Draft *De Minimis* White Paper

August 2022

De minimis Guiding Documents

- *Definition: De minimis – A situation in which, under existing conditions of the stock and the scope of the fishery, conservation and enforcement actions taken by an individual state would be expected to contribute insignificantly to a coastwide conservation program required by an FMP or amendment.*

- *FMP Provisions: … and provided that each fishery management plan shall address the extent to which States meeting de minimis criteria may be exempted from specific management requirements of the fishery management plan to the extent that action by the particular States to implement and enforce the plan is not necessary for attainment of the fishery management plan's objectives and the conservation of the fishery.*

Draft Policy

- Draft Policy outlines a set standards for all species FMPs
- Species Boards could deviate from the standards to address unique characteristics of a fishery
  - Must provide a rational
- Federal FMPs do not recognize *de minimis,* any measure implemented in a Commission FMP for a jointly managed species could result in inconsistent measures between state and federal waters

Minimum Standards

- Each FMP will establish a set of minimum standards for *de minimis* states
  - provide minimum level of conservation
  - prevent regulatory loop holes

- Measures would be for the commercial and recreational fishery, can be the same or specific for each

Fishery Designation

- How to apply *de minimis* to the commercial and recreational fishery

- Option 1: Each species board will review the provisions to determine how *de minimis* is considered (com/rec together/separate/just one)
- ***Option 2: Provision is separate for com and rec or for just one***
- Option 3: Provision is with the com and rec combined

Thresholds

- Thresholds will be based on the average landings from the previous X years of landings
  - Option 1: two years
  - ***Option 2: three years***
- A state is de minimis if the average landings is Y% of the coastwide landings
  - Option 1: task the species boards TC's to determine an appropriate level that would have a negligible effect on the conservation
  - ***Option 2: less than 1%***
  - Option 3. less than 0.5%

Sampling Requirements

- *De minimis* states can be exempt from sampling requirements
  - Biological samples for outer edge states may be important for stock assessments
  - Biological samples for data poor stock assessments may be important
- Species boards shall have the stock assessment subcommittee or TC review sampling requirements for *de minimis* states to determine the appropriate level, if any

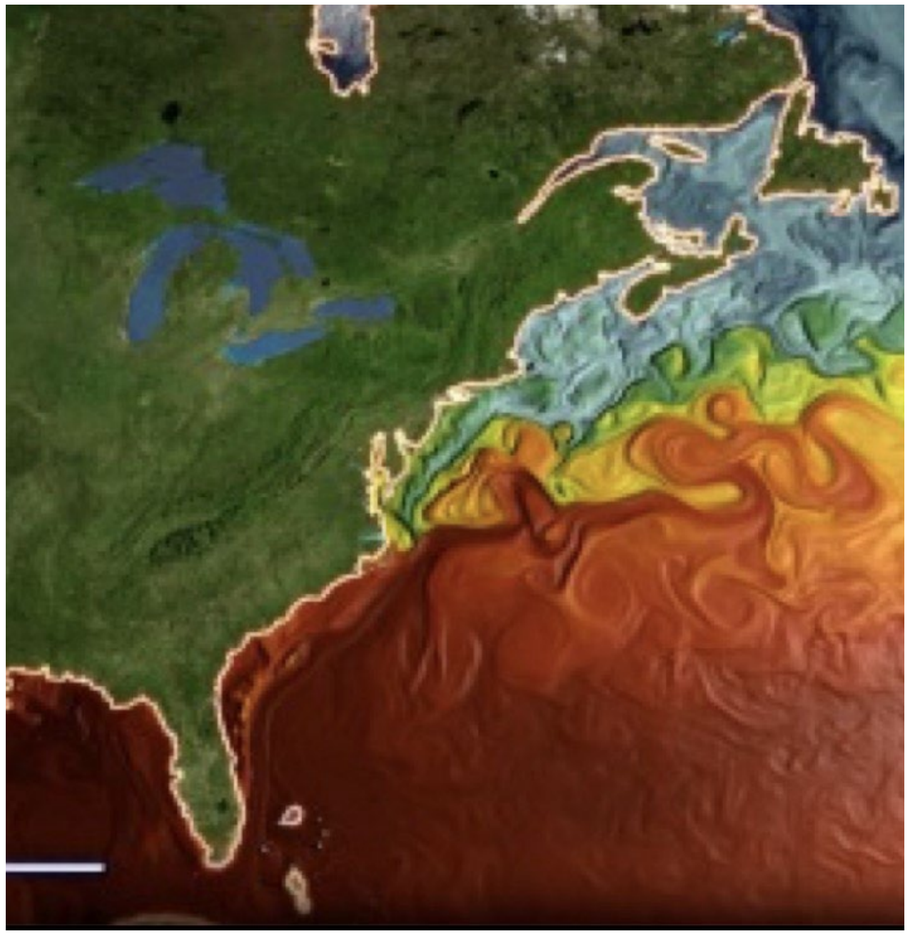
EAST COAST CLIMATE CHANGE SCENARIO PLANNING

Draft Scenarios v1.0
August 3, 2022

Initiative Objectives

1. Explore how East Coast fishery governance and management issues will be affected by climate driven change in fisheries, particularly changing stock availability and distributions.

2. Advance a set of tools and processes that provide flexible and robust fishery management strategies, which continue to promote fishery conservation and resilient fishing communities, and address uncertainty in an era of climate change.



East Coast Scenario Planning Initiative Timeline

Steps in this Multi-Year Initiative

Orientation: establish draft objectives, expected outcomes and project focus

Fall 2020 – Summer 2021

Scoping: reach out to stakeholders to gather input on forces of change that could affect fisheries over the next 20 years

Summer – Fall 2021

Exploration: analyze forces driving change in greater detail

Winter 2022

Creation: conduct work-shop sessions to construct and discuss scenarios

Summer 2022

Application: use scenarios to identify actions and recommen-dations

Fall 2022-Winter 2023

Monitoring: identify key indicators to monitor change and outline next steps

Application: New Steps

Scenario Deepening Webinars: August 2022

- Two 2-hour webinars will be held on the following dates:
  - **Wednesday, August 17, 3-5 pm**
  - **Tuesday, August 23, 10 am-12 pm**

Applications Phase Fishery Manager Brainstorming Working Groups: September 2022 (new)

- Purpose: Identify the issues, ideas, and options that should be discussed at scenario planning conversations at Council & Commission fall

Summit Meeting: Tentatively February 2023

The summit meeting will discuss input from management body sessions, with the goal of developing a final set of governance, management, and monitoring recommendations from the scenario planning process

Scenario Framework Construction

The scenario framework is constructed by combining two "critical uncertainties" – important factors that are likely to shape the future but could develop in unpredictable ways.

1. What happens to stock production / species productivity as climate change continues out to 2040? Does it result in declining productivity (alongside worsening habitat, and low rates of species replacement), or is productivity mostly maintained (with adequate habitat and sufficient levels of species replacement)?

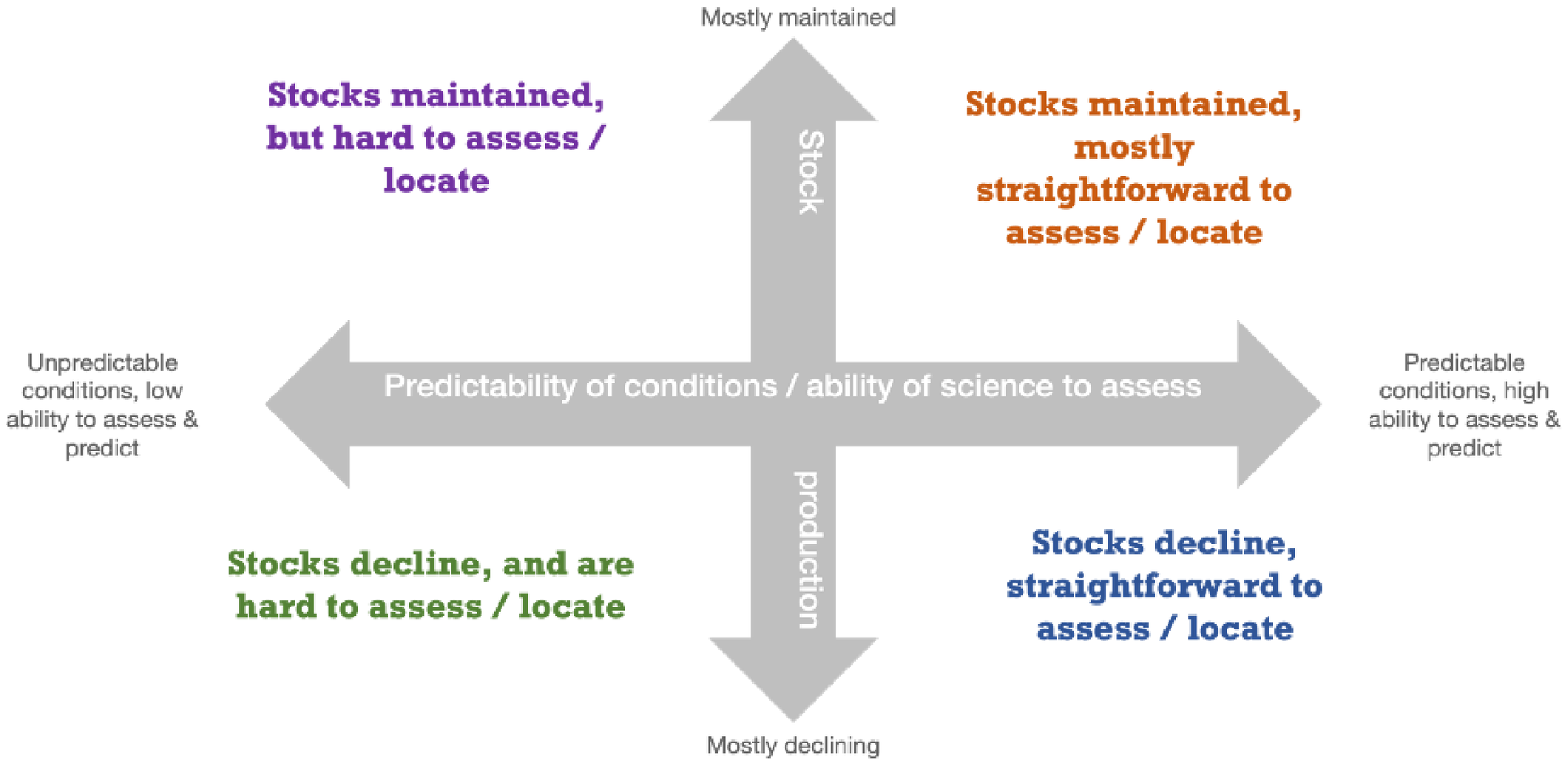
Scenario Framework Construction

The scenario framework is constructed by combining two "critical uncertainties" – important factors that are likely to shape the future but could develop in unpredictable ways.

2. How unpredictable are ocean conditions, and how well is science able to assess and predict stock levels and locations by 2040? Do conditions become far more unpredictable, where existing science is clearly unable to provide much useful information, or are conditions sufficiently predictable to allow science to provide mostly accurate information about stocks and location?

Scenario Framework: East Coast Fisheries in 2040

Combining the uncertainties results in a matrix that creates four different stories of the future

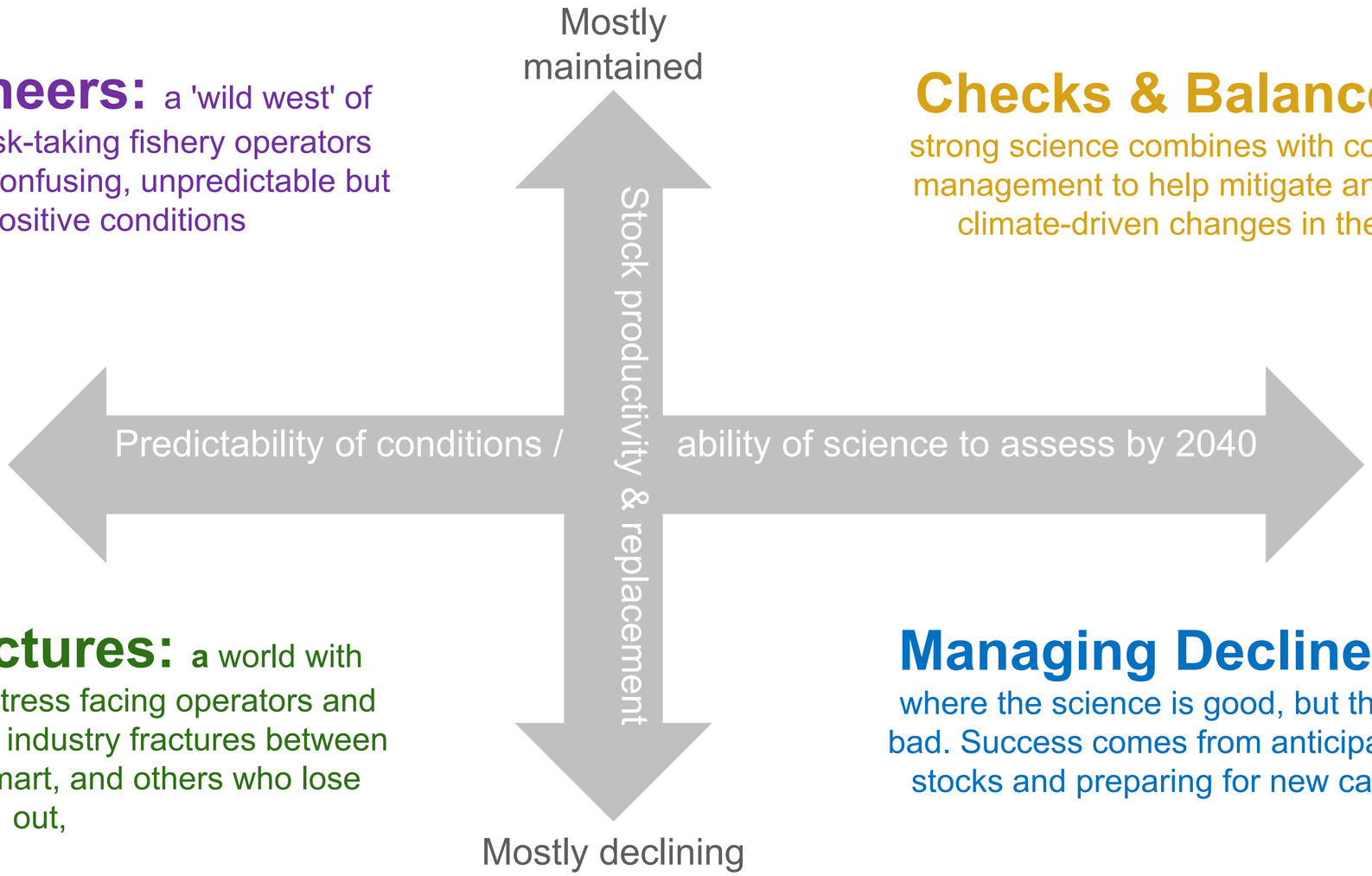


Scenario Framework: East Coast Fisheries in 2040

Following the Scenario Creation Workshop, more details have been added to each of the scenarios

Ocean Pioneers: a 'wild west' of new ocean users, risk-taking fishery operators taking advantage of confusing, unpredictable but ultimately positive conditions

Checks & Balance: where strong science combines with collaborative management to help mitigate and adapt to climate-driven changes in the ocean



Stress Fractures: a world with multiple sources of stress facing operators and managers, where the industry fractures between some who play it smart, and others who lose out,

Managing Decline: a world where the science is good, but the news is bad. Success comes from anticipating lower stocks and preparing for new catch limits

Scenario Framework

Scenario Deepening:

- Are these scenarios plausible in 2040?
- How can we make them more relevant for management?
- What to add to create more memorable stories?
- Ensuring the scenarios are different from each other

Applying the Scenarios:

- What are the specific challenges facing management in each scenario?
- What new approaches to governance will be needed in each scenario?
- What management / governance ideas make sense to pursue no matter which scenario might occur?

Climate, Ecosystem, and Fisheries Initiative

Building the Decision Support System Needed for Climate -Resilient Fisheries, Ecosystems and Coastal Communities

Climate models to science advice to decision makers

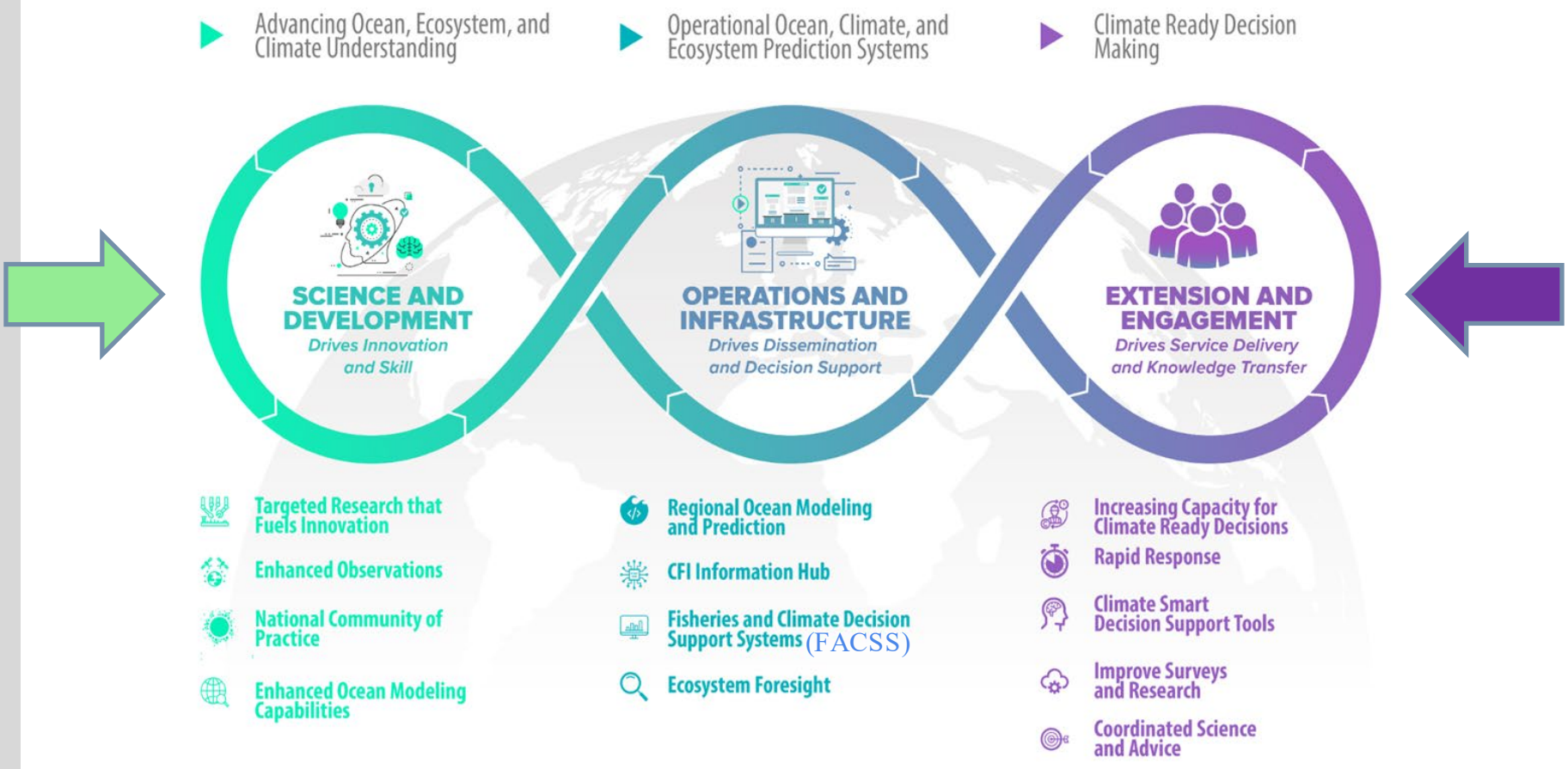
What is the NOAA Climate, Ecosystems, and Fisheries Initiative?

WHAT: ***A cross-NOAA effort to provide climate-informed advice*** to reduce risks and increase resilience of marine resources and the many people and businesses that depend on them.

HOW: ***Build an end-to-end ocean decision support system*** using expertise across NOAA and management partners to provide robust predictions, forecasts, and projection of future marine ecosystems, including human dimensions

USERS: ***Inform existing management pathways*** including Marine Fisheries Commissions, Regional Offices, Fishery Management Councils, Marine Sanctuaries, among others

CEFI Ocean Modeling & Decision Support System



https://www.fisheries.noaa.gov/topic/climate-change#noaa-climate-and-fisheries-initiative

Regional ocean prediction capacity from seasons to centuries built from OAR's Modular Ocean Model 6 (MOM6)

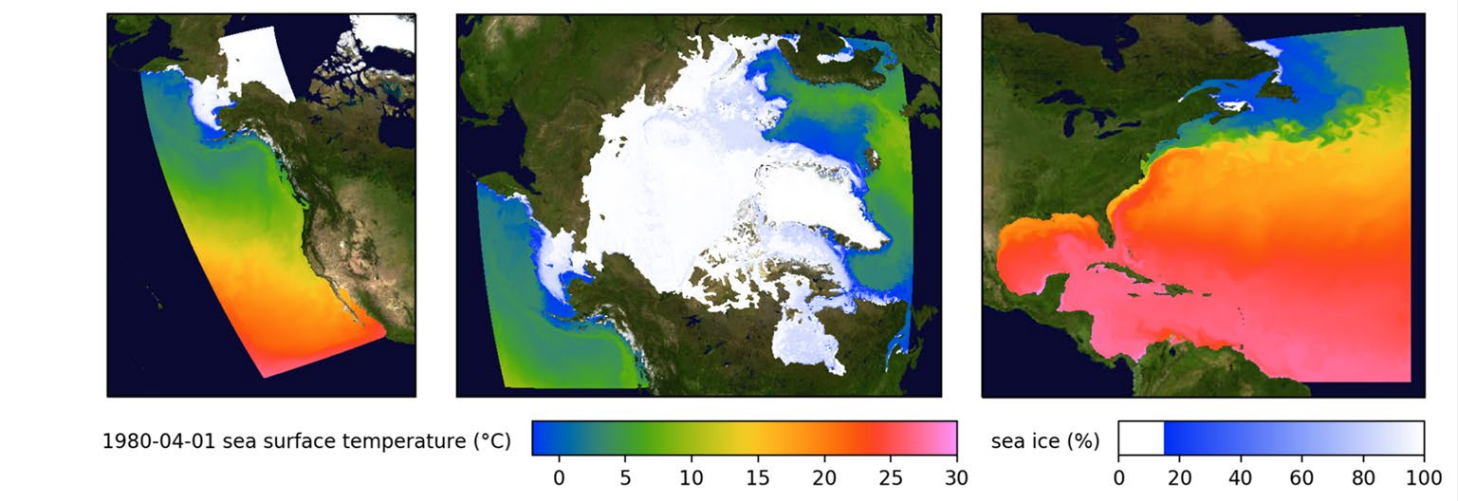


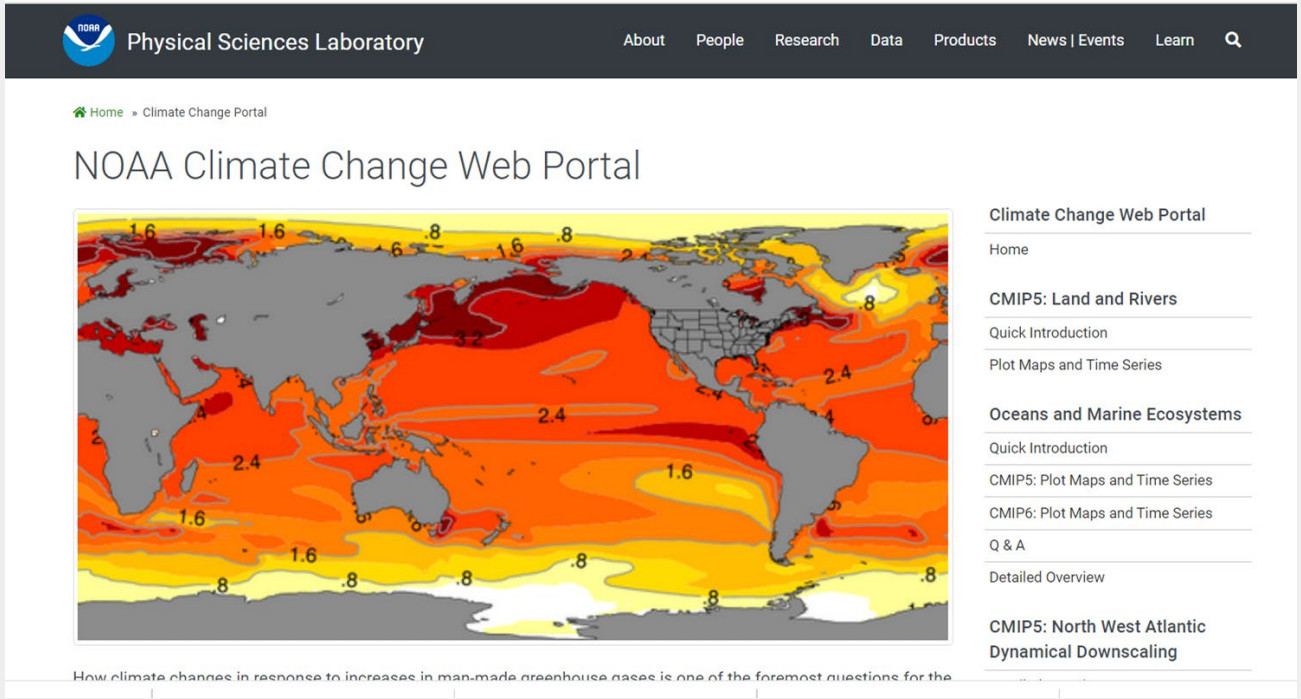
Figure from Andrew Ross (NOAA/GFDL)

Prototype MOM6 coast-wide domains for seasons to decades **(Great Lakes, Pacific Islands in progress)**

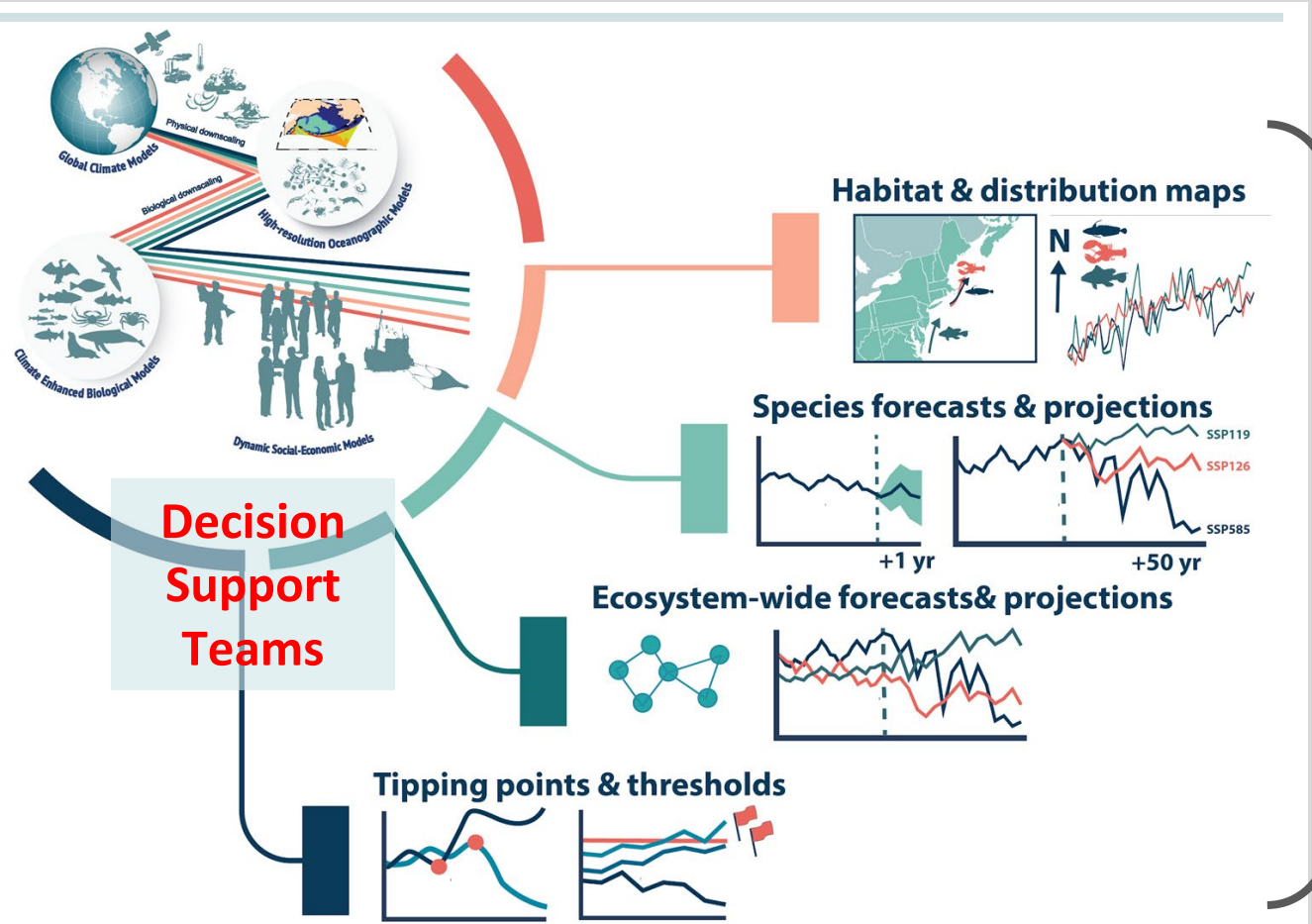
- Regional Ocean Modeling Teams customize products for NMFS/LMR uses
- NOAA High Performance Computing powers predictions spanning the range of ocean futures
- Robust dissemination through CEFI Information Hub & national data standards

https://www.gfdl.noaa.gov/improving-ocean-habitat-forecasts-for-the-northeast-u-s/

Continuing development of NOAA Climate Change Web Portal to provide the regional ocean model output

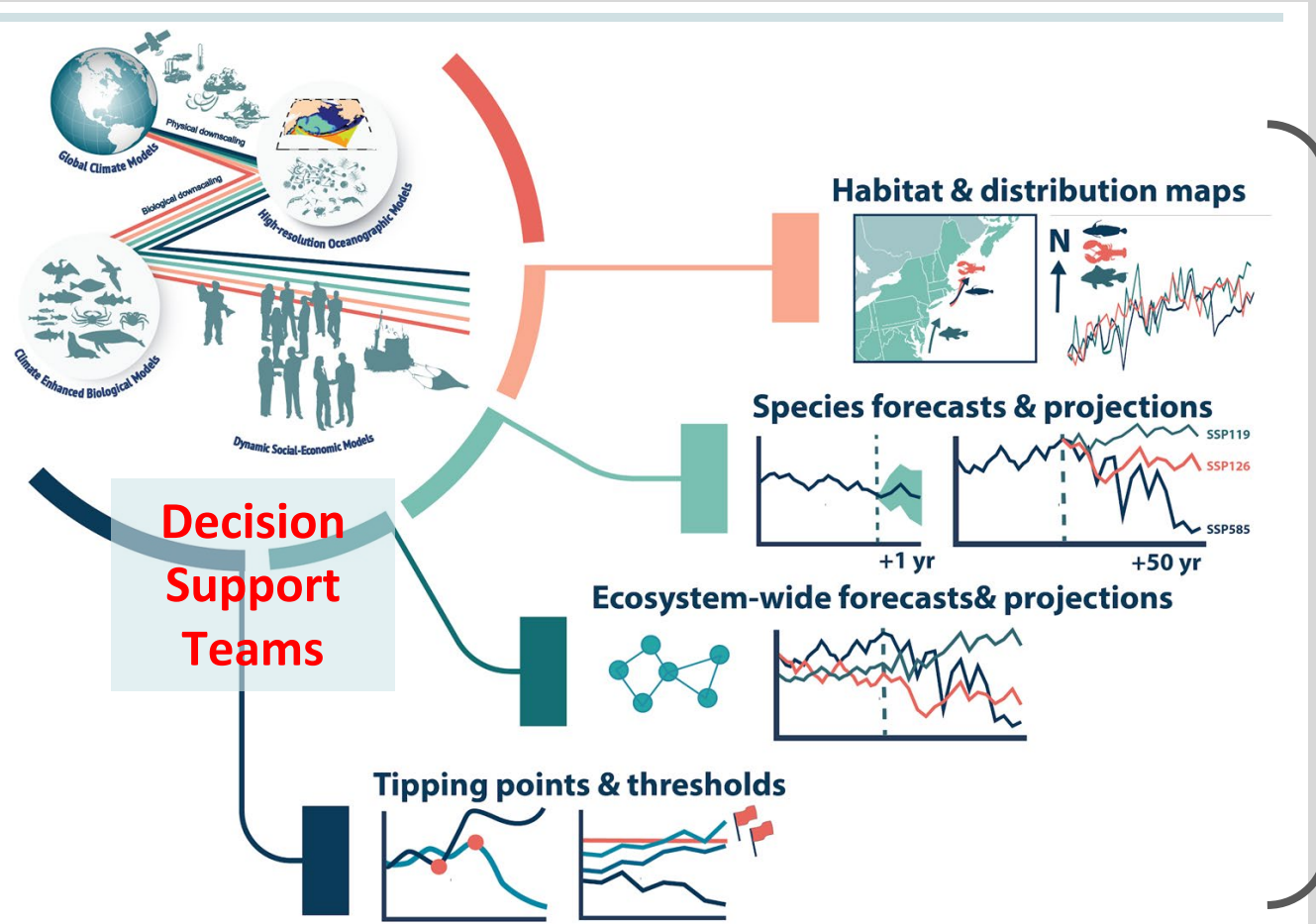


Decision-Support Teams *Enable* Climate-Informed Management



- Scenario planning
- Risk Assessments
- Rapid Responses
- Consultations
- Management Strategies
- Rebuilding & Recovery Plans

Decision-Support Teams *Enable* Climate-Informed Management



- **Scenario planning**
- **Risk Assessments**
- **Rapid Responses**
- **Consultations**
- **Management Strategies**
- **Rebuilding & Recovery Plans**

Current Status

- Strong support from NOAA Science Advisory Board
- Requesting $20 M in NOAA FY23 budget request ($10M each NMFS, OAR)
- Continuing the CEFI pilot projects in the Northeast, West Coast, Gulf of Alaska, and Bering Sea
- Engaging NOS in CEFI planning and planning engagements with external partners including managers
- Updating build-out plans for FY23-26
- Initial steps in CEFI will define additional observational and research activities needed to improve decision support

Thank you

"Effective forecasting will also require changes in scientific training, culture, and institutions. The need to start forecasting is now; the time for making ecology more predictive is here, and learning by doing is the fastest route to drive the science forward."

Dietze, M.C., et al. (2018) Iterative near-term ecological forecasting: Needs, opportunities, and challenges. *Proceedings of the National Academy of Sciences* 115(7): 1424-1432. https://doi.org/10.1073/pnas.1710231115

Risk & Uncertainty Policy Update

Report to the ISFMP Policy Board

ASMFC Summer Meeting 2022

Overview

- R&U Background
- Tautog Pilot Case Update
- Policy Board Input:
  - Next Steps: should we conduct another pilot case or move forward with finalizing and approving the R&U Policy?
  - Should we consider developing a data-poor version?
  - Should the Policy only apply to species managed solely by ASMFC?
  - Should the R&U process be required when relevant management actions are expected?

R&U Policy Overview

- The draft Risk and Uncertainty Policy & Decision Tool provides a method for arriving at the appropriate **risk tolerance** level for a stock, given management priorities and characteristics of the species and fishery
  - This risk tolerance level can then be used to select a harvest level based on projections
  - It is ***not*** a tool for assessing the varying risk levels of different management approaches, this could be done using other tools such as an MSE

R&U Decision Tool Overview

Technical inputs characterize factors relevant to R&U for a fishery:

- Stock status
- Model uncertainty
- Management uncertainty
- Environmental uncertainty
- Ecosystem importance
- Socioeconomic considerations

Technical Inputs x **Weightings**

Weightings are based on how important each technical input is to risk decision-making for managers

Decision Tool

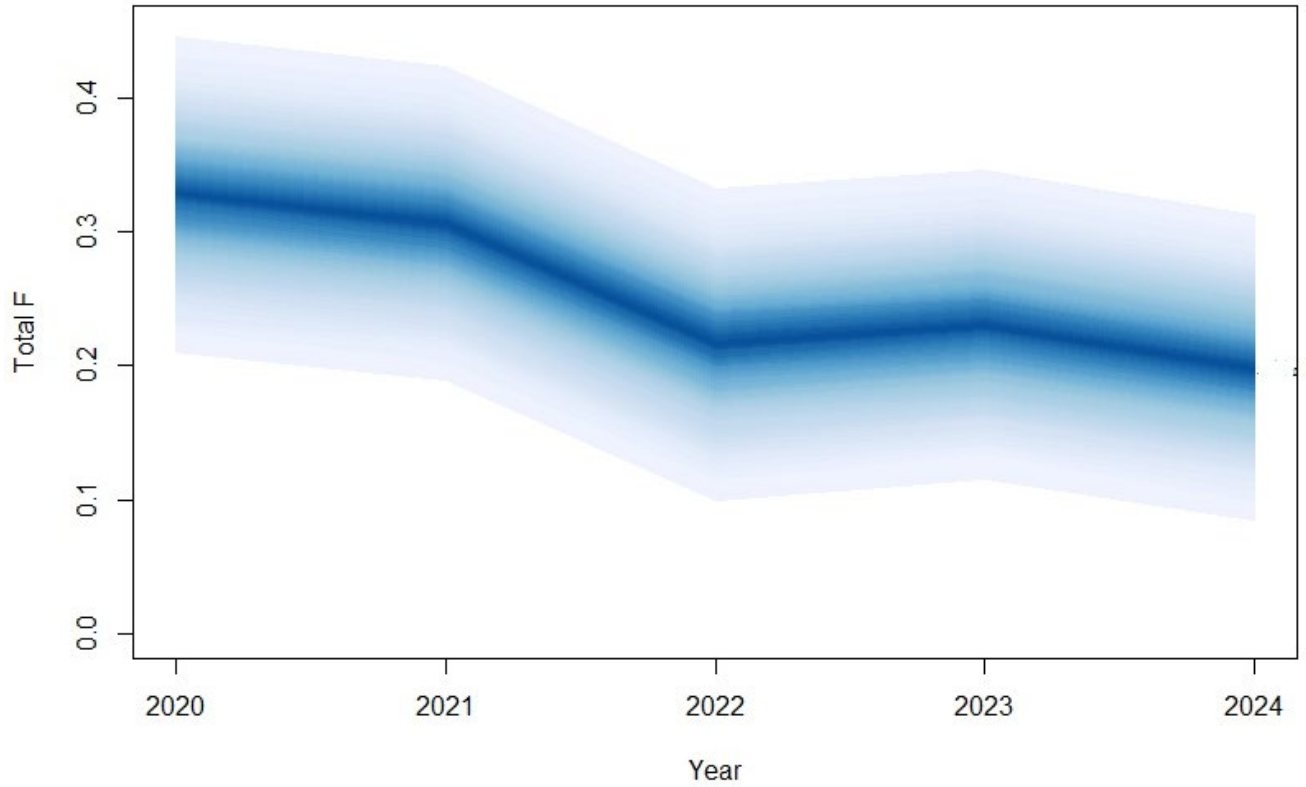
Risk Tolerance Level

Risk tolerance level = **goal probability of achieving the reference points**

This probability will be used with projections to ID a harvest level

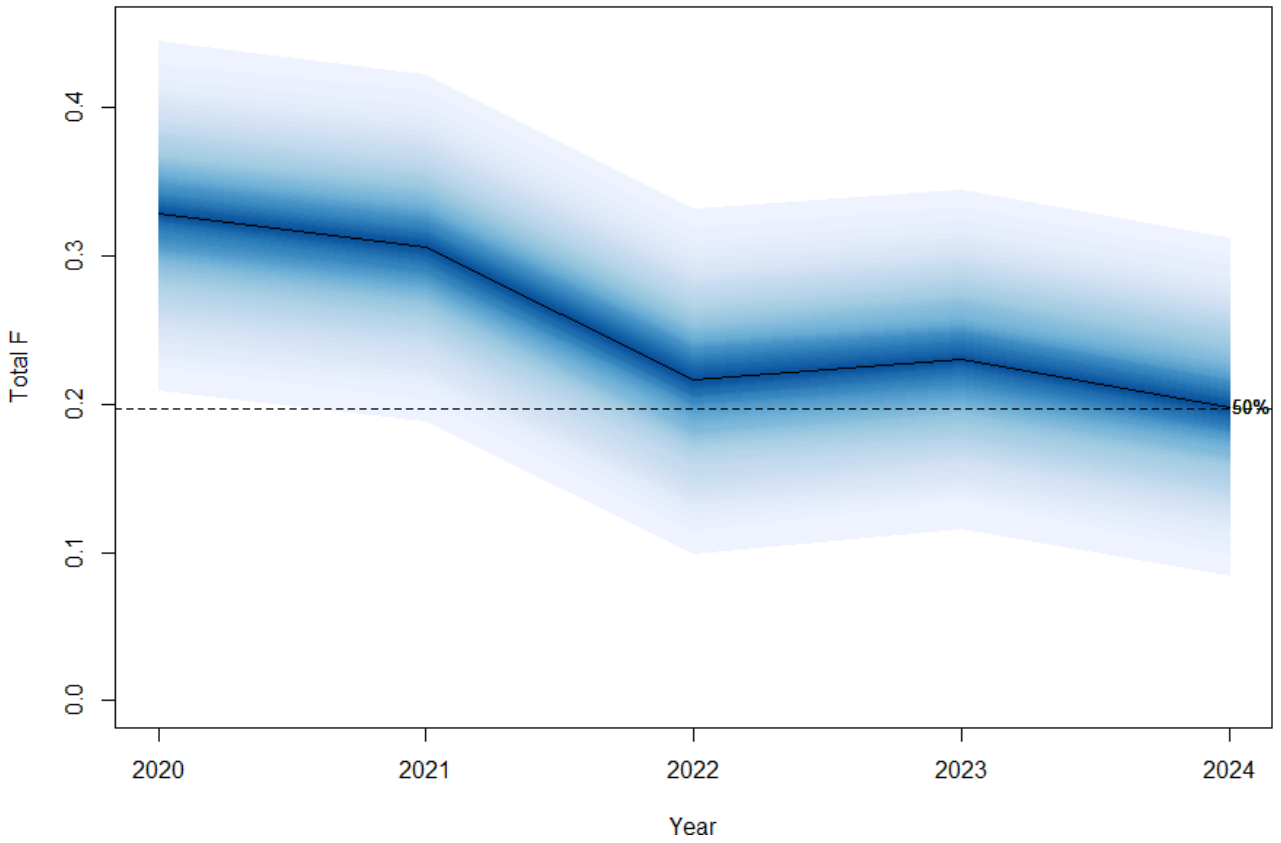
Probability Illustration

- Stock assessment projections take into account uncertainty: conduct 1,000 runs with different starting abundance, recruitment, etc. which gives you a range of projected F values in the terminal year



Probability Illustration

- What is better, a higher or lower probability?
  - In the case of F, the higher the probability you set, the more conservative your management will be



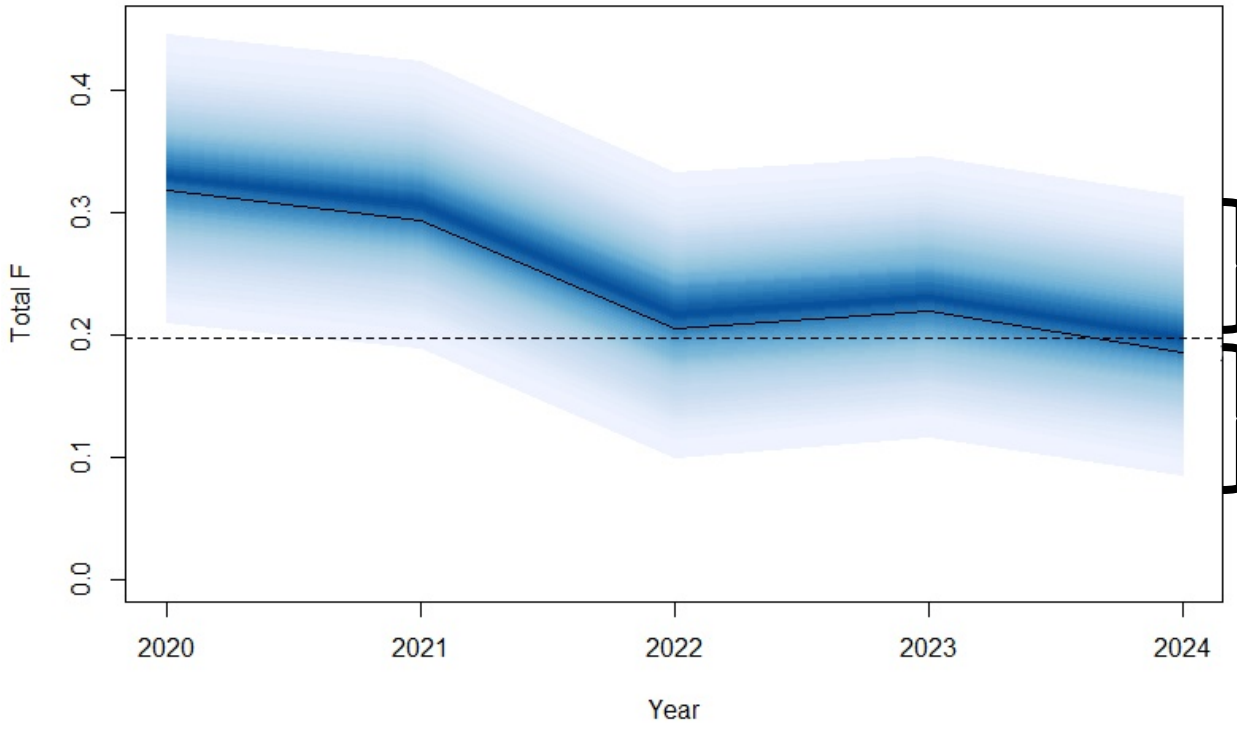
50% Probability:

Half of projections are above *F* target

Half are below *F* target

Probability Illustration

- What is better, a higher or lower probability?
  - In the case of F, the higher the probability you set, the more conservative your management will be



60% Probability:

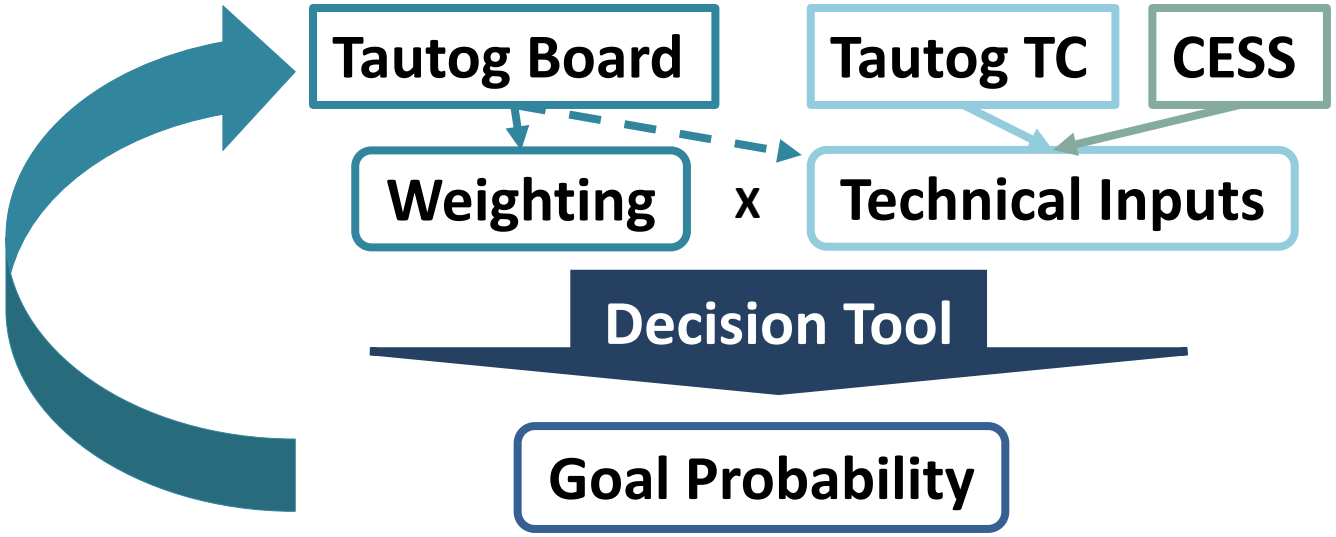
(harvest level for 60% prob. < harvest level for 50%)

40% of projections are above *F* target

60% are below *F* target

Tautog Pilot Case

- Tautog was selected as a pilot case for the policy
  - Four regional tautog decisions were developed (MARI, LIS, NY-NJB, DelMarVA), with input from the Tautog Board, TC, and CESS



R&U Process for Tautog

Phase 1: Developing the Decision Tool		
Technical Inputs: Stock Status, Model Uncertainty, Mgmt. Uncertainty, Envir. Uncertainty, Ecosystem Importance	TC	☑ **Completed**
Technical Input: Socioeconomic Importance	CESS	☑ **Completed**
Weightings	Tautog Board	☑ **Completed**
Review Decision Tool	Tautog Board	☑ **Fall Meeting**
**** Phase 2 is triggered by initiating a management action****		
Phase 2: Using the Decision Tool		
Produce preliminary probability (without socioeconomic component)	TC	
Technical Input: Management Effect	CESS	
Produce recommended probability	TC/ CESS	
Review & approve probability	Tautog Board	

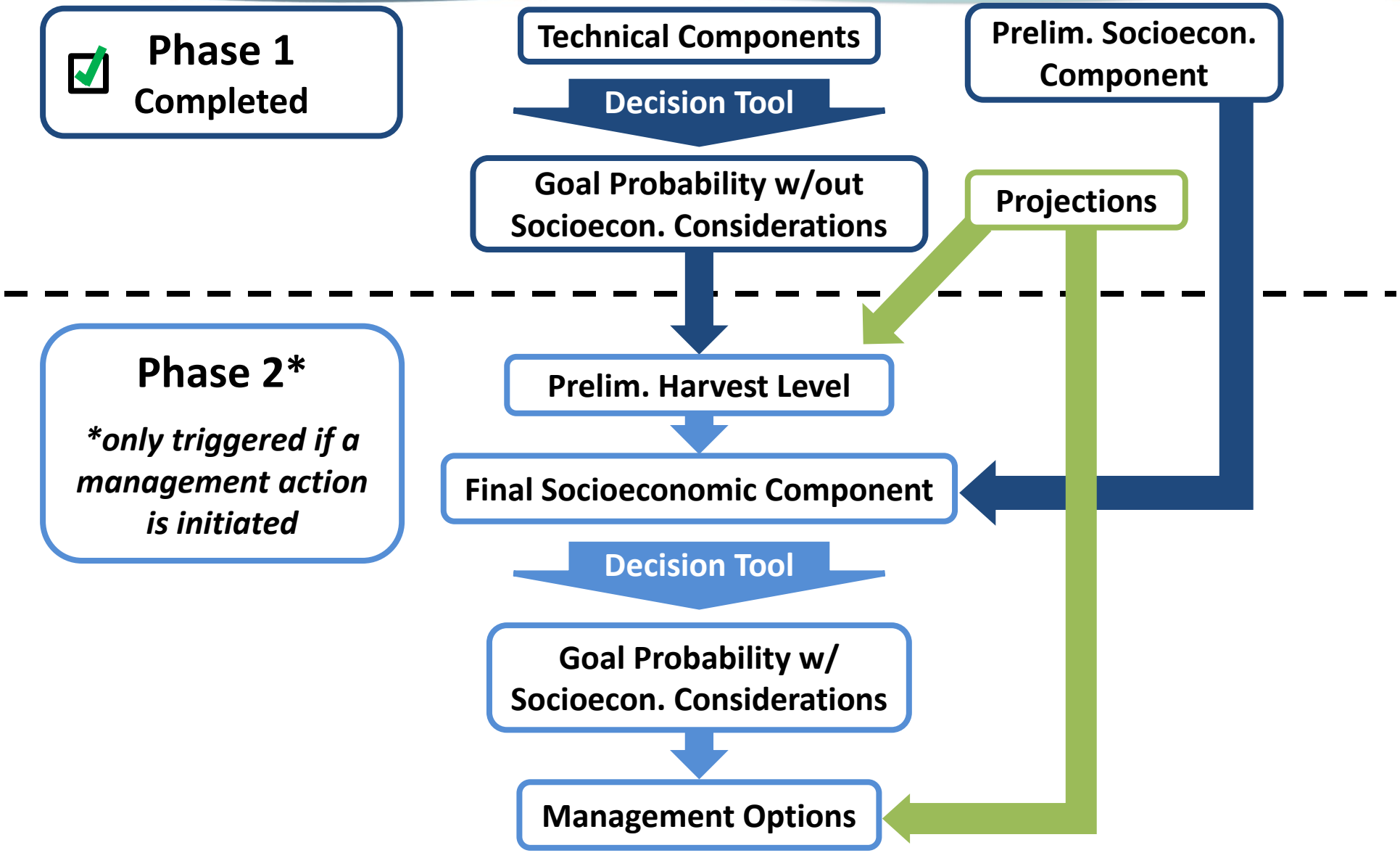
Tautog Pilot Case

- The Tautog Board reviewed the four tautog decision tools and the preliminary Risk & Uncertainty Report at the 2021 Fall Meeting
- However, the Tautog Board did not initiate a management action at the 2021 Fall Meeting

  → as a result Phase 2 of the process was not initiated

  – To illustrate how the tools *could* have been used and improved understanding of the tools, hypothetical scenarios were developed

R&U Process


Phase 1
Completed
Technical Components
Decision Tool
Goal Probability w/out Socioecon. Considerations
Prelim. Socioecon. Component
Projections
Phase 2*
*only triggered if a management action is initiated
Prelim. Harvest Level
Final Socioeconomic Component
Decision Tool
Goal Probability w/ Socioecon. Considerations
Management Options

Tautog Pilot Process

Phase 1 Completed

Technical Components

Decision Tool

Goal Probability w/out Socioecon. Considerations

Prelim. Socioecon. Component

Hypothetical Scenarios*

***used instead of actual harvest levels** (What if there was no difference? 5-10% difference)

Hypothetical Scenarios*

Final Socioeconomic Component

Decision Tool

Example Goal Probabilities w/ Socioecon. Considerations

Goal Probabilities

- Tautog goal probabilities without socioeconomic considerations:
  - includes everything except the socioeconomic component (stock status, model/management/environmental uncertainty, and ecosystem importance components)

MARI	LIS	NJ-NYB	DelMarVa
54%	59%	61%	56%

- For reference, Amendment 1: min. 50% of *F* target

Hypothetical Scenarios

- Hypothetical differences between preliminary harvest level and status quo harvest level:
  - No difference
  - 5-10% difference
- Alternate weightings for the socioeconomic components were also included in the scenarios, to further illustrate the potential effects of different harvest levels
  - With the current weightings & scores the short-term (ST) and long-term (LT) socioeconomic components cancel each other out, so these scenarios demonstrate how a Board might weigh ST & LT tradeoffs differently

Hypothetical Scenarios

Scenario	Socioecon. Weightings				Goal Probabilities (w/ socioecon.)			
	Comm.		Rec.					
	ST	LT	ST	LT	MARI	LIS	NJ-NYB	DelMarVa
Scenario 1: No change to harvest level								
1: Any weightings	*	*	*	*	54%	59%	61%	56%
Scenario 2: 5-10% change to harvest level								
2a: No change to weightings	0.09	0.09	0.1	0.1	54%	59%	61%	56%
2b: ST most important (5); LT least important (1)	0.16	0.03	0.16	0.03	52%	56%	59%	54%
2c: ST most important w/ extra high weighting (10); LT least (1)	0.25	0.03	0.25	0.03	50%	55%	57%	52%
2d: ST least important (1); LT most (5)	0.03	0.16	0.03	0.16	56%	61%	63%	58%
2e: ST least important (1), LT most w/ extra high weighting (10)	0.03	0.25	0.03	0.25	58%	62%	65%	60%

Questions?

Policy Board Input: Next Steps

- **What should the next step for the R&U Policy be?**
  - **Option 1:** Conduct another test pilot (Tautog Board's recommendation)
    - Candidate species: tautog (update 2024), red drum (benchmark 2024), cobia (benchmark 2025)*
  - **Option 2:** Move forward with finalizing & approving the policy
    - Note: the Policy allows for flexibility/adaptation
    - Candidate species would be the same as option 1*
- ***Should we develop & test a process for data poor species in the interim?**

Policy Board Input: Policy

- **Would the Policy only apply to species that are solely managed by ASMFC?**

- **Should the Policy require ASMFC to conduct the process when a relevant management action is expected?**
  - Note: current iteration is only applicable to data rich, quota-managed species

Northeast Area Monitoring and Assessment Program (NEAMAP)

Nicole Lengyel Costa (RI DEM, Chair)

ISFMP Policy Board

August 4, 2022

Outline

- Overview
  - What is NEAMAP?
  - NEAMAP Partners
  - Data Uses
- Mission and Goals
- The NEAMAP Name
- Survey Criteria Working Group
- NEAMAP Survey Definition
- Next steps

What is NEAMAP?

NEAMAP is a cooperative state/federal program facilitating fishery-independent data collection, analysis & dissemination in the Northeast area (Maine – North Carolina).

Current NEAMAP Surveys:

- Southern New England/Mid-Atlantic Nearshore Trawl Survey (VIMS)
- Maine-New Hampshire Inshore Trawl Survey
- Massachusetts Division of Marine Fisheries Bottom Trawl Survey

What is NEAMAP?

NEAMAP Partners

- State marine fishery agencies from ME to NC + DC
- ASMFC, PRFC, NEFSC, NEFMC, MAFMC, USFWS

SEAMAP Collaboration

- Programmatic and process advice
- Collaboration on technical workshops (vessel calibration) and sampling protocols (e-data capture)



NEAMAP Partners

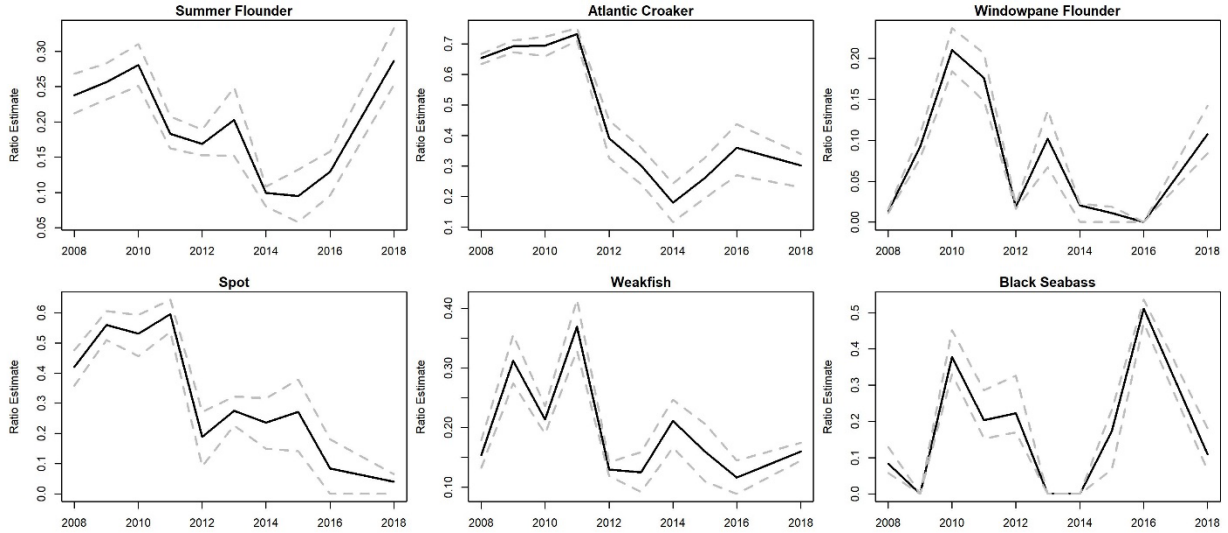
New England
Fishery Management
Council

NEAMAP Data Uses

- Data use in stock assessments:
  - Indices of abundance used in models
  - Fecundity
  - Length-weight relationships
  - Size or age composition outside the fishery
  - Stock structure in areas where the fishery doesn't operate
  - Evaluating shifts in stock distributions

NEAMAP Data Uses

- ME/NH: lobster, shrimp, herring, groundfish
- Mass: black sea bass, scup, cod, lobster, summer and winter flounders
- SNE/MA: summer and winter flounders, black sea bass, spot, croaker, weakfish, river herring, lobster



Coastal ocean and Chesapeake trend comparisons, 2008-2018 (VIMS)

NEAMAP Mission & Goals

NEAMAP's mission and goals revised to shift from **design and implementation to enhanced coordination and methodology**

- Goals and objectives address:
  - Collection and analysis of FI data to support assessments and management
  - Enhancing coordination among FI surveys
  - Promoting use and dissemination of FI data
  - Identifying and prioritizing short- and long-term needs
  - Securing funding to support NEAMAP activities

The NEAMAP Name

- Current NEAMAP surveys: ME-NH, Mass DMF, and SNE/MA (VIMS)
- Additional FI surveys run by NEAMAP partners address NEAMAP goals and objectives
  - RI, CT, NY, DE, MD, and NC
- Increased reference to “following NEAMAP protocols” in wind energy development surveys
- Develop NEAMAP survey protocols/criteria?

Survey Criteria Working Group

- Working Group to review NEAMAP survey elements and determine common baseline survey criteria
- Given differences among surveys, adopt a more holistic approach
  - Develop a broad definition of a NEAMAP survey
  - Develop guiding documents for specific topics
    - gear, sampling methods, biological sample tracking, QA/QC protocols, etc.

NEAMAP Definition

- NEAMAP surveys are conducted by NEAMAP partners; they include both partner and committee designed surveys, and operate on local and regional spatial scales. NEAMAP surveys are designed to collect long-term fishery-independent data on species abundance, distributions, and life history, as well as related ecosystem and environmental information. NEAMAP surveys are reviewed and approved by the NEAMAP Operations Committee. NEAMAP data are collected to support fisheries management, as well as to enhance knowledge of marine fish and invertebrate stocks and the ecosystem.

Next Steps

- Establish a high-level set of NEAMAP principles
- Develop guidance documents for specific technical topics
- Review other FI trawl surveys for inclusion under NEAMAP
  - No changes to funding of surveys
  - No survey design changes required



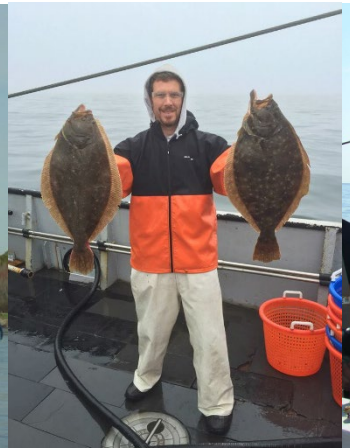



Photo credit: MADMF

Questions???

www.neamap.net

Photo credit: MADMF

Report to the Atlantic States Marine Fisheries Commission

ISFMP Policy Board

August 4th, 2022

FY2022 NFHP-Funded Projects

- Five on-the-ground project plus operational funding
- $250,000 for on-the-ground restoration
- Highest amount to date
- Projects in ME, MA, CT, NJ, and MD
- Open over **185 river miles**
- Provide access to over **9,000 acres** spawning habitat
- Restore over **4.5 acres** of benthic habitat

Baskahegan Lake and Crooked Brook Flowage

- Led by Atlantic Salmon Federation
- Pool and weir fishway at Baskahegan Dam in Penobscot Watershed, ME
- Dam complete barrier to alewives, other species
- Will restore access to 8,960 acres and 137 river miles
- Anticipate 2 million alewives to benefit

Baskahegan Lake and Crooked Brook Flowage

Baskahegan Dam. Photo credit: John Burrows, Atlantic Salmon Federation.

Ames Pond Dam Removal and Fishway Construction

- Led by Town of Braintree
- Remove Ames Pond Dam and install pool-and-weir fishway around Rock Falls on Monatiquot River, MA
- Will restore access to 180 acres and 36 river miles
- Benefit river herring and American eel
- 2 of 3 barriers on river – 3rd barrier (Armstrong Dam) funded for removal in 2021

Ames Pond Dam Removal and Fishway Construction

Aerial view of Rock Falls and Ames Pond Dam. Photo credit: Town of Braintree.

Dam Removal and Restoration at Merwin Meadows Park

- Led by Save the Sound
- Removal of Dana Dam, partial channel realignment, on-site sediment use on Norwalk River, CT
- Will reconnect 6.5 upstream miles, forming 17 miles of free-flowing river to LIS
- Benefit river herring and American shad
- Remove safety hazard, reconnect 1.13 acres of floodplain, reduce physical and chemical impacts, and educate visitors

Dam Removal and Restoration at Merwin Meadows Park

1. Dana Dam – The dam is a full barrier to migratory fish, and disrupts fluvial processes - including the transport of sediment to the estuary downstream.

2. Dana Dam – The dam is also public safety hazard, with drownings reported.

Photo credit: Save the Sound.

Paulina Dam Removal

- Led by The Nature Conservancy, New Jersey
- Removal of Paulina Dam on Paulins Kill
- With Columbia and County Line Dam removals, open 45 river miles of mainstem and tributaries
- Benefit American shad, American eel, sea lamprey
- Enhance recreation and public safety, improve water quality, restore hydrology, improve terrestrial and aquatic connectivity

Paulina Dam Removal

Paulina Dam. Photo Credit: The Nature Conservancy.

South River and Herring Bay Oyster Restoration

- Led by The Chesapeake Bay Foundation
- Augment existing hard bottom within two protected oyster sanctuaries along mainstem and tidal tributaries of Chesapeake Bay
- Herring Bay: 0.68 to 2 acres
- Glebe Bay (South River): 0.86 to 3 acres
- Will combat overfishing and sedimentation
- Engage two communities in restoration plan, oyster gardening, more

South River and Herring Bay Oyster Restoration

Satellite view of South River and Herring Bay project areas. Image credits: Google Earth and the Chesapeake Bay Foundation.

ACFHP would like to thank ASMFC for your continued operational support

Habitat Committee Report

Presented to ASMFC Policy Board

August 4th, 2022

Habitat Committee Meeting

- Met virtually May 23rd, 2022
- Update on Acoustic Impacts HMS
- Presentation on state of Delaware River sturgeon and NRHA
- Selected Habitat Hotline topic: Promoting Resilience in Vegetated Coastal Habitats
- Continued working on State Climate Change Initiatives documents, Fish Habitats of Concern

Fish Habitats of Concern Update

- Habitat Committee drafted FHOC designations for all Commission-only managed species, plus Atlantic sturgeon
  - Eventually Atl. sturgeon management will go back to Commission
  - Those jointly managed with Councils have EFH and HAPC designations
- Some species designations are specific, others less so
  - Due to species characteristics and data availability
  - Did not want to just describe all habitat – used HAPC guidelines in designations
  - Draft FHOC designation example in supplemental materials (Atlantic croaker)

Fish Habitats of Concern Update

- Considered current Commission documents (FMPs, species habitat factsheets, HMS publications, etc.)
- Considered current literature
- Draft designations shared with Technical Committees for edits
- All but two species are completed – plan to share full document with you in next few weeks, vote on approval at Annual Meeting

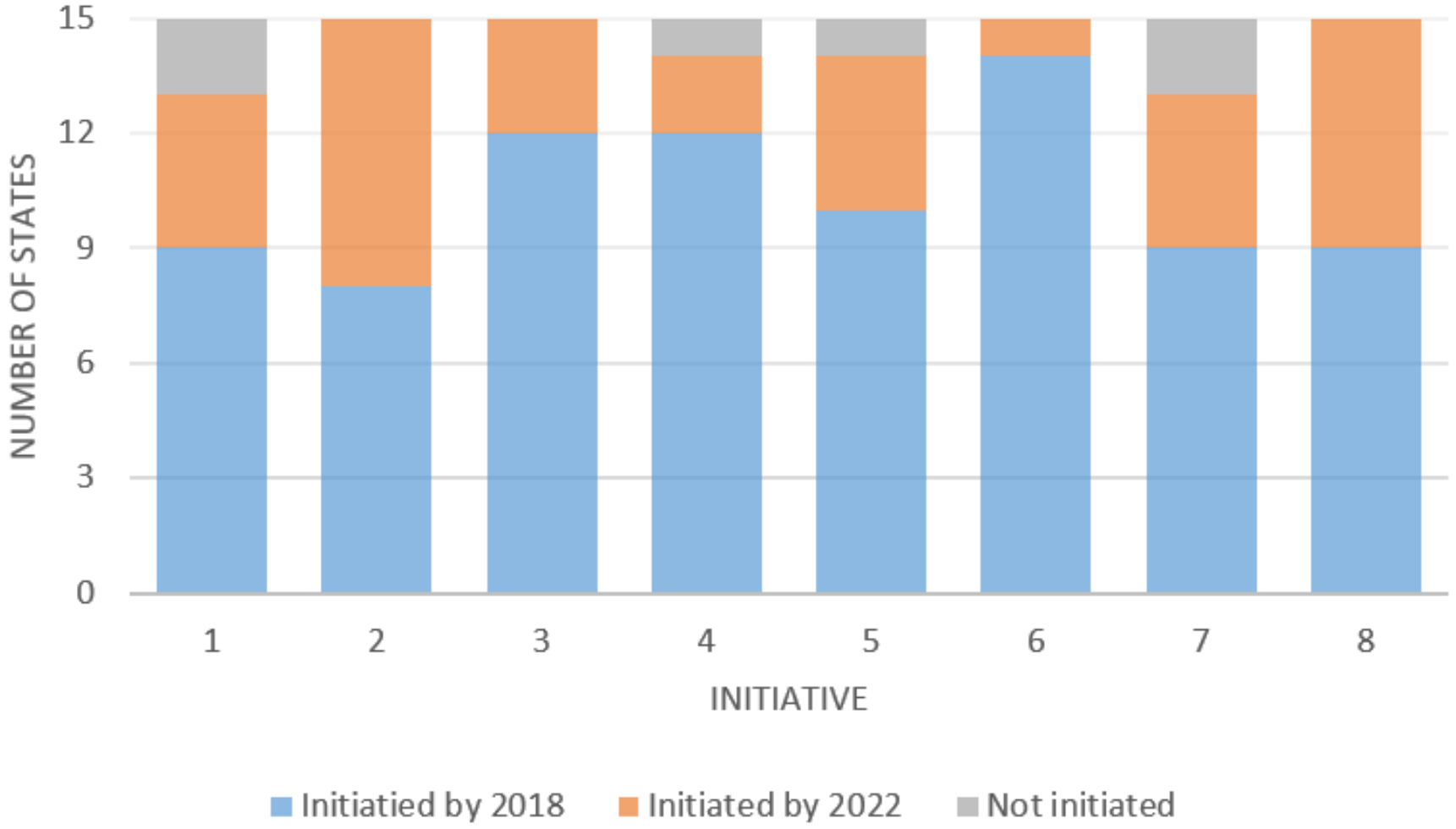
State Climate Change Initiatives

- In briefing materials
- Update to 2018 publication
- Contains information on current climate change initiatives and identifies high-level progress along the coast since 2018 publication
- Meant to be informational: snapshot of initiatives underway in each state
- Initiatives do not necessarily reflect the views of the Commission

State Climate Change Initiatives

- Grouped state initiatives into 8 categories:
  - WG or legislation: reduce carbon output
  - WG or legislation: respond to threats
  - Produced reports
  - Assesses and monitors effects of CC
  - Mechanisms for collaboration
  - Addresses CC in planning documents
  - Responded on-the-ground
  - Includes CC in outreach

State Climate Change Initiatives



State Climate Change Initiatives

- Hoping to have this document approved today
- Next steps: formatting and share

Assessment Science Committee Report

Presented to ISFMP Policy Board

August 4, 2022

ASC Update

- Assessment Science Committee (ASC) met on May 17th
  - Red drum simulation assessment
  - Assessment training workshops
  - Review ASMFC stock assessment schedule

Proposed Stock Assessment Schedule

DRAFT Long-Term Stock Assessment Schedule (Updated May 2022)

Species	2020	2021		2022	2023	2024	2025	2026
American Eel				Benchmark				
American Shad	Benchmark							
American Lobster	Benchmark						Benchmark	
Atlantic Croaker						Benchmark		
Atlantic Menhaden				Update			Benchmark	
Atl. Menhaden ERPs							Benchmark	
Atlantic Sea Herring	Update			Update		Update	Benchmark	Update
Atlantic Striped Bass				Update		Update		Update
Atlantic Sturgeon						Benchmark		
Black Drum				Benchmark				
Black Sea Bass		Update			Benchmark		Update	
Bluefish		Update		Benchmark	Update		Update	
Coastal Sharks	Benchmark				Benchmark			
Cobia							Benchmark	
Horseshoe Crab						Update		
Horseshoe Crab ARM		Benchmark						
Jonah Crab					Benchmark			
Northern Shrimp		Update				Update		
Red Drum				Benchmark		Benchmark		
River Herring					Benchmark			
Scup		Update			Update			
Spanish Mackerel				Update				
Spiny Dogfish				Benchmark				Update
Spot						Benchmark		
Spotted Seatrout								
Summer Flounder		Update			Update		Update	
Tautog		Update				*Update		
Weakfish							*Update	
Winter Flounder	Update			Update		Update		Benchmark

ASMFC
SARC
SEDAR
Completed
Italics = under consideration

pp. 36-37 of Board supplemental materials

Proposed Changes

- **Black sea bass:** research track assessment shift from Fall 2022 to Spring 2023; followed by management track assessment in June 2023
- **Tautog:** added 2024 assessment update

Proposed Changes

Assessments for 2025-26 were added to the schedule:

- **2025**
  - **American lobster:** benchmark
  - **Atlantic menhaden:** single-species and ecological reference points benchmarks
  - **Atlantic sea herring:** SARC research track
  - **Black sea bass:** management track
  - **Bluefish:** management track
  - **Cobia:** SEDAR benchmark
  - **Summer flounder:** management track
  - **Weakfish:** assessment update (under consideration)
- **2026**
  - **Atlantic sea herring:** management track
  - **Striped bass:** assessment update
    - Note: the next benchmark assessment is scheduled for 2027
  - **Spiny dogfish:** management track
  - **Winter flounder:** SARC research track

Proposed Stock Assessment Schedule

DRAFT Long-Term Stock Assessment Schedule (Updated May 2022)

Species	2020	2021		2022	2023	2024	2025	2026
American Eel				Benchmark				
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Atlantic Sturgeon						Benchmark		
Black Drum				Benchmark				
Black Sea Bass		Update			Benchmark		Update	
Bluefish		Update		Benchmark	Update		Update	
Coastal Sharks	Benchmark				Benchmark			
Cobia							Benchmark	
Horseshoe Crab						Update		
Horseshoe Crab ARM		Benchmark						
Jonah Crab					Benchmark			
Northern Shrimp		Update				Update		
Red Drum				Benchmark		Benchmark		
River Herring					Benchmark			
Scup		Update			Update			
Spanish Mackerel				Update				
Spiny Dogfish				Benchmark				Update
Spot						Benchmark		
Spotted Seatrout								
Summer Flounder		Update			Update		Update	
Tautog		Update				*Update		
Weakfish							*Update	
Winter Flounder	Update			Update		Update		Benchmark

ASMFC
SARC
SEDAR
Completed
*Italics = under consideration

Collaborative Management of Invasive Catfishes in Chesapeake Bay

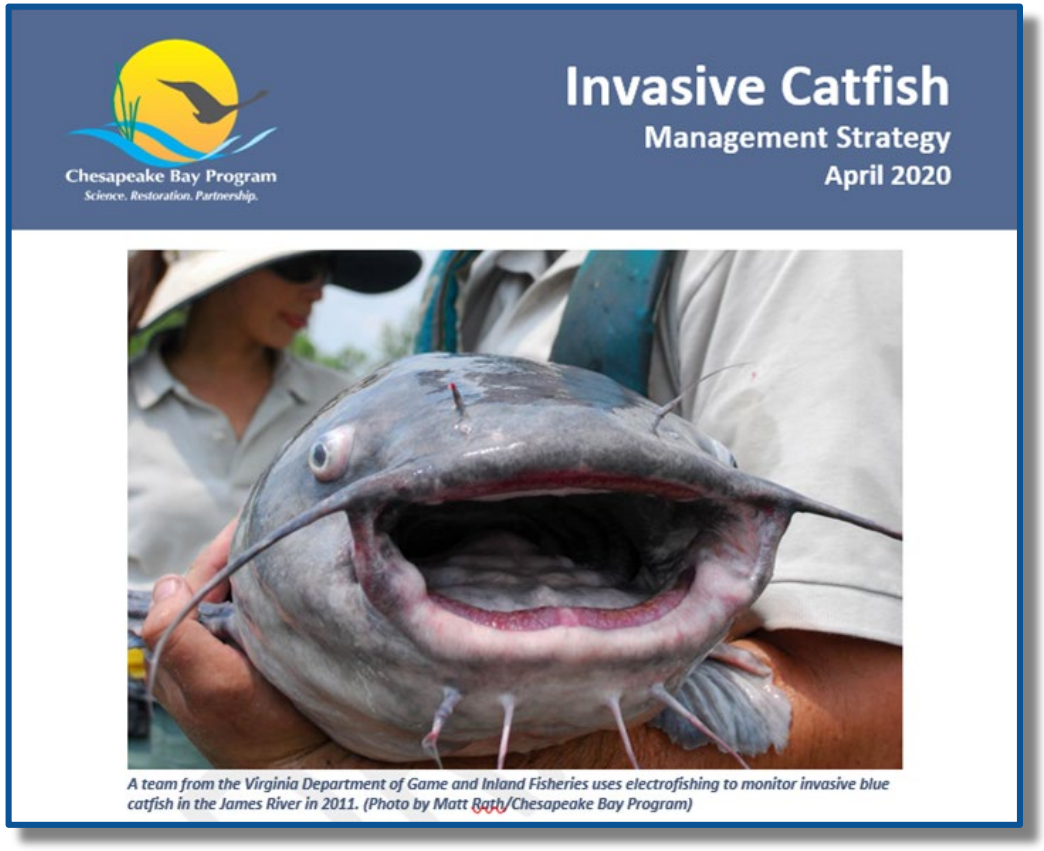
Mandy Bromilow
ERT, Inc. / NOAA Chesapeake Bay Office
Atlantic States Marine Fisheries Commission Meeting
August 4, 2022

Invasive Catfish Workgroup

Management Approaches

Objectives: (1) Reduce invasive catfish abundance
(2) Mitigate spread and ecological impacts in the Bay

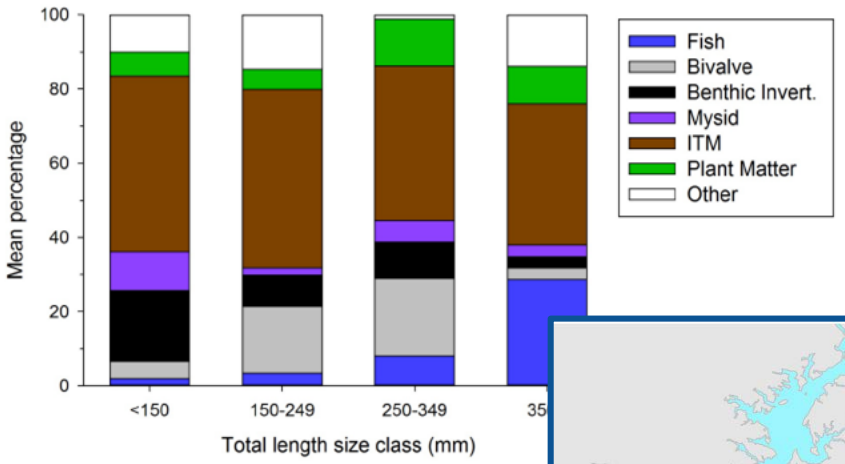
- Increase public awareness
- Remove processing barriers
- Conduct and synthesize scientific research
- Develop tributary-specific management plans

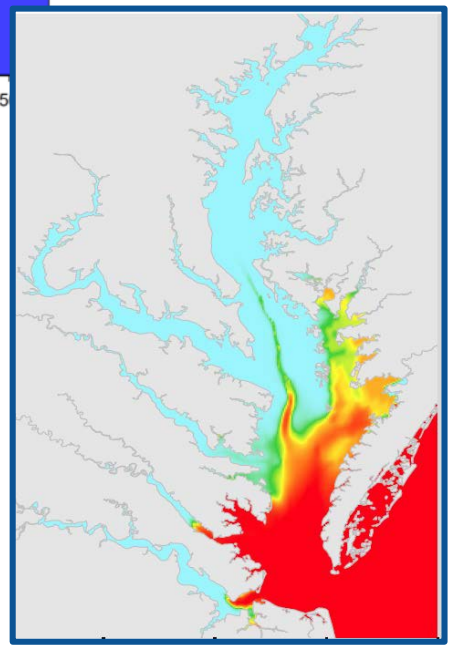


ICW Subcommittees

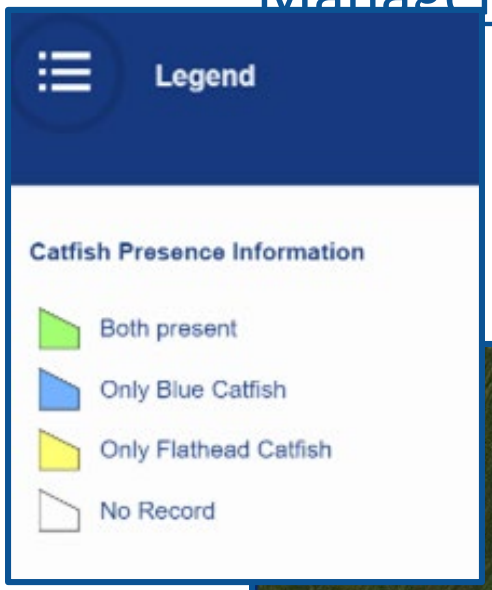
Outreach and Marketing

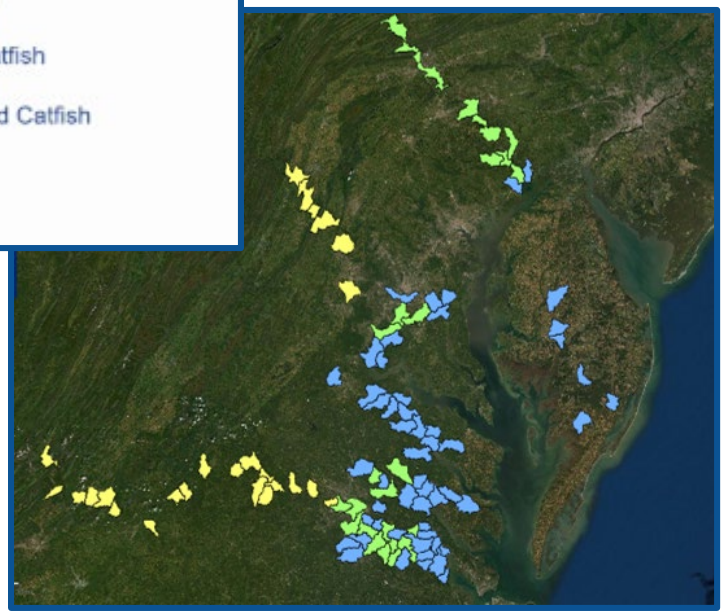
Science and Research Synthesis





Tributary-Specific Management





Want to learn more?
Contact me!

Email: mandy.bromilow@noaa.gov

ICW Webpage:
https://www.chesapeakebay.net/who/group/invasive_catfish_task_force

USGS Blue Catfish Science:

- Diet (support of partner studies)
- Health and disease across tributaries
- Reproduction – reproductive hormones

Blue Catfish Science - USGS Partners and Collaborators:

- Salisbury University

- Maryland Department of Natural Resources
- Delaware Department of Natural Resources and Environmental Control
- Virginia Commonwealth University
- UMCES, Appalachian Laboratory

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CAROLINA Burlington, NC 27215 • 1-800-334-
USGS
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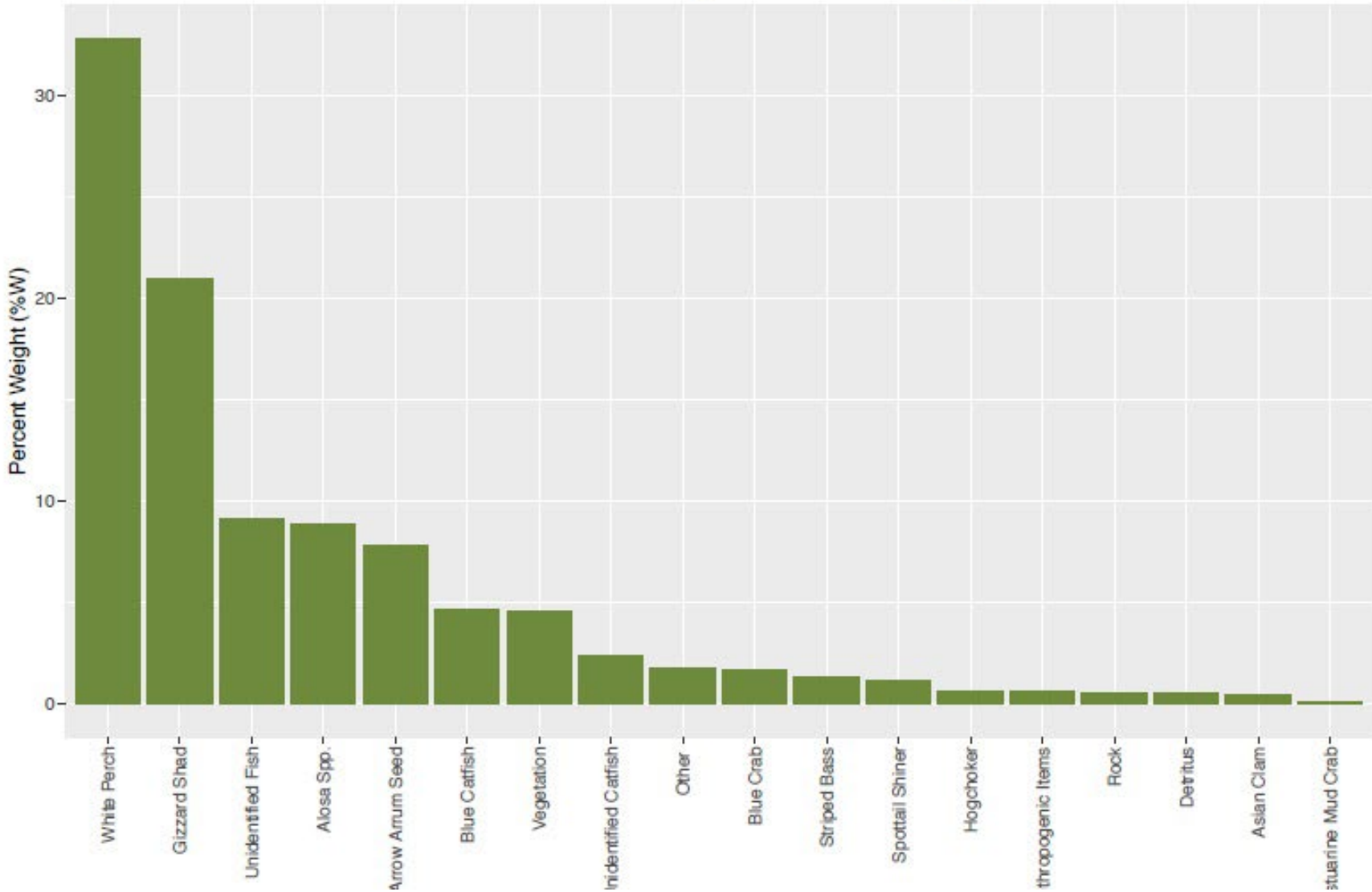
Preliminary % Weight



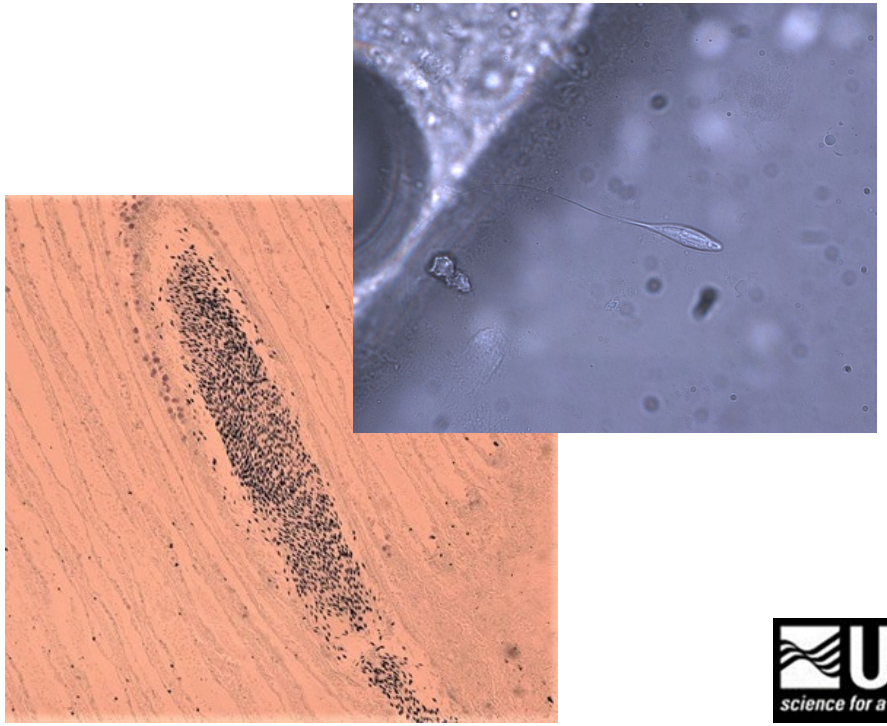
- n = 218 stomachs containing prey items
- 11/2021-5/2022
- *Molecular analysis for UnID fish prey not yet complete*

Not quite Delmarva poultry to go with the corn, but close……

[Blue Catfish Found with Wood Duck in Stomach | Field & Stream (fieldandstream.com)]

Blue catfish health and health related impacts:

- What is “normal” across tributaries?
- Implications for blue catfish health, health/disease among other species, human health implications (fishery)

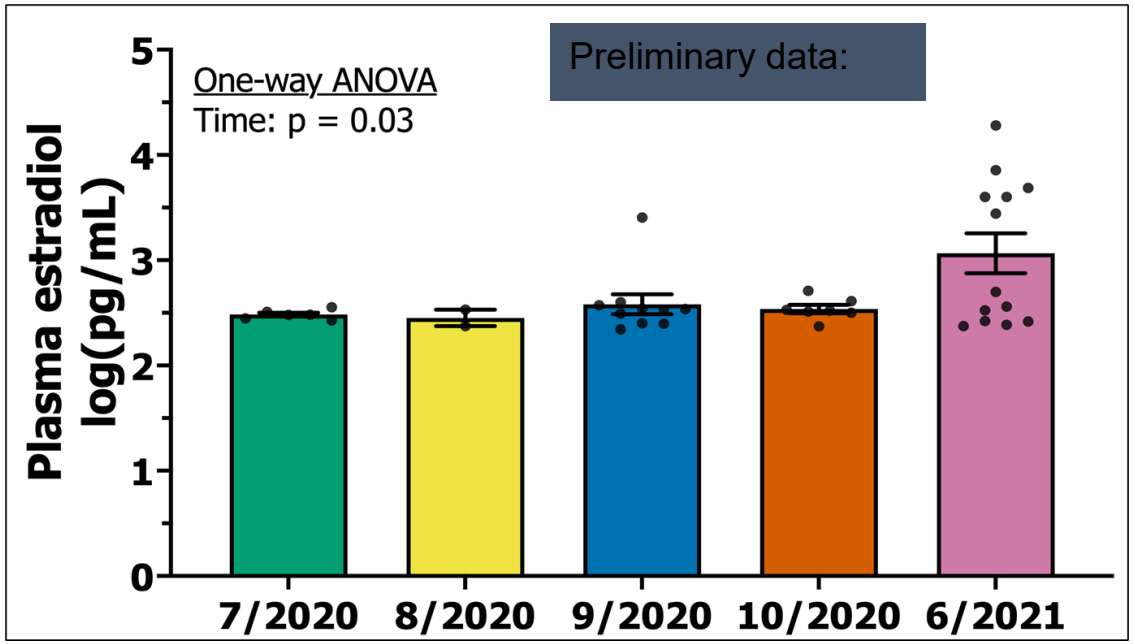


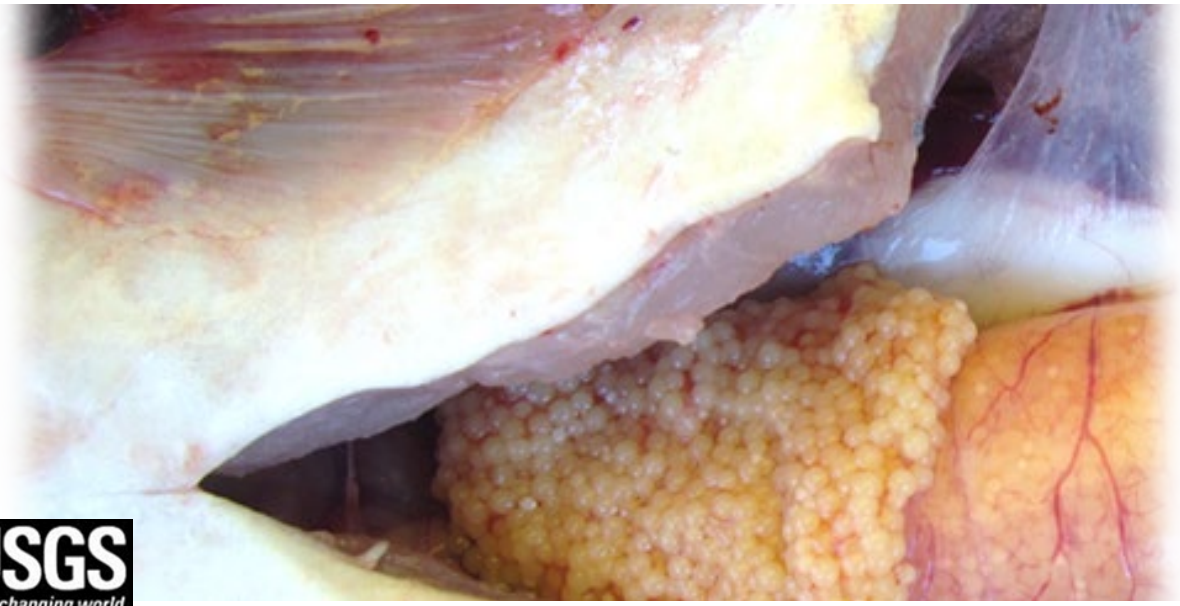
USGS science for a changing world

USGS
science for a changing world

Blue Catfish Reproduction Biology – Nanticoke River

- Reproductive staging and gonadal histology comparisons –males, females
- Blood plasma sampling for estradiol and calcium – females
- Season and gonadal development assessment compared to hormone status





USGS science for a changing world

Questions, Discussion Points

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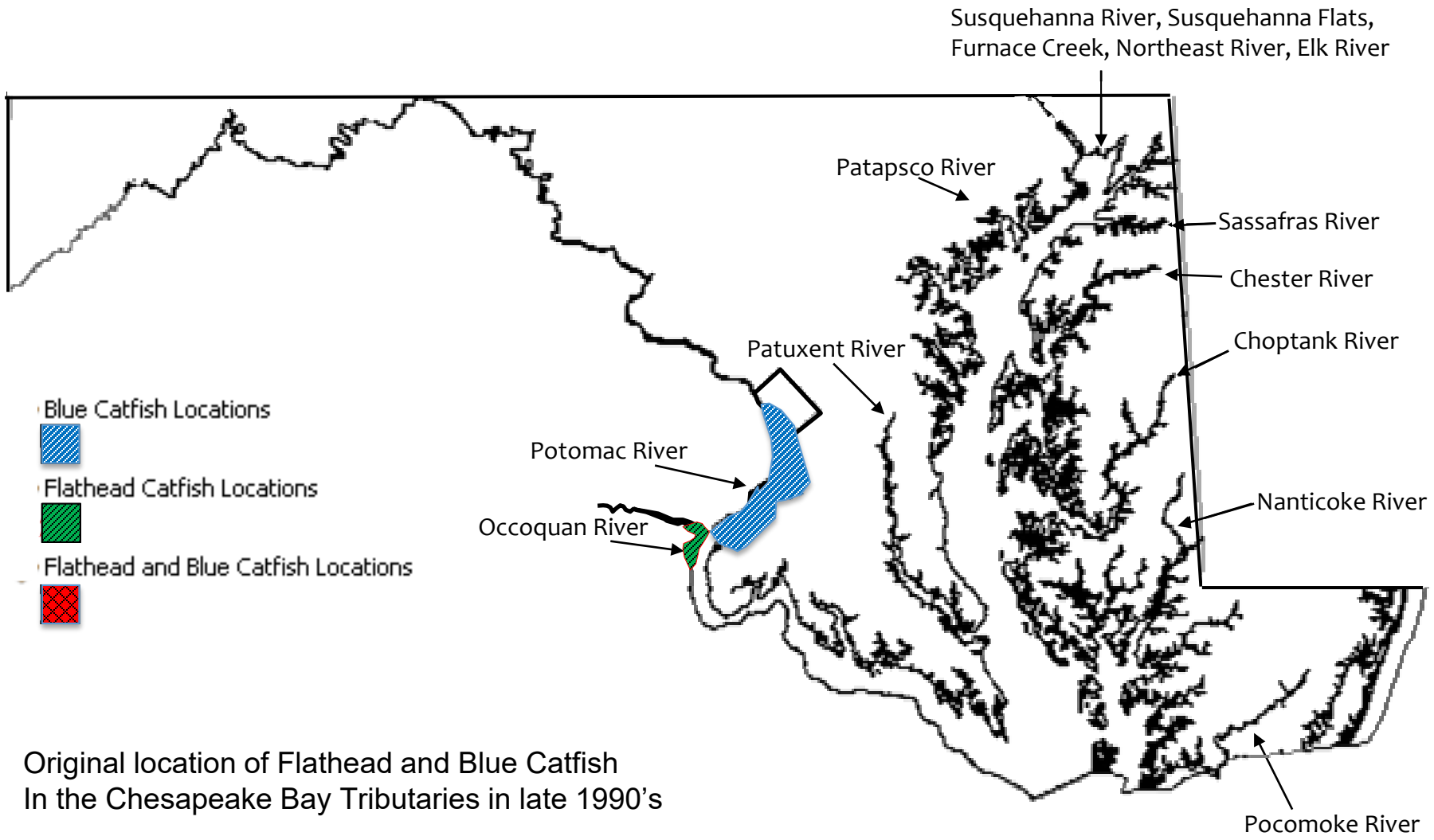
Invasive Catfish Locations in Maryland's Tidal Tributaries to Chesapeake Bay, Late 1990's

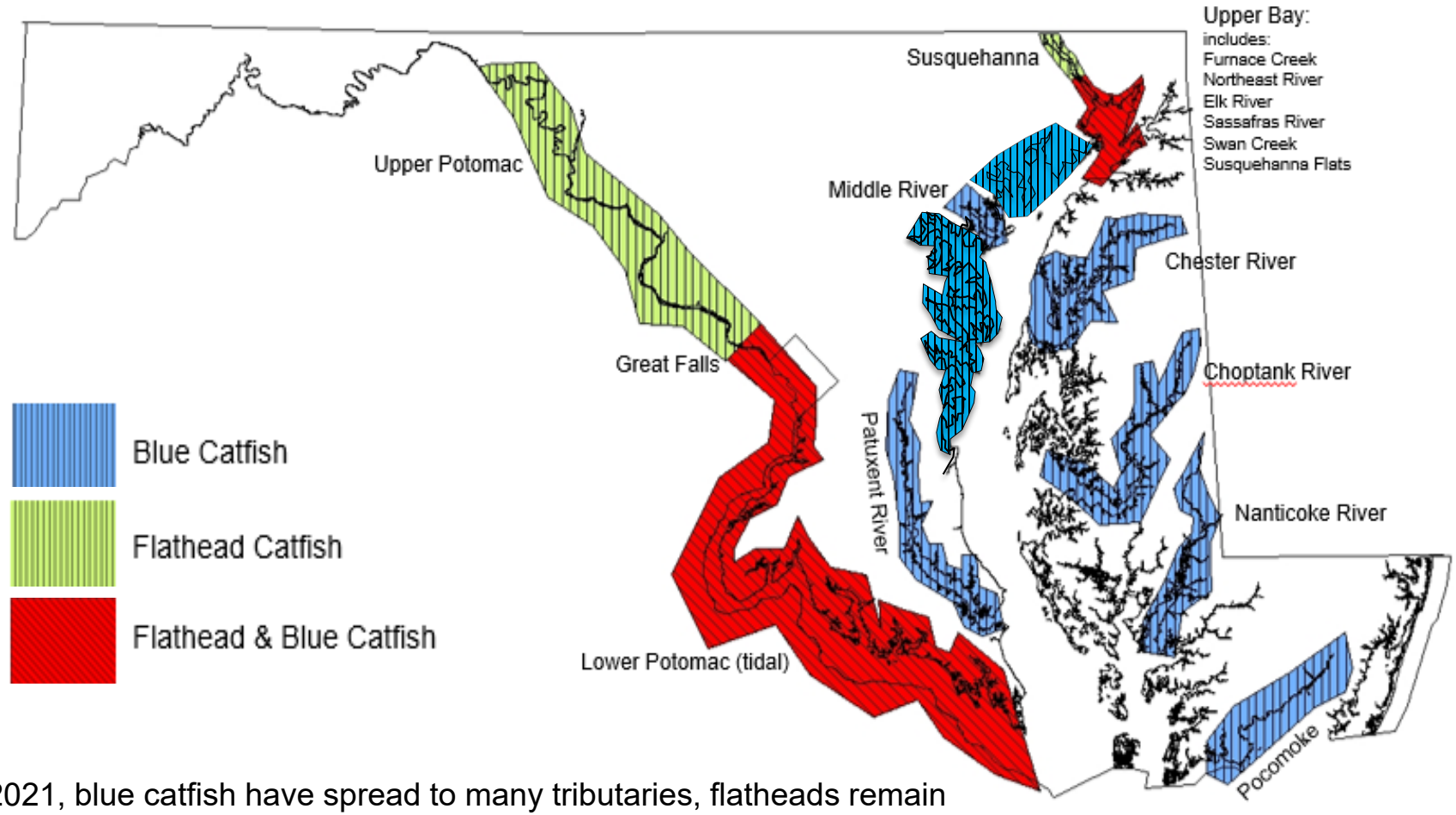
M. Groves, 2005



Original location of Flathead and Blue Catfish
In the Chesapeake Bay Tributaries in late 1990's

Invasive Catfish Locations in Maryland's Tidal Tributaries to Chesapeake Bay, 2021

M. Groves, 2021



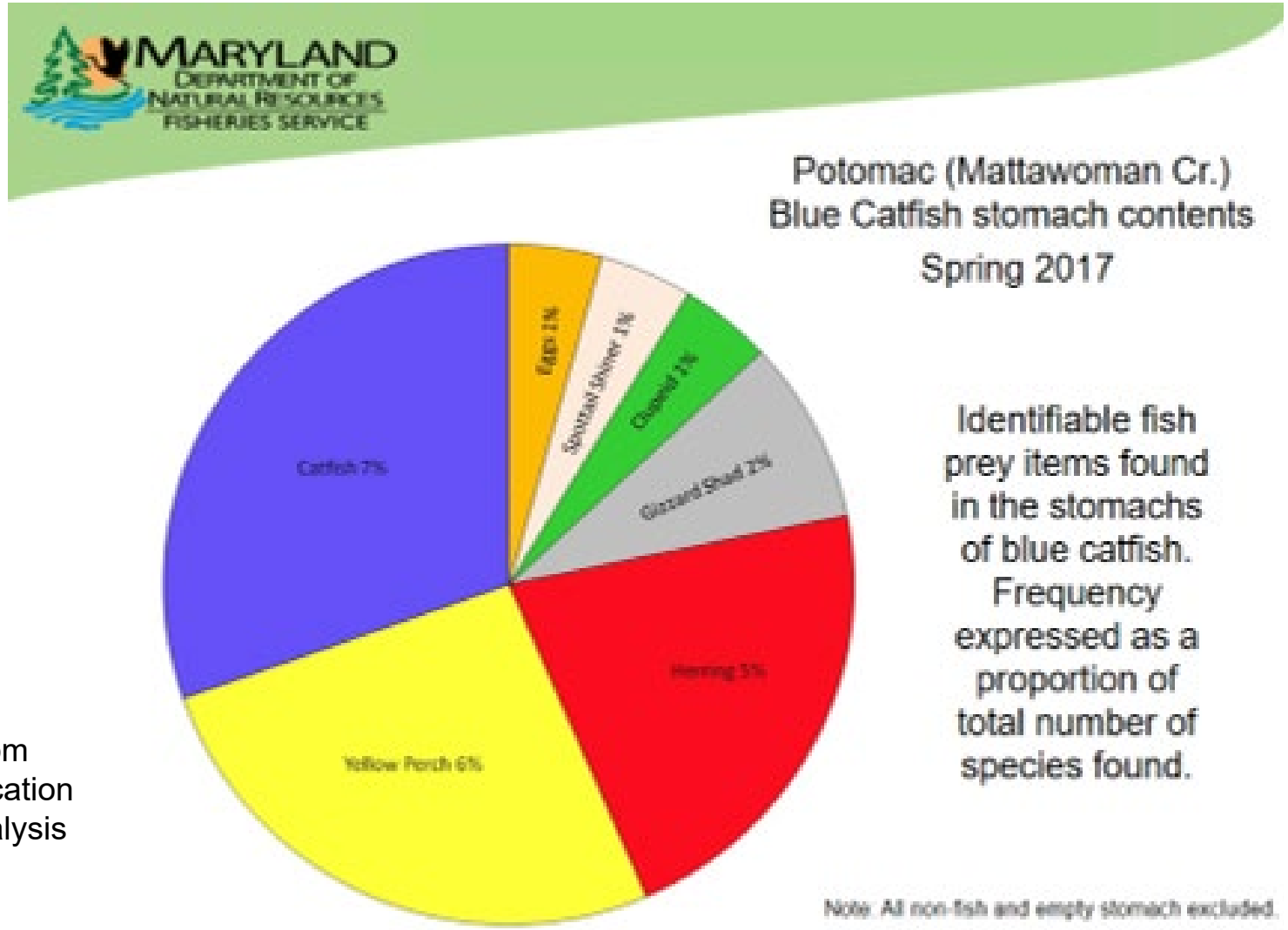
By 2021, blue catfish have spread to many tributaries, flatheads remain in Potomac and Upper Bay

Potomac River Blue Catfish

Late 2000's Maryland Department of Natural Resources Inland Fisheries started collecting data on blue catfish in the Potomac in Tidal Freshwater portion of River (<5ppt salinity).

Collected data on:
Life history
Diet
Cooperative tagging study with VIMS

Potomac River Blue Catfish



One of many diet charts developed from direct identification And DNA analysis

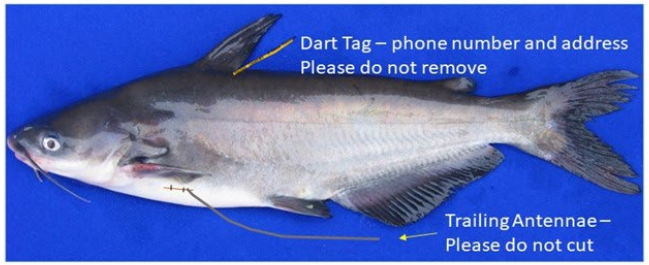
Patuxent River Blue Catfish

In 2019, attention shifted to the **Patuxent River** where blue catfish were Increasing in number since 2006.

Study included living history, diet, radio/sonar tag tracking, population estimate. Again, study covered tidal freshwater only.

Patuxent River blue catfish tracking and population estimate

Attention Patuxent River Fishermen



Maryland Department of Natural Resources, Fishing and Boating Services, is conducting a Blue Catfish Tagging Study in the Patuxent River.

If you catch a tagged Blue Catfish please note the numbers and release immediately. Please do not cut tag or antennae.

The orange tag has a phone number and tag number on it. If you catch a tagged fish please call the number and let us know the location it was caught. This will help us greatly on this study. Thank you!

MARYLAND DEPARTMENT OF NATURAL RESOURCES

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Tracking of fish showed little movement of blue catfish between Winter and
Spring, en masse, but individual fish were found to make significant movements
within the tidal freshwater portion of the river during that time.

Blue catfish ‘Hot Spots’ were sampled for a mark and recapture population
Estimate. One hot spot was found to contain
29,432 blue catfish (>200mm),
or 507 fish/ hectare.

Current Issues

Both flathead catfish and blue catfish are expanding their ranges.

Current studies in Maryland focus on the tidal freshwater portion of rivers.

Data tremendously lacking for more estuarine waters, including those that hold some of our most popular gamefish and shellfish.

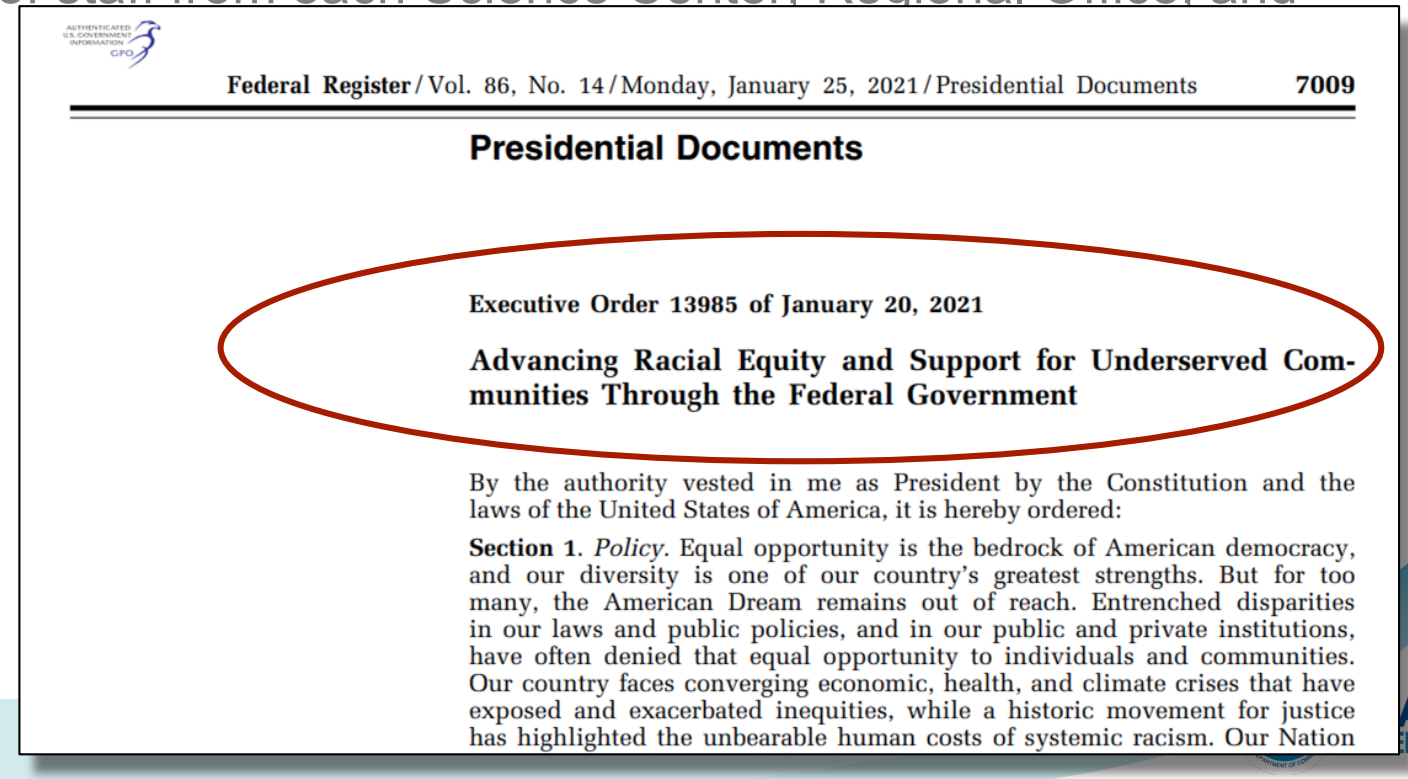
NOAA Fisheries Equity and Environmental Justice Strategy

Atlantic States Marine Fisheries Commission
Thursday, August 4, 2022

Sharon Benjamin
Greater Atlantic Regional Fisheries Office (GARFO)

NOAA Fisheries EEJ Working Group

- Launched in response to **EO 13985 (Advancing Racial Equity)**
- Comprised of staff from each Science Center, Regional Office, and Programs



Federal Register / Vol. 86, No. 14 / Monday, January 25, 2021 / Presidential Documents 7009

Presidential Documents

Executive Order 13985 of January 20, 2021

Advancing Racial Equity and Support for Underserved Communities Through the Federal Government

By the authority vested in me as President by the Constitution and the laws of the United States of America, it is hereby ordered:

Section 1. *Policy.* Equal opportunity is the bedrock of American democracy, and our diversity is one of our country's greatest strengths. But for too many, the American Dream remains out of reach. Entrenched disparities in our laws and public policies, and in our public and private institutions, have often denied that equal opportunity to individuals and communities. Our country faces converging economic, health, and climate crises that have exposed and exacerbated inequities, while a historic movement for justice has highlighted the unbearable human costs of systemic racism. Our Nation

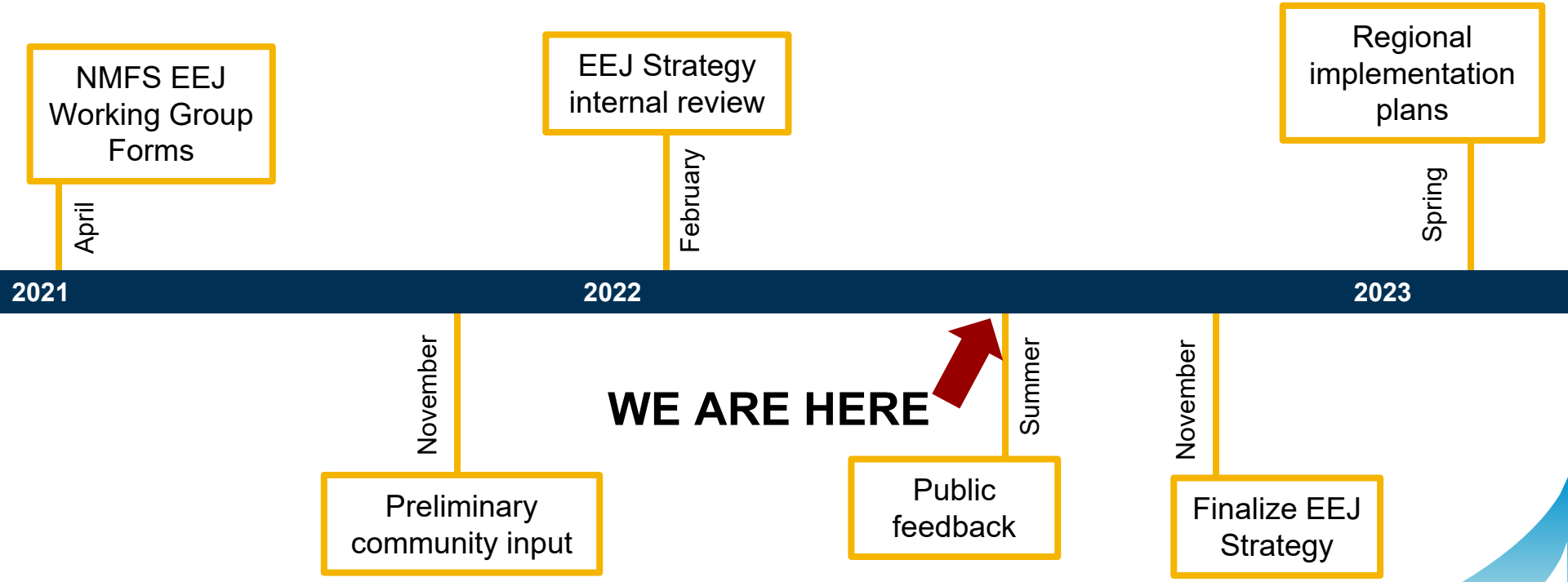
Equity and Environmental Justice Mandates

EO 13985	**2021**	Advancing Racial Equity and Support for Underserved Communities Through the Federal Government
EO 14008	**2021**	Tackling the Climate Crisis at Home and Abroad
EO 12898	**1994**	Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations

Also: MSA, ESA, MMPA, CERCLA, and the Oil Pollution Act

NOAA FISHERIES

Strategy Development Timeline



NOAA FISHERIES

NOAA Fisheries' Equity and Environmental Justice

Goals

- Meaningful involvement of **underserved communities**
- Equitable delivery of services
- Prioritize EEJ in our mandated and mission work.

Objectives

Empowering Environment

- Policy
- Research
- Outreach
- Benefits
- Inclusive Governance

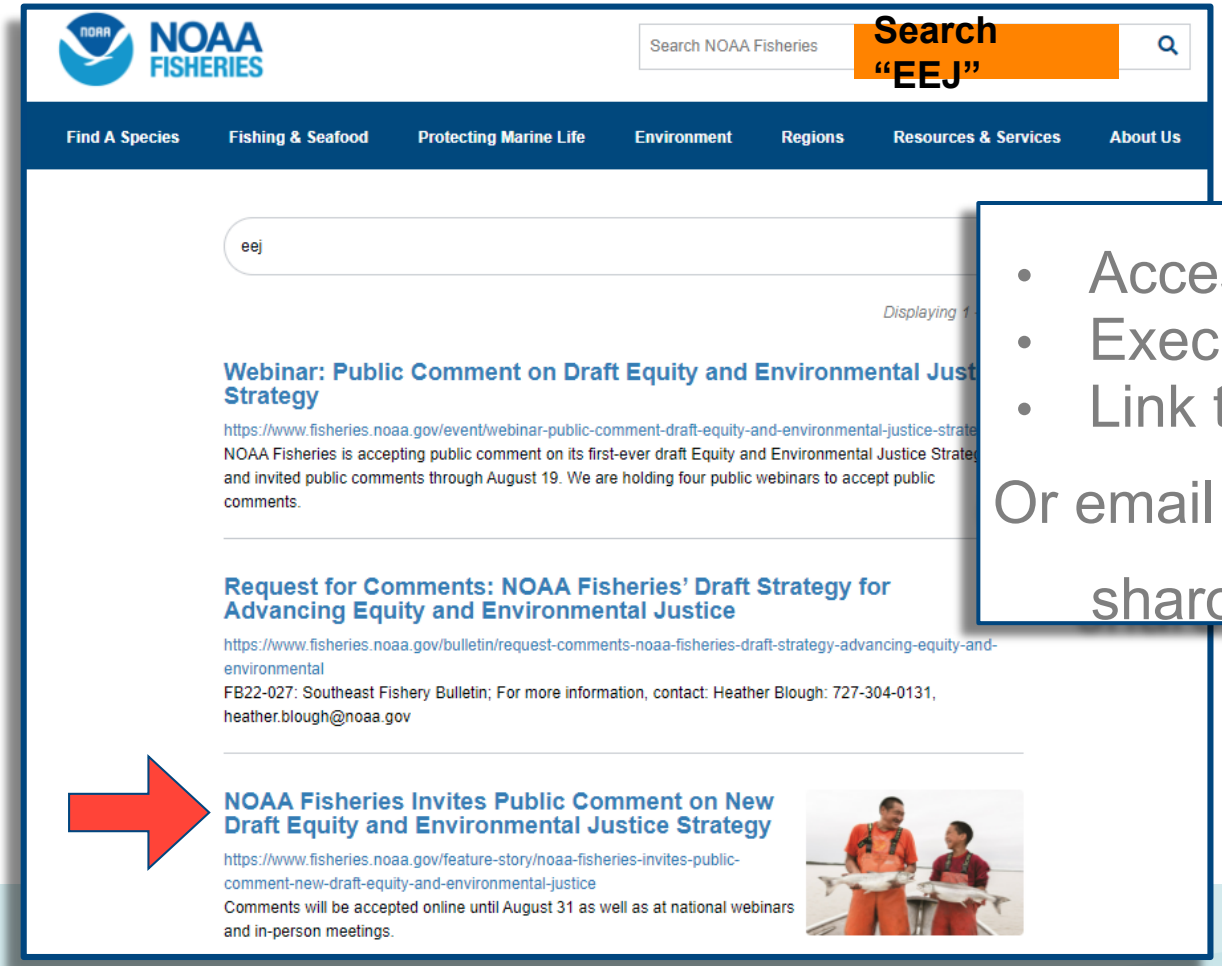
Request for Feedback by **August 31**

Please consider:

- Who are our underserved communities?
- How can we better communicate with them?
- Does everyone have equal access to benefits?
- How can our governance or management resources be more inclusive?

NOAA FISHERIES

More info at fisheries.noaa.gov



Thank you!

- Access EEJ Strategy
- Exec Summary Translations
- Link to Comment Form

Or email me:

sharon.benjamin@noaa.gov

NOAA FISHERIES