Estimated Gray Triggerfish (*Balistes capriscus*) Commercial Landings and Price Information for the Gulf of Mexico Fishery

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Introduction

Commercial landings data in the Southeast has been collected since around 1960 (depending on the species) and is stored and maintained in the accumulated landings system (ALS) by the NMFS Southeast Fisheries Science Center. The data provides information on the "quantity and value of seafood products caught by fishermen and sold to established seafood dealers or brokers," as well as the gear used to capture the product (SEFSC Website). The landings do not contain information on individual fishermen or vessel identification. Within each state, the dealers provide the information to the state fisheries agency, which in tern is passed on to NMFS. In many areas, trained field agents assist with the collection of information and are located such that they can closely interact with members of the fishing industry and obtain the most accurate data, representative of the industry. The two main limitations of commercial fishery landings data are the fact that dealers don't always record the specific species captured (and rather record the more general family name of the animal), and the fact that fish are not always purchased at the location at which they were landed (SEFSC Website).

Methods

The ALS has sampled triggerfish from 1962 to the present. Data from 2004 has been uploaded to the system, however is not included in this analysis. The catch information for gray triggerfish is recorded in whole pounds of fish, with price information recorded as dollars and cents. Triggerfish catch for much of the time series was recorded under the family name "triggerfish," which includes the three species gray triggerfish, ocean triggerfish and queen triggerfish. Stating in 1993, species began to be differentiated from the family triggerfish category. For the data where species is stratified (years 1993 to 2003), of the three species, gray triggerfish consists of the majority of the landings (Table 1). Consequently, the assumption is made that those landings belonging to the triggerfish family can be considered to consist mostly of gray triggerfish.

With this in mind, the subsequent analysis explores different stratifications of the landings data across year, season, gear, region and state, as well as the interactions between year and the aforementioned strata. In addition, price information was explored for triggerfish over the time series by year, and price per pound over the time series was calculated. Price was adjusted for inflation using the conversion factors supplied by the Department of Labor. Comparisons between and among strata assume that sampling was random and even both temporally and spatially. The software JMP IN (Copyright 2004 SAS Institute, version 5.1.2) and Microsoft Office (Copyright 2000 Microsoft Corporation) were used to perform the calculations.

Results and Discussion

Figure one illustrates the annual landings of triggerfish for the data both designated by family name and species specific. Landings are extremely low at the beginning of the time series, which could suggest that at that time, the stock was under close to virgin conditions (Figure 1). There is little apparent variation in landings across

season (Figures 2 through 6), where season is defined as follows: winter refers to January through March, spring refers to April through June, summer refers to July through September, and fall refers to October through December. Handlines and an unspecified combination of gears are the two most reported gears (Figure 7). Across the time series, hand line has been the gear used for the longest time period (Figures 8 through 13).

For the landings data, region refers to either the Eastern Gulf of Mexico or the Western Gulf of Mexico, where the states of Texas and Louisiana were assigned to the Eastern Gulf and the states of Mississippi, Alabama and Florida were assigned to the Western Gulf. Stratification of gear across region (assuming the presence of an east and west stock) does not appear to be significant (Figure 14). Catch across region, however seems to be significant, with more fish landed from the east than the west (Figure 15). In addition, it appears that the fishery for this species in the east began well before (around 1962) the fishery in the west (around 1984) (Figures 15 through 17). Stratification by state reveals that Florida lands more than the other states, which is expected given its long western coastline (Figures 18 through 23).

The annual revenue from triggerfish landings was calculated for each species. Adjustments for inflation were done using the values in Table 11. Trends in annual revenue (Figure 24) reflect those similar to the trends found in annual landings (Figure 1). Calculation of price per pound steadily increases for both the stratification by species and where the species are grouped together, until it levels out and is variable starting around the middle of the 1990's (Figures 25 and 26).

Literature Cited

SEFSC Website. 2005. "Accumulated Landings System." Southeast Fisheries Science Center, National Marine Fisheries Service, National Oceanic Atmospheric Administration. Accessed 13 June 2005. http://www.sefsc.noaa.gov/alsprogram.jsp.

Appendix A: Tables

YEAR	Trigger sp.	Gray Trigger (lbs)	Ocean Trigger (lbs)	Queen Trigger (lbs)	% spec. specific	of sp defined % gray	of sp defined % queen	of sp defined % ocean
1962	5600				0%	0%	0%	0%
1963	11500				0%	0%	0%	0%
1964	24000				0%	0%	0%	0%
1965	25700				0%	0%	0%	0%
1966	13900				0%	0%	0%	0%
1967	17400				0%	0%	0%	0%
1968	12500				0%	0%	0%	0%
1969	22300				0%	0%	0%	0%
1970	24200				0%	0%	0%	0%
1971	40400				0%	0%	0%	0%
1972	62600				0%	0%	0%	0%
1973	53200				0%	0%	0%	0%
1974	54000				0%	0%	0%	0%
1975	78000				0%	0%	0%	0%
1976	84500				0%	0%	0%	0%
1977	59386				0%	0%	0%	0%
1978	58823				0%	0%	0%	0%
1979	101403				0%	0%	0%	0%
1980	96529				0%	0%	0%	0%
1981	89860				0%	0%	0%	0%
1982	96673				0%	0%	0%	0%
1983	74030				0%	0%	0%	0%
1984	70176				0%	0%	0%	0%
1985	92928				0%	0%	0%	0%
1986	95932				0%	0%	0%	0%
1987	124300				0%	0%	0%	0%
1988	195538				0%	0%	0%	0%
1989	318330				0%	0%	0%	0%
1990	461942				0%	0%	0%	0%
1991	444472				0%	0%	0%	0%
1992	450303	40570		440	0%	0%	0%	0%
1993	546489	16573		118	3%	99%	1%	0%
1994	352352	53761		0	13%	100%	0%	0%
1995	289456	50049		8	15%	100%	0%	0%
1996	237741	32834		18	12%	100%	0%	0%
1997	161290	26695		505	14%	98%	2%	0%
1998	146896	31095	4075	3	17%	100%	0%	0%
1999	121633	102141	1875	62	46%	98%	0%	2%
2000	71920	87759	4-	80	55%	100%	0%	0%
2001	108089	68873	15	747	39%	99%	1%	0%
2002	142042	93037		1084	40%	99%	1%	0%
2003	158875	93945		33 AVG	37% 26.6%	100% 99.4%	0% 0.5%	0% 0.2%

Table 1: Annual triggerfish landings in pounds as classified either as belonging to the Triggerfish family or as broken out into individual species starting in 1993. The percentage of species specific refers to the percentage of the landings that were defined as belonging to a specific species (gray, ocean or queen triggerfish).

Season	Trigger sp. (lbs)	Gray (lbs)	Ocean (lbs)	Queen (lbs)
Summer	1388299	121348	0	873
Winter	904283	173308	58	624
Spring	1361051	229512	1832	1132
Fall	1513775	132594	0	29

Table 2: Seasonal triggerfish landings in pounds.

Season	Year	Trigger sp. (lbs)	Gray (lbs)	Ocean (lbs)	Queen (lbs)
Summer	1977	22468			
Summer	1978	15917			
Summer	1979	28327			
Summer	1980	29004			
Summer	1981	25114			
Summer	1982	31571			
Summer	1983	22835			
Summer	1984	21599			
Summer	1985	18565			
Summer	1986	26865			
Summer	1987	37249			
Summer	1988	50226			
Summer	1989	97647			
Summer	1990	138390			
Summer	1991	109939			
Summer	1992	106358			
Summer	1993	154688	11301		105
Summer	1994	80324	8015		
Summer	1995	73824	13795		
Summer	1996	68842	7517		18
Summer	1997	54493	6202		
Summer	1998	25829	6212		
Summer	1999	24284	17880		
Summer	2000	20531	9238		
Summer	2001	25347	10094		520
Summer	2002	41217	12480		197
Summer	2003	36846	18614		33

Table 3: Summer landings by year from the months July, August, and September. Note that month was not defined until 1977.

Season	Year	Trigger sp. (lbs)	Gray (lbs)	Ocean (lbs)	Queen (lbs)
Winter	1977	3394			
Winter	1978	4092			
Winter	1979	7469			
Winter	1980	12031			
Winter	1981	14024			
Winter	1982	10663			
Winter	1983	9466			
Winter	1984	9823			
Winter	1985	13309			
Winter	1986	18744			
Winter	1987	19919			
Winter	1988	26859			
Winter	1989	62023			
Winter	1990	63895			
Winter	1991	76953			
Winter	1992	78813			
Winter	1993	140826	1267		
Winter	1994	47360	27356		
Winter	1995	59383	10837		8
Winter	1996	46810	9653		
Winter	1997	36680	9464		388
Winter	1998	29026	7579		
Winter	1999	42315	18330	43	30
Winter	2000	10862	32022		
Winter	2001	8529	13972	15	105
Winter	2002	21263	21380		93
Winter	2003	29752	21448		

Table 4: Winter landings by year for the months January, February, and March. Note that month was not defined until 1977.

Season	Year	Trigger sp. (lbs)	Gray (lbs)	Ocean (lbs)	Queen (lbs)
Spring	1977	15282			
Spring	1978	9574			
Spring	1979	26788			
Spring	1980	25267			
Spring	1981	24381			
Spring	1982	26994			
Spring	1983	20384			
Spring	1984	15851			
Spring	1985	23937			
Spring	1986	20729			
Spring	1987	31845			
Spring	1988	35799			
Spring	1989	72353			
Spring	1990	115348			
Spring	1991	146292			
Spring	1992	110122			
Spring	1993	127705	2373		9
Spring	1994	122819	8751		
Spring	1995	85233	15242		
Spring	1996	74444	12280		
Spring	1997	35045	6461		117
Spring	1998	40707	13593		3
Spring	1999	33459	39061	1832	26
Spring	2000	20246	32308		61
Spring	2001	20953	24358		122
Spring	2002	36913	42980		794
Spring	2003	42581	32105		

Table 5: Spring landings from the months April, May and June. Note that month was not defined until 1977.

Season	Year	Trigger sp. (lbs)	Gray (lbs)	Ocean (lbs)	Queen (lbs)
Fall	1977	18242			
Fall	1978	29240			
Fall	1979	38819			
Fall	1980	30227			
Fall	1981	26341			
Fall	1982	27445			
Fall	1983	21345			
Fall	1984	22903			
Fall	1985	37117			
Fall	1986	29594			
Fall	1987	35287			
Fall	1988	82654			
Fall	1989	86307			
Fall	1990	144309			
Fall	1991	111288			
Fall	1992	155010			
Fall	1993	123270	1632		4
Fall	1994	101849	9639		
Fall	1995	71016	10175		
Fall	1996	47645	3384		
Fall	1997	35072	4568		
Fall	1998	51334	3711		
Fall	1999	21575	26870		6
Fall	2000	20281	14191		19
Fall	2001	53260	20449		
Fall	2002	42649	16197		
Fall	2003	49696	21778		

Table 6: Autumn landings from the months October, November, and December. Note that month was not defined until 1977.

Code	Gear Description	Trigger sp.	Gray (lbs)	Ocean (lbs)	Queen (lbs)
0	Unknown	385708	5345		118
215	Otter Trawl Bottom, Shrimp	9145	383		19
345	Pots and Traps, Fish	87104			
600	Troll and Hand Lines, Combined	17100			
610	Lines Hand, Still Fish, Bottom	1354321	257826		1580
611	Rod and Reel	75801			
613	Electric of Hydraulic Reel	43026	102194	15	26
676	Lines Long, Bottom, Reef Fish	56724	4925		
999	Combined Gears, Unspecified	3648048	282158	1875	596

Table 7: Pounds of Triggerfish landed using each gear configuration.

				Rod			
		Fish	Hand	and			
	Unknown	Trap	Line	Reel	Electric	Longline	Combined
Year	(lbs)	(lbs)	(lbs)	(lbs)	Reel (lbs)	(lbs)	Gears (lbs)
1962	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0
1964	0	0	24000	0	0	0	0
1965	0	0	25700	0	0	0	0
1966	0	0	13900	0	0	0	0
1967	0	0	17400	0	0	0	0
1968	0	0	12500	0	0	0	0
1969	0	0	22300	0	0	0	0
1970	0	0	24200	0	0	0	0
1971	0	0	40400	0	0	0	0
1972	0	0	62600	0	0	0	0
1973	0	0	53200	0	0	0	0
1974	0	0	54000	0	0	0	0
1975	0	0	78000	0	0	0	0
1976	0	0	84500	0	0	0	0
1977	0	0	0	0	0	0	59386
1978	0	0	0	0	0	0	58823
1979	0	0	0	0	0	0	101403
1980	0	0	0	0	0	0	96529
1981	0	0	0	0	0	0	89860
1982	0	0	0	0	0	0	96673
1983	0	0	2670	0	0	0	71360
1984	0	23	14703	0	0	0	55450
1985	0	0	15146	0	0	1170	75961
1986	0	0	17055	0	0	7523	70978
1987	0	0	30830	0	0	637	92742
1988	0	0	50695	0	0	2498	140790
1989	0	0	68534	0	0	9941	238974
1990	69798	0	25305	0	0	7081	359553
1991	90572	0	14879	0	0	4923	332674
1992	101495	0	23141	0	0	3055	321883
1993	128947	0	47513	0	0	303	385547
1994	0	0	23521	0	0	11	382342
1995	0	0	27238	0	0	0	311564
1996	0	0	15244	0	0	0	255082
1997	0	14167	87081	13776	0	3571	67381
1998	157	9533	82722	20111	0	3093	59132
1999	202	9502	90217	18518	0	2514	98612
2000	0	10543	99475	5682	30345	1826	9955
2001	0	13741	107776	7146	24589	3340	17348
2002	0	16237	144005	5086	39427	3840	22125
2003	0	13358	113277	5482	50900	6323	60550

Table 8: Annual landings of all species of triggerfish together for each gear type.

TOTALS			EASTERN S	TOCK			WESTERN S	STOCK		
Year	East	West	Trigger sp	Gray	Ocean	Queen	Trigger sp	Gray	Ocean	Queen
1962	5600		5600							
1963	11500		11500							
1964	24000		24000							
1965	25700		25700							
1966	13900		13900							
1967	17400		17400							
1968	12500		12500							
1969	22300		22300							
1970	24200		24200							
1971	40400		40400							
1972	62600		62600							
1973	53200		53200							
1974	54000		54000							
1975	78000		78000							
1976	84500		84500							
1977	59386		59386							
1978	58823		58823							
1979	101403		101403							
1980	96529		96529							
1981	89860		89860							
1982	96673		96673							
1983	74030		74030							
1984	70144	32	70144				32			
1985	87826	5102	87826				5102			
1986	80867	15065	80867				15065			
1987	102070	22230	102070				22230			
1988	156673	38865	156673				38865			
1989	257045	61285	257045				61285			
1990	385193	76749	385193				76749			
1991	347658	96814	347658				96814			
1992	340867	109436	340867				109436			
1993	422946	140234	411718	11228			134771	5345		118
1994	270927	135186	255595	15332			96757	38429		
1995	236398	103115	213720	22678	3		75736	27371		8
1996	174036	96557	161590	12446			76151	20388		18
1997	121109	67381	112317	8792			48973	17903		505
1998	118982	59012	108944	10038	3		37952	21057		3
1999	127099	98612	121633	5466				96675	1875	62
2000	76545	83214	71920	4625	5			83134		80
2001	110762	66962	108089	2354	1	319		66519	15	428
2002	150560	85603	142042	8518	3			84519		1084
2003	169764	83089	158875	10889				83056		33

Table 9: Stratification of all triggerfish landings by stock and species, assuming the existence of two stocks, where the eastern stock refers to landings from the states Texas and Louisiana, while the western stock refers to landings from the states Mississippi, Alabama and Florida.

State	County	Trigger sp. (lbs)	Gray (lbs)	Ocean (lbs)	Queen (lbs)
Alabama	Baldwin	43008	3160	0	319
Alabama	Mobile	82516	13235	0	
Florida	Bay	775599		-	
Florida	Charlotte	5033			
Florida	Citrus	111933			
Florida	Collier	24806			
Florida	Dixie	60458			
Florida	Escambia	1122545			
Florida	Franklin	179414			
Florida	Gulf	3857			
Florida	Hernando	1355			
Florida	Hillsborough	19983			
Florida	Jefferson	38			
		25729			
Florida	Lee				
Florida	Levy	29595			
Florida	Manatee	8217			
Florida	Monroe	59912			
Florida	Okaloosa	1163940			
Florida	Pasco	126929			
Florida	Pinellas	426055			
Florida	Santa Rosa	278282			
Florida	Sarasota	3473			
Florida	Taylor	107615			
Florida	Wakulla	56439			
Florida	Walton	1936			
Louisiana	Calcasieu	312	117		
Louisiana	Cameron	66168	67766		424
Louisiana	Iberia	3733	366		
Louisiana	Jefferson	81771	43259		171
Louisiana	LaFourche	461253	156591	1488	228
Louisiana	Orleans	9935	3752		1344
Louisiana	Plaquemines	53755	17761	17	140
Louisiana	St. Bernard	9			
Louisiana	St. Charles	6747	65		18
Louisiana	St. Mary	3167			
Louisiana	Terrebonne	8214	6204		
Louisiana	Vermilion	1261	61		
Louisiana	East Baton Rouge	17	_		
Louisiana	Neshoba	163644	76958	385	14
Mississippi		50	. 5555		
Mississippi	Alcorn	968	21		
Mississippi	Amite	81605	95950		
Texas	Aransas	01000	437		
Texas	Brazoria	2834	18915		
Texas	Calhoun	9	944		
Texas	Cameron	8620	18020		
	Chambers	44	1312		
Texas	Galveston	17232	86173		
Texas	Harris	35	11512		
Texas			11512		
Texas	Jefferson	1387	20040		
Texas	Matagorda	5522	32043		
Texas	Nueces	235	448		
Texas	San Patricio	14	1671		
Texas	Coryell		21		

Table 10: Triggerfish landings by state and county.

Year	Adjustment on \$1
1960	6.53
1961	6.46
1962	6.4
1963	6.32
1964	6.24
1965	
1966	
1967	5.79
1968	
1969	
1970	4.98
1971	4.77
1972	4.62
1973	4.35
1973	3.92
1974	3.59
1975	3.59
1976	
	3.19
1978	2.96
1979	2.66
1980	2.35
1981	2.13
1982	2
1983	1.94
1984 1985	
	1.8 1.76
1986 1987	
1988	1.63 1.56
1989	
1990	1.48
1991	1.42
1992	1.38
1993 1994	1.34 1.3
1995	1.27
1996	1.23
1997	1.2
1998	1.19
1999	1.16
2000	1.12
2001	1.09
2002	1.07
2003	1.05
2004	1.02
2005	1

Table 11: Inflation adjustment used to calculate catch value and price per pound over the time series. Source: http://www.bls.gov/cpi/home.htm.

YEAR	Trigger sp. (\$)	Gray (\$)	Ocean (\$)	Queen (\$)
1962	1760	0	0	0
1963	3634	0	0	0
1964	5166.72	0	0	0
1965	7822.36	0	0	0
1966	4173.03	0	0	0
1967	5871.06	0	0	0
1968	4856.25	0	0	0
1969	8721.85	0	0	0
1970	9003.84	0	0	0
1971	17649	0	0	0
1972	28939.68	0	0	0
1973	24921.15	0	0	0
1974	23006.48	0	0	0
1975	31810.99	0	0	0
1976	39436.6	0	0	0
1977	27660.49	0	0	0
1978	31639.44	0	0	0
1979	62108.34	0	0	0
1980	59351.6	0	0	0
1981	48625.77	0	0	0
1982	65838	0	0	0
1983	52638.02	0	0	0
1984	54215.28	0	0	0
1985	82078.2	0	0	0
1986	90652.32	0	0	0
1987	123017.1	0	0	0
1988	233978.35	0	0	0
1989	363207	0	0	0
1990	527488.28	0	0	0
1991	524157.5	0	0	0
1992	527597.46	0	0	0
1993	710951.74	16408.3	0	151.42
1994	417882.4	46205.9	0	0
1995	389841.74	32886.65	0	10.16
1996	319236.66	30361.32	0	
1997	202558.8	19381.2	0	861.6
1998	181129.9	27086.78	0	3.57
1999	152969.2	122475.12	2352.48	48.72
2000	94541.44	111989.92	0	89.6
2001	134756.7	79209.21	22.89	665.99
2002	175947.59	107031.03	0	1241.2
2003	210778.05	107484.3	0	13.65

Table 12: Annual net worth of landings by species for each year. Values adjusted for annual inflation using Table 9.

Trigger sp. (\$/lb)	Gray (\$/lb)	Ocean (\$/lb)	Queen (\$/lb)	All Trigger (\$/lb)
0.31				0.31
0.32	2			0.32
0.22	2			0.22
0.30)			0.30
0.30)			0.30
0.34	Į į			0.34
0.39)			0.39
0.39)			0.39
0.37	7			0.37
0.44	Į į			0.44
0.46	6			0.46
0.47	7			0.47
0.43	3			0.43
0.41				0.41
0.47	7			0.47
0.47	7			0.47
0.54	1			0.54
0.61				0.61
0.61				0.61
0.54	1			0.54
0.68	3			0.68
0.71				0.71
0.77	7			0.77
0.88	3			0.88
0.94	1			0.94
0.99				0.99
1.20				1.20
1.14				1.14
1.14				1.14
1.18	3			1.18
1.17				1.17
1.30			1.28	
1.19				1.14
1.35			1.27	1.25
1.34			1.85	
1.26	0.73		1.71	1.18
1.23	0.87		1.19	
1.26				1.23
1.31			1.12	
1.25				
1.24			1.15	
1.33	1.14		0.41	1.26

Table 13: Price per pound of triggerfish. Values adjusted for annual inflation using Table 9.

Appendix B: Graphs and Charts

Gulf of Mexico Triggerfish Landings

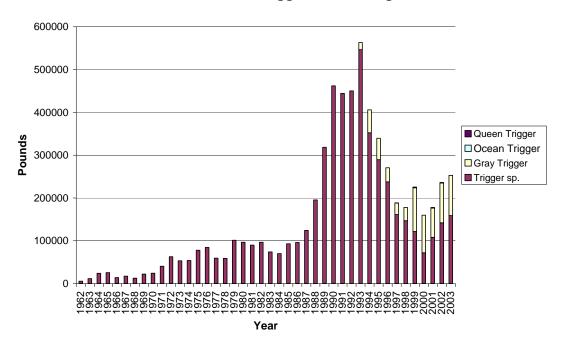


Figure 1: Annual triggerfish landings in pounds as classified either as belonging to the Triggerfish family or as broken out into individual species starting in 1993.

Seasonal Triggerfish Landings

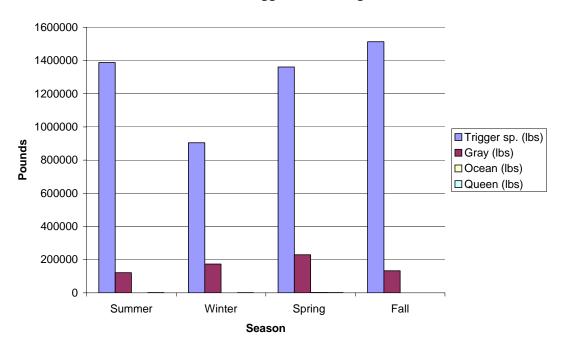


Figure 2: Seasonal triggerfish landings where winter refers to January through March, spring refers to April through June, summer refers to July through September, and Fall refers to October through December. Note that month, and therefore season was not defined until 1977.

Summer Landings: July, August, September

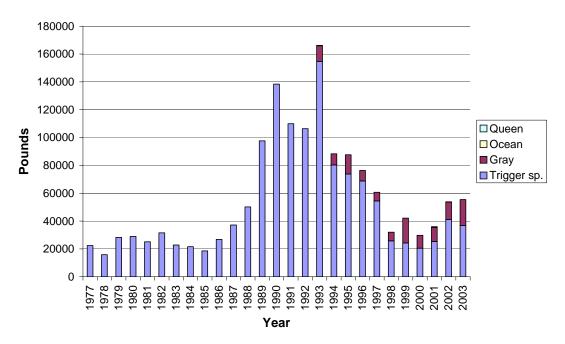


Figure 3: Summer landings by year from the months July, August, and September. Note that month was not defined until 1977.

Winter Landings: January, February, March

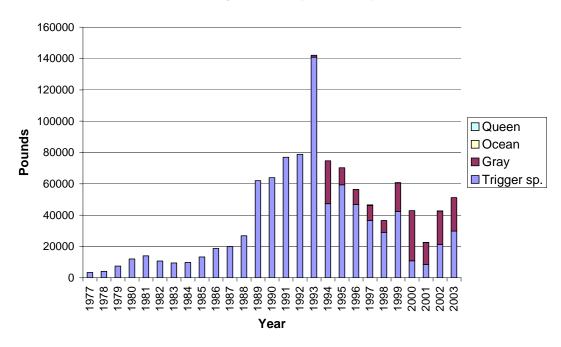


Figure 4: Winter landings by year for the months January, February, and March. Note that month was not defined until 1977.

Spring Landings: April, May, June

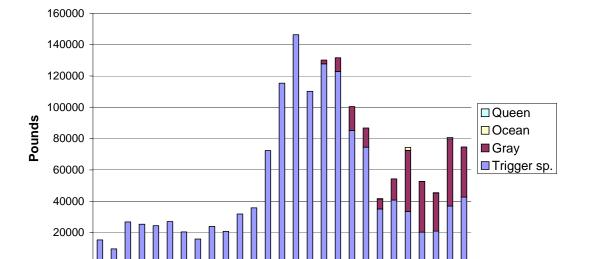


Figure 5: Spring landings from the months April, May and June. Note that month was not defined until 1977.

Year

Fall Landings: October, November, December

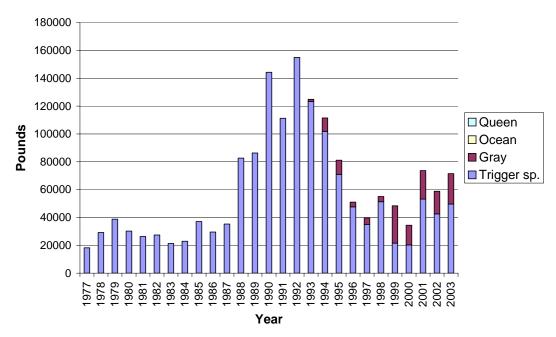


Figure 6: Autumn landings from the months October, November, and December. Note that month was not defined until 1977.

Landings by Gear

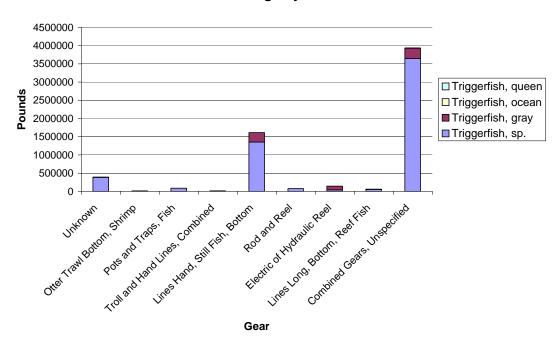


Figure 7: Pounds of Triggerfish landed using each gear configuration.

Landings: Unknown Combined Gears

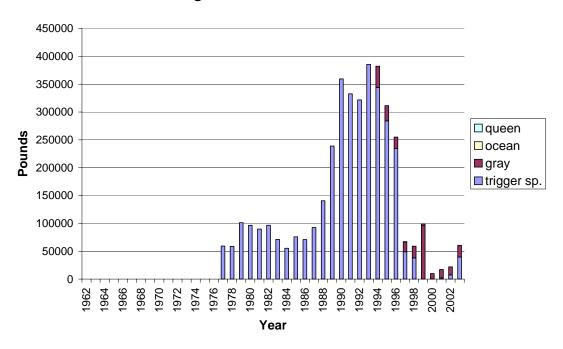


Figure 8: Triggerfish landed using an unknown combination of gears.

Landings: Hand Line

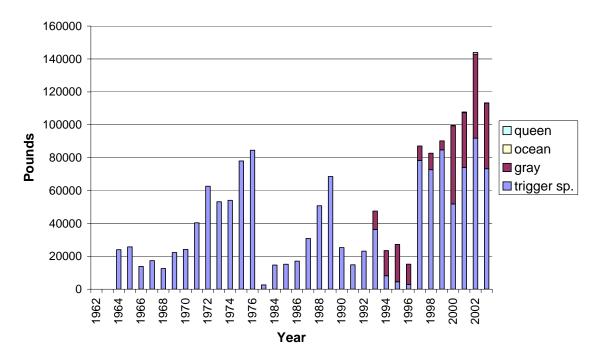


Figure 9: Triggerfish landed using hand line.

Landings: Longline

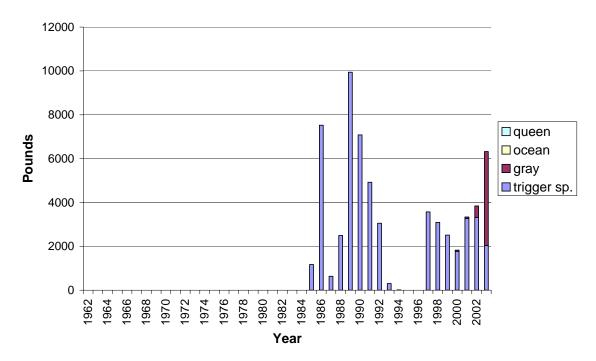


Figure 10: Triggerfish landed using longline.

Landings: Fish Pots

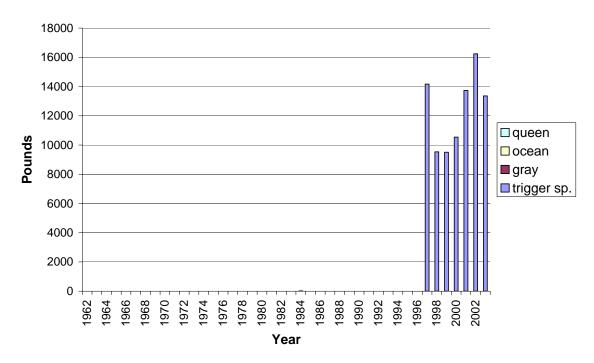


Figure 11: Triggerfish landed using fish traps.

Landings: Rod and Reel

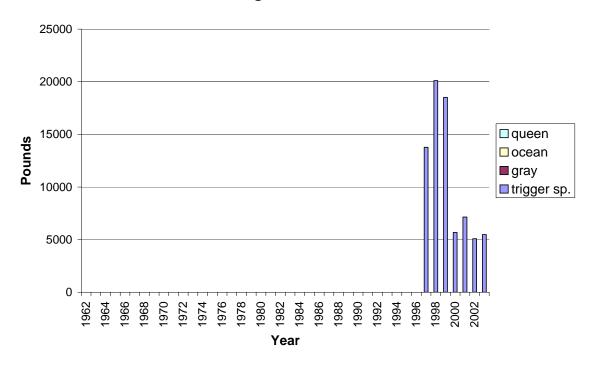


Figure 12: Triggerfish landed using rod and reel.

Landings: Electric Reel

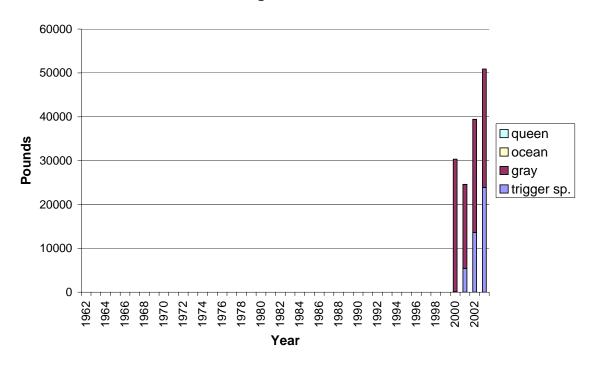


Figure 13: Triggerfish landed using electric reel.

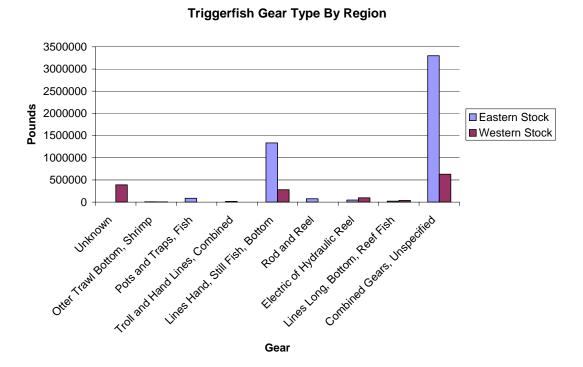


Figure 14: Stratification of all triggerfish catch by gear across region.

Triggerfish Landings by Region For Triggerfish Species

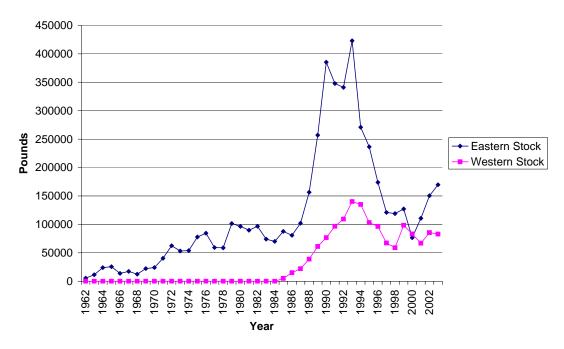


Figure 15: Stratification of all triggerfish landings by stock, assuming the existence of two stocks, where the eastern stock refers to landings from the states Texas and Louisiana, while the western stock refers to landings from the states Mississippi, Alabama and Florida.

Eastern Stock Triggerfish Landings

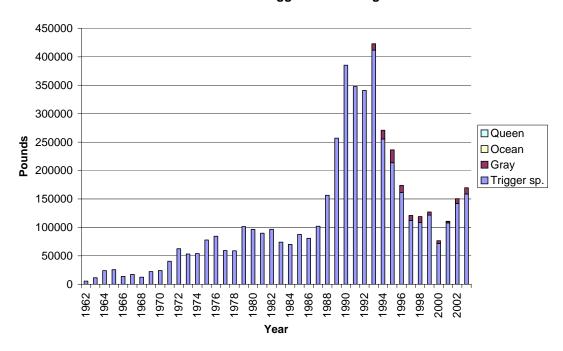


Figure 16: Triggerfish landings for all species for the eastern stock, where assuming the existence of two stocks, the eastern stock refers to landings from the states Texas and Louisiana, while the western stock refers to landings from the states Mississippi, Alabama and Florida.

Western Stock Triggerfish Landings

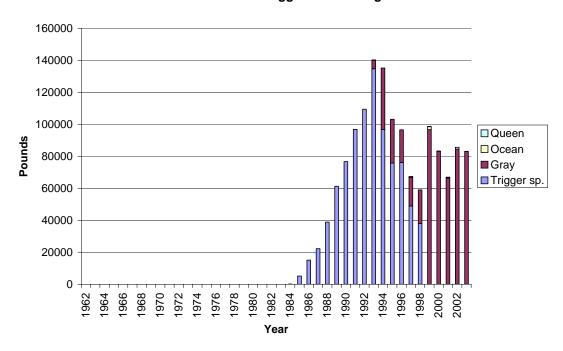


Figure 17: Triggerfish landings for all species for the western stock, where assuming the existence of two stocks, the eastern stock refers to landings from the states Texas and Louisiana, while the

western stock refers to landings from the states Mississippi, Alabama and Florida.

Commercial Landings by State

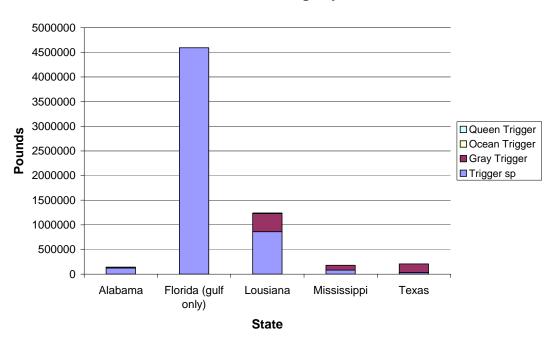


Figure 18: Triggerfish landed by state.

Alabama Landings

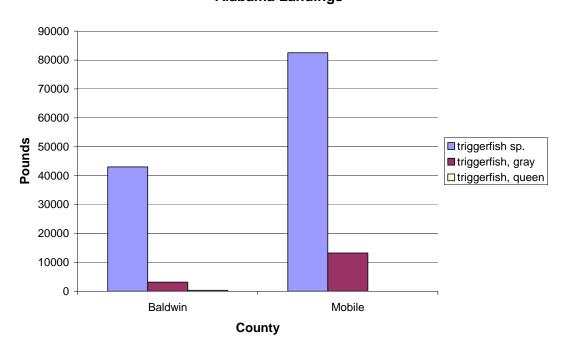


Figure 19: Counties in which triggerfish were landed in Alabama.

Florida Landings

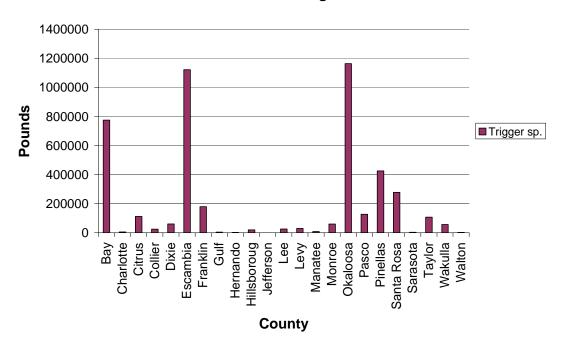


Figure 20: Counties in which triggerfish were landed on the Gulf coast of Florida.

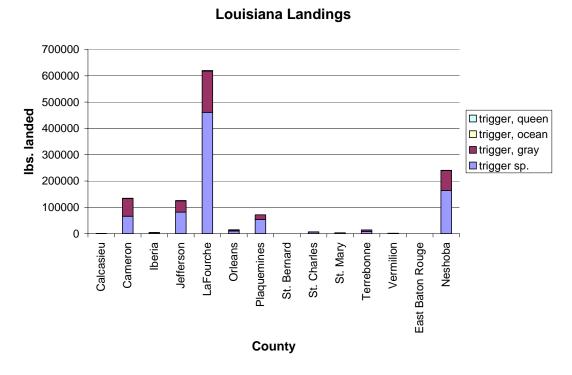


Figure 21: Counties in which triggerfish were landed in Louisiana.

Mississippi Landings

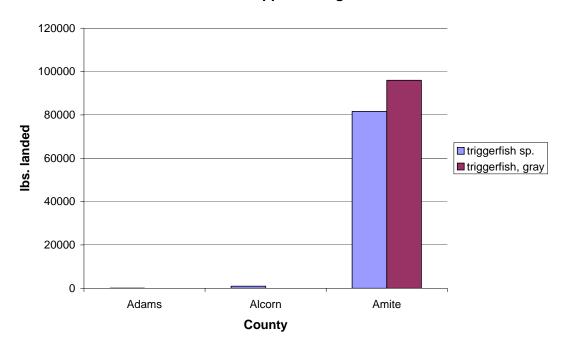


Figure 22: Counties in which triggerfish were landed in Mississippi.

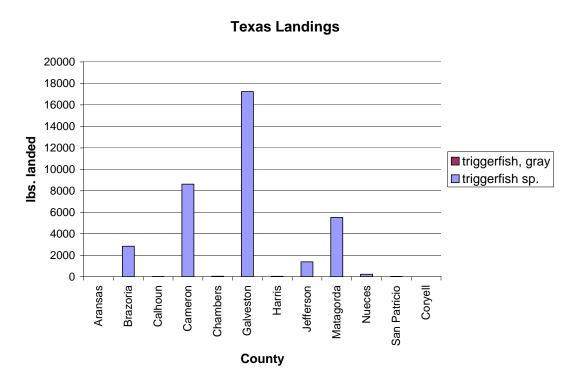


Figure 23: Counties in which triggerfish were landed in Texas.

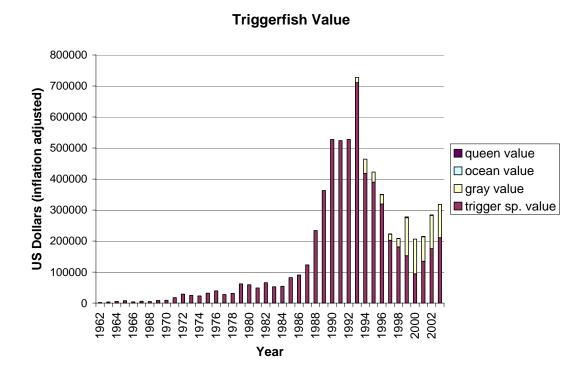


Figure 24: Annual revenue from triggerfish landings adjusted for inflation over the time series.

Price Per Pound: Individual Species Level

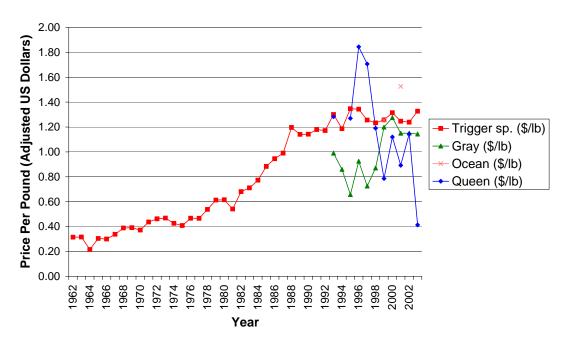


Figure 25: Price per pound of landings of each triggerfish species annually adjusted for inflation.

Price per pound: All Triggerfish

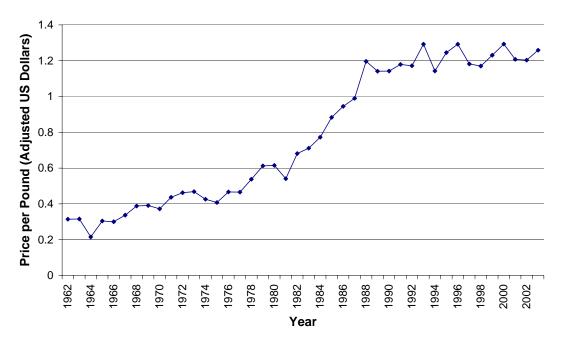


Figure 26: Price per pound of triggerfish landings for all species combined, adjusted for inflation.