

# MRIP 2020 Estimates

Overview of Methodology and Select Catch  
and Effort Estimates

Atlantic States Marine Fisheries Commission Summer Meeting  
August 2-5, 2021

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# 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**
- **Overview of Data Imputation and Estimation Methods**
- **Catch and Effort Estimates**
  - Recent Time Series, 2018-2020
  - 2020 With Imputed Records vs Without Imputed Records
  - Next Steps

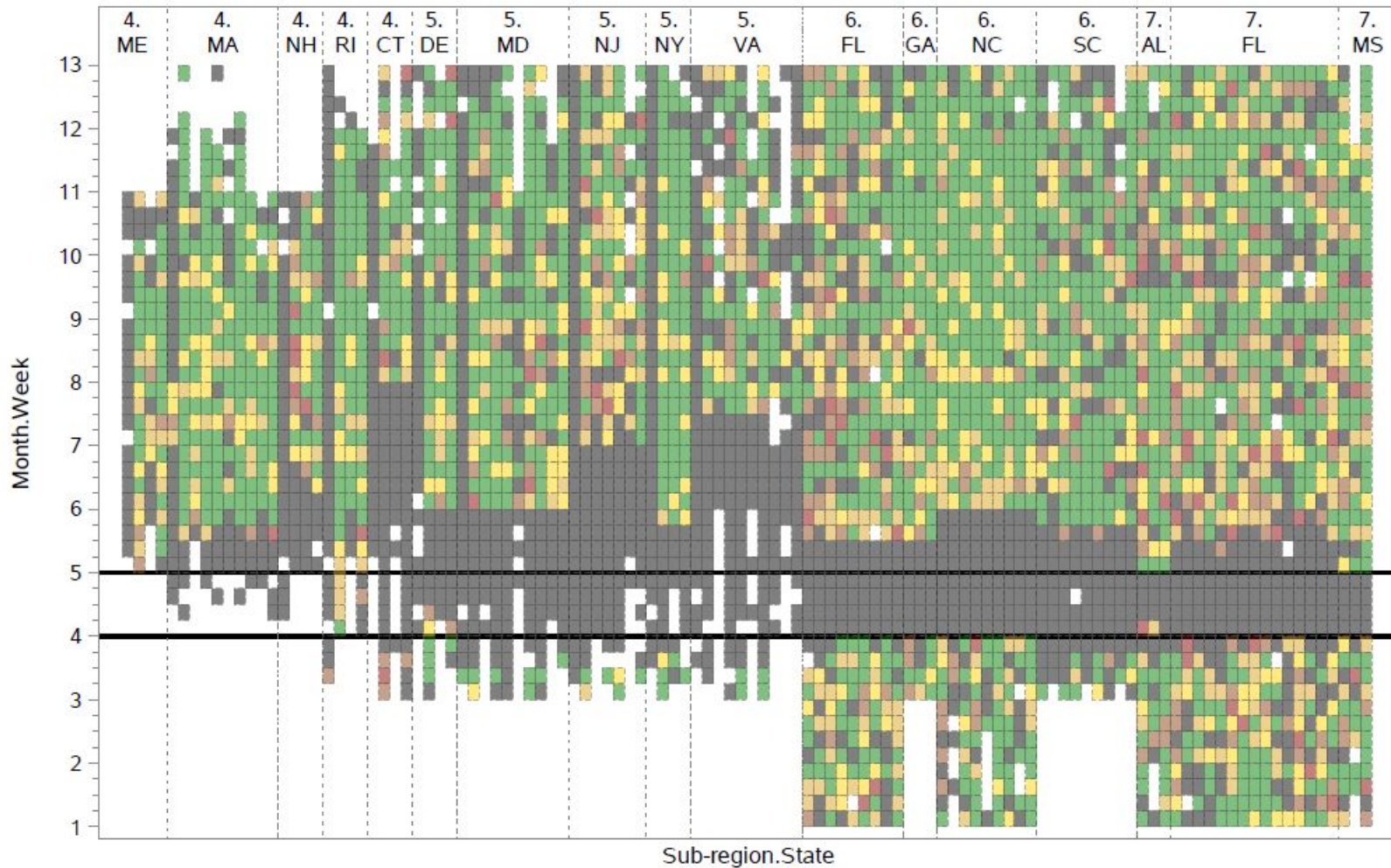


# 2020 MRIP Data Gaps

- 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 has resumed headboat sampling
  - 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: Intercepts



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

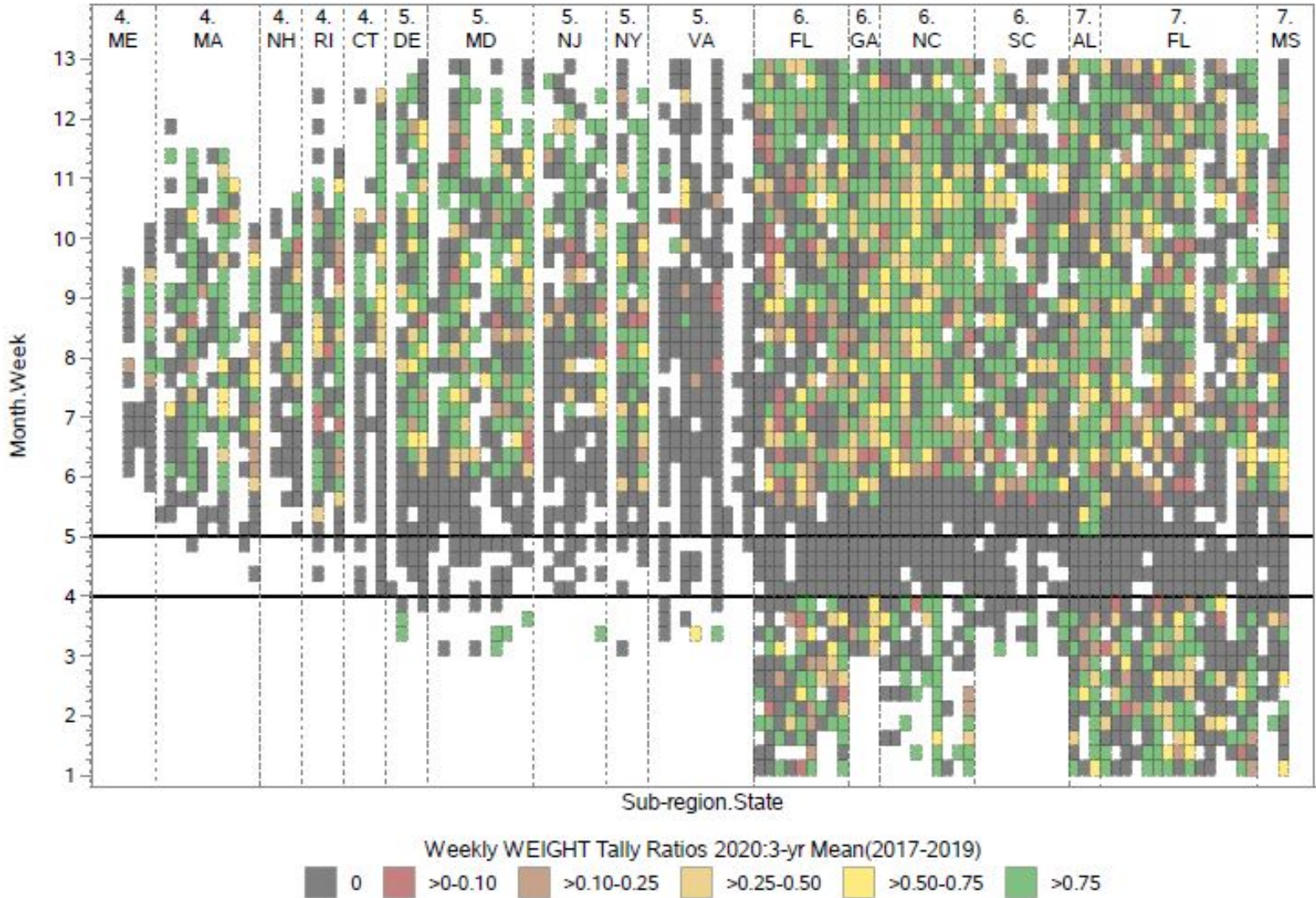




# 2020 MRIP Data Gaps: Lengths



# 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

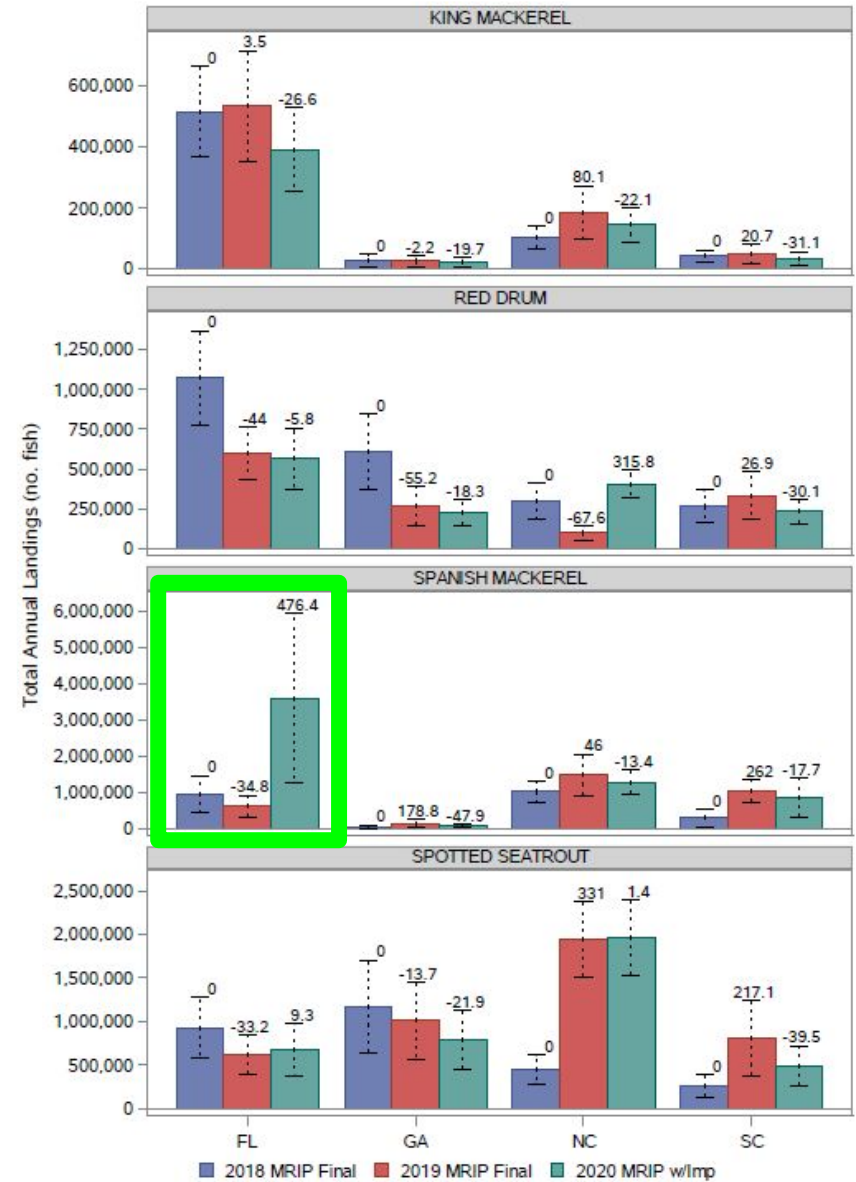
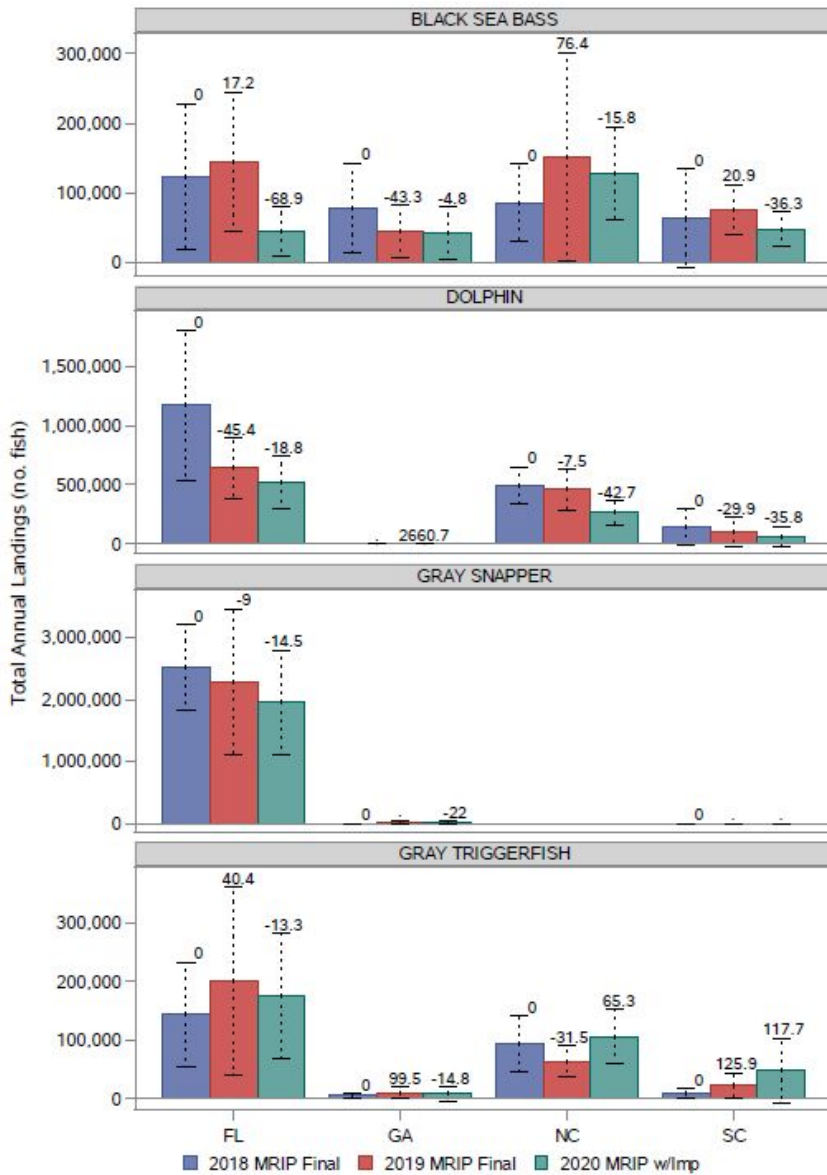




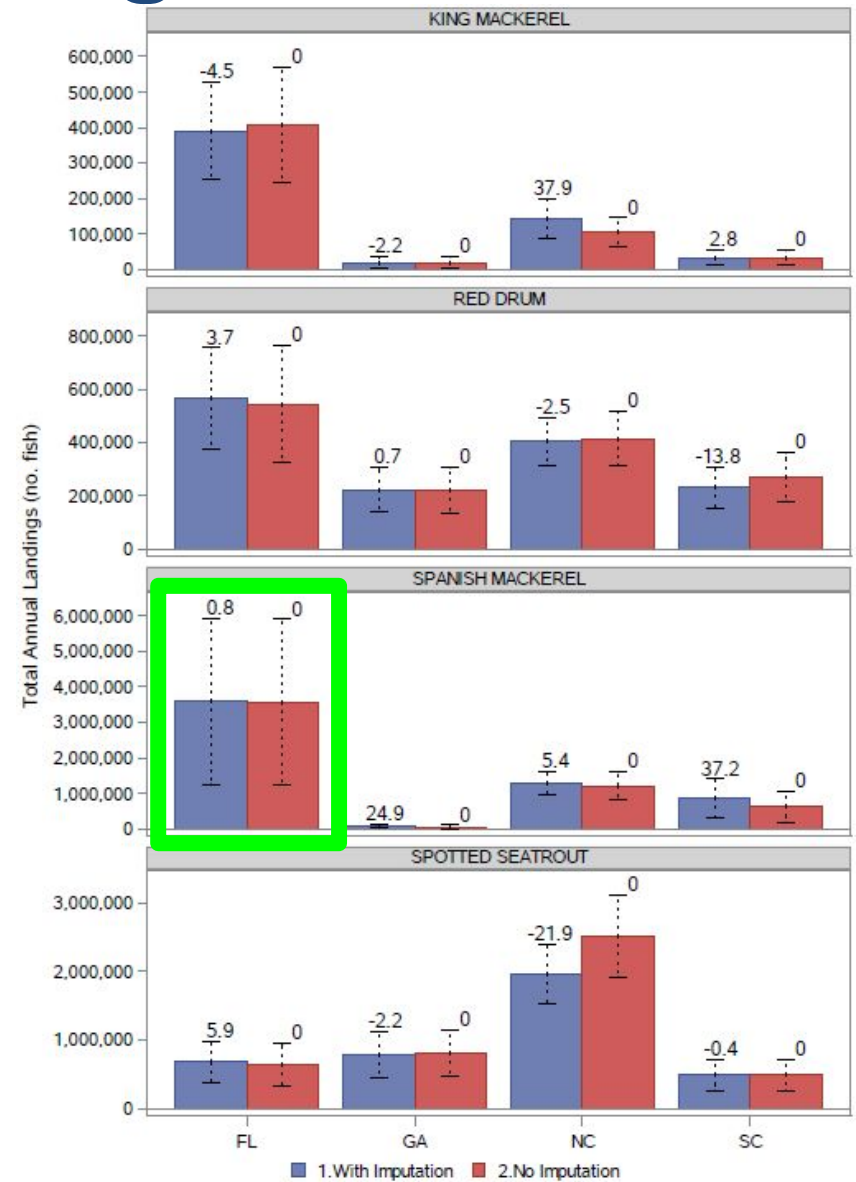
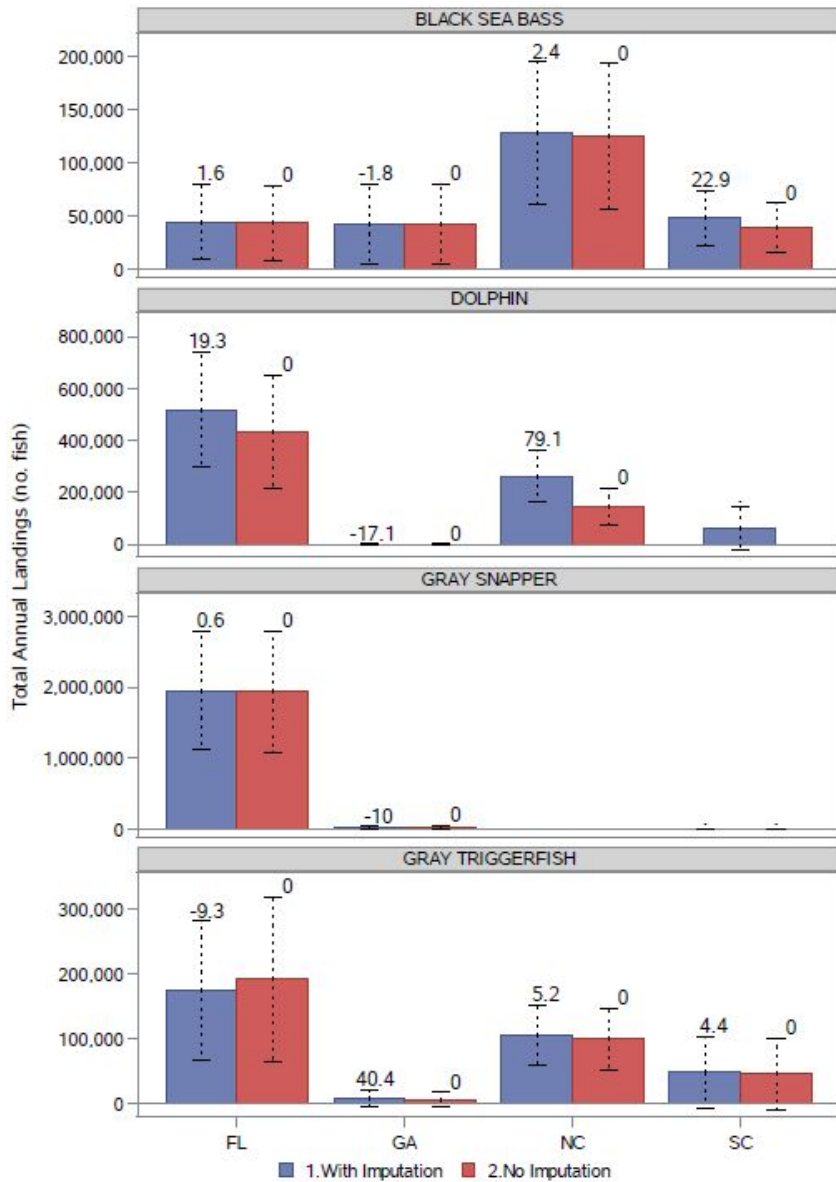
# Catch Estimates

- 2018-2020 Time series
  - Annual Landings by State and Region for Select Species
- 2020 With vs Without Imputed Records
  - Annual Landings by State and Region for Select Species

# 2018-2020 Annual Landings - S. Atl.

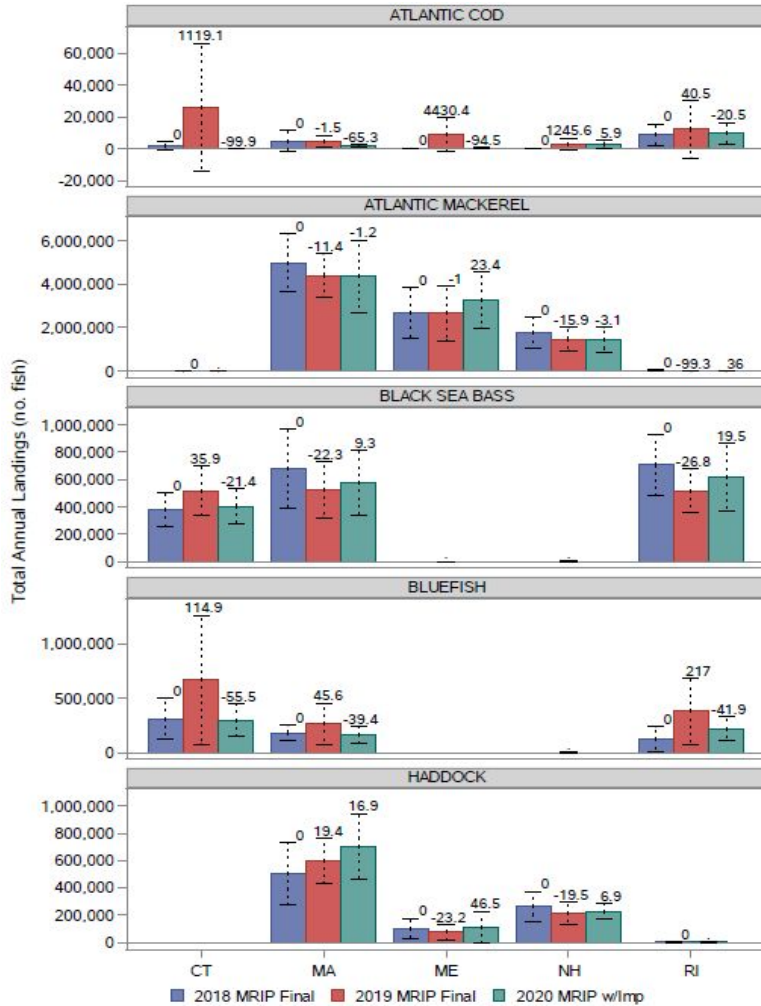


# 2020 Annual Landings - South Atl.

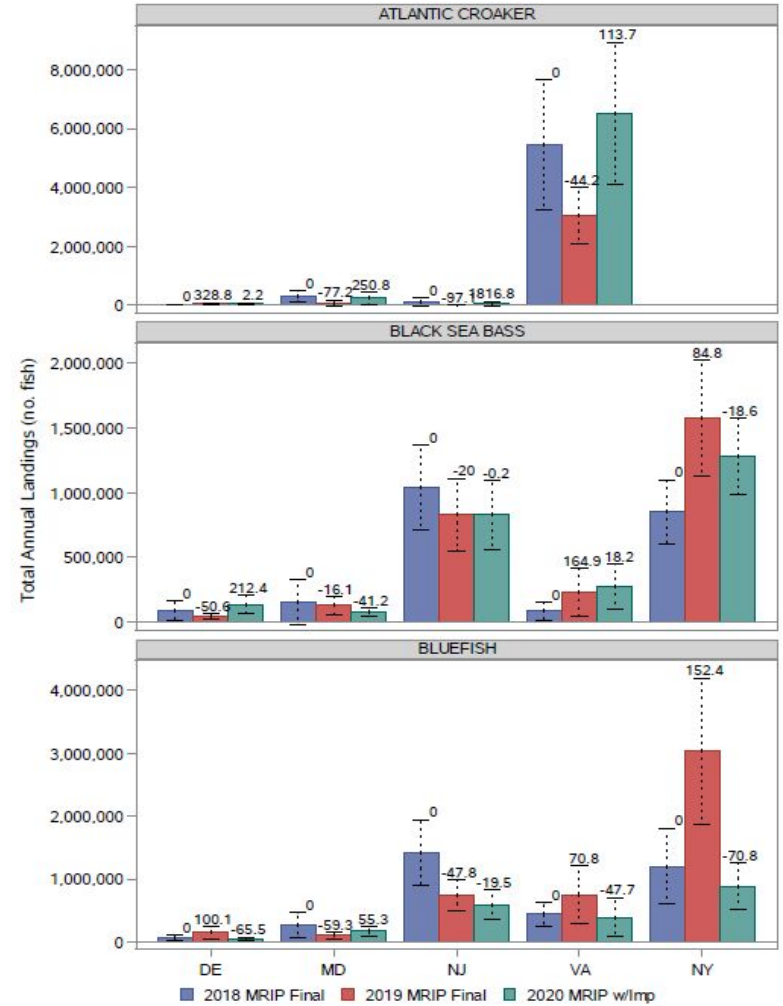


# 2018-2020 Annual Landings

## 4. New England



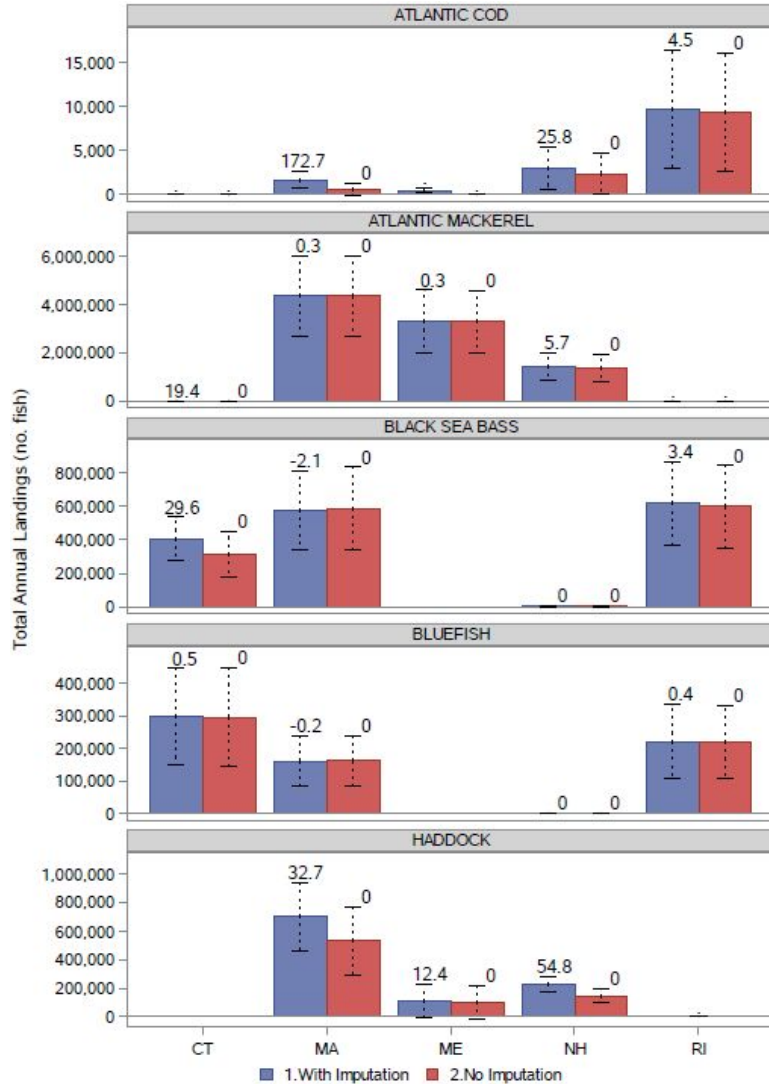
## 5. Mid-Atlantic



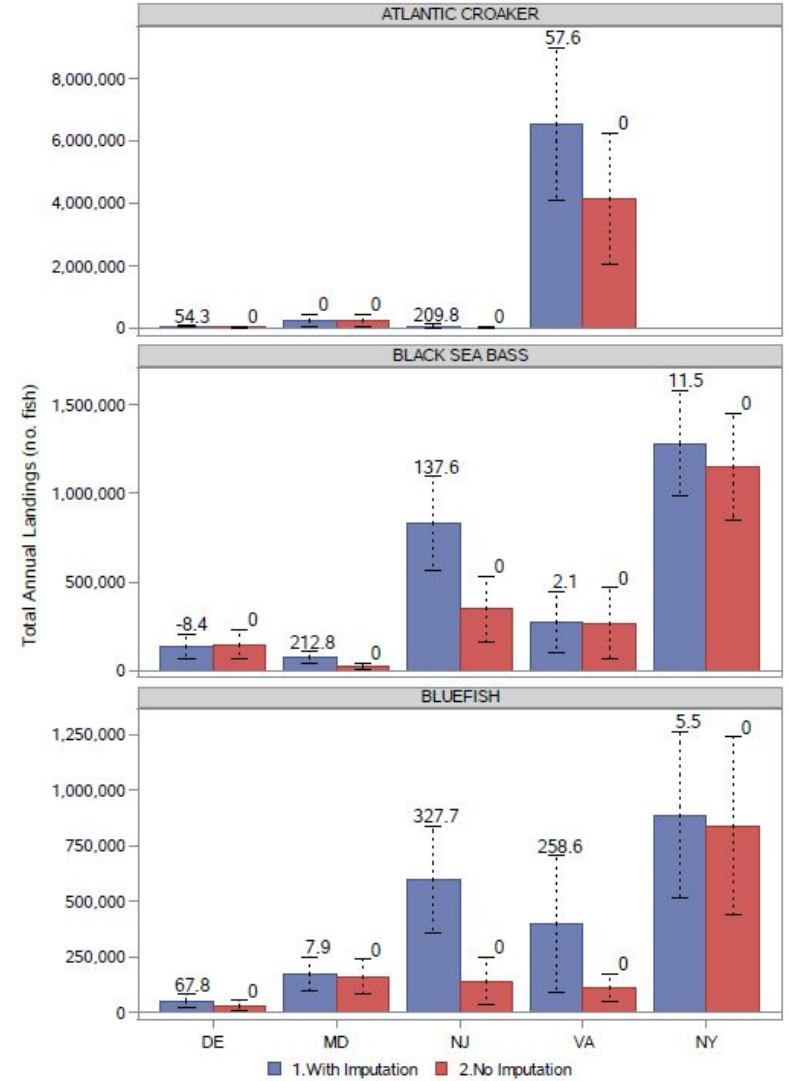


# 2020 Annual Landings

## 4. New England



## 5. Mid-Atlantic



# MRIP Catch Query: Striped Bass

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

\*\* Due to COVID-related disruptions to the Access Point Angler Intercept Survey and subsequent gaps in catch records, 2020 catch estimates are based in part on imputed data.

Columns labeled 'Contribution of Imputed Data to {ESTIMATE} rate' represent the weighted percentage of catch rate information that can be attributed to imputed catch data.

Estimate Status	Year	Region	Common Name	Fishing Mode	Total Harvest (A+B1)	PSE	** Contribution of Imputed Data to Total Harvest Rate
FINAL	2020	NORTH ATLANTIC	STRIPED BASS	SHORE	59,744	37	38%
FINAL	2020	NORTH ATLANTIC	STRIPED BASS	PARTY BOAT	288	48.6	53%
FINAL	2020	NORTH ATLANTIC	STRIPED BASS	CHARTER BOAT	13,151	12.9	7%
FINAL	2020	NORTH ATLANTIC	STRIPED BASS	PRIVATE/RENTAL BOAT	124,316	13.1	27%
FINAL	2020	MID-ATLANTIC	STRIPED BASS	SHORE	131,319	29.3	15%
FINAL	2020	MID-ATLANTIC	STRIPED BASS	PARTY BOAT	5,736	21.5	100%
FINAL	2020	MID-ATLANTIC	STRIPED BASS	CHARTER BOAT	248,646	13.4	12%
FINAL	2020	MID-ATLANTIC	STRIPED BASS	PRIVATE/RENTAL BOAT	1,126,773	11.9	34%
FINAL	2020	SOUTH ATLANTIC	STRIPED BASS	SHORE	8,351	90.2	95%
FINAL	2020	SOUTH ATLANTIC	STRIPED BASS	CHARTER BOAT	819	75.7	0%
FINAL	2020	SOUTH ATLANTIC	STRIPED BASS	PRIVATE/RENTAL BOAT	73,078	40.8	51%
FINAL	2020	GULF OF MEXICO	STRIPED BASS	PRIVATE/RENTAL BOAT	394	101.5	100%

# MRIP Catch Query: Black Sea Bass

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

\*\* Due to COVID-related disruptions to the Access Point Angler Intercept Survey and subsequent gaps in catch records, 2020 catch estimates are based in part on imputed data.

Columns labeled 'Contribution of Imputed Data to {ESTIMATE} rate' represent the weighted percentage of catch rate information that can be attributed to imputed catch data.

Estimate Status	Year	Region	Common Name	Fishing Mode	Total Harvest (A+B1)	PSE	** Contribution of Imputed Data to Total Harvest Rate
FINAL	2020	NORTH ATLANTIC	BLACK SEA BASS	SHORE	19,250	50.2	0%
FINAL	2020	NORTH ATLANTIC	BLACK SEA BASS	PARTY BOAT	47,801	9.6	94%
FINAL	2020	NORTH ATLANTIC	BLACK SEA BASS	CHARTER BOAT	39,733	13.9	6%
FINAL	2020	NORTH ATLANTIC	BLACK SEA BASS	PRIVATE/RENTAL BOAT	1,493,962	12.4	9%
FINAL	2020	MID-ATLANTIC	BLACK SEA BASS	SHORE	47,019	60.2	3%
FINAL	2020	MID-ATLANTIC	BLACK SEA BASS	PARTY BOAT	268,596	10.8	100%
FINAL	2020	MID-ATLANTIC	BLACK SEA BASS	CHARTER BOAT	110,843	14.3	24%
FINAL	2020	MID-ATLANTIC	BLACK SEA BASS	PRIVATE/RENTAL BOAT	2,156,177	10.2	21%
FINAL	2020	SOUTH ATLANTIC	BLACK SEA BASS	SHORE	26,696	66.5	0%
FINAL	2020	SOUTH ATLANTIC	BLACK SEA BASS	CHARTER BOAT	20,522	18.6	31%
FINAL	2020	SOUTH ATLANTIC	BLACK SEA BASS	PRIVATE/RENTAL BOAT	224,215	19.3	11%
FINAL	2020	GULF OF MEXICO	BLACK SEA BASS	CHARTER BOAT	14,037	40	1%
FINAL	2020	GULF OF MEXICO	BLACK SEA BASS	PRIVATE/RENTAL BOAT	193,088	26.4	26%

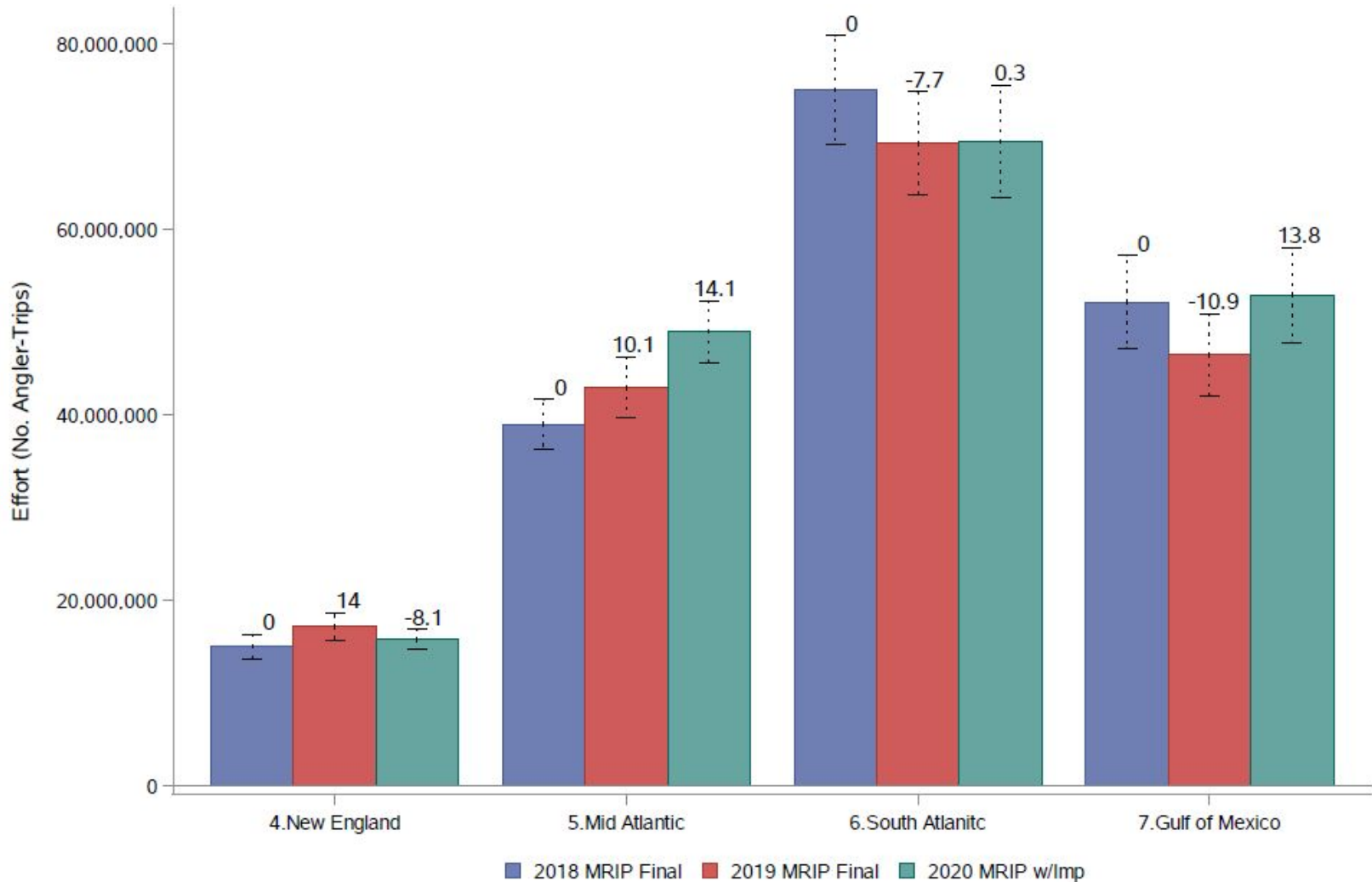


# Effort Estimates

- 2018-2020
  - Annual Effort by Region
  - Annual Effort by Region for Charter and Headboat modes
- 2020 With vs Without Imputed Records
  - Annual Effort by Region



# 2018-2020 Effort Estimates

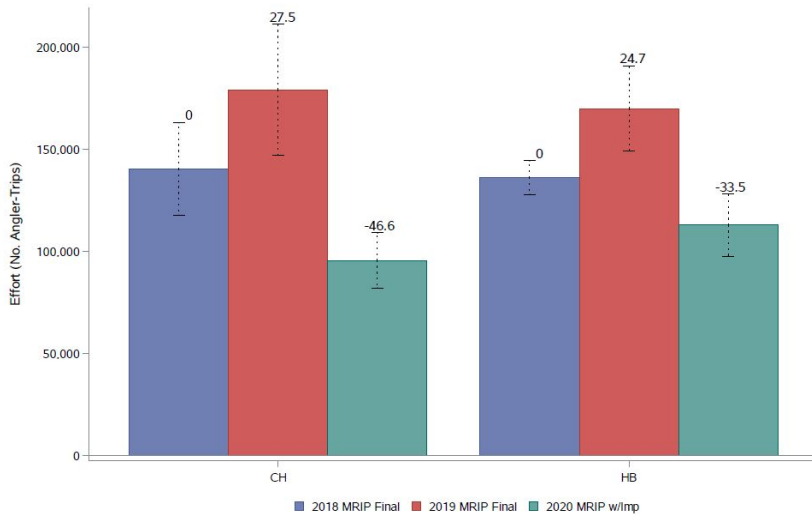


Data labels give % changes relative to prior year

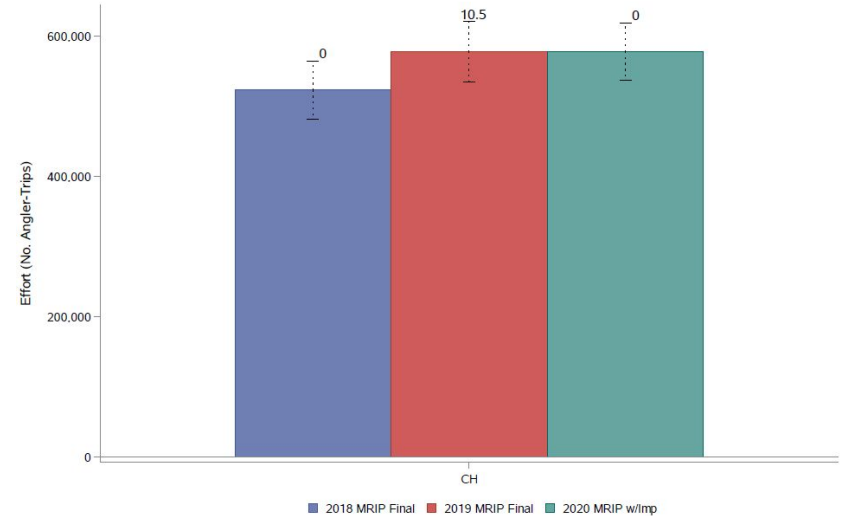


# 2018-2020 Charter/Headboat Effort

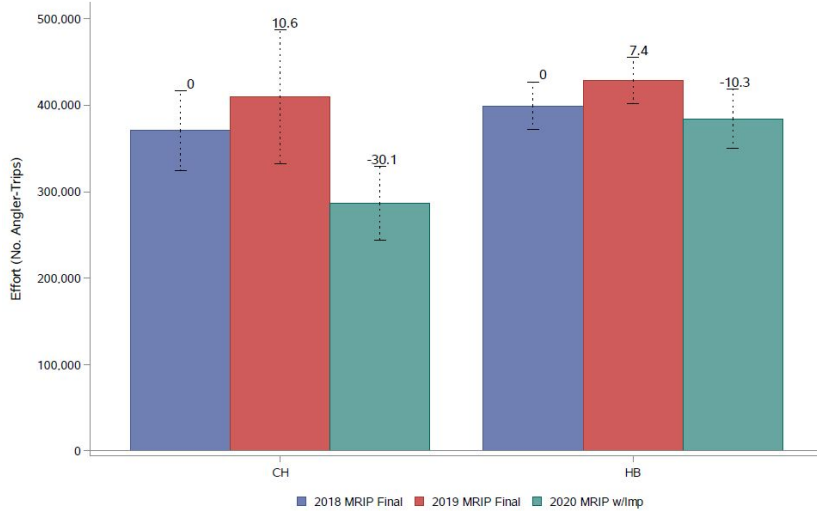
## 4. New England



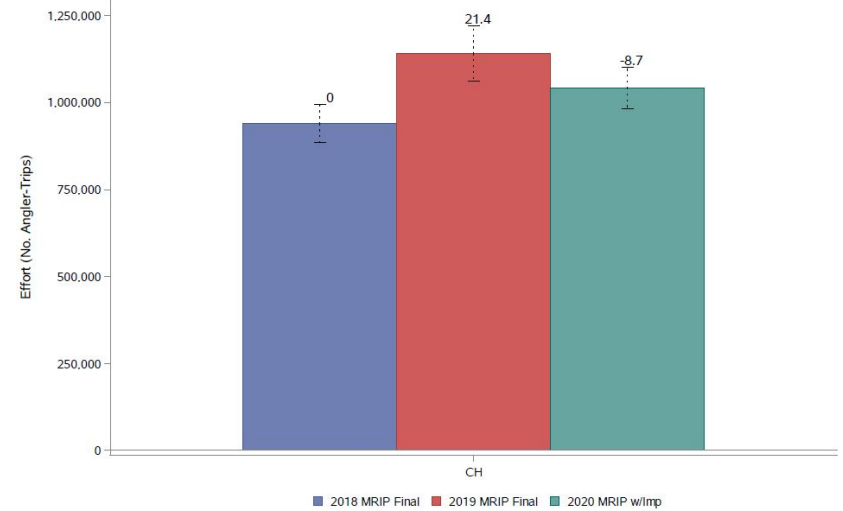
## 6. South Atlantic



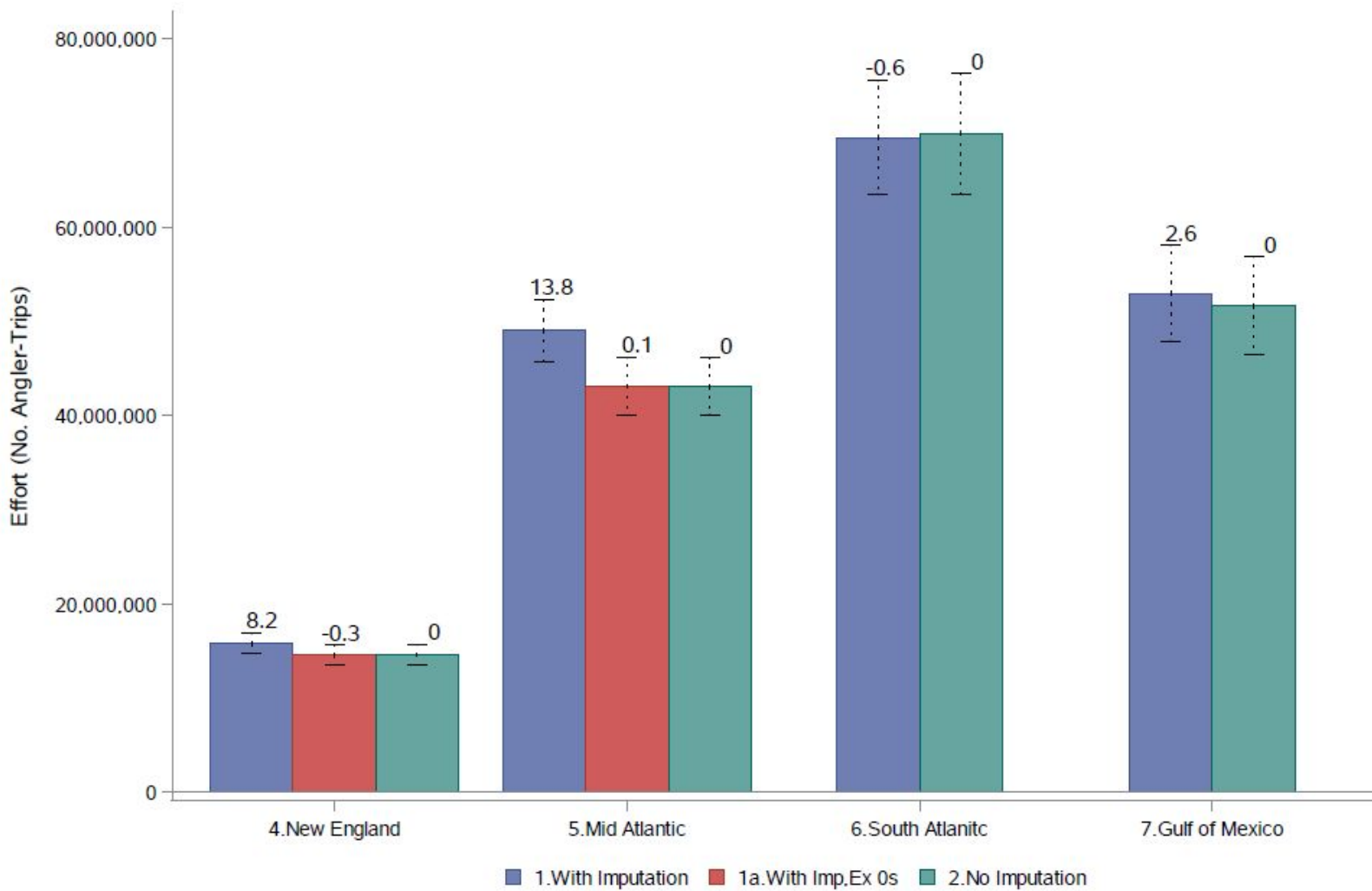
## 5. Mid-Atlantic



## 7. Gulf of Mexico



# 2020 Effort Estimates



Data labels give % changes relative to the 2.No Imputation series



# Next Steps

- Following Scheduled Estimate Release (April, 2021)
  - Continuing communications in the Regions
  - Continuing to monitor APAIS sampling throughout 2021
- Revisit 2020 estimation in early 2022
  - Compare imputed 2020 estimates based on prior years (2018-2019) with imputed estimates based on shoulder years (2019, 2021)



# MRIP Survey and Data Standards

ASMFC Summer Meeting

August 2-5, 2021



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# MRIP Survey and Data Standards

In December 2020, NOAA Fisheries established standards to guide the **design, improvement, and quality of information** produced by our national network of recreational fisheries data collection programs.



# Why were the Standards developed?

- To respond to recommendations from the National Academies that we **establish performance standards and guidance**.
  - Recent 2021 NASEM review “*Data & Mgmt Strategies for Recreational Fisheries with ACLs*” may provide additional guidance or recommendations
- To support our strategic goals to **provide quality products and ensure sound science**.



# How were the Standards developed?

- Derived from **existing federal guidelines and best practices** for the dissemination of statistical information. References included:
  - Principles and Practices for a Federal Statistical Agency (NASEM)
  - Standards and Guidelines for Statistical Surveys (OMB)
  - Practices in place at the:
    - CDC, Census Bureau, Department of Education, Environmental Protection Agency, and U.S. Geological Survey
    - United Nations Department of Economic and Social Affairs
    - International Household Survey Network
    - Australian Bureau of Statistics



# Seven Standards

The MRIP Survey and Data Standards provide our partners, customers, and stakeholders with a **single set of guidelines** on **seven aspects** of recreational fisheries data collection and estimation.

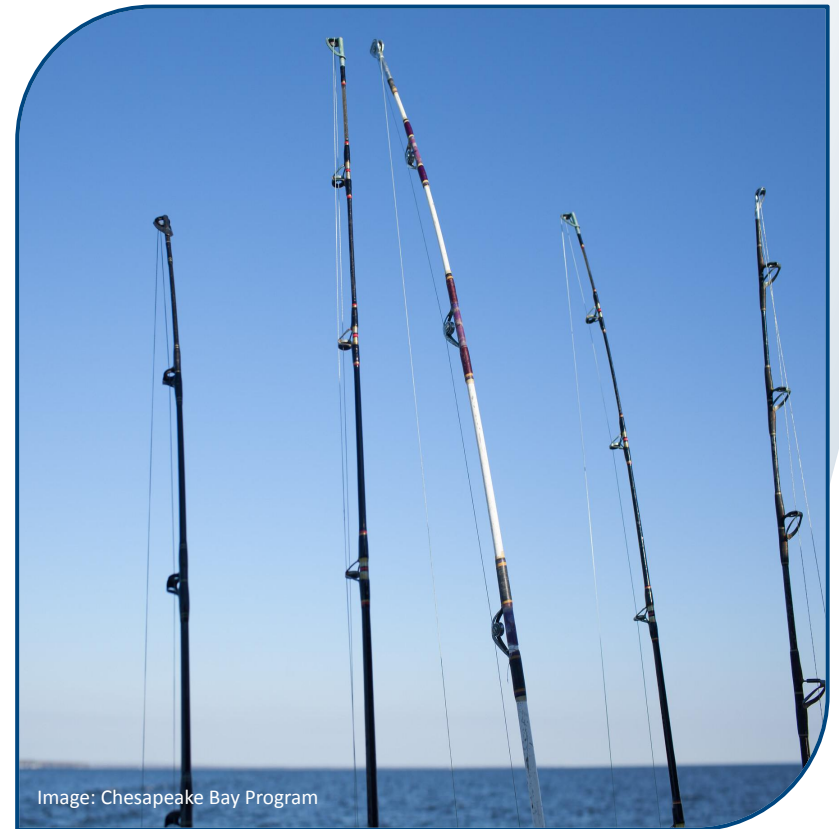


Image: Chesapeake Bay Program



# Standards

## 1. Survey Concepts and Justification

Surveys must address identified priorities, produce key statistics, and include measures of precision. Written survey plans must describe survey goals, legislative mandates, adherence to OMB and (if applicable) PRA guidelines, and intended uses and users.

## 2. Survey Design

Documentation must describe sampling plans, evaluation plans, and data collection and estimation designs.

## 3. Data Quality

Documentation must describe procedures for data processing, methods to compensate for item nonresponse, actions taken during data editing, and the quality assurance plans that are in place for each phase of the survey process.



# Standards

## 4. Transition Planning

Transition plans must be prepared before new or improved data collection or estimation designs are implemented *if* the designs are likely to result in large deviations from historical estimates.

## 5. Review Procedures

Data collection and estimation designs are subject to existing certification requirements. Annual reports must be submitted at the end of each survey year, and peer reviews of both annual reports and information products will be completed by the Office of Science and Technology.

## 6. Process Improvement

The ongoing evaluation of survey designs should ensure emerging needs are addressed and best practices are incorporated. Recommended revisions and unanticipated modifications must be documented, reported, and evaluated.



# Standards

## 7. Access and Information Management

Survey data, microdata, and measures of precision must be published online, and data collections funded by NOAA Fisheries are subject to existing information management requirements.

MRIP publishes cumulative estimates where estimates are available sub-annually; presents a warning when the percent standard error for an estimate exceeds 30%; and does not publish an estimate when its PSE exceeds 50%.



# Impacts

While many of these practices are already in use, the Standards **remove ambiguities** about whether a practice should be considered a recommendation or a requirement.

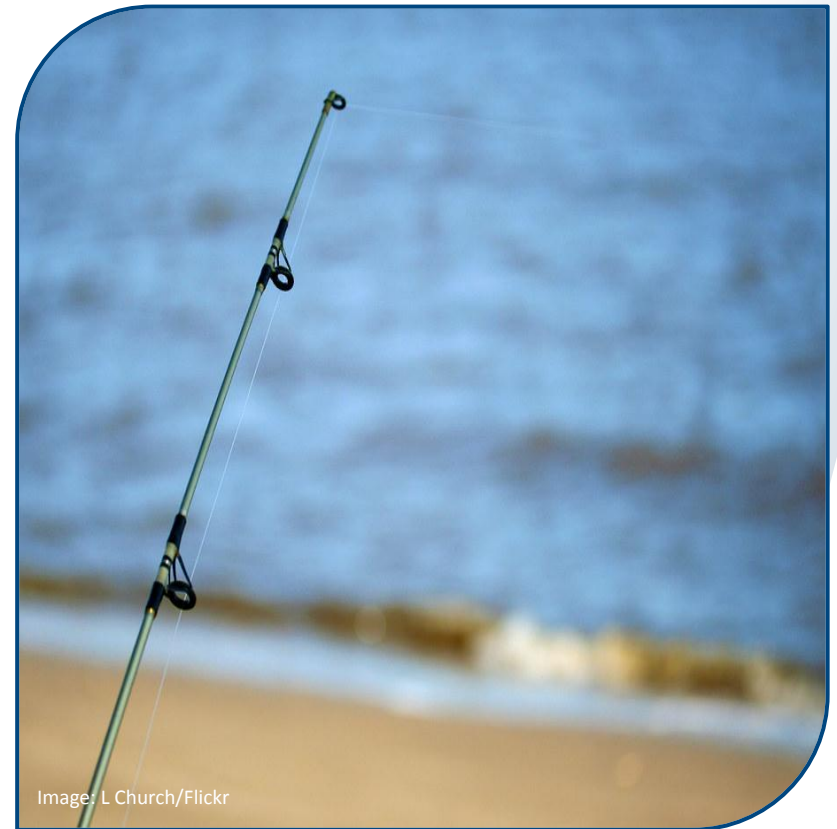


Image: L Church/Flickr

# Impacts

Ultimately, the Standards will promote **data quality, consistency, and comparability** across the state, regional, and federal recreational fishing surveys administered and funded through MRIP.

In this way, the Standards will ensure:

- The **integrity of our data collection efforts;**
- The **quality of our recreational fisheries statistics;** and
- The **strength of our science-based management decisions.**





# Phased Implementation

The implementation of the Standards will be a **phased approach** driven by federal management needs. Over the next several months, MRIP staff will:

- Publish a **data user manual**;
- Hold **data user workshop(s)**; and
- Provide a **preview of anticipated changes** to our statistical Query Tool.

The standard for Access and Information Management will be the last to be implemented, no sooner than 2022.



# Questions?

[fisheries.noaa.gov/recreational-fishing-data/Recreational-fishing-survey-and-data-standards](https://fisheries.noaa.gov/recreational-fishing-data/Recreational-fishing-survey-and-data-standards)



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# EAST COAST CLIMATE CHANGE SCENARIO PLANNING UPDATE

An initiative designed to prepare fishing communities and fishery managers for an era of climate change

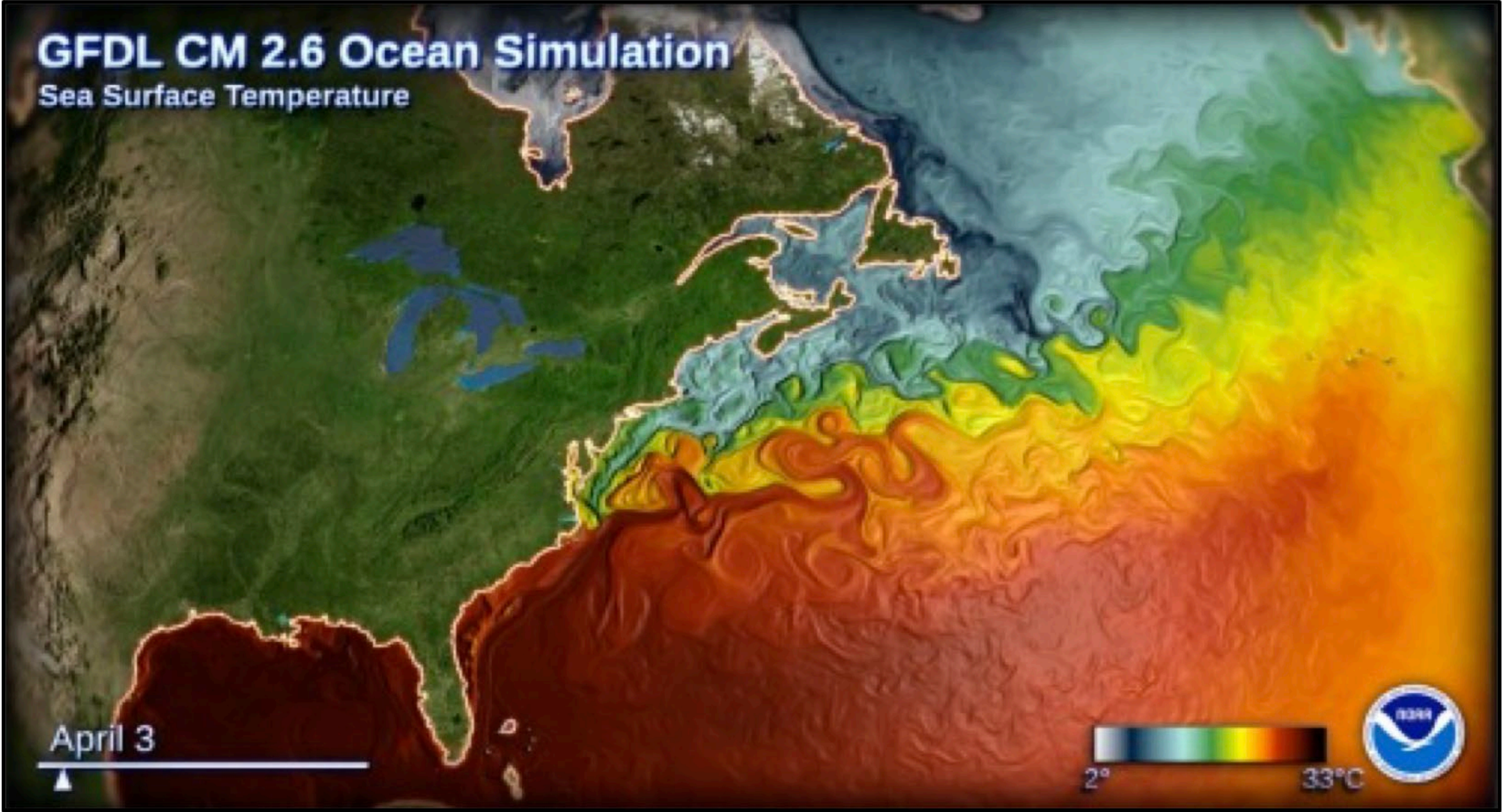


New England  
Fishery Management  
Council





# Climate change and the future of East Coast fisheries





## Project Objectives

1 To explore how fishery governance and management issues will be affected by climate-driven change in fisheries, particularly shifting stock availability and distributions.

2 To develop a set of tools and processes, which provide flexible and resilient fisheries management strategies that effectively address uncertainty in an era of climate change.



## Draft Project Focal Question

How might climate change affect stock distribution, availability, and other aspects of East Coast marine fisheries over the next 20 years?

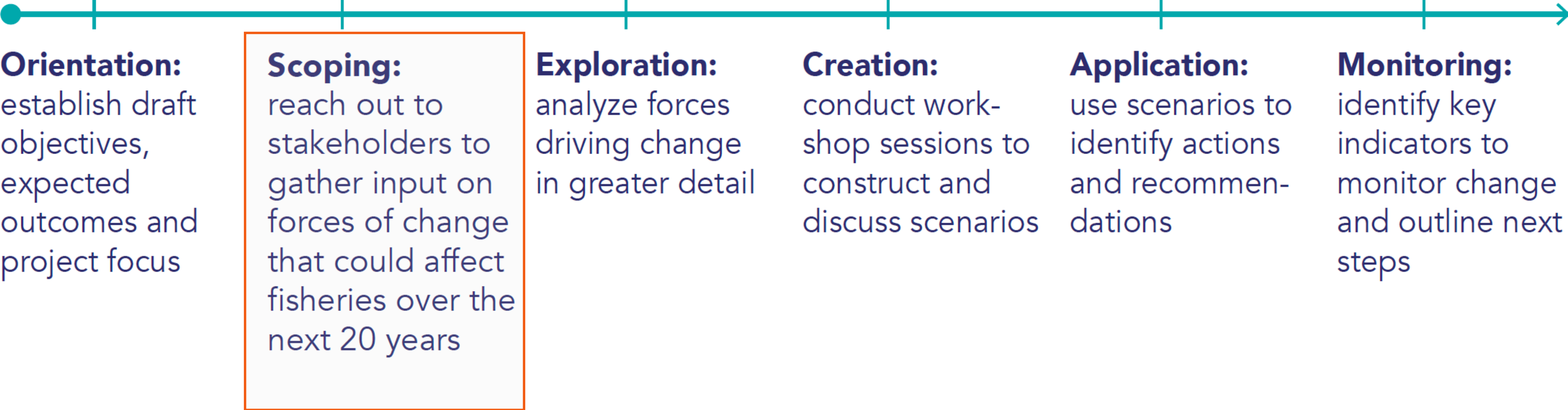
What does this mean for effective future governance and management across multiple jurisdictions?



## Expected Outcomes

- ❑ A set of scenarios a few stories that describe – in qualitative terms – different ways in which a changing climate might affect the future of East Coast fisheries
- ❑ A better understanding of the challenges and opportunities facing fishery management in the future
- ❑ A set of near-term and long-term management priorities that help achieve fishery management objectives under a range of different future conditions
- ❑ Policy recommendations for broader governance changes that improve our ability to adapt to future scenarios
- ❑ A list of data gaps, research needs, and monitoring needs for changing conditions
- ❑ A framework for ongoing conversation and idea generation for all stakeholders to lose

## Steps in this Multi-Year Initiative





## Kick-Off Webinars to introduce the East Coast Fisheries Climate Change Scenario Planning Initiative

- 1. Monday August 30 4:00-5:30 p.m.**
- 2. Wednesday September 1 6:00-7:30 p.m.**
- 3. Thursday September 2 10:00-11:30 a.m.**

<https://www.mafmc.org/climate-change-scenario-planning>



# **Assessment Science Committee Report**

Presented to ISFMP Policy Board

August 5, 2021

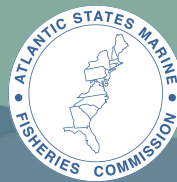


# ASC Update



- The Assessment Science Committee (ASC) met on May 13th, 2021 to address several agenda items, including assessment report streamlining, 2020 data challenges, and revising the ASMFC stock assessment schedule.

# Proposed Stock Assessment Schedule



Species	2019	2020		2021	2022	2023	2024
American Eel					x		
American Shad		ASMFC					
American Lobster		ASMFC					
Atlantic Croaker							x
Atlantic Menhaden	SEDAR				Update		
Atl. Menhaden ERPs	SEDAR						
Atlantic Sea Herring		Management			Management		Management
Atlantic Striped Bass					Update		Update
Atlantic Sturgeon							x
Black Drum					ASMFC		
Black Sea Bass	Operational*			Management	SARC - Fall	Management	
Bluefish	Operational*			Management	SARC - Fall	Management	
Coastal Sharks		SEDAR			SEDAR		
Cobia	SEDAR						
Horseshoe Crab	ASMFC			ASMFC (ARM)			Update
Jonah Crab						Management	
Northern Shrimp				Update		Update	
Red Drum					ASMFC		SEDAR
River Herring						ASMFC	
Scup	Operational*			Management		Management	
Spanish Mackerel					Operational		
Spiny Dogfish					SARC - Spring		
Spot							x
Spotted Seatrout							
Summer Flounder				Management		Management	
Tautog				Update			
Weakfish	Update						
Winter Flounder		Management			Management		Management

	SEDAR
	ASMFC
	Fall SARC
	Spring SARC
	x = trigger date/ potential review
	Completed

# Proposed Changes



- **Atlantic menhaden:** 2022 ERP update removed; only single species assessment update in 2022
- **Striped bass:** 2021 assessment update shifted to 2022; 2023 assessment update shifted to 2024
- **Black drum:** benchmark assessment scheduled for 2022
- **River herring:** schedule corrected to show 2023 assessment as a benchmark
- **Spanish mackerel:** assessment shifted from 2021 to 2022

# Any questions?



Species	2019	2020		2021	2022	2023	2024
American Eel					x		
American Shad		ASMFC					
American Lobster		ASMFC					
Atlantic Croaker							x
Atlantic Menhaden	SEDAR				Update		
Atl. Menhaden ERPs	SEDAR						
Atlantic Sea Herring		Management			Management		Management
Atlantic Striped Bass					Update		Update
Atlantic Sturgeon							x
Black Drum					ASMFC		
Black Sea Bass	Operational*			Management	SARC - Fall	Management	
Bluefish	Operational*			Management	SARC - Fall	Management	
Coastal Sharks		SEDAR			SEDAR		
Cobia	SEDAR						
Horseshoe Crab	ASMFC			ASMFC (ARM)			Update
Jonah Crab						Management	
Northern Shrimp				Update		Update	
Red Drum					ASMFC		SEDAR
River Herring						ASMFC	
Scup	Operational*			Management		Management	
Spanish Mackerel					Operational		
Spiny Dogfish					SARC - Spring		
Spot							x
Spotted Seatrout							
Summer Flounder				Management		Management	
Tautog				Update			
Weakfish	Update						
Winter Flounder		Management			Management		Management

	SEDAR
	ASMFC
	Fall SARC
	Spring SARC
	x = trigger date/ potential review
	Completed



**Report to the Atlantic States Marine Fisheries  
Commission**

**ISFMP Policy Board**

**August 5<sup>th</sup>, 2021**

# Steering Committee Meeting



- Met virtually June 29-30<sup>th</sup>
  - Discussed National Fish Habitat Conservation through Partnerships Act
  - Update on current on-the-ground projects
  - Progress on development strategy
  - Approved 2021 Melissa Laser award recipient
  - Welcomed Restore America's Estuaries as newest ACFHP partner



# FY2021 NFHAP-USFWS On the Ground Conservation Funding



- Funding three on-the-ground projects plus operational support
- Level 3 funding – highest amount of funding available to a Fish Habitat Partnership

# FY2021 NFHAP-USFWS On the Ground Conservation Funding



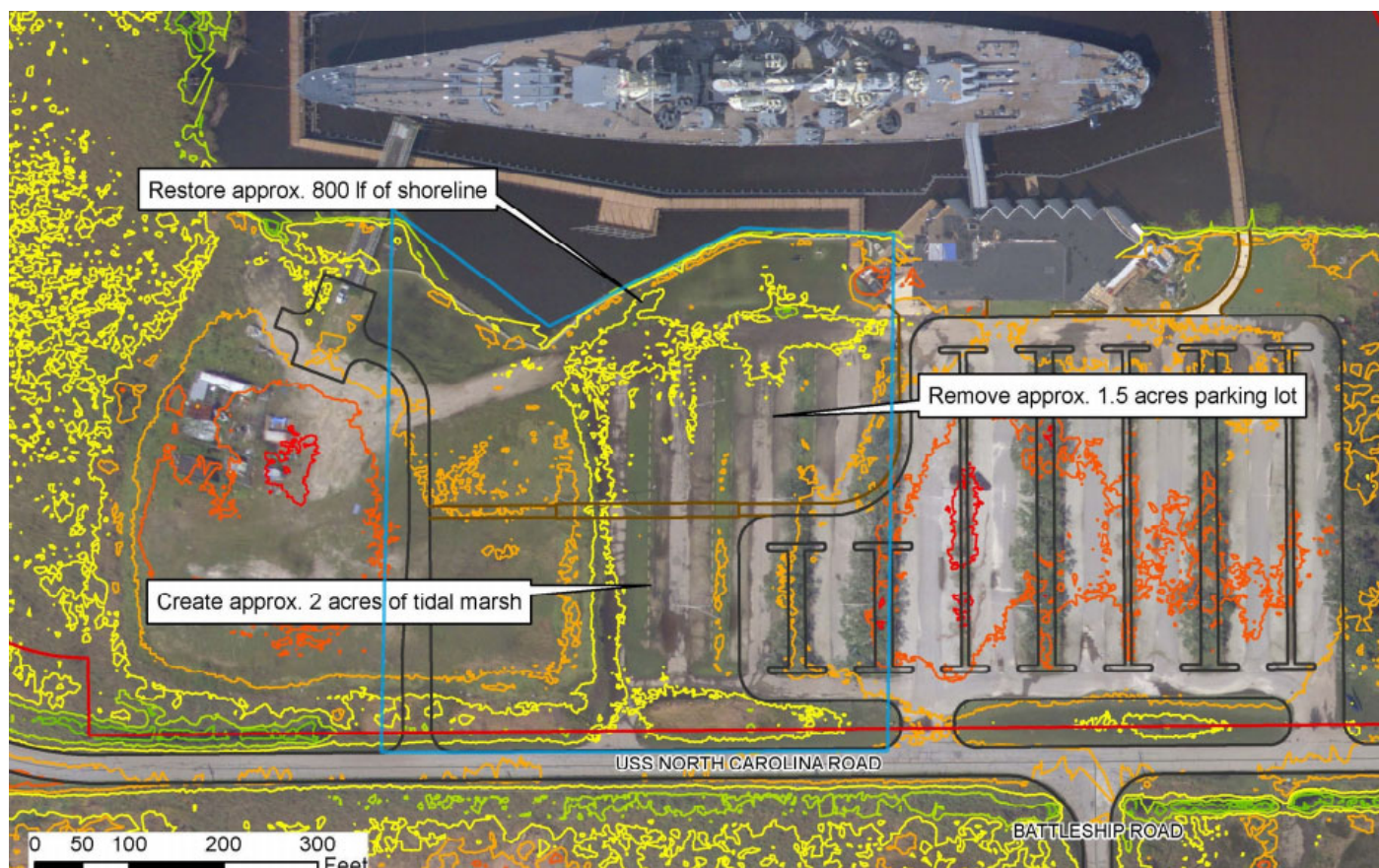
## Living with Water – USS Battleship NC Habitat Restoration

- Cape Fear River, Wilmington, NC
- Receiving \$50K; total costs: \$3 million
- Led by Battleship NC
- Connect hydrologic function and services to Cape Fear River
- Restore 800 linear ft of intertidal shoreline
- Establish 2 acres of tidal wetland

# FY2021 NFHAP-USFWS On the Ground Conservation Funding



## Living with Water – USS Battleship NC Habitat Restoration



# FY2021 NFHAP-USFWS On the Ground Conservation Funding



## Armstrong Dam Removal

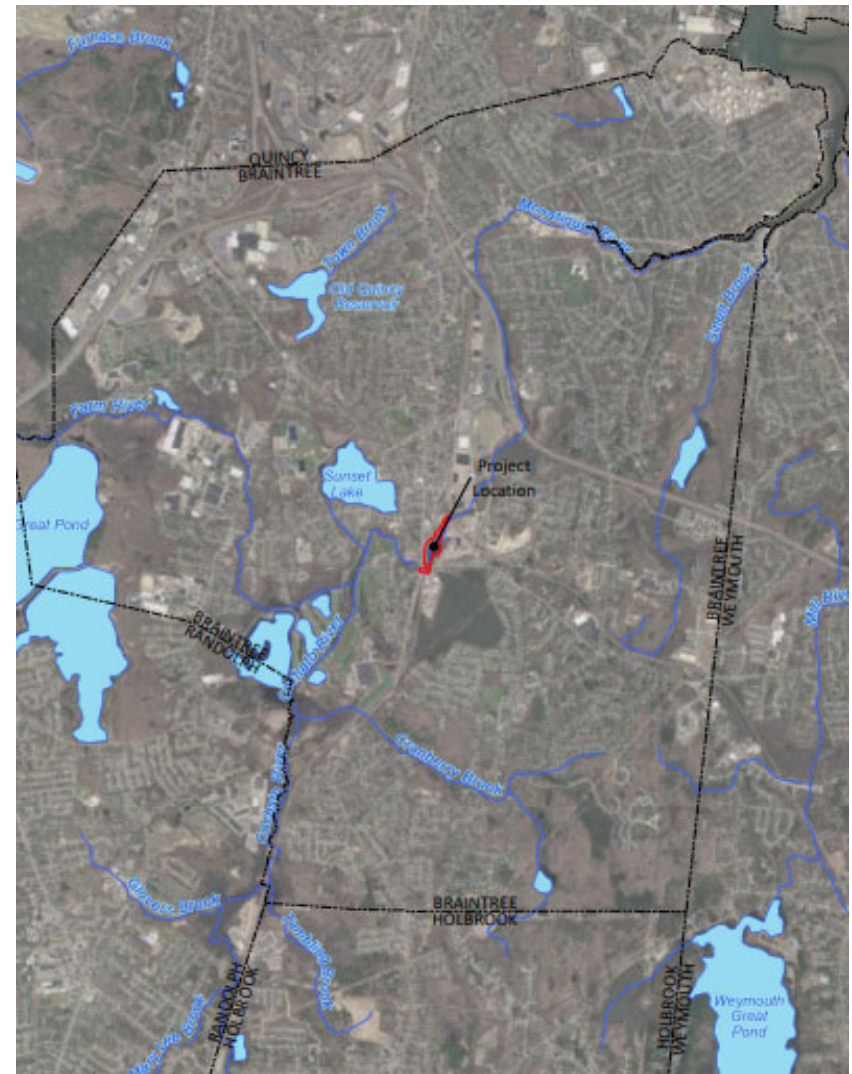
- Monatiquot River, Braintree, MA
- Receiving \$50K; total costs: \$3.34 million
- Led by Town of Braintree
- Restore 36 miles of upstream access for river herring and American eel
- Part of multi-barrier removal on the river



# FY2021 NFHAP-USFWS On the Ground Conservation Funding



## Armstrong Dam Removal



# FY2021 NFHAP-USFWS On the Ground Conservation Funding



## Ecological Restoration of 39 Salt Marsh Acres at Great Meadows Marsh

- Stewart B. McKinney NWR, Stratford, CT
- Receiving \$47,333; total costs: \$1.57 million
- Led by Audubon Connecticut
- Removal of invasive plants and dredged fill soils to restore marsh elevation
- Reconnection of a pond to tidal channel
- Removal of two defunct culverts



# FY2021 NFHAP-USFWS On the Ground Conservation Funding



## Great Meadows Marsh



# Increasing Recreational Fisheries Engagement through the FHPs (NOAA)



## Bill Burton Pier

- Cambridge, MD
- Receiving \$65,968
- Led by CCA Maryland
- Improve outreach (in Spanish and English) about the 350 reef balls under the pier
  - Live cam
  - Reef ball building activities
  - Video about the project
  - signage

# Increasing Recreational Fisheries Engagement through the FHPs (NOAA)



## Bill Burton Pier



Coordinates:



# Project Endorsement



- Endorsed four projects since last update
- Two are proposed, led by universities
- Two on-the-ground

# Project Endorsement



- Carysfort Estuarine & Rockland Hammock Restoration
  - Key Largo
  - Led by FL DEP and Dagny Johnson
  - Key Largo Hammock Botanical State Park
  - Restores over 2 acres mangrove, tidal flat, rockland hammock

# Project Endorsement



- Cape Sable Coastal Wetland Restoration
  - Everglades, FL
  - Led by FL FWC
  - Restores 50,000 acres salt marsh, mangroves, loose fine sediment





**ACFHP would like to  
thank ASMFC for your  
continued operational  
support**



# Habitat Committee Report

Presented to ASMFC Policy Board

August 5<sup>th</sup>, 2021

# Habitat Committee Meeting



- Met virtually June 24<sup>th</sup>
- Updates on documents in progress: Acoustic Impacts, Habitat Hotline
  - Habitat Hotline: Coastal Fish Habitats as Climate Change Buffers
- Continued working on Fish Habitats of Concern
- Discussion on dredge windows elimination proposal in USACE Savannah District: draft letter in process

# Updates to HC Membership



- New members: Alexa Fournier (NY), David Dippold (PA), Randy Owen (VMRC)



# Artificial Reef Committee Report

Presented to ASMFC Policy Board

August 5<sup>th</sup>, 2021

# AR Profiles of State Programs



- Released an update to the *ASMFC Profiles of State Artificial Reef Programs and Projects* (1988) in July: highlights some of the accomplishments over the last 30(+) years
- Summarizes number of permitted sites, mitigation reefs, and avg. annual budget along coast
- Has information for each state with an artificial reef program
- Available on ASMFC website







**As always, we welcome suggestions for action items you would like the Habitat and Artificial Reef committees to work on.**

**Questions?**