


RWE

Offshore Wind Development Advancing Regional Science Through an Ecosystem Approach

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“The ocean is vast, covering over 70% of our planet, yet we know so little about it. It holds countless secrets, many of which remain undiscovered..”

- Sir David Attenborough, The Blue Planet

State of the Ecosystem

Record bottom temperatures

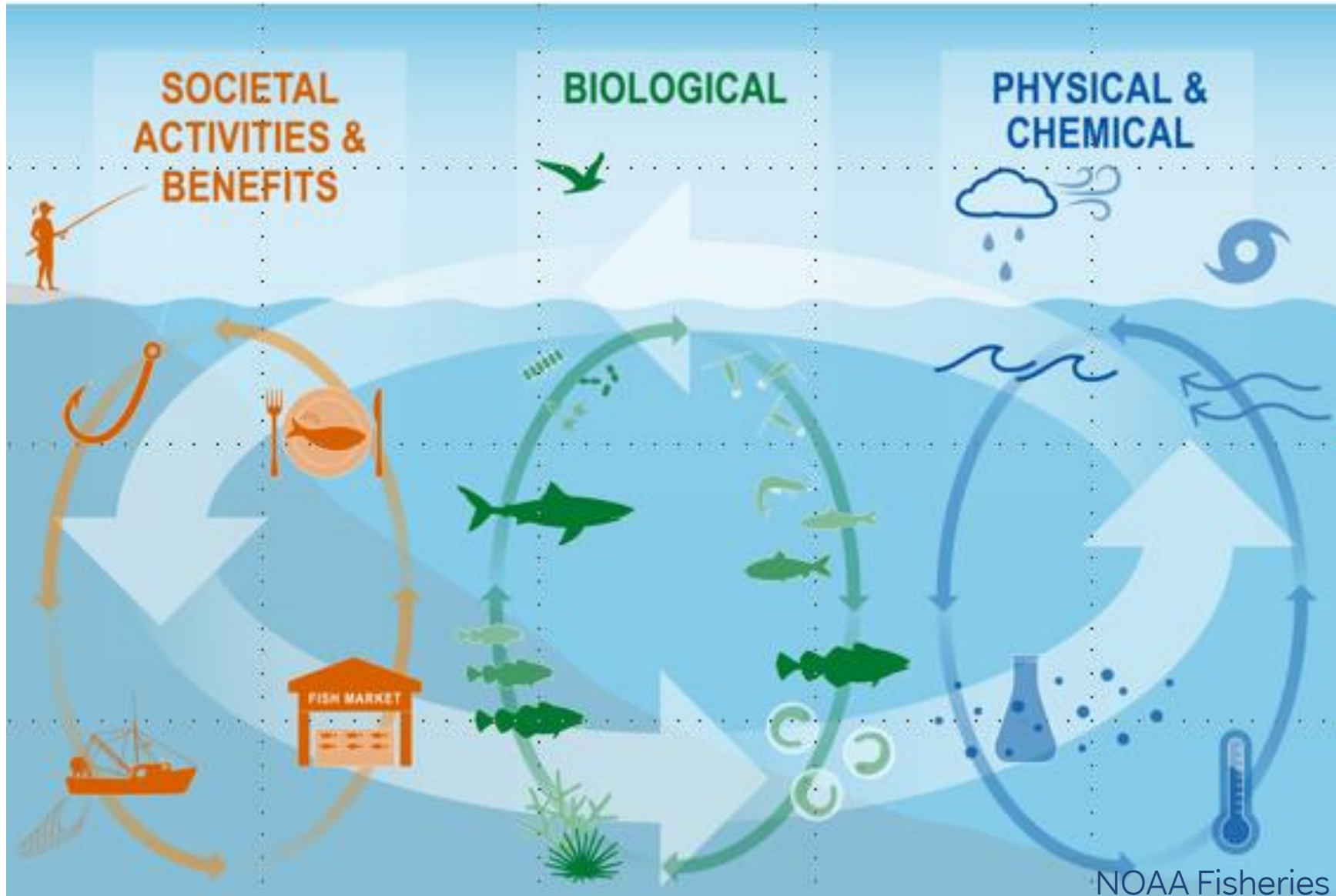
Large mortality events

Northward shifts in the Gulf Stream

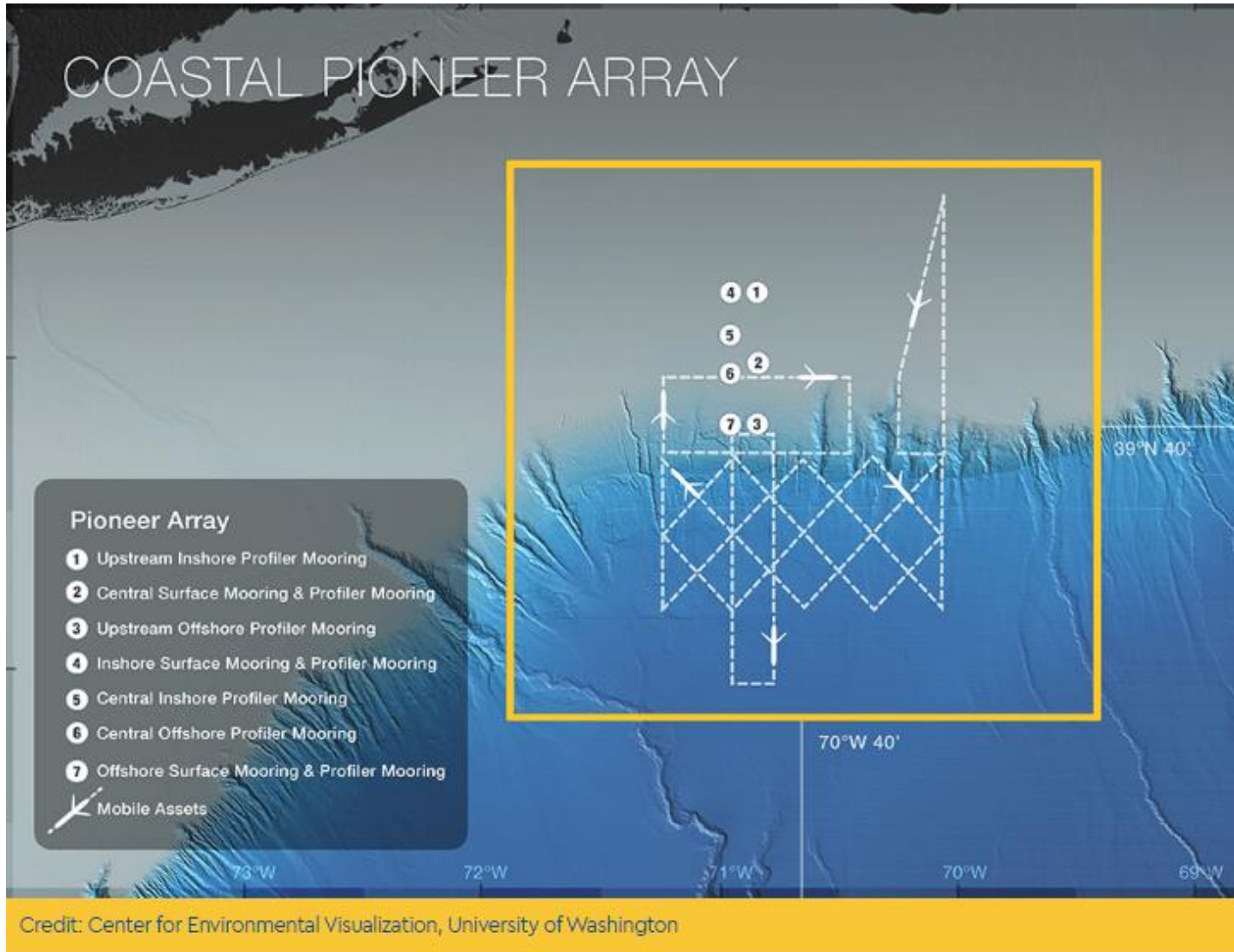
Offshore wind development



Ecosystem Approach



Long-term Ocean Observations



Physical, chemical, and biological data

Fixed and mobile instrumentation

Continuous, long-term data

Offshore Wind

Part of US strategy to combat climate change

First commercial size farms under construction

Concerns about ecosystem impacts and monitoring



RWE has established a leading offshore wind platform in the U.S.

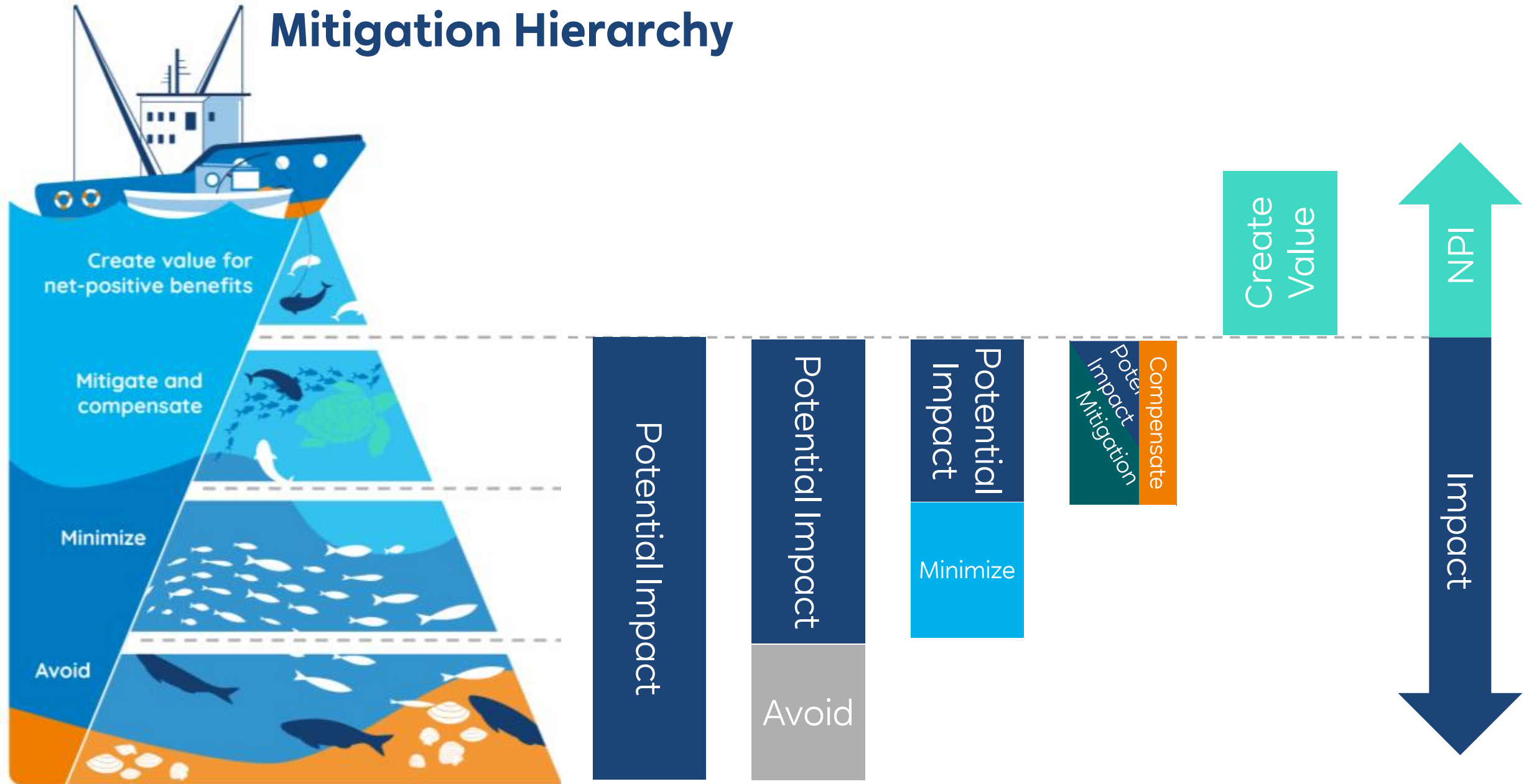
6 GW* of seabed lease capacity lies on the East, West, and Gulf Coasts

#2 Global offshore wind provider



Lake Charles
OCS G-37334

Mitigation Hierarchy



Federal Guidance

Bureau of Ocean Energy Management (BOEM) guidance requires that key species and habitat within the Lease Area are described and should “aim to:

Identify and confirm which dominant benthic, demersal, and pelagic species are using the project site, and the season(s) these species may be present where development is proposed;

Establish a pre-construction baseline which may be used to assess whether detectable changes associated with proposed operations occurred in post-construction abundance and distribution of fisheries;

Collect additional information aimed at reducing uncertainty associated with baseline estimates and/or to inform the interpretation of research results; and

Develop an approach to quantify any substantial changes in the distribution and abundance of fisheries associated with proposed operations.”

Current vs Proposed sampling

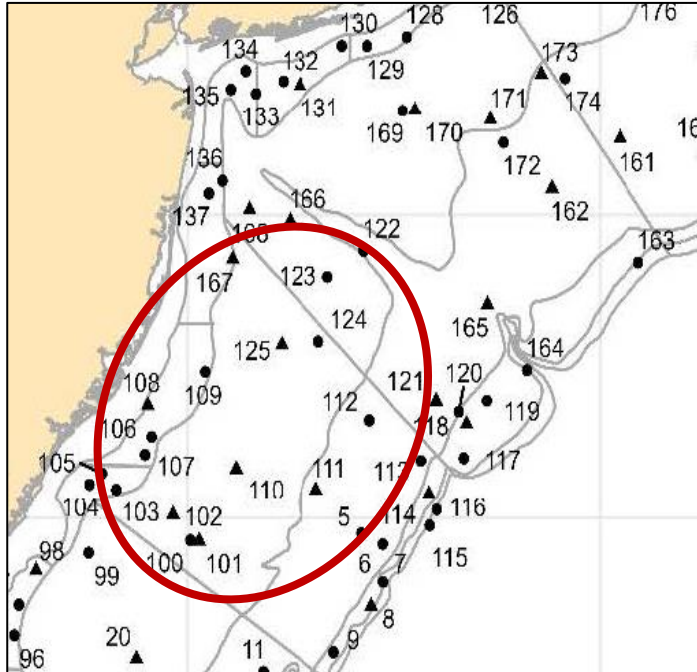


Figure modified from NEFSC

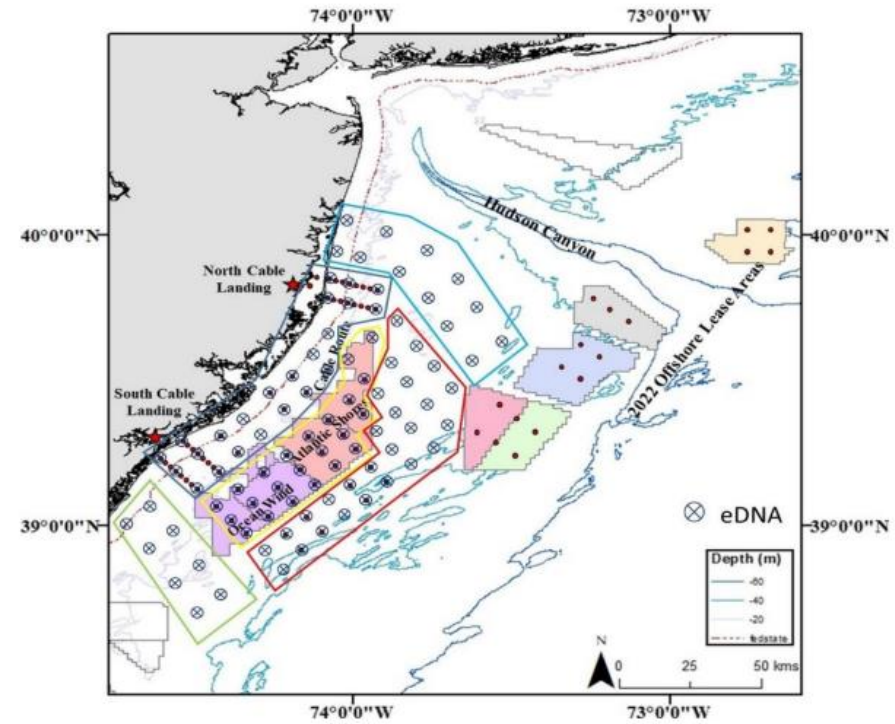


Figure from NJ RMI

Overview: current practice vs. SeaMe approach

Current practice

Mammals & Birds



High CO₂ footprint

ZERO CO₂



AI based drone technology

Benthos



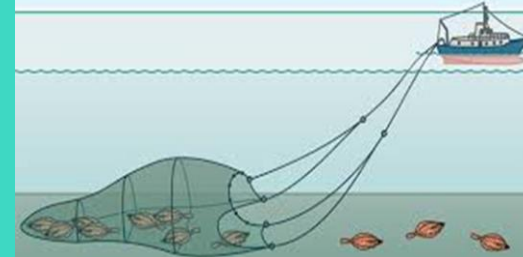
INVASIVE & CO₂ footprint

NON-INVASIVE & no CO₂ footprint



e DNA - Biodiversity

Fish



INVASIVE & CO₂ footprint

NON-INVASIVE & no CO₂ footprint



AI based under water video technology (24/7)

Ecosystem

- No ecosystem approach practiced
- VITAL organisms of the marine environment are phyto & zooplankton - not measured
- No regular measurement of physical parameters

Not investigated

Investigated



24/7 in situ sensors

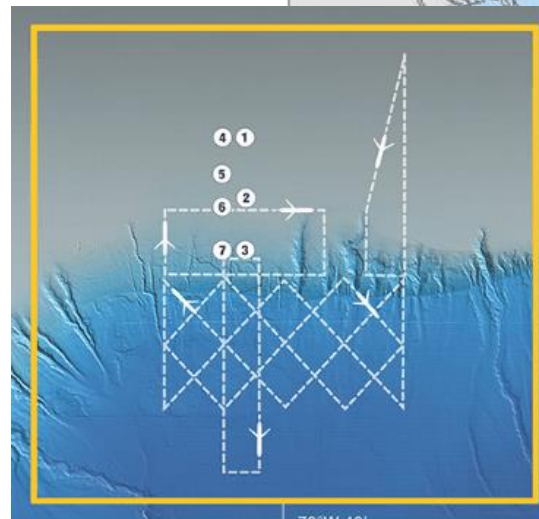
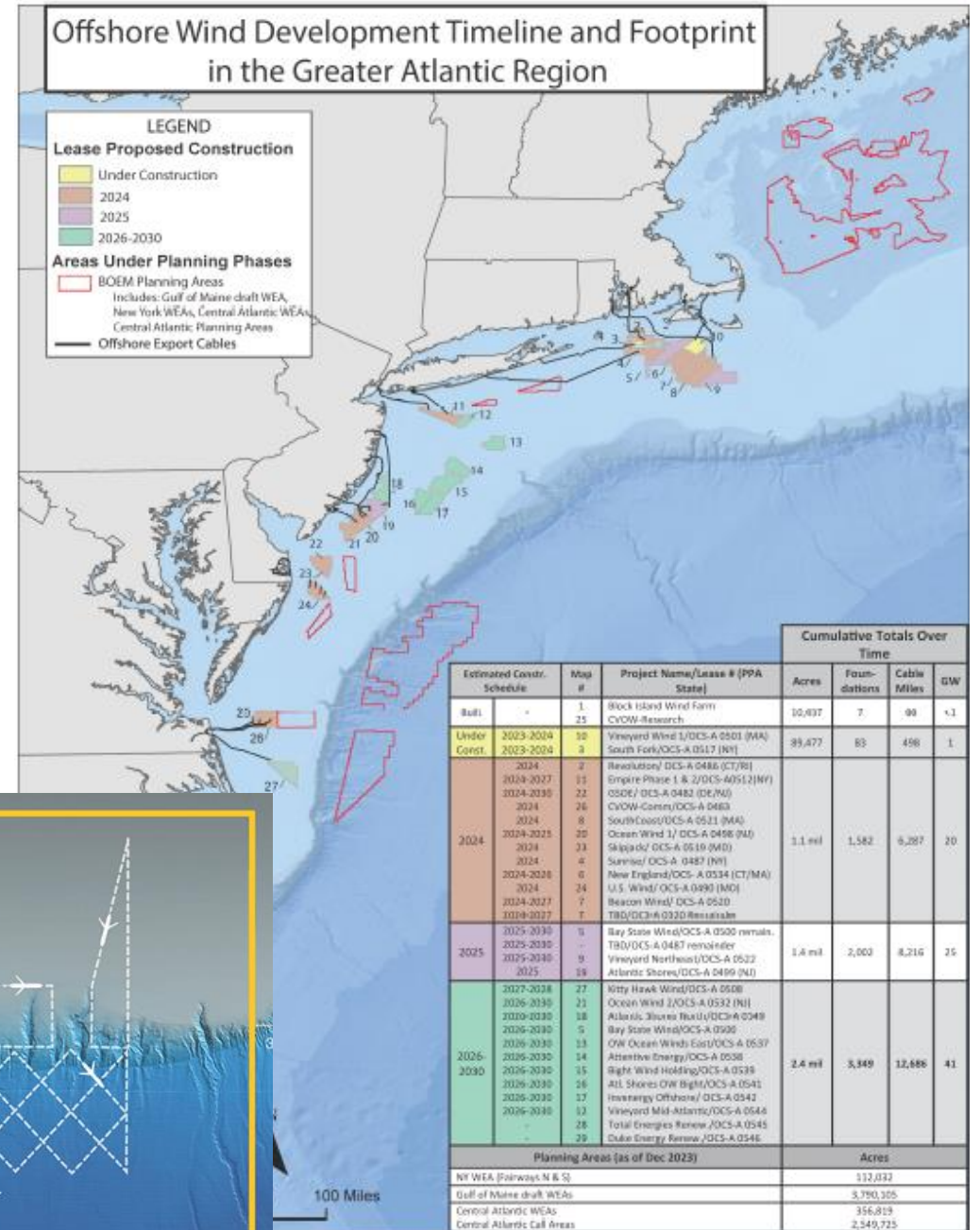
Offshore wind network

Substantial build-out

Concerns over monitoring

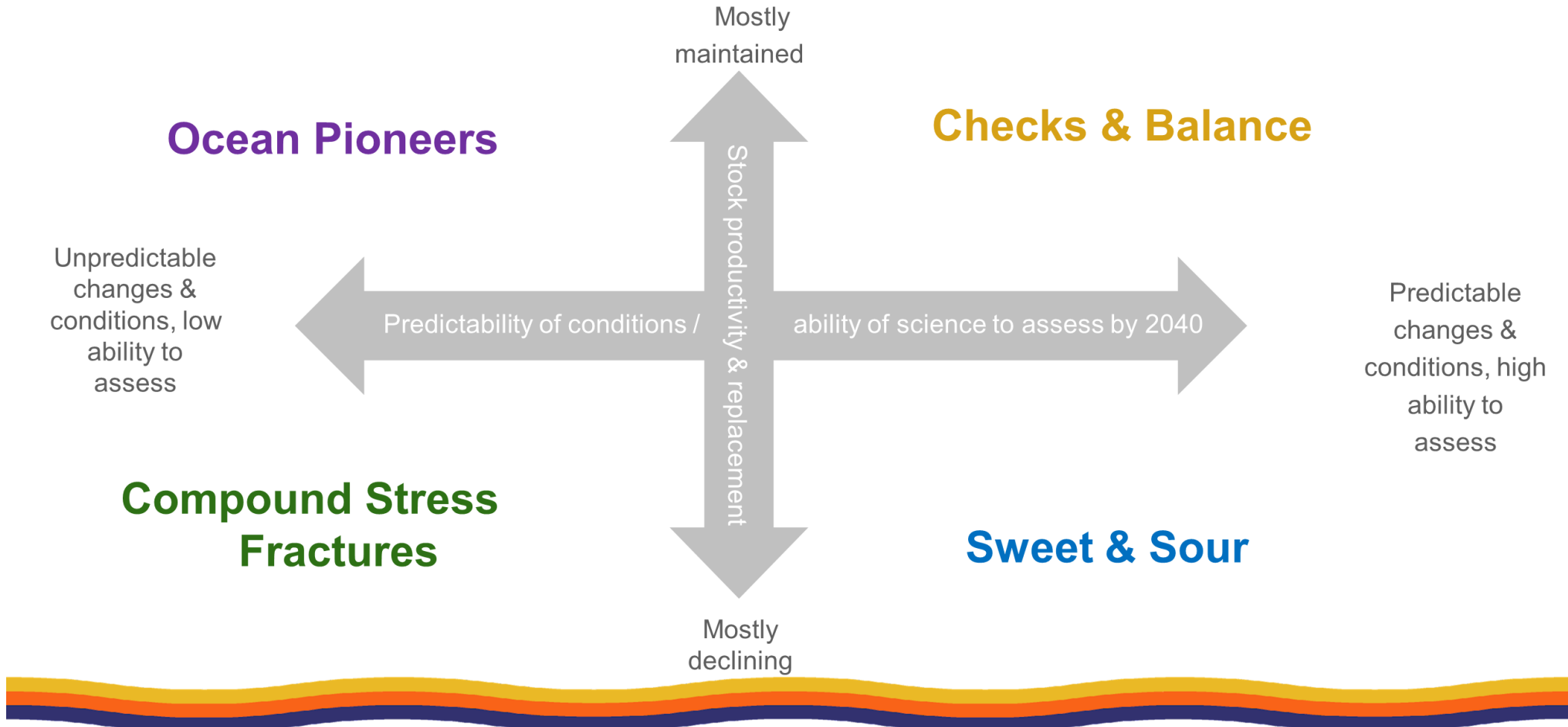
Real-time continuous monitoring

Network of observation platforms



East Coast Climate Change Scenario Planning

Step 4: Scenario Framework



Summary

Some detrimental effects to fisheries from climate change

Renewable energy is part of the solution

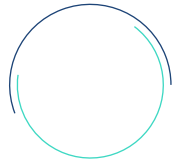
Not without hurdles

Committed to Mitigation Hierarchy

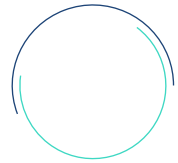
Establish net-positive outcomes



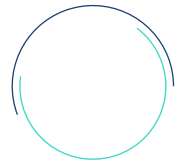
Conclusions



Establish a network of **sentinel observation platforms**



Enhance the **regional science enterprise**



Put us on the **right path** for successful fisheries

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Questions?

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