

Recreational Survey data for Scamp and Yellowmouth Grouper in the Gulf of Mexico

Vivian M. Matter and Matthew A. Nuttall

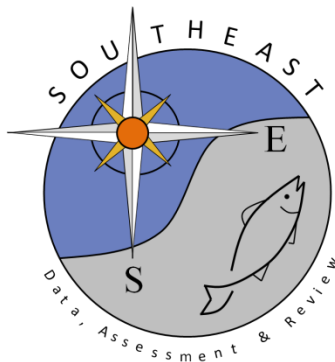
SEDAR68-DW-09

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Recreational Survey Data for Scamp and Yellowmouth Grouper in the Gulf of Mexico

**NOAA Fisheries
Southeast Fisheries Science Center
Fisheries Statistics Division
75 Virginia Beach Drive
Miami FL 33149**

Vivian M. Matter and Matthew A. Nuttall

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Recreational catch estimates for Scamp and Yellowmouth Grouper are compiled from the following separate sampling programs:

1. Marine Recreational Information Program (MRIP) (SEDAR68-DW-13)
2. Texas Parks and Wildlife Department (TPWD) (SEDAR70-WP-03)
3. Louisiana Creel survey program (LA Creel; 2014+)

Parameters for data prepared for SEDAR 68 recreational catch data:

Species: Scamp and Yellowmouth Grouper

Year Range: 1981 - 2018

Geographic Range: Gulf of Mexico states from Texas to western Florida, excluding the Florida Keys.

Fishing Modes: Charter, Headboat (1981-1985), 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, LACreel, TPWD). FLW excludes the Florida Keys.

Table 2. Annual landings (AB1) and discards (B2) of Scamp and Yellowmouth Grouper in numbers of fish by mode and year (MRIP, LACreel, TPWD). Note that catch from the combined private-shore fishing mode in the LA Creel survey is added to the private mode. MRIP Headboat estimates are available from 1981-1985.

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, LACreel, TPWD). FLW excludes the Florida Keys.

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. LA lengths are available from MRIP only until 2013. FLW excludes the Florida Keys.

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. LA weights are available from MRIP only until 2013. FLW excludes the Florida Keys.

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. MRIP Headboat estimates are available from 1981-1985.

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. MRIP Headboat estimates are available from 1981-1985.

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. Summary of length measurements (millimeters total length) from TPWD-intercepted Scamp and Yellowmouth Grouper by mode and year. Summaries include the number of fish measured by TPWD (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 13. Recreational Fishing Effort (in angler trips) for Gulf of Mexico anglers by state and year (MRIP, LACreel, TPWD). FLW excludes the Florida Keys.

Table 14. Recreational Fishing Effort (in angler trips) for Gulf of Mexico anglers by mode and year (MRIP, LACreel, TPWD). Note that effort from the combined private-shore fishing mode in the LA Creel survey has been added to the private mode. MRIP Headboat estimates are available from 1981-1985.

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 Gulf of Mexico between 1981 to 1999. 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 Gulf of Mexico. Landings (AB1) and discard (B2) estimates are in thousands of fish. Estimates in this figure include the Florida Keys as that domain is not separable from those used by the MRIP online comparison tool for the Gulf of Mexico (NMFS).

Figure 3. Annual Scamp and Yellowmouth Grouper landings (AB1) and discards (B2), in thousands of fish, by state from 1981 to 2018 (MRIP, TPWD, LACreel). FLW excludes the Florida Keys.

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, TPWD, LACreel). FLW excludes the Florida Keys.

Figure 4. Annual Scamp and Yellowmouth Grouper landings (AB1) and discards (B2), in thousands of fish, by mode from 1981 to 2018 (MRIP, TPWD, LACreel). Note that catch from the combined private-shore fishing mode in the LA Creel survey has been added to the private mode. MRIP Headboat estimates are available from 1981-1985.

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, TPWD, LACreel). Note that catch from the combined private-shore fishing mode in the LA Creel survey has been added to the private mode. MRIP Headboat estimates are available from 1981-1985.

Figure 5. Estimates of annual landings for Scamp and Yellowmouth Grouper in the Gulf of Mexico, 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, LACreel, TPWD). FLW excludes the Florida Keys.

Year	TX		LA		MS		AL		FLW		Total	
	AB1	B2	AB1	B2	AB1	B2	AB1	B2	AB1	B2	AB1	B2
1981			0	0	0	0	4,006	0	56,878	0	60,884	0
1982			0	12,134	32,630	61,339	33,677	0	46,138	3,110	112,445	76,583
1983	68	0	0	0	0	0	352	0	49,096	1,771	49,516	1,771
1984	0	0	0	0	0	0	0	0	9,376	2,257	9,376	2,257
1985	178	0	0	0	0	0	0	0	20,485	12,115	20,663	12,115
1986	1,933	0	0	0	0	0	0	0	45,842	54,118	47,775	54,118
1987	83	0	6,412	0	0	0	0	0	62,021	1,428	68,516	1,428
1988	121	0	0	0	0	0	3,703	0	35,703	3,701	39,527	3,701
1989	0	0	0	0	0	0	16	0	18,594	1,858	18,611	1,858
1990	74	0	0	0	0	0	0	0	6,450	40,696	6,524	40,696
1991	0	0	471	0	0	0	22	0	14,379	3,128	14,873	3,128
1992	71	0	770	0	0	0	308	0	12,502	31,849	13,651	31,849
1993	0	0	96	0	0	0	1,289	0	22,048	40,068	23,434	40,068
1994	99	0	0	0	0	0	83	0	12,686	17,814	12,868	17,814
1995	34	0	440	0	0	0	14	0	3,842	4,780	4,330	4,780
1996	32	0	0	0	0	14	37	100	12,244	816	12,313	930
1997	50	0	1,678	0	0	0	45	0	12,947	7,025	14,720	7,025
1998	23	0	0	0	0	0	1,247	1,295	19,463	3,249	20,733	4,545
1999	0	0	2,053	0	0	0	285	0	37,391	9,645	39,730	9,645
2000	354	0	1,140	0	0	0	781	0	8,287	63,768	10,563	63,768
2001	240	0	3,036	0	0	0	369	0	9,929	54,874	13,574	54,874
2002	76	0	246	0	0	0	4,374	221	19,767	19,684	24,463	19,904
2003	116	0	0	0	0	0	2,319	2,585	42,957	167,434	45,392	170,019
2004	62	0	634	0	0	0	11,945	741	39,467	175,743	52,108	176,484
2005	108	0	2,094	428	0	0	33,531	13,258	25,550	13,247	61,283	26,932
2006	29	0	2,626	2,731	0	0	3,133	0	99,603	16,396	105,390	19,127
2007	74	0	519	702	0	0	2,485	132	37,383	88,262	40,461	89,096
2008	209	0	1,716	0	0	0	752	258	57,172	114,421	59,849	114,679
2009	91	0	187	5,842	0	0	197	2	48,771	137,499	49,247	143,342
2010	0	0	939	305	0	0	1,601	2,411	24,867	229,353	27,407	232,070
2011	0	0	1,339	0	0	0	6,072	1,975	36,538	29,468	43,949	31,442
2012	0	0	4,154	394	0	0	6,900	37	65,137	183,952	76,192	184,383
2013	0	0	3,148	0	9,260	0	10,775	25	53,968	28,340	77,150	28,365
2014	0	0	1,677	0	0	0	19,997	2,073	54,662	123,821	76,336	125,895
2015	41	0	2,492	0	0	0	17,150	289	86,311	184,373	105,994	184,662
2016	62	0	1,601	0	0	0	5,822	9,438	61,066	49,649	68,552	59,087
2017	41	0	555	0	0	0	12,171	1,825	33,677	76,415	46,444	78,241
2018	276	0	3,401	0	1,111	0	18,088	35	31,364	19,516	54,239	19,552

Table 2. Annual landings (AB1) and discards (B2) of Scamp and Yellowmouth Grouper in numbers of fish by mode and year (MRIP, LACreel, TPWD). Note that catch from the combined private-shore fishing mode in the LA Creel survey is added to the private mode. MRIP Headboat estimates are available from 1981-1985.

Year	Cbt		Hbt		Priv		Shore		Total	
	AB1	B2	AB1	B2	AB1	B2	AB1	B2	AB1	B2
1981	10,137	0	6,340	0	37,194	0	7,213	0	60,884	0
1982	13,353	1,411	8,351	883	80,044	50,137	10,696	24,152	112,445	76,583
1983	20,432	1,089	12,779	681	16,305	0	0	0	49,516	1,771
1984	5,768	1,389	3,608	869	0	0	0	0	9,376	2,257
1985	5,714	7,453	3,563	4,662	11,386	0	0	0	20,663	12,115
1986	22,873	30,041			24,902	24,077	0	0	47,775	54,118
1987	10,150	605			58,366	823	0	0	68,516	1,428
1988	11,175	323			28,352	3,378	0	0	39,527	3,701
1989	12,590	1,858			6,021	0	0	0	18,611	1,858
1990	6,450	4,395			74	36,301	0	0	6,524	40,696
1991	5,170	0			9,703	3,128	0	0	14,873	3,128
1992	10,118	4,443			3,534	27,406	0	0	13,651	31,849
1993	14,397	2,723			9,036	37,345	0	0	23,434	40,068
1994	12,769	2,007			99	10,786	0	5,022	12,868	17,814
1995	4,296	1,922			34	2,859	0	0	4,330	4,780
1996	12,281	114			32	816	0	0	12,313	930
1997	10,200	3,554			4,519	3,471	0	0	14,720	7,025
1998	20,104	1,661			629	2,884	0	0	20,733	4,545
1999	26,794	661			12,935	8,983	0	0	39,730	9,645
2000	5,297	2,153			5,265	61,616	0	0	10,563	63,768
2001	10,311	3,792			3,263	51,082	0	0	13,574	54,874
2002	10,832	8,637			13,631	11,268	0	0	24,463	19,904
2003	11,725	5,886			33,667	164,133	0	0	45,392	170,019
2004	31,443	20,433			20,665	156,051	0	0	52,108	176,484
2005	17,904	6,051			43,379	20,881	0	0	61,283	26,932
2006	17,974	1,650			87,416	17,476	0	0	105,390	19,127
2007	11,912	6,408			28,549	82,688	0	0	40,461	89,096
2008	9,168	9,896			50,681	104,783	0	0	59,849	114,679
2009	12,582	5,081			36,665	138,261	0	0	49,247	143,342
2010	6,260	7,153			21,147	224,917	0	0	27,407	232,070
2011	14,872	1,698			29,077	29,744	0	0	43,949	31,442
2012	11,210	1,370			64,982	183,013	0	0	76,192	184,383
2013	14,262	3,009			62,888	25,356	0	0	77,150	28,365
2014	18,497	5,941			57,838	119,954	0	0	76,336	125,895
2015	13,668	5,988			92,326	178,674	0	0	105,994	184,662
2016	24,430	17,399			44,122	41,688	0	0	68,552	59,087
2017	14,916	5,222			31,528	71,870	0	1,149	46,444	78,241
2018	7,121	2,181			47,118	8,669	0	8,702	54,239	19,552

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				Hbt				Priv				Shore			
	AB1	CV	PSU	Trp	AB1	CV	PSU	Trp	AB1	CV	PSU	Trp	AB1	CV	PSU	Trp
1981	10,137	0.40	76 (9)	610 (18)	6,340	0.48	76 (9)	610 (18)	37,194	0.71	221 (3)	1,780 (3)	7,213	1.00	324 (1)	1,942 (1)
1982	13,353	0.55	76 (6)	597 (10)	8,351	0.55	76 (6)	597 (10)	80,044	0.41	467 (10)	3,773 (12)	10,696	1.00	538 (1)	3,727 (2)
1983	20,432	0.61	123 (12)	1,357 (21)	12,779	0.62	123 (12)	1,357 (21)	16,237	1.00	203 (1)	1,671 (1)	0	0.00	372 (0)	2,603 (0)
1984	5,768	0.46	116 (6)	1,518 (8)	3,608	0.50	116 (6)	1,518 (8)	0	0.00	209 (0)	2,178 (0)	0	0.00	377 (0)	2,906 (0)
1985	5,696	0.68	89 (7)	1,260 (9)	3,563	0.68	89 (7)	1,260 (9)	11,226	1.00	294 (1)	2,696 (2)	0	0.00	497 (0)	3,606 (0)
1986	22,873	0.35	306 (16)	2,446 (41)					22,969	0.54	1,125 (4)	9,392 (4)	0	0.00	424 (0)	2,082 (0)
1987	10,067	0.42	262 (15)	2,245 (18)					58,366	0.75	1,060 (6)	8,344 (6)	0	0.00	371 (0)	2,158 (0)
1988	11,175	0.42	258 (13)	1,727 (13)					28,231	0.35	1,155 (9)	9,084 (10)	0	0.00	601 (0)	3,609 (0)
1989	12,590	0.43	201 (10)	1,324 (11)					6,021	0.73	732 (2)	6,017 (2)	0	0.00	422 (0)	2,941 (0)
1990	6,450	0.89	135 (3)	994 (3)					0	0.00	584 (0)	5,139 (0)	0	0.00	383 (0)	2,498 (0)
1991	5,170	0.84	185 (6)	1,463 (8)					9,703	1.00	630 (1)	5,713 (1)	0	0.00	429 (0)	2,811 (0)
1992	10,118	0.45	356 (16)	2,787 (17)					3,463	0.63	1,199 (3)	13,540 (3)	0	0.00	846 (0)	5,746 (0)
1993	14,397	0.55	180 (8)	1,362 (11)					9,036	0.68	843 (3)	9,610 (3)	0	0.00	899 (0)	7,497 (0)
1994	12,769	0.58	188 (5)	1,468 (10)					0	0.00	841 (0)	11,591 (0)	0	0.00	895 (0)	8,948 (0)
1995	4,296	0.64	178 (4)	1,265 (4)					0	0.00	731 (0)	10,149 (0)	0	0.00	742 (0)	8,011 (0)
1996	12,281	0.59	213 (4)	1,390 (4)					0	0.00	1,041 (0)	12,895 (0)	0	0.00	703 (0)	5,607 (0)
1997	10,200	0.39	368 (23)	2,155 (28)					4,469	0.78	990 (2)	12,918 (2)	0	0.00	654 (0)	5,719 (0)
1998	20,104	0.21	625 (52)	4,294 (69)					606	1.00	1,159 (1)	15,387 (1)	0	0.00	757 (0)	6,598 (0)
1999	26,794	0.20	855 (73)	7,104 (89)					12,935	0.74	1,642 (5)	19,713 (5)	0	0.00	937 (0)	8,775 (0)
2000	5,197	0.24	875 (61)	8,831 (72)					5,011	0.71	1,456 (3)	16,394 (3)	0	0.00	843 (0)	7,275 (0)
2001	10,311	0.18	733 (66)	7,307 (84)					3,023	0.71	1,346 (2)	17,978 (2)	0	0.00	798 (0)	7,364 (0)
2002	10,800	0.14	753 (93)	7,838 (124)					13,587	0.49	1,464 (6)	19,604 (6)	0	0.00	787 (0)	7,485 (0)
2003	11,725	0.15	861 (102)	8,608 (130)					33,551	0.69	1,575 (7)	18,487 (7)	0	0.00	920 (0)	8,029 (0)
2004	31,434	0.32	837 (185)	9,536 (273)					20,612	0.44	1,356 (7)	17,494 (7)	0	0.00	692 (0)	6,486 (0)
2005	17,860	0.12	647 (142)	7,510 (206)					43,315	0.67	1,216 (8)	15,901 (8)	0	0.00	657 (0)	6,422 (0)
2006	17,945	0.17	550 (107)	6,158 (141)					87,416	0.93	1,503 (5)	17,788 (5)	0	0.00	724 (0)	6,551 (0)
2007	11,912	0.17	591 (89)	6,243 (119)					28,475	0.43	1,460 (10)	17,990 (11)	0	0.00	755 (0)	6,773 (0)
2008	9,157	0.22	521 (54)	4,873 (67)					50,483	0.54	1,619 (10)	18,801 (13)	0	0.00	763 (0)	6,695 (0)
2009	12,555	0.32	508 (35)	4,665 (47)					36,601	0.74	1,632 (5)	19,479 (5)	0	0.00	813 (0)	7,343 (0)
2010	6,260	0.29	479 (52)	4,325 (60)					21,147	0.60	1,616 (5)	17,904 (5)	0	0.00	756 (0)	7,281 (0)

Year	Cbt				Hbt				Priv				Shore			
	AB1	CV	PSU	Trp	AB1	CV	PSU	Trp	AB1	CV	PSU	Trp	AB1	CV	PSU	Trp
2011	14,872	0.15	610 (93)	6,068 (135)					29,077	0.38	1,729 (10)	18,468 (11)	0	0.00	786 (0)	7,159 (0)
2012	11,210	0.38	686 (63)	7,193 (89)					64,982	0.39	1,859 (13)	19,601 (14)	0	0.00	843 (0)	8,045 (0)
2013	14,262	0.33	355 (22)	2,751 (28)					62,888	0.29	1,569 (21)	16,259 (22)	0	0.00	637 (0)	6,432 (0)
2014	18,142	0.44	490 (37)	4,661 (47)					56,516	0.36	1,318 (17)	14,753 (20)	0	0.00	409 (0)	4,262 (0)
2015	13,355	0.28	533 (41)	4,650 (56)					90,106	0.61	1,409 (19)	14,729 (20)	0	0.00	425 (0)	4,143 (0)
2016	23,954	0.38	583 (27)	4,531 (46)					42,935	0.47	1,472 (12)	15,141 (13)	0	0.00	675 (0)	4,688 (0)
2017	14,624	0.56	500 (16)	4,295 (23)					31,230	0.55	1,178 (10)	12,857 (10)	0	0.00	548 (0)	4,237 (0)
2018	6,375	0.50	491 (10)	4,223 (12)					44,187	0.38	1,091 (12)	10,561 (13)	0	0.00	529 (0)	4,377 (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				Hbt				Priv				Shore			
	B2	CV	PSU	Trp	B2	CV	PSU	Trp	B2	CV	PSU	Trp	B2	CV	PSU	Trp
1981	0	0.00	76 (0)	610 (0)	0	0.00	76 (0)	610 (0)	0	0.00	221 (0)	1,780 (0)	0	0.00	324 (0)	1,942 (0)
1982	1,411	1.00	76 (1)	597 (1)	883	1.00	76 (1)	597 (1)	50,137	0.45	467 (7)	3,773 (7)	24,152	0.71	538 (2)	3,727 (2)
1983	1,089	0.62	123 (3)	1,357 (3)	681	0.62	123 (3)	1,357 (3)	0	0.00	203 (0)	1,671 (0)	0	0.00	372 (0)	2,603 (0)
1984	1,389	0.64	116 (5)	1,518 (5)	869	0.68	116 (5)	1,518 (5)	0	0.00	209 (0)	2,178 (0)	0	0.00	377 (0)	2,906 (0)
1985	7,453	0.66	89 (4)	1,260 (14)	4,662	0.66	89 (4)	1,260 (14)	0	0.00	294 (0)	2,696 (0)	0	0.00	497 (0)	3,606 (0)
1986	30,041	0.91	306 (5)	2,446 (9)					24,077	1.00	1,125 (1)	9,392 (2)	0	0.00	424 (0)	2,082 (0)
1987	605	1.00	262 (1)	2,245 (3)					823	1.00	1,060 (1)	8,344 (1)	0	0.00	371 (0)	2,158 (0)
1988	323	1.00	258 (1)	1,727 (1)					3,378	1.00	1,155 (1)	9,084 (1)	0	0.00	601 (0)	3,609 (0)
1989	1,858	0.68	201 (3)	1,324 (3)					0	0.00	732 (0)	6,017 (0)	0	0.00	422 (0)	2,941 (0)
1990	4,395	0.48	135 (5)	994 (9)					36,301	0.74	584 (3)	5,139 (3)	0	0.00	383 (0)	2,498 (0)
1991	0	0.00	185 (0)	1,463 (0)					3,128	1.00	630 (1)	5,713 (1)	0	0.00	429 (0)	2,811 (0)
1992	4,443	0.55	356 (4)	2,787 (4)					27,406	0.62	1,199 (4)	13,540 (6)	0	0.00	846 (0)	5,746 (0)
1993	2,723	0.71	180 (2)	1,362 (3)					37,345	0.55	843 (4)	9,610 (10)	0	0.00	899 (0)	7,497 (0)
1994	2,007	0.74	188 (2)	1,468 (2)					10,786	0.84	841 (3)	11,591 (4)	5,022	1.00	895 (1)	8,948 (1)
1995	1,922	0.50	178 (2)	1,265 (4)					2,859	1.00	731 (1)	10,149 (1)	0	0.00	742 (0)	8,011 (0)

Year	Cbt				Hbt				Priv				Shore			
	B2	CV	PSU	Trp	B2	CV	PSU	Trp	B2	CV	PSU	Trp	B2	CV	PSU	Trp
1996	114	0.89	213 (2)	1,390 (2)					816	1.00	1,041 (1)	12,895 (1)	0	0.00	703 (0)	5,607 (0)
1997	3,554	0.95	368 (3)	2,155 (5)					3,471	0.81	990 (2)	12,918 (2)	0	0.00	654 (0)	5,719 (0)
1998	1,661	0.68	625 (4)	4,294 (7)					2,884	0.71	1,159 (2)	15,387 (2)	0	0.00	757 (0)	6,598 (0)
1999	661	0.76	855 (6)	7,104 (8)					8,983	0.61	1,642 (4)	19,713 (6)	0	0.00	937 (0)	8,775 (0)
2000	2,153	0.47	875 (12)	8,831 (14)					61,616	0.90	1,456 (4)	16,394 (5)	0	0.00	843 (0)	7,275 (0)
2001	3,792	0.27	733 (23)	7,307 (48)					51,082	0.79	1,346 (2)	17,978 (7)	0	0.00	798 (0)	7,364 (0)
2002	8,637	0.44	753 (41)	7,838 (77)					11,268	0.54	1,464 (4)	19,604 (7)	0	0.00	787 (0)	7,485 (0)
2003	5,886	0.29	861 (44)	8,608 (72)					164,133	0.43	1,575 (12)	18,487 (20)	0	0.00	920 (0)	8,029 (0)
2004	20,433	0.32	837 (73)	9,536 (116)					156,051	0.38	1,356 (21)	17,494 (38)	0	0.00	692 (0)	6,486 (0)
2005	6,051	0.25	647 (45)	7,510 (88)					20,881	0.42	1,216 (8)	15,901 (11)	0	0.00	657 (0)	6,422 (0)
2006	1,650	0.27	550 (26)	6,158 (45)					17,476	0.52	1,503 (6)	17,788 (9)	0	0.00	724 (0)	6,551 (0)
2007	6,408	0.37	591 (37)	6,243 (64)					82,688	0.35	1,460 (14)	17,990 (26)	0	0.00	755 (0)	6,773 (0)
2008	9,896	0.29	521 (41)	4,873 (83)					104,783	0.41	1,619 (15)	18,801 (26)	0	0.00	763 (0)	6,695 (0)
2009	5,081	0.33	508 (27)	4,665 (43)					138,261	0.52	1,632 (12)	19,479 (21)	0	0.00	813 (0)	7,343 (0)
2010	7,153	0.25	479 (48)	4,325 (88)					224,917	0.41	1,616 (18)	17,904 (29)	0	0.00	756 (0)	7,281 (0)
2011	1,698	0.28	610 (18)	6,068 (25)					29,744	0.48	1,729 (6)	18,468 (9)	0	0.00	786 (0)	7,159 (0)
2012	1,370	0.43	686 (14)	7,193 (18)					183,013	0.69	1,859 (8)	19,601 (20)	0	0.00	843 (0)	8,045 (0)
2013	3,009	0.61	355 (7)	2,751 (9)					25,356	0.59	1,569 (7)	16,259 (9)	0	0.00	637 (0)	6,432 (0)
2014	5,941	0.39	490 (22)	4,661 (33)					119,954	0.33	1,318 (22)	14,753 (45)	0	0.00	409 (0)	4,262 (0)
2015	5,988	0.35	533 (21)	4,650 (31)					178,674	0.55	1,409 (20)	14,729 (41)	0	0.00	425 (0)	4,143 (0)
2016	17,399	0.81	583 (11)	4,531 (24)					41,688	0.38	1,472 (12)	15,141 (13)	0	0.00	675 (0)	4,688 (0)
2017	5,222	0.67	500 (7)	4,295 (12)					71,872	0.72	1,178 (11)	12,857 (13)	1,149	1.00	548 (1)	4,237 (1)
2018	2,181	0.53	491 (7)	4,223 (11)					8,669	0.94	1,091 (2)	10,561 (3)	8,702	1.00	529 (1)	4,377 (1)

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	60,884	0.46	621 (13)	4,332 (22)	0	0.00	621 (0)	4,332 (0)
1982	112,445	0.33	1,081 (17)	8,097 (24)	76,583	0.37	1,081 (10)	8,097 (10)
1983	49,448	0.52	698 (13)	5,631 (22)	1,771	0.62	698 (3)	5,631 (3)
1984	9,376	0.46	702 (6)	6,602 (8)	2,257	0.63	702 (5)	6,602 (5)
1985	20,485	0.63	880 (8)	7,562 (11)	12,115	0.66	880 (4)	7,562 (14)
1986	45,842	0.32	1,855 (20)	13,920 (45)	54,118	0.67	1,855 (6)	13,920 (11)
1987	68,433	0.64	1,693 (21)	12,747 (24)	1,428	0.72	1,693 (2)	12,747 (4)
1988	39,406	0.28	2,014 (22)	14,420 (23)	3,701	0.92	2,014 (2)	14,420 (2)
1989	18,611	0.37	1,355 (12)	10,282 (13)	1,858	0.68	1,355 (3)	10,282 (3)
1990	6,450	0.89	1,102 (3)	8,631 (3)	40,696	0.66	1,102 (8)	8,631 (12)
1991	14,873	0.72	1,244 (7)	9,987 (9)	3,128	1.00	1,244 (1)	9,987 (1)
1992	13,580	0.37	2,401 (19)	22,073 (20)	31,849	0.54	2,401 (8)	22,073 (10)
1993	23,434	0.43	1,922 (11)	18,469 (14)	40,068	0.52	1,922 (6)	18,469 (13)
1994	12,769	0.58	1,924 (5)	22,007 (10)	17,814	0.59	1,924 (6)	22,007 (7)
1995	4,296	0.64	1,651 (4)	19,425 (4)	4,780	0.63	1,651 (3)	19,425 (5)
1996	12,281	0.59	1,957 (4)	19,892 (4)	930	0.88	1,957 (3)	19,892 (3)
1997	14,670	0.36	2,012 (25)	20,792 (30)	7,025	0.63	2,012 (5)	20,792 (7)
1998	20,710	0.21	2,541 (53)	26,279 (70)	4,545	0.51	2,541 (6)	26,279 (9)
1999	39,730	0.28	3,434 (78)	35,592 (94)	9,645	0.57	3,434 (10)	35,592 (14)
2000	10,209	0.37	3,174 (64)	32,500 (75)	63,768	0.87	3,174 (16)	32,500 (19)
2001	13,334	0.21	2,877 (68)	32,649 (86)	54,874	0.74	2,877 (25)	32,649 (55)
2002	24,387	0.28	3,004 (99)	34,927 (130)	19,904	0.36	3,004 (45)	34,927 (84)
2003	45,276	0.51	3,356 (109)	35,124 (137)	170,019	0.42	3,356 (56)	35,124 (92)
2004	52,046	0.26	2,885 (192)	33,516 (280)	176,484	0.33	2,885 (94)	33,516 (154)
2005	61,175	0.48	2,520 (150)	29,833 (214)	26,932	0.33	2,520 (53)	29,833 (99)
2006	105,361	0.77	2,777 (112)	30,497 (146)	19,127	0.48	2,777 (32)	30,497 (54)
2007	40,387	0.31	2,806 (99)	31,006 (130)	89,096	0.33	2,806 (51)	31,006 (90)
2008	59,640	0.46	2,903 (64)	30,369 (80)	114,679	0.37	2,903 (56)	30,369 (109)
2009	49,156	0.56	2,953 (40)	31,487 (52)	143,342	0.50	2,953 (39)	31,487 (64)
2010	27,407	0.47	2,851 (57)	29,510 (65)	232,070	0.40	2,851 (66)	29,510 (117)
2011	43,949	0.26	3,125 (103)	31,695 (146)	31,442	0.46	3,125 (24)	31,695 (34)
2012	76,192	0.34	3,388 (76)	34,839 (103)	184,383	0.68	3,388 (22)	34,839 (38)
2013	77,150	0.25	2,561 (43)	25,442 (50)	28,365	0.53	2,561 (14)	25,442 (18)
2014	74,659	0.29	2,217 (54)	23,676 (67)	125,895	0.32	2,217 (44)	23,676 (78)
2015	103,461	0.53	2,367 (60)	23,522 (76)	184,662	0.53	2,367 (41)	23,522 (72)
2016	66,889	0.33	2,730 (39)	24,360 (59)	59,087	0.36	2,730 (23)	24,360 (37)
2017	45,854	0.42	2,226 (26)	21,389 (33)	78,243	0.66	2,226 (19)	21,389 (26)
2018	50,562	0.34	2,111 (22)	19,161 (25)	19,552	0.61	2,111 (10)	19,161 (15)

Table 6. *Estimated landings of Scamp and Yellowmouth Grouper in pounds whole weight by state and year (MRIP, LACreel, TPWD). FLW excludes the Florida Keys.*

Year	TX	LA	MS	AL	FLW	Total
1981		0	0	7,918	105,883	113,801
1982		0	43,832	66,131	136,663	246,626
1983	285	0	0	1,474	200,820	202,578
1984	0	0	0	0	32,298	32,298
1985	614	0	0	0	72,758	73,372
1986	7,626	0	0	0	196,253	203,879
1987	295	35,642	0	0	243,333	279,270
1988	438	0	0	13,414	131,151	145,003
1989	0	0	0	70	85,867	85,937
1990	268	0	0	0	23,361	23,629
1991	0	1,521	0	72	46,598	48,192
1992	312	3,381	0	1,354	55,675	60,722
1993	0	512	0	6,852	121,203	128,566
1994	374	0	0	316	52,380	53,071
1995	156	1,593	0	52	13,915	15,716
1996	116	0	0	136	44,347	44,599
1997	347	11,659	0	313	92,136	104,455
1998	142	0	0	7,680	127,196	135,017
1999	0	8,436	0	1,172	149,125	158,733
2000	1,521	4,900	0	3,355	34,130	43,906
2001	1,118	14,147	0	1,717	47,461	64,443
2002	285	920	0	16,385	75,157	92,747
2003	486	0	0	8,039	149,422	157,946
2004	184	2,172	0	41,735	93,425	137,516
2005	368	6,405	0	86,851	77,003	170,626
2006	96	14,858	0	7,722	301,658	324,334
2007	229	1,605	0	8,353	92,444	102,631
2008	798	6,128	0	2,686	239,147	248,760
2009	376	775	0	814	200,243	202,208
2010	0	3,128	0	5,331	80,987	89,445
2011	0	3,474	0	15,206	91,859	110,539
2012	0	21,766	0	23,113	187,403	232,282
2013	0	12,347	35,295	38,787	179,884	266,312
2014	0	5,834	0	81,655	179,575	267,064
2015	141	8,673	0	72,615	264,885	346,314
2016	265	6,854	0	22,892	219,372	249,383
2017	185	2,510	0	61,630	130,623	194,949
2018	1,184	14,588	4,765	73,996	136,783	231,315

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. LA lengths are available from MRIP only until 2013. FLW excludes the Florida Keys.

	LA					MS					AL					FLW				
Year	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max
1981	0	0	0	0	0	0	0	0	0	0	1	1	500	500	500	49	21	280	366	680
1982	0	0	0	0	0	25	4	280	309	380	9	4	247	331	572	18	16	275	408	610
1983	0	0	0	0	0	0	0	0	0	0	1	1	510	510	510	28	21	280	478	680
1984	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	8	325	430	610
1985	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	11	305	511	660
1986	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	78	45	270	466	613
1987	2	1	270	298	325	0	0	0	0	0	0	0	0	0	0	35	23	260	431	655
1988	0	0	0	0	0	0	0	0	0	0	6	3	375	498	648	36	20	270	416	655
1989	0	0	0	0	0	0	0	0	0	0	2	2	352	375	398	23	11	268	427	521
1990	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	3	320	397	466
1991	5	2	298	331	387	0	0	0	0	0	1	1	538	538	538	11	6	320	446	658
1992	5	4	315	415	475	0	0	0	0	0	12	6	358	461	540	21	10	374	455	692
1993	1	1	400	400	400	0	0	0	0	0	3	2	485	548	620	46	11	334	435	634
1994	0	0	0	0	0	0	0	0	0	0	1	1	373	373	373	21	9	328	453	665
1995	1	1	445	445	445	0	0	0	0	0	1	1	453	453	453	2	2	328	376	424
1996	0	0	0	0	0	0	0	0	0	0	1	1	380	380	380	5	3	453	540	643
1997	3	2	570	603	630	0	0	0	0	0	1	1	408	408	408	76	27	334	468	622
1998	0	0	0	0	0	0	0	0	0	0	7	5	245	428	630	159	65	350	497	745
1999	6	5	387	554	850	0	0	0	0	0	6	3	343	531	685	299	86	295	460	760
2000	4	3	400	698	890	0	0	0	0	0	4	4	320	370	450	125	68	223	458	728
2001	3	3	381	600	875	0	0	0	0	0	9	6	325	419	559	269	77	328	498	835
2002	9	6	371	518	702	0	0	0	0	0	14	10	340	425	692	310	114	225	462	816
2003	0	0	0	0	0	0	0	0	0	0	13	12	315	388	455	379	125	225	452	822
2004	4	3	379	416	474	0	0	0	0	0	69	22	337	462	786	645	255	325	440	817
2005	13	5	406	485	660	0	0	0	0	0	47	27	302	422	832	460	182	290	448	840
2006	33	12	349	521	737	0	0	0	0	0	40	15	336	436	625	299	119	335	446	892
2007	3	3	367	380	391	0	0	0	0	0	28	13	355	459	568	241	114	361	442	810
2008	7	3	361	474	524	0	0	0	0	0	11	5	375	444	584	165	72	345	476	712
2009	1	1	500	500	500	0	0	0	0	0	1	1	390	390	390	127	50	366	496	760
2010	7	2	405	536	772	0	0	0	0	0	7	7	352	408	505	101	56	349	451	748
2011	9	1	404	429	476	0	0	0	0	0	27	14	377	423	507	373	131	338	428	642

Year	LA					MS					AL					FLW				
	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max
2012	25	7	423	541	763	0	0	0	0	0	5	5	423	470	515	185	91	361	458	717
2013	9	4	420	582	834	5	1	549	632	769	28	14	365	484	640	87	31	364	475	705
2014						0	0	0	0	0	25	13	348	483	758	123	53	343	458	694
2015						0	0	0	0	0	36	15	363	500	685	128	61	360	457	723
2016						0	0	0	0	0	20	7	345	500	620	145	52	360	513	751
2017						0	0	0	0	0	24	10	373	525	658	41	23	338	493	694
2018						1	1	444	444	444	43	10	337	488	620	27	14	338	499	694

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. LA weights are available from MRIP only until 2013. FLW excludes the Florida Keys.

Year	LA					MS					AL					FLW				
	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max
1981	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	1	1	6.6	6.6	6.6	49	21	0.9	1.9	11.5
1982	0	0	0.0	0.0	0.0	25	4	1.0	1.3	2.2	9	4	0.9	1.7	5.5	18	16	0.7	3.0	10.4
1983	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	1	1	4.9	4.9	4.9	28	21	0.9	4.3	10.9
1984	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	16	8	1.1	2.8	6.3
1985	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	11	0.9	4.9	8.9
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	78	45	0.5	3.9	8.1
1987	2	1	0.4	0.8	1.1	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	35	23	0.7	3.7	11.5
1988	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0	3	0.0	0.0	0.0	15	20	0.6	2.5	5.4

Year	LA					MS					AL					FLW				
	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max
1989	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	1	2	2.0	2.0	2.0	23	11	0.7	4.3	8.2
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	4	3	1.3	3.4	5.9
1991	5	2	1.6	2.2	2.9	0	0	0.0	0.0	0.0	1	1	7.6	7.6	7.6	11	6	1.3	3.3	7.9
1992	4	4	2.4	3.1	3.4	0	0	0.0	0.0	0.0	12	6	2.1	5.0	9.2	21	10	1.9	4.6	11.4
1993	1	1	2.8	2.8	2.8	0	0	0.0	0.0	0.0	3	2	3.7	5.7	8.0	46	11	1.2	4.9	17.1
1994	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	1	1	2.3	2.3	2.3	21	9	1.1	4.1	10.3
1995	1	1	4.4	4.4	4.4	0	0	0.0	0.0	0.0	1	1	4.3	4.3	4.3	2	2	1.2	2.5	3.9
1996	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	1	1	2.2	2.2	2.2	5	3	3.7	5.7	9.0
1997	3	2	9.5	10.7	12.9	0	0	0.0	0.0	0.0	1	1	8.3	8.3	8.3	76	27	2.0	6.9	16.6
1998	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	7	5	0.7	5.5	12.1	159	65	1.1	6.1	17.1
1999	6	5	2.3	7.0	16.0	0	0	0.0	0.0	0.0	6	3	3.6	16.0	28.5	299	86	0.8	3.8	15.5
2000	4	3	1.6	14.7	28.6	0	0	0.0	0.0	0.0	4	4	1.4	2.7	5.7	125	68	0.6	4.0	16.2
2001	3	3	1.7	8.8	19.1	0	0	0.0	0.0	0.0	9	6	1.4	4.3	10.0	269	77	1.1	4.6	18.1
2002	9	6	2.5	5.8	10.5	0	0	0.0	0.0	0.0	14	10	0.9	4.1	18.7	310	114	0.8	3.7	15.3
2003	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	13	12	1.4	3.1	4.7	379	125	0.8	3.5	17.4
2004	4	3	1.8	2.3	3.3	0	0	0.0	0.0	0.0	69	22	1.0	3.5	16.6	645	255	1.0	2.9	18.5
2005	13	5	1.9	3.9	10.1	0	0	0.0	0.0	0.0	47	27	1.3	2.5	16.9	460	182	1.0	3.0	18.6
2006	33	12	1.2	5.6	17.1	0	0	0.0	0.0	0.0	40	15	1.1	2.6	7.7	299	119	1.2	3.0	19.5
2007	3	3	1.7	1.8	2.1	0	0	0.0	0.0	0.0	28	13	1.2	3.2	5.5	241	114	1.4	3.0	16.3
2008	7	3	1.8	3.3	4.2	0	0	0.0	0.0	0.0	11	5	1.4	2.9	6.0	165	72	1.3	3.6	11.7
2009	1	1	3.6	3.6	3.6	0	0	0.0	0.0	0.0	1	1	1.7	1.7	1.7	127	50	1.5	4.2	13.4
2010	7	2	1.8	5.2	12.9	0	0	0.0	0.0	0.0	7	7	1.3	2.2	4.5	101	56	1.2	3.3	13.5
2011	9	1	3.5	4.0	5.1	0	0	0.0	0.0	0.0	27	14	1.7	2.5	4.4	373	131	1.2	2.6	9.5
2012	25	7	2.5	5.3	11.7	0	0	0.0	0.0	0.0	5	5	2.0	3.2	4.9	185	91	1.4	3.1	12.0
2013	9	4	2.3	6.7	16.5	5	1	5.2	8.3	14.4	28	14	1.6	3.6	8.3	87	31	1.4	3.4	10.2
2014						0	0	0.0	0.0	0.0	25	13	1.4	4.1	14.0	123	53	1.1	3.3	10.7
2015						0	0	0.0	0.0	0.0	36	15	1.4	4.2	11.0	128	61	1.5	3.2	12.5
2016						0	0	0.0	0.0	0.0	20	7	0.9	4.0	7.2	145	52	1.3	4.3	12.3
2017						0	0	0.0	0.0	0.0	24	10	1.8	5.0	8.8	41	23	1.5	4.2	10.8
2018						1	1	3.1	3.1	3.1	43	10	2.2	4.2	8.3	27	14	1.5	4.4	10.8

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. MRIP Headboat estimates are available from 1981-1985.

Year	Cbt					Hbt					Priv					Shore				
	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max
1981	11	3	320	363	416	31	15	280	359	670	7	3	335	433	680	1	1	290	290	290
1982	2	2	410	510	610	9	8	320	412	580	37	12	247	329	600	4	2	247	285	315
1983	6	2	510	599	680	21	19	315	461	623	2	1	280	310	340	0	0	0	0	0
1984	1	1	350	350	350	15	7	325	435	610	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	9	9	305	512	660	2	2	360	507	654	0	0	0	0	0
1986	72	41	270	471	613						6	4	330	406	600	0	0	0	0	0
1987	29	18	285	451	655						8	6	260	326	390	0	0	0	0	0
1988	32	13	270	430	655						10	10	367	420	521	0	0	0	0	0
1989	23	11	320	431	521						2	2	268	324	381	0	0	0	0	0
1990	4	3	320	397	466						0	0	0	0	0	0	0	0	0	0
1991	16	8	298	420	658						1	1	379	379	379	0	0	0	0	0
1992	34	17	315	444	658						4	3	400	510	692	0	0	0	0	0
1993	42	11	378	448	634						8	3	334	403	620	0	0	0	0	0
1994	22	10	328	449	665						0	0	0	0	0	0	0	0	0	0
1995	4	4	328	412	453						0	0	0	0	0	0	0	0	0	0
1996	6	4	380	513	643						0	0	0	0	0	0	0	0	0	0
1997	77	28	334	470	630						3	2	500	526	570	0	0	0	0	0
1998	164	69	350	498	745						2	1	245	249	253	0	0	0	0	0
1999	301	89	315	466	850						10	5	295	381	480	0	0	0	0	0
2000	130	72	223	464	890						3	3	355	406	462	0	0	0	0	0
2001	279	84	325	496	875						2	2	381	463	545	0	0	0	0	0
2002	323	124	315	464	816						10	6	225	402	692	0	0	0	0	0
2003	377	130	284	452	822						15	7	225	381	455	0	0	0	0	0
2004	702	273	333	443	817						16	7	325	394	449	0	0	0	0	0
2005	506	206	290	446	840						14	8	357	467	832	0	0	0	0	0
2006	362	141	335	452	892						10	5	357	447	625	0	0	0	0	0
2007	253	119	355	445	810						19	11	382	420	505	0	0	0	0	0
2008	160	67	345	471	705						23	13	361	493	712	0	0	0	0	0
2009	116	47	377	494	760						13	5	366	507	712	0	0	0	0	0

Year	Cbt					Hbt					Priv					Shore				
	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max
2010	105	60	349	454	772						10	5	369	447	544	0	0	0	0	0
2011	394	135	338	428	642						15	11	369	434	533	0	0	0	0	0
2012	184	89	361	471	763						31	14	401	452	535	0	0	0	0	0
2013	89	28	365	482	834						40	22	364	510	769	0	0	0	0	0
2014	103	46	343	461	758						45	20	376	465	751	0	0	0	0	0
2015	111	56	360	468	723						53	20	392	464	614	0	0	0	0	0
2016	140	46	345	519	751						25	13	360	471	593	0	0	0	0	0
2017	47	23	338	507	694						18	10	404	499	584	0	0	0	0	0
2018	37	12	338	502	694						34	13	337	481	650	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. MRIP Headboat estimates are available from 1981-1985.

Year	Cbt					Hbt					Priv					Shore				
	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max
1981	11	3	1.0	1.6	2.5	31	15	0.9	1.7	9.3	7	3	1.1	3.9	11.5	1	1	1.1	1.1	1.1
1982	2	2	2.5	5.6	8.7	9	8	0.9	2.5	5.5	37	12	0.7	1.7	10.4	4	2	0.9	1.2	1.5
1983	6	2	4.9	7.7	10.9	21	19	0.9	3.6	8.5	2	1	1.1	1.3	1.4	0	0	0.0	0.0	0.0
1984	1	1	2.1	2.1	2.1	15	7	1.1	2.8	6.3	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0
1985	0	0	0.0	0.0	0.0	9	9	0.9	4.9	8.9	2	2	1.1	5.0	8.8	0	0	0.0	0.0	0.0
1986	72	41	0.5	4.0	8.1						6	4	1.1	2.6	6.9	0	0	0.0	0.0	0.0
1987	29	18	1.1	4.2	11.5						8	6	0.4	1.2	2.0	0	0	0.0	0.0	0.0
1988	13	13	0.6	2.6	5.4						2	10	1.8	2.1	2.4	0	0	0.0	0.0	0.0
1989	22	11	1.8	4.5	8.2						2	2	0.7	1.3	2.0	0	0	0.0	0.0	0.0
1990	4	3	1.3	3.4	5.9						0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0
1991	16	8	1.3	3.3	7.9						1	1	2.0	2.0	2.0	0	0	0.0	0.0	0.0
1992	33	17	1.9	4.5	11.4						4	3	2.2	4.9	10.7	0	0	0.0	0.0	0.0
1993	42	11	2.6	5.4	17.1						8	3	1.2	2.5	8.0	0	0	0.0	0.0	0.0
1994	22	10	1.1	4.0	10.3						0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0

Year	Cbt					Hbt					Priv					Shore				
	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max
1995	4	4	1.2	3.4	4.4						0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0
1996	6	4	2.2	5.1	9.0						0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0
1997	77	28	2.0	7.1	16.6						3	2	3.9	5.8	9.5	0	0	0.0	0.0	0.0
1998	164	69	1.1	6.2	17.1						2	1	0.7	0.7	0.7	0	0	0.0	0.0	0.0
1999	301	89	0.9	4.2	28.5						10	5	0.8	2.2	4.9	0	0	0.0	0.0	0.0
2000	130	72	0.6	4.4	28.6						3	3	1.4	2.1	3.4	0	0	0.0	0.0	0.0
2001	279	84	1.1	4.7	19.1						2	2	1.7	3.6	5.5	0	0	0.0	0.0	0.0
2002	323	124	0.9	3.7	15.3						10	6	0.8	3.7	18.7	0	0	0.0	0.0	0.0
2003	377	130	1.0	3.5	17.4						15	7	0.8	2.2	4.7	0	0	0.0	0.0	0.0
2004	702	273	1.0	3.0	18.5						16	7	1.2	2.0	2.8	0	0	0.0	0.0	0.0
2005	506	206	1.0	3.0	18.6						14	8	1.4	3.8	16.9	0	0	0.0	0.0	0.0
2006	362	141	1.1	3.2	19.5						10	5	1.4	3.1	7.7	0	0	0.0	0.0	0.0
2007	253	119	1.2	3.0	16.3						19	11	1.6	2.3	3.1	0	0	0.0	0.0	0.0
2008	160	67	1.3	3.5	11.7						23	13	1.8	3.8	10.9	0	0	0.0	0.0	0.0
2009	116	47	1.6	4.2	13.4						13	5	1.5	4.2	10.9	0	0	0.0	0.0	0.0
2010	105	60	1.2	3.3	13.5						10	5	1.8	3.2	4.6	0	0	0.0	0.0	0.0
2011	394	135	1.2	2.6	9.5						15	11	1.8	2.8	5.4	0	0	0.0	0.0	0.0
2012	184	89	1.4	3.4	12.0						31	14	1.9	2.9	5.4	0	0	0.0	0.0	0.0
2013	89	28	1.6	3.6	16.5						40	22	1.4	4.5	14.4	0	0	0.0	0.0	0.0
2014	103	46	1.1	3.4	14.0						45	20	1.7	3.4	13.4	0	0	0.0	0.0	0.0
2015	111	56	1.4	3.6	12.5						53	20	1.9	3.2	8.4	0	0	0.0	0.0	0.0
2016	140	46	0.9	4.5	12.3						25	13	1.3	3.3	6.4	0	0	0.0	0.0	0.0
2017	47	23	1.5	4.7	10.8						18	10	1.9	3.9	6.4	0	0	0.0	0.0	0.0
2018	37	12	1.5	4.4	10.8						34	13	1.5	4.2	9.0	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	50	22	280.0	368.5	680.0	50	22	0.9	2.0	11.5
1982	52	24	247.0	347.1	610.0	52	24	0.7	2.0	10.4
1983	29	22	280.0	478.8	679.9	29	22	0.9	4.3	10.9
1984	16	8	325.0	429.7	610.0	16	8	1.1	2.8	6.3
1985	11	11	305.0	511.1	660.0	11	11	0.9	4.9	8.9
1986	78	45	270.0	466.3	613.0	78	45	0.5	3.9	8.1
1987	37	24	260.0	424.2	655.0	37	24	0.4	3.6	11.5
1988	42	23	270.0	427.5	655.0	15	23	0.6	2.5	5.4
1989	25	13	268.0	422.7	521.4	24	13	0.7	4.2	8.2
1990	4	3	320.0	396.8	466.0	4	3	1.3	3.4	5.9
1991	17	9	298.0	417.2	658.0	17	9	1.3	3.3	7.9
1992	38	20	315.0	451.3	691.7	37	20	1.9	4.5	11.4
1993	50	14	334.0	440.9	634.0	50	14	1.2	4.9	17.1
1994	22	10	328.0	449.2	664.7	22	10	1.1	4.0	10.3
1995	4	4	328.0	412.5	453.0	4	4	1.2	3.4	4.4
1996	6	4	380.0	513.0	643.0	6	4	2.2	5.1	9.0
1997	80	30	334.0	472.1	630.0	80	30	2.0	7.0	16.6
1998	166	70	245.0	494.5	745.0	166	70	0.7	6.1	17.1
1999	311	94	295.0	463.1	850.0	311	94	0.8	4.1	28.5
2000	133	75	223.0	462.9	890.0	133	75	0.6	4.3	28.6
2001	281	86	325.0	496.1	875.0	281	86	1.1	4.7	19.1
2002	333	130	225.0	461.8	816.0	333	130	0.8	3.7	18.7
2003	392	137	225.0	449.6	822.0	392	137	0.8	3.5	17.4
2004	718	280	325.0	442.3	817.0	718	280	1.0	3.0	18.5
2005	520	214	290.0	446.3	840.0	520	214	1.0	3.0	18.6
2006	372	146	335.0	451.6	892.0	372	146	1.1	3.2	19.5
2007	272	130	355.0	443.3	810.0	272	130	1.2	3.0	16.3
2008	183	80	345.0	473.9	712.0	183	80	1.3	3.5	11.7
2009	129	52	366.0	495.1	760.0	129	52	1.5	4.2	13.4
2010	115	65	349.0	453.8	772.0	115	65	1.2	3.3	13.5
2011	409	146	338.0	428.1	642.0	409	146	1.2	2.6	9.5
2012	215	103	361.0	468.3	763.0	215	103	1.4	3.4	12.0
2013	129	50	364.0	490.4	834.0	129	50	1.4	3.9	16.5
2014	148	66	343.0	462.6	758.0	148	66	1.1	3.4	14.0
2015	164	76	360.0	466.5	723.0	164	76	1.4	3.5	12.5
2016	165	59	345.0	511.4	751.0	165	59	0.9	4.3	12.3
2017	65	33	338.0	504.6	694.0	65	33	1.5	4.5	10.8
2018	71	25	337.0	491.8	694.0	71	25	1.5	4.3	10.8

Table 12. Summary of length measurements (millimeters total length) from TPWD-intercepted Scamp and Yellowmouth Grouper by mode and year. Summaries include the number of fish measured by TPWD (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					Total				
	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max
1983	0	0	0.0	0.0	0.0	1	1	380.0	380.0	380.0	1	1	380.0	380.0	380.0
1984	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0
1985	1	1	545.0	545.0	545.0	6	3	310.0	359.2	395.0	7	4	310.0	385.7	545.0
1986	0	0	0.0	0.0	0.0	4	2	278.0	488.0	718.0	4	2	278.0	488.0	718.0
1987	3	1	298.0	319.0	333.0	0	0	0.0	0.0	0.0	3	1	298.0	319.0	333.0
1988	0	0	0.0	0.0	0.0	1	1	400.0	400.0	400.0	1	1	400.0	400.0	400.0
1989	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0
1990	0	0	0.0	0.0	0.0	1	1	377.0	377.0	377.0	1	1	377.0	377.0	377.0
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
1992	0	0	0.0	0.0	0.0	1	1	598.0	598.0	598.0	1	1	598.0	598.0	598.0
1993	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0
1994	0	0	0.0	0.0	0.0	2	2	322.0	326.0	330.0	2	2	322.0	326.0	330.0
1995	0	0	0.0	0.0	0.0	2	2	297.0	471.0	645.0	2	2	297.0	471.0	645.0
1996	0	0	0.0	0.0	0.0	1	1	486.0	486.0	486.0	1	1	486.0	486.0	486.0
1997	0	0	0.0	0.0	0.0	2	2	409.0	455.5	502.0	2	2	409.0	455.5	502.0
1998	0	0	0.0	0.0	0.0	1	1	585.0	585.0	585.0	1	1	585.0	585.0	585.0
1999	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0
2000	3	3	426.0	623.7	989.0	5	4	260.0	345.8	577.0	8	7	260.0	450.0	989.0
2001	0	0	0.0	0.0	0.0	2	2	332.0	381.0	430.0	2	2	332.0	381.0	430.0
2002	1	1	444.0	444.0	444.0	2	2	372.0	392.0	412.0	3	3	372.0	409.3	444.0
2003	0	0	0.0	0.0	0.0	3	3	357.0	460.7	655.0	3	3	357.0	460.7	655.0
2004	1	1	735.0	735.0	735.0	2	2	489.0	534.0	579.0	3	3	489.0	601.0	735.0
2005	3	1	809.0	1,025.7	1,176.0	2	2	385.0	406.0	427.0	5	3	385.0	777.8	1,176.0
2006	3	3	678.0	798.7	996.0	0	0	0.0	0.0	0.0	3	3	678.0	798.7	996.0
2007	0	0	0.0	0.0	0.0	4	4	320.0	541.0	985.0	4	4	320.0	541.0	985.0
2008	1	1	404.0	404.0	404.0	7	5	382.0	463.1	587.0	8	6	382.0	455.8	587.0
2009	1	1	352.0	352.0	352.0	2	2	294.0	312.5	331.0	3	3	294.0	325.7	352.0
2010	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0
2011	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0
2012	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0
2013	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0
2014	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0
2015	0	0	0.0	0.0	0.0	1	1	309.0	309.0	309.0	1	1	309.0	309.0	309.0
2016	0	0	0.0	0.0	0.0	3	1	435.0	494.7	535.0	3	1	435.0	494.7	535.0
2017	0	0	0.0	0.0	0.0	1	1	656.0	656.0	656.0	1	1	656.0	656.0	656.0
2018	4	1	477.0	546.0	654.0	6	4	454.0	559.3	717.0	10	5	454.0	554.0	717.0

Table 13. *Recreational Fishing Effort (in angler trips) for Gulf of Mexico anglers by state and year (MRIP, LACreel, TPWD). FLW excludes the Florida Keys.*

Year	TX	LA	MS	AL	FLW	Total
1981		5,443,324	1,500,488	1,961,664	13,455,505	22,360,981
1982		6,258,398	1,886,936	2,018,892	18,191,732	28,355,958
1983	727,764	6,727,736	2,065,413	2,034,552	22,848,132	34,403,597
1984	729,425	6,504,247	1,964,113	1,965,413	22,743,249	33,906,447
1985	906,376	6,572,069	1,946,516	2,051,290	25,159,541	36,635,792
1986	891,397	6,124,846	1,969,197	2,094,987	21,826,444	32,906,871
1987	1,143,146	5,858,078	1,917,560	2,007,343	20,042,042	30,968,169
1988	1,061,428	5,923,422	2,074,776	2,030,477	26,339,313	37,429,416
1989	946,525	5,959,837	2,176,386	2,050,077	26,903,115	38,035,940
1990	891,992	6,522,225	2,614,859	2,189,778	24,985,366	37,204,220
1991	901,729	6,551,479	2,830,732	2,496,457	26,477,891	39,258,288
1992	1,052,178	6,811,348	2,652,416	2,534,167	24,595,371	37,645,480
1993	1,043,953	7,200,313	2,683,955	2,580,832	28,017,878	41,526,931
1994	1,199,294	7,261,962	2,708,473	2,790,868	28,345,613	42,306,210
1995	1,151,485	7,272,037	2,720,561	2,811,817	25,529,805	39,485,705
1996	1,182,323	7,832,054	2,842,940	2,873,857	23,377,101	38,108,275
1997	1,059,881	8,129,630	3,125,302	3,201,557	25,050,957	40,567,327
1998	1,116,153	8,272,438	3,272,402	3,242,880	28,227,763	44,131,636
1999	1,316,355	8,751,059	3,568,584	3,418,511	33,549,976	50,604,485
2000	1,317,594	9,835,541	3,791,218	3,744,313	35,372,305	54,060,971
2001	1,162,347	10,047,817	3,904,563	4,018,024	37,105,431	56,238,182
2002	1,094,893	9,366,820	3,743,348	4,109,359	34,892,546	53,206,966
2003	1,144,936	9,770,130	3,760,258	4,397,398	37,266,771	56,339,493
2004	1,111,706	9,111,752	3,718,305	4,742,003	43,372,355	62,056,121
2005	1,076,335	8,548,931	3,259,936	4,376,978	39,485,123	56,747,303
2006	1,145,863	8,029,154	3,857,950	5,110,383	35,415,725	53,559,075
2007	1,064,739	8,952,616	4,031,282	5,219,235	36,875,663	56,143,535
2008	1,031,906	9,805,845	4,353,513	4,977,530	36,330,561	56,499,355
2009	1,039,396	10,515,738	4,573,165	5,441,596	33,956,273	55,526,168
2010	1,024,125	11,222,564	4,509,351	5,329,293	37,523,527	59,608,860
2011	1,104,640	11,453,646	4,503,301	5,737,821	37,723,812	60,523,220
2012	1,181,357	10,889,486	4,492,747	6,150,613	41,547,562	64,261,765
2013	1,109,216	10,770,452	4,341,700	6,768,525	42,495,503	65,485,396
2014	1,093,165	2,226,868	4,311,510	6,481,789	35,080,654	49,193,986
2015	1,050,013	2,425,434	4,593,570	6,829,718	32,449,032	47,347,767
2016	1,194,809	2,241,734	4,717,914	7,319,601	36,231,155	51,705,213
2017	1,145,628	2,308,352	4,851,754	8,493,330	39,337,618	56,136,682
2018	1,223,566	2,275,932	4,554,960	6,680,646	38,267,376	53,002,480

Table 14. *Recreational Fishing Effort (in angler trips) for Gulf of Mexico anglers by mode and year (MRIP, LACreel, TPWD). Note that effort from the combined private-shore fishing mode in the LA Creel survey has been added to the private mode. MRIP Headboat estimates are available from 1981-1985.*

Year	Cbt	Hbt	Priv	Shore	Total
1981	393,653	184,590	9,788,741	11,993,998	22,360,982
1982	523,703	260,912	11,539,636	16,031,708	28,355,959
1983	577,982	256,493	14,486,938	19,082,184	34,403,597
1984	538,634	242,211	14,092,265	19,033,336	33,906,446
1985	590,627	277,516	15,254,933	20,512,717	36,635,793
1986	568,071		14,774,401	17,564,400	32,906,872
1987	589,079		14,797,442	15,581,648	30,968,169
1988	514,257		17,206,317	19,708,841	37,429,415
1989	598,554		16,639,761	20,797,624	38,035,939
1990	582,562		17,643,786	18,977,872	37,204,220
1991	538,436		17,342,858	21,376,993	39,258,287
1992	562,637		17,960,471	19,122,372	37,645,480
1993	632,103		18,369,691	22,525,138	41,526,932
1994	674,540		18,879,440	22,752,231	42,306,211
1995	767,107		19,483,060	19,235,538	39,485,705
1996	728,968		19,486,760	17,892,546	38,108,274
1997	775,426		20,868,517	18,923,384	40,567,327
1998	770,950		22,378,087	20,982,599	44,131,636
1999	785,377		24,652,366	25,166,742	50,604,485
2000	764,302		24,235,439	29,061,230	54,060,971
2001	779,587		26,736,316	28,722,278	56,238,181
2002	747,306		25,968,811	26,490,849	53,206,966
2003	705,784		26,781,055	28,852,654	56,339,493
2004	784,050		30,051,274	31,220,797	62,056,121
2005	693,307		29,101,391	26,952,605	56,747,303
2006	824,855		27,001,186	25,733,034	53,559,075
2007	867,716		27,430,701	27,845,117	56,143,534
2008	815,284		29,704,327	25,979,743	56,499,354
2009	777,345		28,971,676	25,777,146	55,526,167
2010	598,246		30,041,475	28,969,138	59,608,859
2011	761,822		30,443,129	29,318,268	60,523,219
2012	942,070		31,766,244	31,553,451	64,261,765
2013	872,550		29,690,881	34,921,964	65,485,395
2014	864,446		23,290,379	25,039,160	49,193,985
2015	994,732		22,093,560	24,259,475	47,347,767
2016	1,058,564		23,433,797	27,212,850	51,705,211
2017	1,092,177		24,321,168	30,723,338	56,136,683
2018	1,230,739		22,674,462	29,097,279	53,002,480



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 Gulf of Mexico between 1981 to 1999. The charterboat calibration approach is discussed in Dettloff and Matter (2019; SEDAR64-RD-12).

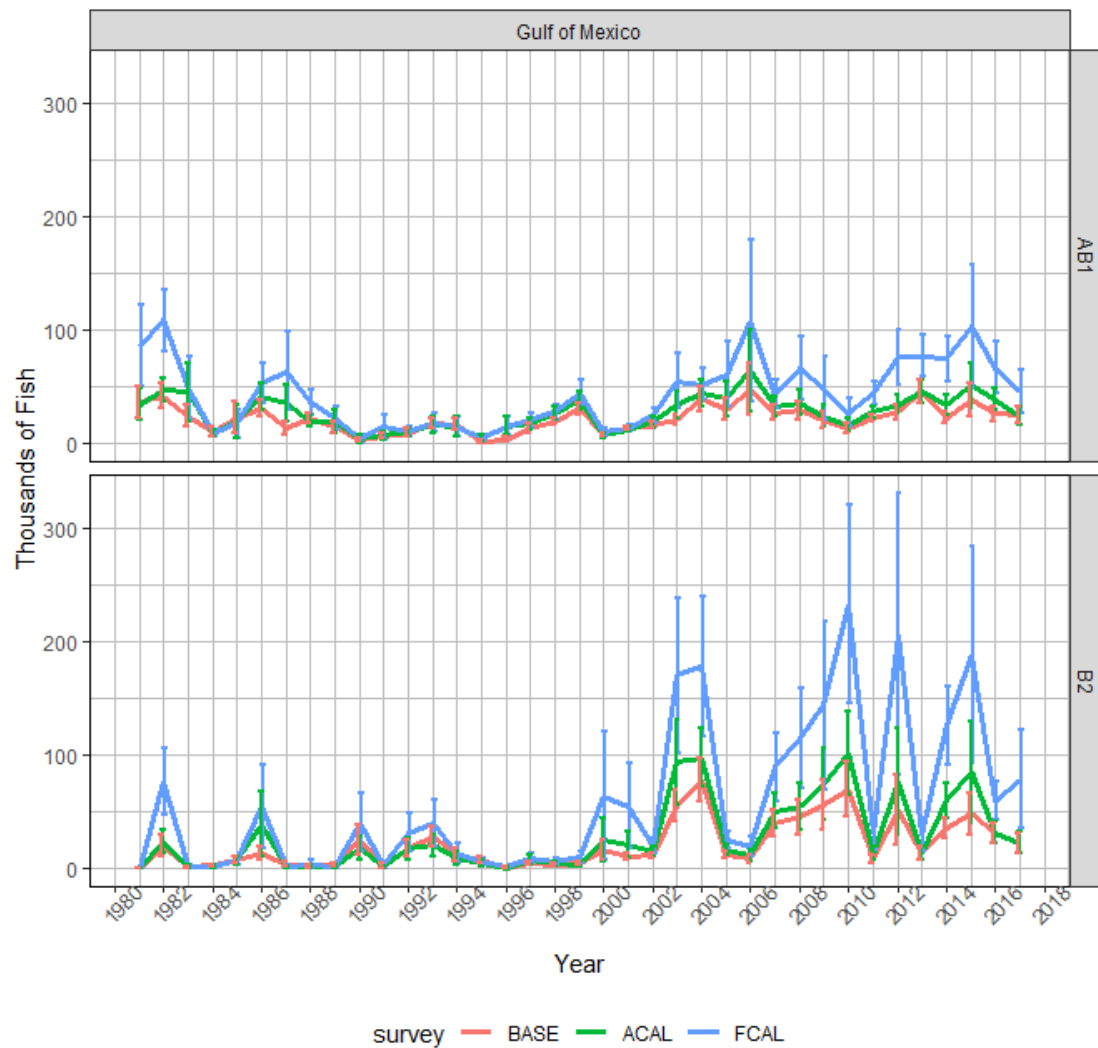


Figure 2. MRIP Base (BASE), APAIS Calibrated (ACAL), and Fully Calibrated APAIS and FES (FCAL) catch estimates for Scamp in the Gulf of Mexico. Landings (AB1) and discard (B2) estimates are in thousands of fish. Estimates in this figure include the Florida Keys as that domain is not separable from those used by the MRIP online comparison tool for the Gulf of Mexico (NMFS).

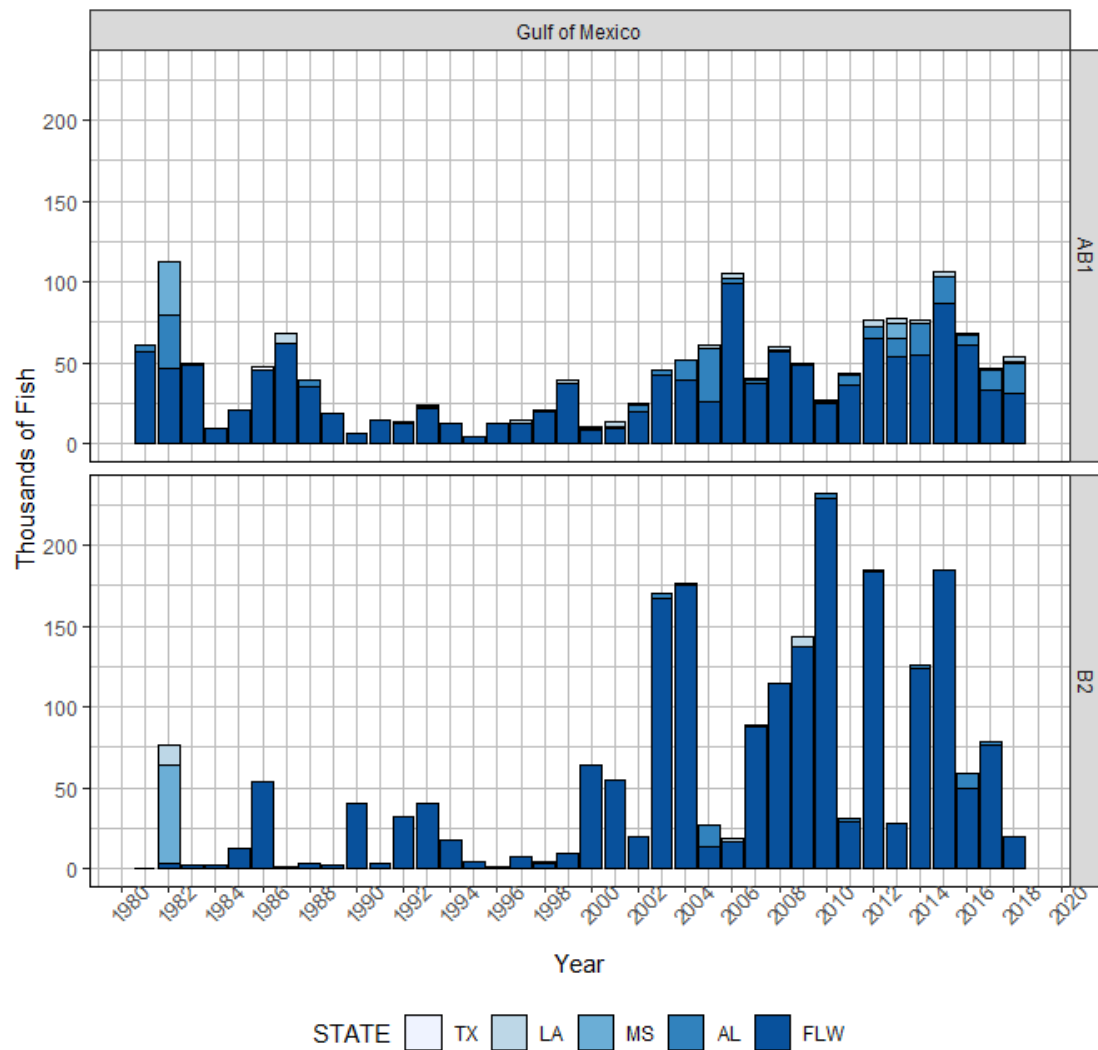


Figure 3. Annual Scamp and Yellowmouth Grouper landings (AB1) and discards (B2), in thousands of fish, by state from 1981 to 2018 (MRIP, TPWD, LACreel). FLW excludes the Florida Keys.

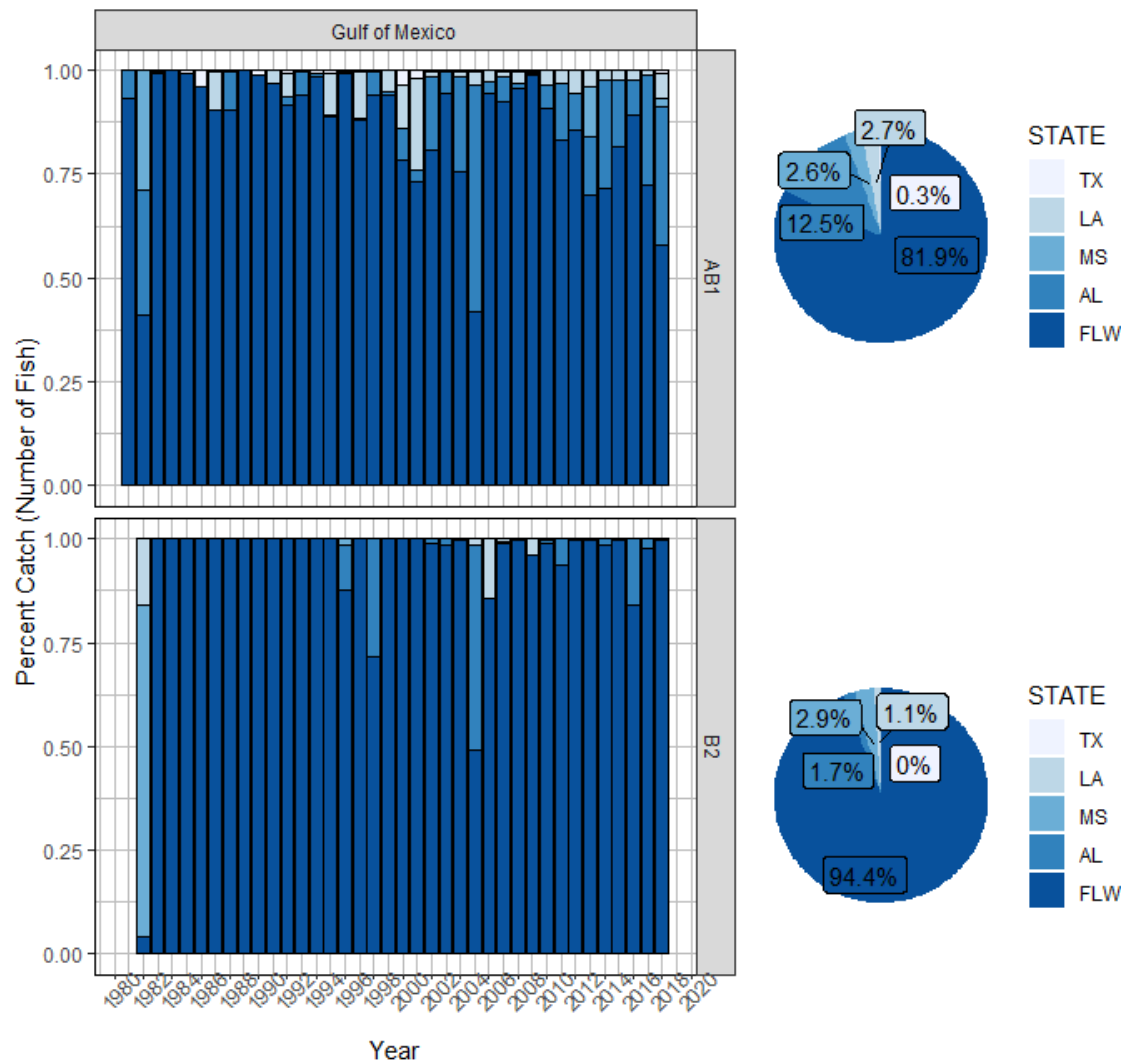


Figure 3a. Percent of Scamp and Yellowmouth Grouper landings (AB1) and discards (B2), in numbers of fish, from each state by year (bar graph) and overall (pie chart) between 1981 and 2018 (MRIP, TPWD, LACreel). FLW excludes the Florida Keys.

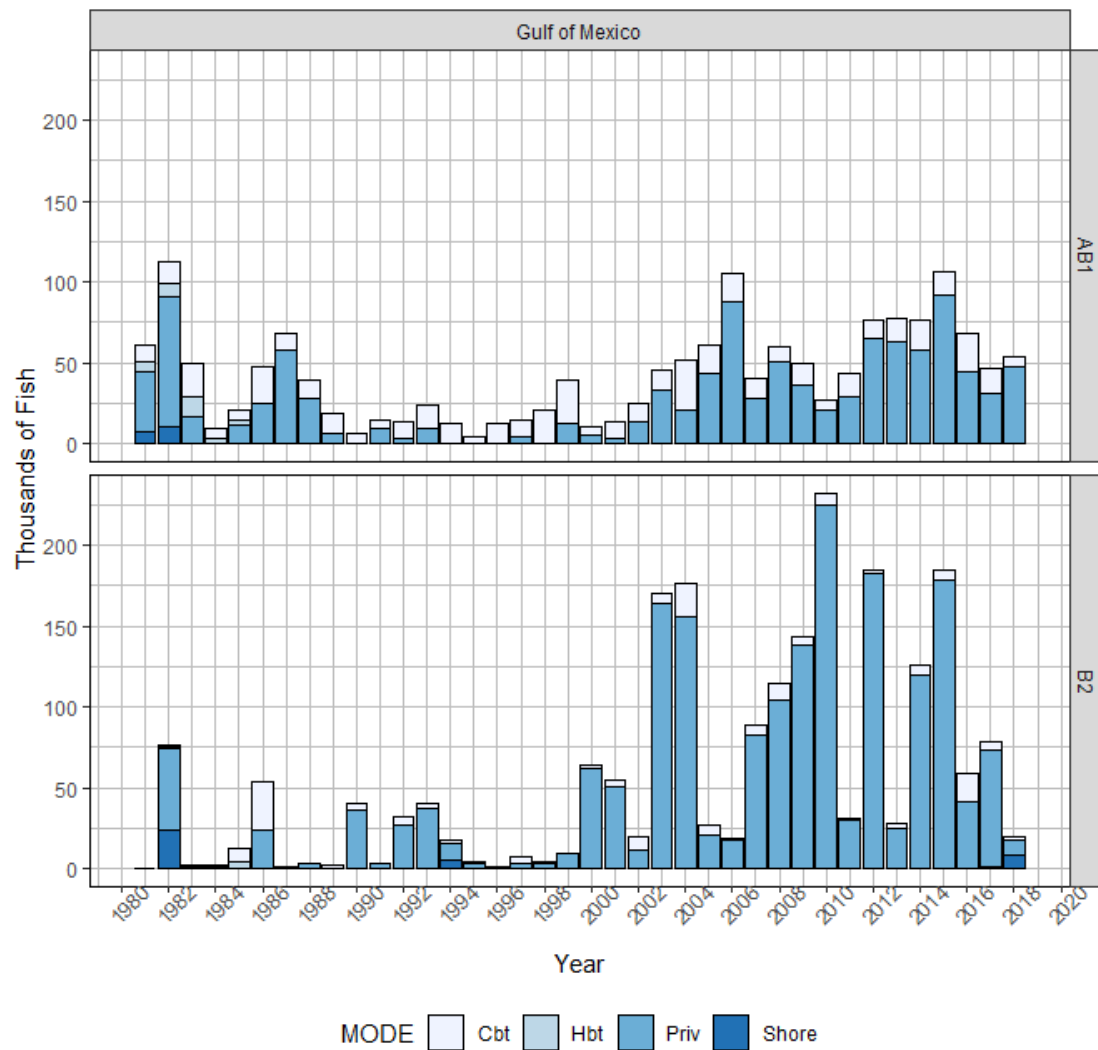


Figure 4. Annual Scamp and Yellowmouth Grouper landings (AB1) and discards (B2), in thousands of fish, by mode from 1981 to 2018 (MRIP, TPWD, LACreel). Note that catch from the combined private-shore fishing mode in the LA Creel survey has been added to the private mode. MRIP Headboat estimates are available from 1981-1985.

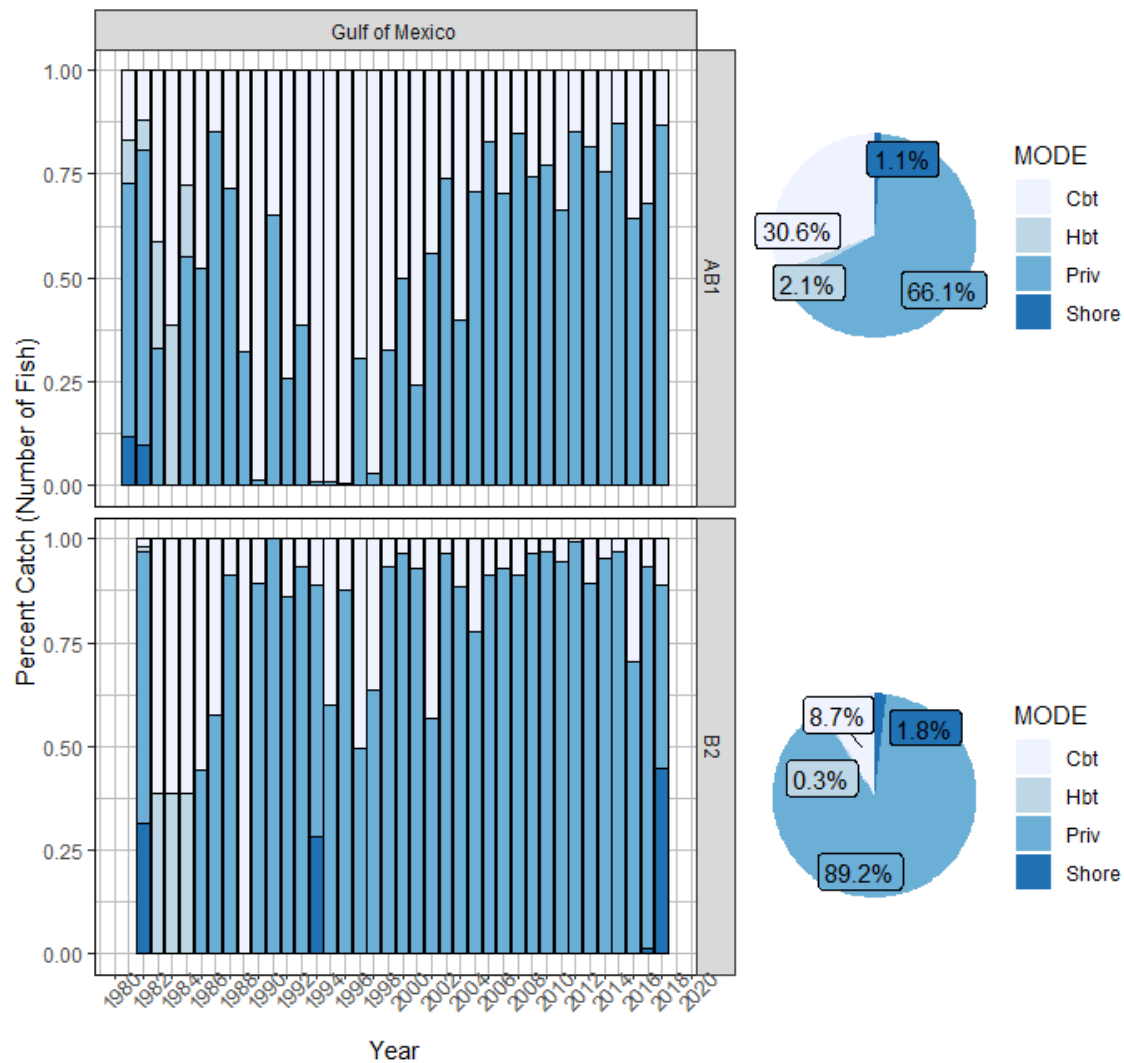


Figure 4a. Percent of Scamp and Yellowmouth Grouper landings (AB1) and discards (B2), in numbers of fish, from each mode by year (bar graph) and overall (pie chart) between 1981 and 2018 (MRIP, TPWD, LACreel). Note that catch from the combined private-shore fishing mode in the LA Creel survey has been added to the private mode. MRIP Headboat estimates are available from 1981-1985.

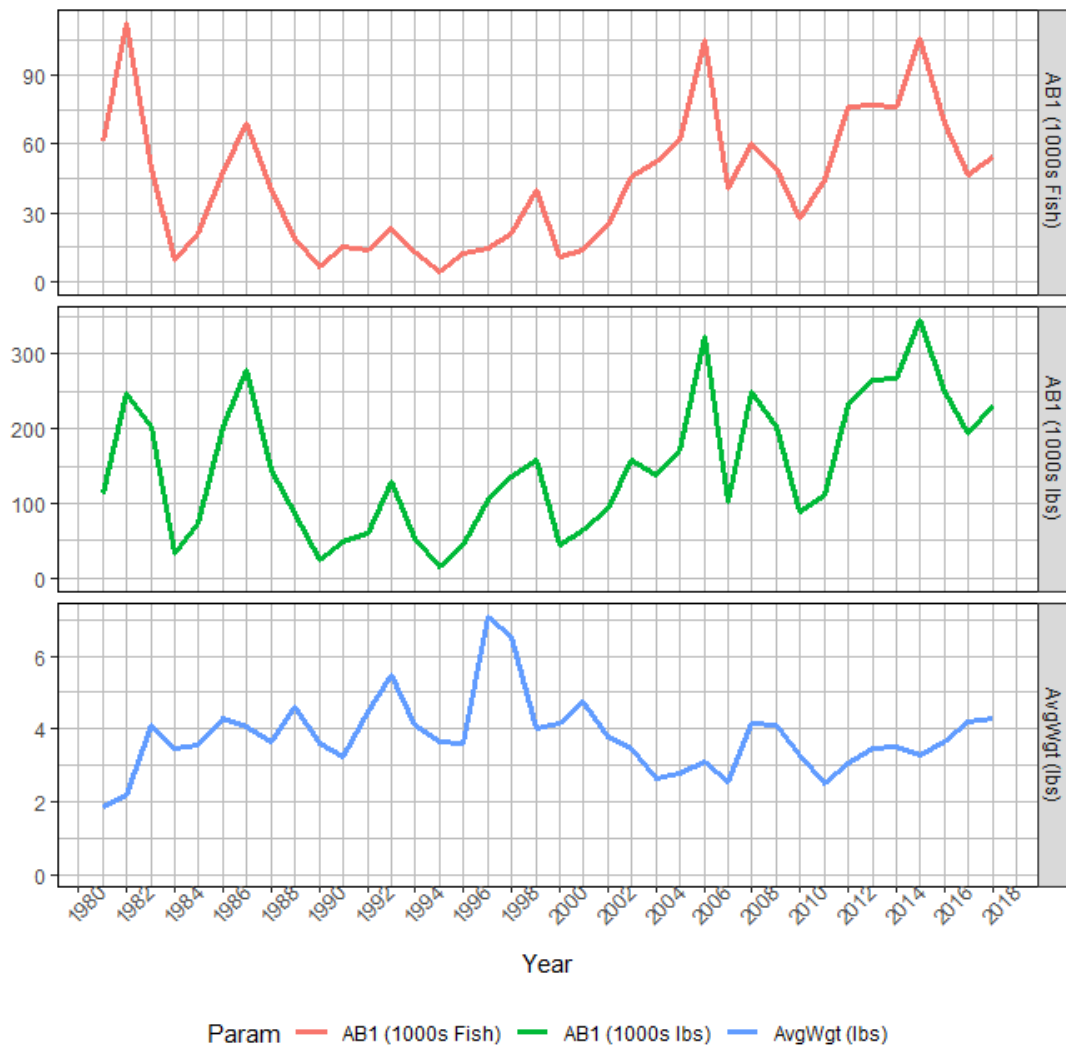


Figure 5. Estimates of annual landings for Scamp and Yellowmouth Grouper in the Gulf of Mexico, as estimated from MRIP: estimated landings in thousands of fish (top), estimated landings in thousands of pounds whole weight (middle), and average weight of landed fish (estimated lbs/estimated fish) (bottom). 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).