

Estimated Gulf of Mexico greater amberjack recreational landings (MRFSS,  
Headboat, TXPW) for 1981-2004

by

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MRFSS landings

Throughout the time series, the MRFSS data set showed a variable number of unidentified fish reported just as 'Family Carangidae' or 'genus *Seriola*'. Estimated landings and discards presented in this document include only those fish reported as greater amberjack and unidentified fish of the genus *Seriola*. For the assessment it is recommended to develop a methodology based on species composition of the landings to attempt to identify those fish reported to the level of family or genus.

In year 2000, MRFSS adopted a new methodology to estimate Charterboat effort named 'For Hire Survey' (FHS). Document SEDAR7-AW-03, prepared for the 2004 red snapper assessment workshop, presented an alternative methodology based on ratios to calibrate charterboat effort estimates for the Gulf of Mexico for the period 1981-1997. Table 1 shows the estimated MRFSS landings and associated coefficient of variations by mode and year obtained after adjusting charterboat estimated effort and landings for the period 1981-1997. In general, estimated landings by the charterboat and private boat modes were similar, except for the period 1991-1994 when charterboat landings greatly exceeded those from the private boat fishery (Figure 1). Total Gulf of Mexico greater amberjack landings showed great variability from 1981 through 1989 followed by a period of decline until the mid 90's. From the late '90s to the present, landings showed a constant increase.

Table 2 presents the estimated number of discards (B2) by mode and year. Like the AB1 estimates presented in Table 1, charterboat estimated effort and discards were also adjusted for the period 81-97. Figure 2 shows the number of estimated discards (B2) for all modes combined. In general, discards increased from the beginning of the time series to 1992 and decreased from that point until 1997. An increasing trend in estimated discards followed until they reached the highest point of the time series in 2001 and decreased again

from that point to 2004. Figure 3 shows the total number of amberjack landed (AB1) and discarded (B2) for both modes combined.

Table 3 shows the estimated ratios of discards (B2) to total catch (A+B1+B2) obtained by combining landings and discards by the charterboat and private boat and charter+headboat modes.

For comparison purposes only, Figure 4 shows greater amberjack landings (all modes combined) estimated with both the 'old' and the FHS methodology.

#### Headboat landings

Headboat survey landing estimates are available from 1986. Table 4 shows the estimated landings by area. In general, most landings originated in the SW-Central FL region. This region accounts for approximately 48% of all landings (all years combined). The largest landings correspond to 1986. Afterwards, landings followed a declining trend and reach the lowest value of the time series in 1998. From 1999 to 2003 greater amberjack landings increased reaching in 2003 the highest value since 1994.

#### TXPW landings

Estimated landings from TXPW are available from 1983 and are presented in Table 5. With the exception of year 1993, 2002, and 2003, the majority of the landings correspond to the private boat fishery. Total landings were very high in 1983 and 1984 due to the contribution of the Headboat fishery and sharply declined afterwards. Total landings showed a decline from the mid 80's to 1990. Landings peaked in 1993 reaching the largest value of the time series at approximately 17,000 fish and declined to the lowest level in the fishery the following year (239 fish). This large value is the result of the single contribution of the charterboat fishery (16,858 fish). Total landings slightly increased from 1993 to 1997 and then decreased to the second lowest value of the time series in 1999, since then total landings showed an increasing trend. The series of estimated landings for the charterboat fishery seems to be incomplete. Figure 5 shows the estimated landings from TXPW only for the charterboat and private boat fisheries combined.

Table 1: Estimated greater amberjack landings (A+B1) and associated coefficient of variation (CV) for charterboat (mode 3), private boat (mode 4) and the combined charterboat-headboat mode (mode 5).

Year	Shore		Charterboat		Private boat		Charterboat + headboat		Total
	Landings	CV	Landings	CV	Landings	CV	Landings	CV	
1981					97,795	0.32	13,773	0.54	111,569
1982	12,307	0.87			149,066	0.35	479,900	0.78	641,274
1983					47,390	0.33	191,678	0.47	239,068
1984	7,073	0.71			4,477	1.00	89,008	0.56	100,558
1985					37,579	0.52	156,220	0.47	193,799
1986			254,003	0.24	97,892	0.26			351,895
1987	4,351	0.73	293,391	0.28	192,545	0.20			490,286
1988	25,078	0.49	140,579	0.31	79,549	0.20			245,206
1989	126,747	0.48	158,556	0.31	193,263	0.22			478,566
1990	1,278	0.47	23,735	0.53	38,616	0.44			63,629
1991	8,152	1.00	227,427	0.33	11,812	0.33			247,390
1992	53,487	1.00	123,756	0.20	33,649	0.17			210,891
1993	3,703	0.60	104,232	0.45	33,809	0.22			141,744
1994			83,733	0.25	19,025	0.26			102,758
1995			17,160	0.33	24,178	0.49			41,338
1996			49,111	0.42	32,243	0.25			81,353
1997			35,807	0.33	13,264	0.33			49,072
1998	13,149	0.99	19,139	0.09	8,828	0.28			41,115
1999	455	1.00	28,925	0.90	18,364	0.24			46,745
2000	3,796	0.58	36,853	0.80	17,785	0.25			58,434
2001			29,060	0.11	38,063	0.19			67,123
2002			73,973	0.06	41,143	0.17			115,115
2003			64,387	0.06	81,071	0.15			145,457
2004			54,211	0.06	48,540	0.18			102,751
Total	259,575		1,817,038		1,359,945		930,580		4,367,138

Table 2: Estimated greater amberjack discards (B2) and associated coefficient of variation (CV) for charterboat (mode 3), private boat (mode 4) and the combined charterboat-headboat mode (mode 5).

Year	Shore		Charterboat		Private boat		Charterboat + headboat		Total
	Discards	CV	Discards	CV	Discards	CV	Discards	CV	
1981	14,952	0.91			5,132	0.60	0		20,084
1982	32,829	0.65			31,165	0.66	19,964	1.49	83,957
1983					64,649	0.83	15,141	1.08	79,790
1984					5,242	1.00	3,500	0.86	8,742
1985					0		0		0
1986			31,273	0.45	68,262	0.32			99,535
1987	5,773	0.81	10,278	0.47	25,549	0.50			41,600
1988			1,404	0.67	31,411	0.38			32,816
1989	75,621	0.50	7,866	0.61	81,690	0.49			165,177
1990	5,174	1.00	23,748	0.48	46,475	0.67			75,397
1991	17,046	1.00	223,034	0.32	29,290	0.40			269,370
1992	140,147	0.78	91,422	0.26	86,205	0.20			317,775
1993	17,808	0.32	109,152	0.21	68,609	0.25			195,570
1994	7,201	0.69	65,235	0.33	44,957	0.36			117,393
1995	4,649	0.61	10,986	0.53	55,997	0.26			71,632
1996	8,873	42.0	42,719	0.72	21,065	0.37			72,657
1997	1,541	1.00	22,723	0.42	21,428	0.26			45,692
1998	2,005	0.71	40,668	0.13	55,715	0.30			98,387
1999	4,033	0.62	44,006	0.09	51,201	0.23			99,240
2000	5,845	0.52	32,922	0.09	86,802	0.19			125,570
2001	20,401	0.89	56,422	0.09	387,050	0.21			463,872
2002	3,477	0.61	81,799	0.07	182,489	0.14			267,764
2003			56,882	0.07	171,092	0.17			227,974
2004	9,577	0.67	30,787	0.08	123,341	0.18			163,705
Total	376,951		983,326		1,744,815				3,143,697

Table 3: Estimated ratios of discards to total catch ( $B2/A+B1+B2$ ) for the charterboat and private boat combined

Year	Ratio
1981	0.044
1982	0.075
1983	0.250
1984	0.086
1985	0.000
1986	0.220
1987	0.069
1988	0.130
1989	0.203
1990	0.530
1991	0.513
1992	0.530
1993	0.563
1994	0.517
1995	0.618
1996	0.439
1997	0.474
1998	0.775
1999	0.673
2000	0.687
2001	0.869
2002	0.697
2003	0.610
2004	0.600

Table 4: Estimated greater amberjack landings (in numbers) by the Headboat fishery.

Year	FL	FL-AL	LA	TX	Total
1986	55,040	20,760	739	9,485	86,024
1987	22,688	20,623	402	9,179	52,892
1988	15,628	4,845	1,251	7,936	29,660
1989	17,052	25,693	216	9,560	52,521
1990	20,689	621	245	2,705	24,260
1991	4,836	1,489	1,097	2,430	9,852
1992	8,388	1,525	3,932	5,902	19,747
1993	5,614	761	2,989	4,689	14,053
1994	5,886	990	1,697	4,543	13,116
1995	2,129	599	1,456	4,486	8,670
1996	2,191	1,035	3,841	3,444	10,511
1997	2,960	691	945	2,942	7,538
1998	2,079	470	663	1,898	5,110
1999	2,462	954	990	880	5,286
2000	2,616	1,584	147	1,653	6,000
2001	1,579	806	2,142	1,482	6,009
2002	3,494	1,370	2,167	3,658	10,689
2003	3,178	1,790	2,699	4,309	11,976
Total	178,509	86,606	27,618	81,181	373,914

Table 5: Estimated landings by TXPD by mode and year.

Year	Headboat	Charterboat	Private boat	Total
1983	64,449		2,397	66,846
1984	38,510		8,139	46,649
1985		372	3,157	3,529
1986		485	5,929	6,414
1987			4,434	4,434
1988		203	1,547	1,750
1989		813	1,169	1,982
1990			835	835
1991			1,816	1,816
1992			4,851	4,851
1993		16,858	344	17,202
1994			239	239
1995		76	337	413
1996		268	517	785
1997		472	969	1,441
1998		48	403	451
1999		55	277	332
2000		78	503	581
2001		450	753	1,203
2002		1,886	1,731	3,617
2003		1,603	1,264	2,867
Total	102,959	23,667	41,611	168,237

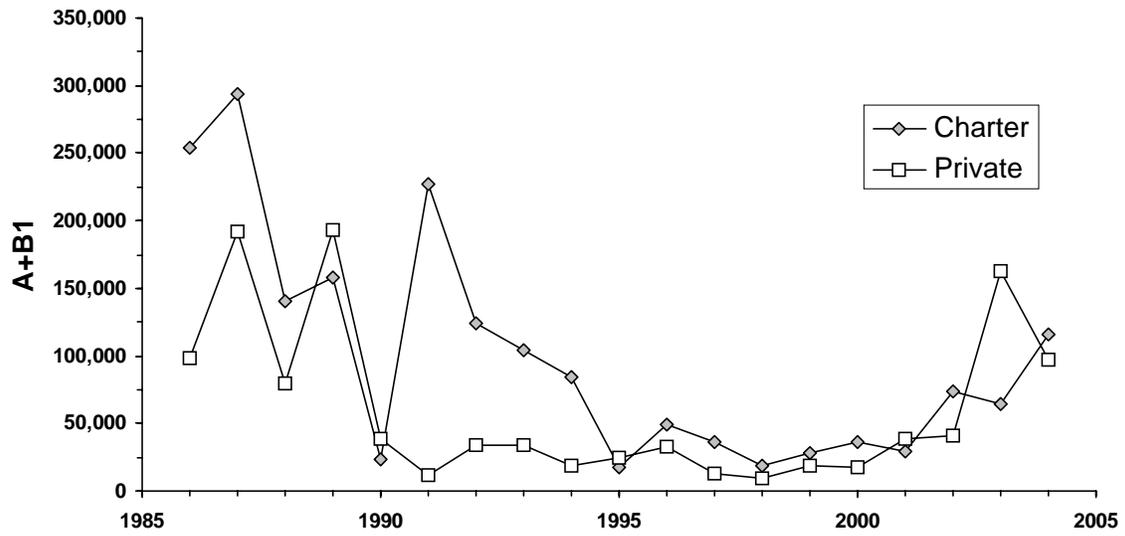


Figure 1: MRFSS estimated number of greater amberjack landings (A+B1) by the charterboat and private boat modes.

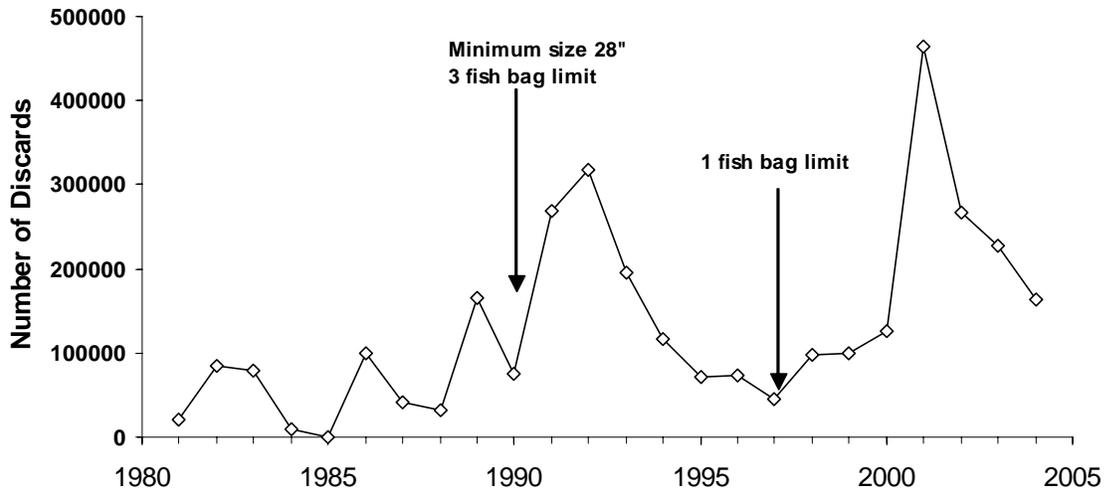


Figure 2: MRFSS estimated number of discards (B2) by the charterboat and private boat modes combined.

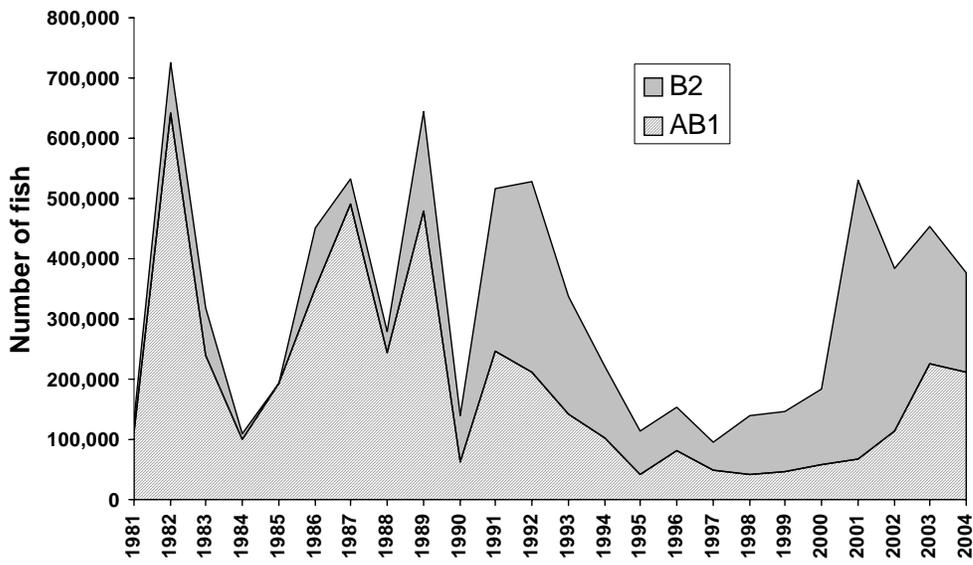


Figure 3: MRFSS estimated number of total number of greater amberjack landed (AB1) and discarded (B2) by the charterboat and private boat modes combined.

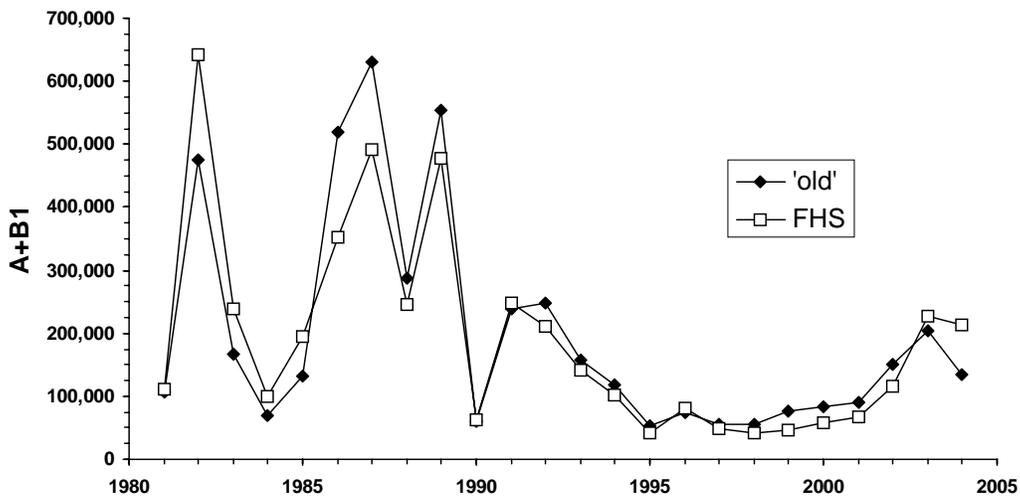


Figure 4: MRFSS estimated number of greater amberjack landed (A+B1) by the 'old' method and after adjustment of charterboat effort estimates by the FHS method.

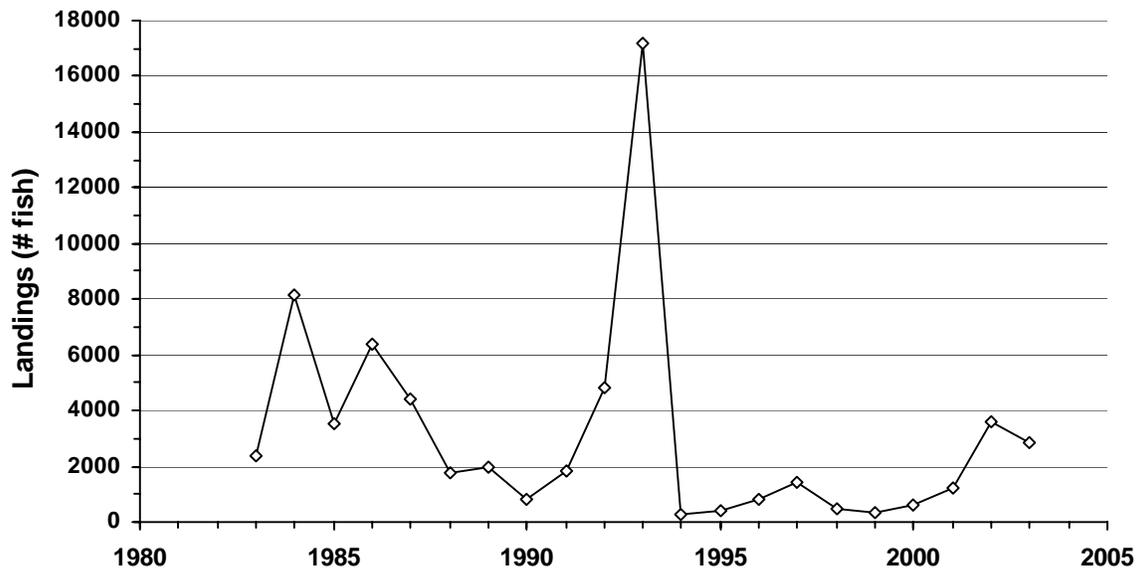


Figure 5: TXPW estimated number of landings by the charterboat and private boat modes combined.