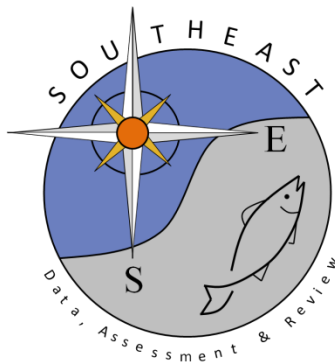


Recreational Survey Data for Snowy Grouper in the South Atlantic

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**Recreational Survey Data for Snowy Grouper
in the South Atlantic**

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

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04-22-2020

Recreational catch estimates for Snowy 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 36-Update recreational catch data:

Species: Snowy Grouper

Year Range: 1981 - 2018

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

Fishing Modes: Charter, Private

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 Snowy Grouper in numbers of fish by state and year (MRIP).

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

Table 3. Snowy Grouper landings in numbers of fish (AB1) with associated coefficients of variation (CV; Dettloff et al. 2020) by mode and year (MRIP). Sample size (SS) is provided as the total number of angler trips intercepted by MRIP samplers within a specified strata and, in parentheses, the number of angler trips that intercepted Snowy Grouper. Intercepted fish include those landed (AB1) and discarded (B2).

Table 4. Snowy Grouper discards in numbers of fish (B2) with associated coefficients of variation (CV; Dettloff et al. 2020) by mode and year (MRIP). Sample size (SS) is provided as the total number of angler trips intercepted by MRIP samplers within a specified strata and, in parentheses, the number of angler trips that intercepted Snowy Grouper. Intercepted fish include those landed (AB1) and discarded (B2).

Table 5. Estimated landings of Snowy Grouper in pounds whole weight by state and year (MRIP).

Table 6. Summary of length measurements (millimeters fork length) from MRIP-intercepted Snowy 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 7. Summary of weight measurements (pounds whole weight) from MRIP-intercepted Snowy 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 8. 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 Snowy Grouper from the Coastal Household Telephone Survey (CHTS) and For-Hire Survey (FHS) from the South Atlantic between 1981 to 2003.

Figure 2. MRIP Base (BASE), APAIS Calibrated (ACAL), and Fully Calibrated APAIS and FES (FCAL) catch estimates for Snowy Grouper 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). Uncertainty estimates of total catch from this tool cannot be stratified by mode and so this figure includes estimates from all MRIP modes, including headboat and shore anglers that are not considered in this assessment.

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

Figure 3a. Percent of Snowy 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 Snowy Grouper landings (AB1) and discards (B2), in thousands of fish, by mode from 1981 to 2018 (MRIP).

Figure 4a. Percent of Snowy 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 Snowy 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).

References

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Table 1. Annual landings (AB1) and discards (B2) of Snowy 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	401,596	0	67,277	0	0	0	0	0	0	0	468,873	0
1982	0	0	0	1,395	0	0	2,095	0	0	0	2,095	1,395
1983	0	0	8,846	0	0	0	0	0	0	0	8,846	0
1984	0	0	7,726	0	0	0	0	0	0	0	7,726	0
1987	0	0	0	6,589	0	0	0	0	985	0	985	6,589
1988	0	0	3,493	0	0	0	0	0	105	0	3,597	0
1990	0	0	0	1,943	0	0	0	0	78	0	78	1,943
1991	0	0	0	0	0	0	0	0	205	0	205	0
1992	0	0	926	929	0	0	0	0	58	0	984	929
1993	0	0	13,439	0	84	0	0	0	0	0	13,523	0
1994	0	0	38	0	0	0	0	0	0	17	38	17
1995	0	0	11,889	2,197	0	0	0	0	0	0	11,889	2,197
1996	0	0	0	1,381	0	0	0	0	205	0	205	1,381
1997	0	0	9,170	0	0	0	0	0	9,442	0	18,612	0
1998	0	0	307	0	0	0	0	0	0	0	307	0
1999	420	47	7,734	612	0	0	0	0	346	0	8,500	659
2000	273	0	322	4,878	0	0	0	0	2,221	0	2,815	4,878
2001	163	11	3,224	2,372	0	0	0	0	12,390	0	15,777	2,383
2002	153	2,914	116	535	0	0	0	0	2,103	0	2,372	3,448
2003	148	0	1,232	1,254	0	0	0	0	3,190	0	4,571	1,254
2004	1,974	29	16,208	1,451	0	0	0	0	4,369	0	22,551	1,480
2005	704	0	23,486	1,235	0	0	0	0	6,708	0	30,898	1,235
2006	0	0	12,735	0	0	0	0	0	1,172	45	13,906	45
2007	1,359	0	5,825	41	0	0	0	0	1,579	929	8,764	970
2008	300	103	107	512	0	0	0	0	2,026	95	2,433	710
2009	7,226	3,487	4,577	1,581	0	0	0	0	1,094	0	12,897	5,068
2010	6,487	0	0	0	0	0	0	0	3,291	79	9,779	79
2011	39	0	0	0	0	0	0	0	47	16	86	16
2012	64,297	0	2,470	3,135	0	0	0	0	466	1,394	67,233	4,529
2013	2,748	2,891	3,697	48	0	0	0	0	152	315	6,596	3,254
2014	4,365	175	27	10,448	0	0	0	0	36	0	4,428	10,622
2015	4,534	195	1,371	0	0	0	0	0	282	989	6,186	1,185
2016	4,595	0	556	632	0	0	0	0	1,299	40	6,449	672
2017	1,322	0	0	0	0	0	0	0	427	42	1,749	42
2018	3,236	352	1,535	1,517	0	0	0	0	413	0	5,184	1,869

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

Year	Cbt		Priv		Total	
	AB1	B2	AB1	B2	AB1	B2
1981	0	0	468,873	0	468,873	0
1982	2,095	0	0	1,395	2,095	1,395
1983	1,559	0	7,288	0	8,846	0
1984	0	0	7,726	0	7,726	0
1987	723	0	262	6,589	985	6,589
1988	105	0	3,493	0	3,597	0
1990	0	0	78	1,943	78	1,943
1991	205	0	0	0	205	0
1992	58	0	926	929	984	929
1993	84	0	13,439	0	13,523	0
1994	38	17	0	0	38	17
1995	952	0	10,938	2,197	11,889	2,197
1996	0	0	205	1,381	205	1,381
1997	46	0	18,566	0	18,612	0
1998	307	0	0	0	307	0
1999	1,492	47	7,008	612	8,500	659
2000	2,815	0	0	4,878	2,815	4,878
2001	12,800	11	2,977	2,372	15,777	2,383
2002	2,372	0	0	3,448	2,372	3,448
2003	3,616	0	954	1,254	4,571	1,254
2004	10,519	141	12,032	1,339	22,551	1,480
2005	7,606	0	23,292	1,235	30,898	1,235
2006	13,906	45	0	0	13,906	45
2007	2,825	970	5,939	0	8,764	970
2008	2,433	213	0	497	2,433	710
2009	1,526	0	11,371	5,068	12,897	5,068
2010	2,601	79	7,177	0	9,779	79
2011	86	16	0	0	86	16
2012	547	1,394	66,686	3,135	67,233	4,529
2013	206	363	6,390	2,891	6,596	3,254
2014	1,545	9	2,883	10,613	4,428	10,622
2015	608	338	5,578	847	6,186	1,185
2016	5,344	40	1,105	632	6,449	672
2017	865	42	884	0	1,749	42
2018	1,570	352	3,613	1,517	5,184	1,869

Table 3. Snowy Grouper landings in numbers of fish (AB1) with associated coefficients of variation (CV; Dettloff et al. 2020) by mode and year (MRIP). Sample size (SS) is provided as the total number of angler trips intercepted by MRIP samplers within a specified strata and, in parentheses, the number of angler trips that intercepted Snowy Grouper. Intercepted fish include those landed (AB1) and discarded (B2).

Year	Cbt			Priv			Total		
	AB1	CV	SS	AB1	CV	SS	AB1	CV	SS
1981	0	0.00	63 (NA)	468,873	0.87	187 (2)	468,873	0.87	250 (2)
1982	2,095	1.00	57 (1)	0	0.00	422 (1)	2,095	1.00	479 (2)
1983	1,559	0.73	169 (2)	7,288	1.00	258 (1)	8,846	0.83	427 (3)
1984	0	0.00	226 (NA)	7,726	1.00	260 (1)	7,726	1.00	486 (1)
1985	0	0.00	161 (NA)	0	0.00	510 (NA)	0	0.00	671 (0)
1986	0	0.00	249 (NA)	0	0.00	832 (NA)	0	0.00	1,081 (0)
1987	723	0.98	396 (2)	262	0.72	1,184 (3)	985	0.75	1,580 (5)
1988	105	0.89	422 (2)	3,493	1.00	1,174 (1)	3,597	0.97	1,596 (3)
1989	0	0.00	447 (NA)	0	0.00	1,102 (NA)	0	0.00	1,549 (0)
1990	0	0.00	323 (NA)	78	1.00	929 (2)	78	1.00	1,252 (2)
1991	205	1.00	409 (1)	0	0.00	890 (NA)	205	1.00	1,299 (1)
1992	58	1.00	561 (1)	926	1.00	1,303 (2)	984	0.94	1,864 (3)
1993	84	1.00	400 (1)	13,439	1.00	1,152 (1)	13,523	0.99	1,552 (2)
1994	38	1.00	491 (2)	0	0.00	1,363 (NA)	38	1.00	1,854 (2)
1995	952	0.75	459 (2)	10,938	1.00	1,345 (1)	11,889	0.92	1,804 (3)
1996	0	0.00	640 (NA)	205	1.00	1,512 (2)	205	1.00	2,152 (2)
1997	46	1.00	806 (1)	18,566	0.61	1,516 (3)	18,612	0.61	2,322 (4)
1998	307	0.80	912 (2)	0	0.00	1,419 (NA)	307	0.80	2,331 (2)
1999	1,492	0.35	998 (17)	7,008	0.72	1,559 (4)	8,500	0.60	2,557 (21)
2000	2,815	0.58	1,065 (9)	0	0.00	1,433 (1)	2,815	0.58	2,498 (10)
2001	12,800	0.59	951 (9)	2,977	0.75	1,618 (3)	15,777	0.50	2,569 (12)
2002	2,372	0.56	1,008 (7)	0	0.00	1,468 (2)	2,372	0.56	2,476 (9)
2003	3,616	0.84	890 (13)	954	1.00	1,407 (2)	4,571	0.70	2,297 (15)
2004	10,519	0.48	682 (12)	12,032	0.67	1,260 (3)	22,551	0.42	1,942 (15)
2005	7,606	0.88	626 (11)	23,292	0.86	1,203 (3)	30,898	0.68	1,829 (14)
2006	13,906	0.67	560 (13)	0	0.00	1,538 (NA)	13,906	0.67	2,098 (13)
2007	2,825	0.29	582 (17)	5,939	0.93	1,374 (2)	8,764	0.64	1,956 (19)
2008	2,433	0.50	729 (15)	0	0.00	1,304 (1)	2,433	0.50	2,033 (16)
2009	1,526	0.37	600 (14)	11,371	0.66	1,303 (5)	12,897	0.58	1,903 (19)
2010	2,601	0.33	775 (24)	7,177	0.64	1,780 (3)	9,779	0.47	2,555 (27)
2011	86	0.63	741 (4)	0	0.00	1,672 (NA)	86	0.63	2,413 (4)
2012	547	0.37	761 (9)	66,686	0.85	1,865 (5)	67,233	0.84	2,626 (14)
2013	206	0.73	418 (5)	6,390	0.58	1,508 (5)	6,596	0.56	1,926 (10)
2014	1,545	0.92	757 (8)	2,883	0.76	1,561 (5)	4,428	0.59	2,318 (13)
2015	608	0.31	818 (13)	5,578	0.57	1,599 (8)	6,186	0.51	2,417 (21)
2016	5,344	0.50	814 (11)	1,105	1.00	1,578 (2)	6,449	0.45	2,392 (13)
2017	865	0.54	731 (8)	884	1.00	1,619 (1)	1,749	0.57	2,350 (9)
2018	1,570	0.54	857 (13)	3,613	0.66	1,546 (4)	5,184	0.49	2,403 (17)

Table 4. Snowy Grouper discards in numbers of fish (B2) with associated coefficients of variation (CV; Dettloff et al. 2020) by mode and year (MRIP). Sample size (SS) is provided as the total number of angler trips intercepted by MRIP samplers within a specified strata and, in parentheses, the number of angler trips that intercepted Snowy Grouper. Intercepted fish include those landed (AB1) and discarded (B2).

Year	Cbt			Priv			Total		
	B2	CV	SS	B2	CV	SS	B2	CV	SS
1981	0	0.00	63 (NA)	0	0.00	187 (2)	0	0.00	250 (2)
1982	0	0.00	57 (1)	1,395	1.00	422 (1)	1,395	1.00	479 (2)
1983	0	0.00	169 (2)	0	0.00	258 (1)	0	0.00	427 (3)
1984	0	0.00	226 (NA)	0	0.00	260 (1)	0	0.00	486 (1)
1985	0	0.00	161 (NA)	0	0.00	510 (NA)	0	0.00	671 (0)
1986	0	0.00	249 (NA)	0	0.00	832 (NA)	0	0.00	1,081 (0)
1987	0	0.00	396 (2)	6,589	1.00	1,184 (3)	6,589	1.00	1,580 (5)
1988	0	0.00	422 (2)	0	0.00	1,174 (1)	0	0.00	1,596 (3)
1989	0	0.00	447 (NA)	0	0.00	1,102 (NA)	0	0.00	1,549 (0)
1990	0	0.00	323 (NA)	1,943	1.00	929 (2)	1,943	1.00	1,252 (2)
1991	0	0.00	409 (1)	0	0.00	890 (NA)	0	0.00	1,299 (1)
1992	0	0.00	561 (1)	929	1.00	1,303 (2)	929	1.00	1,864 (3)
1993	0	0.00	400 (1)	0	0.00	1,152 (1)	0	0.00	1,552 (2)
1994	17	1.00	491 (2)	0	0.00	1,363 (NA)	17	1.00	1,854 (2)
1995	0	0.00	459 (2)	2,197	1.00	1,345 (1)	2,197	1.00	1,804 (3)
1996	0	0.00	640 (NA)	1,381	1.00	1,512 (2)	1,381	1.00	2,152 (2)
1997	0	0.00	806 (1)	0	0.00	1,516 (3)	0	0.00	2,322 (4)
1998	0	0.00	912 (2)	0	0.00	1,419 (NA)	0	0.00	2,331 (2)
1999	47	0.76	998 (17)	612	1.00	1,559 (4)	659	0.93	2,557 (21)
2000	0	0.00	1,065 (9)	4,878	1.00	1,433 (1)	4,878	1.00	2,498 (10)
2001	11	1.00	951 (9)	2,372	1.00	1,618 (3)	2,383	1.00	2,569 (12)
2002	0	0.00	1,008 (7)	3,448	0.86	1,468 (2)	3,448	0.86	2,476 (9)
2003	0	0.00	890 (13)	1,254	1.00	1,407 (2)	1,254	1.00	2,297 (15)
2004	141	0.82	682 (12)	1,339	1.00	1,260 (3)	1,480	0.91	1,942 (15)
2005	0	0.00	626 (11)	1,235	1.00	1,203 (3)	1,235	1.00	1,829 (14)
2006	45	1.00	560 (13)	0	0.00	1,538 (NA)	45	1.00	2,098 (13)
2007	970	0.93	582 (17)	0	0.00	1,374 (2)	970	0.93	1,956 (19)
2008	213	0.66	729 (15)	497	1.00	1,304 (1)	710	0.73	2,033 (16)
2009	0	0.00	600 (14)	5,068	0.76	1,303 (5)	5,068	0.76	1,903 (19)
2010	79	1.00	775 (24)	0	0.00	1,780 (3)	79	1.00	2,555 (27)
2011	16	1.00	741 (4)	0	0.00	1,672 (NA)	16	1.00	2,413 (4)
2012	1,394	1.00	761 (9)	3,135	0.71	1,865 (5)	4,529	0.58	2,626 (14)
2013	363	0.63	418 (5)	2,891	1.00	1,508 (5)	3,254	0.89	1,926 (10)
2014	9	1.00	757 (8)	10,613	0.72	1,561 (5)	10,622	0.71	2,318 (13)
2015	338	0.58	818 (13)	847	1.00	1,599 (8)	1,185	0.73	2,417 (21)
2016	40	1.00	814 (11)	632	1.00	1,578 (2)	672	0.94	2,392 (13)
2017	42	1.00	731 (8)	0	0.00	1,619 (1)	42	1.00	2,350 (9)
2018	352	1.00	857 (13)	1,517	1.00	1,546 (4)	1,869	0.83	2,403 (17)

Table 5. *Estimated landings of Snowy Grouper in pounds whole weight by state and year (MRIP).*

Year	FLKeys	FLE	GA	SC	NC	Total
1981	2,816,113	817,602	0	0	0	3,633,716
1982	0	0	0	25,458	0	25,458
1983	0	107,505	0	0	0	107,505
1984	0	93,890	0	0	0	93,890
1987	0	0	0	0	11,972	11,972
1988	0	42,446	0	0	1,271	43,717
1990	0	0	0	0	946	946
1991	0	0	0	0	2,492	2,492
1992	0	11,251	0	0	709	11,960
1993	0	163,323	1,022	0	0	164,345
1994	0	456	0	0	0	456
1995	0	144,487	0	0	0	144,487
1996	0	0	0	0	2,488	2,488
1997	0	66,523	0	0	59,338	125,861
1998	0	3,730	0	0	0	3,730
1999	2,061	54,234	0	0	2,534	58,829
2000	2,515	3,907	0	0	26,996	33,418
2001	673	16,334	0	0	64,920	81,927
2002	922	704	0	0	15,554	17,180
2003	891	6,772	0	0	17,535	25,198
2004	9,842	72,544	0	0	17,226	99,611
2005	5,075	180,924	0	0	42,641	228,639
2006	0	166,783	0	0	9,806	176,589
2007	4,929	114,143	0	0	37,276	156,347
2008	1,846	799	0	0	13,423	16,069
2009	43,496	81,015	0	0	19,553	144,064
2010	27,620	0	0	0	80,622	108,242
2011	115	0	0	0	573	688
2012	303,510	30,012	0	0	5,667	339,190
2013	15,061	44,923	0	0	1,842	61,827
2014	35,797	324	0	0	438	36,559
2015	42,680	16,656	0	0	3,421	62,757
2016	65,316	6,752	0	0	15,781	87,849
2017	7,958	0	0	0	5,192	13,150
2018	19,480	9,694	0	0	2,608	31,782

Table 6. Summary of length measurements (millimeters fork length) from MRIP-intercepted Snowy 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					NC				
	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max
1981	14	1	505	627	720	5	1	470	622	740	0	0	0	0	0	0	0	0	0	0
1982	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	5	2	429	529	830	0	0	0	0	0	0	0	0	0	0
1984	0	0	0	0	0	1	1	320	320	320	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	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
1987	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	4	290	413	510
1988	0	0	0	0	0	1	1	360	360	360	0	0	0	0	0	2	2	290	296	302
1989	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	0	0	0	0	0	0	0	1	1	360	360	360
1991	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	450	467	489
1992	0	0	0	0	0	1	1	695	695	695	0	0	0	0	0	5	1	450	468	489
1993	0	0	0	0	0	5	1	620	680	771	2	1	620	695	771	0	0	0	0	0
1994	0	0	0	0	0	1	1	650	650	650	0	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	10	3	320	388	430	0	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	323	348	373
1997	0	0	0	0	0	15	3	323	535	765	0	0	0	0	0	13	3	323	494	765
1998	0	0	0	0	0	3	2	570	681	740	0	0	0	0	0	0	0	0	0	0
1999	26	8	322	501	860	25	12	305	487	647	0	0	0	0	0	5	1	534	641	740
2000	12	5	420	627	1,052	4	2	305	455	592	0	0	0	0	0	10	2	427	498	660
2001	9	6	355	532	740	8	4	472	493	521	0	0	0	0	0	40	3	341	505	711
2002	3	2	370	511	740	4	2	328	398	580	0	0	0	0	0	24	3	344	514	810
2003	6	4	432	542	783	12	8	284	486	700	0	0	0	0	0	12	4	355	529	763
2004	14	4	325	468	637	37	10	321	487	651	0	0	0	0	0	17	2	342	484	623
2005	13	7	380	548	686	10	4	437	630	790	0	0	0	0	0	18	2	370	553	883
2006	0	0	0	0	0	43	4	519	698	970	0	0	0	0	0	15	8	421	590	763
2007	18	9	380	501	646	5	4	290	516	720	0	0	0	0	0	40	10	462	807	1,154
2008	8	6	405	581	800	2	2	449	498	548	0	0	0	0	0	48	12	347	570	872
2009	7	3	428	593	867	5	5	282	486	756	0	0	0	0	0	48	12	406	783	1,146
2010	5	5	351	468	692	0	0	0	0	0	0	0	0	0	0	100	27	319	872	1,146
2011	1	1	351	351	351	0	0	0	0	0	0	0	0	0	0	2	2	811	825	839
2012	7	3	423	581	659	3	3	839	882	914	0	0	0	0	0	11	11	564	954	1,118

Year	FLKeys					FLE					GA					NC				
	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max
2013	1	1	632	632	632	7	6	612	839	1,151	0	0	0	0	0	2	2	997	1,074	1,151
2014	9	6	381	643	895	1	1	366	366	366	0	0	0	0	0	4	3	715	831	966
2015	11	11	431	612	860	2	2	443	540	638	0	0	0	0	0	8	8	369	792	1,113
2016	14	8	540	710	1,080	4	2	553	647	812	0	0	0	0	0	5	5	665	836	1,095
2017	4	3	540	656	696	0	0	0	0	0	0	0	0	0	0	8	8	433	743	1,012
2018	7	7	313	699	1,118	5	4	430	531	673	0	0	0	0	0	10	10	433	569	768

Table 7. Summary of weight measurements (pounds whole weight) from MRIP-intercepted Snowy 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					NC				
	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max
1981	14	1	3.7	7.3	10.6	5	1	3.8	10.3	13.1	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	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	5	2	3.2	5.9	14.3	0	0	0.0	0.0	0.0	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
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	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	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	8	4	1.0	3.0	6.0
1988	0	0	0.0	0.0	0.0	1	1	1.5	1.5	1.5	0	0	0.0	0.0	0.0	0	2	0.0	0.0	0.0
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	0	0	0.0	0.0	0.0
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	1	1	1.1	1.1	1.1
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	3	1	2.4	3.2	3.6
1992	0	0	0.0	0.0	0.0	1	1	10.4	10.4	10.4	0	0	0.0	0.0	0.0	5	1	2.2	2.9	3.3

Year	FLKeys					FLE					GA					NC				
	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max	Fish	Trp	Min	Avg	Max
1993	0	0	0.0	0.0	0.0	5	1	8.0	10.5	15.5	2	1	8.7	12.7	16.8	0	0	0.0	0.0	0.0
1994	0	0	0.0	0.0	0.0	1	1	11.1	11.1	11.1	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0
1995	0	0	0.0	0.0	0.0	10	3	1.2	2.4	3.2	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0
1996	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	1.1	1.5	1.8
1997	0	0	0.0	0.0	0.0	15	3	1.1	7.3	17.7	0	0	0.0	0.0	0.0	13	3	1.1	5.2	14.9
1998	0	0	0.0	0.0	0.0	3	2	11.3	15.9	20.8	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0
1999	26	8	1.2	5.5	25.7	25	12	1.0	6.9	23.1	0	0	0.0	0.0	0.0	5	1	4.3	9.3	15.1
2000	12	5	2.3	10.5	40.0	4	2	1.1	4.1	7.1	0	0	0.0	0.0	0.0	10	2	2.3	4.4	11.0
2001	9	6	1.4	5.9	15.5	8	4	3.2	4.2	5.1	0	0	0.0	0.0	0.0	40	3	1.3	5.2	13.4
2002	3	2	2.0	6.8	15.8	4	2	1.2	2.9	7.7	0	0	0.0	0.0	0.0	24	3	1.4	6.6	23.3
2003	6	4	3.0	6.3	16.9	12	8	1.2	5.1	12.5	0	0	0.0	0.0	0.0	12	4	1.3	5.9	15.3
2004	14	4	1.1	3.8	8.6	37	10	1.2	4.5	9.6	0	0	0.0	0.0	0.0	17	2	1.1	3.9	7.9
2005	13	7	1.8	5.8	10.2	10	4	2.2	10.1	19.1	0	0	0.0	0.0	0.0	18	2	1.3	6.4	25.4
2006	0	0	0.0	0.0	0.0	43	4	4.4	13.5	31.7	0	0	0.0	0.0	0.0	15	8	1.8	8.4	20.4
2007	18	9	1.6	4.3	7.9	5	4	1.1	7.2	11.7	0	0	0.0	0.0	0.0	40	10	3.5	21.1	46.3
2008	8	6	2.1	7.0	17.6	2	2	3.4	4.7	6.0	0	0	0.0	0.0	0.0	48	12	1.7	7.6	25.9
2009	7	3	2.5	9.4	24.3	5	5	1.0	6.0	18.7	0	0	0.0	0.0	0.0	48	12	2.1	18.9	44.1
2010	5	5	1.4	4.4	11.5	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	100	27	1.4	24.1	48.5
2011	1	1	1.5	1.5	1.5	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	2	2	18.2	20.4	22.6
2012	7	3	2.2	6.9	9.6	3	3	22.6	24.4	27.6	0	0	0.0	0.0	0.0	11	11	5.7	29.7	44.1
2013	1	1	8.1	8.1	8.1	7	6	8.2	22.6	41.9	0	0	0.0	0.0	0.0	2	2	36.4	39.1	41.9
2014	9	6	2.0	11.6	25.5	1	1	1.8	1.8	1.8	0	0	0.0	0.0	0.0	4	3	11.0	21.9	41.9
2015	11	11	2.9	9.3	26.2	2	2	2.7	6.1	9.4	0	0	0.0	0.0	0.0	8	8	1.5	18.5	38.0
2016	14	8	6.3	14.8	45.4	4	2	4.8	10.1	19.8	0	0	0.0	0.0	0.0	5	5	10.1	20.9	45.2
2017	4	3	6.3	10.3	12.3	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	8	8	4.4	16.3	33.1
2018	7	7	0.9	15.2	45.9	5	4	2.6	5.7	10.6	0	0	0.0	0.0	0.0	10	10	3.5	6.6	9.9

Table 8. *Recreational Fishing Effort (in angler trips) for South Atlantic anglers by mode and year (MRIP).*

Year	Cbt	Priv	Total
1981	443,445	11,061,600	11,505,045
1982	543,344	13,686,090	14,229,434
1983	549,886	12,624,744	13,174,630
1984	631,740	15,880,341	16,512,081
1985	647,288	13,834,345	14,481,633
1986	734,582	15,120,221	15,854,803
1987	684,175	16,117,325	16,801,500
1988	574,659	13,538,214	14,112,873
1989	703,403	15,444,757	16,148,160
1990	594,310	14,473,240	15,067,550
1991	615,933	16,717,086	17,333,019
1992	574,093	16,543,089	17,117,182
1993	617,079	17,777,777	18,394,856
1994	632,200	17,436,754	18,068,954
1995	647,404	16,353,858	17,001,262
1996	632,194	17,329,456	17,961,650
1997	574,241	17,753,982	18,328,223
1998	618,206	17,065,966	17,684,172
1999	555,961	17,628,410	18,184,371
2000	514,365	20,705,579	21,219,944
2001	600,971	19,463,855	20,064,826
2002	693,754	20,401,196	21,094,950
2003	658,098	22,137,279	22,795,377
2004	663,047	21,673,683	22,336,730
2005	614,999	22,332,397	22,947,396
2006	588,260	24,764,335	25,352,595
2007	630,150	25,901,061	26,531,211
2008	545,399	24,141,904	24,687,303
2009	558,034	24,949,760	25,507,794
2010	483,966	26,837,256	27,321,222
2011	509,413	24,406,769	24,916,182
2012	537,932	22,770,757	23,308,689
2013	518,665	22,554,404	23,073,069
2014	619,611	24,333,837	24,953,448
2015	693,462	23,251,246	23,944,708
2016	716,062	22,540,147	23,256,209
2017	677,522	22,440,708	23,118,230
2018	723,594	23,909,857	24,633,451

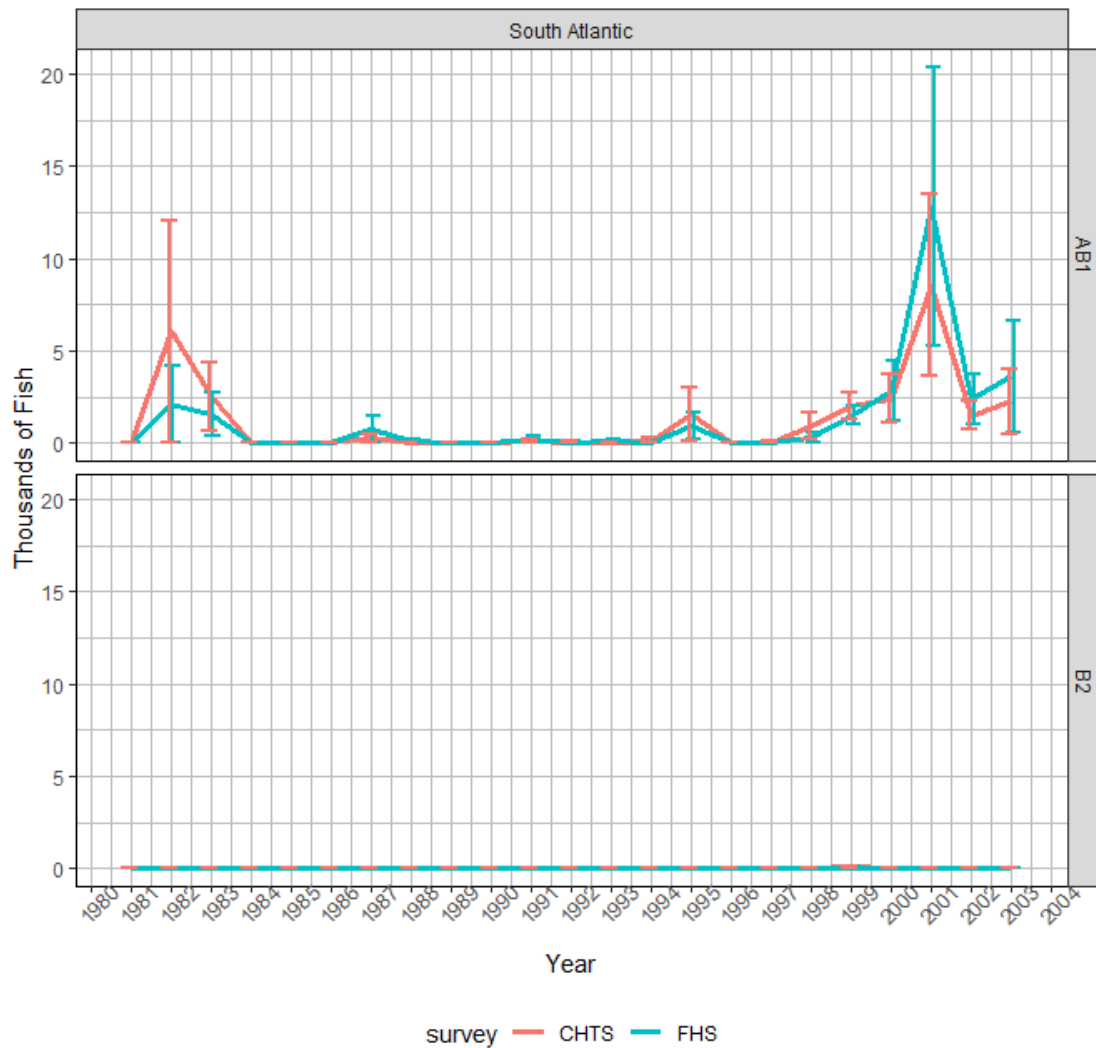


Figure 1. Comparison of charterboat landings (AB1) and discard (B2) estimates (with standard error intervals shown) for Snowy Grouper from the Coastal Household Telephone Survey (CHTS) and For-Hire Survey (FHS) from the South Atlantic between 1981 to 2003.

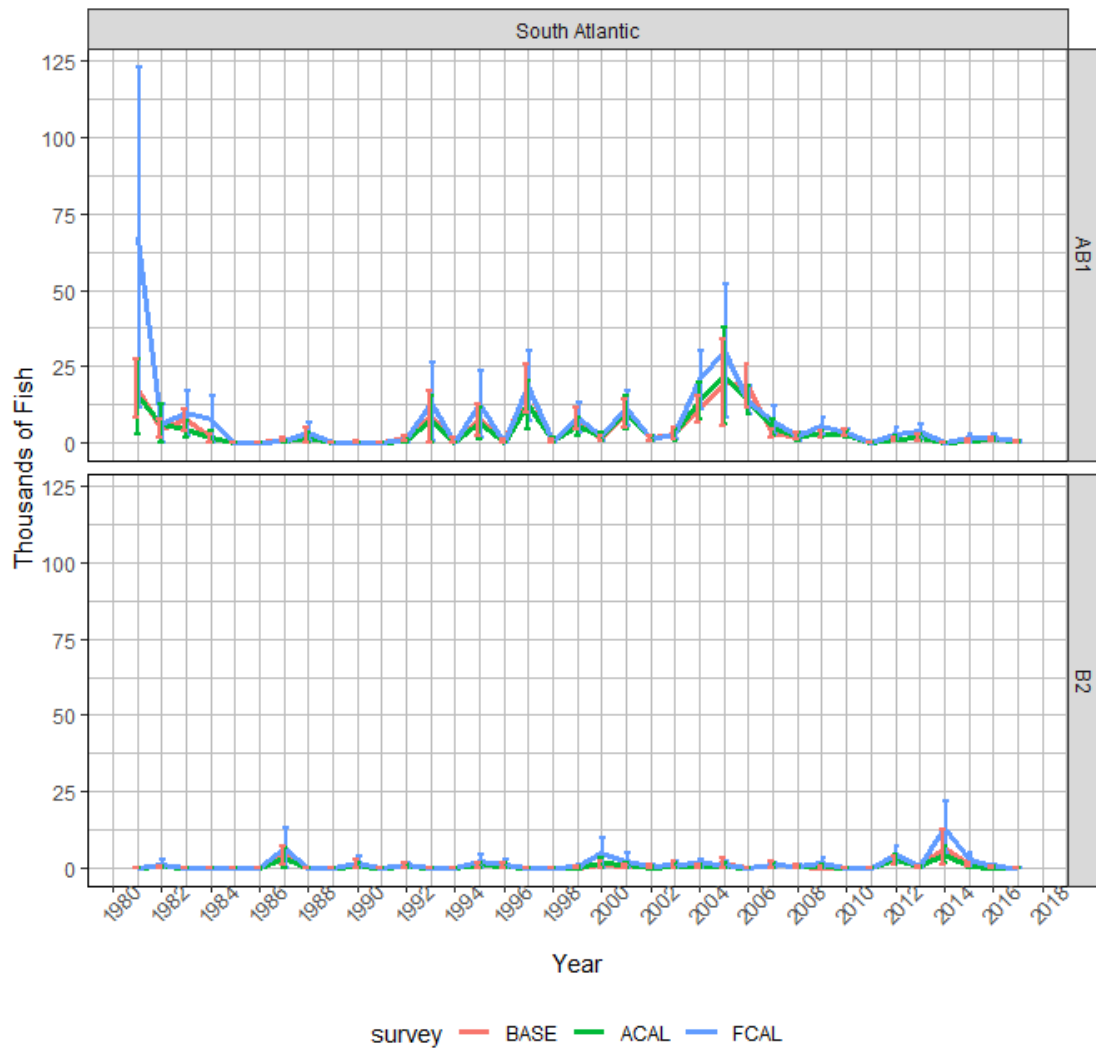


Figure 2. MRIP Base (BASE), APAIS Calibrated (ACAL), and Fully Calibrated APAIS and FES (FCAL) catch estimates for Snowy Grouper in the South Atlantic. Landings (AB1) and discard (B2) estimates are in thousands of fish. Estimates in this figure do not include the Florida Keys as that domain is not available from the MRIP online comparison tool (NMFS). Uncertainty estimates of total catch from this tool cannot be stratified by mode and so this figure includes estimates from all MRIP modes, including headboat and shore anglers that are not considered in this assessment.

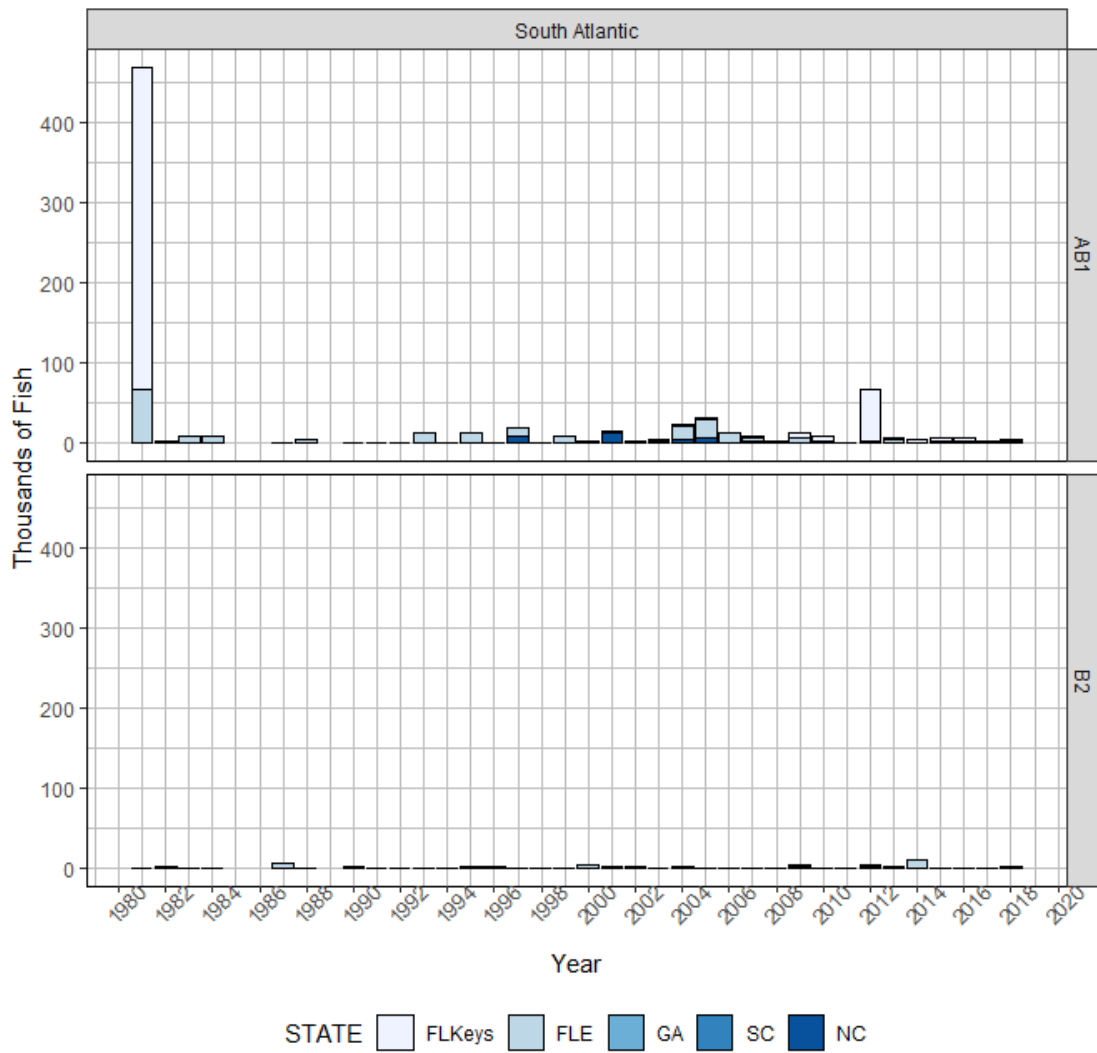


Figure 3. Annual Snowy Grouper landings (AB1) and discards (B2), in thousands of fish, by state from 1981 to 2018 (MRIP).

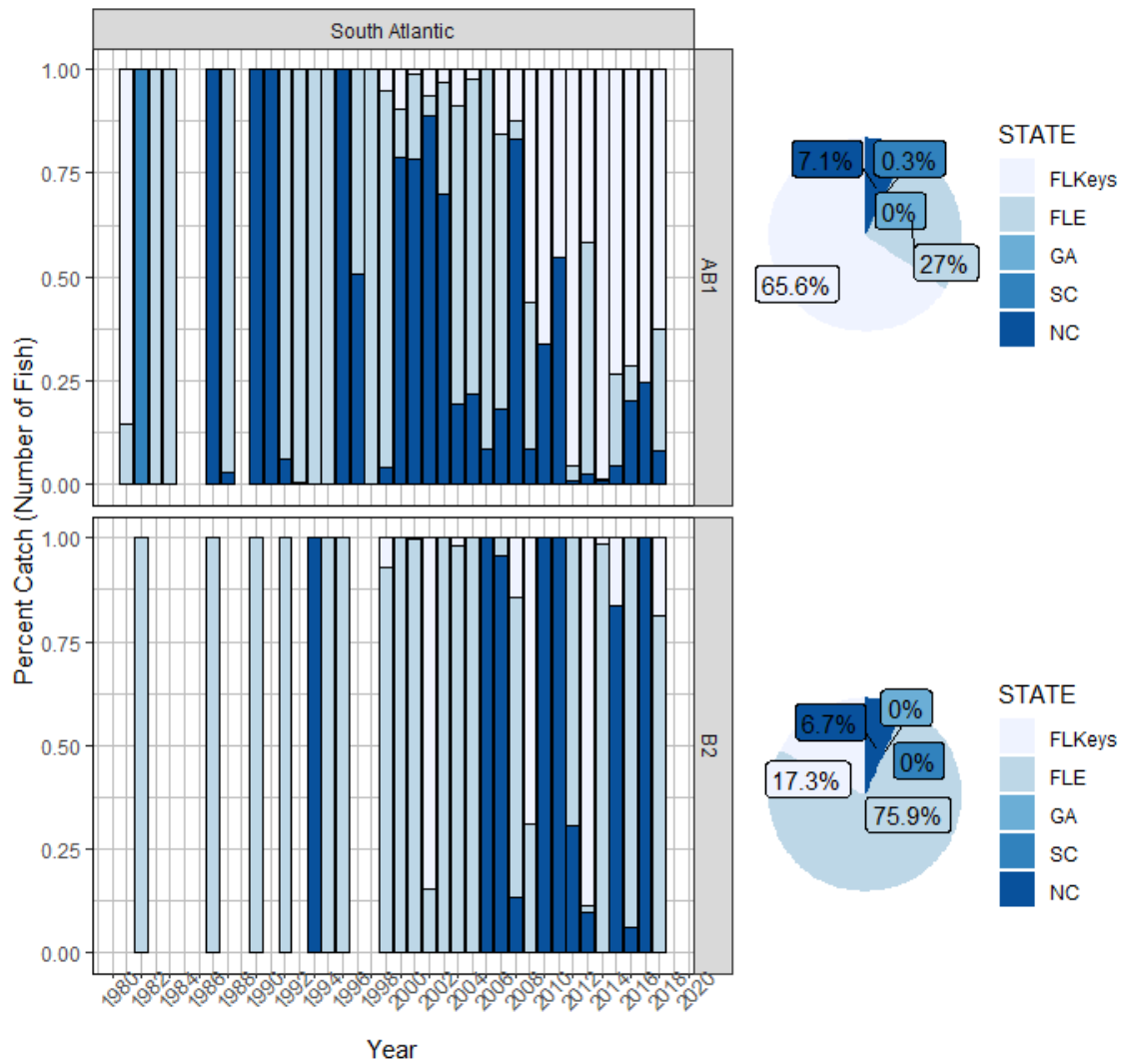


Figure 3a. Percent of Snowy Grouper landings (AB1) and discards (B2), in numbers of fish, from each state by year (bar graph) and overall (pie chart) between 1981 and 2018 (MRIP).

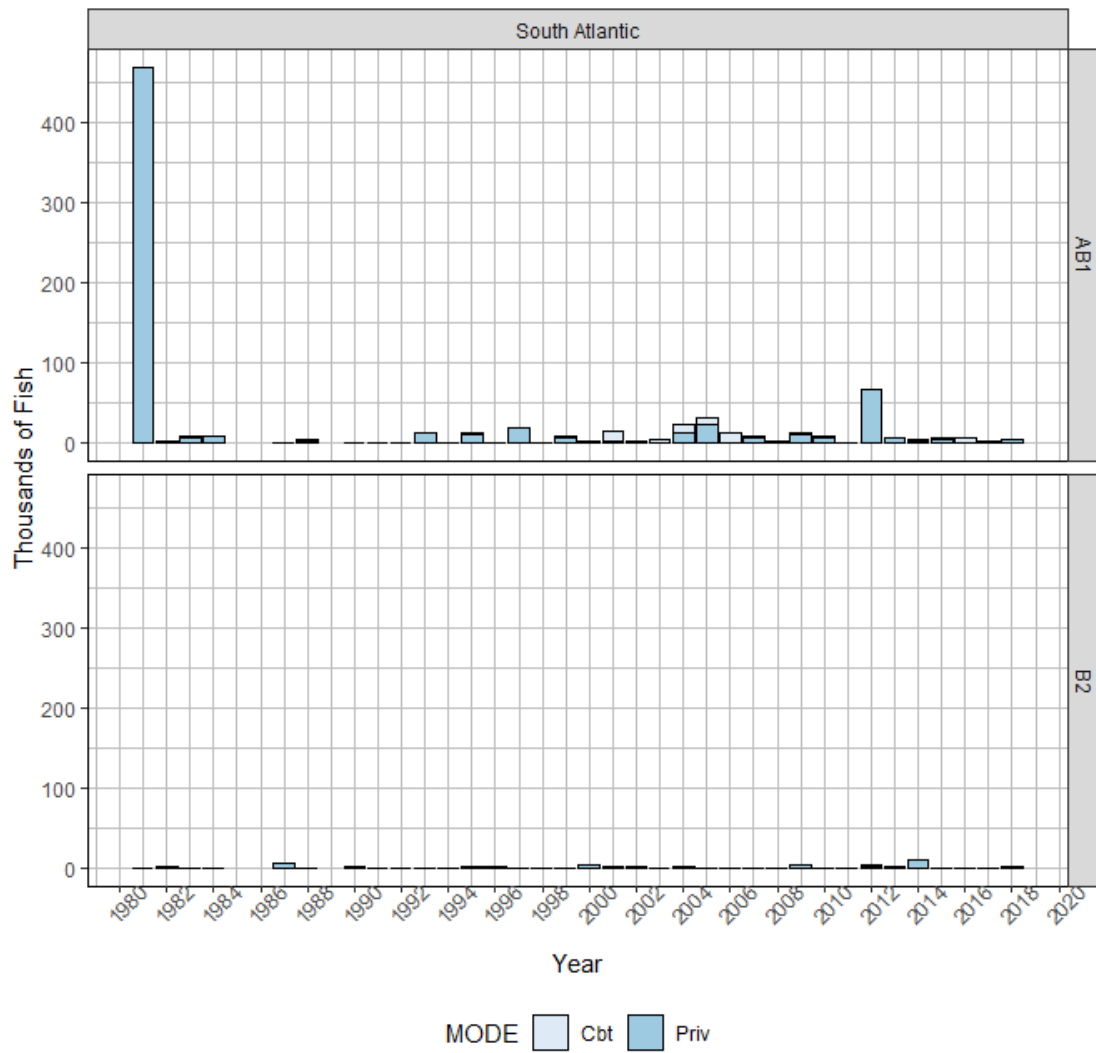


Figure 4. Annual Snowy Grouper landings (AB1) and discards (B2), in thousands of fish, by mode from 1981 to 2018 (MRIP).

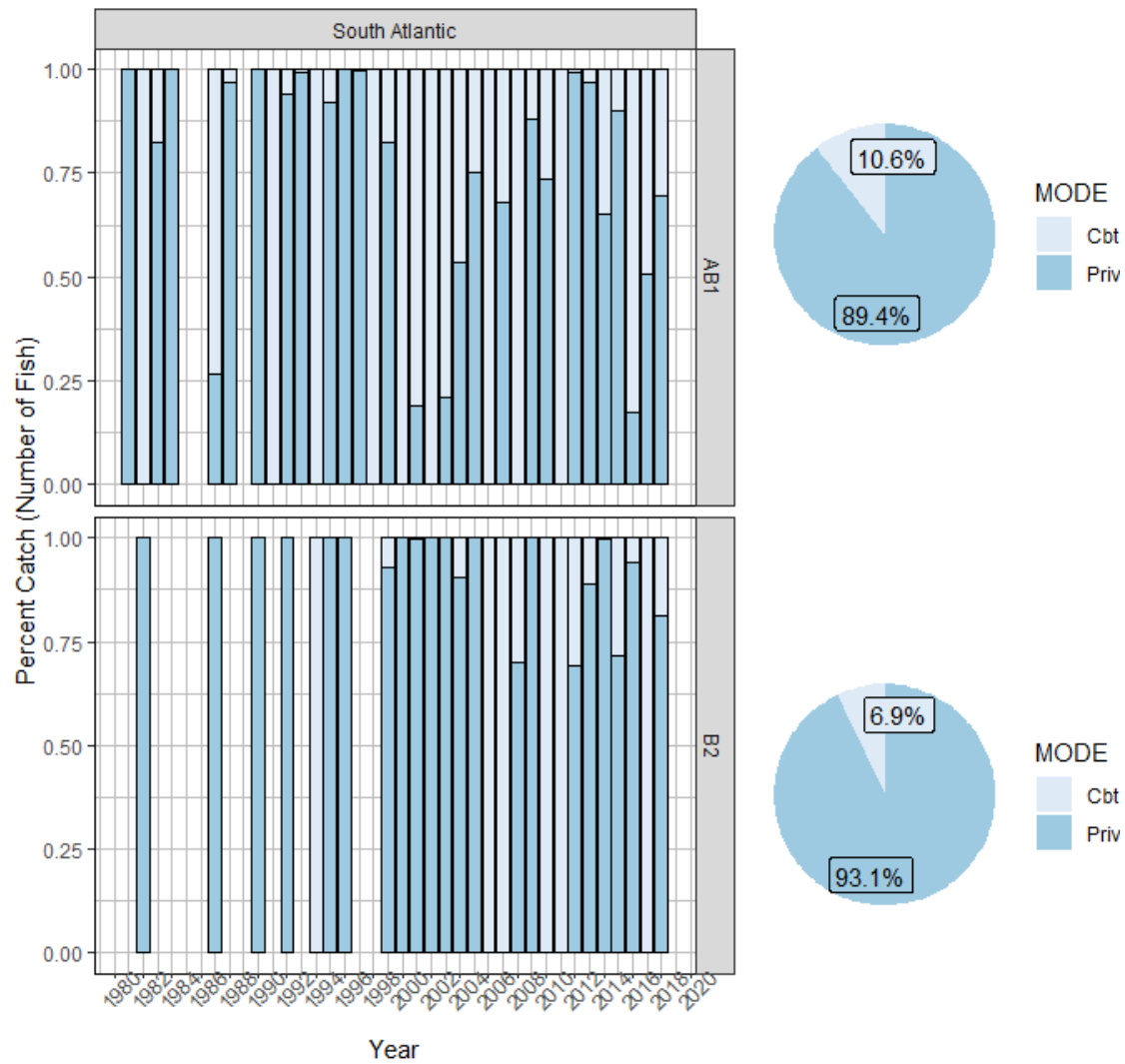


Figure 4a. Percent of Snowy Grouper landings (AB1) and discards (B2), in numbers of fish, from each mode by year (bar graph) and overall (pie chart) between 1981 and 2018 (MRIP).

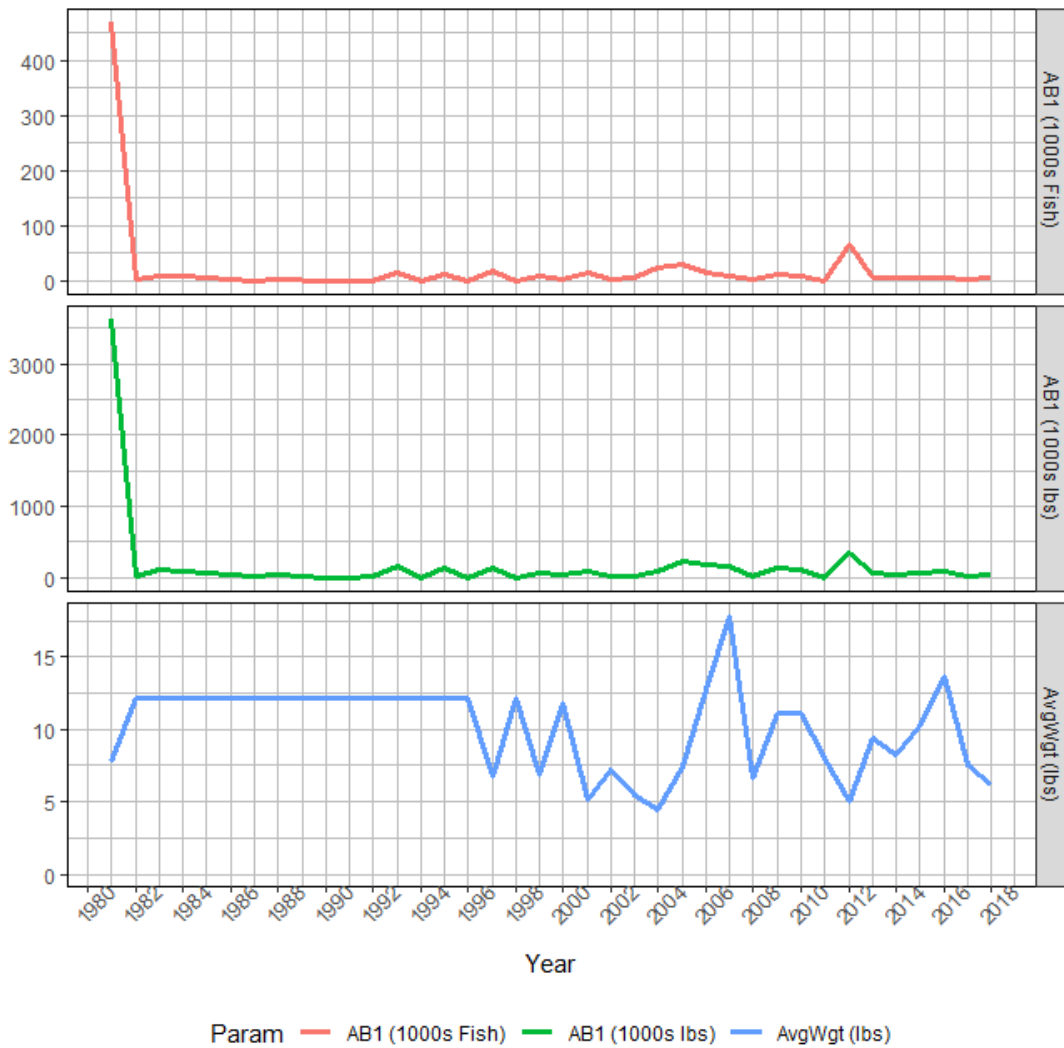


Figure 5. Estimates of annual landings for Snowy Grouper in the South Atlantic, as estimated from MRIP: estimated landings in thousands of fish (top), estimated landings in thousands of pounds whole weight (middle), and average weight of landed fish (estimated lbs/estimated fish) (bottom).