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MRIP 2020 Estimates

Overview of Methodology and
Select Catch and Effort Estimates

Summer Flounder, Scup, & Black Sea Bass Monitoring Committee
27 July 2021

Main Points

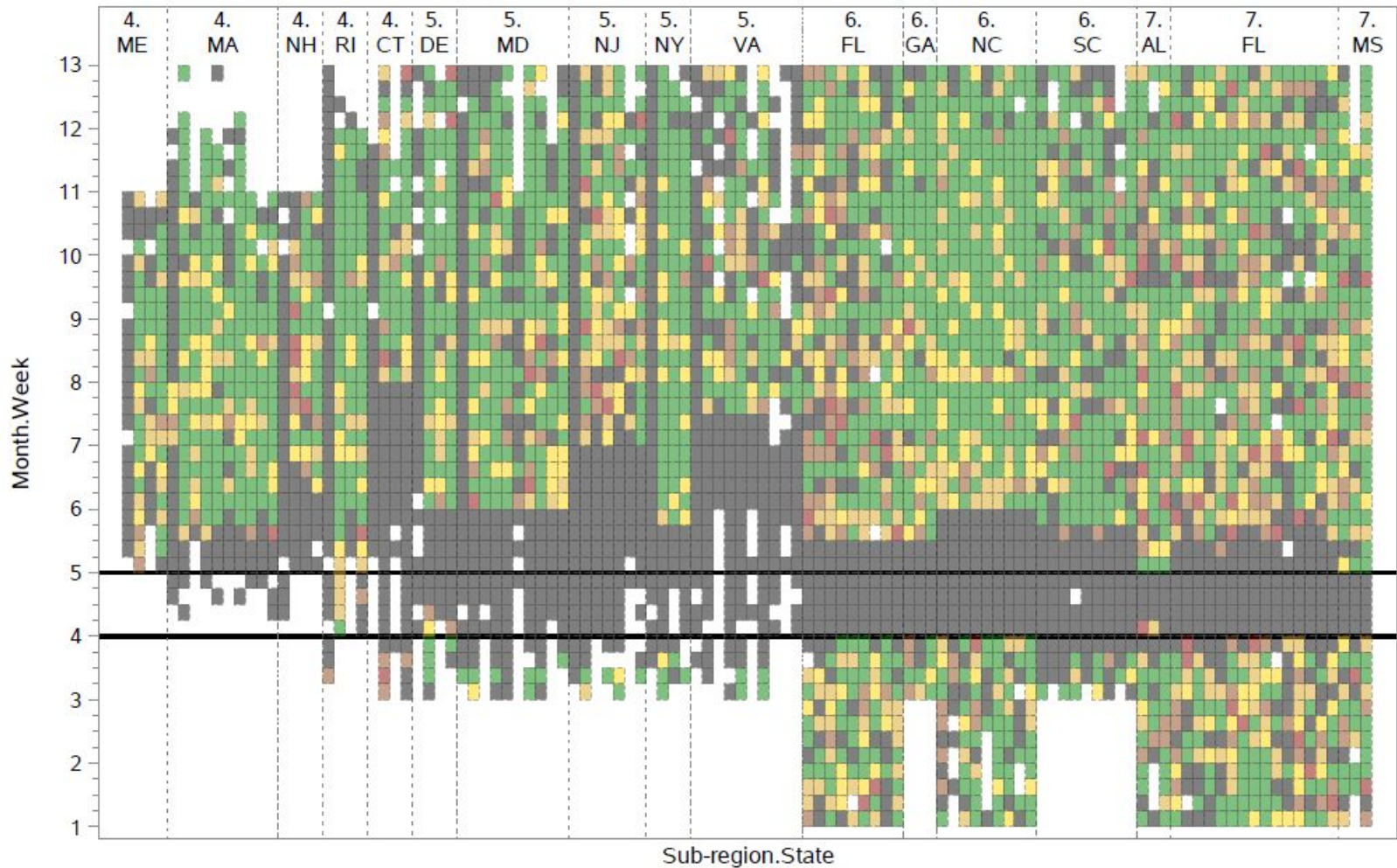
- 2020 Catch and Effort Estimates
 - In general, no unexpected or extreme results
 - 2020 typically in line with prior years or recent trends
 - Impacts of data gaps and imputation variable across states and fishing modes but limited at annual and regional levels
- Review of Data Gaps from COVID-19
- 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



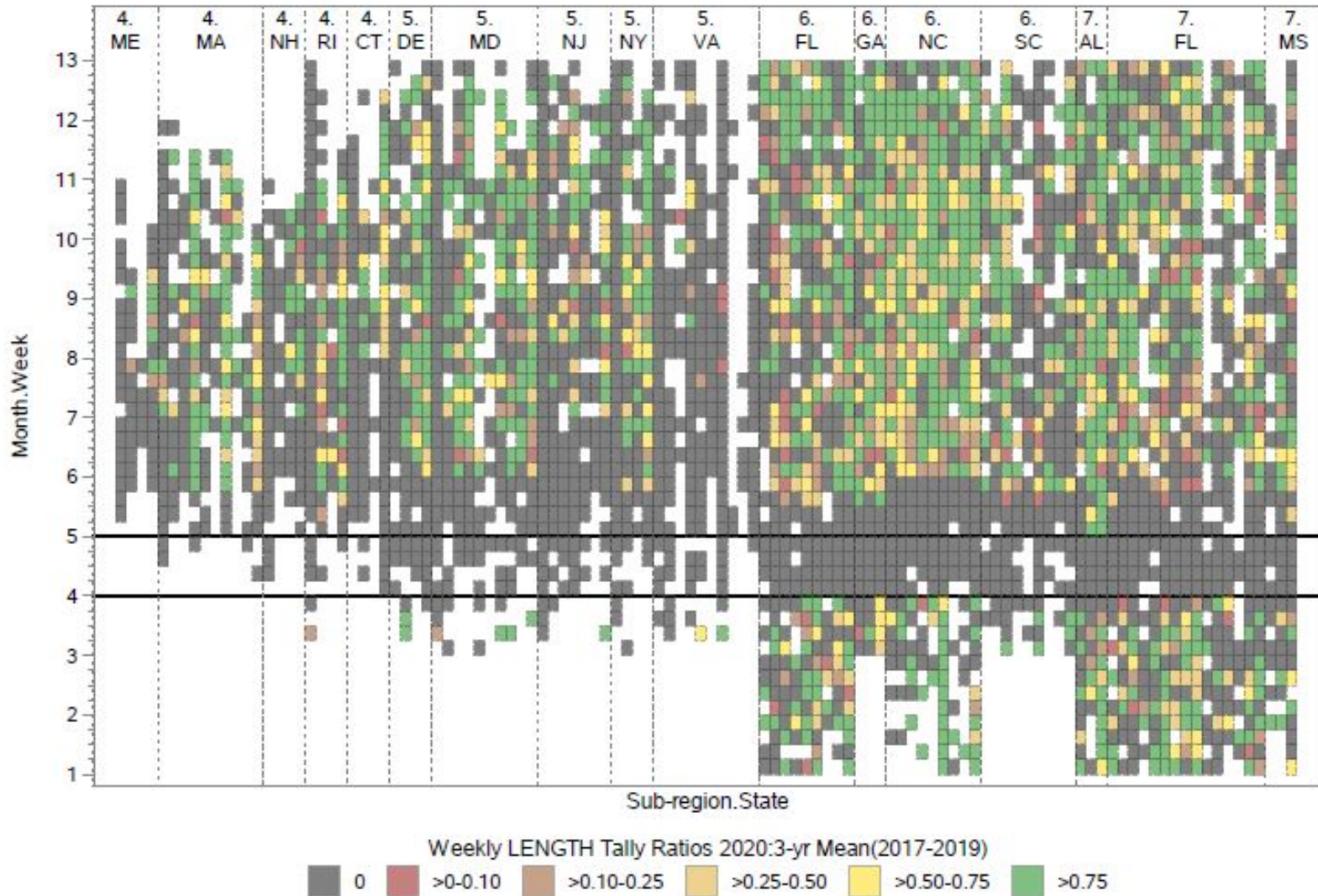
APAIS Weekly Intercept Tally Ratios 2020:3-yr Mean(2017-2019)

0
 >0-0.10
 >0.10-0.25
 >0.25-0.50
 >0.50-0.75
 >0.75

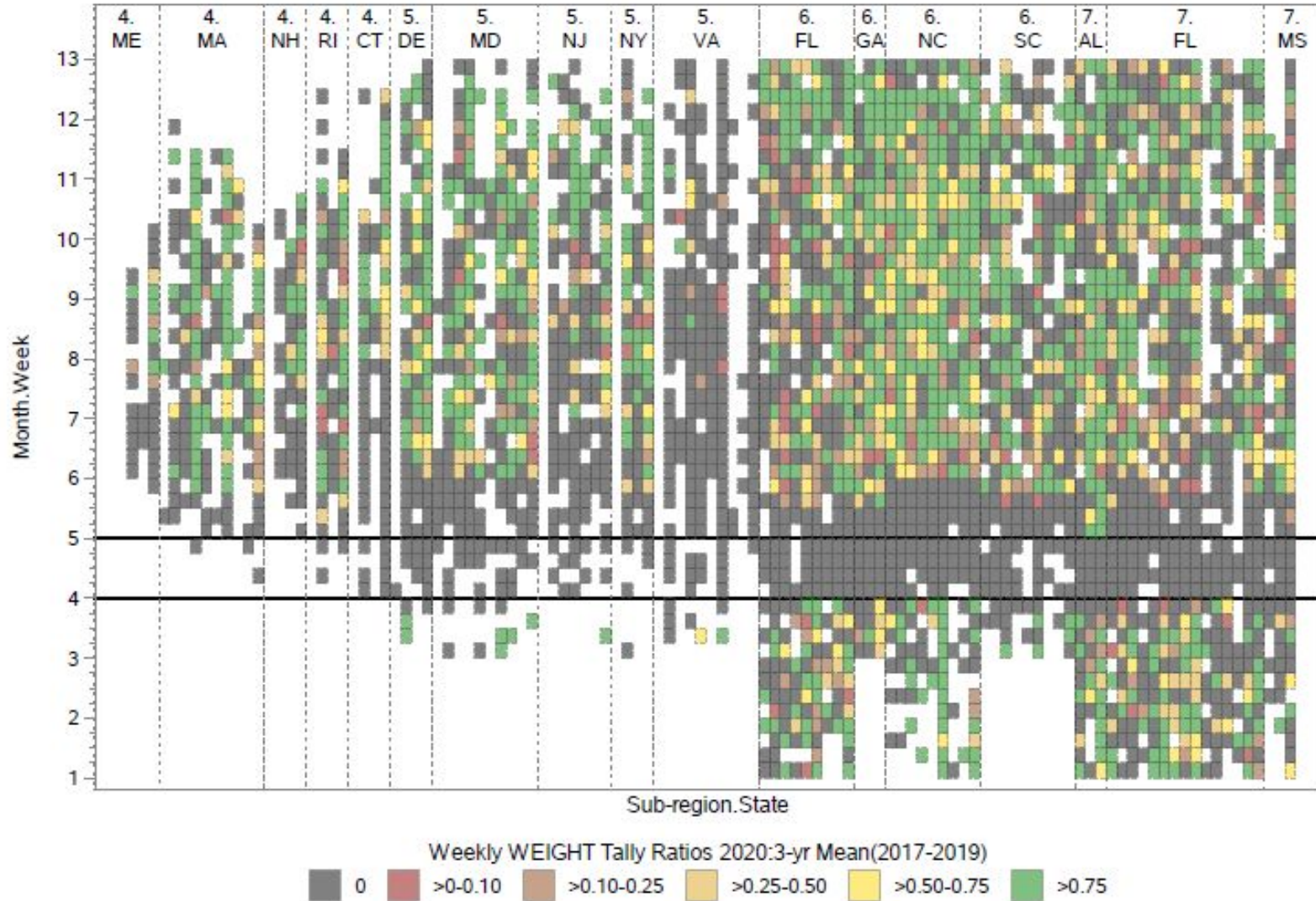


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2020 MRIP Data Gaps: Lengths



2020 MRIP Data Gaps: Weights



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



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
 - North Atlantic
 - Mid Atlantic
 - South Atlantic
- Imputation measure in MRIP Catch Query

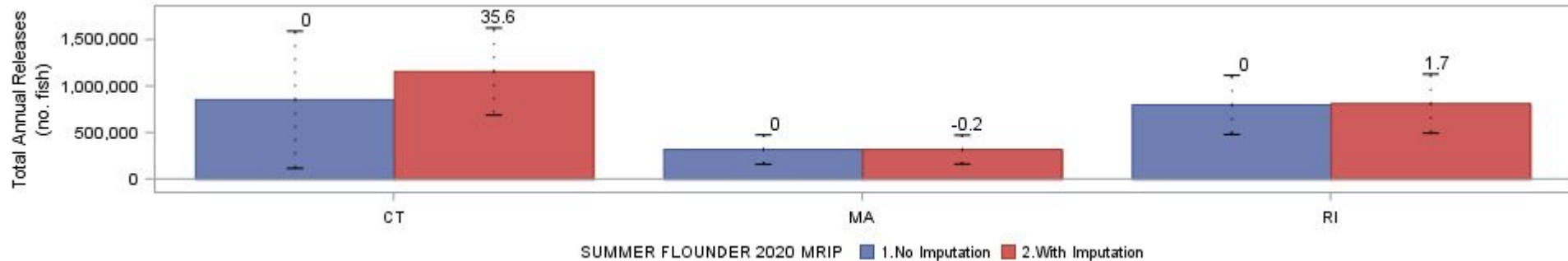
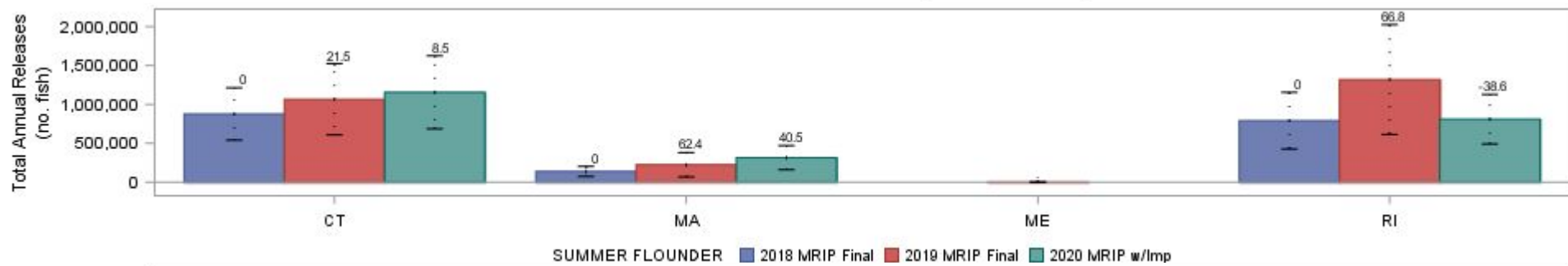
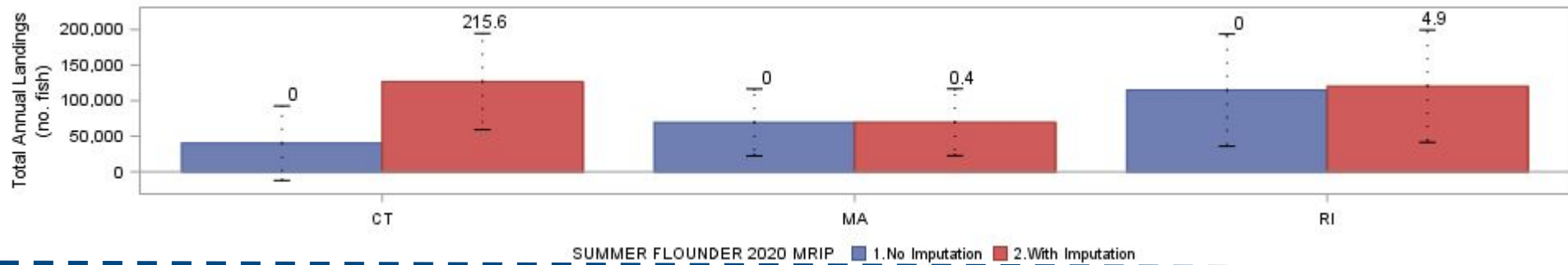
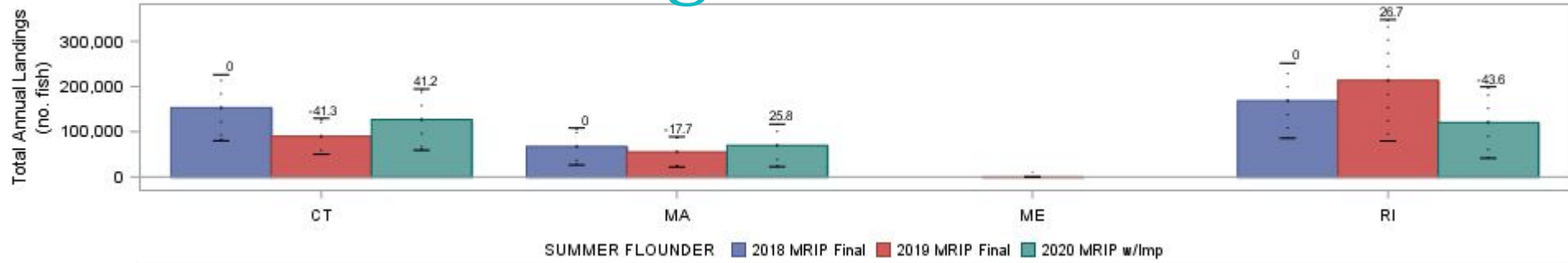


Summer Flounder

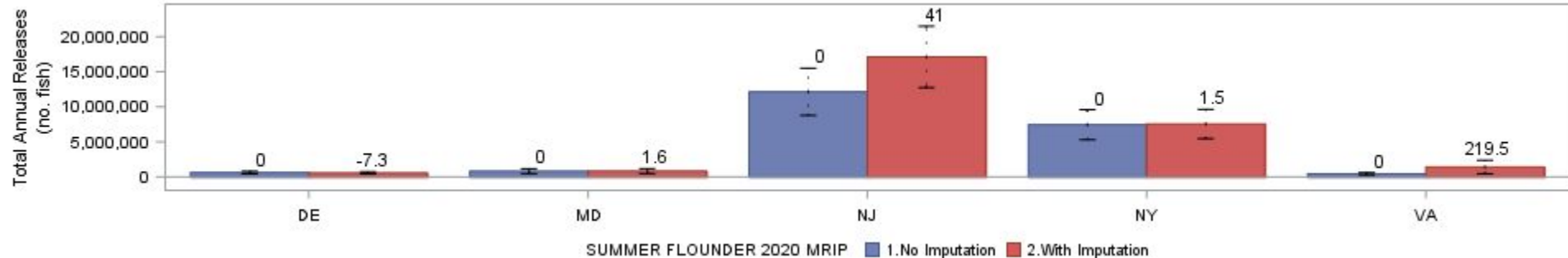
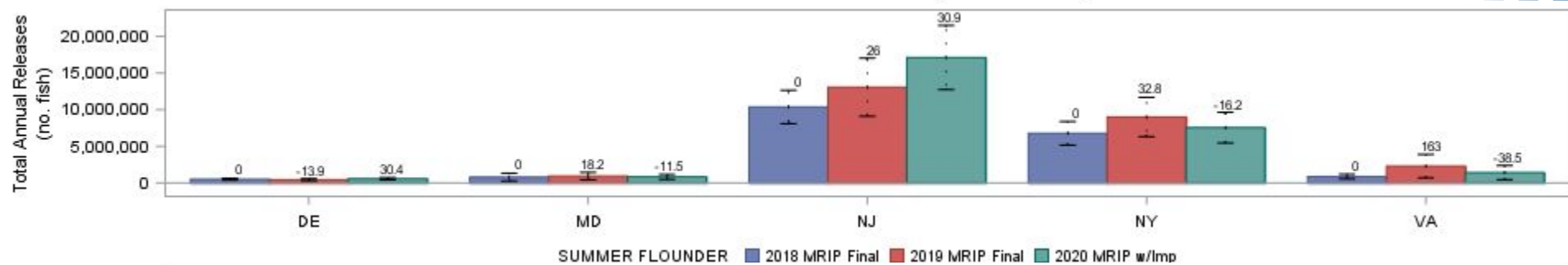
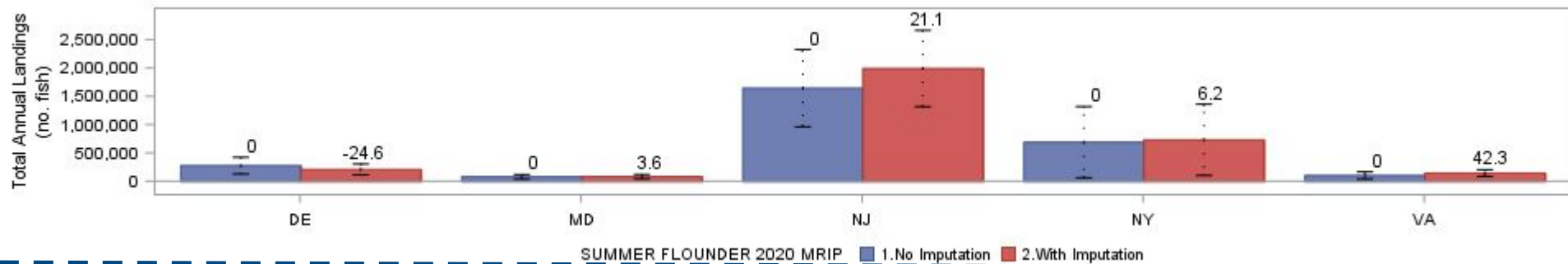
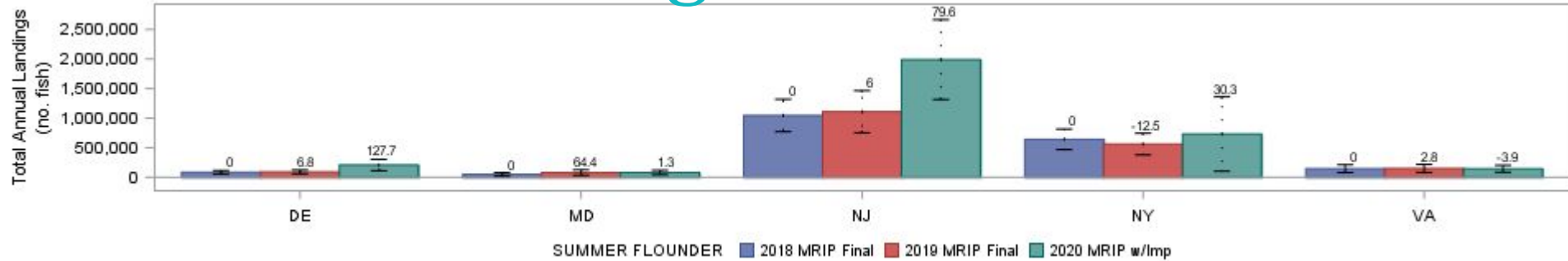


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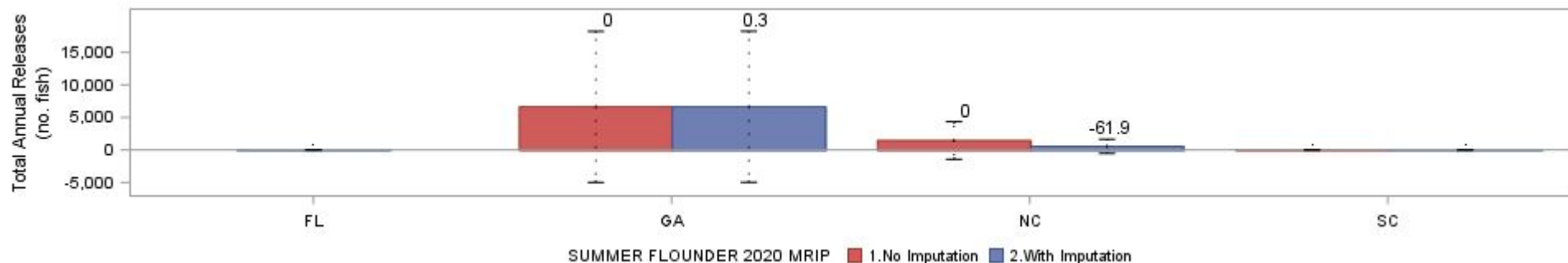
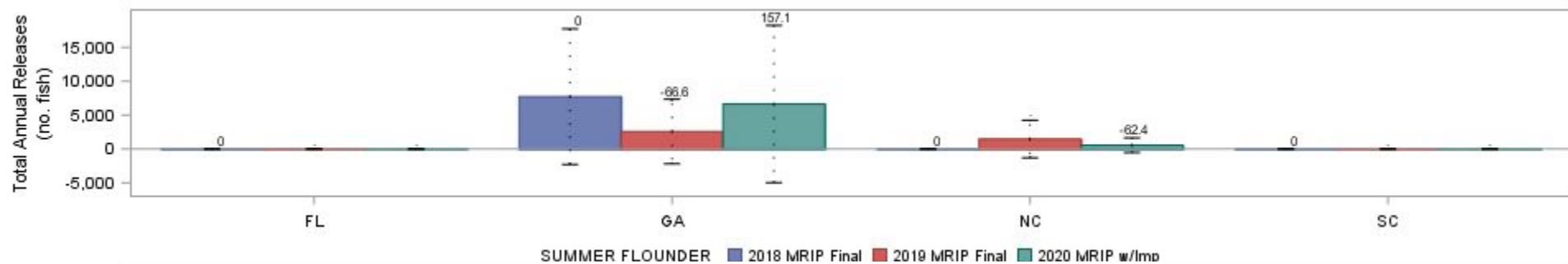
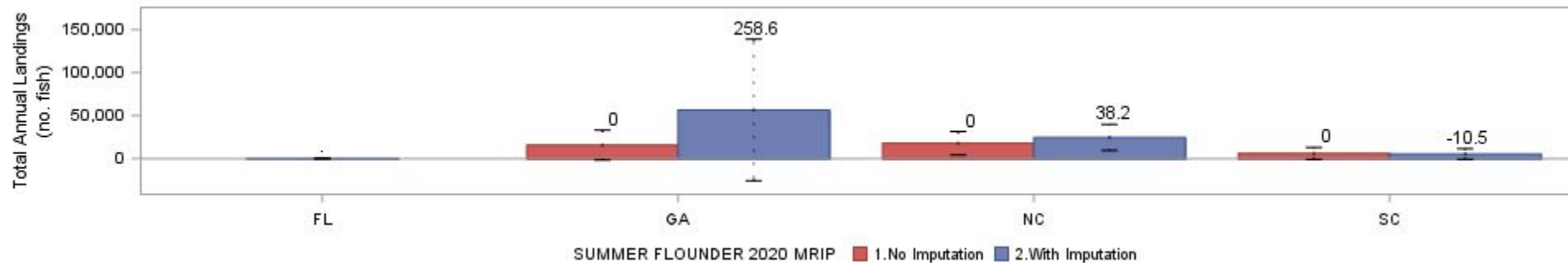
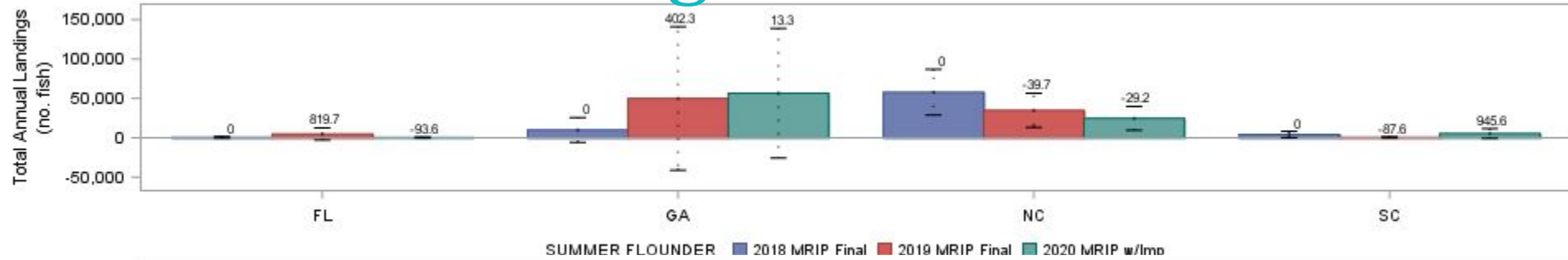
Annual Landings & Releases - N Atl



Annual Landings & Releases - M Atl



Annual Landings & Releases - S Atl

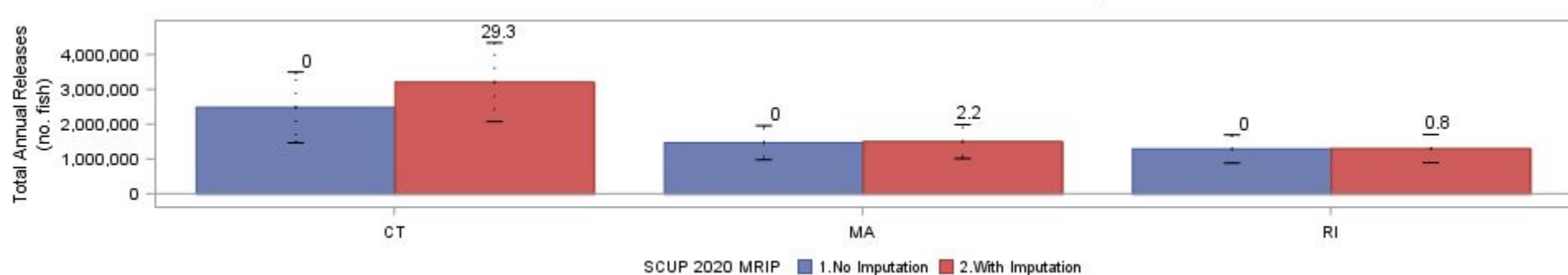
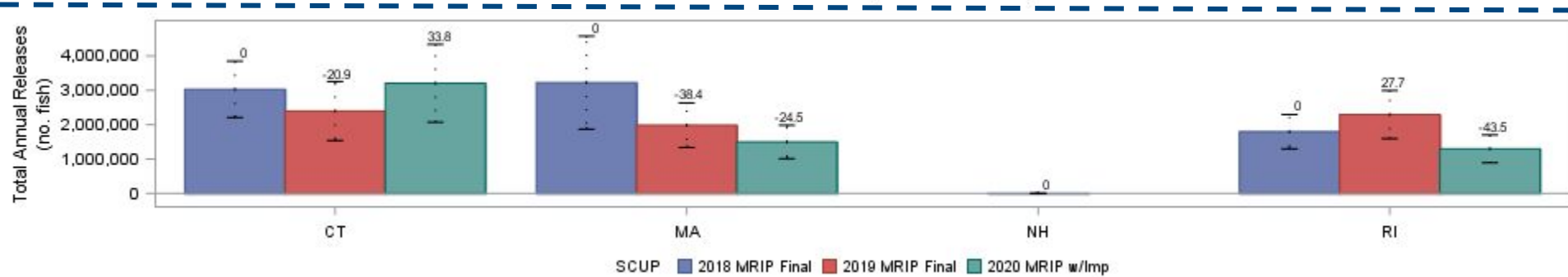
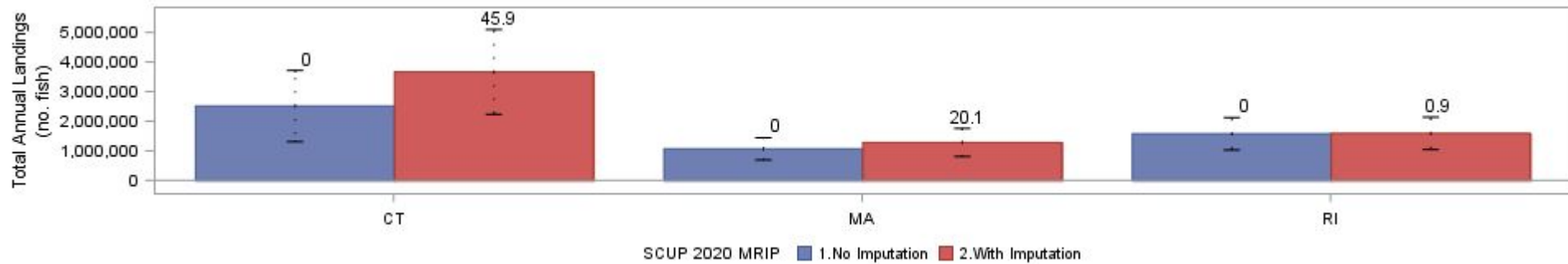
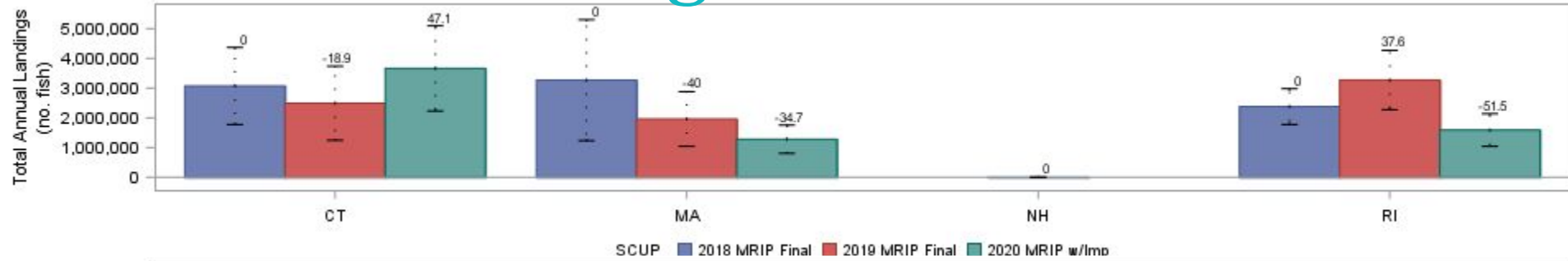


Scup

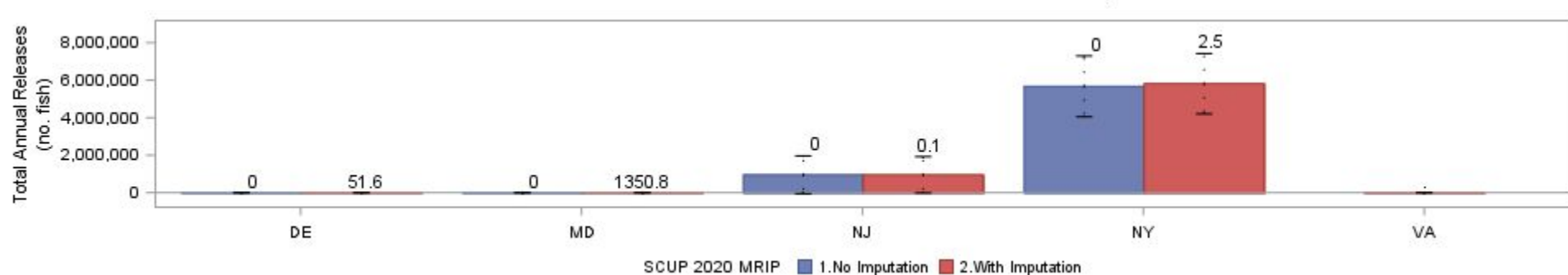
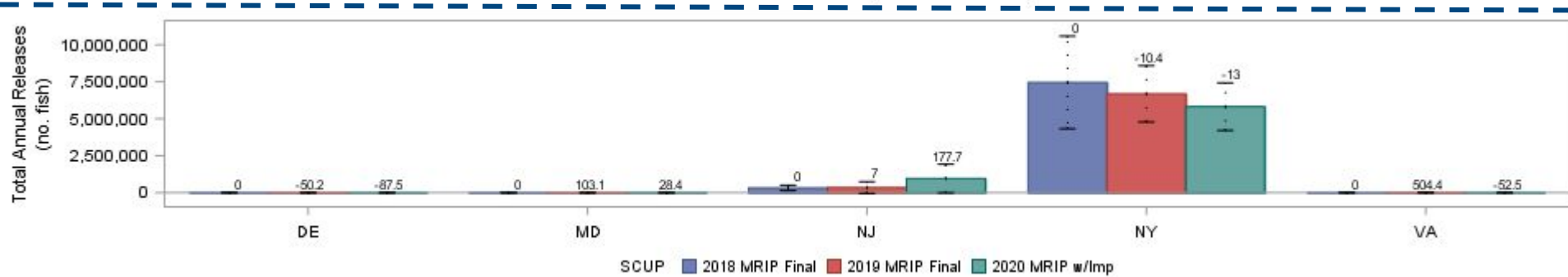
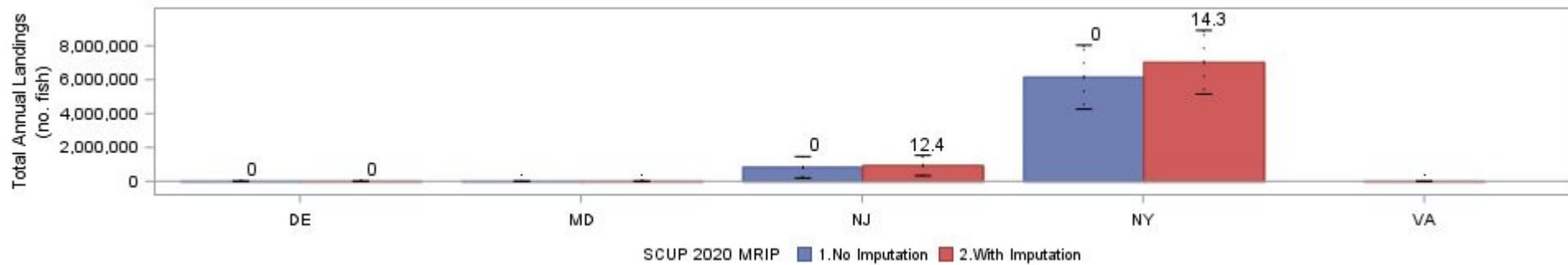
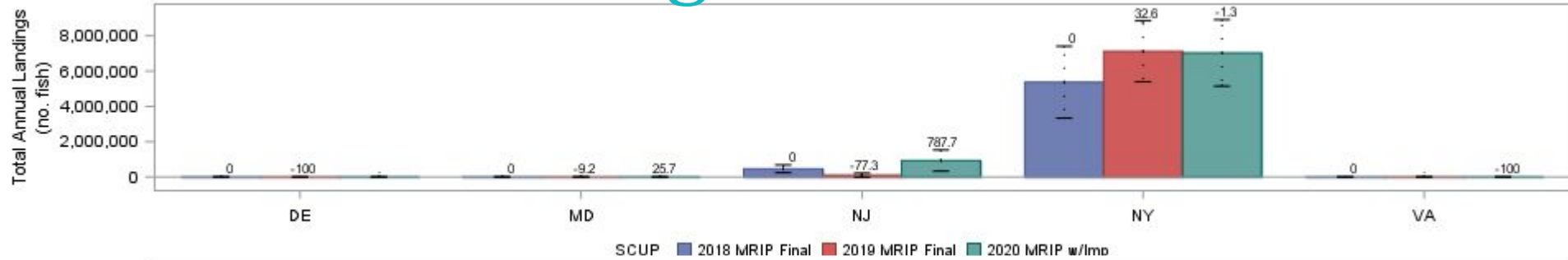


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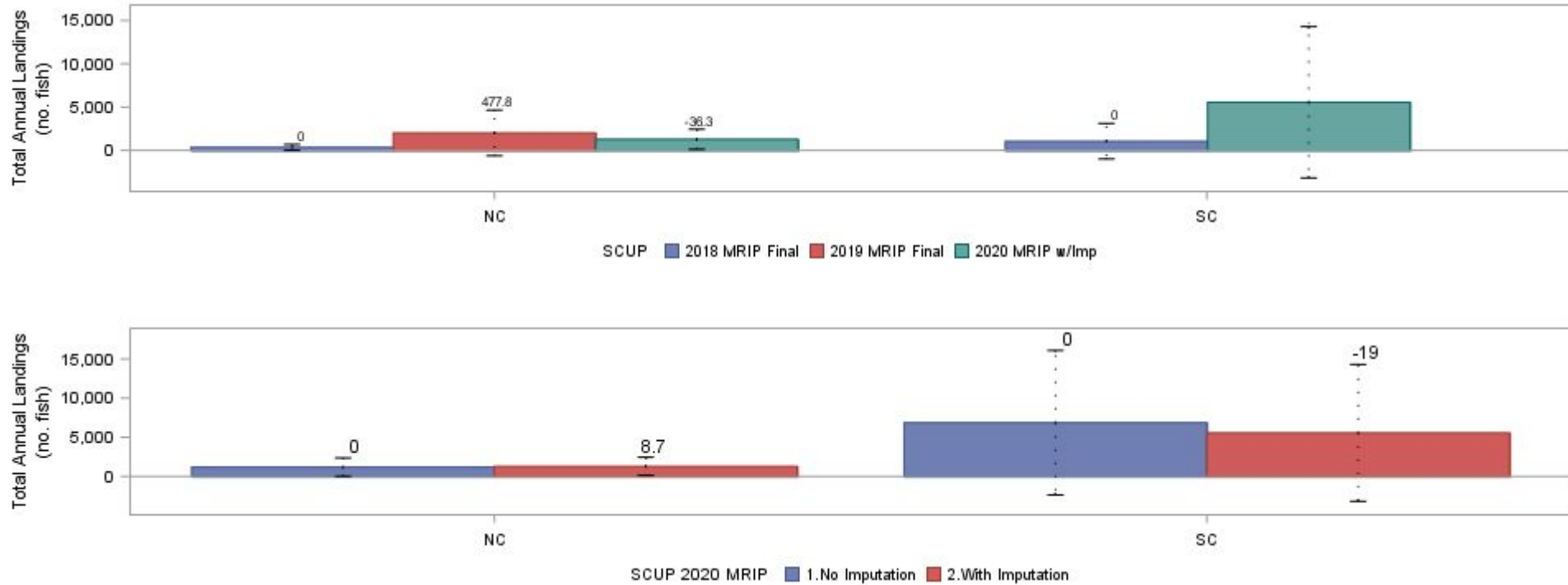
Annual Landings & Releases - N Atl



Annual Landings & Releases - M Atl



Annual Landings & Releases - S Atl



* There were no estimates of Scup releases in 2020.

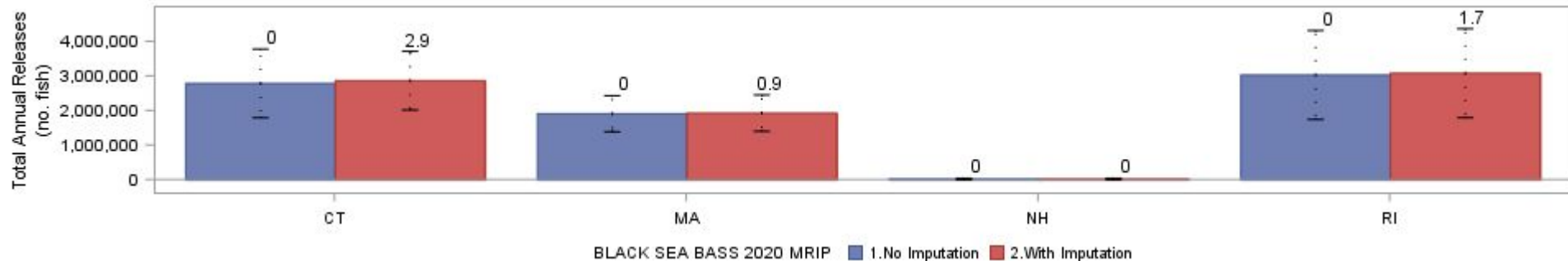
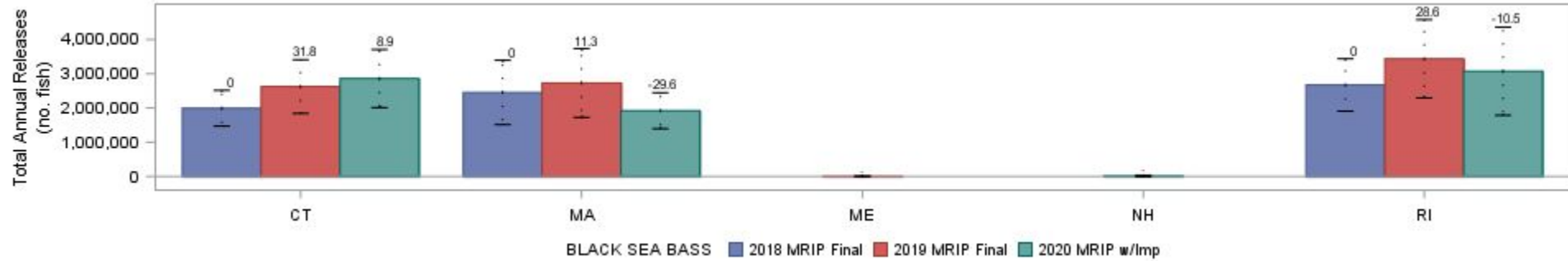
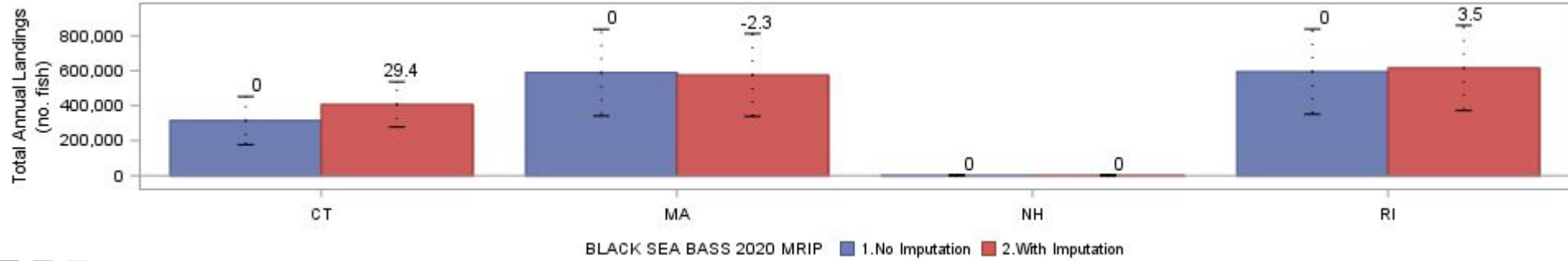
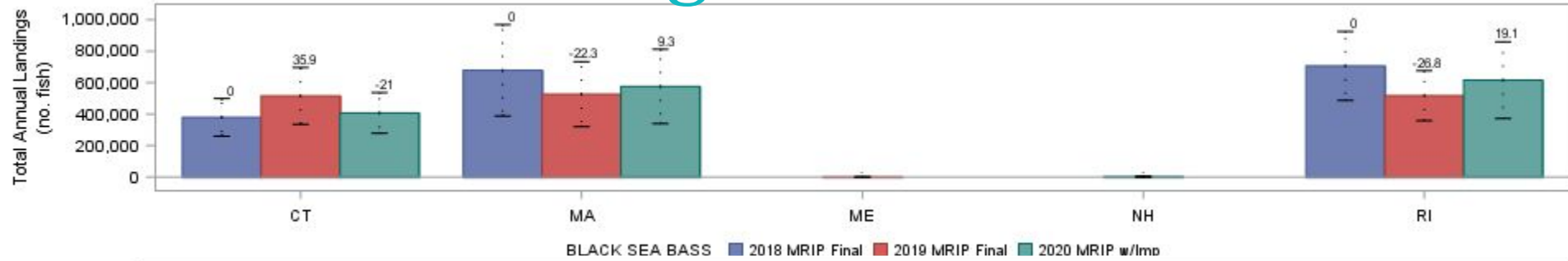


Black Sea Bass

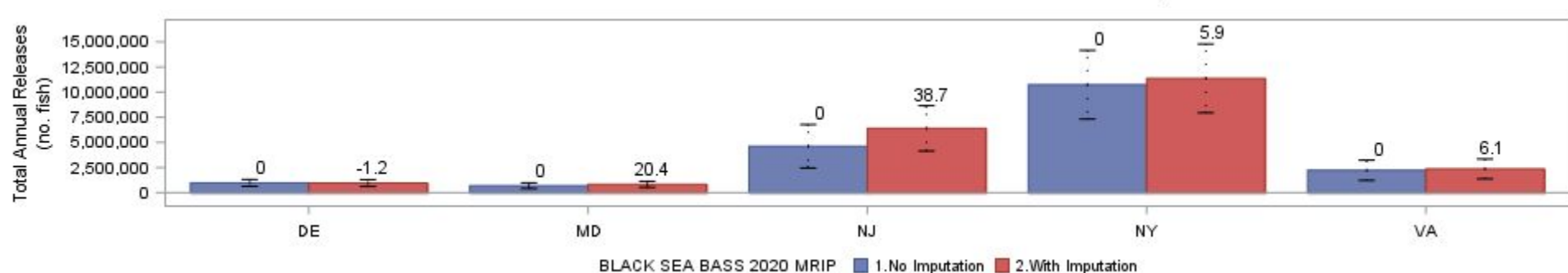
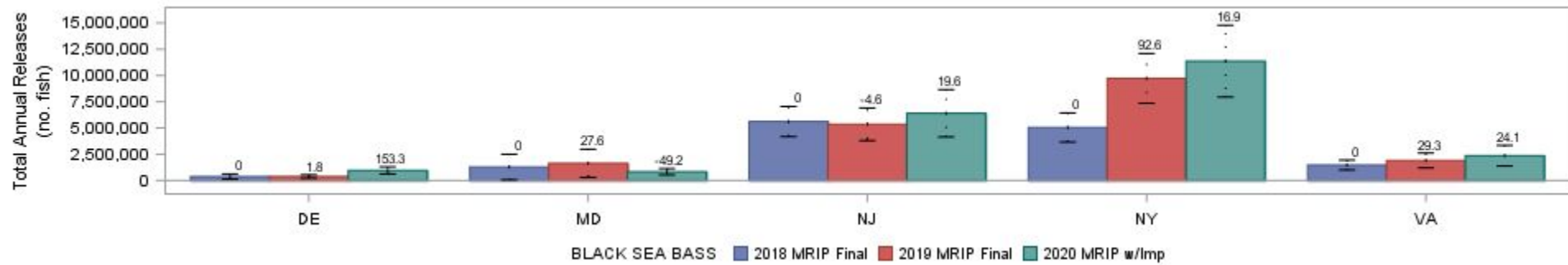
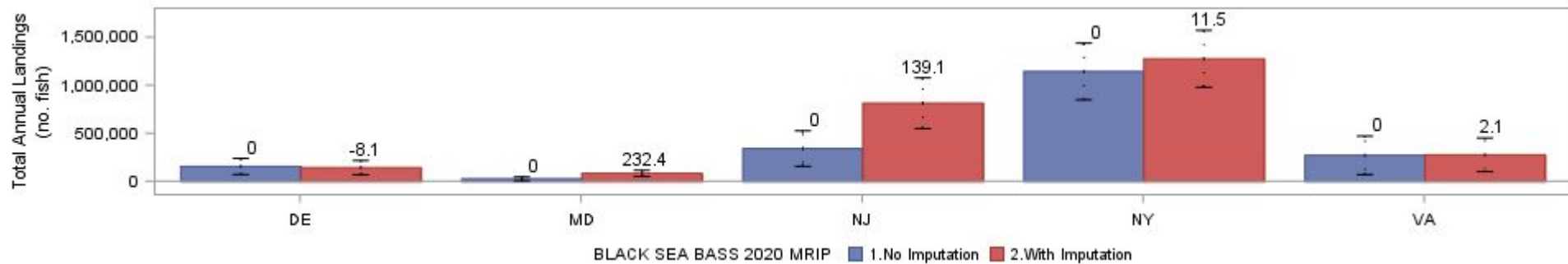
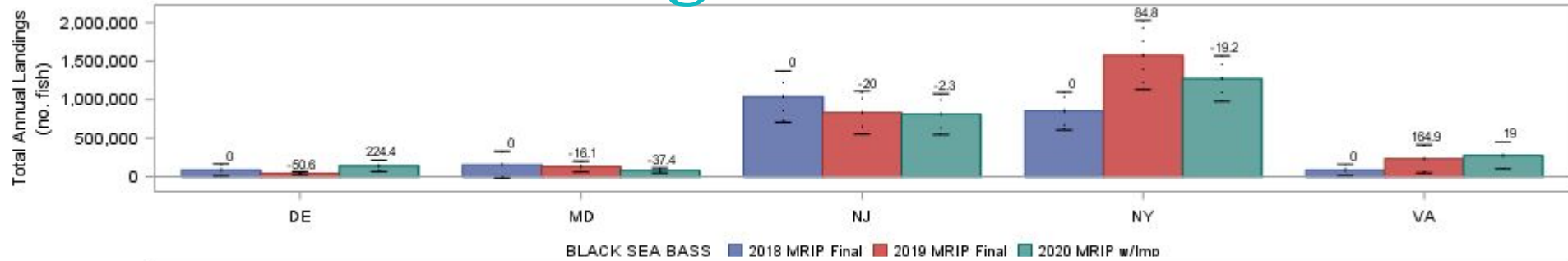


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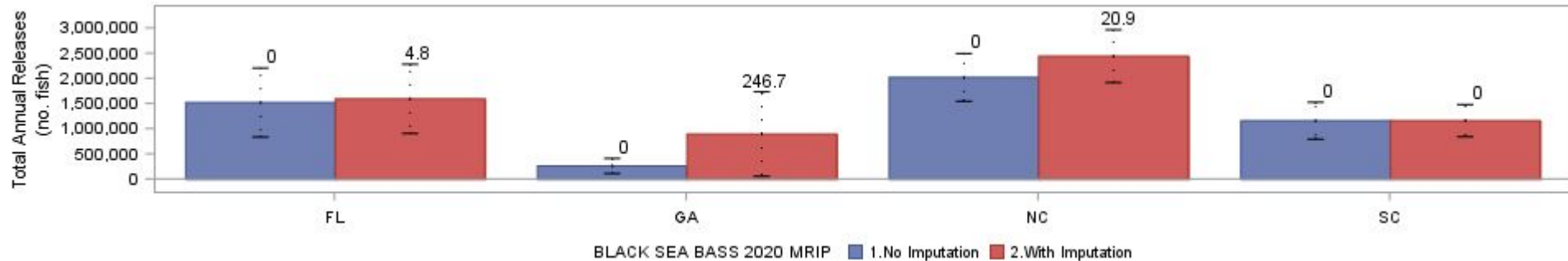
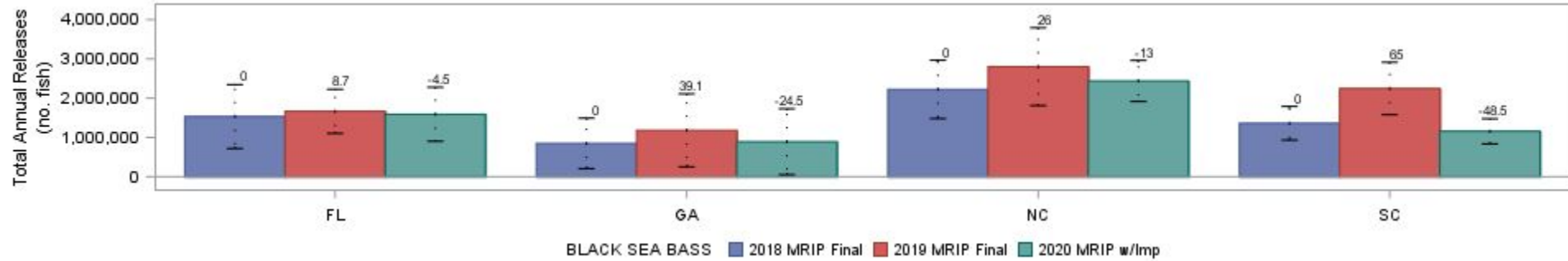
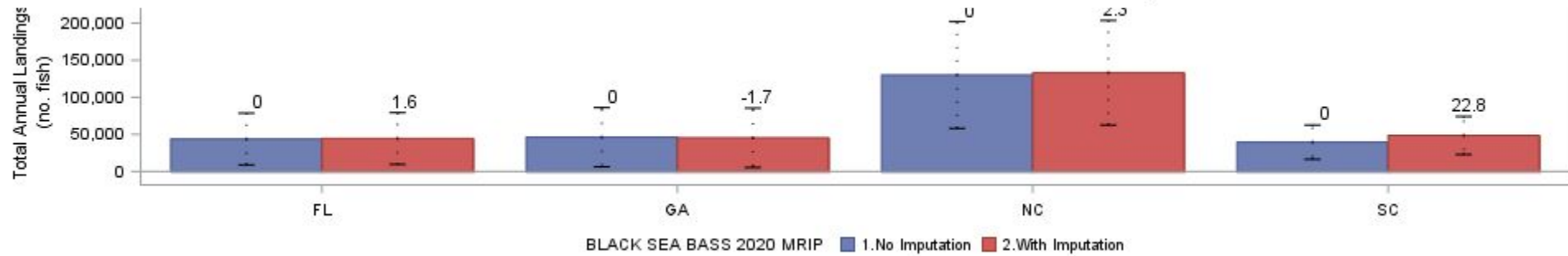
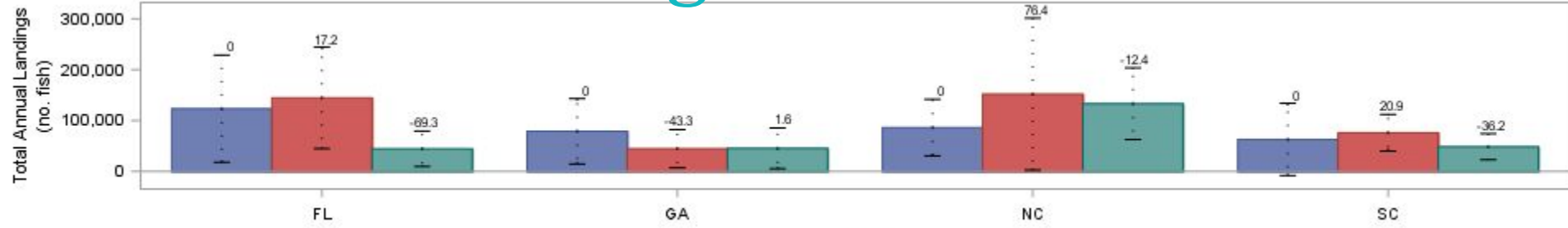
Annual Landings & Releases - N Atl



Annual Landings & Releases - M Atl



Annual Landings & Releases - S Atl



MRIP Catch Query

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

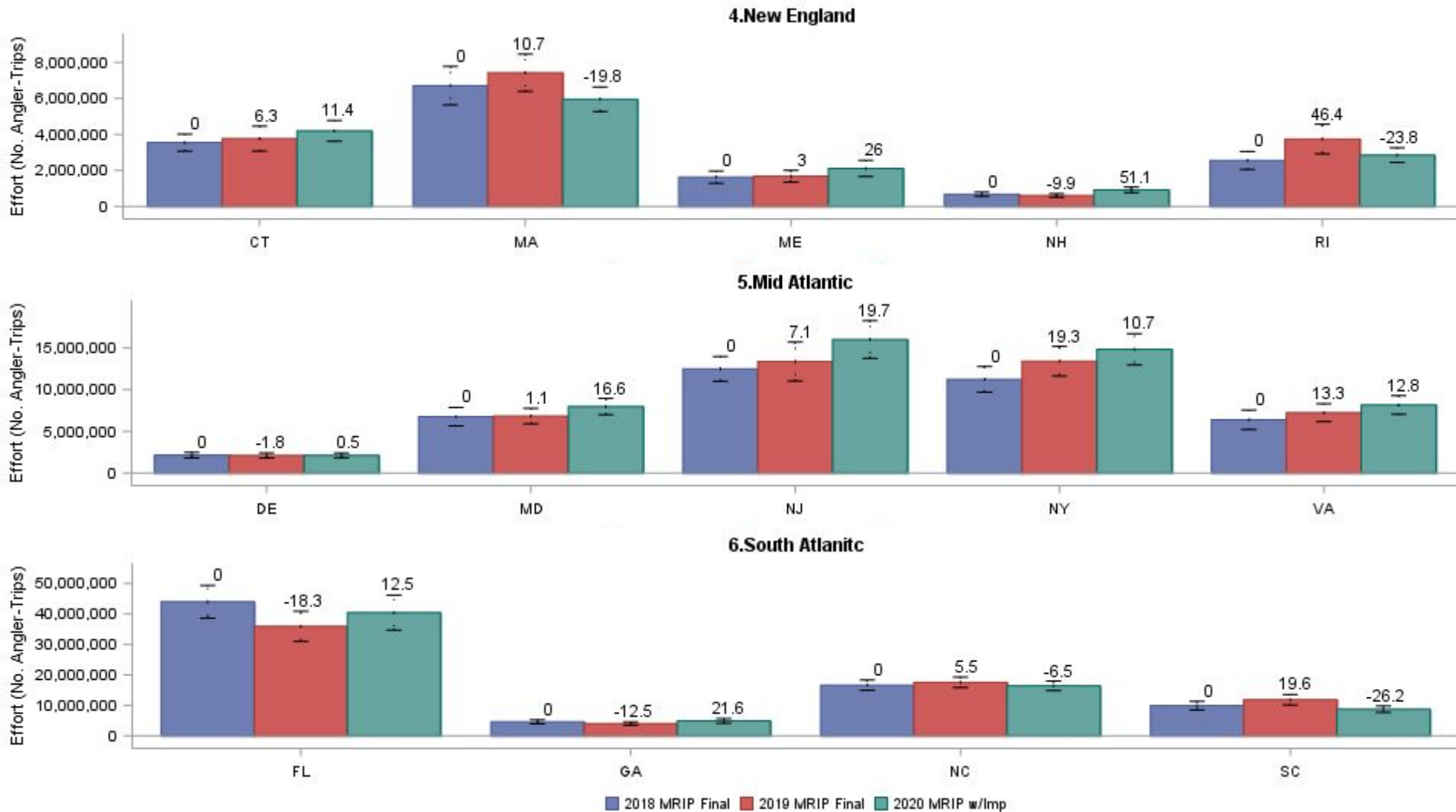
Estimate Status	Year	Region	Common Name	Total Harvest (A+B1)	PSE	** Contribution of Imputed Data to Total Harvest Rate
FINAL	2020	NORTH ATLANTIC	SUMMER FLOUNDER	316,930	18.4	30%
FINAL	2020	MID-ATLANTIC	SUMMER FLOUNDER	3,152,979	15.1	19%
FINAL	2020	SOUTH ATLANTIC	SUMMER FLOUNDER	87,076	49.2	55%
FINAL	2020	NORTH ATLANTIC	SCUP	6,531,554	12.5	38%
FINAL	2020	MID-ATLANTIC	SCUP	7,960,411	12.7	17%
FINAL	2020	SOUTH ATLANTIC	SCUP	6,840	65.8	3%
FINAL	2020	NORTH ATLANTIC	BLACK SEA BASS	1,600,746	11.6	11%
FINAL	2020	MID-ATLANTIC	BLACK SEA BASS	2,582,636	8.7	29%
FINAL	2020	SOUTH ATLANTIC	BLACK SEA BASS	271,433	17.3	11%



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 Effort Estimates

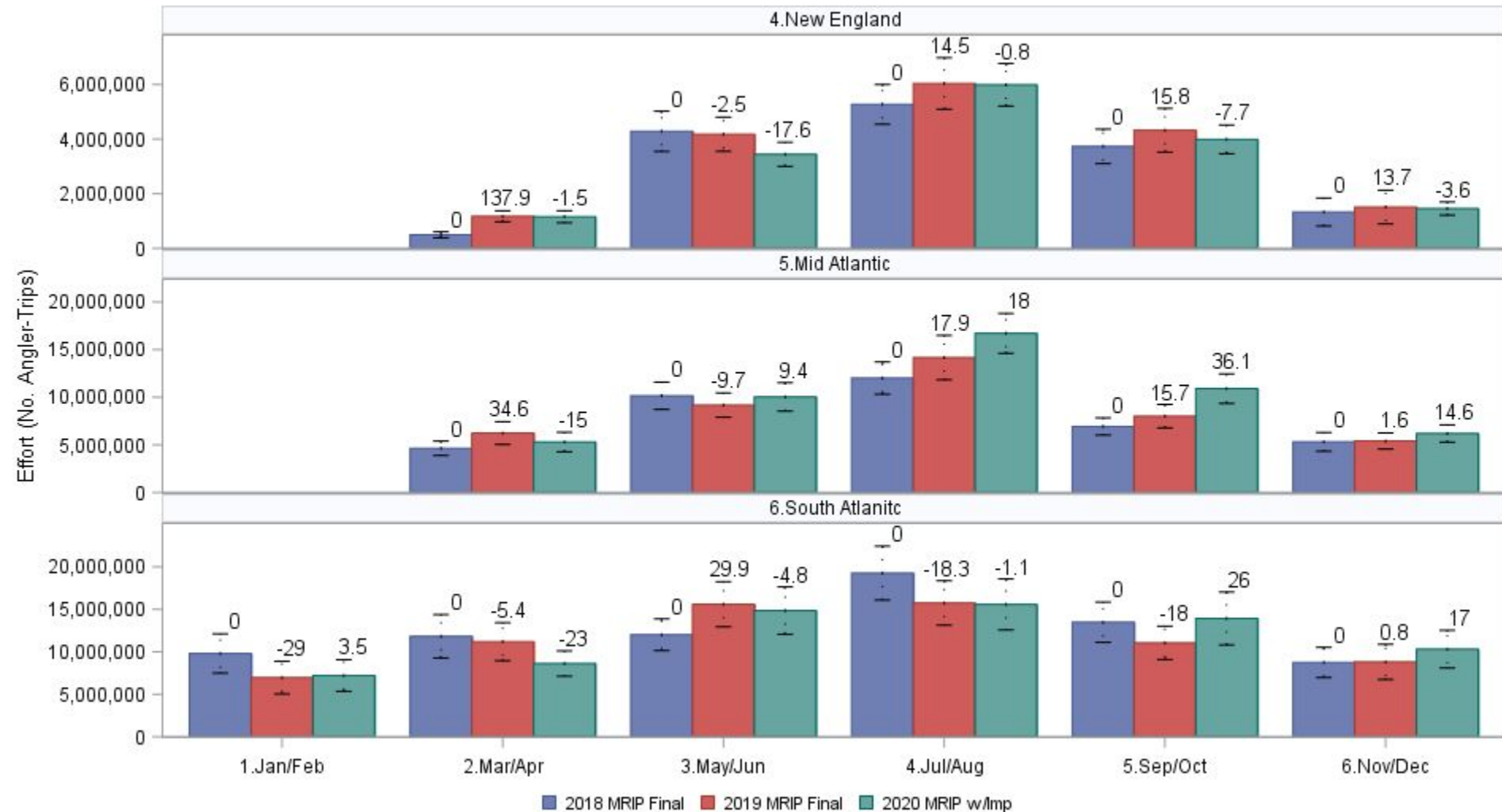


Data labels give % changes relative to prior year



2018-2020 Effort Estimates

2018-2020 MRIP 2-Month Wave MRIP Effort Estimates

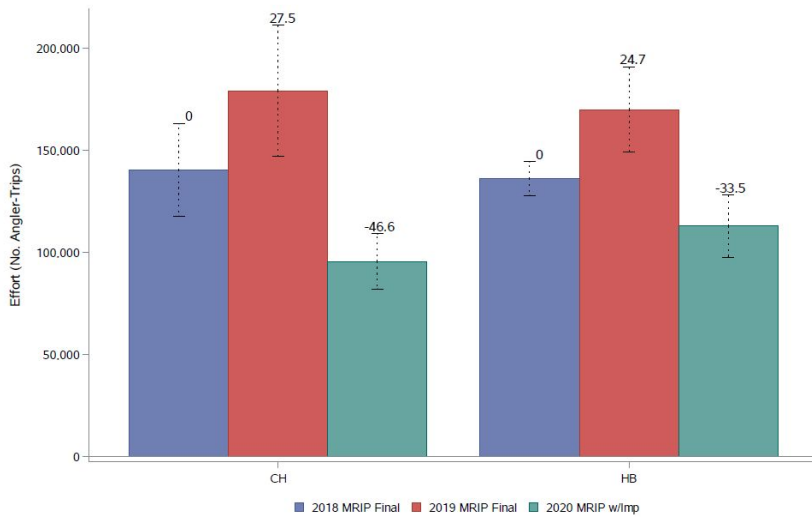


Data labels give % changes relative to prior year

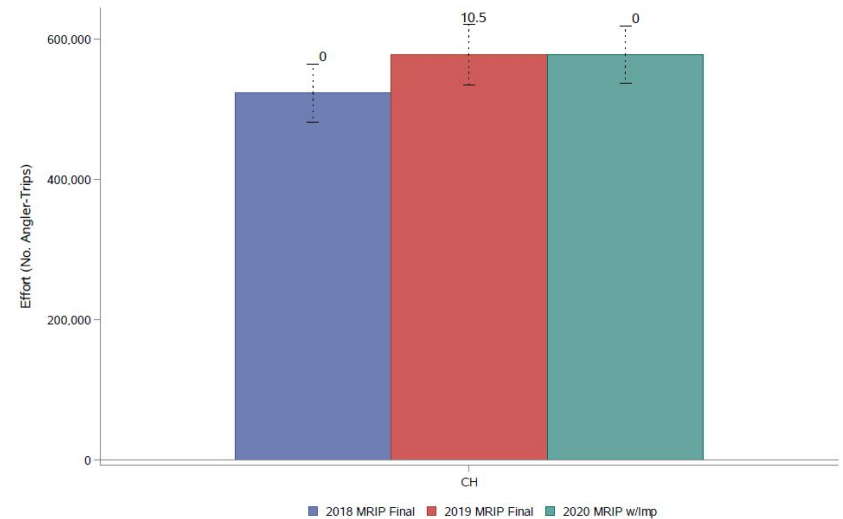


2018-2020 Charter/Headboat Effort

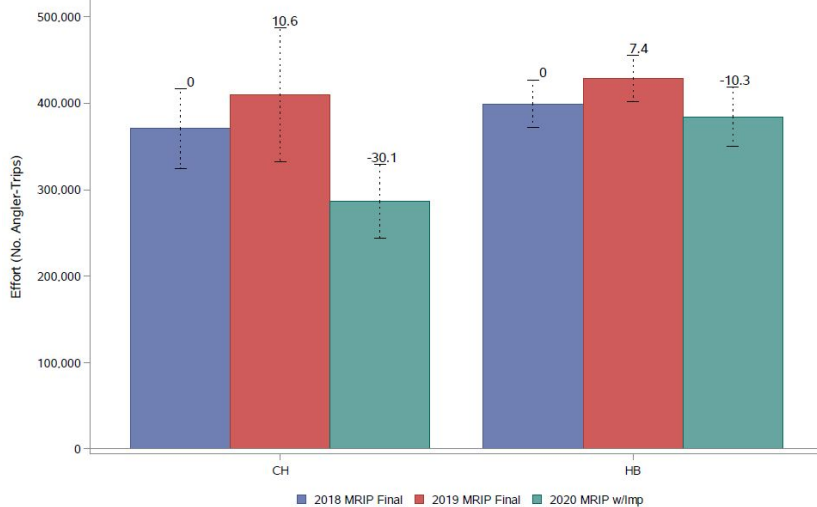
4. New England



6. South Atlantic

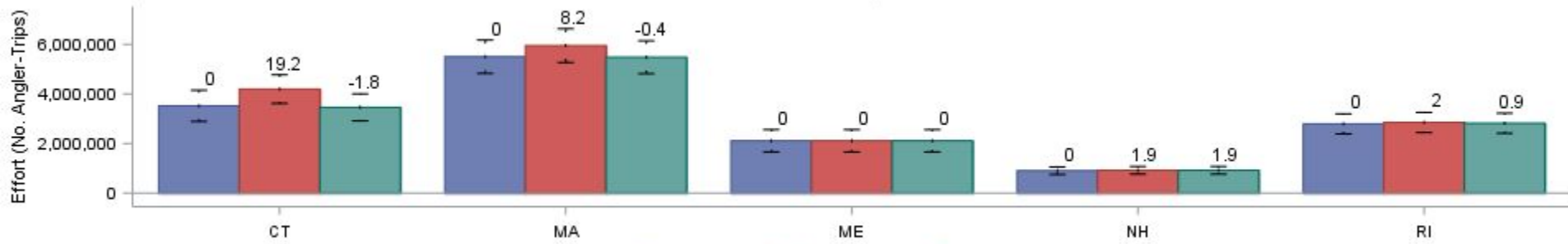


5. Mid-Atlantic

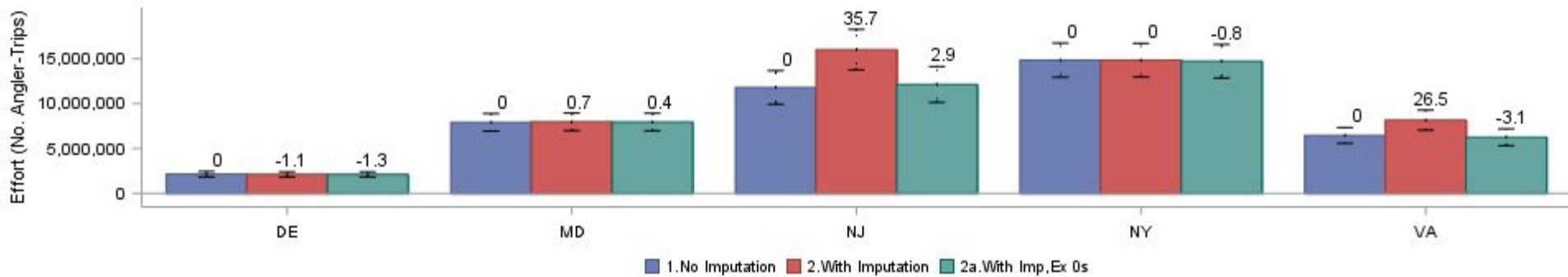


2020 Effort Estimates

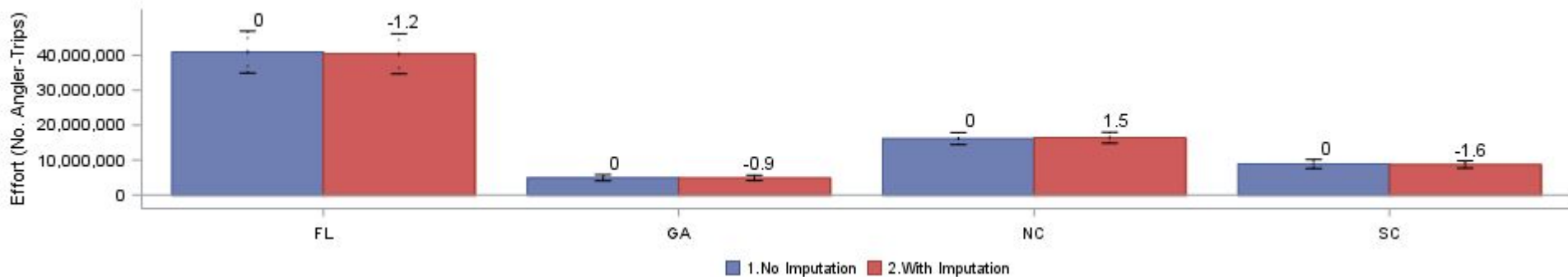
4. New England



5. Mid Atlantic



6. South Atlantic



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





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MRIP 2020 Estimates

Overview of Methodology and
Select Catch and Effort Estimates

Summer Flounder, Scup, & Black Sea Bass Monitoring Committee
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