

**2009 Recreational Red Snapper Quota Closure Analysis**  
**NOAA Fisheries Service**  
**Southeast Regional Office**  
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## Introduction

In 2008, new fishing regulations were implemented to reduce the harvest of red snapper in the Gulf of Mexico. Regulatory changes included reducing the commercial quota to 2.55 million pound (mp ww), reducing the recreational quota to 2.45 mp ww, reducing the commercial size limit from 15 to 13 inches total length (TL), setting an effort cap in the shrimp trawl fishery, reducing the recreational bag limit from 4 to 2 fish per person, prohibiting for-hire captain and crew from retaining bag limits of red snapper while under charter, and reducing the recreational season length from 194 days (April 21-October 31) to 122 days (June 1-September 30). These regulatory changes in combination were estimated to reduce harvest of red snapper by 45 percent.

When these regulations were developed, reductions in landings assumed that Gulf States would adopt state regulations that were consistent with the newly proposed federal regulations. However, the states of Texas, Florida, and Alabama did not adopt recreational state regulations in 2008 that were consistent with federal regulations (see Table 1). The lack of compatible state regulations, coupled with a recreational quota overage of more than 1 mp ww in 2007, required NOAA Fisheries Service to reduce the recreational season length in 2008 from 122 days to 65 days (June 1-August 4; SERO 2008).

Table 1. State water recreational red snapper size limits, bag limits, and seasons for 2008 by Gulf state.

State	2008 Regulations			Days Open
	Size Limit	Bag Limit	Season	
Florida	16"	2	April 15 - October 31	200
Alabama	16"	2	June 1 - October 31	153
Mississippi	16"	2	June 1 - August 4	65
Louisiana	16"	2	June 1 - August 4	65
Texas	15"	4	January 1 - December 31	366

Despite this early season closure, the 2008 quota was exceeded by 1.2 mp. This overage was in part due to incompatible state regulations, as well as larger, heavier red snapper being landed in 2008 compared to previous years (e.g., average MRFSS red snapper weight in 2008 was 4.4 pounds versus 3.3 pounds in both 2006 and 2007). The following analysis summarizes 2008 recreational red snapper landings and projects when the recreational quota for 2009 will be met. Methods for conducting the analysis are similar to those described in last year's quota closure report (SERO 2008). Differences include consideration of changes to state regulations proposed by the various Gulf states for 2009 (Table 2) and inclusion of new regulatory requirements, which require federally permitted

reef fish for-hire vessels to abide by the more restrictive of state or federal regulations when fishing in state waters. The analysis also includes consideration of larger fish being landed in 2009 relative to 2008 and previous years. Confidence limits for landings were not computed in the 2009 quota closure report, as they were not a good predictor of when the quota would be met in 2008.

Table 2. State water recreational red snapper size limits, bag limits, and seasons for 2009.

State	2009 Regulations		
	Size Limit	Bag Limit	State Season
Florida	16"	2	same as federal season
Alabama	16"	2	same as federal season
Mississippi	16"	2	same as federal season
Louisiana	16"	2	same as federal season
Texas	15"	4	January 1 - December 31

### 2008 Recreational Red Snapper Landings

Recreational red snapper landings were obtained from three data sources:

1. Marine Recreational Fisheries Statistics Survey (MRFSS), including the For-hire charter survey;
2. Southeast Fisheries Science Center Headboat survey; and,
3. Texas Parks and Wildlife Department (TPWD) charter and private/rental creel survey.

MRFSS and For-hire red snapper landings are estimated using a combination of dockside intercepts (landings data) and phone surveys (effort data). Landings are estimated annually by two-month wave (e.g., Wave 1 = Jan/Feb, ... Wave 6 = Nov/Dec), area fished (inland, state, and federal waters), mode (charter, private/rental, shore), and state (west Florida, Alabama, Mississippi, and Louisiana).

Headboat landings are collected through logbooks. Landings are reported by vessel, day/month and statistical reporting area (i.e., area 18 = Dry Tortugas off west coast of Florida, ..., area 27 = Southeast Texas). Distance from shore (state vs. federal waters) is provided in a catch-effort data file that is separate from the headboat landings data file; therefore, landings by area fished must be estimated using ratios derived from the catch-effort data file. Ratios of state versus federal water landings by statistical area and month from the catch-effort file were multiplied with monthly headboat landings reported by statistical area to determine total landings by statistical area and jurisdiction (state or federal). Landings were then aggregated across statistical areas to estimate overall landings by Gulf state. Statistical area 23 includes headboat landings from both Alabama and northwest Florida. To partition landings by state, the distance from shore variable (inland, >3 miles, <3 miles, >10 miles, <10 miles) was used. Landings reported within 3 miles of shore or greater than 3 miles from shore were presumed to occur off Alabama. Landings within 10 miles of shore or less than 10 miles from shore were presumed to occur off of northwest Florida.

The TPWD creel survey generates estimates of landings for private/rental boats and charter vessels fishing off Texas. Landings are reported in numbers by high (May 15-November 20) and low-use time periods (November 21-May 14), area fished (federal/state waters), and mode (private/charter). To convert landings in numbers to landings in pounds, red snapper weights were first estimated using TPWD length samples and a standard length-weight conversion formula from SEDAR 7 (2005). Mean weights were then computed for each mode, time period, and area (state or federal waters) and multiplied by landings in number to determine total landings in pounds.

Gulf of Mexico recreational red snapper landings for 2008 totaled 3.67 mp, or approximately 1.22 mp ww over the recreational quota. MRFSS accounted for 3.06 mp, or 83.7 percent of the overall landings (Table 3). Headboat landings accounted for 0.41 mp or 11.1 percent of the overall landings (Table 4). Texas Parks and Wildlife landings accounted for 0.19 mp or 4.9 percent of the overall landings (Table 5).

Charter landings accounted for 31.1 percent of the total recreational red snapper landings in 2008, private/rental landings accounted for 57.7 percent of total landings in 2008, and headboat landings accounted for 11.1 percent of total landings. West Florida accounted for 57.4 percent of overall landings, while Alabama, Louisiana, Texas, and Mississippi represented 17.6, 14.7, 9.8, and 0.5 percent of the landings, respectively. State water landings represented 34.8 percent of overall red snapper landings, while 65.2 percent of landings came from federal waters.

Table 3. 2008 MRFSS red snapper landings by mode (charter, private), two-month wave, and state.

Area Fished	Wave	Landings (lbs ww) by State				Grand Total
		Alabama	Louisiana	Mississippi	West Florida	
Federal	Jan-Feb	0	0	0	344	344
	Mar-Apr	11607	0	0	32578	44185
	May-Jun	219269	149874	6431	401784	777358
	Jul-Aug	276263	314912	10326	489406	1090907
	Sep-Oct	22976	0	0	93513	116489
	Nov-Dec	0	0	0	0	0
State	Jan-Feb	0	0	0	0	0
	Mar-Apr	0	0	0	68001	68001
	May-Jun	22789	20582	0	290432	333803
	Jul-Aug	8166	0	1903	320528	330597
	Sep-Oct	29513	0	0	276983	306496
	Nov-Dec	0	0	0	0	0
Grand Total		590583	485368	18660	1973569	3068180

Table 4. 2008 headboat red snapper landings by month, and state.

Wave	Landings (lbs ww) by State				Grand Total
	Alabama/W. Florida	Louisiana	Mississippi	Texas	
Jan	119	0	0	2168	2287
Feb	1000	0	0	5687	6687
Mar	2499	0	0	12731	15230
Apr	9840	4021	0	27808	41669
May	14186	962	0	3565	18713
Jun	63452	29790	0	37248	130490
Jul	64429	11516	0	59259	135204
Aug	11845	5309	0	12539	29693
Sep	6138	58	0	2205	8401
Oct	11735	0	0	3011	14746
Nov	0	0	0	1906	1906
Dec	0	0	0	2926	2926
<b>Grand Total</b>	<b>185243</b>	<b>51656</b>	<b>0</b>	<b>171053</b>	<b>407952</b>

Table 5. 2008 TPWD red snapper landings by season and mode.

Area	Season	Landings (lbs ww) by Mode		
		Charter	Private	Total
Federal	Nov 21-May 14	0	657	657
	May 15-Nov 20	15994	35196	51190
State	Nov 21-May 14	0	58911	58911
	May 15-Nov 20	14916	63780	78696
<b>Grand Total</b>				<b>189454</b>

### Quota Closure Methods

The following describes the methods used to estimate when the recreational red snapper quota will be met in 2009. Recreational landings for 2008 were used to project 2009 landings and season length.

The start date for the federal season begins June 1, 2009. The federal season was closed when projected landings reached the 2.45 mp quota. Three quota closure scenarios were considered for this analysis. The first scenario assumed state regulations would be consistent with those summarized in Table 2. The second scenario assumed state regulations would be consistent with those summarized in Table 2, except the state of Florida would establish a June 1-September 30 fishing season. The third scenario assumed average fish weight would increase in 2009, resulting in additional pounds of fish landed. During 2008, mean lengths were 18.8 inches TL for MRFSS, 19.1 inches TL for Headboat, and 19.6-22.4 inches TL for TPWD in EEZ waters during the high-use time period. Using length-weight growth equations from SEDAR 7 (2005), a 1-inch increase in mean red snapper length from 19 to 20 inches TL would result in a 17 percent increase in average

fish weight. Therefore, a range of increases in fish weight from 10-20 percent were considered that correspond to a 0.6 to 1.17 inch increase in fish length

#### *Adjustments to MRFSS landings*

For the states of Louisiana, Mississippi, and Alabama, all MRFSS state and federal water landings in wave 3 (May-June) during 2008 were assumed to occur in June, since neither state nor federal waters were open prior to June 1 last year off these Gulf states. In wave 4, state and federal water landings off Mississippi were assumed to occur between July 1 and August 4 because the fishery was closed off of these states beginning August 5, 2008. Mississippi landings (both state and federal) and Louisiana federal and state water landings during wave 4 were divided by the total number of days open in 2008 during wave 4 (n=35) to derive a daily landings rate. This average per day landings rate was then multiplied by the number of days the season was projected to be open in 2009 off each of these Gulf states. For Alabama, state waters remained open until October 31, 2008. No adjustments were made to Louisiana state water landings during wave 4 or wave 5, since no adjustments to the season were proposed for 2009. Alabama state water landings for wave 4 were reduced by the proportion of days during wave 4 that the fishery was projected to remain open in 2009 divided by the total number of days in wave 4 (= 62 days). Federal water landings off Alabama during wave 4 were all assumed to occur between July 1 and August 4. Similar to Mississippi, federal water landings off Alabama for 2009 during this wave were estimated based on average daily landings rates.

State waters off Florida opened April 15 last year and closed October 31. All private and charterboat landings during wave 2 (March-April) were assumed not to occur in 2009. State and federal water charterboat and private landings for wave 3 (May-June) and wave 4 (July-August) were reduced by multiplying landings by the ratio of days the fishery would be open during the respective wave divided by the total number of days in the wave. No charterboat or private landings were assumed to occur in federal or state waters during wave 5, 2009, since neither the federal or state season would be open during that time.

#### *Adjustments to Headboat Landings*

Headboat landings were summarized by month. All headboat landings in state and federal waters were eliminated prior to June and after the date of the projected quota closure. Full months of landings from 2008 were included when the season was projected to remain open during the entire month. Landings were adjusted during the month the season was projected to close by multiplying total monthly landings by the ratio of days open during the month divided by the total number of days in the month.

#### *Adjustments to Texas Landings*

In prior years, TPWD landings were provided by wave. Landings for 2008 were not available by wave, but were available by high- and low-use time period. In the absence of additional information, charter and private landings in federal waters during the high-use period were all assumed to occur during the June 1-August 4 open season in 2008. There were no charter boat red snapper landings in federal waters during the low-use period. If the 2009 federal season extended beyond the closure date of the 2008 federal red snapper season, then federal water charter and private landings were expanded by calculating a daily federal waters landing rate (total federal water landings/65 days) and then

multiplying this catch rate by the number of days in the 2009 season. Charter landings in state waters during the low-use period were set to zero, since federally permitted charterboats in 2009 will be required to abide by the federal season when fishing in state waters. Private landings in state waters were not adjusted, since no regulatory changes for 2009 are proposed.

**Results**

Based on the methods described above, the recreational Gulf of Mexico red snapper quota was projected to be met August 14, 2009, if Florida establishes a state season consistent with the federal season (Table 6). If Florida adopts a June 1-September 30 fishing season, then the quota is projected to be met on August 1, 2009 (Table 6). Increases in average fish weight ranging from 10 to 20 percent would result in the quota being met on or before August 7, 2009, if Florida establishes a state season consistent with the federal season (Table 6). If Florida establishes a June 1-September 30 fishing season, then a 10 to 20 percent increase in red snapper average weight would result in the quota being met on or before July 23, 2009 (Table 6)

Table 6. Projected 2009 recreational red snapper federal season lengths.

Scenario	Florida Season	Increase in Avg. Weight	Federal Season	Days Open	Landings (mp ww)
1	Jun 1-Aug 14	none	Jun 1-Aug 14	75	2.433
2	Jun 1-Sep 30	none	Jun 1-Aug 1	62	2.432
3a	Jun 1-Aug 7	10%	Jun 1-Aug 7	68	2.438
3b	Jun 1-Aug 3	15%	Jun 1-Aug 4	65	2.442
3c	Jun 1-Jul 31	20%	Jun 1-Aug 1	62	2.438
3d	Jun 1-Sep 30	10%	Jun 1-Jul 23	53	2.427
3e	Jun 1-Sep 30	15%	Jun 1-Jul 20	50	2.449
3f	Jun 1-Sep 30	20%	Jun 1-Jul 16	46	2.434

**References**

SEDAR 7. 2005. Stock assessment report of SEDAR 7 Gulf of Mexico red snapper. SEDAR (<http://www.sefsc.noaa.gov/sedar/>), Charleston, South Carolina. 480 p.

SERO. 2008. 2008 Red snapper recreational quota closure analysis. NOAA Fisheries Service, Southeast Regional Office, St. Petersburg, Florida. March 8, 2008. 11 p.