

Florida State Reef Fish Survey Metadata

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The Florida Gulf Reef Fish Survey (GRFS, as of July 1, 2020 was expanded statewide and renamed the State Reef Fish Survey, SRFS) is a specialized recreational fishing survey developed to improve the precision and timeliness of recreational private boat catch and effort estimates for reef fish in Florida's Gulf waters. The GRFS was designed in collaboration with NOAA Fisheries and statistical consultants to be complimentary to the MRIP APAIS such that the catch data from both surveys can be combined to produce more precise catch estimates.

The GRFS is a year-round survey that consists of a monthly mail survey sent to recreational anglers who possess the Gulf Reef Fish Angler designation on their saltwater fishing license, and a dockside intercept survey to collect information on numbers and types of fish landed and released, including size, weight, and age of harvested fish. Until June 30, 2020, the Gulf Reef Fish Angler designation was required for anyone who intended to fish for or harvest certain reef fish species from a private vessel in Florida's Gulf waters, excluding Monroe county. Therefore, estimates produced from the GRFS exclude Monroe county. Beginning on July 1, 2020, the State Reef Fish Angler designation was expanded statewide to include Monroe county in the Gulf, and the Atlantic Ocean on the east coast of Florida.

The MRIP and GRFS surveys ran side-by-side from May 2015 until June 2020, and continue to run side-by-side as the SRFS, to allow for benchmarking of the GRFS against the MRIP survey. On October 5, 2018, the FWC GRFS design was certified as an approved method for derivation of estimates of recreational fishing catch and effort for Gulf of Mexico Red Snapper (*Lutjanus campechanus*) and other species covered in the design of the survey. Specific details of the GRFS design, peer review, and the certification memorandum can be found in the *Memorandum for the Certification of Fishing Survey Methods for Gulf Reef Fish Survey and Associated Attachments*, https://media.fisheries.noaa.gov/dam-migration/09_gulf-reef-fish-survey-decision-memo-with-attachments.pdf.

Calibration ratios were calculated for each estimate type (landings in numbers, landings in pounds, and releases) and stock ID (central and east) from the estimates produced during the years the MRIP and GRFS surveys overlapped (2016-2019). The calibration ratios were multiplied by the MRIP time series for each stock ID to produce a GRFS calibrated time series from 1981 to 2015, and from 2016-2019, the GRFS estimate is given. Field names and descriptions of the data provided can be found in Table 1.

| Field Name | Description |
|---------------|---|
| common | Species – “red snapper” |
| gulf | Stock ID – “central” = FL_REG = 1; “east” = FL_REG 2 + FL_REG 3 |
| varname_desc | Written description of the estimate type: “Landings (no. fish)”, “Landings (pounds), “Releases (no. fish) |
| varname_short | Shortened description of estimate type: “AB1”= landings in numbers of fish “lbsest_wwt”=landings in whole weight lbs “B2”=releases in numbers of fish |
| year | Year the estimate was produced |
| ds | Data source: “SRFS”=state reef fish survey |
| GRFS_cal_est | GRFS calibrated MRIP estimate (1981-2015); GRFS estimate (2016-2019) |
| GRFS_var | Variance associated with the GRFS_cal_est variable |
| MRIP_FCAL_est | MRIP FCAL estimate provided by Matthew Nuttall |
| MRIP_FCAL_var | Variance associated with the MRIP_FCAL_est variable; calculated from the CVs provided by Matthew Nuttall |
| obsRatio | Calibration ratio calculated as GRFS/MRIP from the summed estimates across 2016-2019 for each survey, GRFS and MRIP. |
| varRatio | Variance associated with the obsRatio variable, calculated using the delta method |