

## Modification of Management for Red Grouper in the Gulf of Mexico: Amendment 53

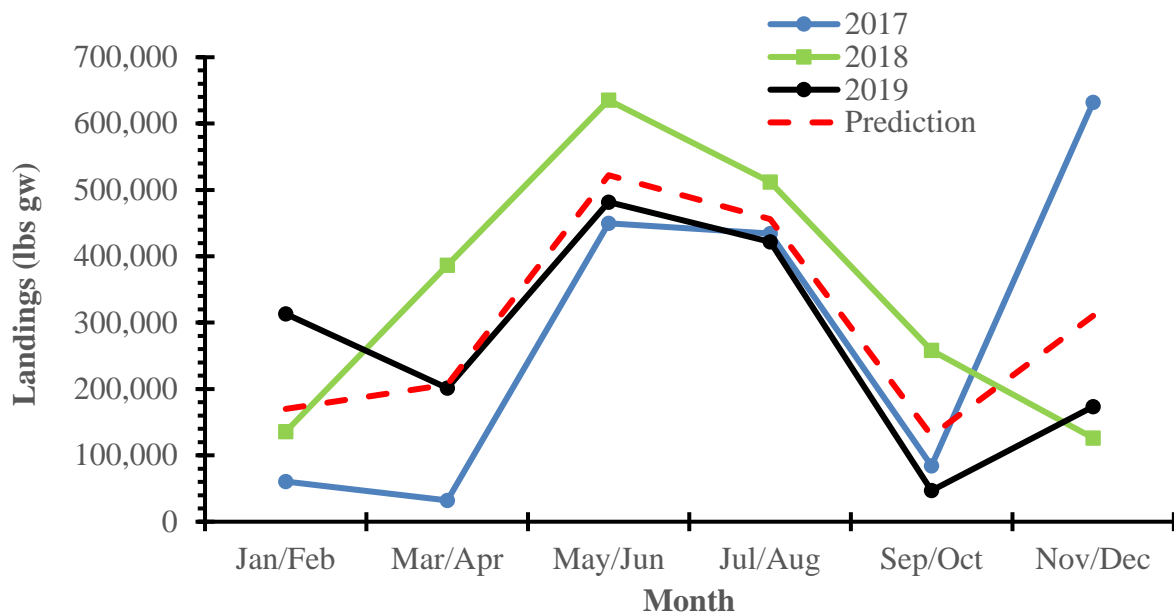
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LAPP/DM Branch

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### Revise the Annual Catch Target for Red Grouper: Modeling Season Length for the Recreational Sector

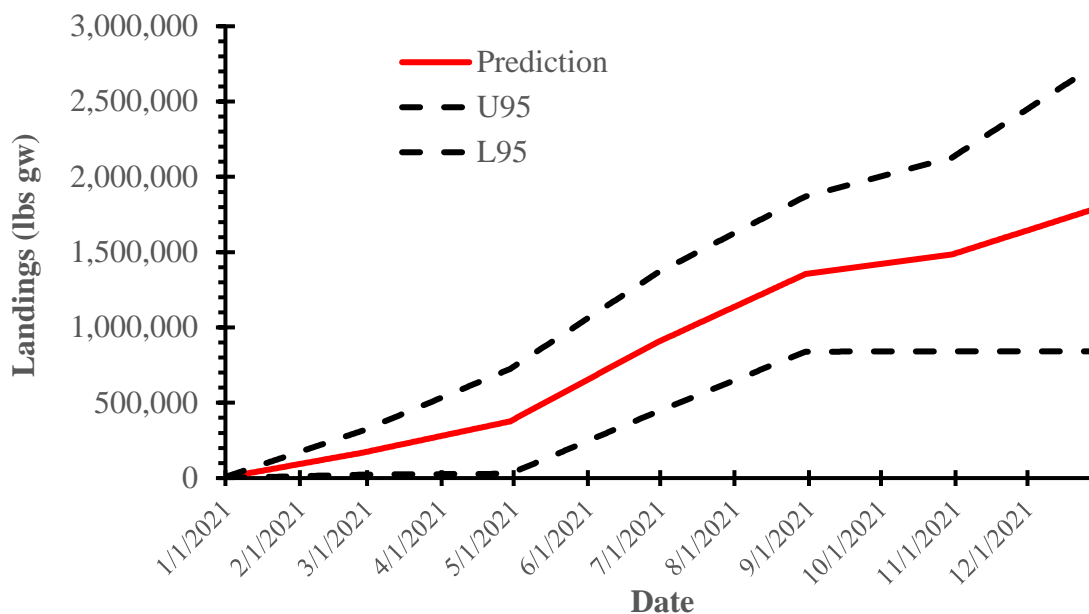
Landings data for Gulf of Mexico red grouper were obtained from the Southeast Fisheries Science Center (SEFSC) recreational Annual Catch Limit (ACL) dataset obtained in May of 2020. The current ACT is being tracked using Marine Recreation Information Program (MRIP) Coastal Household Telephone Survey (CHTS) equivalent landings. However, this analysis uses MRIP Fishing Effort Survey (FES) data to match the same currency (MRIP FES) as the most recent assessment (SEDAR 61). Future landings were determined from taking a three-year average of the three most recent years of complete MRIP FES data, as the most recent data are assumed to be the best approximation of future harvest. Additionally, the current 2-red grouper per angler bag limit became effective on May 7, 2015 precluding using landings prior to 2016 without adjusting for the previously higher bag limits. Recreational landings are collected in two-month increments called waves (e.g., January and February = wave 1, March and April = wave 2, etc.). Landings from 2017 through 2019 and a prediction of future landings (average landings from 2017-2019) by wave are shown in Figure 1. Season lengths were projected with upper and lower 95% confidence intervals for each recreational ACT being considered in Amendment 53 (Table 1). The predicted closure dates span from July 23 to no closure (Table 1). There is considerable uncertainty in the predictions since the confidence intervals range from early June to no closure needed (Table 1; Figure 2).



**Figure 1.** Gulf of Mexico recreational landings by two-month wave and predicted future landings. Source: SEFSC MRIP FES Recreational ACL Dataset (May 8, 2020).

**Table 1.** The predicted closure dates for each recreational ACT (mp gw) currently in Amendment 53 generated from predicted landings and also predicted landings upper and lower 95% confidence intervals. Source: SEFSC MRIP FES Recreational ACL Dataset (May 8, 2020).

Alternatives (Action 2—Action 1)	ACT	Predicted Closure Date	Season Length (95% Confidence Interval)
1—1	1.93	No Closure	259—365 Days
2—1	1.09	July 26	157—365 Days
2—2	1.59	November 20	211—365 Days
2—3	1.56	November 14	207—365 Days
2—4	1.58	November 18	209—365 Days
3—1, 4—1	1.07	July 23	155—365 Days
3—2, 3—4, 4—2, 4—4	1.57	November 16	208—365 Days
3—3, 4—3	1.55	November 12	206—365 Days



**Figure 2.** Cumulative predicted Gulf of Mexico red grouper recreational landings with 95% confidence interval (dashed lines). Source: SEFSC MRIP FES Recreational ACL Dataset (May 8, 2020).

As with most predictions, the reliability of the results is dependent upon the accuracy of their underlying data and input assumptions. We have attempted to create a realistic baseline as a foundation for comparisons, under the assumption that projected future landings will accurately reflect actual future landings. Uncertainty exists in this projection, as economic conditions, weather events, changes in catch-per-unit effort, fisher response to management regulations, and a variety of other factors may cause departures from this assumption.