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FISHERIES**

Office of Science  
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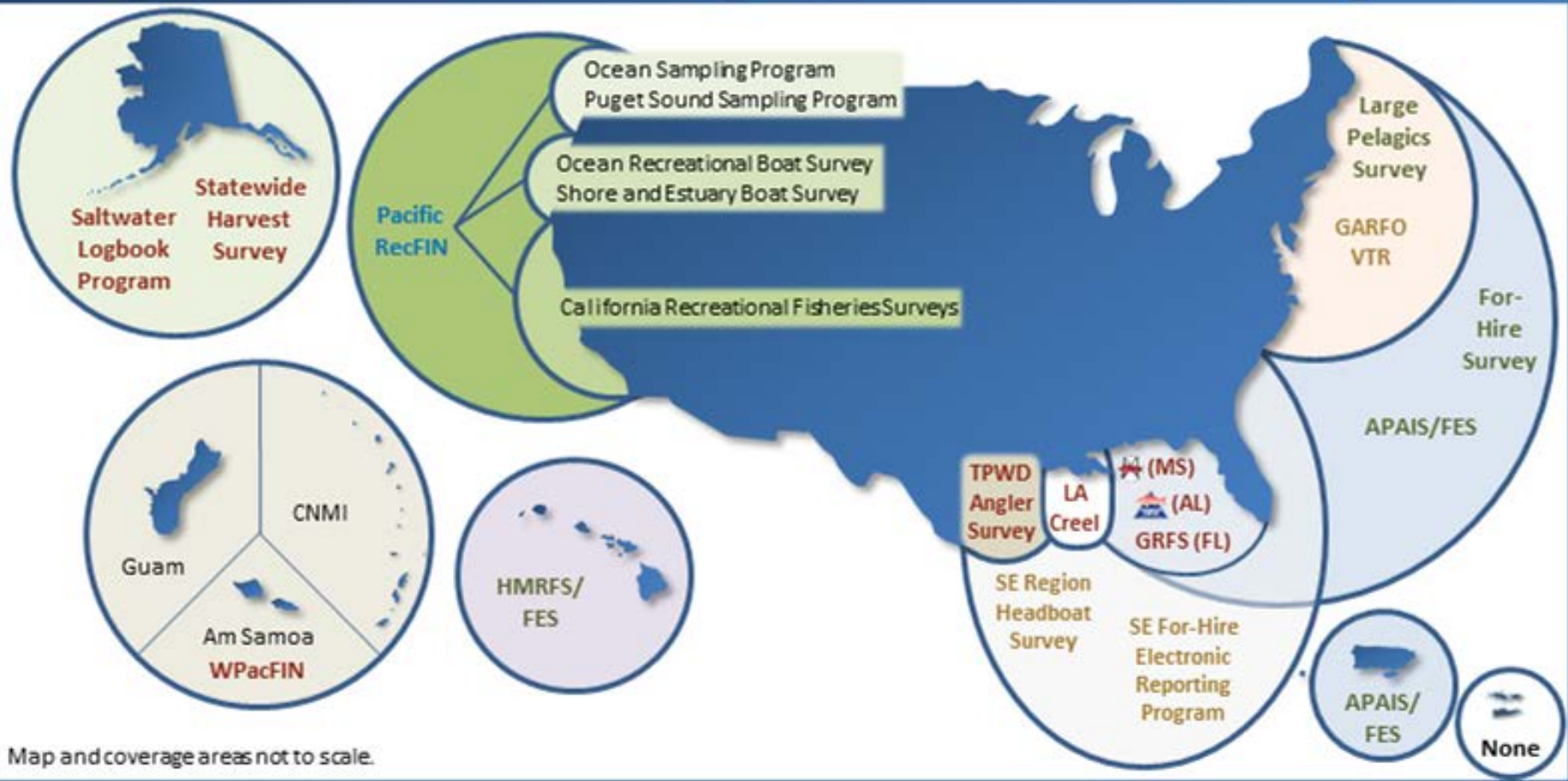
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# COVID-19 Impacts to Recreational Fisheries Data Collection

Gulf of Mexico Fishery Management Council Meetings  
October, 2020.

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Fisheries Statistics Division

# Regional Recreational Angler Data Collection Programs



# Introduction

- The pandemic has had **minimal impacts** on the **mail and telephone surveys** used to estimate recreational fishing effort.
- COVID-19 **continues to impact shoreside and at-sea sampling** along the Atlantic, Gulf, and Pacific coasts, creating **significant gaps in the data used to estimate recreational catch.**





# Access Point Angler Intercept Survey (ME-MS)

- Decisions to suspend, modify, or resume the survey are made at the **state level**.
  - Between March and August, 17 states suspended, reduced, or modified their conduct of the APAIS.
  - As of August 1, all state partners had resumed shoreside angler sampling. At-sea headboat sampling is still suspended.
- The conduct of the APAIS **continues to be impacted by social distancing guidelines and sampler safety protocols**.







# Large Pelagics Surveys (Intercept and Telephone)

- Sampling proceeding.

## At-Sea Program (ME-VA)

- Suspended.

## Southeast Region Headboat Survey (NC-TX)

- Suspended.

## State Creel Surveys (LA, TX, Pacific RecFIN)

- State partners that administer their own **angler intercept surveys** experienced similar **disruptions** and **modifications** to their standard sampling procedures



# Fishing Effort Survey (ME-MS and HI) and For-Hire Survey (ME-MS)

- **Offsite mail and telephone surveys** that measure fishing effort are being conducted with **minimal disruptions**.
- We continue to publish wave-level fishing effort estimates and to monitor impacts to the off-frame effort estimate adjustments normally derived from the APAIS.





# Impacts on 2020 Effort Estimates

- We have published **preliminary** shore, private boat, and for-hire effort estimates for Wave 2 (March-April) and Wave 3 (May-June).
- These estimates were produced using our **standard methodology**, but some lack the components normally derived from the APAIS.
- Note: These estimates are **not accessible through the MRIP Query Tool** and are expected to change before they are published as final.

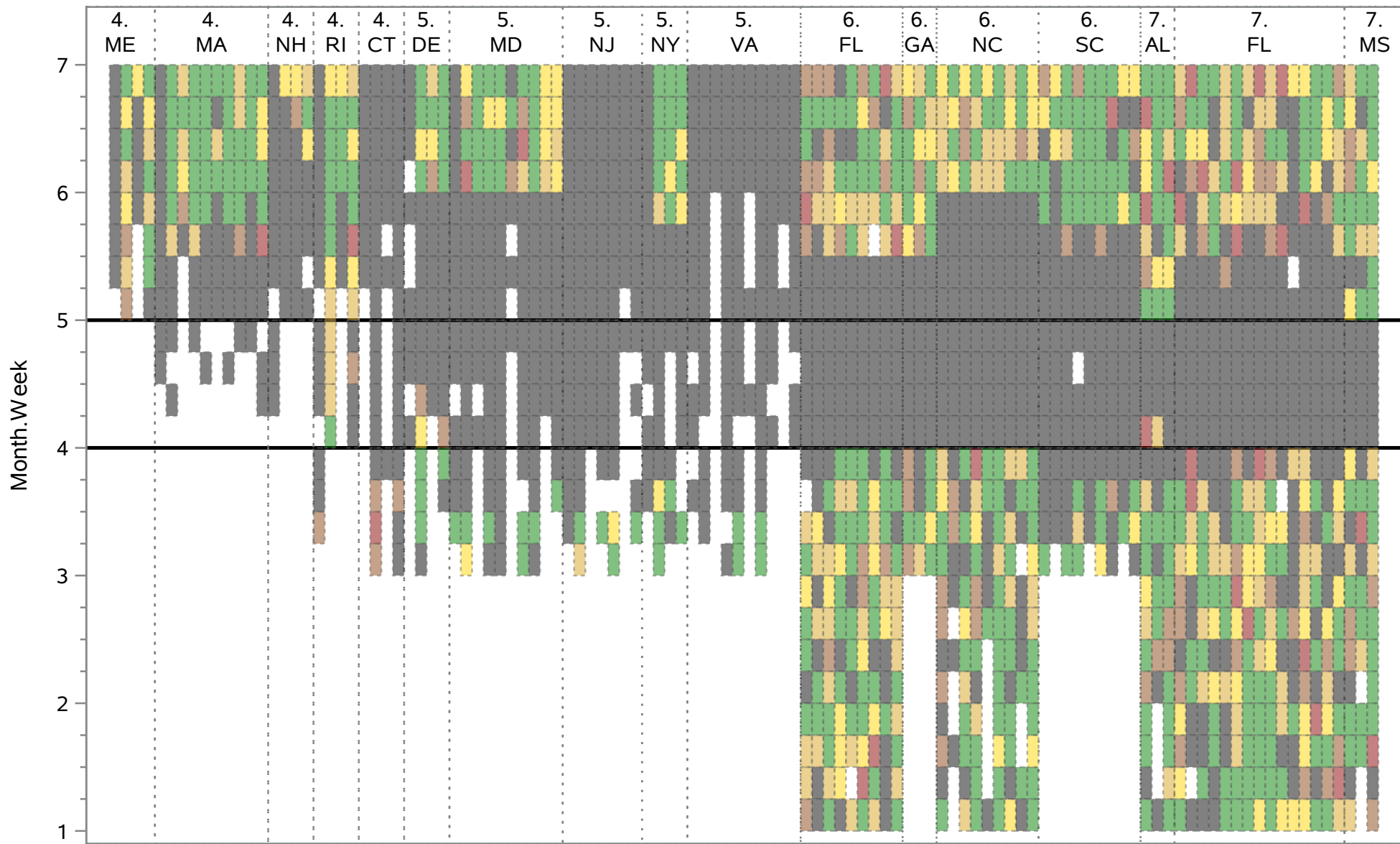


# Impacts on 2020 Catch Estimates

- Due to **significant data gaps**, we will **not** publish preliminary catch estimates for Waves 2-6, 2020.
- We are working with Regional Offices and Science Centers to **assess the impacts** of this decision.
- It is impossible to predict the full extent of data gaps or the methods that will allow us to produce reliable catch estimates.



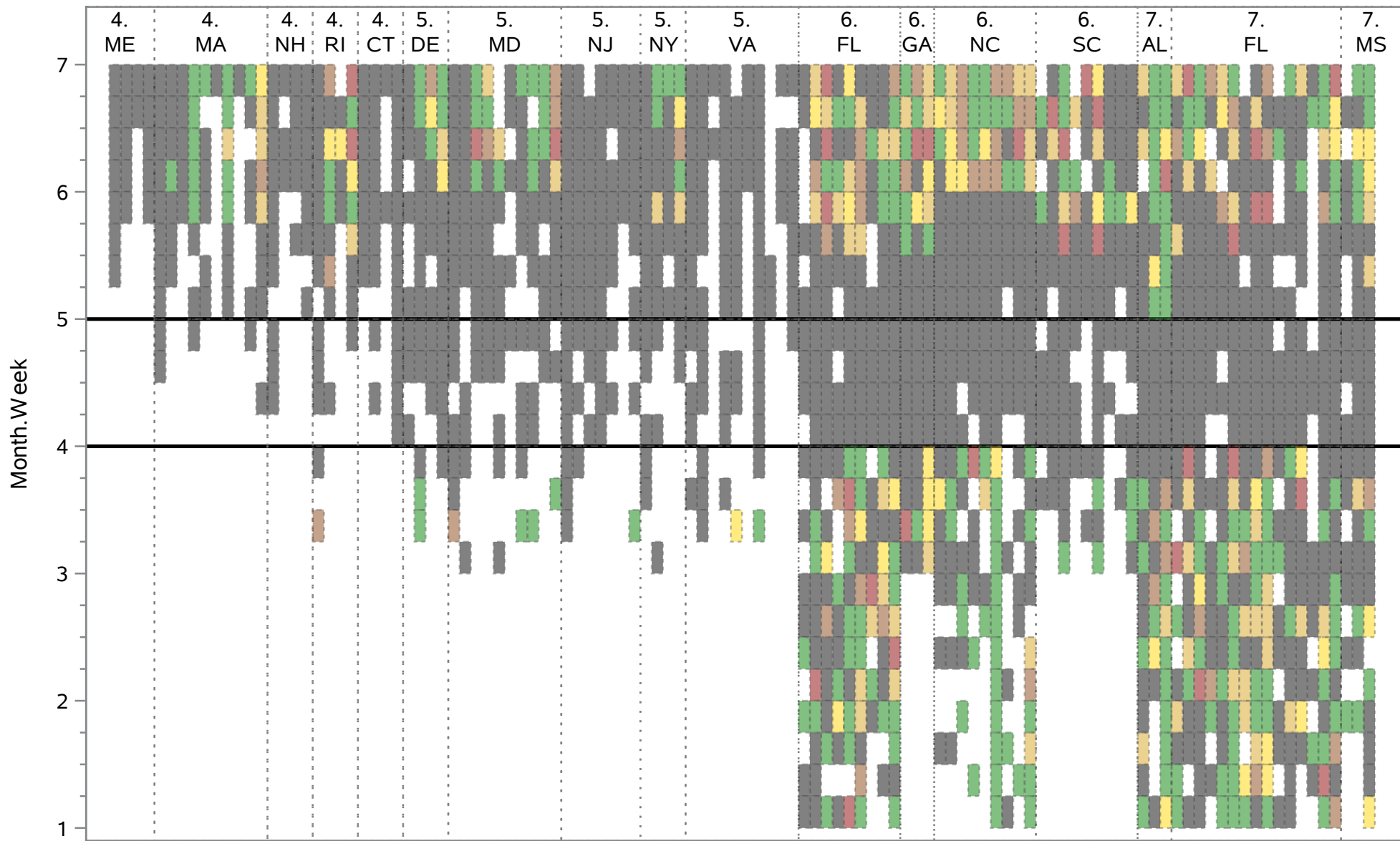
**APAIS 2020 Weekly Intercept Tally Ratios by Space and Time**  
 Ratio Values = 2020 Tally : 3-yr Mean (2017-2019) Tally  
 Waves 1-3



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

<span style="display:inline-block; width:15px; height:15px; background-color:grey; border:1px solid black;"></span> 0	<span style="display:inline-block; width:15px; height:15px; background-color:red; border:1px solid black;"></span> >0-0.10	<span style="display:inline-block; width:15px; height:15px; background-color:brown; border:1px solid black;"></span> >0.10-0.25	<span style="display:inline-block; width:15px; height:15px; background-color:tan; border:1px solid black;"></span> >0.25-0.50	<span style="display:inline-block; width:15px; height:15px; background-color:yellow; border:1px solid black;"></span> >0.50-0.75	<span style="display:inline-block; width:15px; height:15px; background-color:green; border:1px solid black;"></span> >0.75
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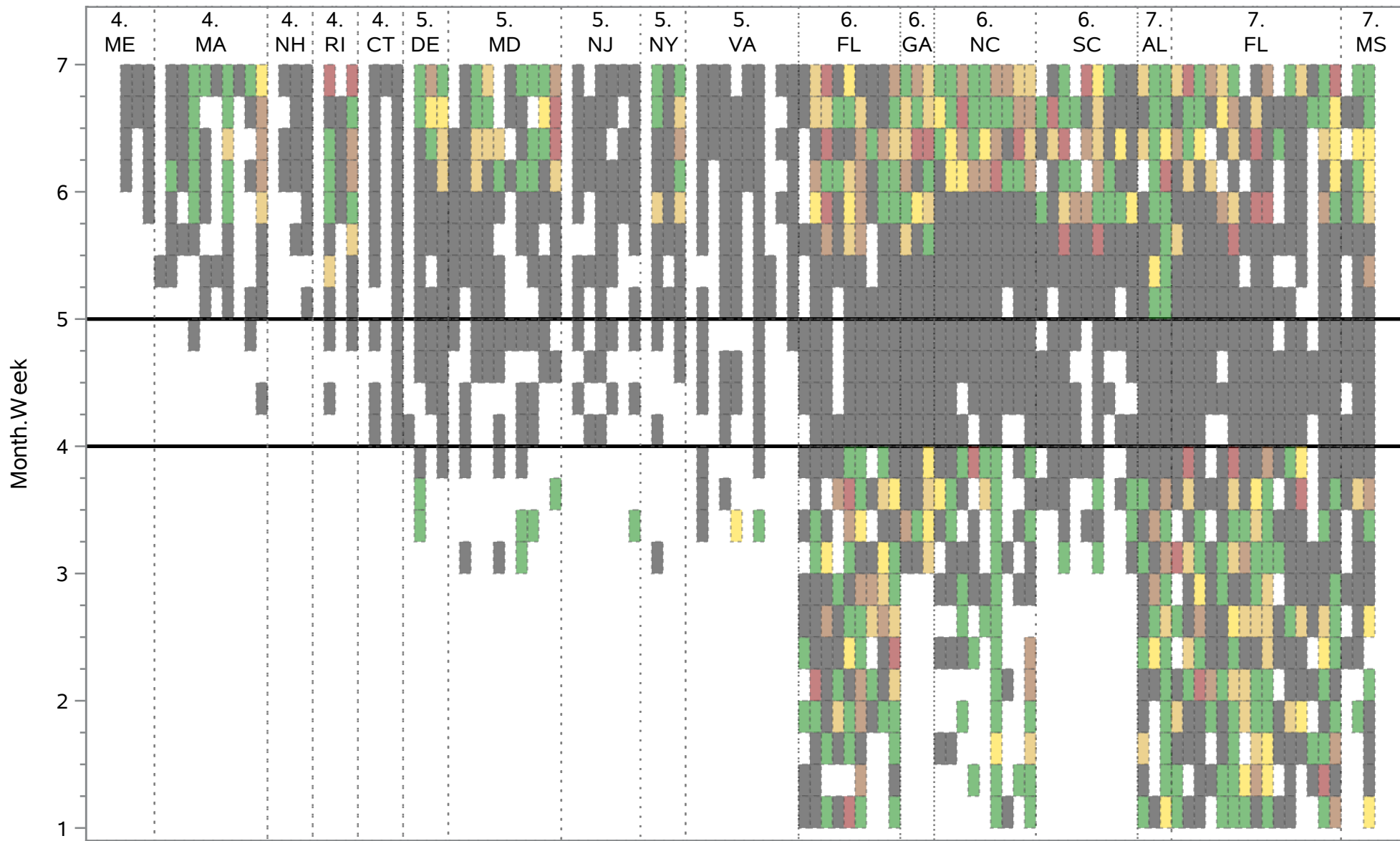
**APAIS 2020 Weekly LENGTH Tally Ratios by Space and Time**  
 Ratio Values = 2020 Tally : 3-yr Mean (2017-2019) Tally  
 Waves 1-3



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

<span style="display:inline-block; width:15px; height:15px; background-color:grey; border:1px solid black;"></span> 0	<span style="display:inline-block; width:15px; height:15px; background-color:red; border:1px solid black;"></span> >0-0.10	<span style="display:inline-block; width:15px; height:15px; background-color:brown; border:1px solid black;"></span> >0.10-0.25	<span style="display:inline-block; width:15px; height:15px; background-color:tan; border:1px solid black;"></span> >0.25-0.50	<span style="display:inline-block; width:15px; height:15px; background-color:yellow; border:1px solid black;"></span> >0.50-0.75	<span style="display:inline-block; width:15px; height:15px; background-color:green; border:1px solid black;"></span> >0.75
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**APAIS 2020 Weekly WEIGHT Tally Ratios by Space and Time**  
 Ratio Values = 2020 Tally : 3-yr Mean (2017-2019) Tally  
 Waves 1-3



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

<span style="display:inline-block; width:15px; height:15px; background-color:grey; border:1px solid black;"></span> 0	<span style="display:inline-block; width:15px; height:15px; background-color:red; border:1px solid black;"></span> >0-0.10	<span style="display:inline-block; width:15px; height:15px; background-color:brown; border:1px solid black;"></span> >0.10-0.25	<span style="display:inline-block; width:15px; height:15px; background-color:tan; border:1px solid black;"></span> >0.25-0.50	<span style="display:inline-block; width:15px; height:15px; background-color:yellow; border:1px solid black;"></span> >0.50-0.75	<span style="display:inline-block; width:15px; height:15px; background-color:green; border:1px solid black;"></span> >0.75
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# Catch Estimation Options

- We continue to explore possible approaches for estimating catch with limited data. For example:
  - Large domain estimation
  - Data imputation
  - Small area estimation
- Whatever approach we select, **any catch estimates we are able to produce may need to be revisited and revised** once we are able to return to normal sampling and obtain more complete data.





# Ongoing Work

- We are working on **alternative estimation programs** to address the 2020 data gaps. We are:
  - Continuing to confer with statistical consultants.
  - Using data collected in 2019 to test programs that incorporate data gaps similar to those experienced in and expected for the remainder of 2020.
- Next steps include:
  - Evaluating **options for imputation** (filling in data gaps/use of proxy data).
  - Application of estimation methods to 2020 data.



