EAST COAST CLIMATE CHANGE
SCENARIO PLANNING UPDATE

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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.
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 workshop sessions to construct and discuss scenarios
- Summer 2022

Application: use scenarios to identify actions and recommendations
- Fall 2022-Winter 2023

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

EAST COAST CLIMATE CHANGE SCENARIO PLANNING
Scenario Creation Workshop

- June 21-23 in Arlington VA
- Attended by approximately 75 stakeholders & staff
- Productive 2.5-day workshop with highly engaged participants

- Review drivers of change from previous phases
- Breakout groups create rapid fire “mini scenarios”
- Look for common themes, patterns, stories
- Create draft scenario framework
- Develop scenario details in breakout groups
The scenario framework was 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)?
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?
Combining the uncertainties results in a matrix that creates four different stories of the future.
Resulting Scenarios: East Coast Fisheries in 2040

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

**Compound Stress Fractures:**
A world with multiple sources of stress face operators and managers, where the industry fractures between some who play it smart, and others who lose out.

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

**Sweet and Sour Seafood:**
A world where the science is good, but the news is bad. Success comes from anticipating lower stocks and preparing for new catch limits.
Features of Each Scenario: East Coast Fisheries in 2040

Ocean Pioneers: stocks maintained, but hard to assess / predict

- Weird weather and crazy conditions
- Life on the ocean is remarkably different compared to 20 years ago
- Climate change has prompted more investment in alternative energy and aquaculture
- Seasons and locations of fisheries change unpredictably, and traditional science is unable to make accurate assessments
- Despite this, fishermen report they are encountering plenty of seemingly healthy stocks
- Ocean pioneers thrive in these turbulent conditions. Success doesn’t come easy - it requires taking risks (such as investments in new data-gathering technology), deep pockets and an ability to ride out the storms of uncertainty
Compound Stress Fractures: stocks declining, and hard to assess / predict

- Several sources of stress have led East Coast fisheries to breaking point by 2040
- Shifts in ocean currents and extreme weather events have tipped ecosystems out of balance
- Major storms lead to more pollution and degraded habitats. Healthy stocks are scarce
- Low abundance leads to reduced harvests and protected species regulations close several fishing grounds
- Science is unable to help, as stock assessments data cannot cope with such a changeable and volatile ecosystem
- Trust between stakeholders is in short supply, illustrated by fractious debates over the siting of offshore wind installations
- Operators are forced to shift to lower trophic level species, and government support is needed to save a few selected fisheries
Features of Each Scenario: East Coast Fisheries in 2040

Sweet and Sour Seafood: stocks decline, but straightforward to assess / locate

• The science is good, but the news is bad
• Climate change is affecting ocean and stock conditions in ways long predicted by scientists
• Range shifts; productivity and abundance have declined for most relevant species
• Better forecasting helps fishermen prepare for marine heatwaves and localized die-offs
• Aquaculture provides a much-needed alternative as wild-caught seafood declines, and better science ensures that any pollution dangers are minimized
• There are signs of a few smart management decisions (such as limits on newly arriving species) and adaptation from fishing operators
• However, most management approaches have not adapted to the tougher conditions of today, and those on the horizon
Features of Each Scenario: East Coast Fisheries in 2040

Checks and Balance: stocks maintained, and straightforward to assess / locate

- Good science, smart collaboration, and tolerable conditions allow East Coast fisheries to cope with the challenge of climate change in 2040
- But nothing is easy: stocks shift and expand their ranges, while busier coasts and new offshore activity create accessibility challenges for commercial and recreational fishermen
- Investments in habitat protection and restoration begin to reverse decades of damage and loss
- Science capacity is boosted, delivering improved ocean monitoring, real-time catch reporting and population monitoring
- A prosperous ocean economy leads to competition (e.g., between fisheries and aquaculture) but also collaboration (e.g., as fisheries science is boosted by wind energy installations)
- Gentrification creates concerns over accessibility for the recreational sector
Fishery Manager Brainstorming Sessions: September 19, 20 and October 3, 2022
Identify the issues, ideas, and options that should be discussed at scenario planning conversations at Council & Commission meetings in November and December

Commission and Council Meetings: November and December 2022
Continue to identify issues, ideas, and options, building on brainstorming sessions

Summit Meeting: February 2023
Discuss the inputs from manager brainstorming sessions and individual management body sessions, with the goal of developing a final set of governance, management, and monitoring recommendations from the scenario planning process.