Estimated 2013 Season Lengths for a Fall Reopening of the Gulf of Mexico Red Snapper Recreational Season

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Introduction

In May 2013, the Gulf of Mexico Fishery Management Council's (Gulf Council) Scientific and Statistical Committee (SSC) reviewed and approved the red snapper benchmark stock assessment. The SSC recommended a 13.5 million pound (mp) acceptable biological catch (ABC) level for 2013, which represents a 5 mp increase from the current ABC (8.42 mp). At their June meeting, the Gulf Council discussed setting the total quota for red snapper, which is functionally equivalent to the annual catch limit (ACL), between 10.0 and 12.1 mp. Based on a 51% commercial: 49% recreational allocation, the recreational quota would be set at 4.9 to 5.929 mp. The current quota is 4.145 mp. In July, the Gulf Council will hold a special one-day meeting to set the quota and fall season start date for red snapper. The purpose of this analysis is to determine when the new quota will be met in 2013 based on proposed quota increases and a fall season reopening (September 1 or October 1). Landings data through June will be available by mid-August allowing managers to compare actual landings estimates against projections. Adjustments to the fall season end date will be necessary at that time.

Methods

Methods for projecting when the quota will be met are the same as those described in the addendum to SERO (2013). Federal season landings per day and average weights were projected based on historical data for the eastern and western Gulf. Landings from state waters were also estimated based on historical landings and effort reported from state waters and from 2013 Louisiana quota monitoring data to account for landings occurring in state waters when the federal season is closed. Based on SERO (2013), the federal season length was projected to be 28 days (Jun 1-Jun 28) without Texas, Florida, and Louisiana adopting consistent regulations, and 34 days (Jun 1-Jul 4) if all states did adopt consistent regulations. This analysis assumes the previous analysis exactly predicted when the 4.145 mp recreational quota would be met. If, however, landings were less or more than previous projections, then season lengths predicted herein would be longer or shorter.

Previous projections estimated landings per day (in numbers) during summer when tourism is high and weather tends to be better than fall. Because the Gulf Council is proposing to reopen in September or October, landings per day are not expected to be as high as summer due to lower tourism, more severe weather, and children returning to school. Because the season has

not been open in fall since 2010, and prior to then not since 2007, it is difficult to predict fall landings per day. A meta-analysis was conducted to determine the proportional relationship between fall landings per day and peak summer landings per day. Headboat data were also evaluated to determine the proportional relationship between fall weekend only (Fri-Sun) landings per day and peak summer landings per day, because the Gulf Council is also considering opening only on weekends in fall. Although differences in average weight may also occur in fall compared to summer, no attempt was made to predict differences in average weight. Average weights were assumed to be 7.49 pounds whole weight (lbs ww) in the eastern Gulf and 8.20 lbs ww in the western Gulf (SER0 2013).

Data used for the meta-analysis included: (1) 2011 and 2012 Marine Recreational Information Program (MRIP) federal and/or state waters fishing effort during wave 5 vs. average fishing effort during Waves 3-4; (2) 2011 and 2012 September-October headboat angler days versus June-July headboat angler days; (3) 2010 Texas headboat October-November weekend landings vs. June-July weekend and/or weekday landings; and (4) 2005-2007 wave 5 landings per day during September-October versus landings per day during May-August.

Headboats are the only mode within the recreational sector that includes daily trip-level reporting. To examine fall weekend-only versus peak summer landings per day, Texas headboat weekend landings per day during October-November 2010 and Gulfwide headboat weekend landings per day during September-October 2007 were compared to June-July landings per day during the same respective year.

Based on the meta-analysis, ratio scalers were developed and used to estimate fall landings per day (including and excluding weekends only) relative to summer. Sensitivity runs were also performed to determine how sensitive season lengths were to various landings estimates per day. The estimated fall landings per day were used to predict when the increased quotas would be met. It was assumed that all states would adopt consistent state water seasons when the fall federal season was open. If landings due to inconsistent regulations were previously estimated to come from state waters during the fall reopening (i.e., September - Texas and Louisiana; October – Texas) then those landings were replaced by the revised fall federal season landings per day.

Given that most landings are estimated in two month waves, limited information (headboat only) was available to determine if landings per day varied by month. Therefore, analyses of season length assumed landings per day were the same in September and October. Similarly, based on the meta-analysis there was no clear difference in landings per day by region (eastern vs. western Gulf) so a Gulfwide scaler was used to estimate landing per day during fall 2013.

Results

SERO (2013) predicted federal season landings of 12,360 fish per day in the eastern Gulf and 3,536 fish per day in the western Gulf during summer. At an average weight of 7.49 lbs ww, 92,587 lbs of fish were estimated to be landed per summer day in the eastern Gulf. At an

average weight of 8.20 lbs ww, 29,012 lbs of fish were estimate to be landed per summer day in the western Gulf. Gulfwide federal season landings per summer day were estimated to be 15,896 fish equaling 121,599 lbs.

Meta-analysis of historical fishing and landings data indicated effort during wave 5 (Sept-Oct) was 26-45% of fishing effort during summer (Table 1). Similarly, evaluation of historical landings revealed landings per day were 35-60% of landings per day during summer (Table 1). Headboat weekend landings per day in fall 2007 and 2010 were 60-66% of peak summer landings per day during 2007 and 2010.

Based on the results of the meta-analysis, continuous season lengths during fall were estimated using an average scaler of 50% relative to summer landings per day (=60,800 lbs/day). Sensitivity runs were performed using scalers of 40% and 60% (48,640-72,959 lbs/day). For weekend only fishing seasons, a scaler of 65% was used relative to summer landings per day (=79,039 lbs/day). Sensitivity runs were also performed using 55% and 75% scalers (66,880-91,199 lbs/day).

Season lengths are summarized in Tables 2 and 3. Increasing the quota to 4.9 mp would result in a continuous fishing season of 13 days (range: 11-16 days) and a weekends only season of 10 days (range: 9-12 days). Increasing the quota to 5.39 mp would result in a continuous fishing season of 21 days (range: 18-27 days) and a weekends only season of 16 days (range: 14-19 days). Increasing the quota to 5.635 mp would result in a continuous fishing season of 25 days (range: 21-32 days) and a weekends only season of 19 days (range: 17-23 days). Increasing the quota to 5.929 mp would result in a continuous fishing season of 30 days (range: 25-38 days) and a weekends only season of 23 days (range: 20-28 days).

Discussion

There is considerable uncertainty in estimating the length of a fall red snapper season given the season has only been open in fall once out of the last six years. Evaluation of historical data revealed that landings per day were much less in fall (~50-65%) than during summer. However, given the dynamic changes in how the fishery has operated since the rebuilding plan was revised in 2007, historical comparisons between fall and summer catch rates may not be representative of current conditions. If in fact landings per day continue to be lower in fall than during summer, the number of days the red snapper season could remain open would be longer. The longest seasons predicted by this analysis were based on higher quotas and assuming a continuous fishing season. Weekend only seasons were shorter because landings per day were estimated to be higher on weekends compared to weekdays.

Season lengths presented herein are contingent on previous projections (SERO 2013) accurately estimating the length of the fishing season under a 4.145 mp quota. Given inconsistent regulations and historical overages of the quota, there is potential that the summer season length (Jun 1-Jun 28) was too long and may result in a quota overage. Similarly, given the short duration of the season, it may have been too short and the quota might not have been met. If

landings during summer are greater than the current 4.145 mp quota, then season lengths presented herein will be overestimated. If landings during summer are less than the current 4.145 mp quota, then average weights and/or landings per day have been overestimated, and season lengths presented herein would be underestimated.

References

SERO. 2013. Gulf-wide and State-specific Projected 2013 Red Snapper Federal Season Closure Dates. SERO-LAPP-2013-02. NMFS, Southeast Regional Office, St. Petersburg, Florida. 16 pp + addendum.

Table 1. Meta-analysis results comparing recreational fishing effort or landings per day for red snapper in fall relative to summer.

Scenario	Year	Data Source	Region	Method	Ratio
1	2011	MRIP EEZ + State effort	LA-wFL	Wave 5 effort vs Wave 3/4 avg	0.43
2	2012	MRIP EEZ + State effort	LA-wFL	Wave 5 effort vs Wave 3/4 avg	0.45
3	2012	MRIP EEZ effort	LA-wFL	Wave 5 effort vs Wave 3/4 avg	0.30
4	2011	MRIP EEZ effort	LA-wFL	Wave 5 effort vs Wave 3/4 avg	0.31
5	2011	SE Headboat Survey	LA-TX	Sept/Oct angler days vs. Jun/Jul	0.26
6	2012	SE Headboat Survey	LA-TX	Sept/Oct angler days vs. Jun/Jul	0.26
7	2011	SE Headboat Survey	MS-wFL	Sept/Oct angler days vs. Jun/Jul	0.30
8	2012	SE Headboat Survey	MS-wFL	Sept/Oct angler days vs. Jun/Jul	0.32
9	2010	SE Headboat Survey	TX	Oct/Nov wkend landings/day vs. Jun/Jul wkend landings/day	0.48
10	2010	SE Headboat Survey	TX	Oct/Nov wkend landings/day vs. Jun/Jul wkend&weekday landings/day	0.60
11	2005	SEFSC ACL landings	LA-TX	Wave 5 landings/day vs. Wave 3/4 avg landings/day	0.42
12	2006	SEFSC ACL landings	LA-TX	Wave 5 landings/day vs. Wave 3/4 avg landings/day	0.40
13	2007	SEFSC ACL landings	LA-TX	Wave 5 landings/day vs. Wave 3/4 avg landings/day	0.39
14	2005	SEFSC ACL landings	MS-wFL	Wave 5 landings/day vs. Wave 3/4 avg landings/day	0.43
15	2006	SEFSC ACL landings	MS-wFL	Wave 5 landings/day vs. Wave 3/4 avg landings/day	0.35
16	2007	SEFSC ACL landings	MS-wFL	Wave 5 landings/day vs. Wave 3/4 avg landings/day	0.44

Table 2. Projected continuous and weekend-only fall recreational season lengths beginning September 1, 2013, based on various red snapper quota increases

Alternative	Quota	Quota Increase	Season Type	Fall Landings/Day Relative to Summer	Days Open After Sept 1	Season Dates
1	4.145 mp	0 mp	Continuous	n/a	0	n/a
			Weekends (Fri-Sun)	n/a	0	n/a
2	5.929 mp	1.784 mp	Continuous	40%	38	Sept 1-Oct 8
				50%	30	Sept 1-Sept 30
				60%	25	Sept 1-Sept 25
			Weekends (Fri-Sun)	55%	28	Sept 1-2, 6-8, 13-15, 20-22, 27-29; Oct 4-6, 11-13, 18-20, 25-27; Nov 1-2
				65%	23	Sept 1-2, 6-8, 13-15, 20-22, 27-29; Oct 4-6, 11-13, 18-20
				75%	20	Sept 1-2, 6-8, 13-15, 20-22, 27-29; Oct 4-6, 11-13
3	5.635 mp	1.490 mp	Continuous	40%	32	Sept 1-Oct 2
				50%	25	Sept 1-Sept 25
				60%	21	Sept 1-Sept 21
			Weekends (Fri-Sun)	55%	23	Sept 1-2, 6-8, 13-15, 20-22, 27-29; Oct 4-6, 11-13, 18-20
				65%	19	Sept 1-2, 6-8, 13-15, 20-22, 27-29; Oct 4-6, 11-12
				75%	17	Sept 1-2, 6-8, 13-15, 20-22, 27-29; Oct 4-6
4	5.390 mp	1.245 mp	Continuous	40%	27	Sept 1-Sept 27
				50%	21	Sept 1-Sept 21
				60%	18	Sept 1-Sept 18
			Weekends (Fri-Sun)	55%	19	Sept 1-2, 6-8, 13-15, 20-22, 27-29; Oct 4-6, 11-12
				65%	16	Sept 1-2, 6-8, 13-15, 20-22, 27-29; Oct 4-5
				75%	14	Sept 1-2, 6-8, 13-15, 20-22, 27-29
4	4.900 mp	0.755 mp	Continuous	40%	16	Sept 1-Sept 16
				50%	13	Sept 1-Sept 13
				60%	11	Sept 1-Sept 11
			Weekends (Fri-Sun)	55%	12	Sept 1-2, 6-8, 13-15, 20-22, 27
				65%	10	Sept 1-2, 6-8, 13-15, 20-21
				75%	9	Sept 1-2, 6-8, 13-15, 20

Table 3. Projected continuous and weekend-only fall recreational season lengths beginning October 1, 2013, based on various red snapper quota increases

Alternative	Quota	Quota Increase	Season Type	Fall Landings/Day Relative to Summer	Days Open After Oct 1	Season Dates
1	4.145 mp	0 mp	Continuous	n/a	0	n/a
			Weekends (Fri-Sun)	n/a	0	n/a
2	5.929 mp	1.784 mp	Continuous	40%	38	Oct 1-Nov 8
				50%	30	Oct 1-Oct 30
				60%	25	Oct 1-Oct 25
			Weekends (Fri-Sun)	55%	28	Oct 4-6, 11-13, 18-20, 25-27; Nov 1-3, 8-10, 15-17, 22-24, 29-30; Dec 1, 6
				65%	23	Oct 4-6, 11-13, 18-20, 25-27; Nov 1-3, 8-10, 15-17, 22-23
				75%	20	Oct 4-6, 11-13, 18-20, 25-27; Nov 1-3, 8-10, 15-16
3	5.635 mp	1.490 mp	Continuous	40%	32	Oct 1-Nov 2
				50%	25	Oct 1-Oct 25
				60%	21	Oct 1-Oct 21
			Weekends (Fri-Sun)	55%	23	Oct 4-6, 11-13, 18-20, 25-27, Nov 1-3, 8-10, 15-17, 22-23
				65%	19	Oct 4-6, 11-13, 18-20, 25-27; Nov 1-3, 8-10, 15
				75%	17	Oct 4-6, 11-13, 18-20, 25-27, Nov 1-3, 8-9
4	5.390 mp	1.245 mp	Continuous	40%	27	Oct 1-Oct 27
				50%	21	Oct 1-Oct 21
				60%	18	Oct 1-Oct 18
			Weekends (Fri-Sun)	55%	19	Oct 4-6, 11-13, 18-20, 25-27, Nov 1-3, 8-10, 15
				65%	16	Oct 4-6, 11-13, 18-20, 25-27; Nov 1-3, 8
				75%	14	Oct 4-6, 11-13, 18-20, 25-27, Nov 1-2
4	4.900 mp	0.755 mp	Continuous	40%	16	Oct 1-Oct 16
				50%	13	Oct 1-Oct 13
				60%	11	Oct 1-Oct 11
			Weekends (Fri-Sun)	55%	12	Oct 4-6, 11-13, 18-20, 25-27
				65%	10	Oct 4-6, 11-13, 18-20, 25
				75%	9	Oct 4-6, 11-13, 18-20

ADDENDUM
September 9, 2013

Background

NOAA Fisheries is currently finalizing a rule that, if approved, would increase the total allowable catch of red snapper in the Gulf of Mexico to 11.0 million pounds (mp). The commercial and recreational sector quotas, based on the current 51 percent commercial and 49 percent recreational allocation, would be 5.61 mp and 5.39 mp, respectively. The red snapper commercial sector is managed with an individual fishing quota (IFQ) program. The increase of 1.295 mp to the commercial quota will be distributed to IFQ shareholders on or shortly after October 1, 2013. The 1.245 mp increase to the recreational quota will allow a supplemental red snapper recreational fishing season beginning October 1, 2013.

Previously it was estimated the supplemental season could be 21 days. This season length was contingent on the previous quota of 4.145 mp being met, but not exceeded during the June 2013 opening. In late August, the Southeast Regional Office received preliminary catch estimates produced by the Marine Recreational Information Program (MRIP) for the June season. The estimates were unexpectedly high relative to previous years, indicating the private and charter components of the recreational sector landed 5.8 mp. Landings available through June, including both MRIP and headboat landings, total 6.13 mp of the original 4.145 mp-quota.

Overall, the new MRIP catch estimates are more accurate and less biased than those produced in past years because MRIP redesigned the Access Point Angler Intercept Survey in March 2013 to provide much better coverage of the variety of fishing trips ending at different times of day. However, if the new survey methodology indeed eliminated past biases, then the new estimates are not directly comparable to the 2013 quota or other red snapper management reference points, which were based on historical catch estimates using the prior methodology. The proportion of the catch increase that may be attributed to improving the geographic and temporal coverage of sampling under the new survey methodology versus the proportion that may be due to a true increase in landings has not yet been determined.

At this time, NOAA Fisheries does not have a sufficient understanding of how to use the new MRIP landing estimates without better understanding how they fit into the broader scientific basis for red snapper management, which includes the stock assessment and the full historical times series of fishery-dependent and -independent data. Therefore, NOAA Fisheries has determined the best course of action is to base a decision on whether to proceed with a fall season using previous projections developed for estimating the supplemental season length. It was previously assumed that fall catch rates would be 50% of summer catch rates, resulting in a 21 day supplemental season. However, during public testimony at the Council's August 2013 meeting, for-hire business owners stated they had booked many trips for the supplemental season. Additionally, comments received on the proposed rule indicated many private anglers were planning fishing trips during October, leading NOAA Fisheries to determine there may be greater participation during this fall than would be expected based on previous years. Given questions about the new data, the past performance of the fishery, the increase in fishing effort in June, and the expectation of higher than normal effort during the fall, NOAA Fisheries prefers to be cautious in deciding for how long to re-open the recreational fishing season. This analysis summarizes

estimated continuous season lengths assuming fall catch rates ranging from 50% (status quo) to 100% of summer catch rates.

Results

Estimated season lengths ranged from a minimum of 11 days to a maximum of 21 days (Table A-1). The shortest season was based on catch rates during fall equaling catch rates during summer, as estimated in SERO-LAPP-2013-05. The longest season assumed catch rates during fall would be half of catch rates during summer.

Table A-1. Estimated length of a continuous fall red snapper recreational fishing season based on various fall catch rates relative to summer catch rates.

Fall landings per day relative to Summer landings per day	Continuous Season Length (days) beginning Oct 1
50%	21
55%	19
60%	18
65%	16
70%	15
75%	14
80%	13
85%	12
90%	12
95%	11
100%	11

Discussion

NOAA Fisheries indicated that adjustments to the fall season end date may be necessary after landings data became available in mid-August for the June red snapper season (see SERO-LAPP-2013-05). Landings data through June were unexpectedly high and it is not clear at this time how much of the catch increase is attributed to survey improvements versus a true increase in landings. Presuming the new survey methodology eliminated past biases, then the new estimates are not directly comparable to the 2013 quota. Evaluations are underway to better understand the relative contribution of the method change versus true shifts in angler behavior and landings to the unexpectedly high estimates for this year. This evaluation is still underway and will not be completed in time to be used for decisions on the season length of the October recreational red snapper season. In the interim, the Southeast Fisheries Science Center (SEFSC) has determined the best scientific information available for determining the landings during the June season is the projection that was used to set the season length.

The 21-day supplemental season originally projected by NOAA Fisheries was based on assuming catch rates during fall would be 50 percent less than the catch rates projected for summer. However, given questions about the new data, the past performance of the fishery, the increase in fishing effort in June,

and the expectation of higher than normal effort during the fall, it would be beneficial to be cautious in deciding for how long to re-open the recreational fishing season. It would not be realistic to assume fall catch rates will be the same as in the summer, due to children being in school, inclement weather, and other activities, such as hunting and football. Therefore, catch rates for fall that are greater than 50% but less than 100% of summer catch rates may be appropriate for predicting the length of the fall season. Assuming catch rates are 75 percent of summer catch rates, the season length would be 14 days (i.e., Oct 1-Oct 14).