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MRIP 2020 Estimates

Overview of Methodology and Select Catch and Effort Estimates

Gag, Red Grouper, Red Snapper, King Mackerel, Gray Triggerfish,
Greater Amberjack, Cobia

26 October 2021

Main Points

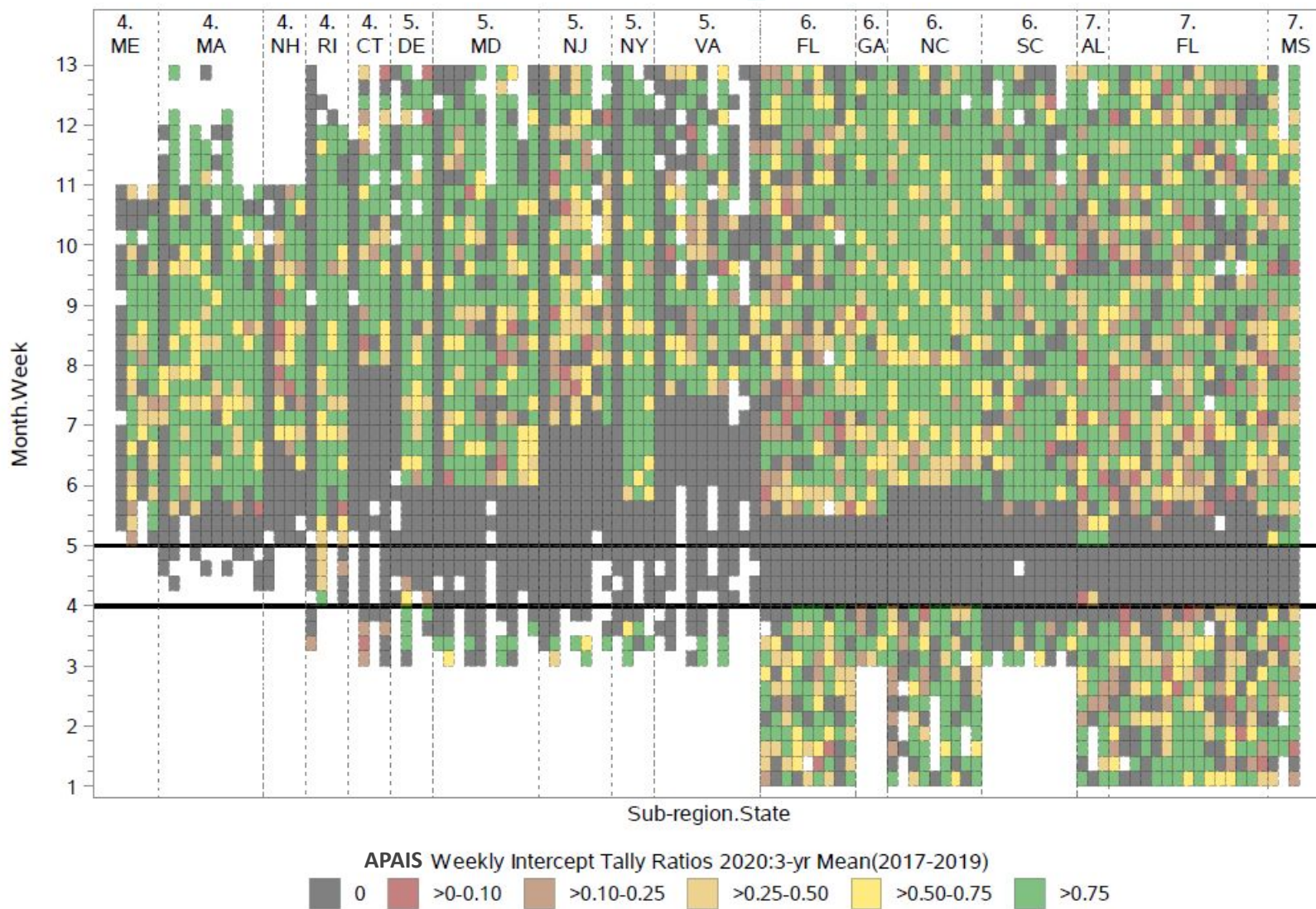
- 2020 Catch and Effort Estimates
 - In general, no unexpected or extreme results
 - 2020 typically in line with prior years or recent trends
 - Impacts of data gaps and imputation variable across states and fishing modes but limited at annual and regional levels
- Review of Data Gaps from COVID-19
- Data Imputation and Estimation Methods
- Catch and Effort Estimates
 - Recent Time Series, 2018-2020
 - 2020 With Imputed Records vs Without Imputed Records

2020 MRIP Data Gaps

- Access Point Angler Intercept Survey (APAIS)
 - Source of catch rate and supplemental effort information
- Wave 2 (Mar/Apr)
 - Primarily April but some states suspended in late March
 - Most states resumed sampling at some point in May
- Connecticut, New Jersey, Virginia
 - These states did not resume sampling until July or August 1
- Headboat Mode
 - No state resumed headboat sampling in 2020
 - APAIS sampling is at-sea or ride-along
 - Mid-Atlantic and New England Regions
- SEFSC SE Region Headboat biological sampling suspended
 - validation/QA visits/Reporting continuing

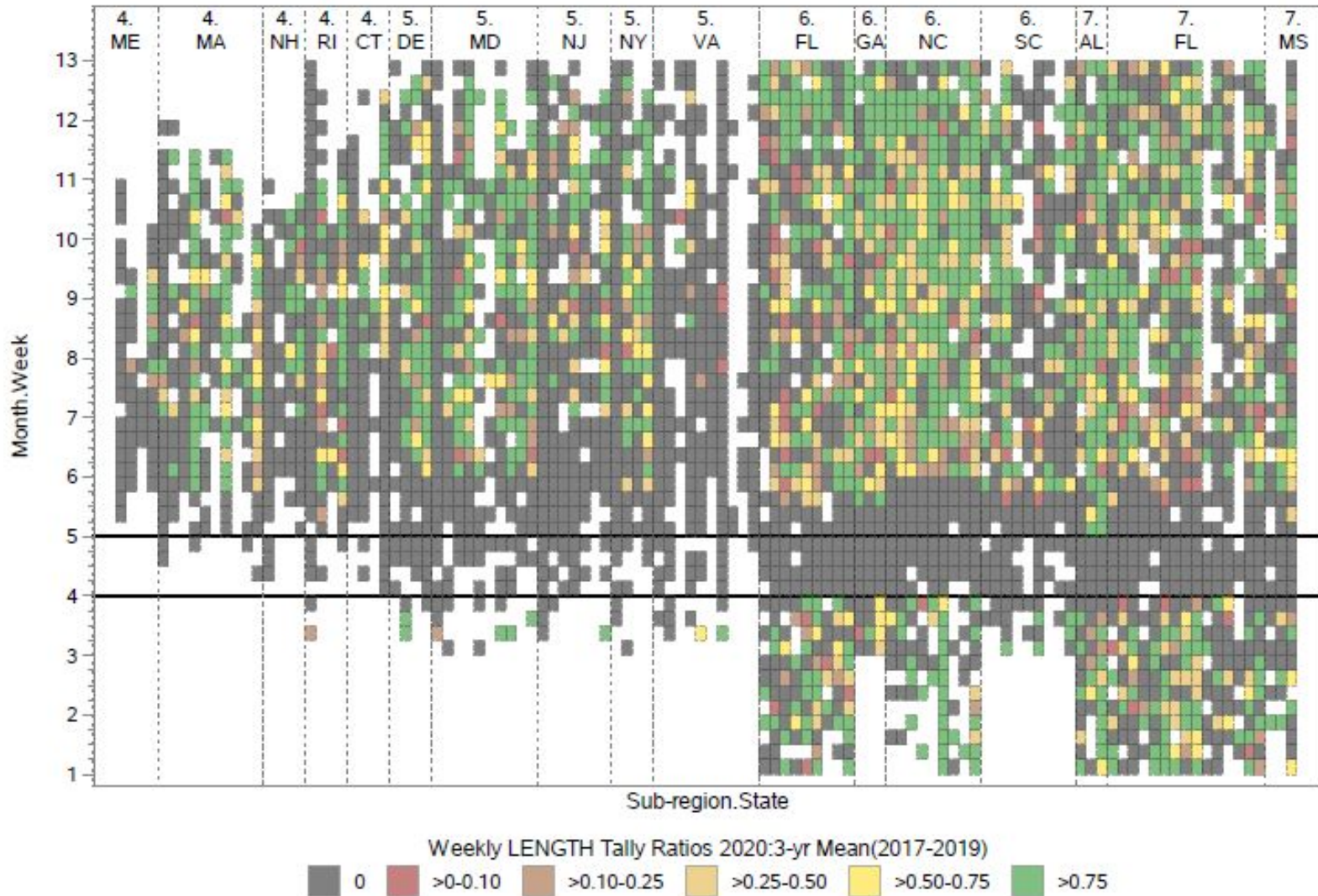


2020 MRIP Data Gaps



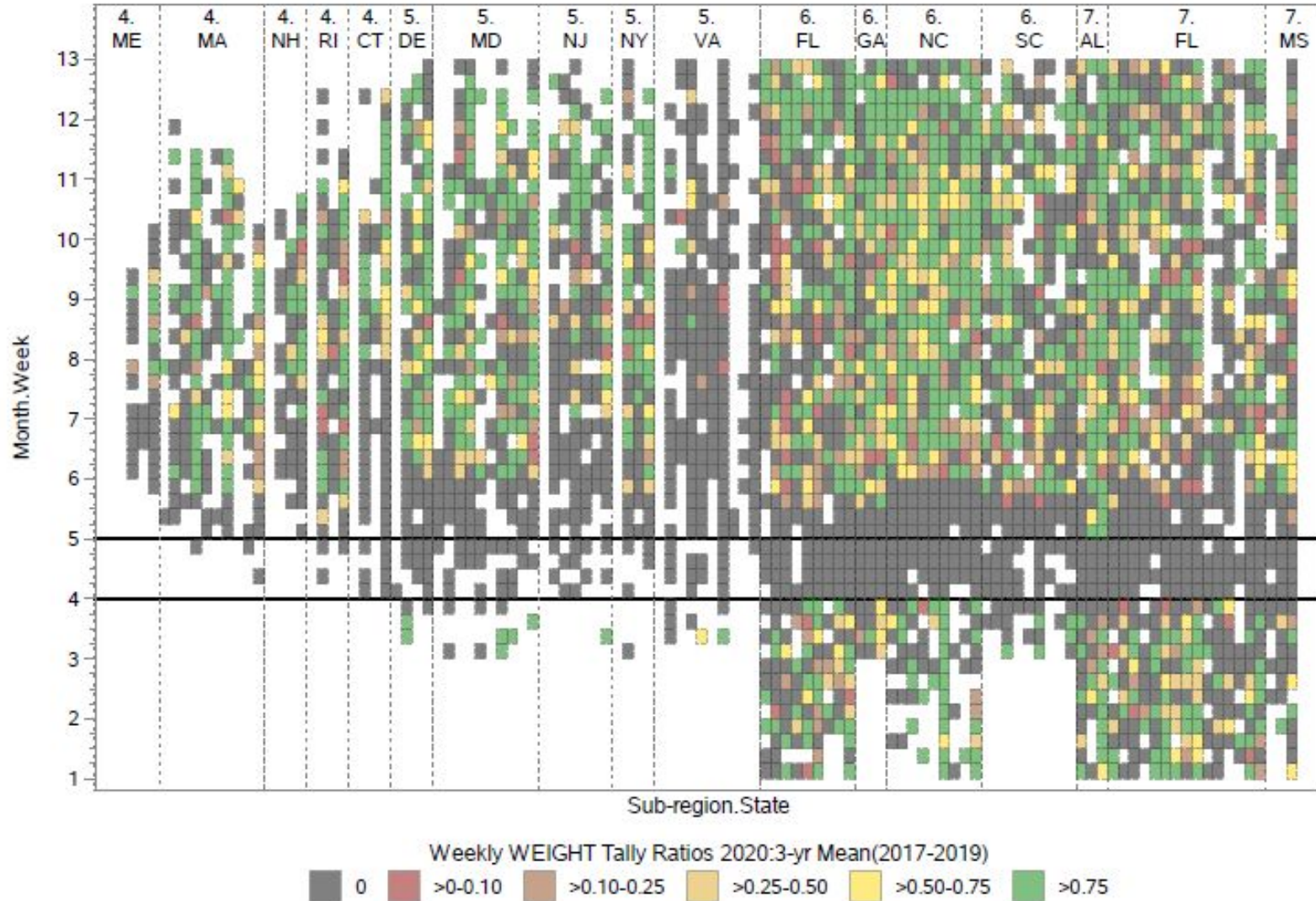
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2020 MRIP Data Gaps: Lengths



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2020 MRIP Data Gaps: Weights



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Data Imputation & Estimation

- APAIS sampling suspensions and resulting data gaps vary by state but are known
 - [2020 Sampling Status Tracker](#)
- Simple imputation approach to fill gaps
 - All APAIS data from 2018 and 2019 collected within the corresponding 2020 data gap periods combined with available 2020 data
 - Original sample weights for 2018 and 2019 data down weighted by a factor of 2 to account for using two years of data
 - Method discussed with MRIP statistical consultants
- Standard 2-month wave estimation
 - Standard MRIP methodology used for both catch and effort estimates
 - 2020 estimates are available at the 2-month wave level



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Data Imputation & Estimation

- More complex methods were considered
 - Resource intensive
 - Larger deviation from standard MRIP estimation methodology
 - Auxiliary information
- Auxiliary Information
 - OST developed modifications to APAIS questionnaire (May 2020)
 - Changes to survey questionnaires must be approved as required by the Paperwork Reduction Act
 - Whitehouse OMB Office of Information and Regulatory Affairs ultimately blocked proposed modifications (Summer 2020)
- OST will revisit 2020 estimates when complete APAIS data are available for 2021
 - Evaluate changes to 2020 estimates using imputed records from 2019,2021 vs 2018,2019

Catch Estimates

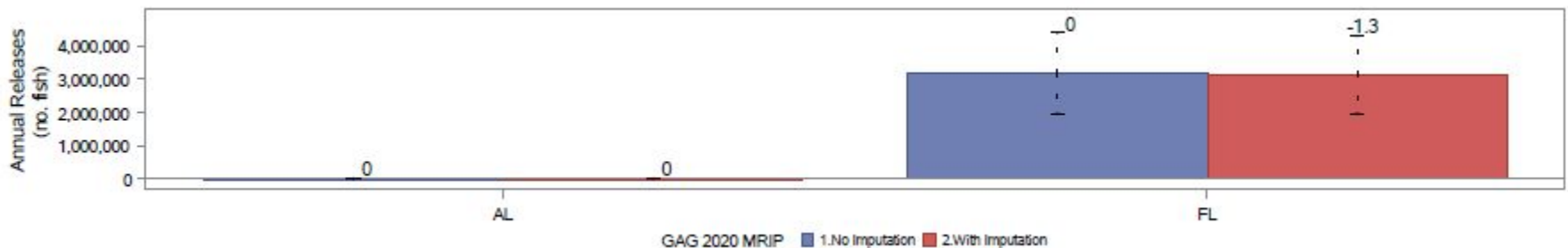
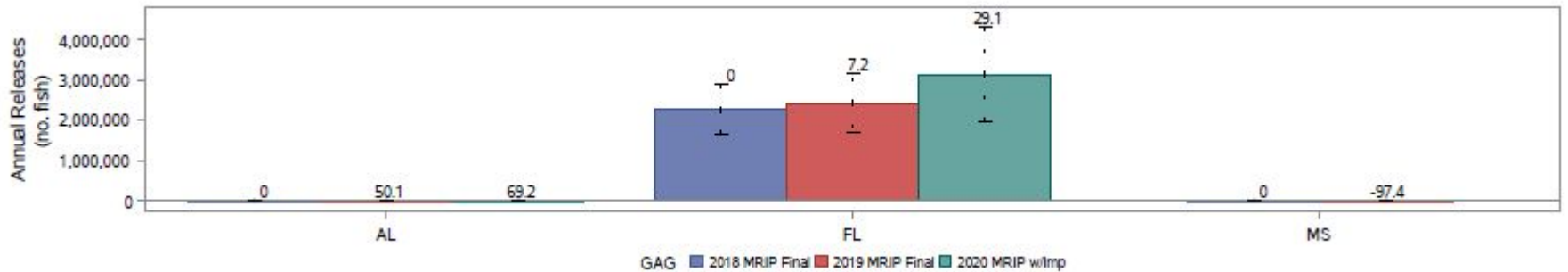
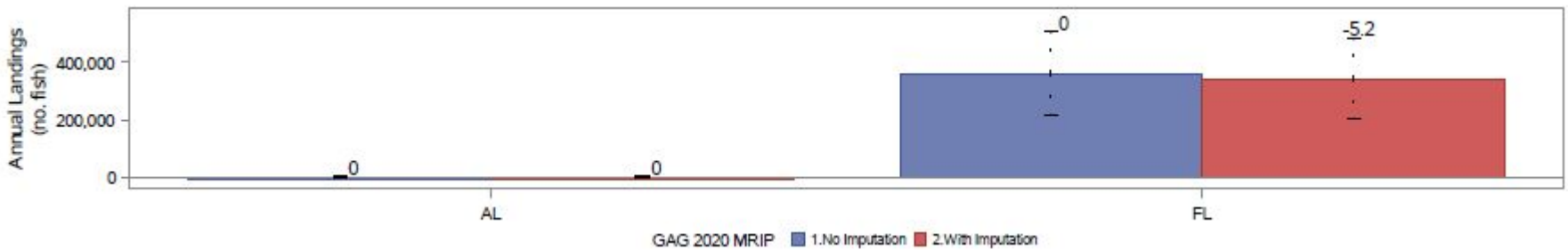
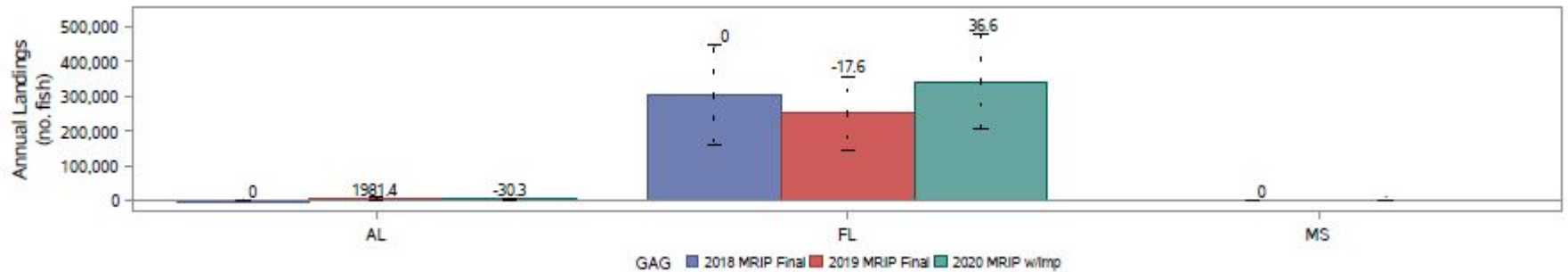
- Annual Landings (no. fish)
 - 2018-2020 Time series (% change from prior year)
 - 2020 No Imputation, With Imputation (% change from no imp)
- Annual Releases (no. fish)
 - 2018-2020 Time series (% change from prior year)
 - 2020 No Imputation, With Imputation (% change from no imp)
- Region and State
 - Gulf of Mexico
- Imputation measure in MRIP Catch Query

Gag



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Annual Landings & Releases - Gulf

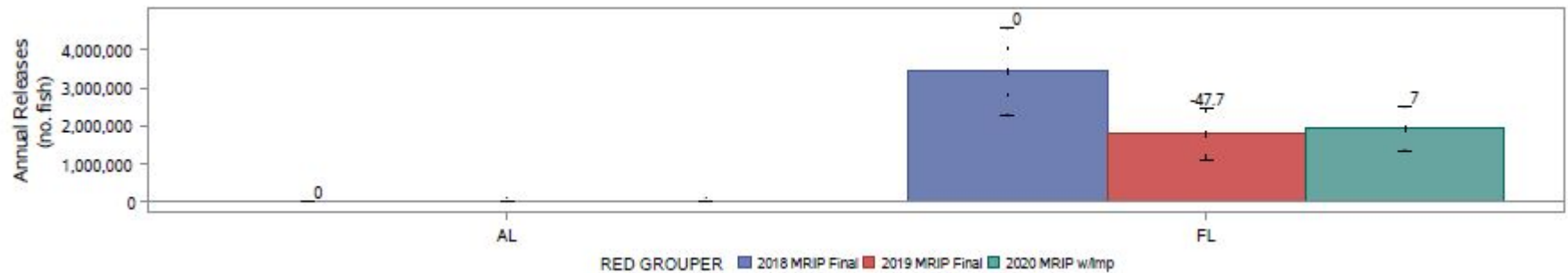
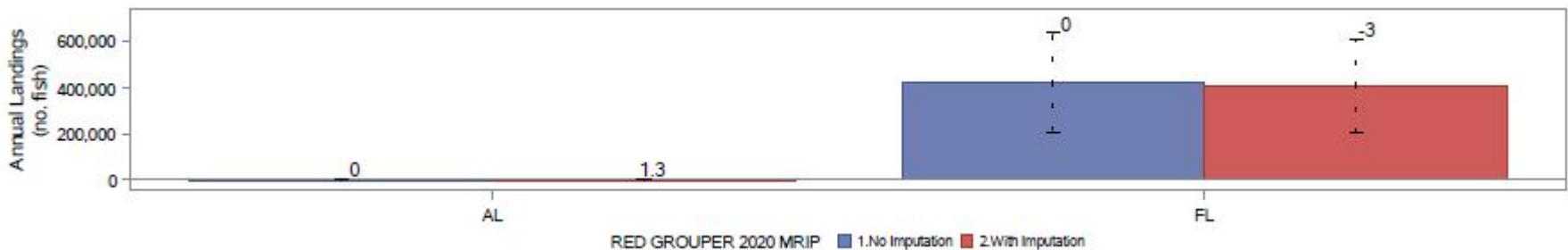
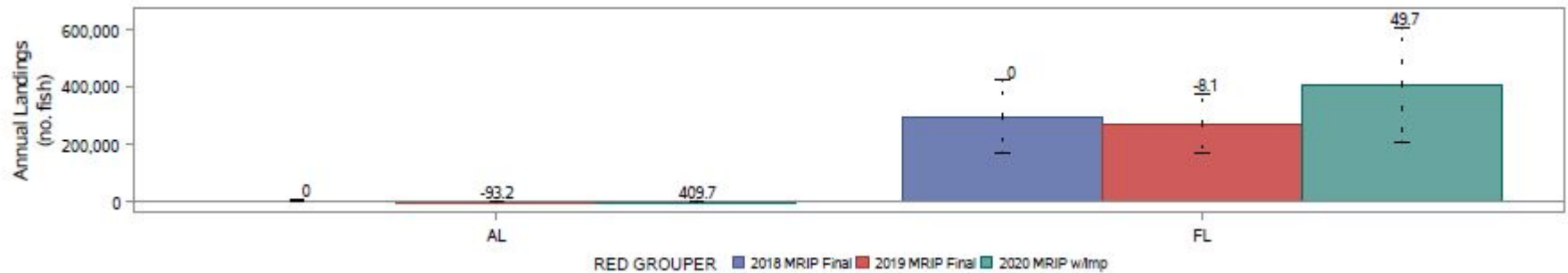


Red Grouper



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Annual Landings & Releases - Gulf

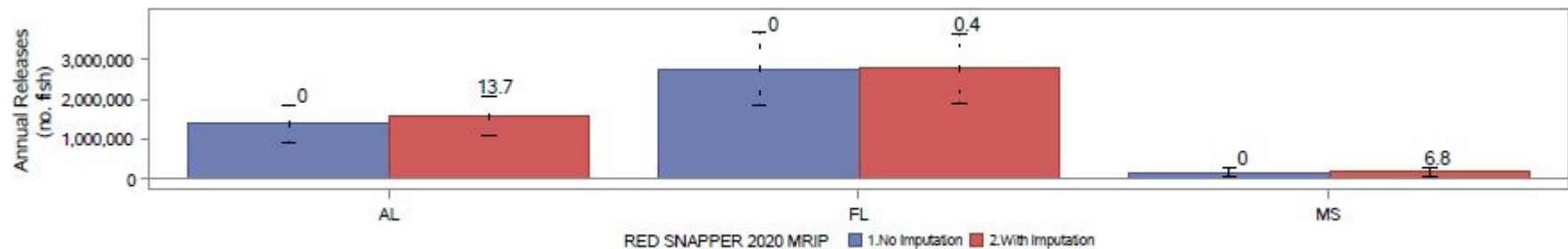
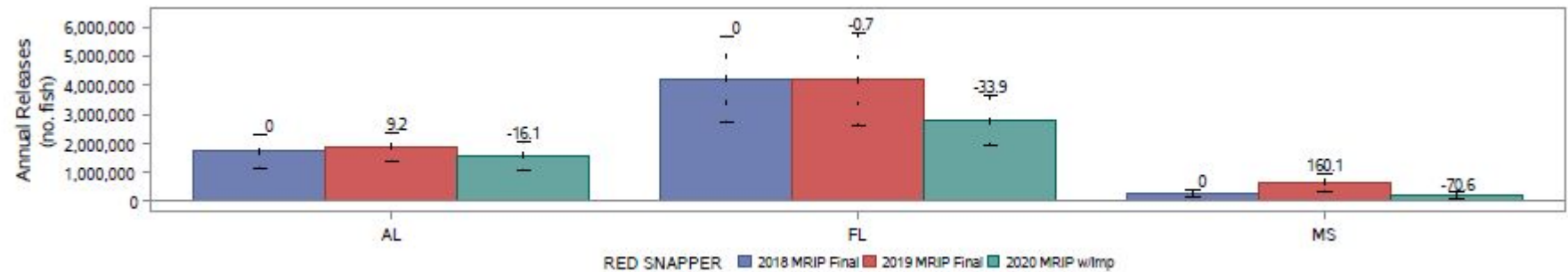
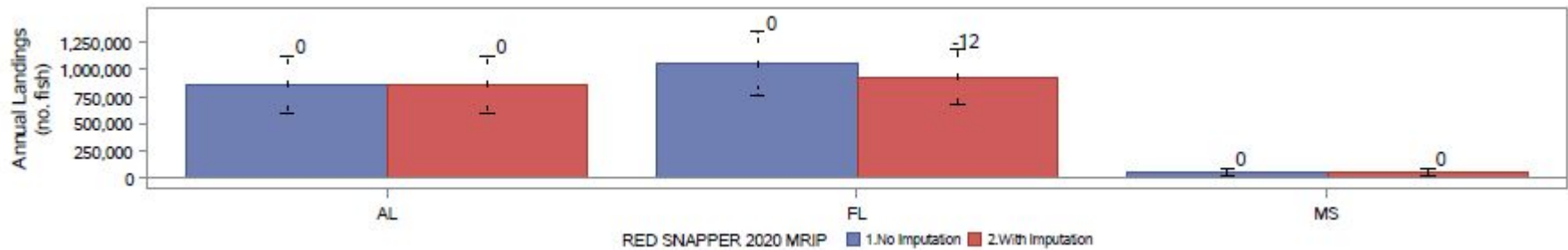
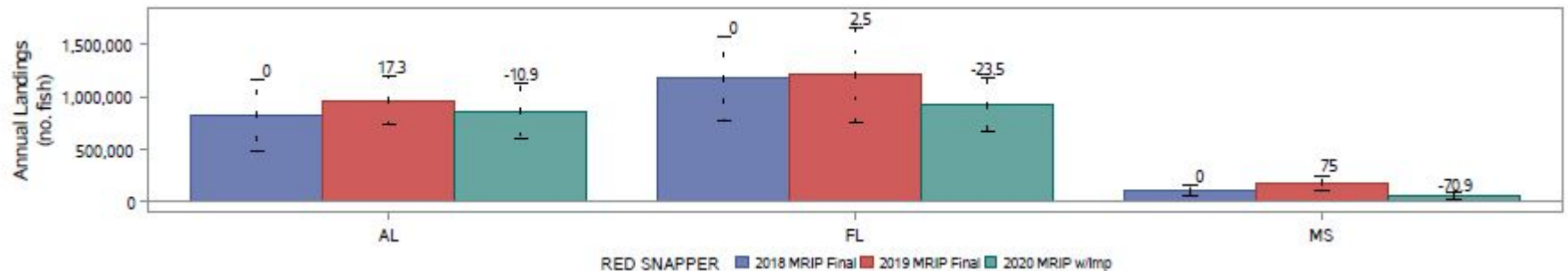


Red Snapper



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Annual Landings & Releases - Gulf

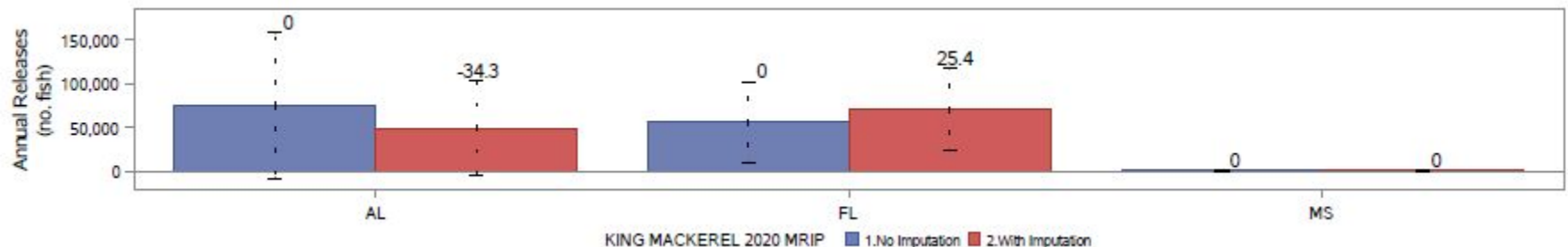
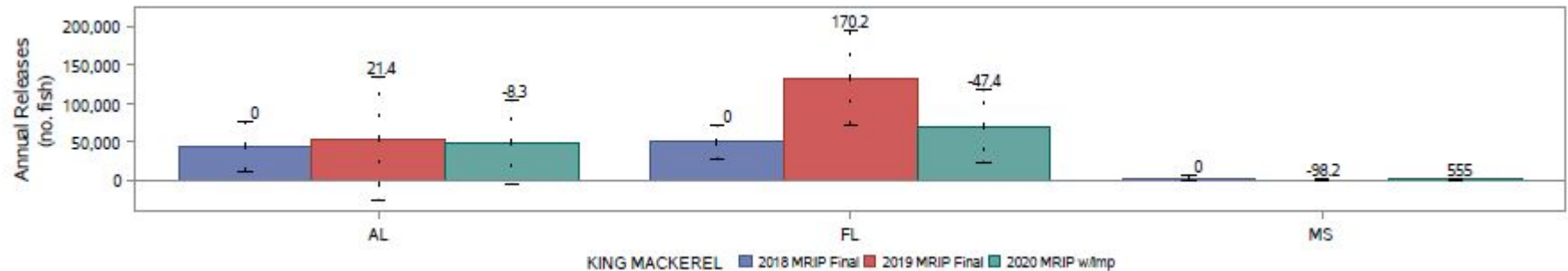
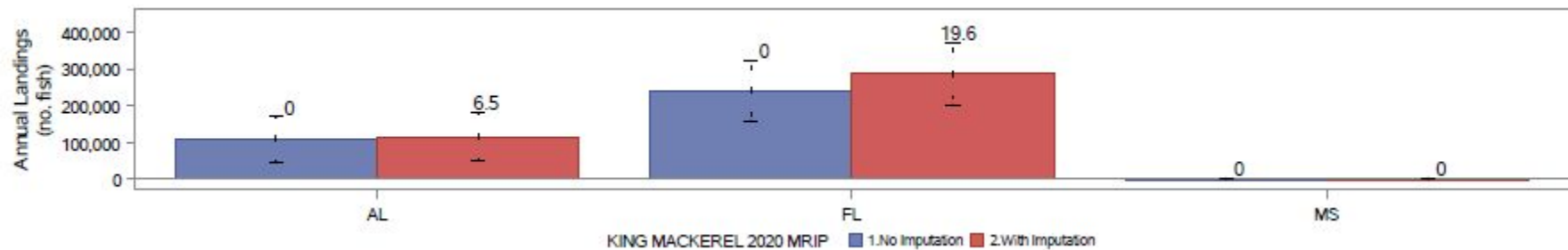
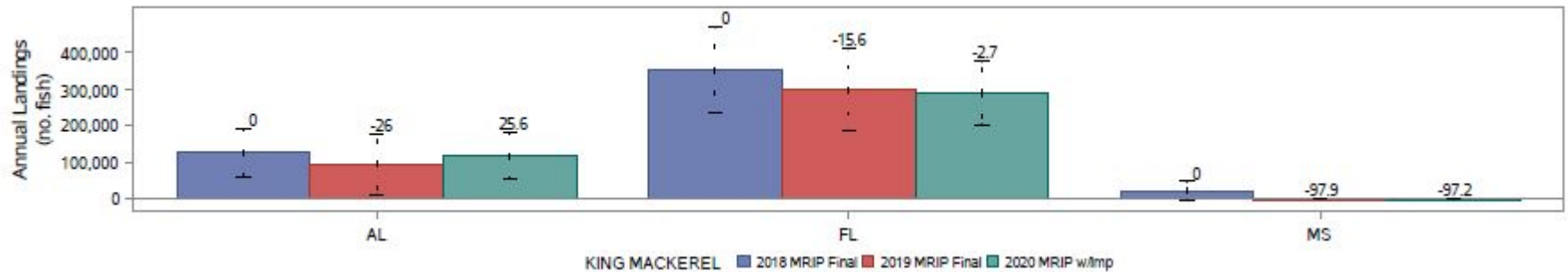


King Mackerel



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Annual Landings & Releases - Gulf

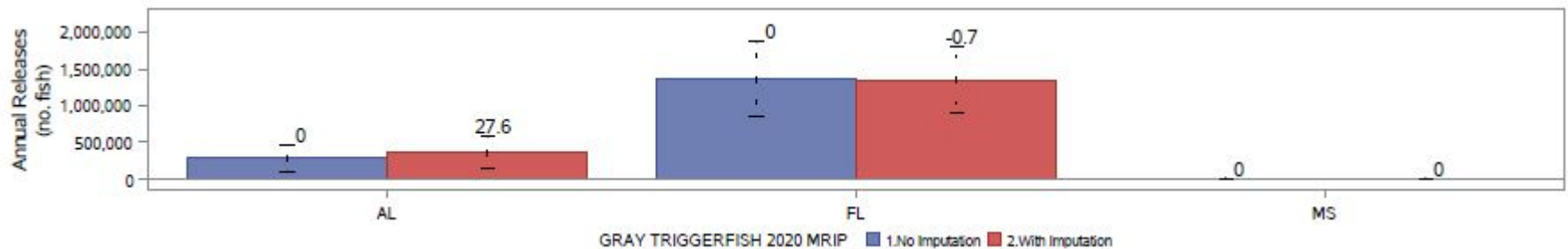
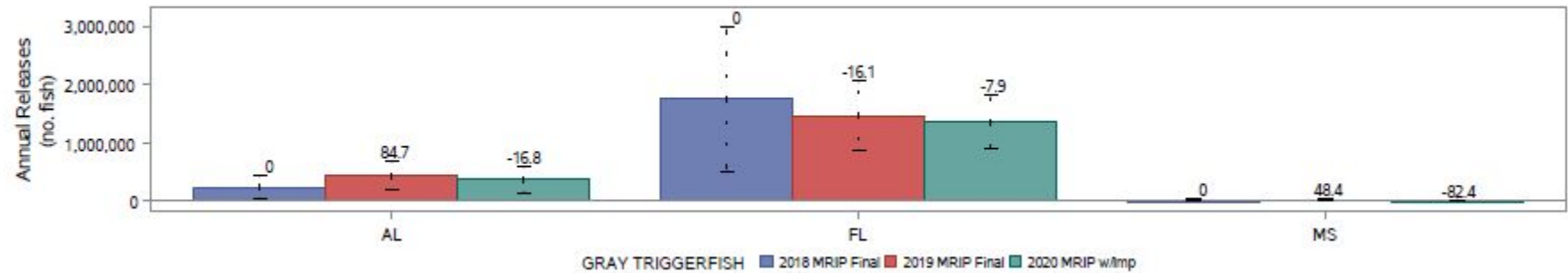
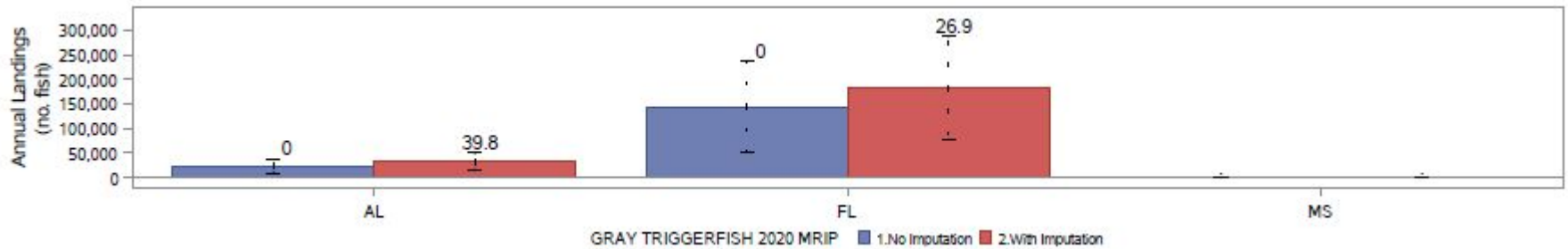
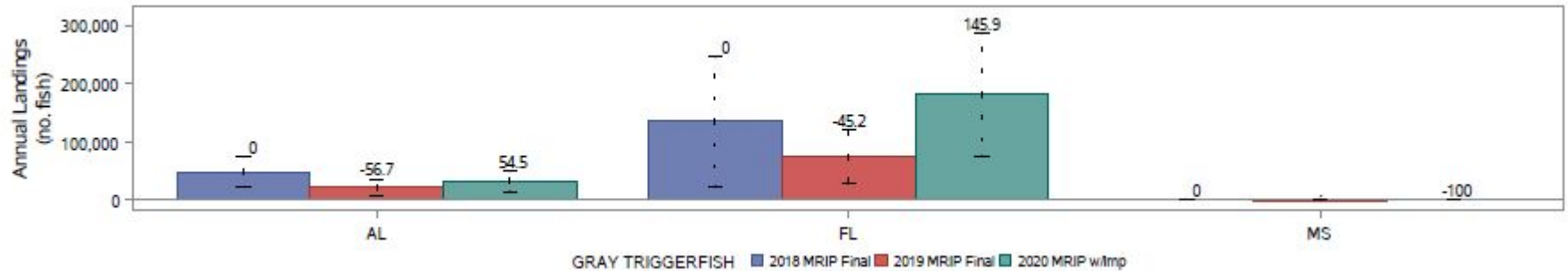


Gray Triggerfish



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Annual Landings & Releases - Gulf

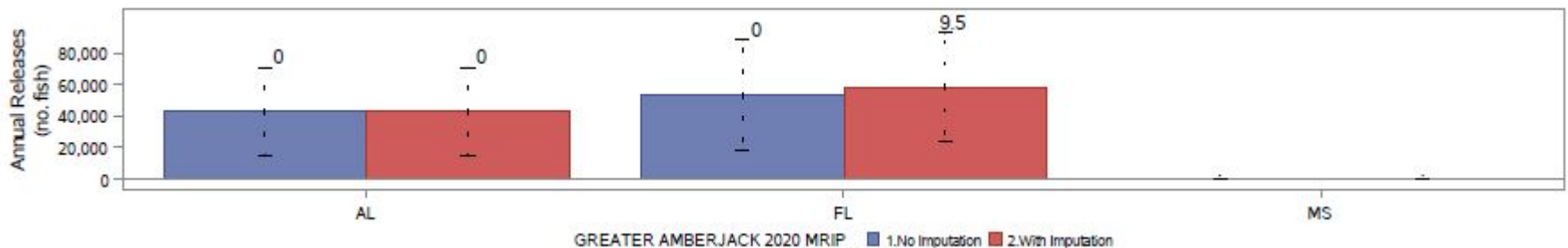
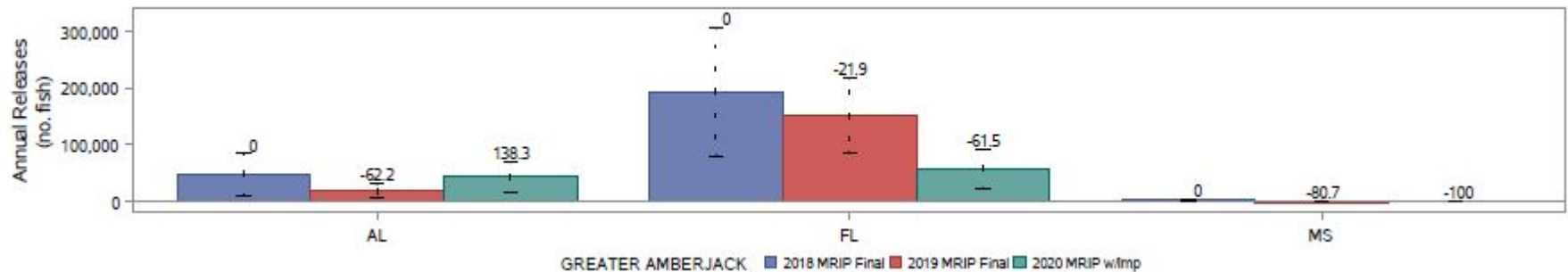
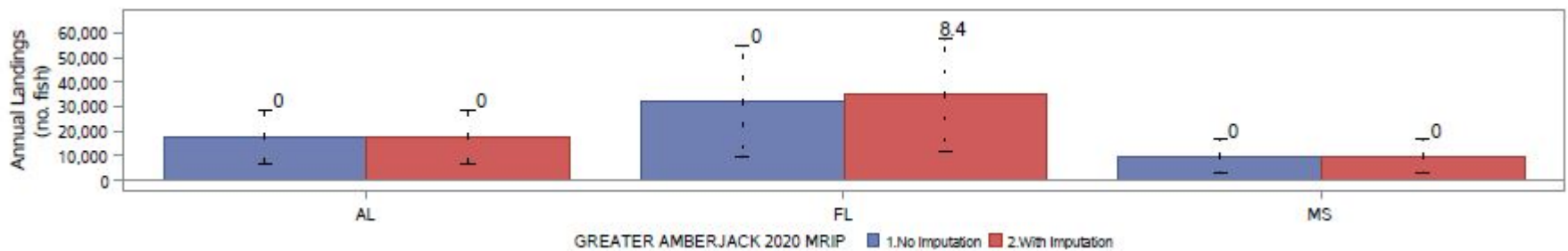
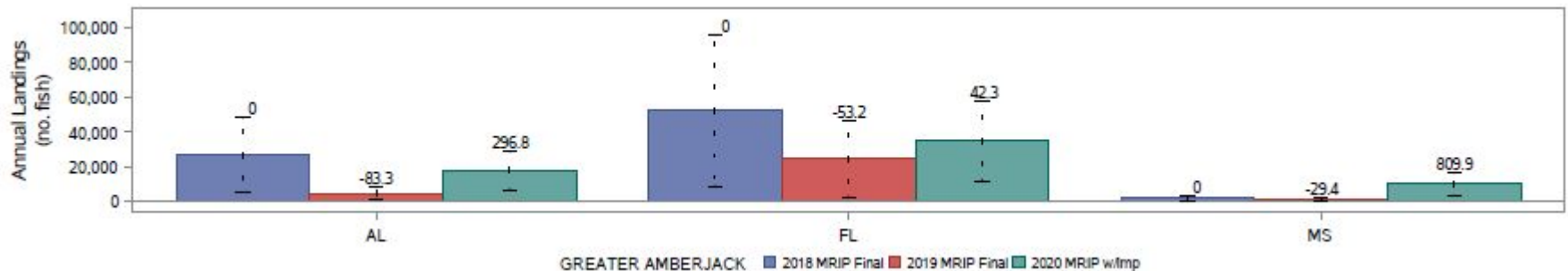


Greater Amberjack



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Annual Landings & Releases - Gulf

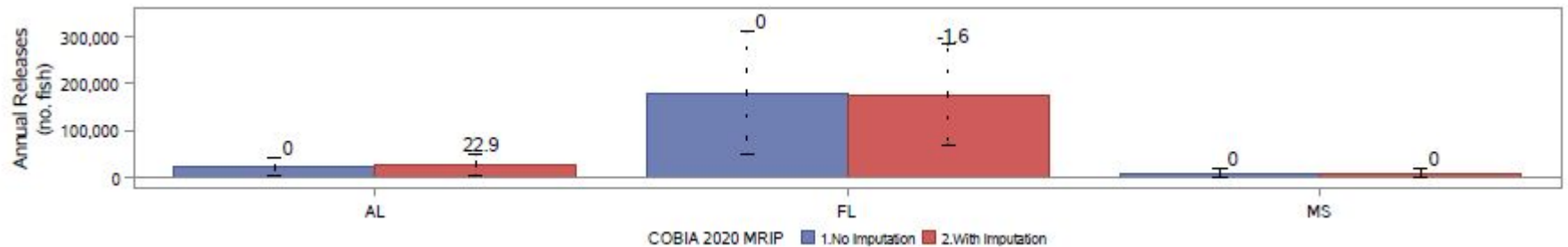
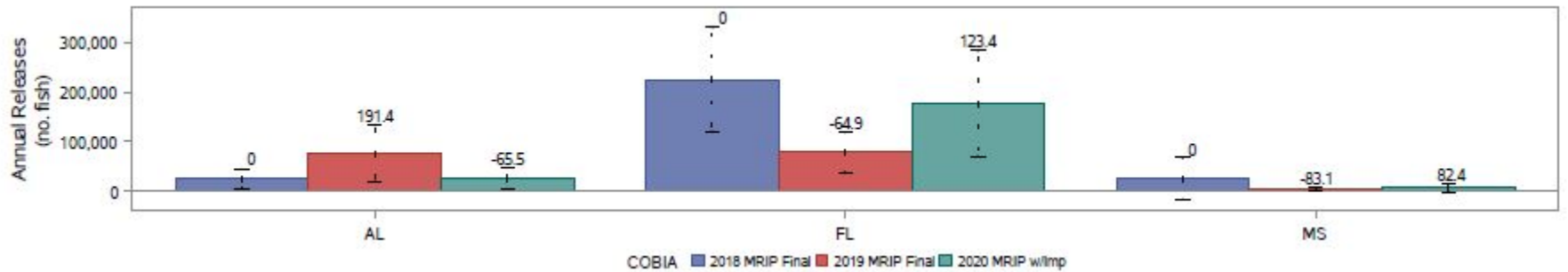
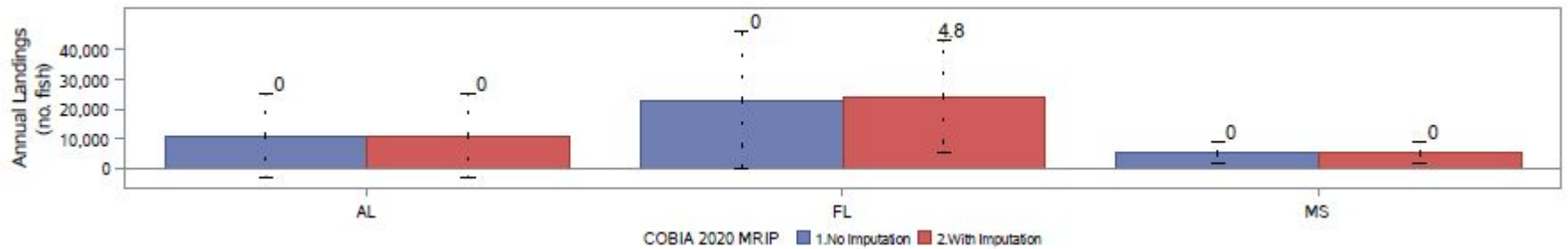
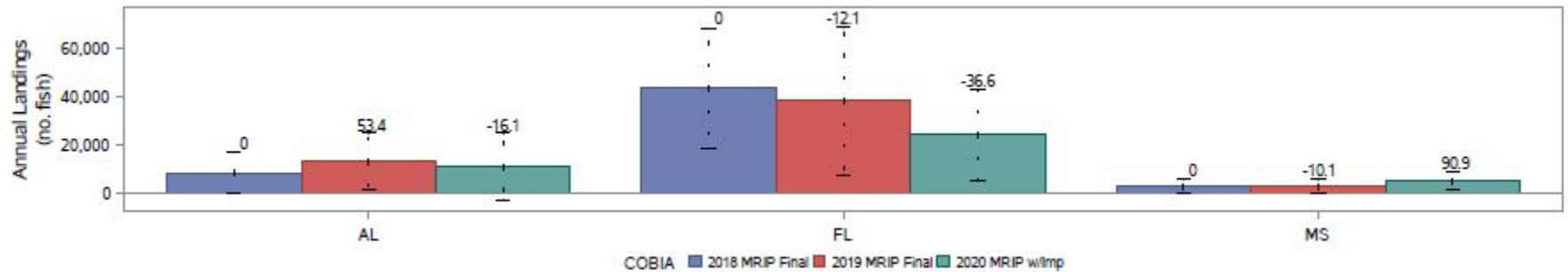


Cobia



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Annual Landings & Releases - Gulf



MRIP Catch Query (Gulf)

- Added information on contribution of imputed data to the catch rate estimation

Estimate Status	Year	Common Name	Total Harvest (A+B1)	PSE	** Contribution of Imputed Data to Total Harvest Rate
FINAL	2020	GAG	344,085	20.4	1%
FINAL	2020	RED GROUPER	407,573	24.9	7%
FINAL	2020	RED SNAPPER	1,838,660	10.3	0%
FINAL	2020	KING MACKEREL	405,657	13.6	17%
FINAL	2020	GRAY TRIGGERFISH	214,411	25.7	35%
FINAL	2020	GREATER AMBERJACK	62,286	21.8	7%
FINAL	2020	COBIA	40,422	29.8	14%

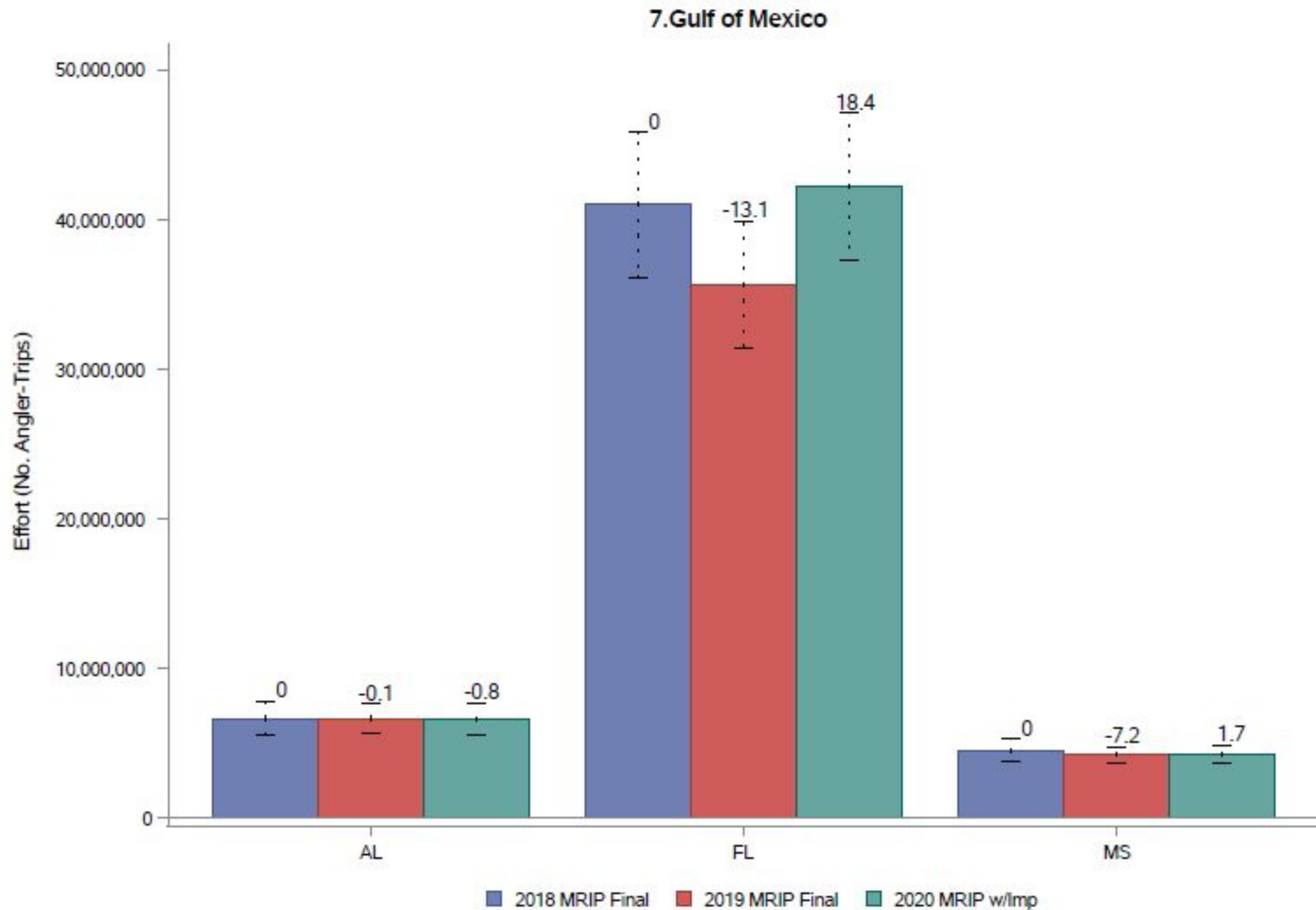


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Effort Estimates

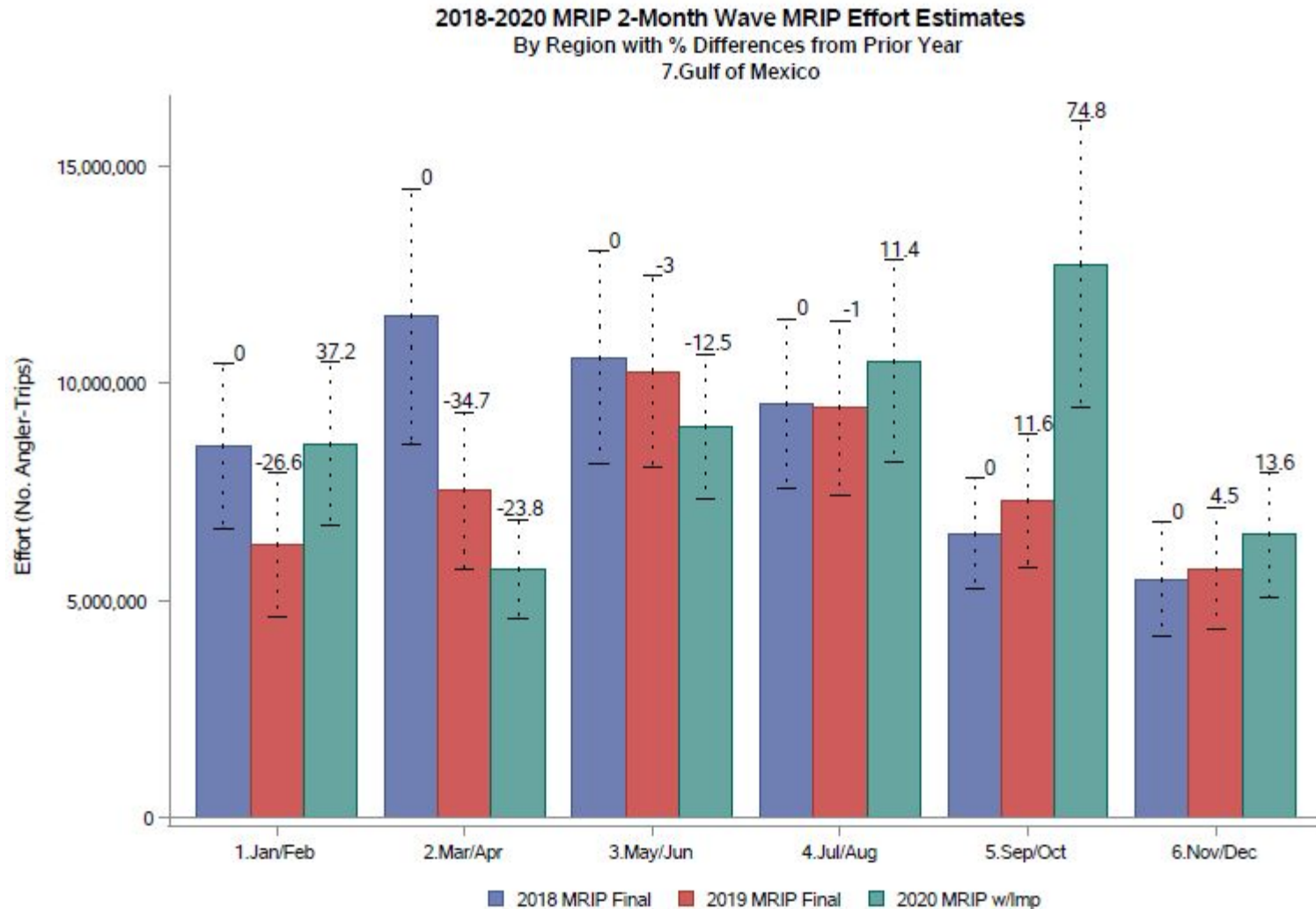
- 2018-2020
 - Annual Effort by Region and State (all modes)
 - Annual Effort by Region and Wave (all modes)
 - Annual Effort by Region for Charter and Headboat modes
- 2020 With vs Without Imputed Records
 - Annual Effort by Region and State

2018-2020 Gulf Effort Estimates



Data labels give % changes relative to prior year

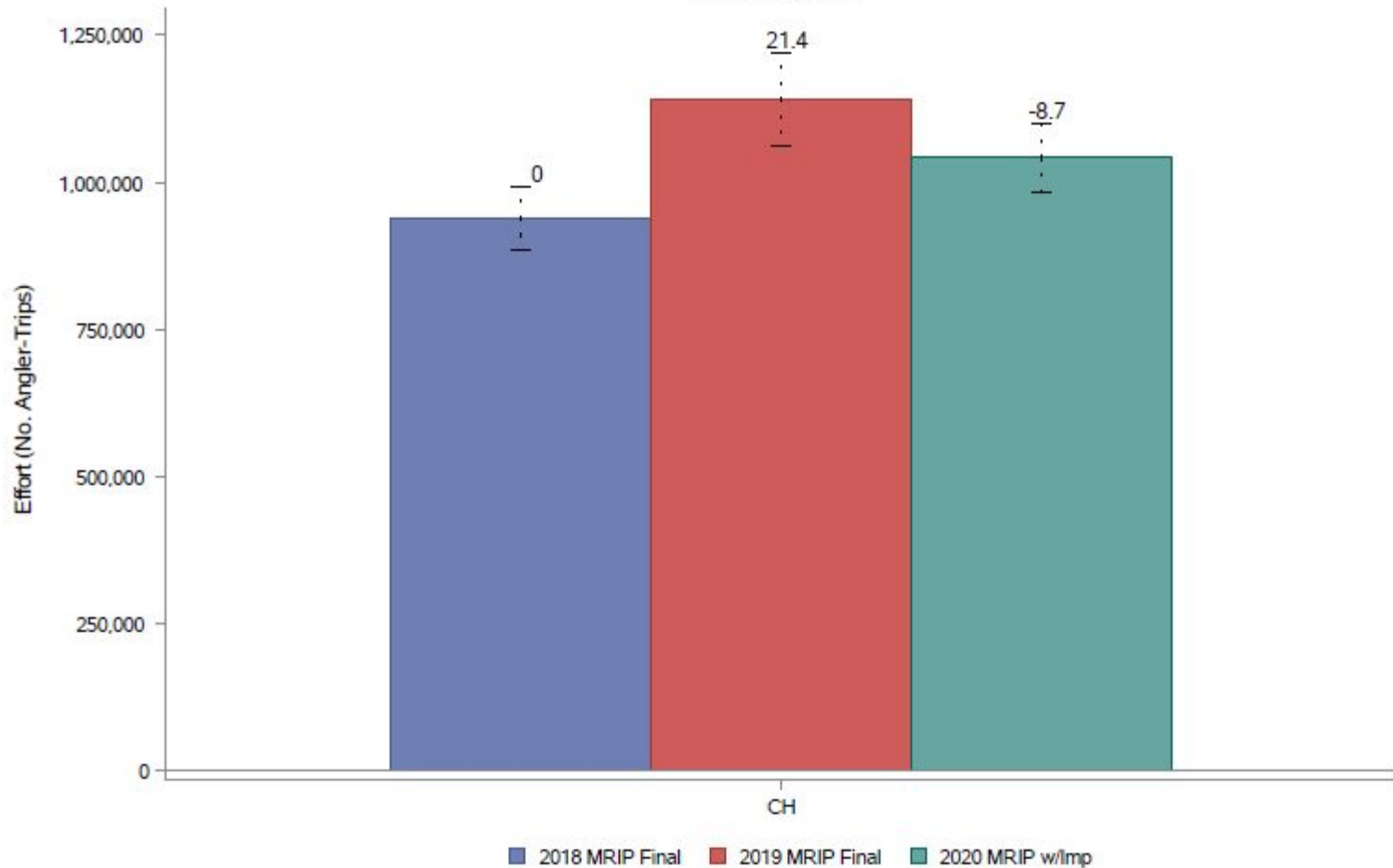
2018-2020 Gulf Effort Estimates



Data labels give % changes relative to prior year

2018-2020 Charter Gulf Effort

2018-2020 MRIP Annual MRIP CH and HB Effort Estimates
By Region and Mode of Fishing (% Differences from Prior Year)
7. Gulf of Mexico

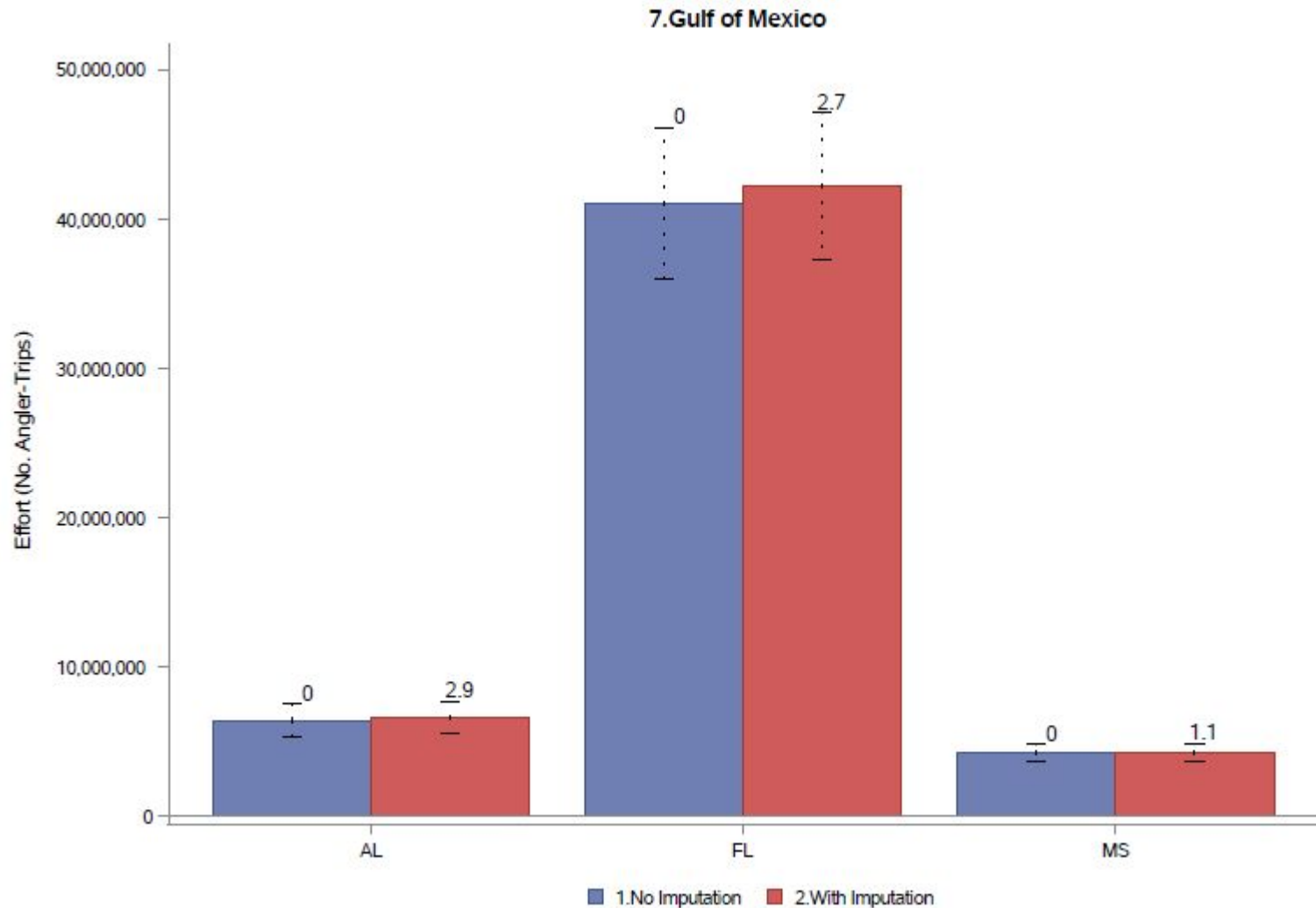


Data labels give % changes relative to prior year



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2020 Gulf Effort Estimates



Data labels give % changes relative to the 1. No Imputation series

Questions



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