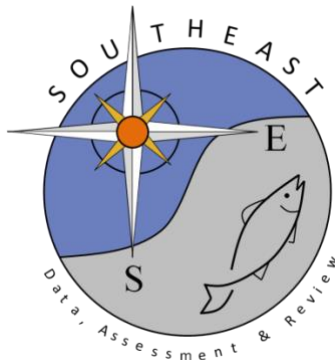


Commercial Landings of Gray Triggerfish (*Balistes capriscus*) in the Gulf of Mexico

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SEDAR62-WP-19

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Commercial Landings of Gray Triggerfish (*Balistes capricus*)
In the Gulf of Mexico

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The SEDAR 62 assessment followed a standard approach and addresses the stock of Gulf of Mexico Gray Triggerfish. Commercial landings for Gray Triggerfish were compiled from records in the NOAA Southeastern Fisheries Science Center's (SEFSC) Accumulated Landings System (ALS). The ALS includes landings beginning in 1963. The terminal year for the SEDAR62 is 2017.

Data Sources

Commercial landings of Gray Triggerfish from the Gulf of Mexico (hereafter "Landings") were compiled from multiple recorded sources. Landings from 1963 to 1986 were compiled from the Accumulated Landings System (ALS) hosted by NOAA's Southeast Fisheries Science Center (SEFSC).

The landings data sources originated from the following four ALS data tables in ORACLE:

1. ALS.TALS_GCANV6071: Texas to Florida Annual landings data from 1963 to 1971
2. ALS.ALS_LANDINGS7278: Texas to Florida Annual landings data from 1972 to 1976
3. ALS.ALS_GENERAL_CANVASS (also called the Florida General Canvass): Annual landings data Florida from 1976 – 1985. 1976 data for Florida are duplicates of landings data in table ALS_LANDINGS7278.
4. ALS.ALS_LANDINGS: Monthly landings data for Texas, Louisiana, Mississippi and Alabama from 1977 to present. This is the main ALS table that is still currently in use and new landings data accumulate to this table.

Landings compiled after 1986 followed guidance from the benchmark assessment of SEDAR 9. Decisions made and methods used for SEDAR 9 were followed in the 2011 update of SEDAR 9. The next SEDAR assessment was also a standard assessment, this was SEDAR 43 in 2015. The current assessment, SEDAR 62, is also a standard assessment. Therefore, no significant methods have changed. For further details on the history of the SEDAR process for Gray Triggerfish, please refer to the commercial landings sections of the SEDAR reports which are available on the public SEDAR website,

SEDAR 9: http://sedarweb.org/docs/sar/SEDAR9_SAR1%20GOM%20Gray%20Triggerfish.pdf and

SEDAR 43: <http://sedarweb.org/sedar-43-final-stock-assessment-report-gulf-mexico-gray-triggerfish> .

Proportioning of Landings by Gear and Area

Collection of monthly Landings data in the ALS data base began in 1977, however these monthly Landings very often lacked gear and area information. Specifically monthly ALS landing for the landing states and time period had very limited or no information on gears used and area-fished:

- Florida 1977-1996
- Louisiana 1990-1999
- Texas 1990-2011

In SEDAR 9, the decision was made to use logbook data for apportioning Gray Triggerfish Landings to gear used and area-fished. It was determined that the logbook data, which became available in 1992, had higher accuracy for area-fished. This decision was based on the general acceptance that records regarding gear(s) used and area-fished were probably more accurately reported on the fishermen's coastal logbook (CLFP), which are completed by the fishing boat captains or designees rather than on the dealer reported trip tickets, often recorded online by secretarial staff. Therefore, proportions of commercial Gray Triggerfish Landings by year, gear and area were calculated from the CFLP logbook from 1993 through 2017.

Florida 1977-1996. For proportioning the Florida Landings from 1977 - 1996 by gears used and area-fished, i.e. gear-type and water body information, the annual ALS (Florida) General Canvass data table was used. Magnitude of Florida Landings from the annual General Canvass and monthly ALS were identical for those years (1976-1996) but the Florida General Canvass has gears used and area-fished/water body information. A general practice has now become to calculate proportions by gear and area from the annual Florida General Canvass and apply them to the Landings of monthly ALS for the years 1977-1996.

Louisiana and Texas 1990 and forward. As established in SEDAR 9 for Louisiana and Texas which had large gaps in missing gear and area information in their initial State Trip Ticket Programs, average annual proportions of gear and area by state were calculated from the coastal logbook (CLFP) applied for 1990-1999 in Louisiana and for 1990-2011 in Texas. .

Non-Florida Gulf States 1990 and forward. Logbook proportions for gear and area were also applied to Landings of the other Gulf States, i.e. Alabama, Mississippi and Florida, from 1990 onward, since it was decided by the SEDAR panelists to be more accurate than the dealer reported gear and area information

Gear Groupings

As in SEDAR 43, the workgroup's recommendation was to categorize landings into three gear groups: Handline+ (all gears other than longline are trap also included here), longline, and trap. Longline included vertical longline, trap included all pot and trap gears and handline included all other gears.

Table 1. ALS Gear Groupings used in SEDAR 62

NMFS Code	Description	Group
600	Troll & Hand Lines Combined	Handline+
610	Lines Hand, Other	Handline+
611	Rod and Reel	Handline+
612	Reel, Manual	Handline+
613	Reel, Electric or Hydraulic	Handline+
614	Long Line, Vertical	Handline+
616	Rod and Reel, Electric (Hand)	Handline+
675	Lines Long Set With Hooks	Longline
676	Lines Long, Reef Fish	Longline
677	Lines Long, Shark	Longline
345	Pots and Traps, Fish	Trap
355	Pots and Traps, Spiny Lobster	Trap
All other codes		Handline+

Regions and Area of Commercial Landings

Figure 1 shows the regions and area commercial landings. For landings from 1992-2004 gear and statistical area were assigned from log books by year and state. The eastern and western regions were separated at approximately the Mississippi River with east including statistical areas 1-12 and the west including areas 13-21.

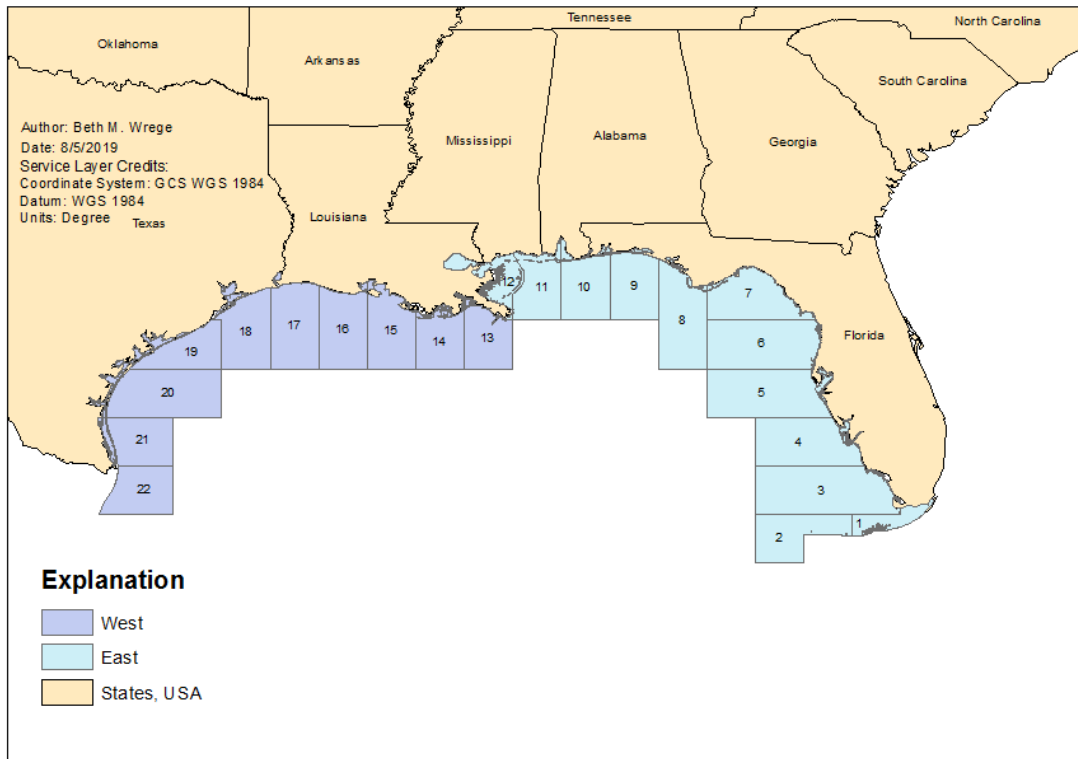


Figure 1. Map showing the NMFS statistical areas 1-21 from Key West at the Southern tip of Florida to the Texas/Mexico border. Eastern region are NMFS statistical 1-12 and NMFS statistical areas 12-21 delineate the Western Region.

Table 2. Commercial landings of Gray Triggerfish in the Gulf of Mexico 1963 to 2017 in pounds whole weight.

Year	Eastern US Gulf of Mexico			Western US Gulf of Mexico		
	Handline+	Longline	Trap	Handline+	Longline	Trap
1963	3,100			4,200		
1964	15,700			4,300		
1965	17,400			4,300		
1966	8,600			5,200		
1967	12,200			5,200		
1968	8,600			3,900		
1969	14,600			7,700		
1970	16,000			8,200		
1971	30,500			9,900		
1972	47,400			15,200		
1973	40,000			13,200		
1974	40,000			13,100		
1975	62,000			16,000		
1976	69,700			14,800		
1977	50,096			9,290		
1978	48,518			10,197		
1979	65,670			31,814	3,919	
1980	64,015	1,406		28,707	2,294	
1981	61,465	3,033		20,636	4,726	
1982	55,317	7,642		26,316	7,398	
1983	40,486	9,102		19,350	4,481	
1984	29,050	8,346		29,392	3,334	*
1985	43,333	11,507		32,230	5,556	
1986	60,397	12,461		14,919	7,863	
1987	65,974	23,339		33,653	637	
1988	124,927	13,051		54,586	2,498	
1989	187,798	30,166	12,397	77,330	9,941	
1990	270,238	12,979	76,469	99,018	279	*
1991	341,216	*	*	103,179	*	
1992	183,096	151,981	23,101	112,376	*	*
1993	287,183	*	80,782	174,369	*	2,657
1994	200,702	*	30,669	152,702	*	
1995	182,072	6,385	18,755	130,156	509	
1996	112,655	6,720	22,815	124,945	381	
1997	80,972	10,456	16,352	75,918	991	
1998	87,186	5,609	13,278	70,544	*	
1999	99,134	9,962	13,752	102,424	220	
2000	48,173	5,459	9,287	94,801	*	
2001	87,792	6,053	14,742	67,536	*	
2002	127,914	2,989	17,571	85,850	*	
2003	145,074	7,299	14,093	85,332		

2004	116,380	14,317	12,626	76,382	754	
2005	94,515	6,616	6,848	41,717	*	
2006	49,703	7,637	*	30,794	*	
2007	43,420	7,990	*	36,896	*	
2008	35,496	15,555		25,367	*	
2009	55,327	9,150		16,738	*	
2010	44,591	2,531		7,936	*	
2011	97,570	1,057		12,851	*	
2012	67,061	*		7,740	*	
2013	59,471	1,026		3,822	*	
2014	33,117	4,297		2,795		
2015	41,583	6,837		2,753		
2016	44,918	11,554		3,156	*	
2017	54,906	7,081		2,423	*	

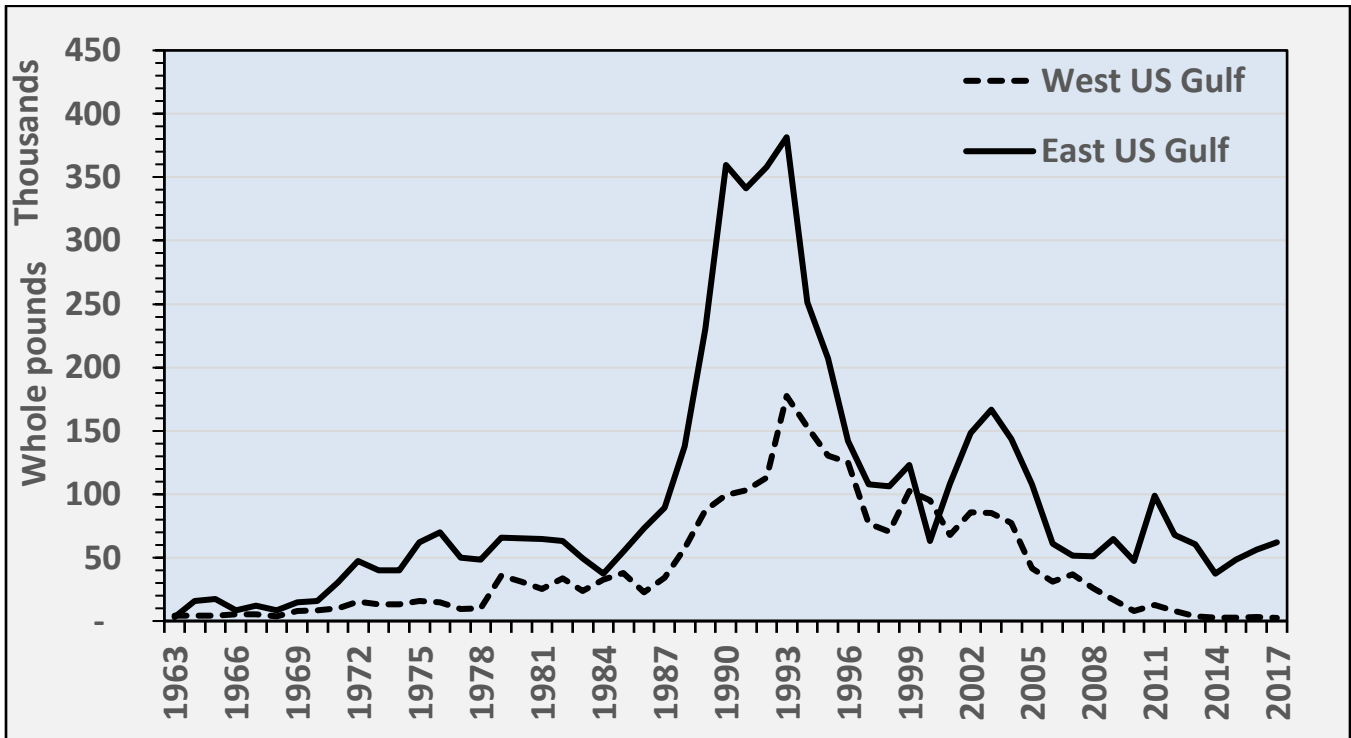


Figure 2. Commercial Landings of Gray Triggerfish in 1963 to 2017 for Eastern (NMFS Statistical areas 1-12) and Western Gulf of Mexico (NMFS Statistical Areas 13-21).

Commercial Landings by Area

Combined landings, of all gears, for the years 1962 -2017 by area are shown in Figure 3. The cumulative landings are grouped in 200,000 pound intervals grading from light to dark. The near equal interval distribution shows where the majority of the gray triggerfish are reported as landed. These combined landings data are available by year and gear and can be presented in a format of different year and gear groupings. This summary figure is provided to show spatial distribution.

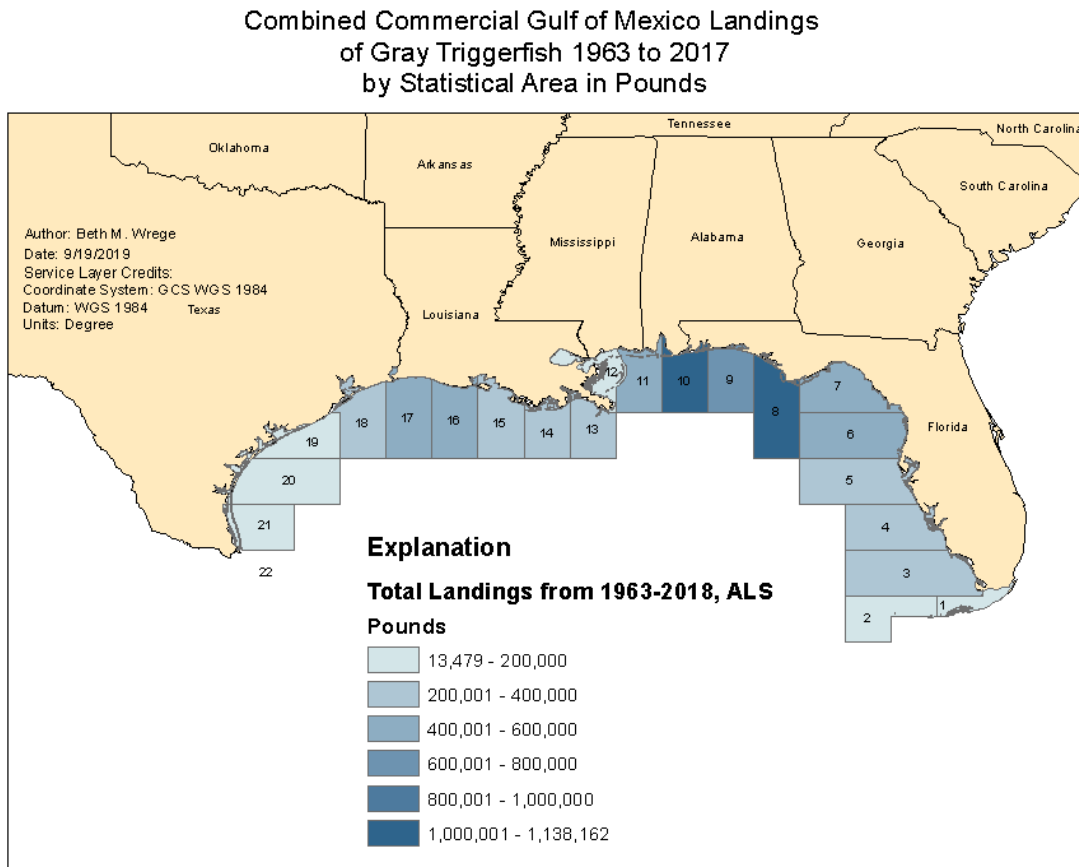


Figure 3. Map of the commercial Landings of Gray Triggerfish in 1963 to 2017 for Eastern (NMFS statistical areas 1-12) and Western regions of the Gulf of Mexico (NMFS statistical areas 13-21).