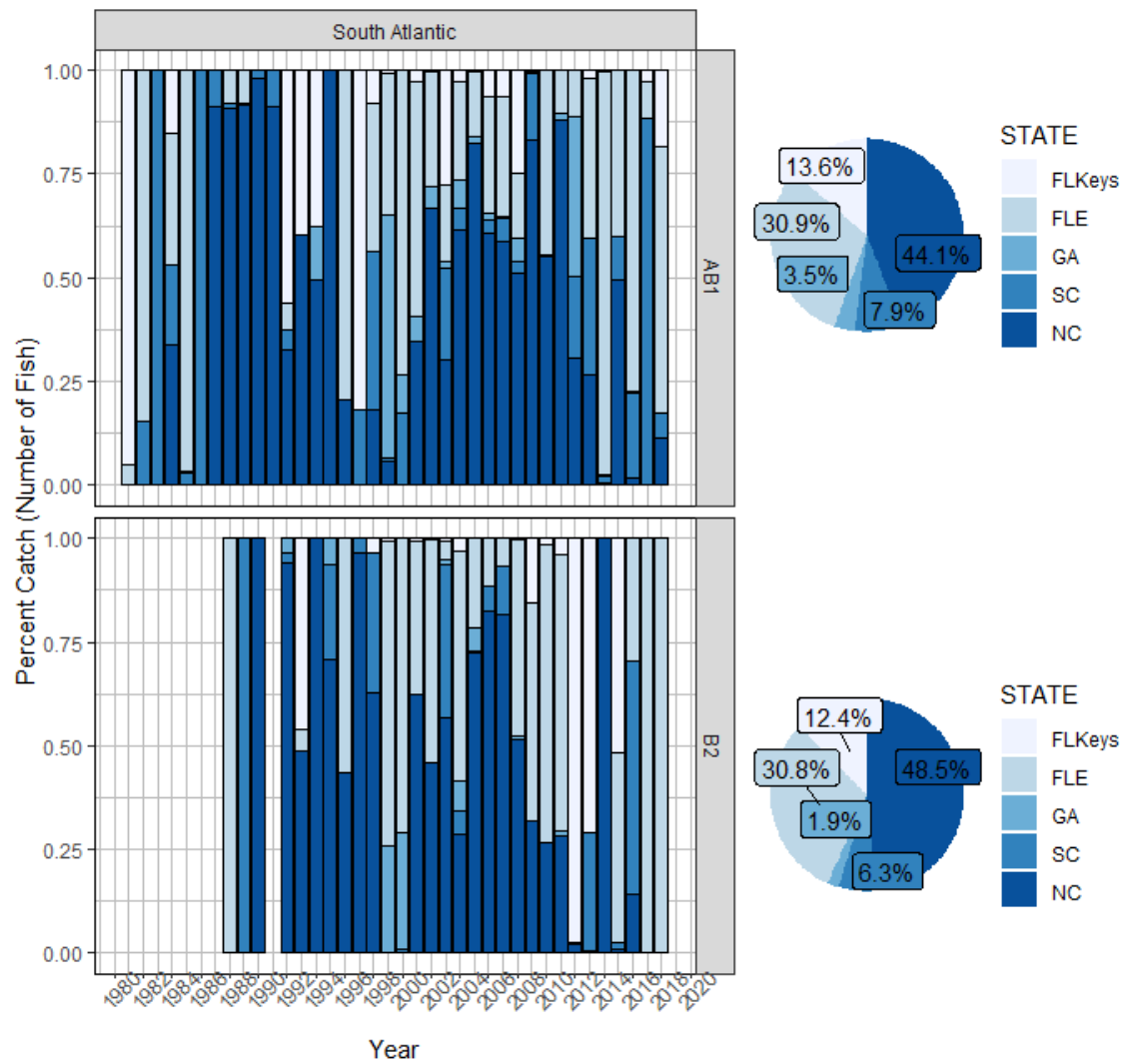


Figure 3a. Percent of Scamp and Yellowmouth Grouper landings (AB1) and discards (B2), in numbers of fish, from each state by year (bar graph) and overall (pie chart) between 1981 and 2018 (MRIP).

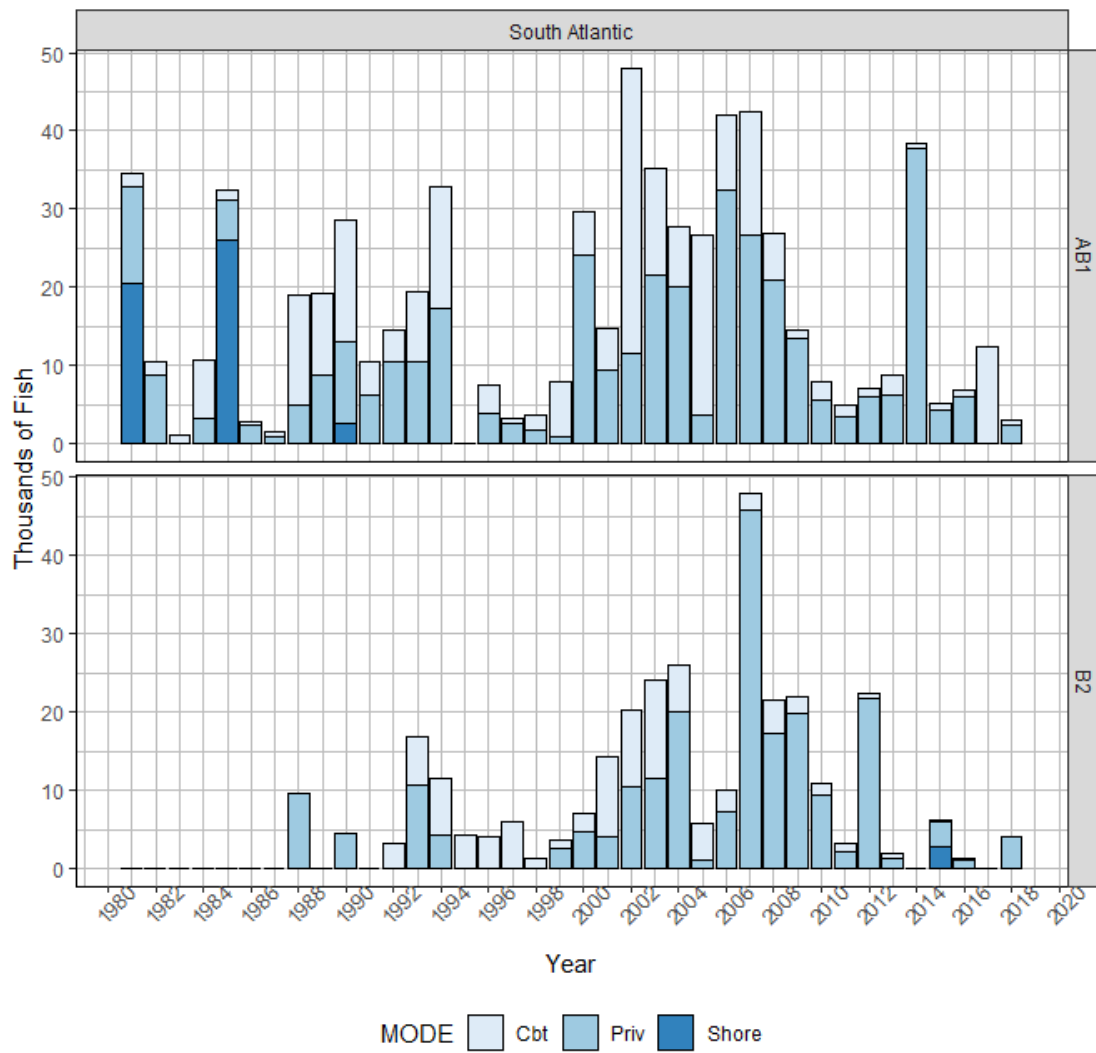


Figure 4. Annual Scamp and Yellowmouth Grouper landings (AB1) and discards (B2), in thousands of fish, by mode from 1981 to 2018 (MRIP).

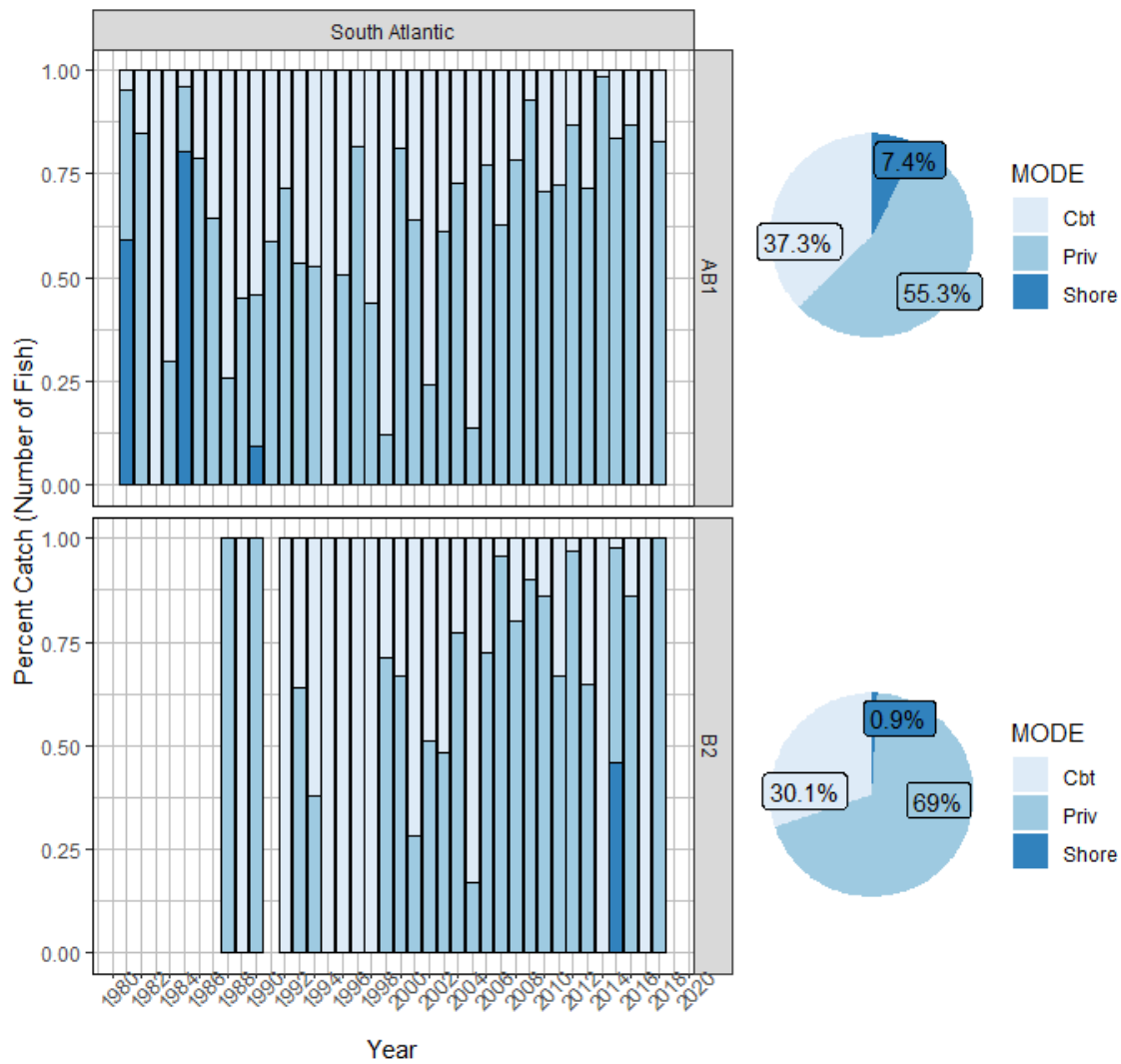


Figure 4a. Percent of Scamp and Yellowmouth Grouper landings (AB1) and discards (B2), in numbers of fish, from each mode by year (bar graph) and overall (pie chart) between 1981 and 2018 (MRIP).

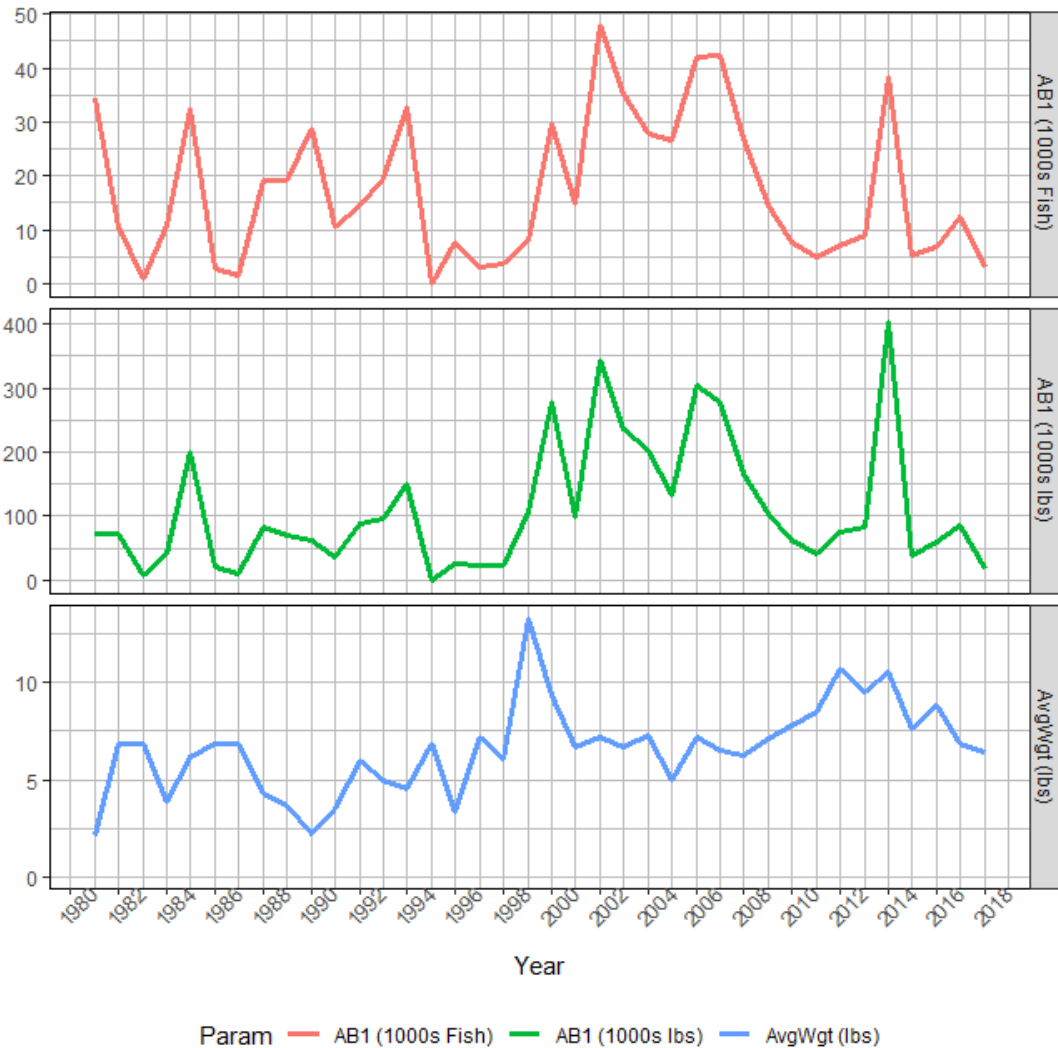


Figure 5. Estimates of annual landings for Scamp and Yellowmouth Grouper in the South Atlantic, as estimated from MRIP: estimated landings in thousands of fish (top), estimated landings in thousands of pounds whole weight (middle), and average weight of landed fish (estimated lbs/estimated fish) (bottom). Average weight estimates are calculated by strata using the following hierarchy: species, region, year, state, mode, wave, and area (Matter and Rios 2013). The minimum number of weights used at each level of substitution is fifteen fish, except for the final species level where the minimum is one fish (Dettloff and Matter 2019).