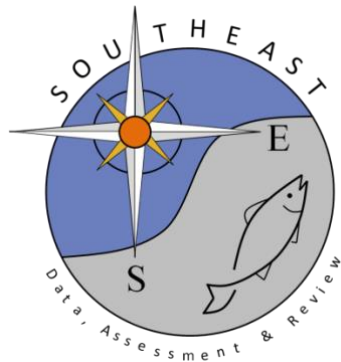


Recreational Survey Data for Cobia in the Gulf of Mexico

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2019 SEDAR28-WP-02

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Recreational Survey Data for Cobia in the Gulf of Mexico

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Recreational catch estimates for Cobia are compiled from the following separate sampling programs:

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

Parameters for data prepared for SEDAR 28-Update recreational catch data:

Species: Cobia

Year Range: 1981 - 2018

Geographic Range: Gulf of Mexico states from Texas to western Florida, extending through eastern Florida.

Fishing Modes: Charter, Private, Shore, Headboat (1981-1985 from Texas to the Florida Keys)

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 Cobia in numbers of fish by state and year (MRIP, LACreel, TPWD).

Table 2. Annual landings (AB1) and discards (B2) of Cobia 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 (1981-1985) represent the area between Texas to the Florida Keys.

Table 3. Cobia 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 Cobia. Intercepted fish include those landed (AB1) and discarded (B2). MRIP Headboat estimates (1981-1985) represent the area between Texas to the Florida Keys.

Table 4. Cobia 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 Cobia. Intercepted fish include those landed (AB1) and discarded (B2). MRIP Headboat estimates (1981-1985) represent the area between Texas to the Florida Keys.

Table 5. Estimated landings of Cobia in pounds whole weight by state and year (MRIP, LACreel, TPWD).

Table 6. Summary of length measurements (millimeters fork length) from MRIP-intercepted Cobia 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 Cobia 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. Summary of length measurements (millimeters total length) from TPWD-intercepted Cobia by 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 9. 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 (1981-1985) represent the area between Texas to the Florida Keys.

Figures

Figure 1. Comparison of charterboat landings (AB1) and discard (B2) estimates (with standard error intervals shown) for Cobia from the Coastal Household Telephone Survey (CHTS) and For-Hire Survey (FHS) from the Gulf of Mexico between 1981 to 1999.

Figure 2. MRIP Base (BASE), APAIS Calibrated (ACAL), and Fully Calibrated APAIS and FES (FCAL) catch estimates for Cobia in the Gulf of Mexico. Landings (AB1) and discard (B2) estimates are in thousands of fish. Estimates in this figure do not include East Florida as these domains are not available from the MRIP online comparison tool (NMFS). Refer to Figure 2a to compare calibrations of Cobia catch estimates from East Florida.

Figure 2a. MRIP Base (BASE), APAIS Calibrated (ACAL), and Fully Calibrated APAIS and FES (FCAL) catch estimates for Cobia in East Florida. Landings (AB1) and discard (B2) estimates are in thousands of fish (NMFS).

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

Figure 3a. Percent of Cobia 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).

Figure 4. Annual Cobia 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 (1981-1985) represent the area between Texas to the Florida Keys.

Figure 4a. Percent of Cobia 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 (1981-1985) represent the area between Texas to the Florida Keys.

Figure 5. Estimates of annual landings for Cobia 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).

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Table 1. Annual landings (AB1) and discards (B2) of Cobia in numbers of fish by state and year (MRIP, LACreel, TPWD).

Year	TX		LA		MS		AL		FLW		FLE		Total	
	AB1	B2	AB1	B2	AB1	B2	AB1	B2	AB1	B2	AB1	B2	AB1	B2
1981	862	103	67,433	1,371	216	0	24,250	0	73,849	21,576	0	0	166,611	23,050
1982	862	125	122,289	25,192	6,854	3,736	54,784	0	162,725	8,302	108,425	3,266	455,939	40,621
1983	1,272	1	136,659	33	27,235	0	13,131	0	38,490	0	12,453	0	229,239	34
1984	532	334	33,067	0	2,148	10,565	17,990	2,244	226,895	3,585	43,845	48,618	324,478	65,346
1985	786	32	24,294	1,886	0	147	17,719	0	37,176	0	64,444	0	144,418	2,065
1986	326	58	9,469	544	2,927	476	6,110	1,877	123,818	111,917	12,921	0	155,570	114,873
1987	821	407	8,052	4,965	2,776	60	13,281	919	93,281	37,070	27,463	1,786	145,674	45,206
1988	521	591	6,043	22,194	23,492	9,134	3,916	4,439	103,879	106,303	29,664	0	167,514	142,661
1989	312	428	18,267	0	11,699	70,284	3,280	13,421	39,759	135,176	61,869	1,789	135,186	221,099
1990	440	5,604	28,360	38,635	336	10,533	4,958	19,616	92,803	118,966	27,204	2,886	154,100	196,240
1991	1,005	9,156	11,716	16,045	154	52,875	17,759	72,025	58,388	522,982	10,254	19,539	99,275	692,623
1992	2,735	9,151	3,392	5,716	5,511	22,333	11,422	30,803	77,553	148,155	85,049	39,132	185,662	255,290
1993	513	2,183	2,871	12,831	8,270	19,047	15,125	20,642	69,571	87,307	34,713	18,332	131,063	160,343
1994	1,142	2,796	20,783	37,313	3,070	9,198	18,823	22,522	78,779	146,927	31,355	4,506	153,951	223,262
1995	799	815	14,407	6,230	5,481	33,722	5,327	12,092	71,870	92,168	19,909	12,781	117,793	157,807
1996	3,105	12,779	32,617	11,689	4,703	27,180	8,186	3,713	144,710	111,552	25,492	22,098	218,812	189,012
1997	2,501	2,495	72,703	56,015	9,075	17,191	14,552	7,218	97,324	116,917	30,205	25,060	226,362	224,896
1998	2,138	6,071	11,428	8,127	5,312	2,705	5,892	6,452	78,560	189,808	32,865	40,877	136,196	254,040
1999	1,838	6,329	15,851	9,082	2,892	5,621	12,302	2,400	79,216	238,919	62,696	48,077	174,795	310,427
2000	836	3,859	8,769	14,423	13,009	10,402	7,427	22,113	66,241	175,346	32,566	6,654	128,849	232,797
2001	1,714	3,347	6,108	10,928	6,589	8,770	8,834	8,684	117,549	212,786	32,487	44,258	173,281	288,773
2002	1,000	8,440	4,666	12,117	6,110	9,390	6,019	6,277	70,261	213,343	36,685	40,018	124,740	289,585
2003	1,208	1,775	16,426	3,617	2,011	8,987	6,040	6,486	65,331	135,330	62,450	20,485	153,467	176,681
2004	1,538	2,187	13,447	4,785	9,607	6,597	10,445	5,490	94,245	148,414	16,686	19,771	145,969	187,243
2005	1,080	897	27,275	1,007	3,056	2,174	3,629	3,970	44,377	93,231	29,224	34,943	108,641	136,223
2006	1,581	3,721	27,374	2,449	2,465	4,554	3,731	15,057	55,919	73,376	72,745	66,018	163,815	165,176
2007	1,486	2,633	16,160	9,706	4,793	5,527	33,872	33,233	52,589	100,931	81,384	15,216	190,284	167,244
2008	2,250	5,201	11,809	8,648	4,757	8,940	8,027	27,003	49,405	228,507	46,585	16,755	122,833	295,054
2009	1,985	3,733	5,190	2,489	2,359	1,252	11,268	15,074	35,527	96,254	45,988	67,118	102,317	185,919
2010	1,020	4,314	0	0	0	1,815	1,247	11,412	73,922	88,714	92,778	71,622	168,967	177,877
2011	806	2,715	45,013	9,594	10,018	16,950	6,047	27,576	29,960	123,262	111,472	115,089	203,316	295,186

Year	TX		LA		MS		AL		FLW		FLE		Total	
	AB1	B2	AB1	B2	AB1	B2	AB1	B2	AB1	B2	AB1	B2	AB1	B2
2012	1,077	1,934	7,745	7,553	66	10,982	26,873	12,340	52,733	143,153	51,494	26,427	139,988	202,390
2013	663	1,357	23,101	3,921	18,266	10,287	6,503	789	42,119	130,648	29,654	16,697	120,306	163,699
2014	1,108	2,315	16,557	0	4,957	26,725	12,008	11,271	58,478	149,178	61,213	44,303	154,322	233,792
2015	1,107	7,537	9,660	0	2,858	1,656	10,721	6,591	42,414	271,411	53,372	27,707	120,132	314,902
2016	896	1,558	14,281	0	1,099	27,278	14,745	12,399	46,117	106,292	73,290	40,890	150,429	188,416
2017	703	925	5,615	0	5,171	935	14,292	25,485	37,541	113,610	38,686	33,451	102,008	174,405
2018	1,055	998	6,942	0	3,081	25,286	8,569	26,180	43,280	225,067	84,596	59,868	147,524	337,399

Table 2. Annual landings (AB1) and discards (B2) of Cobia 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 (1981-1985) represent the area between Texas to the Florida Keys.

Year	Cbt		Hbt		Priv		Shore		Total	
	AB1	B2	AB1	B2	AB1	B2	AB1	B2	AB1	B2
1981	13,556	0	1,622	0	143,304	20,321	8,129	2,729	166,611	23,050
1982	3,655	1,068	1,573	668	402,179	38,885	48,533	0	455,939	40,621
1983	18,384	31	2,527	3	207,688	0	640	0	229,239	34
1984	16,895	2,934	2,556	1,379	272,012	61,032	33,015	0	324,478	65,346
1985	18,301	147	6,983	0	73,454	1,918	45,680	0	144,418	2,065
1986	14,547	1,465			141,023	113,408	0	0	155,570	114,873
1987	10,354	2,865			124,683	42,342	10,637	0	145,674	45,206
1988	2,668	22,415			157,128	120,246	7,719	0	167,514	142,661
1989	10,189	3,238			110,163	194,324	14,833	23,537	135,186	221,099
1990	14,605	21,743			139,496	163,892	0	10,604	154,100	196,240
1991	17,575	19,431			76,421	602,981	5,280	70,211	99,275	692,623
1992	12,005	39,383			111,237	199,522	62,420	16,385	185,662	255,290
1993	16,989	20,060			87,994	123,358	26,080	16,924	131,063	160,343
1994	17,100	14,637			107,160	170,444	29,691	38,181	153,951	223,262
1995	6,260	9,988			83,658	101,080	27,876	46,739	117,793	157,807
1996	23,980	28,985			103,160	134,204	91,671	25,822	218,812	189,012
1997	15,125	16,444			201,452	185,336	9,785	23,116	226,362	224,896
1998	12,936	6,698			116,584	183,725	6,676	63,617	136,196	254,040
1999	11,397	15,990			142,882	227,821	20,517	66,616	174,795	310,427
2000	4,425	9,962			106,084	186,750	18,340	36,084	128,849	232,797
2001	10,516	5,033			139,946	183,735	22,819	100,005	173,281	288,773
2002	11,547	10,056			94,698	218,706	18,495	60,823	124,740	289,585
2003	19,633	6,387			128,295	114,996	5,539	55,298	153,467	176,681
2004	16,568	10,846			128,662	162,338	739	14,060	145,969	187,243
2005	11,798	4,590			96,843	112,871	0	18,762	108,641	136,223
2006	12,568	8,468			141,205	109,183	10,042	47,524	163,815	165,176
2007	13,900	15,764			176,385	140,317	0	11,164	190,284	167,244
2008	10,264	11,954			102,018	196,829	10,550	86,272	122,833	295,054
2009	7,001	9,673			95,317	165,610	0	10,635	102,317	185,919
2010	5,355	2,459			151,351	154,472	12,261	20,945	168,967	177,877
2011	12,048	11,719			173,400	272,106	17,868	11,360	203,316	295,186
2012	7,910	8,223			116,279	159,312	15,799	34,855	139,988	202,390
2013	6,091	6,215			114,215	126,429	0	31,055	120,306	163,699
2014	9,934	7,717			128,225	210,749	16,162	15,326	154,322	233,792
2015	11,319	6,851			108,388	164,440	425	143,612	120,132	314,902
2016	12,126	9,708			138,303	166,820	0	11,889	150,429	188,416
2017	7,980	15,263			93,246	154,591	782	4,551	102,008	174,405
2018	8,408	4,391			135,546	306,320	3,569	26,688	147,524	337,399

Table 3. *Cobia* 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 *Cobia*. Intercepted fish include those landed (AB1) and discarded (B2). MRIP Headboat estimates (1981-1985) represent the area between Texas to the Florida Keys.

Year	Cbt			Hbt			Priv			Shore			Total		
	AB1	CV	SS	AB1	CV	SS	AB1	CV	SS	AB1	CV	SS	AB1	CV	SS
1981	13,515	0.87	105 (7)	1,622	0.68	85 (7)	142,483	0.38	324 (14)	8,129	1.00	488 (2)	165,749	0.34	917 (23)
1982	3,614	0.46	111 (8)	1,573	0.57	88 (8)	401,358	0.32	702 (50)	48,533	0.66	859 (5)	455,077	0.29	1,672 (63)
1983	18,303	0.41	233 (22)	2,527	0.36	149 (18)	206,497	0.39	356 (14)	640	1.00	683 (1)	227,967	0.36	1,272 (37)
1984	16,895	0.51	268 (20)	2,556	0.41	157 (15)	271,480	0.75	375 (17)	33,015	0.65	661 (3)	323,946	0.64	1,304 (40)
1985	18,258	0.44	161 (13)	6,983	0.53	110 (11)	72,711	0.32	406 (14)	45,680	0.87	716 (3)	143,632	0.33	1,283 (30)
1986	14,537	0.30	384 (39)				140,707	0.41	1,411 (28)	0	0.00	495 (NA)	155,244	0.38	2,290 (67)
1987	10,203	0.36	334 (26)				124,013	0.29	1,449 (51)	10,637	1.00	460 (1)	144,853	0.26	2,243 (78)
1988	2,668	0.55	380 (21)				156,607	0.31	1,575 (52)	7,719	1.00	881 (1)	166,993	0.30	2,836 (74)
1989	10,189	0.42	345 (19)				109,851	0.35	1,112 (40)	14,833	0.77	600 (5)	134,874	0.30	2,057 (64)
1990	14,605	0.54	226 (18)				139,056	0.37	940 (57)	0	0.00	577 (2)	153,660	0.33	1,743 (77)
1991	17,575	0.30	318 (48)				75,416	0.29	1,057 (57)	5,280	1.00	684 (6)	98,270	0.23	2,059 (111)
1992	12,005	0.24	574 (58)				108,502	0.21	1,914 (116)	62,420	0.54	1,296 (10)	182,927	0.22	3,784 (184)
1993	16,704	0.30	331 (32)				87,766	0.18	1,465 (83)	26,080	0.45	1,682 (13)	130,550	0.16	3,478 (128)
1994	17,100	0.34	334 (45)				106,018	0.18	1,491 (95)	29,691	0.44	1,677 (15)	152,809	0.16	3,502 (155)
1995	6,260	0.42	323 (24)				82,859	0.29	1,343 (57)	27,876	0.57	1,484 (14)	116,994	0.25	3,150 (95)
1996	23,491	0.31	373 (38)				100,544	0.29	1,742 (85)	91,671	0.67	1,209 (7)	215,707	0.32	3,324 (130)
1997	14,738	0.31	643 (49)				199,338	0.23	1,684 (113)	9,785	0.48	1,119 (12)	223,861	0.21	3,446 (174)
1998	12,659	0.28	1,010 (63)				114,723	0.26	1,888 (125)	6,676	0.87	1,217 (19)	134,058	0.22	4,115 (207)
1999	10,535	0.32	1,430 (95)				141,906	0.13	2,606 (193)	20,517	0.43	1,531 (22)	172,957	0.12	5,567 (310)
2000	4,290	0.22	1,516 (99)				105,383	0.16	2,248 (140)	18,340	0.45	1,313 (15)	128,013	0.14	5,077 (254)
2001	10,324	0.25	1,341 (114)				138,424	0.43	2,150 (145)	22,819	0.59	1,299 (20)	171,567	0.36	4,790 (279)
2002	11,190	0.19	1,369 (130)				94,055	0.19	2,218 (153)	18,495	0.47	1,278 (22)	123,740	0.16	4,865 (305)
2003	19,455	0.31	1,401 (119)				127,265	0.15	2,324 (144)	5,539	0.58	1,416 (14)	152,259	0.13	5,141 (277)
2004	16,364	0.25	1,176 (126)				127,328	0.34	1,974 (98)	739	1.00	1,038 (4)	144,431	0.30	4,188 (228)
2005	11,690	0.23	947 (90)				95,871	0.22	1,777 (76)	0	0.00	994 (3)	107,561	0.20	3,718 (169)
2006	12,422	0.31	798 (69)				139,770	0.26	2,237 (98)	10,042	0.50	1,086 (9)	162,234	0.23	4,121 (176)
2007	13,478	0.32	872 (82)				175,321	0.19	2,150 (106)	0	0.00	1,119 (3)	188,798	0.18	4,141 (191)
2008	9,860	0.35	865 (81)				100,172	0.22	2,204 (104)	10,550	0.58	1,079 (14)	120,583	0.19	4,148 (199)
2009	6,681	0.47	760 (45)				93,652	0.17	2,137 (109)	0	0.00	1,129 (3)	100,332	0.16	4,026 (157)
2010	5,094	0.23	753 (54)				150,592	0.23	2,215 (82)	12,261	0.71	1,053 (8)	167,947	0.22	4,021 (144)

Year	Cbt			Hbt			Priv			Shore			Total		
	AB1	CV	SS	AB1	CV	SS	AB1	CV	SS	AB1	CV	SS	AB1	CV	SS
2011	12,017	0.27	886 (87)				172,625	0.24	2,307 (100)	17,868	0.64	1,099 (6)	202,510	0.21	4,292 (193)
2012	7,789	0.25	970 (82)				115,323	0.20	2,508 (113)	15,799	0.82	1,135 (9)	138,911	0.19	4,613 (204)
2013	5,986	0.36	564 (35)				113,657	0.23	2,102 (103)	0	0.00	882 (5)	119,643	0.22	3,548 (143)
2014	7,069	0.26	844 (79)				113,425	0.21	2,048 (148)	16,162	0.59	623 (5)	136,657	0.19	3,515 (232)
2015	9,984	0.39	933 (61)				98,956	0.19	2,151 (130)	425	1.00	652 (4)	109,365	0.17	3,736 (195)
2016	7,375	0.29	916 (50)				127,877	0.27	2,122 (134)	0	0.00	942 (4)	135,252	0.26	3,980 (188)
2017	5,290	0.24	790 (63)				89,618	0.20	1,734 (87)	782	1.00	785 (2)	95,690	0.19	3,309 (152)
2018	6,950	0.33	790 (44)				129,007	0.32	1,663 (83)	3,569	1.00	748 (5)	139,527	0.30	3,201 (132)

Table 4. *Cobia* 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 *Cobia*. Intercepted fish include those landed (AB1) and discarded (B2). MRIP Headboat estimates (1981-1985) represent the area between Texas to the Florida Keys.

Year	Cbt			Hbt			Priv			Shore			Total		
	B2	CV	SS	B2	CV	SS	B2	CV	SS	B2	CV	SS	B2	CV	SS
1981	0	0.00	105 (7)	0	0.00	85 (7)	20,218	0.78	324 (14)	2,729	1.00	488 (2)	22,947	0.69	917 (23)
1982	1,068	1.00	111 (8)	668	1.00	88 (8)	38,760	0.50	702 (50)	0	0.00	859 (5)	40,496	0.48	1,672 (63)
1983	30	1.00	233 (22)	3	1.00	149 (18)	0	0.00	356 (14)	0	0.00	683 (1)	33	1.00	1,272 (37)
1984	2,934	0.65	268 (20)	1,379	0.83	157 (15)	60,698	0.82	375 (17)	0	0.00	661 (3)	65,012	0.76	1,304 (40)
1985	147	1.00	161 (13)	0	0.00	110 (11)	1,886	1.00	406 (14)	0	0.00	716 (3)	2,033	0.93	1,283 (30)
1986	1,461	0.51	384 (39)				113,354	0.61	1,411 (28)	0	0.00	495 (NA)	114,815	0.60	2,290 (67)
1987	2,860	0.80	334 (26)				41,940	0.33	1,449 (51)	0	0.00	460 (1)	44,799	0.31	2,243 (78)
1988	22,415	0.98	380 (21)				119,655	0.37	1,575 (52)	0	0.00	881 (1)	142,070	0.35	2,836 (74)
1989	3,238	0.56	345 (19)				193,896	0.43	1,112 (40)	23,537	0.67	600 (5)	220,671	0.39	2,057 (64)
1990	21,743	0.38	226 (18)				158,288	0.21	940 (57)	10,604	0.86	577 (2)	190,636	0.19	1,743 (77)
1991	19,431	0.43	318 (48)				593,825	0.41	1,057 (57)	70,211	0.56	684 (6)	683,467	0.36	2,059 (111)

Year	Cbt			Hbt			Priv			Shore			Total		
	B2	CV	SS	B2	CV	SS	B2	CV	SS	B2	CV	SS	B2	CV	SS
1992	39,383	0.84	574 (58)				190,371	0.17	1,914 (116)	16,385	0.66	1,296 (10)	246,139	0.19	3,784 (184)
1993	18,278	0.77	331 (32)				122,957	0.18	1,465 (83)	16,924	0.45	1,682 (13)	158,160	0.17	3,478 (128)
1994	14,637	0.26	334 (45)				167,648	0.21	1,491 (95)	38,181	0.44	1,677 (15)	220,466	0.18	3,502 (155)
1995	9,988	0.41	323 (24)				100,265	0.33	1,343 (57)	46,739	0.41	1,484 (14)	156,992	0.24	3,150 (95)
1996	27,704	0.41	373 (38)				122,706	0.23	1,742 (85)	25,822	0.51	1,209 (7)	176,233	0.19	3,324 (130)
1997	15,932	0.40	643 (49)				183,353	0.18	1,684 (113)	23,116	0.48	1,119 (12)	222,401	0.16	3,446 (174)
1998	6,495	0.26	1,010 (63)				177,857	0.18	1,888 (125)	63,617	0.36	1,217 (19)	247,969	0.16	4,115 (207)
1999	12,574	0.33	1,430 (95)				224,908	0.14	2,606 (193)	66,616	0.32	1,531 (22)	304,098	0.12	5,567 (310)
2000	8,890	0.52	1,516 (99)				183,963	0.18	2,248 (140)	36,084	0.38	1,313 (15)	228,938	0.16	5,077 (254)
2001	4,865	0.24	1,341 (114)				180,556	0.14	2,150 (145)	100,005	0.34	1,299 (20)	285,426	0.15	4,790 (279)
2002	9,348	0.22	1,369 (130)				210,974	0.15	2,218 (153)	60,823	0.31	1,278 (22)	281,145	0.13	4,865 (305)
2003	6,334	0.28	1,401 (119)				113,274	0.15	2,324 (144)	55,298	0.33	1,416 (14)	174,906	0.14	5,141 (277)
2004	10,728	0.34	1,176 (126)				160,269	0.16	1,974 (98)	14,060	0.62	1,038 (4)	185,056	0.15	4,188 (228)
2005	4,563	0.23	947 (90)				112,001	0.21	1,777 (76)	18,762	0.68	994 (3)	135,326	0.20	3,718 (169)
2006	8,419	0.38	798 (69)				105,511	0.18	2,237 (98)	47,524	0.47	1,086 (9)	161,455	0.18	4,121 (176)
2007	15,243	0.49	872 (82)				138,205	0.23	2,150 (106)	11,164	0.68	1,119 (3)	164,611	0.20	4,141 (191)
2008	11,446	0.30	865 (81)				192,136	0.20	2,204 (104)	86,272	0.43	1,079 (14)	289,853	0.18	4,148 (199)
2009	8,688	0.30	760 (45)				162,862	0.17	2,137 (109)	10,635	0.59	1,129 (3)	182,186	0.15	4,026 (157)
2010	1,995	0.31	753 (54)				150,622	0.22	2,215 (82)	20,945	0.61	1,053 (8)	173,563	0.21	4,021 (144)
2011	11,662	0.39	886 (87)				269,448	0.23	2,307 (100)	11,360	0.63	1,099 (6)	292,471	0.22	4,292 (193)
2012	8,154	0.34	970 (82)				157,447	0.21	2,508 (113)	34,855	0.42	1,135 (9)	200,456	0.18	4,613 (204)
2013	6,081	0.34	564 (35)				125,206	0.27	2,102 (103)	31,055	0.50	882 (5)	162,342	0.23	3,548 (143)
2014	7,387	0.27	844 (79)				208,764	0.21	2,048 (148)	15,326	0.57	623 (5)	231,477	0.19	3,515 (232)
2015	6,745	0.34	933 (61)				157,009	0.20	2,151 (130)	143,612	0.91	652 (4)	307,365	0.44	3,736 (195)
2016	9,587	0.36	916 (50)				165,383	0.18	2,122 (134)	11,889	0.52	942 (4)	186,858	0.16	3,980 (188)
2017	14,665	0.28	790 (63)				154,273	0.23	1,734 (87)	4,551	1.00	785 (2)	173,489	0.21	3,309 (152)
2018	4,111	0.33	790 (44)				305,602	0.22	1,663 (83)	26,688	0.63	748 (5)	336,401	0.21	3,201 (132)

Table 5. *Estimated landings of Cobia in pounds whole weight by state and year (MRIP, LACreel, TPWD).*

Year	TX	LA	MS	AL	FLW	FLE	Total
1981	17,479	1,076,108	3,446	386,991	1,178,494	0	2,662,519
1982	17,479	827,558	73,098	739,581	1,057,188	1,727,454	4,442,358
1983	30,833	2,594,017	713,858	267,429	783,901	329,372	4,719,410
1984	10,269	682,549	40,772	341,387	5,231,565	985,518	7,292,060
1985	11,335	476,835	0	312,212	838,184	1,384,878	3,023,444
1986	5,162	255,552	67,339	140,581	2,719,726	237,699	3,426,059
1987	12,146	182,906	52,545	138,845	1,998,173	610,613	2,995,228
1988	8,206	110,448	429,396	71,580	1,898,722	748,490	3,266,843
1989	4,205	420,011	268,996	75,421	999,599	1,771,840	3,540,071
1990	10,579	952,170	9,655	140,086	2,220,535	581,717	3,914,742
1991	13,542	354,237	3,858	412,586	1,414,667	219,562	2,418,452
1992	63,909	84,983	157,744	527,876	1,462,565	1,599,988	3,897,066
1993	8,542	66,435	233,874	663,302	1,762,734	720,590	3,455,476
1994	17,953	813,412	80,395	508,885	1,732,357	780,199	3,933,201
1995	14,819	502,377	125,289	121,755	1,359,655	630,705	2,754,599
1996	69,965	853,745	118,202	205,749	4,073,193	500,417	5,821,270
1997	58,052	1,253,220	229,359	367,775	2,442,879	790,525	5,141,810
1998	48,557	314,131	146,013	161,959	1,864,821	895,579	3,431,060
1999	38,760	575,674	86,658	494,735	1,712,498	1,696,696	4,605,021
2000	16,500	265,128	345,276	197,134	1,348,155	886,301	3,058,495
2001	35,197	161,744	174,484	347,811	2,883,732	736,548	4,339,516
2002	16,749	121,909	176,059	272,884	1,538,423	886,228	3,012,252
2003	24,588	445,181	48,732	146,368	1,404,080	1,795,210	3,864,160
2004	34,368	327,190	237,073	285,729	2,102,794	505,631	3,492,784
2005	22,732	699,468	74,781	88,801	1,051,989	803,515	2,741,286
2006	33,568	846,104	60,573	91,681	1,151,059	1,551,321	3,734,306
2007	30,241	396,877	113,965	805,305	1,296,937	2,017,821	4,661,146
2008	44,325	287,640	101,721	171,642	1,082,366	1,207,628	2,895,322
2009	50,249	116,934	53,835	257,181	685,664	879,201	2,043,063
2010	23,210	0	0	29,361	1,854,373	2,026,270	3,933,214
2011	18,341	1,593,486	250,333	151,113	774,684	2,633,613	5,421,570
2012	23,256	181,508	1,590	988,039	1,248,084	1,303,776	3,746,253
2013	12,159	585,523	423,503	145,970	912,473	663,905	2,743,533
2014	21,977	355,585	93,211	262,002	1,297,238	1,374,333	3,404,346
2015	21,586	204,508	60,386	238,207	814,499	1,174,689	2,513,876
2016	17,265	291,238	22,415	248,343	942,214	1,534,635	3,056,110
2017	15,994	120,838	111,285	307,575	751,766	746,393	2,053,850
2018	25,035	161,979	71,893	199,946	944,370	1,961,681	3,364,903

Table 6. Summary of length measurements (millimeters fork length) from MRIP-intercepted Cobia 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	LA					MS					AL					FLW					FLE				
	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	13	8	445	776	1,220	2	2	850	875	900	6	5	540	777	910	13	10	280	699	1,000	0	0	0	0	0
1982	30	16	295	528	1,300	10	9	510	1,003	1,350	24	17	510	717	1,380	28	19	280	585	960	14	11	440	838	1,175
1983	53	21	310	739	1,300	15	5	580	859	1,090	13	9	560	814	1,221	5	2	738	879	1,017	4	4	650	992	1,890
1984	56	21	112	730	1,190	1	1	570	570	570	9	5	630	766	990	16	11	455	870	1,205	10	10	710	930	1,195
1985	17	8	500	864	1,215	0	0	0	0	0	7	7	595	736	885	19	12	445	909	1,255	12	12	827	1,014	1,582
1986	62	24	520	932	1,270	7	5	750	982	1,150	6	4	775	909	1,210	54	30	460	921	1,425	6	6	370	641	985
1987	16	8	345	840	1,450	14	9	411	916	1,066	26	18	580	791	1,094	43	28	500	883	1,425	16	14	609	984	1,168
1988	15	8	611	803	1,142	12	4	532	913	1,160	12	3	564	830	1,350	49	31	704	939	1,448	11	11	744	983	1,168
1989	8	2	954	1,077	1,331	4	2	794	931	1,015	7	7	892	1,074	1,350	22	17	712	910	1,080	20	14	762	1,056	1,311
1990	21	11	820	1,088	1,364	5	2	890	1,062	1,364	15	9	390	945	1,550	15	10	768	982	1,100	13	11	762	1,050	1,265
1991	60	23	600	1,002	1,530	1	1	1,009	1,009	1,009	18	14	390	899	1,050	47	24	773	948	1,221	8	8	739	911	1,090
1992	24	15	781	908	1,224	13	12	668	971	1,549	34	16	810	1,029	1,260	50	39	431	932	1,387	59	48	625	891	1,541
1993	20	8	772	937	1,204	9	7	668	956	1,549	29	11	852	1,070	1,372	39	36	407	953	1,450	30	22	730	936	1,185
1994	44	18	741	1,069	1,840	6	4	894	995	1,070	21	19	694	997	1,380	50	41	508	946	1,394	25	24	624	994	1,300
1995	18	9	591	1,021	1,210	6	5	322	877	1,161	4	4	870	938	990	39	31	389	914	1,210	9	9	840	1,095	1,540
1996	40	11	360	893	1,081	5	4	360	779	1,041	12	8	818	996	1,295	62	45	822	1,040	1,425	29	27	795	932	1,381
1997	49	24	610	898	1,159	11	11	513	1,062	1,359	6	5	938	1,039	1,178	94	55	611	950	1,524	31	25	812	1,026	1,397
1998	14	10	814	1,004	1,208	11	9	942	1,053	1,371	8	8	827	1,060	1,262	105	73	635	970	1,555	38	34	835	1,028	1,295
1999	27	16	850	1,056	1,307	10	8	875	1,084	1,375	17	14	710	997	1,345	117	93	570	994	1,453	99	58	727	973	1,450
2000	25	14	840	996	1,135	9	5	745	1,008	1,218	10	10	890	1,016	1,400	99	79	455	967	1,378	47	39	722	977	1,200
2001	13	6	853	963	1,131	5	4	805	1,084	1,282	19	16	760	1,036	1,321	129	96	704	980	1,549	58	46	750	937	1,152
2002	52	24	762	999	1,320	15	9	816	1,002	1,220	17	17	770	1,053	1,535	85	72	604	953	1,240	61	48	725	960	1,298
2003	83	33	813	974	1,295	3	3	927	984	1,015	14	12	789	1,026	1,219	149	105	636	959	1,419	87	68	775	1,018	1,226
2004	99	37	780	968	1,281	11	3	840	1,149	1,282	15	15	590	1,000	1,283	114	81	717	990	1,270	50	33	830	1,017	1,311
2005	86	27	775	961	1,230	1	1	1,252	1,252	1,252	7	7	627	841	995	109	72	770	999	1,170	36	30	850	994	1,235
2006	81	41	786	1,015	1,310	1	1	910	910	910	8	8	801	993	1,143	61	48	745	952	1,321	79	52	771	948	1,152
2007	91	31	731	997	1,730	4	2	851	979	1,220	8	8	906	1,049	1,284	80	64	689	975	1,356	43	28	816	967	1,265
2008	29	13	788	989	1,304	4	2	851	1,024	1,220	4	2	864	1,027	1,182	66	54	817	944	1,230	39	33	682	971	1,180
2009	15	6	811	936	1,165	4	4	807	872	995	10	9	845	1,006	1,240	36	32	602	952	1,270	38	33	667	899	1,171
2010	0	0	0	0	0	0	0	0	0	0	6	3	845	996	1,320	81	50	786	979	1,275	88	65	802	942	1,112
2011	26	14	917	1,100	1,245	9	4	794	939	1,165	14	11	809	944	1,290	66	51	795	998	1,322	93	49	406	950	1,194
2012	25	15	874	976	1,160	10	4	776	1,055	1,290	15	12	810	1,105	1,334	67	55	685	953	1,386	51	41	678	994	1,261

Year	LA					MS					AL					FLW					FLE				
	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	52	29	810	952	1,214	20	9	755	922	1,277	10	8	816	882	1,041	33	29	685	955	1,386	28	24	786	913	1,180
2014						21	15	686	933	1,220	25	22	778	951	1,310	59	53	780	966	1,228	108	71	664	966	1,275
2015						5	4	905	967	1,075	27	19	771	959	1,409	53	42	781	924	1,270	78	63	780	952	1,380
2016						9	6	830	896	1,118	29	19	770	884	1,100	46	40	358	931	1,313	52	43	701	920	1,143
2017						11	9	770	935	1,308	14	11	795	952	1,111	46	33	790	917	1,308	51	33	770	906	1,100
2018						12	9	825	1,029	1,303	7	7	855	993	1,114	29	25	782	947	1,194	41	22	791	930	1,270

Table 7. Summary of weight measurements (pounds whole weight) from MRIP-intercepted Cobia 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	LA					MS					AL					FLW					FLE				
	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	13	8	2.4	13.3	30.0	2	2	57.9	59.8	61.7	6	5	2.9	12.7	18.8	13	10	0.9	13.4	33.5	0	0	0.0	0.0	0.0
1982	30	16	1.3	5.9	40.1	10	9	3.3	31.6	57.7	24	17	3.3	11.9	61.1	28	19	0.9	7.2	27.9	14	11	1.5	17.5	45.0
1983	53	21	0.9	18.4	51.3	15	5	3.6	26.2	50.8	13	9	4.2	17.2	45.2	5	2	9.1	13.6	22.7	4	4	8.2	38.5	127.0
1984	56	21	0.2	18.8	69.8	1	1	5.0	5.0	5.0	9	5	8.6	13.8	24.5	16	11	2.6	23.1	59.0	10	10	9.9	21.6	44.8
1985	17	8	3.8	19.6	42.6	0	0	0.0	0.0	0.0	7	7	5.3	10.5	16.5	19	12	2.0	22.5	52.3	12	12	12.0	18.6	37.8
1986	62	24	4.0	25.8	63.0	6	5	17.8	24.4	35.5	6	4	11.0	19.0	38.3	54	30	2.1	22.6	76.5	6	6	1.1	9.6	19.8
1987	16	8	0.9	22.7	80.8	14	9	2.4	25.5	42.8	26	18	3.5	13.2	29.9	43	28	2.6	21.6	119.8	16	14	4.0	22.2	41.3
1988	0	8	0.0	0.0	0.0	10	4	3.9	25.2	34.2	12	3	3.5	16.8	60.6	12	31	11.0	18.1	34.4	9	11	9.9	22.9	38.6
1989	8	2	22.4	32.1	50.6	4	2	15.7	22.6	28.1	7	7	16.1	30.1	60.6	22	17	10.4	25.1	53.5	20	14	9.7	28.6	56.4
1990	21	11	16.8	33.6	59.5	5	2	18.3	35.2	63.6	15	9	1.1	28.3	83.2	15	10	12.8	23.9	38.0	13	11	9.6	29.0	50.8
1991	60	23	6.0	30.1	91.9	1	1	30.4	30.4	30.4	18	14	1.4	23.2	39.4	47	24	10.5	24.4	48.2	8	8	10.1	20.7	31.7
1992	21	15	12.3	25.4	39.4	13	12	6.7	25.1	73.2	34	16	12.9	44.8	85.7	36	39	1.4	21.0	53.3	53	48	5.7	19.5	83.2
1993	20	8	10.0	23.2	41.8	9	7	6.6	30.1	72.1	29	11	14.7	40.6	78.4	39	36	2.8	26.1	84.5	30	22	8.8	20.8	38.1
1994	44	18	12.7	39.3	167.4	6	4	14.9	29.1	54.1	21	19	13.7	28.0	58.4	50	41	4.3	24.9	64.0	25	24	5.1	25.1	48.0
1995	18	9	9.8	34.9	56.3	6	5	0.7	22.1	43.3	4	4	16.7	21.5	26.0	39	31	1.4	21.6	50.0	9	9	15.4	33.7	66.1
1996	40	11	2.1	26.5	39.5	5	4	2.2	18.8	32.9	12	8	13.9	27.5	53.7	62	45	14.3	29.3	72.2	29	27	12.6	21.1	56.8
1997	49	24	5.1	22.2	56.7	11	11	3.5	34.3	58.4	6	5	21.3	31.7	54.3	94	55	7.6	28.2	104.6	31	25	9.9	27.5	67.9

Year	LA					MS					AL					FLW					FLE				
	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	14	10	13.4	31.5	72.3	11	9	21.9	34.3	45.9	8	8	14.6	33.0	61.9	105	73	5.5	30.3	158.4	38	34	11.9	28.4	51.0
1999	27	16	18.3	36.3	63.0	10	8	25.7	41.3	66.9	17	14	11.8	50.0	206.4	117	93	4.5	29.0	89.4	99	58	8.3	30.6	121.3
2000	25	14	17.8	29.9	48.7	9	5	10.3	37.8	59.9	10	10	22.0	38.8	85.6	99	79	1.7	25.7	67.3	47	39	9.6	26.3	49.7
2001	13	6	17.1	27.9	48.4	5	4	8.9	28.0	43.6	19	16	16.1	39.4	76.5	129	96	6.2	26.3	97.2	58	46	7.7	23.2	40.3
2002	52	24	10.3	26.6	59.4	15	9	13.3	28.8	47.1	17	17	18.4	52.1	159.7	85	72	6.1	22.8	52.2	61	48	10.1	24.3	51.5
2003	83	33	14.7	27.2	55.2	3	3	19.4	31.1	45.3	14	12	14.3	42.7	75.8	149	105	5.4	23.4	51.2	87	68	11.9	28.7	49.9
2004	99	37	12.1	24.2	53.7	11	3	11.3	28.2	44.1	15	15	4.2	27.4	57.8	114	81	9.9	25.8	51.5	50	33	13.4	28.3	55.1
2005	86	27	10.5	24.5	44.6	1	1	32.9	32.9	32.9	7	7	5.5	15.1	23.8	109	72	11.7	27.3	52.3	36	30	16.2	27.4	51.2
2006	81	41	11.6	28.0	58.1	1	1	23.9	23.9	23.9	8	8	11.2	24.1	33.2	61	48	9.6	22.7	48.7	79	52	11.1	21.9	40.5
2007	91	31	9.9	25.7	93.7	4	2	13.8	25.7	50.0	8	8	18.1	28.1	58.8	80	64	8.5	24.0	52.9	43	28	14.0	24.5	50.3
2008	29	13	11.9	24.4	48.0	4	2	13.8	25.1	50.0	4	2	15.4	29.9	52.5	66	54	12.0	21.1	46.3	39	33	9.9	25.8	39.9
2009	15	6	12.1	22.5	48.0	4	4	11.8	15.6	19.9	10	9	13.1	26.0	52.5	36	32	7.1	22.9	47.3	38	33	6.1	19.1	41.3
2010	0	0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	6	3	13.4	24.9	47.5	81	50	14.1	23.7	52.6	88	65	10.6	21.3	39.8
2011	26	14	14.9	33.6	47.8	9	4	11.8	19.5	31.9	14	11	13.0	22.3	51.7	66	51	10.2	25.8	60.2	93	49	1.0	22.7	47.8
2012	25	15	14.9	23.4	40.8	10	4	11.4	31.5	53.8	15	12	13.2	36.8	64.1	67	55	6.7	21.9	67.7	51	41	10.2	27.0	55.0
2013	52	29	14.9	25.8	47.1	20	9	11.4	21.7	54.9	10	8	10.9	16.7	28.7	33	29	6.7	24.1	67.7	28	24	12.8	19.8	35.9
2014						19	15	9.1	18.8	27.5	25	22	10.9	21.8	54.0	59	53	10.3	22.8	53.4	108	71	6.3	23.2	51.3
2015						5	4	16.6	20.9	27.6	27	19	10.8	23.2	69.6	53	42	10.7	20.0	55.4	78	63	11.2	22.3	62.5
2016						9	6	13.3	17.8	30.2	29	19	10.8	17.5	35.3	46	40	0.7	21.9	48.9	52	43	6.7	20.3	38.6
2017						11	9	11.9	20.7	48.5	14	11	13.2	22.7	36.6	46	33	11.8	19.3	48.5	51	33	11.2	19.1	34.8
2018						12	9	14.2	25.7	42.4	7	7	17.1	24.0	35.3	29	25	10.3	21.7	44.3	41	22	11.0	20.8	53.4

Table 8. Summary of length measurements (millimeters total length) from TPWD-intercepted *Cobia* by 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	Fish	Trp	Min	Avg	Max
1983	25	21	470	1,069	1,468
1984	21	18	283	958	1,460
1985	27	24	290	932	1,266
1986	19	14	760	955	1,382
1987	31	23	392	920	1,360
1988	19	14	501	954	1,290
1989	20	15	245	902	1,237
1990	18	14	240	1,043	1,510
1991	22	20	240	906	1,220
1992	33	25	482	1,082	1,500
1993	23	17	729	1,039	1,441
1994	46	37	394	953	1,469
1995	47	42	727	1,029	1,385
1996	122	88	686	1,078	1,580
1997	85	73	563	1,072	1,820
1998	84	65	767	1,090	1,406
1999	48	41	775	1,084	1,497
2000	52	40	604	1,064	1,650
2001	47	39	904	1,057	1,403
2002	34	29	509	969	1,290
2003	76	58	828	1,026	1,700
2004	63	43	873	1,088	1,603
2005	51	37	531	1,016	1,478
2006	71	60	688	1,052	1,904
2007	64	52	335	1,036	1,402
2008	91	65	830	1,052	1,445
2009	86	59	600	1,073	1,606
2010	49	33	812	1,091	1,641
2011	59	46	861	1,074	1,440
2012	63	47	891	1,076	1,521
2013	43	36	816	1,037	1,304
2014	62	45	869	1,051	1,559
2015	82	57	806	1,065	1,500
2016	72	50	442	1,041	1,715
2017	55	46	824	1,099	1,444
2018	68	57	694	1,085	1,900

Table 9. *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 (1981-1985) represent the area between Texas to the Florida Keys.*

Year	Cbt	Hbt	Priv	Shore	Total
1981	619,019	201,758	18,266,186	39,038,970	58,125,933
1982	889,449	326,411	22,060,780	51,622,906	74,899,546
1983	887,160	293,935	23,885,757	54,542,201	79,609,053
1984	861,470	281,008	26,603,425	53,421,586	81,167,489
1985	917,874	315,954	25,567,831	52,860,601	79,662,260
1986	1,065,434		26,000,832	50,202,903	77,269,169
1987	1,023,919		27,204,889	51,730,943	79,959,751
1988	869,664		26,881,977	52,252,621	80,004,262
1989	1,068,067		28,010,046	52,947,053	82,025,166
1990	952,449		27,981,651	51,718,991	80,653,091
1991	934,385		29,783,845	60,015,357	90,733,587
1992	882,070		30,215,379	54,795,967	85,893,416
1993	995,842		31,865,520	56,883,338	89,744,700
1994	1,042,569		32,051,983	56,232,030	89,326,582
1995	1,145,459		31,596,301	51,392,030	84,133,790
1996	1,093,809		32,288,243	52,433,063	85,815,115
1997	1,081,048		33,722,289	52,976,683	87,780,020
1998	1,126,312		34,468,501	53,894,463	89,489,276
1999	1,092,147		36,840,444	56,203,448	94,136,039
2000	1,009,907		39,095,422	60,705,288	100,810,617
2001	1,120,603		40,298,933	61,835,062	103,254,598
2002	1,175,487		40,283,013	58,619,629	100,078,129
2003	1,096,107		42,435,551	60,679,895	104,211,553
2004	1,162,702		44,512,967	64,004,111	109,679,780
2005	1,045,351		44,045,089	61,846,386	106,936,826
2006	1,166,733		44,097,430	59,463,616	104,727,779
2007	1,218,570		45,342,534	61,291,756	107,852,860
2008	1,122,486		45,763,527	60,098,477	106,984,490
2009	1,118,251		45,741,377	59,927,351	106,786,979
2010	864,256		48,466,595	61,153,067	110,483,918
2011	1,051,595		46,230,658	61,375,769	108,658,022
2012	1,277,146		46,076,270	60,036,237	107,389,653
2013	1,210,345		43,982,097	61,396,751	106,589,193
2014	1,261,885		39,189,714	56,254,519	96,706,118
2015	1,443,339		36,620,406	54,960,462	93,024,207
2016	1,530,670		37,114,635	54,460,249	93,105,554
2017	1,504,965		37,011,973	60,525,826	99,042,764
2018	1,646,913		38,421,759	59,649,535	99,718,207

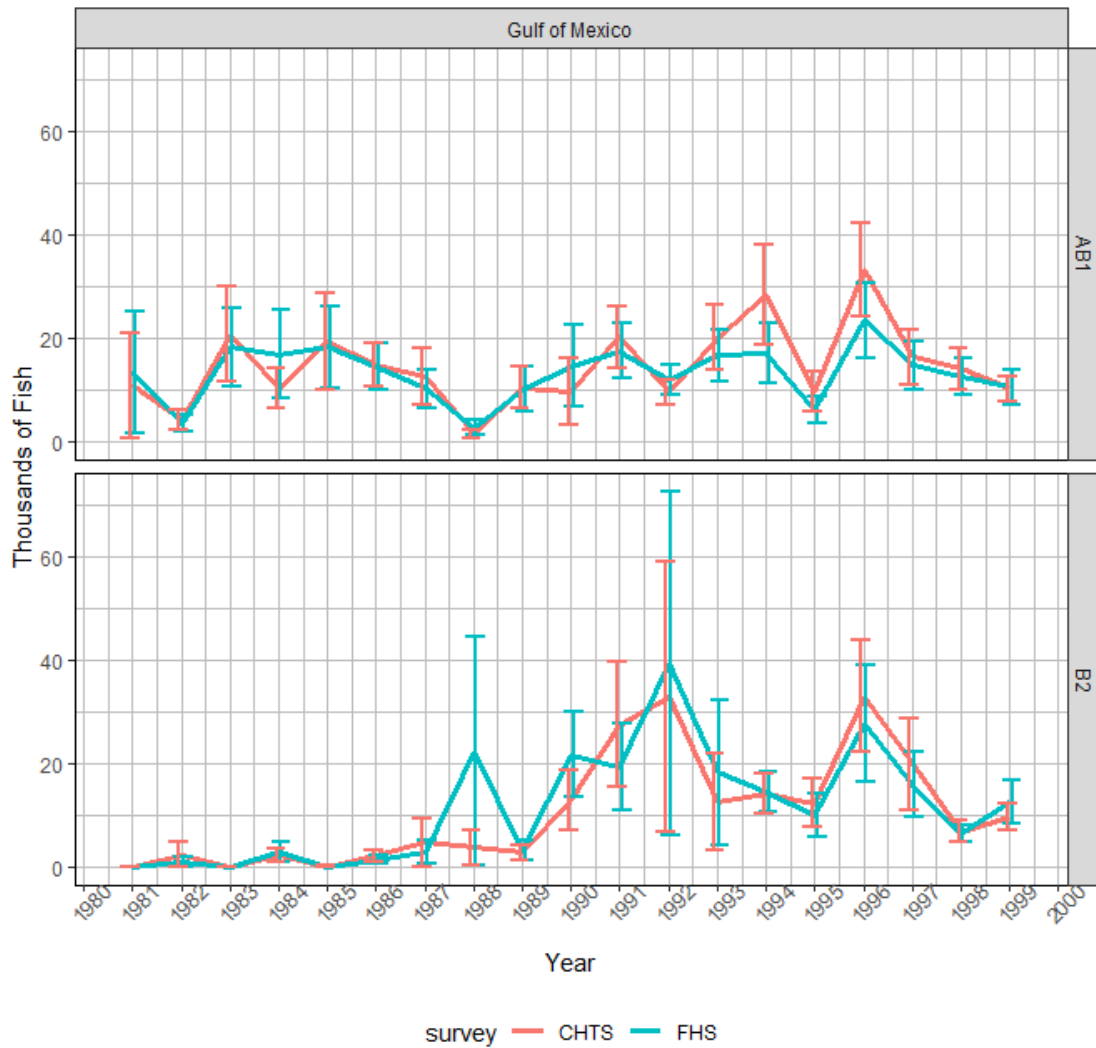


Figure 1. Comparison of charterboat landings (AB1) and discard (B2) estimates (with standard error intervals shown) for Cobia from the Coastal Household Telephone Survey (CHTS) and For-Hire Survey (FHS) from the Gulf of Mexico between 1981 to 1999.

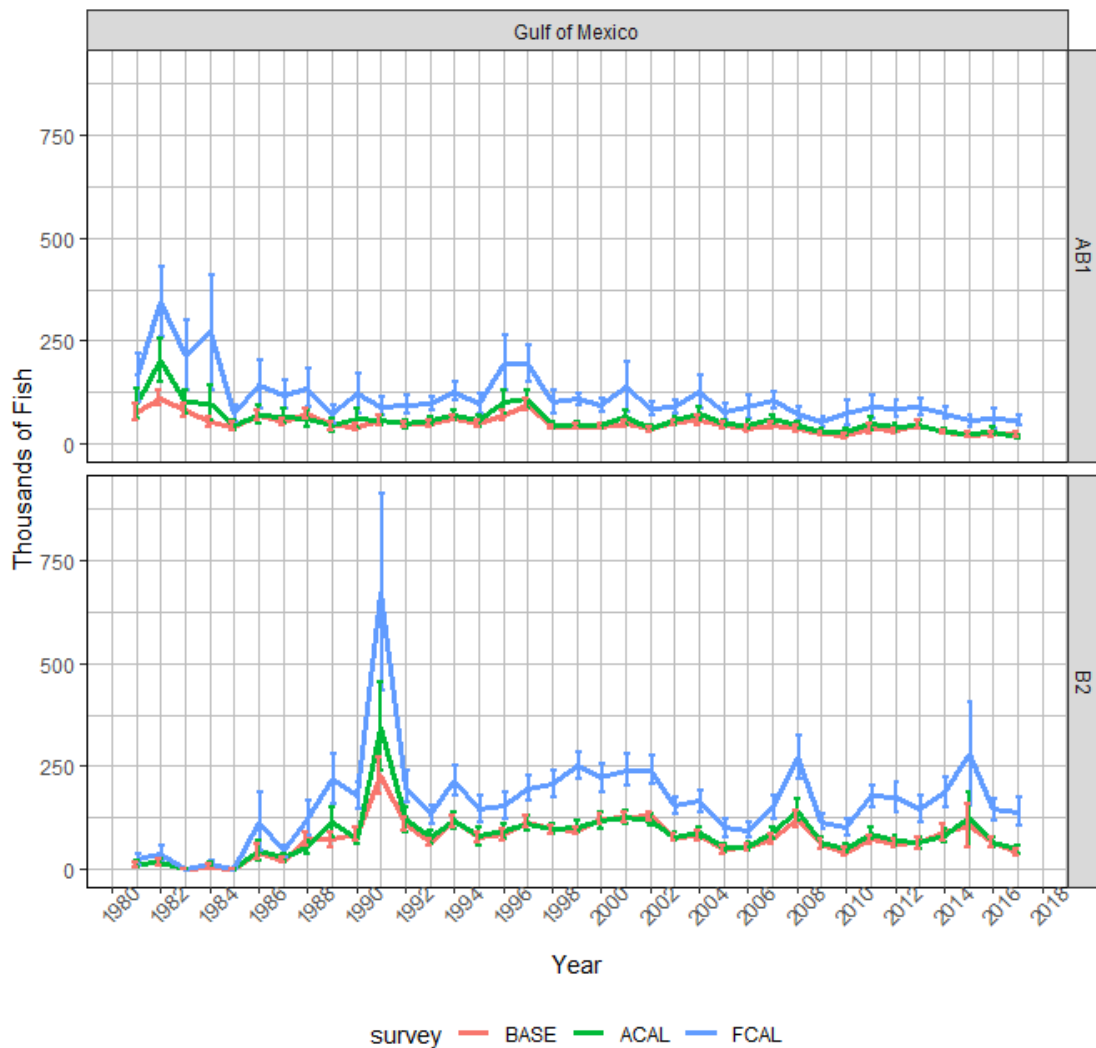


Figure 2. MRIP Base (BASE), APAIS Calibrated (ACAL), and Fully Calibrated APAIS and FES (FCAL) catch estimates for Cobia in the Gulf of Mexico. Landings (AB1) and discard (B2) estimates are in thousands of fish. Estimates in this figure do not include East Florida as these domains are not available from the MRIP online comparison tool (NMFS). Refer to Figure 2a to compare calibrations of Cobia catch estimates from East Florida.

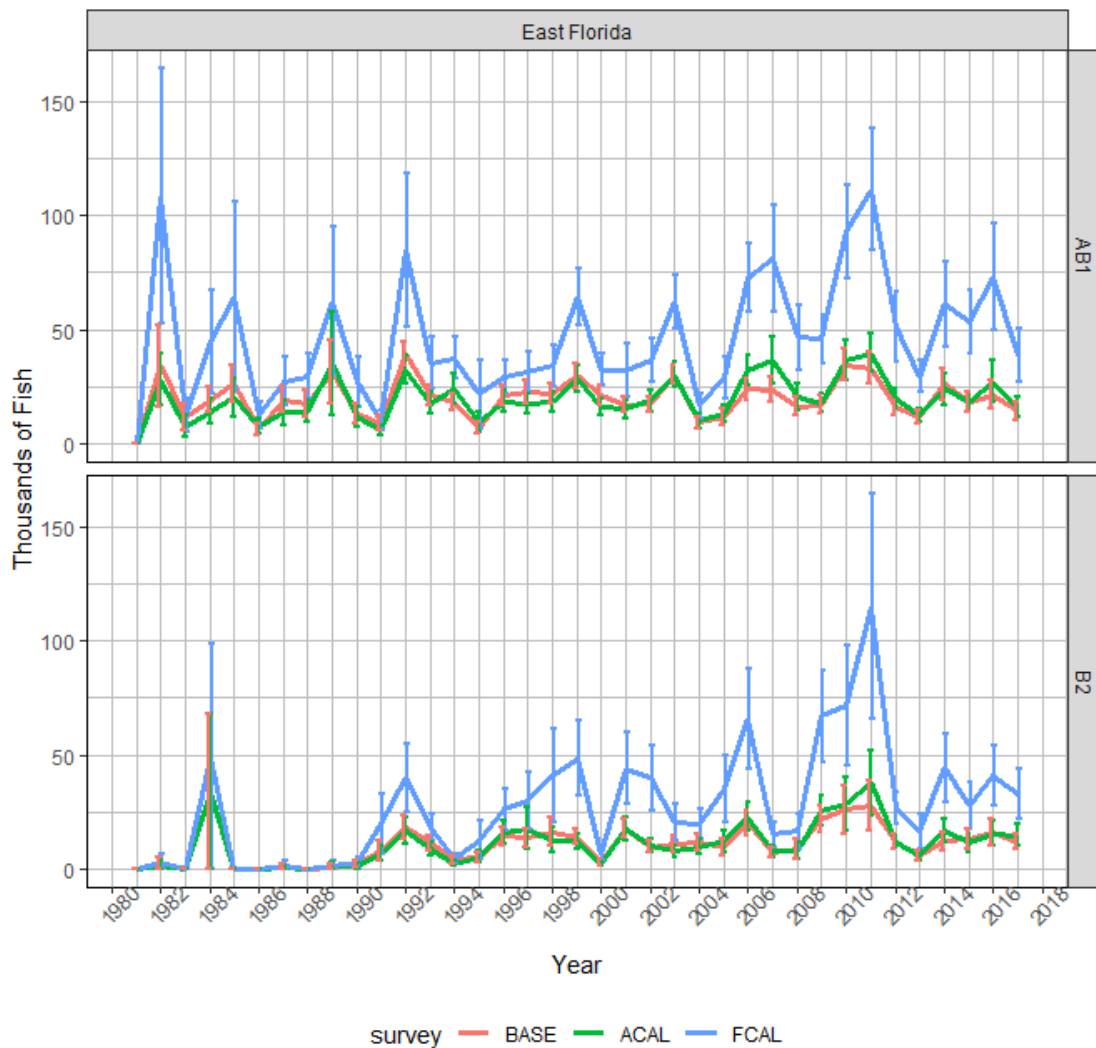


Figure 2a. MRIP Base (BASE), APAIS Calibrated (ACAL), and Fully Calibrated APAIS and FES (FCAL) catch estimates for Cobia in East Florida. Landings (AB1) and discard (B2) estimates are in thousands of fish (NMFS).

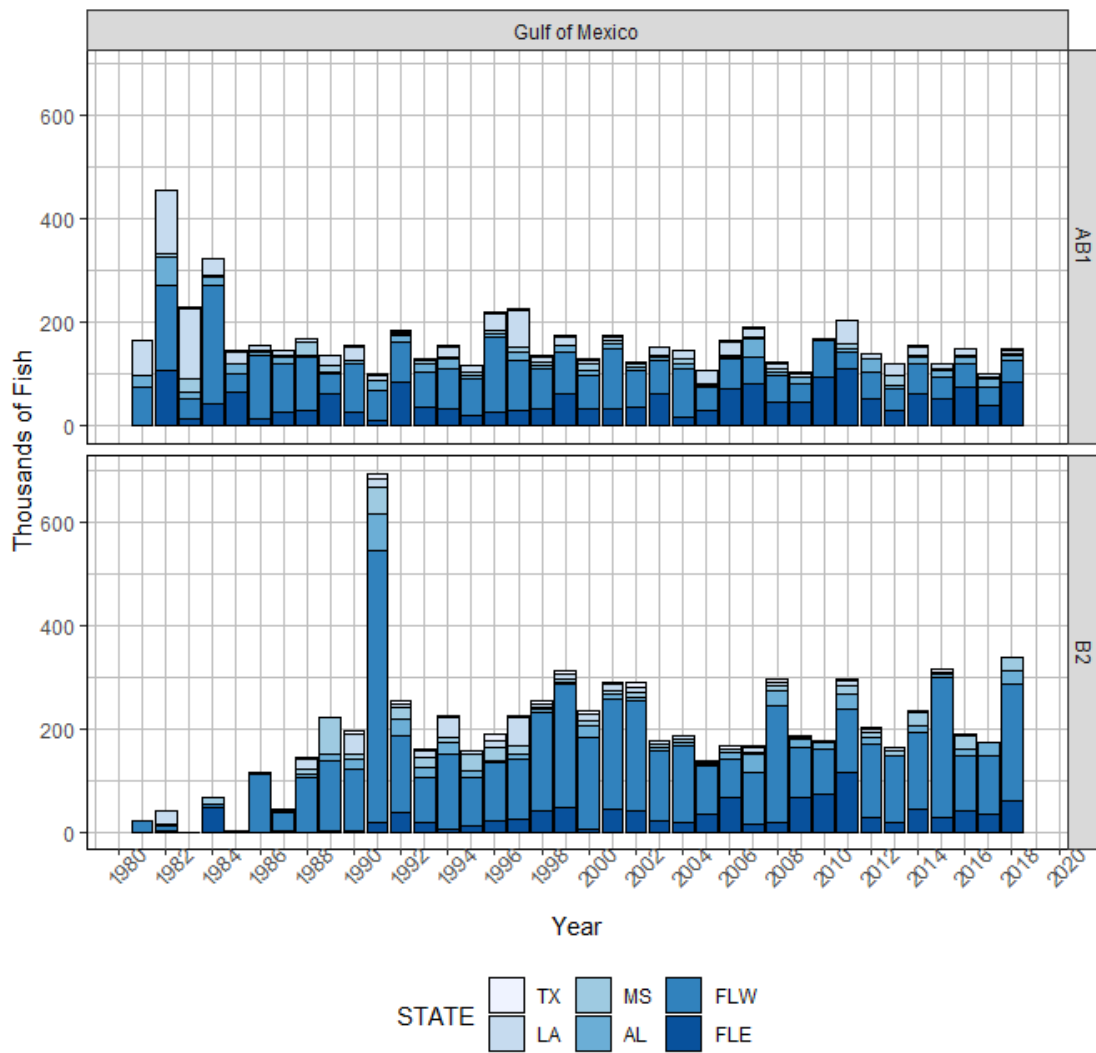


Figure 3. Annual Cobia landings (AB1) and discards (B2), in thousands of fish, by state from 1981 to 2018 (MRIP, TPWD, LACreel).

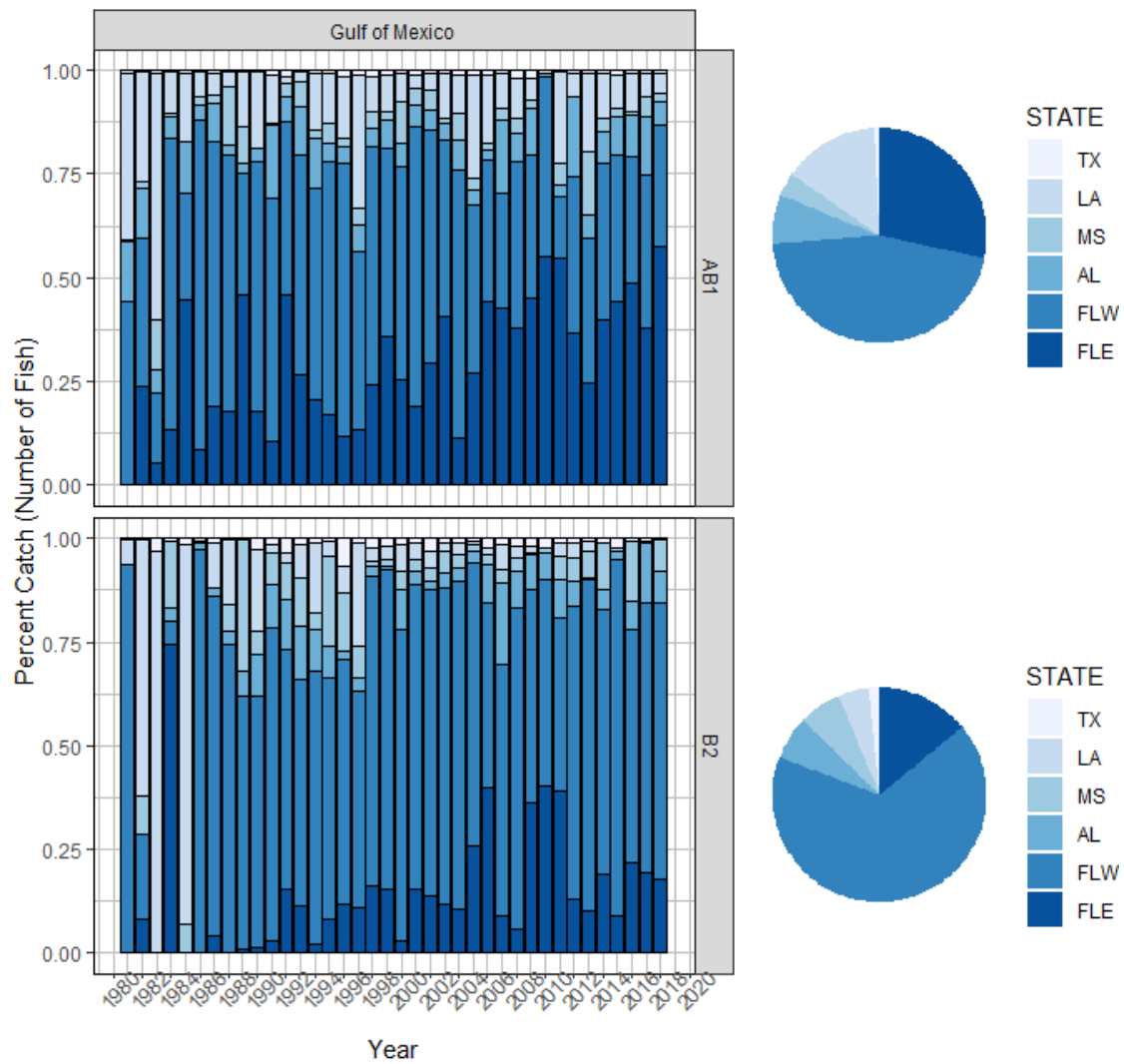


Figure 3a. Percent of Cobia landings (AB1) and discards (B2), in numbers of fish, from each state by year (bar graph) and overall (pie chart) between 1981 and 2018 (MRIP, TPWD, LACreel).

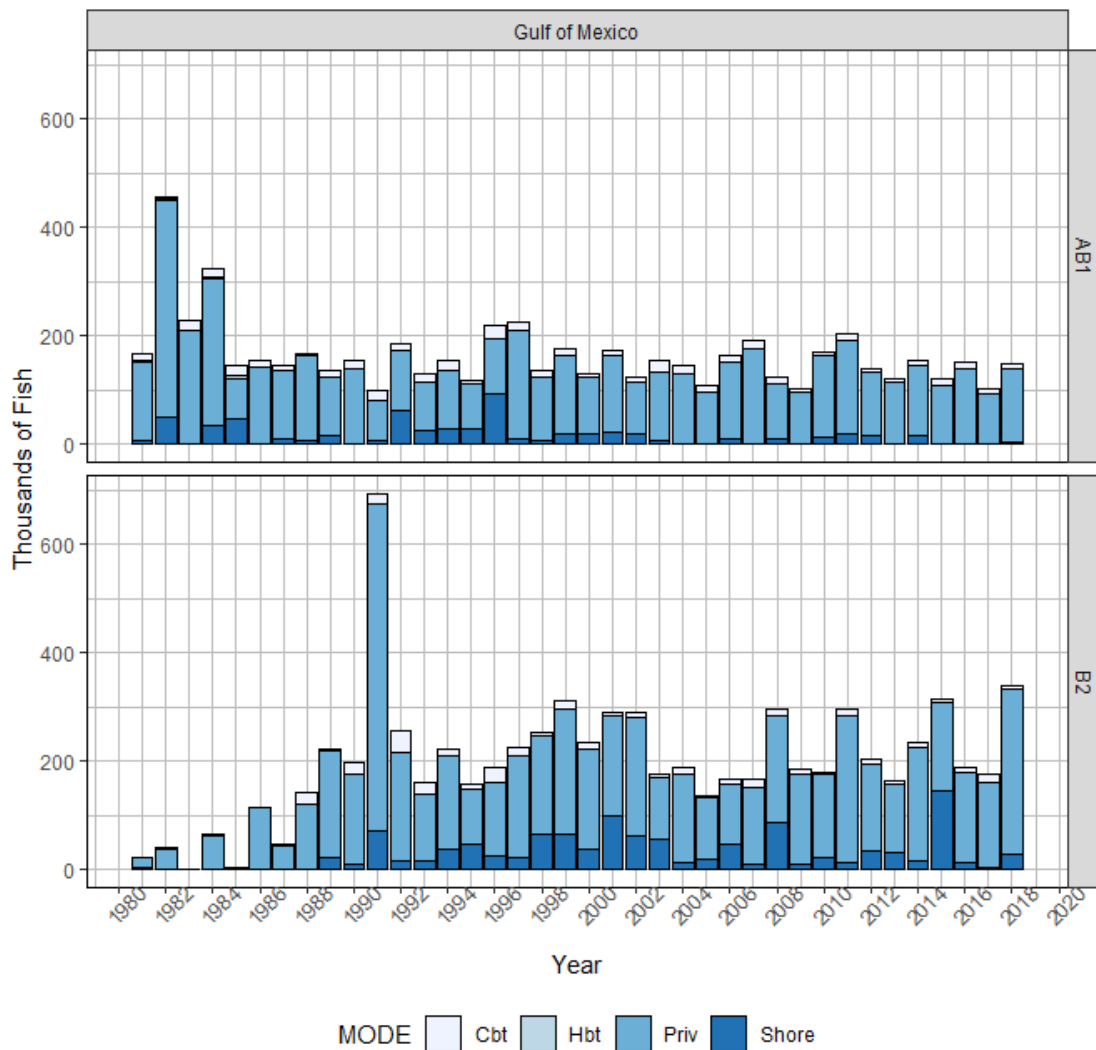


Figure 4. Annual Cobia landings (AB1) and discards (B2), in thousands of fish, by mode from 1981 to 2018 (MRIP, TPWD, LACreel). Note that catch from the combined private-shore fishing mode in the LA Creel survey has been added to the private mode. MRIP Headboat estimates (1981-1985) represent the area between Texas to the Florida Keys.

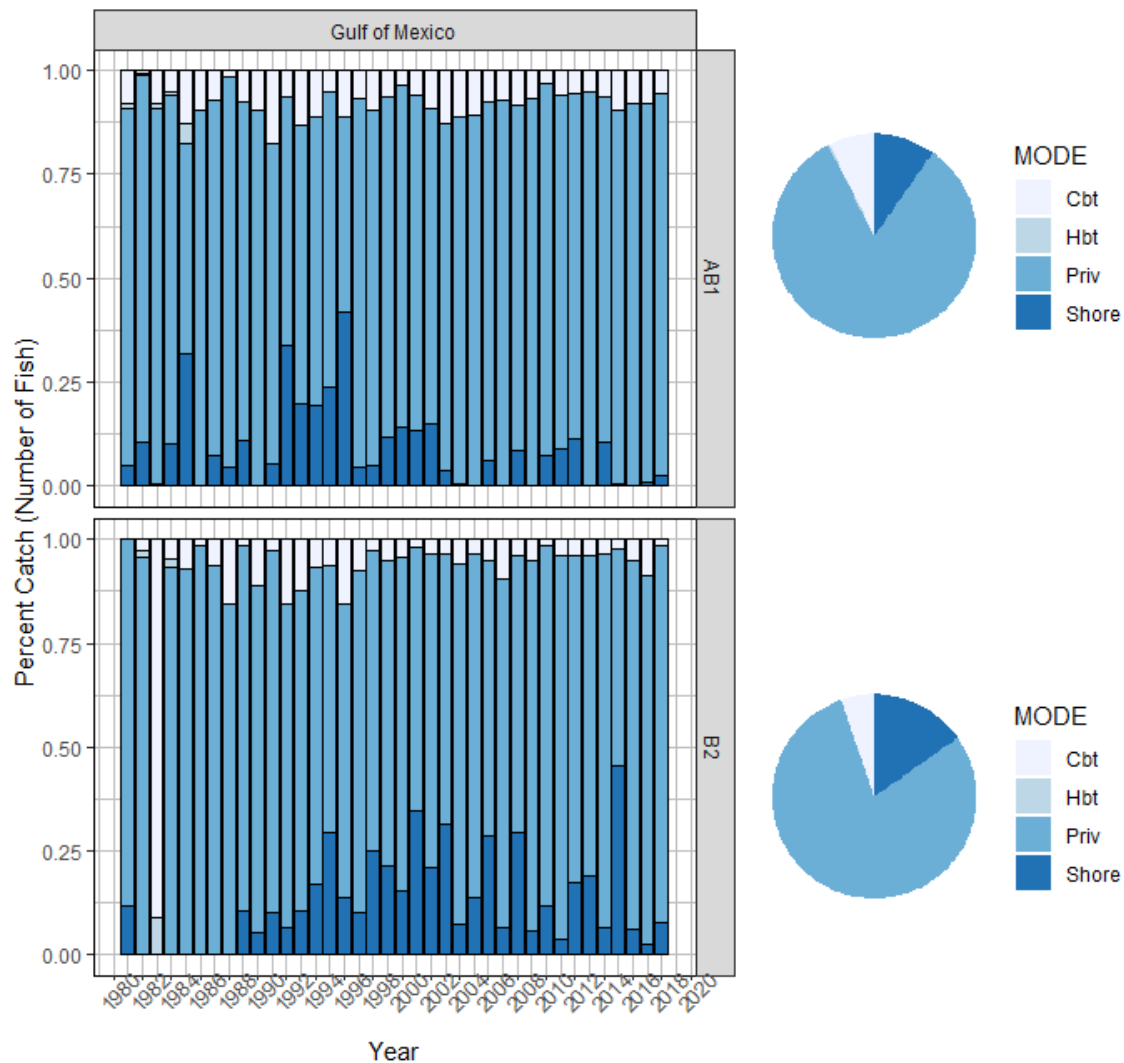


Figure 4a. Percent of Cobia landings (AB1) and discards (B2), in numbers of fish, from each mode by year (bar graph) and overall (pie chart) between 1981 and 2018 (MRIP, TPWD, LACreel). Note that catch from the combined private-shore fishing mode in the LA Creel survey has been added to the private mode.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



Figure 5. Estimates of annual landings for Cobia 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).