ROSA
Responsible Offshore Science Alliance

ROSA Advisory Council

June 18, 2025

Agenda

1:00pm **Welcome, Introductions, Agenda Review**

1:15pm **ROSA Updates**

1:50pm **Floating OSW Co-Design Project**

2:05pm **Partner Updates**

2:40pm **Break**

2:45pm **Research Highlights**

3:25pm **Action Items, Next Steps, and Other Business**

3:30pm **Adjourn**

ROSA

Introductions

Welcome Vincent Balzano to the Board

Capt. Balzano is the newest member of the ROSA Board of Directors.

- Third-generation fisherman with over 30 years of fisheries management experience,
- Served nine years on the New England Fisheries Management Council.
- Active in the groundfish sector, fishing out of Portland, ME & Gloucester, MA.

2025 ROSA Internship Update

Maryam Kraus

Tori Newton

Please welcome our 2025 interns!

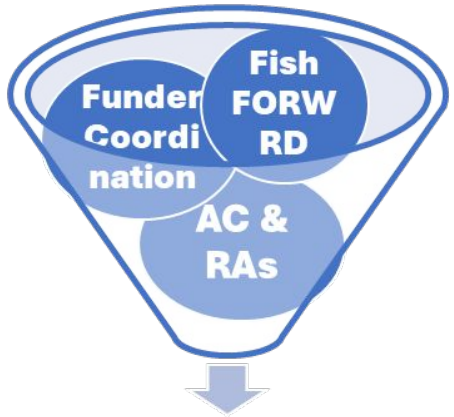
ROSA

ROSA Updates

Regional Research Program

Tricia Perez

ROSA RFP Development Process



RFP Development Plan	Research Topic Areas	Draft & Publish RFP	Review Concept Papers & Full Applications	Select Final Projects & Negotiate	Project Start & Management
complete	complete	complete	complete	current step	next step

ROSA

Advancing Regional Solutions for Fisheries and Offshore Wind

Topic Area	# Projects Selected
Supporting Fisheries Access	3 PROJECTS
Understanding Potential Offshore Wind Impacts to Larval Fish	1 PROJECT
Fisheries Monitoring: Data Integration, Evaluation, & Analysis	6 PROJECTS

Please note that the projects are not considered formally awarded until a contract has been fully executed by ROSA and the selected research entities, therefore the project awards and obligation of funds is not final.

ROSA
Regional Research Program

48 Concept Papers Received

24 Full Applications Invited

23 Full Applications Received

10 projects selected

ROSA

PROJECT SELECTION OVERVIEW

Topic Area	Lead Entity	Short Title	Region Addressed
Supporting Fisheries Access	UMaine	Co-Locating a Fixed Gear Fishery with a Demonstration Scale Floating Offshore Wind Turbine	GOM
	SMAST	Gear Monitoring Technologies for Safe Fishing in OFW	SNE
	GMRI	Supporting Fisheries Access in the Gulf of Maine	GOM
Larval Impacts	SMAST	Black Sea Bass Connectivity	SNE
Fisheries Monitoring	NEAQ	Impact of wind development on pelagic fishes	SNE
	SMAST	OFW Regional Monitoring and Analysis	SNE & Mid
	ASA Analysis & Communication, Inc	Multi-frequency Acoustic Monitoring of Regional Offshore Wind Impacts	SNE
	Smithsonian	Effective Acoustic Telemetry	SNE & Mid
	UMCES	Flyway Model	SNE & Mid
	Inspire Environmental	Fisheries Monitoring Mapping Tool	SNE & Mid

Data Governance Program

Mike Pol

Data Governance Program

Goal: To develop guidance for reuse of offshore wind fisheries data, in support of future regional or cumulative impacts assessments.

Focus on data streams from methodologies used in monitoring plans and OSW research

Leveraging data expertise of Intertidal Agency

Coordinate with ROSA RFP policies and requirements and RWSC

Outcomes:

- standardized data management practices
- support interoperability and reuse with other data efforts in the region

Supported by Avangrid, Ørsted, Attentive Energy, and AKRF

ROSA

Environmental Data Sharing Workshop

- Recommendation #5 from GAO Report on Actions Needed to Address Gaps in Interior's Oversight of Development (Apr. 2025): "*The BOEM Director should* ***develop guidance*** *and* ***specific requirements*** *for lessees'* ***data collection and sharing*** *across offshore wind energy projects.*"
- **Goal**: To develop an actionable strategy for ocean-based environmental data sharing and an implementable pilot program that enables the U.S. offshore industry to effectively share knowledge of environmental data that will benefit all stakeholders.
- **Objectives**:
  - Determine data being generated and shared, and what must be commercially protected.
  - Establish a common understanding of challenges with data sharing and develop an action plan.
  - Determine desired industry outcomes and areas where industry data sharing is most likely.
  - Identify subset of possible data types and collection methods that might benefit from standardization.
- 1.5 days (Wednesday, Thursday last week) in D.C.
  - First day: Establishing common understanding through status of data streams and examples
  - Second day: Three data streams (PSO, oceanographic data, benthic image data) with breakouts groups in the PM

ROSA

Environmental Data Sharing Workshop

- ROSA, RWSC, NROC, and MARCO data efforts were described
- Components and scope of sharing defined
- Current state of data sharing by industry - cloud or hard drives primarily
- Some existing repositories with appropriate capability
  - RWSC list: https://rwsc.org/research-data
- Many barriers to sharing, can be categorized as:
  - Purpose and process
  - Legal and contractual
  - Technical
- Examples: POWERON, UK Marine Data Exchange, US Navy Marine Species Monitoring Program, GOM-PROP, UNISON

Environmental Data Sharing Workshop

Benthic visual imagery takeaways

- Regulatory need for images that have information with bathymetry
- Developers often provide a method for viewing and sharing
- Potential cost savings to developers in a single site and data viewer
- Single site also encourages standardization of file names and other file level metadata
- Prior positive response by developers to suggestions and recommendations from BOEM
- ROSA WG to focus on metadata standards

Action plan will be forthcoming in the next few months

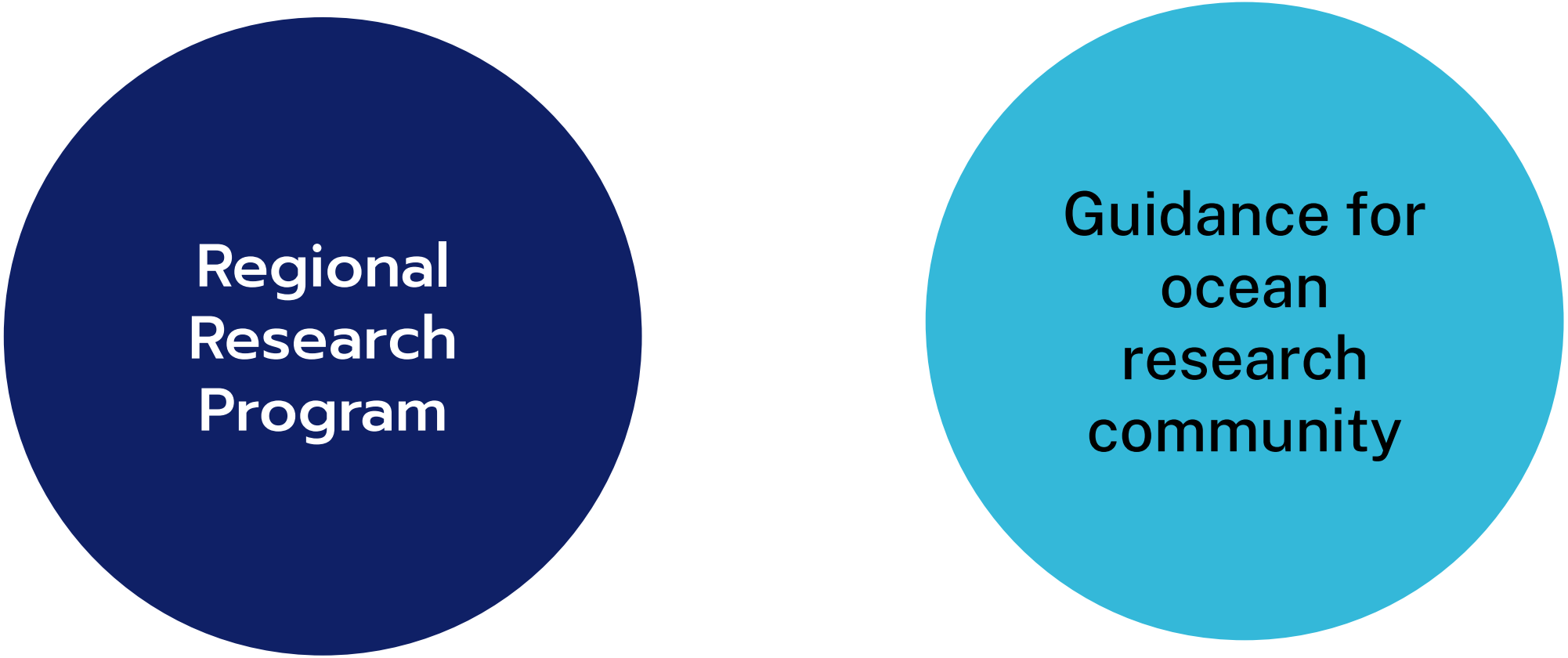
ROSA


Questions?

Data Governance Briefing

- Inform broader community to encourage support for ROSA's Data Governance Program beyond current efforts
- Held May 29, 2025 with over 70 attendees. Slides are posted.
- Described the evolving data landscape, including ROSA's Data Governance through Regional Research Program and DG Committee
- Reviewed regional partnerships
- Encouraged support through engagement as well as sponsorship

Two Primary Pathways to Improve Data Governance



DG Working Groups

Where should ROSA recommend people publish fisheries-related data?

How should data be organized to maximize discovery and reusability?

What else can ROSA do to support this?

For the specific sampling method, we want work groups to discuss & recommend

- Documentation (including metadata)
- Metadata standards and recommended repositories
- How to organize and structure datasets within a ‘project’
- Any other specific info to be included (i.e. special fields, tags)
- Catalog of experimental designs used
- How to be good managers for our future selves?
- How to preserve and publish data to answer regional questions?

Image Working Group

- Two meetings so far, third planned
- Good representation from primary data collectors
- Discussed range of data sources in area
- Which data are collected from each image
- Challenges to sharing
- Opportunity to collectively use images to train machine learning
- Processing methods
- Considered candidate repositories
- Discussed data sharing amendments to existing agreements

Fishing Gear Data Working Group

- Two meetings so far, third planned
- Discussed options for repositories
- Explored scenarios where sharing data would illustrate possibilities for deeper understanding
- Identified the need for clear, consistent data licensing agreements
- Cross-walk of metadata from several trawl surveys
  - Metadata tools are needed
- Assessment of number and size of data holdings

Working Timeline

FEB
Up to 3 work groups formed

MAR - JUN
Work groups draft recommendations, with support from Intertidal & ROSA

JUL - SEP
drafts out for community comment, feedback incorporated

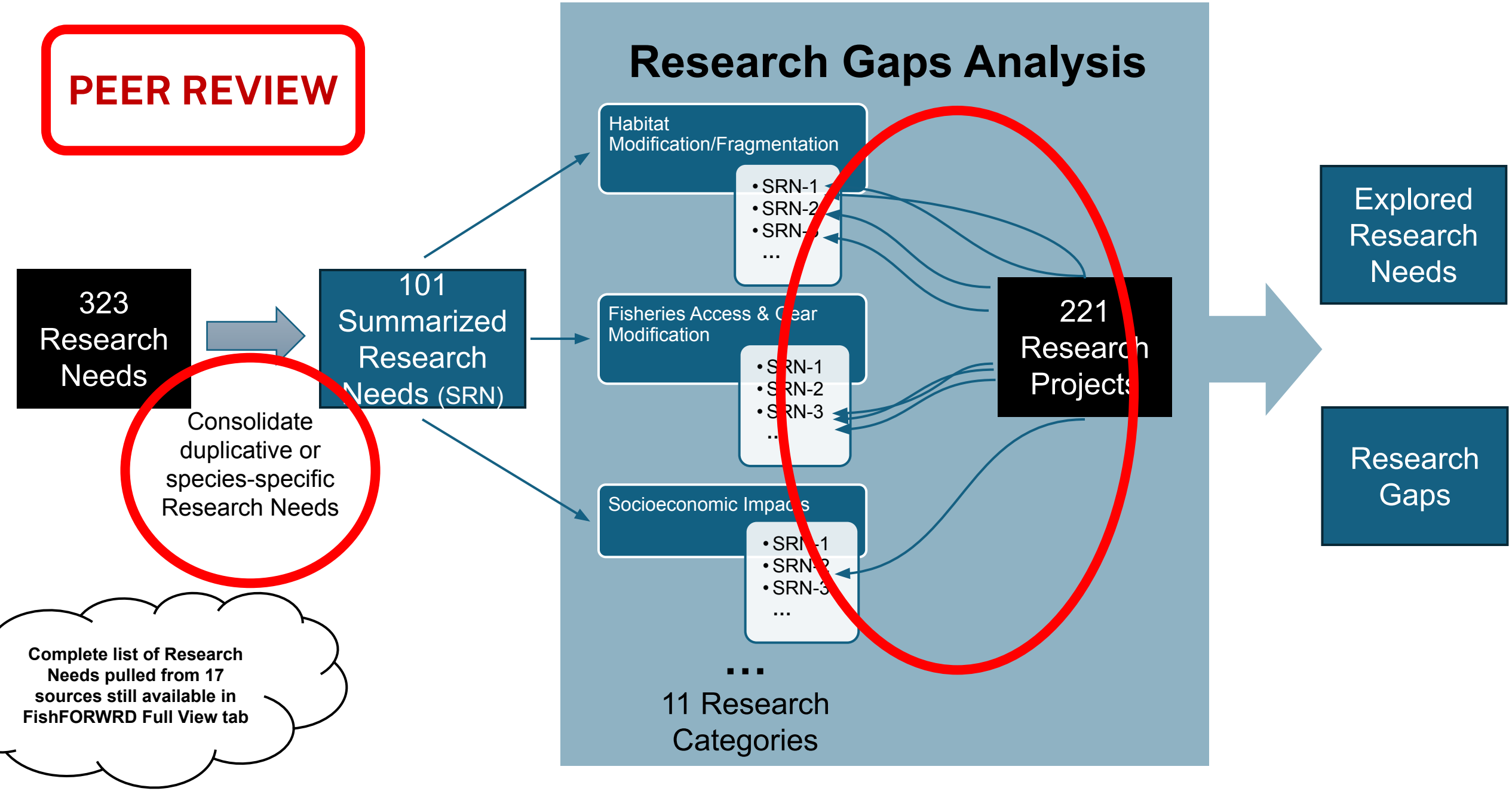
OCT
v1 materials released by ROSA

Joint Image & Fishing Gear Data Group

- Tuesday, June 24, 15:00 – 16:00 by Zoom

Research Gaps Analysis Peer Review

Tricia Perez


PEER REVIEW
323 Research Needs
Consolidate duplicative or species-specific Research Needs
101 Summarized Research Needs (SRN)
Complete list of Research Needs pulled from 17 sources still available in FishFORWRD Full View tab
Research Gaps Analysis
Habitat Modification/Fragmentation
• SRN-1
• SRN-2
• SRN-
...
Fisheries Access & Gear Modification
• SRN-1
• SRN-2
• SRN-3
...
Socioeconomic Impacts
• SRN-1
• SRN-2
• SRN-3
...
...
11 Research Categories
221 Research Projects
Explored Research Needs
Research Gaps

2025 Peer Review of ROSA Gaps Analysis

Purpose

The purpose of the **Research Gaps Analysis** is to create a common understanding of progress made and research still needed to understand the impacts of offshore wind on fish and fisheries on the U.S. East Coast

The purpose of the **2025 Peer Review** is to assess the methods used to conduct the Research Gaps Analysis and validate the results.

ROSA

2025 Peer Review of ROSA Gaps Analysis

TEAM	RESEARCH CATEGORY
1	Cumulative Impacts & Fisheries Management Implications
	Data Management
2	EMF
	Sound/Vibration Impacts
3	Fisheries Engagement & Capacity Building
	Fishery Access & Gear Modification
	Socioeconomic Impact
4	Habitat Fragmentation/Modification
5	Species Distribution/Composition
6	Survey Adaptation
	Resource Monitoring

Outcomes of Peer Review

Benefits

- Peer reviewed results by ROSA community
- Provide efficiency for funders
- Facilitate next generation of scientists and new research ideas
- Inform future developer Fisheries Monitoring Plans

Deliverables

- Final Report **THIS FALL**
- FishFORWRD Gaps Analysis Tab

Used to inform future ROSA RFP Topic Areas

ROSA

Sunrise Wind/ROSA Research Agreement

- Ørsted's Sunrise Wind project selected in NY4 Solicitation requiring $5,000/MW for fisheries and offshore wind research
- Topic Areas Selection Process
  - Peer Reviewed Gaps Analysis (FishFORWRD)
  - Advisory Council
- RFP
- Project Management Process

ROSA

Update on Wind Symposium at the AFS 2025 Annual Meeting

- American Fisheries Society Annual Meeting, San Antonio, Aug. 10-14
  - Early registration extended to July 8th
- Offshore Wind, Fish and Fisheries Symposium
  - Co-convening with BOEM, NMFS, RODA, NYSERDA, TNC, TetraTech
  - Expecting a mix of 23 talks and posters
  - Topics generally in four categories
    - habitat/reef effects; survey impacts; monitoring; miscellaneous
  - Tricia will be presenting on the Gaps Analysis
  - Discussion sessions at the end of each day
- ROSA will have a booth on the Exhibit Floor - drop by to see Tricia and Mike!

ROSA

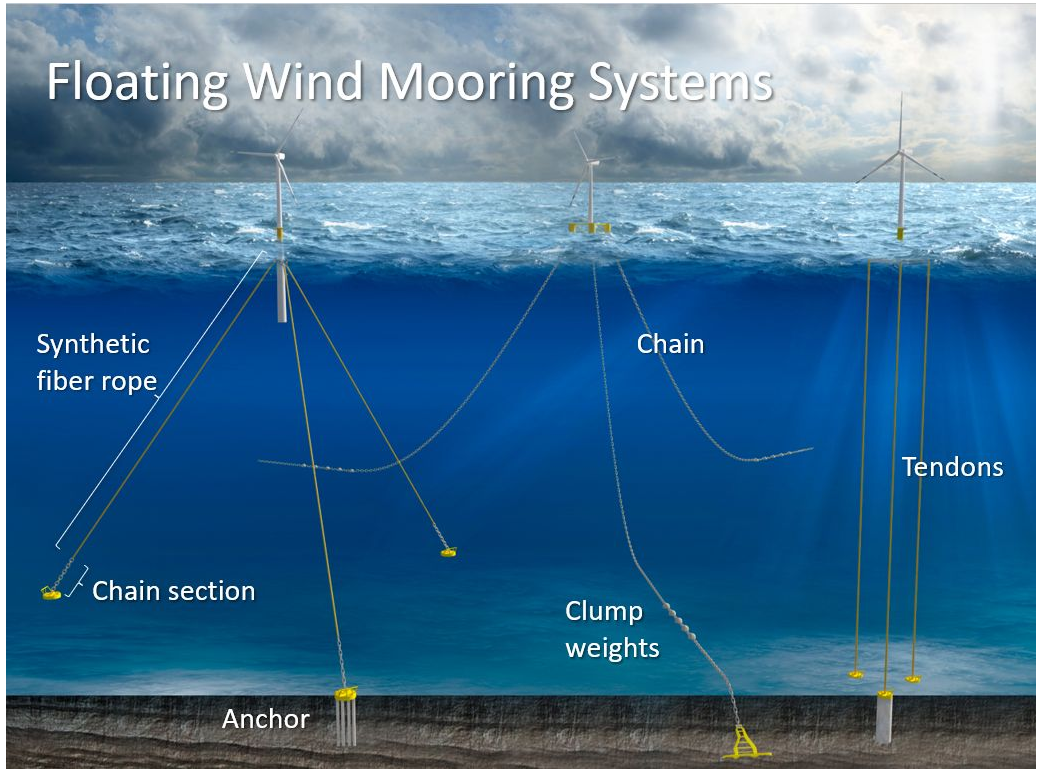
Co-Design Solutions for U.S. Floating Offshore Wind Farms and Fishing Compatibility

National Renewable Energy Laboratory (NREL)
University of Maine
Responsible Offshore Science Alliance (ROSA)

This project is funded by National Offshore Wind Research and Development Consortium (NOWRDC) and ROSA's work was supported with funding from the Alliance for Sustainable Energy, LLC, Managing and Operating Contractor for the National Renewable Energy Laboratory (NREL) for the U.S. Department of Energy.

Background

- Floating wind presents unique challenges compared to fixed-bottom. Potential to interact with commercial and recreational fishing gear and limit fishing access:
  - Platform
  - Mooring lines
  - Dynamic cables
  - Anchors
- U.S. floating wind designs are still being developed and the opportunity exists to co-design novel floating wind technology solutions to mitigate risks to the fishing community

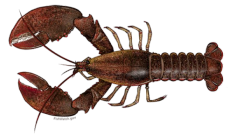


Develop novel floating array design concepts for the U.S. industry through a co-design process with U.S. commercial and recreational fishermen that optimize the potential for floating wind farms to coexist with fishing activities.

Project Update & Team

- **Project Update:** Project resumed on 6/1/2024

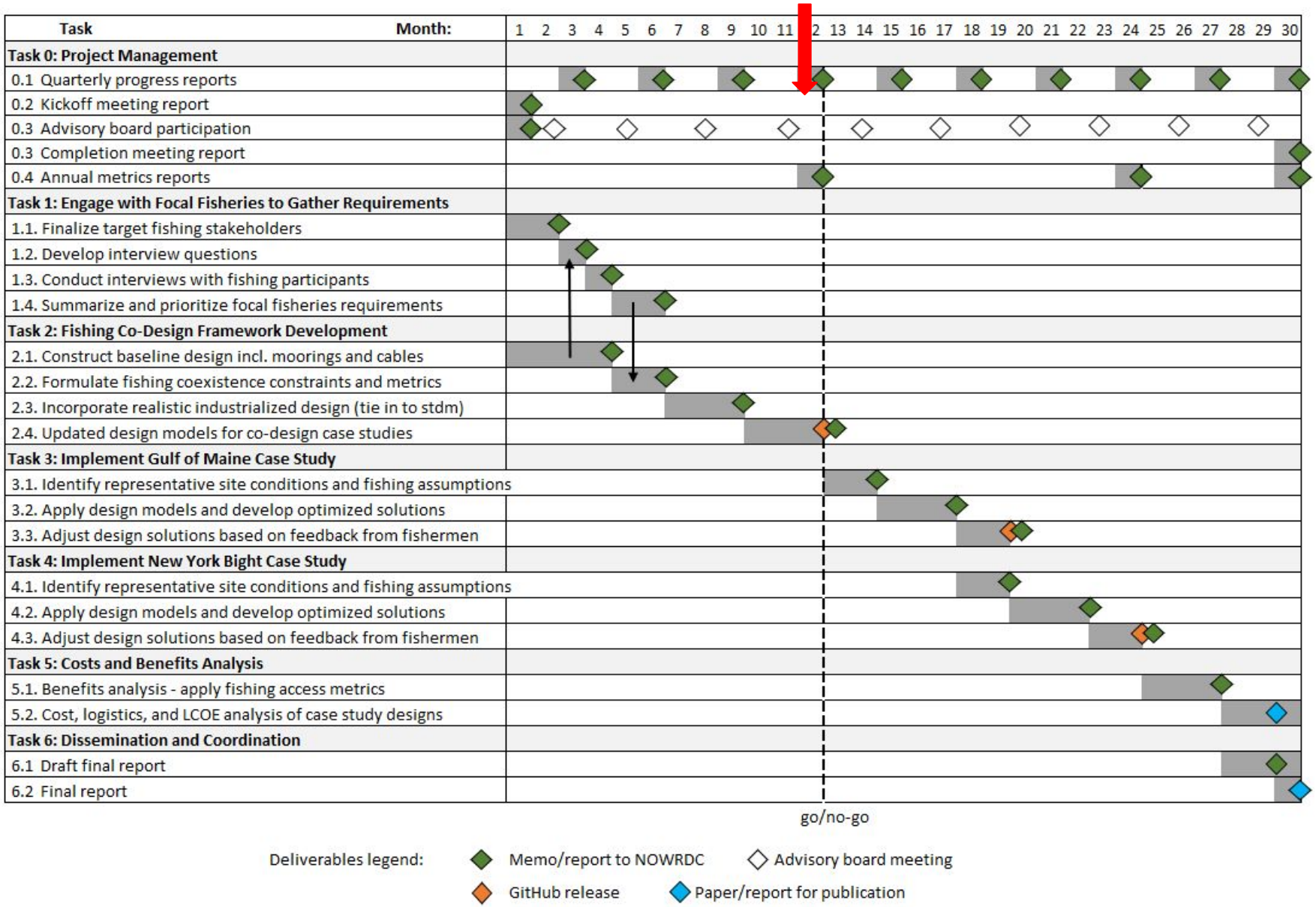
- **Project Team**
  - **NREL** – Project lead and floating wind mooring design tools
  - **ROSA –** Fishing industry engagement in the Central Atlantic
  - **University of Maine –** Fishing industry engagement in the Gulf of Maine
  - **Fishing industry –** Involvement of commercial and recreational fishermen in participatory co-design process



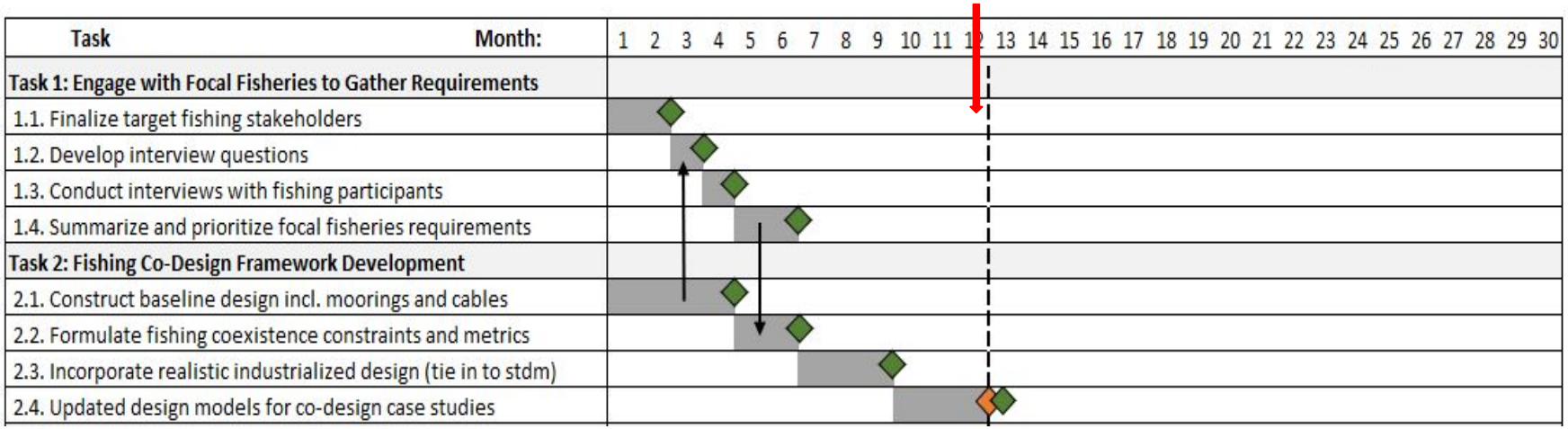
Objective

Develop novel floating array design concepts for the U.S. industry through a co-design process with U.S. commercial and recreational fishermen that optimize the potential for floating wind farms to coexist with fishing activities.

Project Schedule

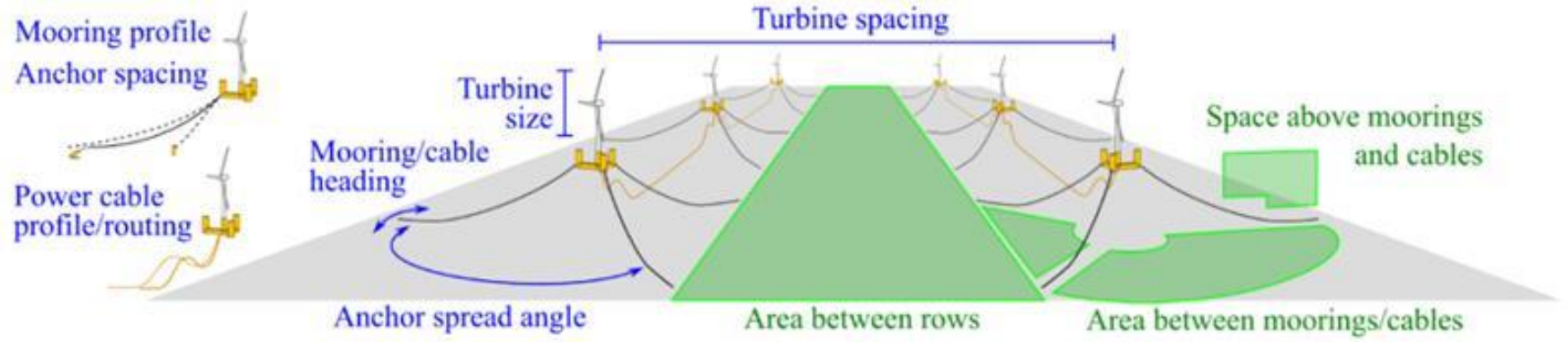


Task 1: Engage with Fisheries



Co-Design Framework

- Gather input from fisheries and literature
- Categorize fishery spatial requirements
- Evaluate design variables at the single turbine scale (mooring, cables) and the array scale (turbine spacing, orientation)
- Balance cost and Annual Energy Production (AEP) impacts with improving fishing access



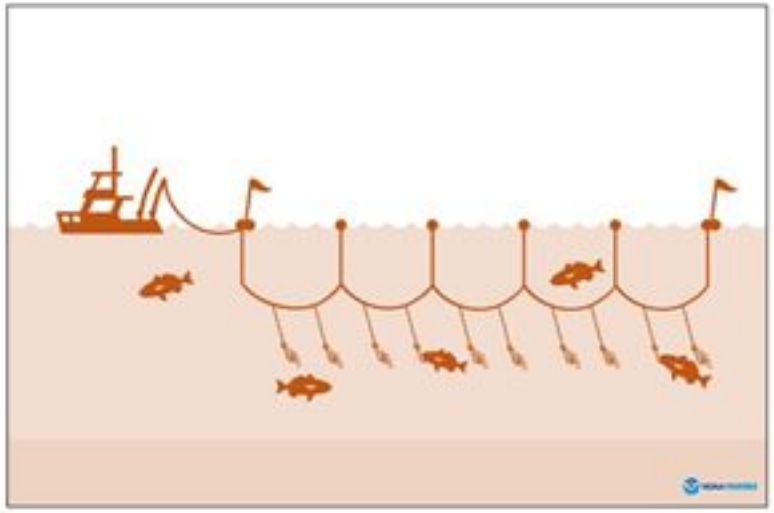
Fishing Engagement

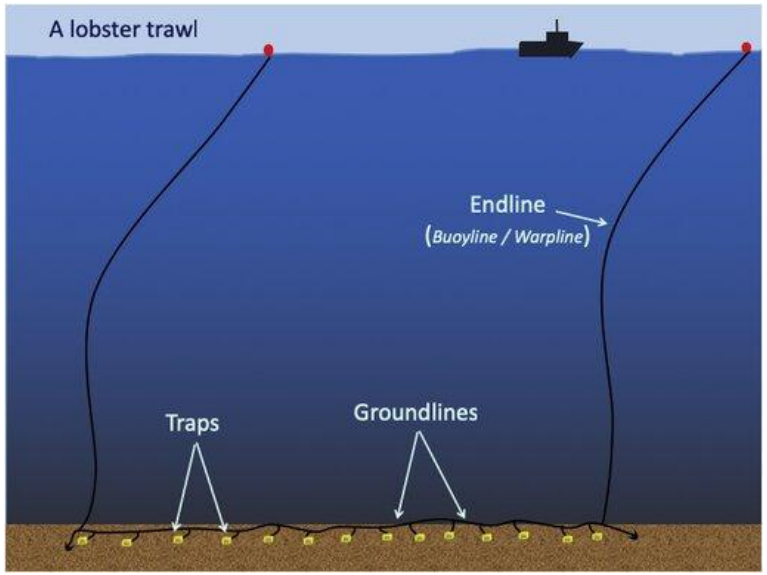
Gulf of Maine (Fixed Gear Case Study):

- **4** interviews completed
- **59 – 87** minutes

Mid-Atlantic (Mobile Gear Case Study):

- **2** interviews completed
- **135 – 180** minutes





Fishing Engagement - Space Needed

- **Lobster: 1 nm**
  - 1.2 x bad weather drift of 25 trap trawl
- **Gillnet: 0.9 nm**
  - 1.2 x highest drift number estimated by fisheries (0.75 nm)
- **Fish pots: 180 ft**
  - 1.2 x spatial requirement (25 fa)
- **Demersal (bottom) Long Line: 1.2 nm**
  - 1.2 x spatial requirement (1 nm)
- **Pelagic Long Line: 24 nm**
  - 1.2 x gear length (also bad weather drift) (20 nm)
- **Rod and reel: 0 m**
  - Indicated could fish as close as possible to infrastructure if the fish were there

Fishing Engagement

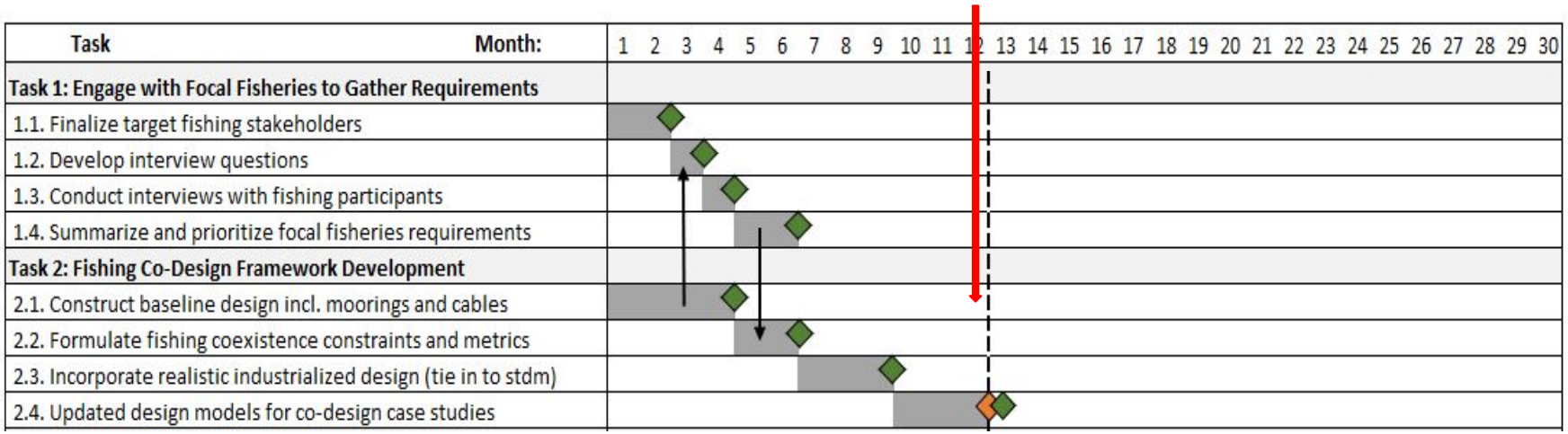
Gulf of Maine

Key Informant	Comfort Near Fishing Gear	Comfort In-Between Turbine Rows	Comfort In-Between Mooring Lines
F1	Comfortable	Comfortable	Comfortable
F2	Uncomfortable/Somewhat Uncomfortable	Very Uncomfortable	Very Uncomfortable
F3	Very Comfortable	Very Uncomfortable	Very Uncomfortable
F4	Very Comfortable	N/A	N/A

Central Atlantic

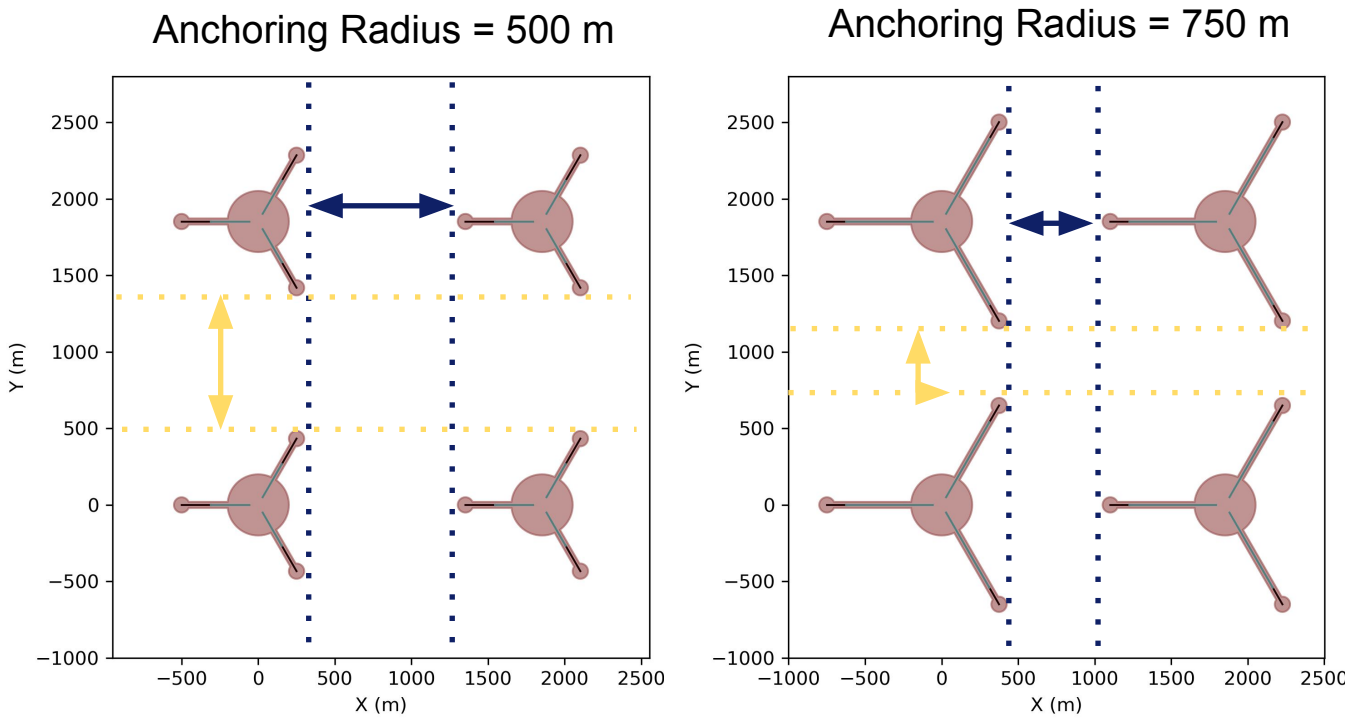
	Near Other Fishing Gear Or Fixed Structures	Between Turbine Rows	Between Moorings or Cables	Above Moorings or Cables
Pelagic longlining	Very Uncomfortable	Very Uncomfortable	Uncomfortable	Very Uncomfortable
Demersal longline	Uncomfortable	Somewhat Comfortable	Uncomfortable	Very Uncomfortable
Gillnet	Somewhat Comfortable	Uncomfortable	Uncomfortable	N/A
Fish Pots	Comfortable	Somewhat Comfortable	Uncomfortable	N/A
Rod and Reel	Very Comfortable	Very Comfortable	Very Comfortable	Very Comfortable

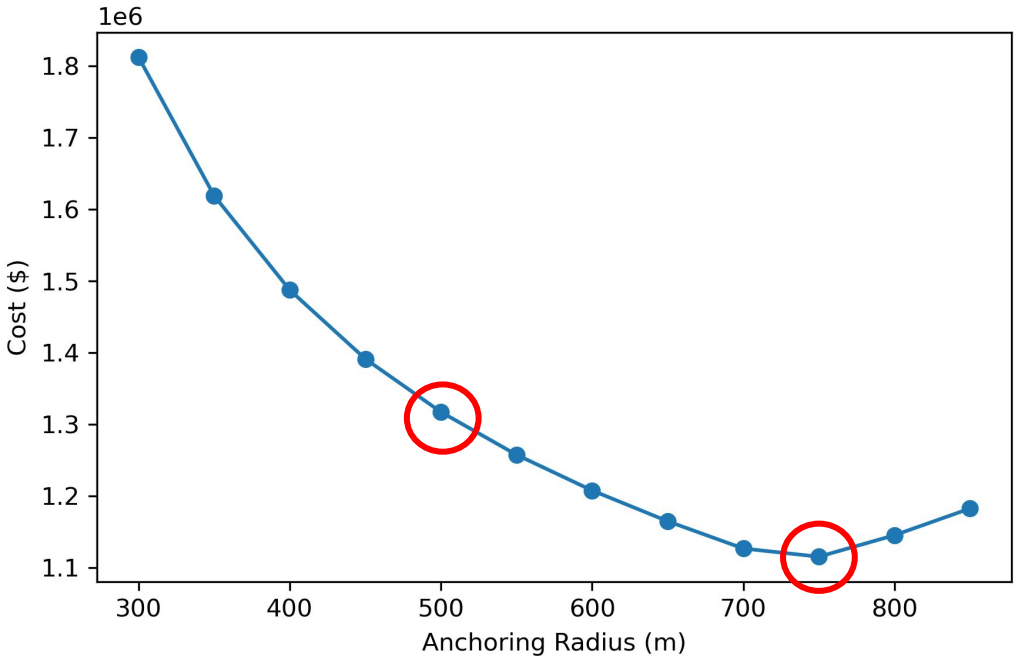
Task 2.1 Fishing Codesign Framework



Single-Turbine Scale

Mooring anchoring radius is the most critical design variable

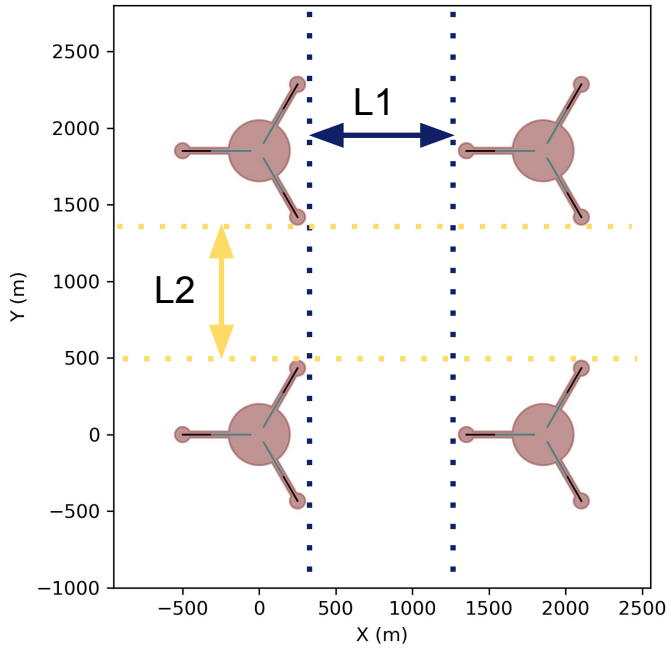


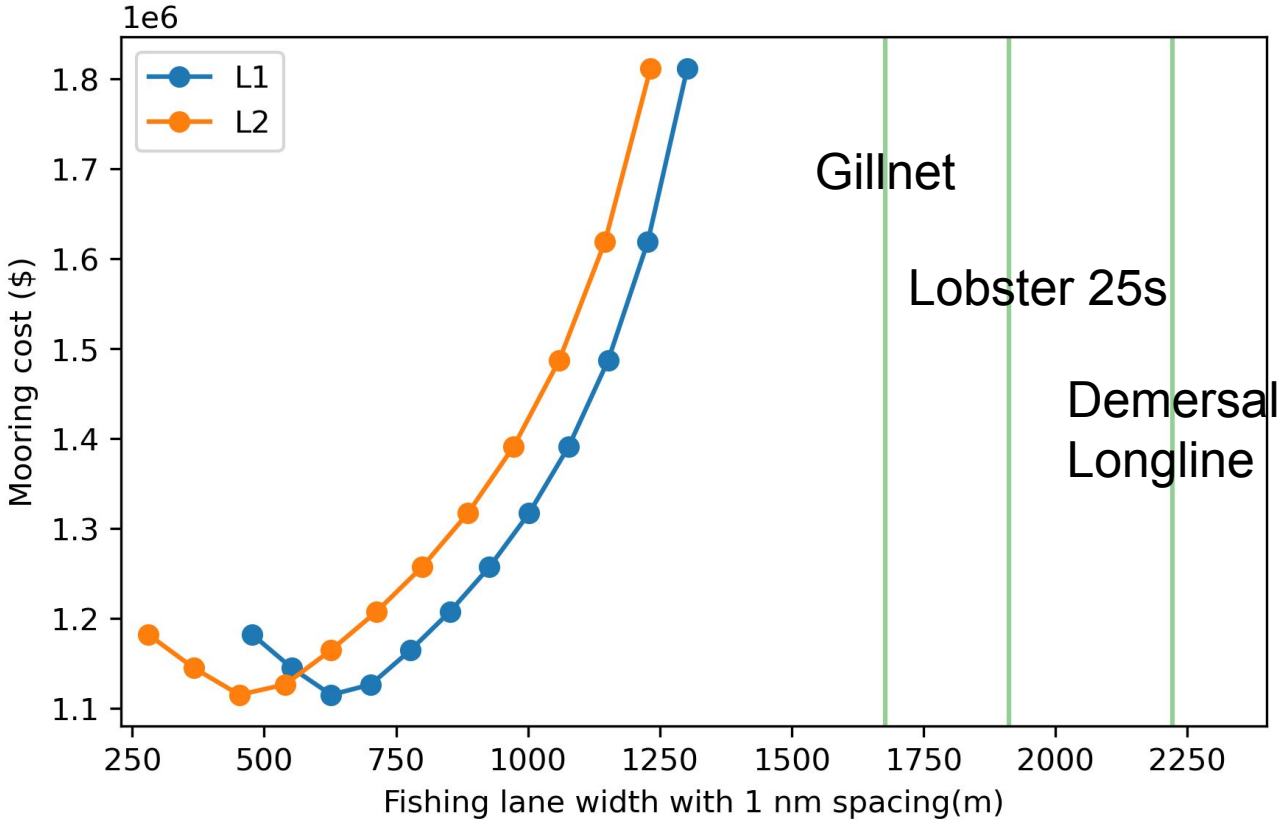


Decreasing the mooring anchoring radius increases the cost

Single-Turbine Scale

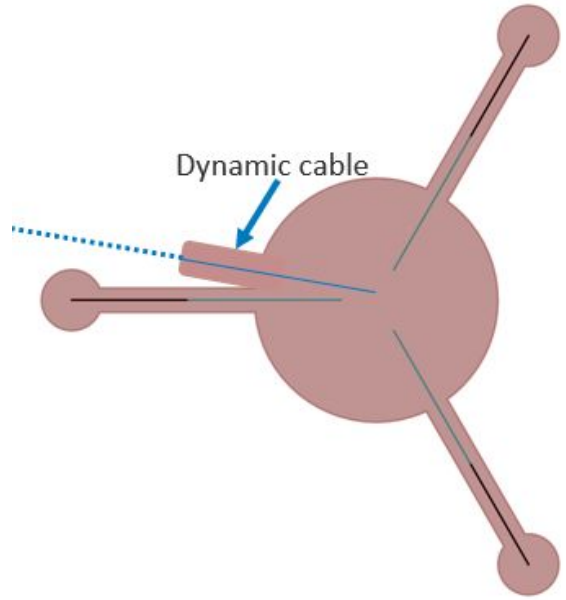
- With 1 nm spacing, some gear types won't fit between anchors
- Need to consider more irregular patterns

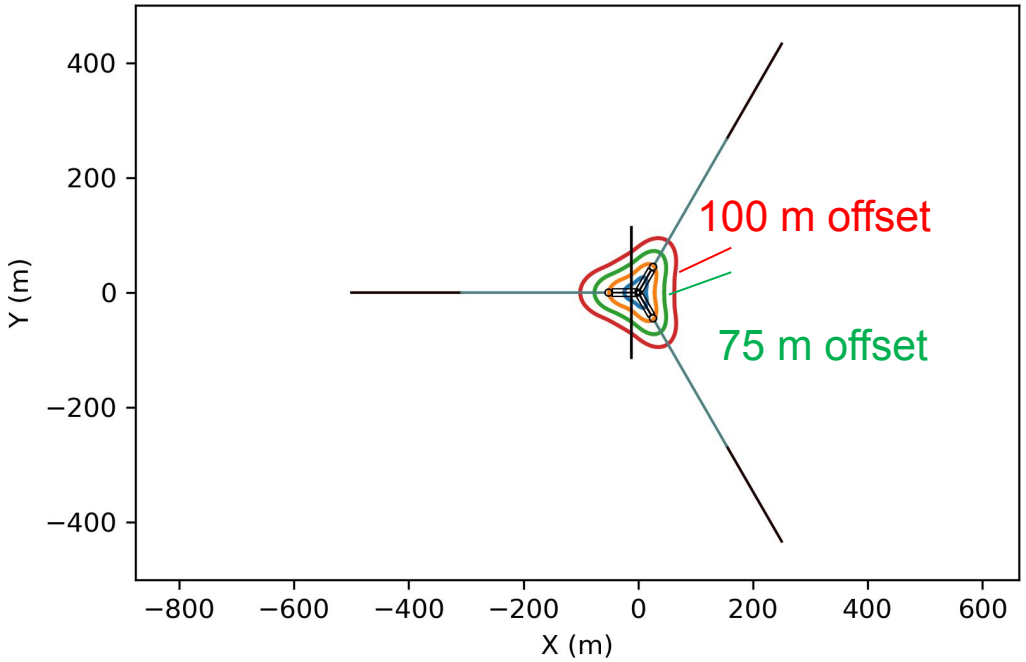




Single-Turbine Scale

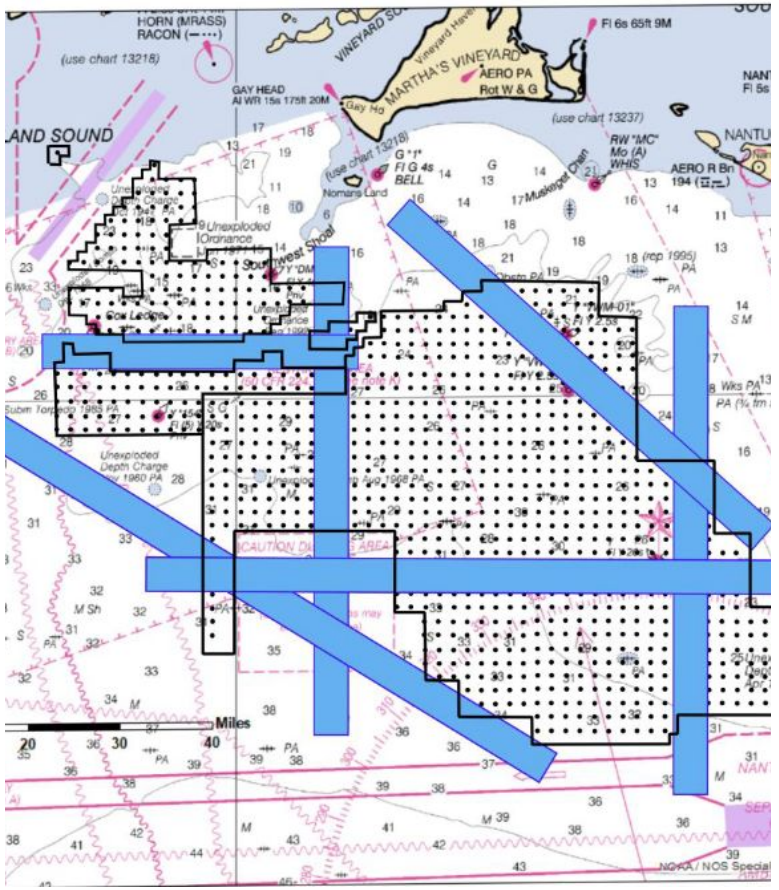
- Additional considerations:
  - Cable touchdown point is less than mooring radius, so cable design is of lower importance
  - Platform offsets are small relative to the mooring anchoring radius





Array Scale Fishing Lanes

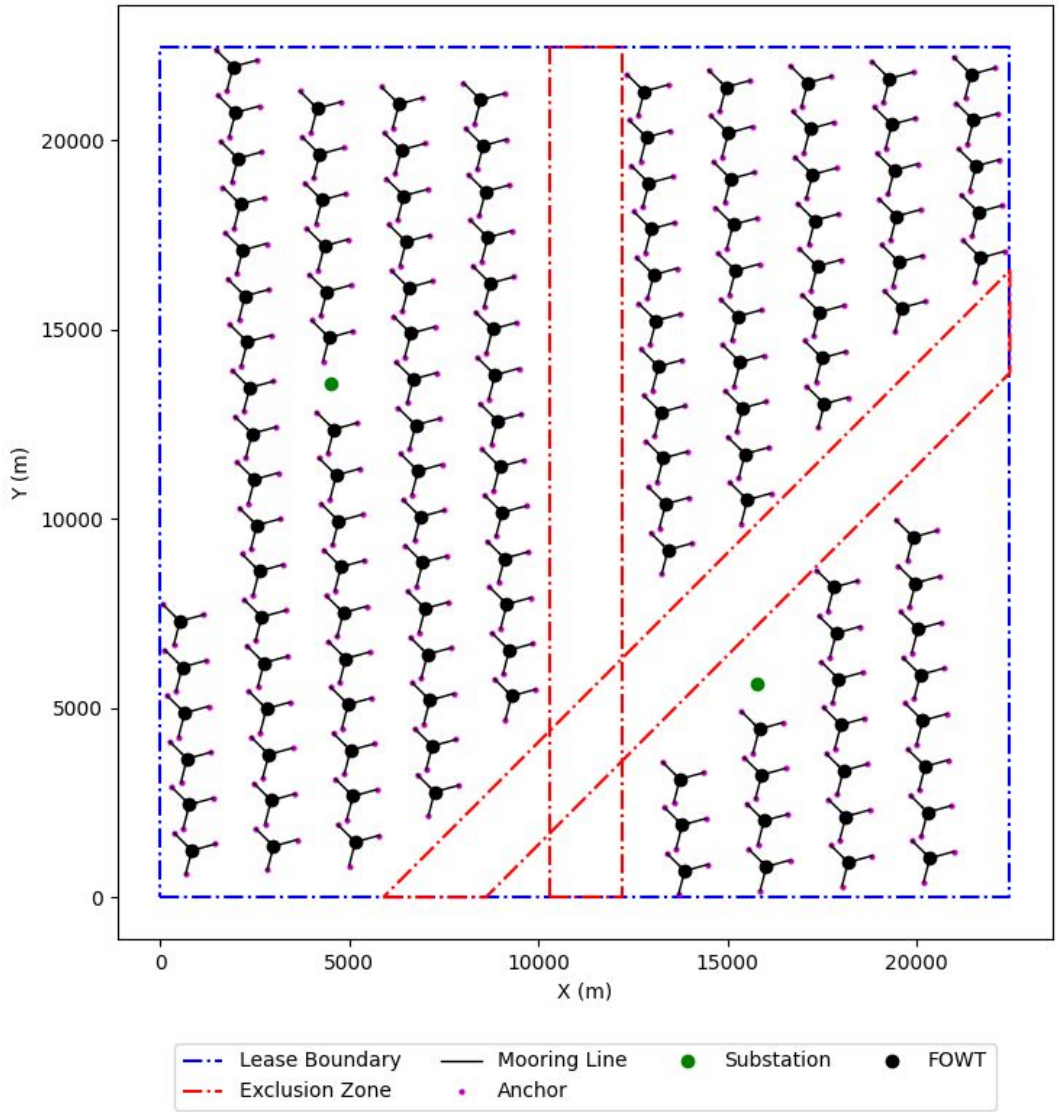
- Lit review
  - Responses to BOEM proposed lease area layouts
  - Previous co-design work
- Fishing interviews
  - Gear size, drift, spatial requirements, deployment methods
- Key takeaways:
  - Fishing compatible layouts are site specific, not a one size fits all solution
  - Transit lanes are a common request by fisheries
  - Uniform grids (predictable) layouts are preferred by fishermen and USCG



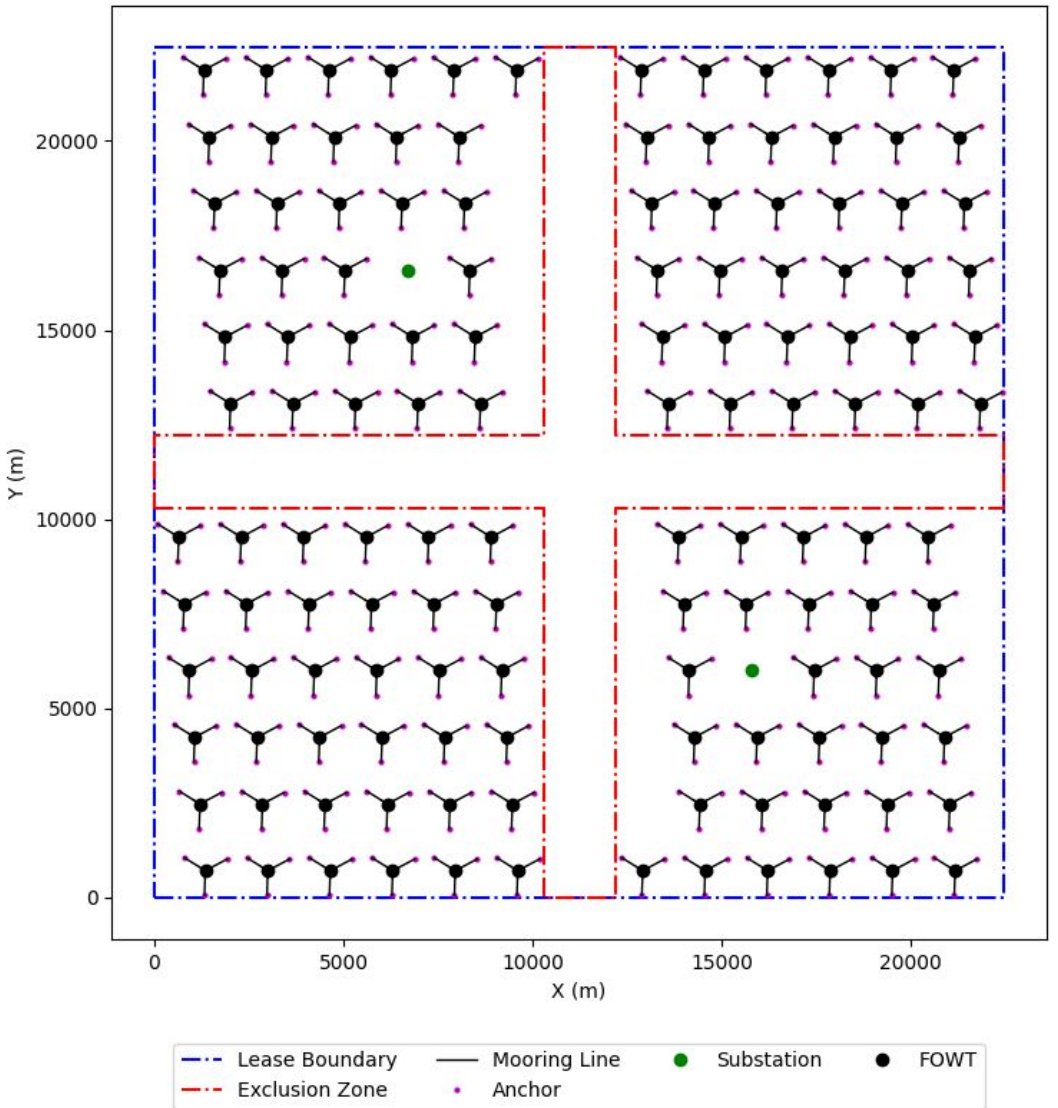
RODA proposal sent to BOEM, NOAA, and USCG: Proposal for New England wind energy project layout with transit lanes for safe passage of vessels

Array Scale Fishing Lanes

N-S and NE-SW fishing lanes

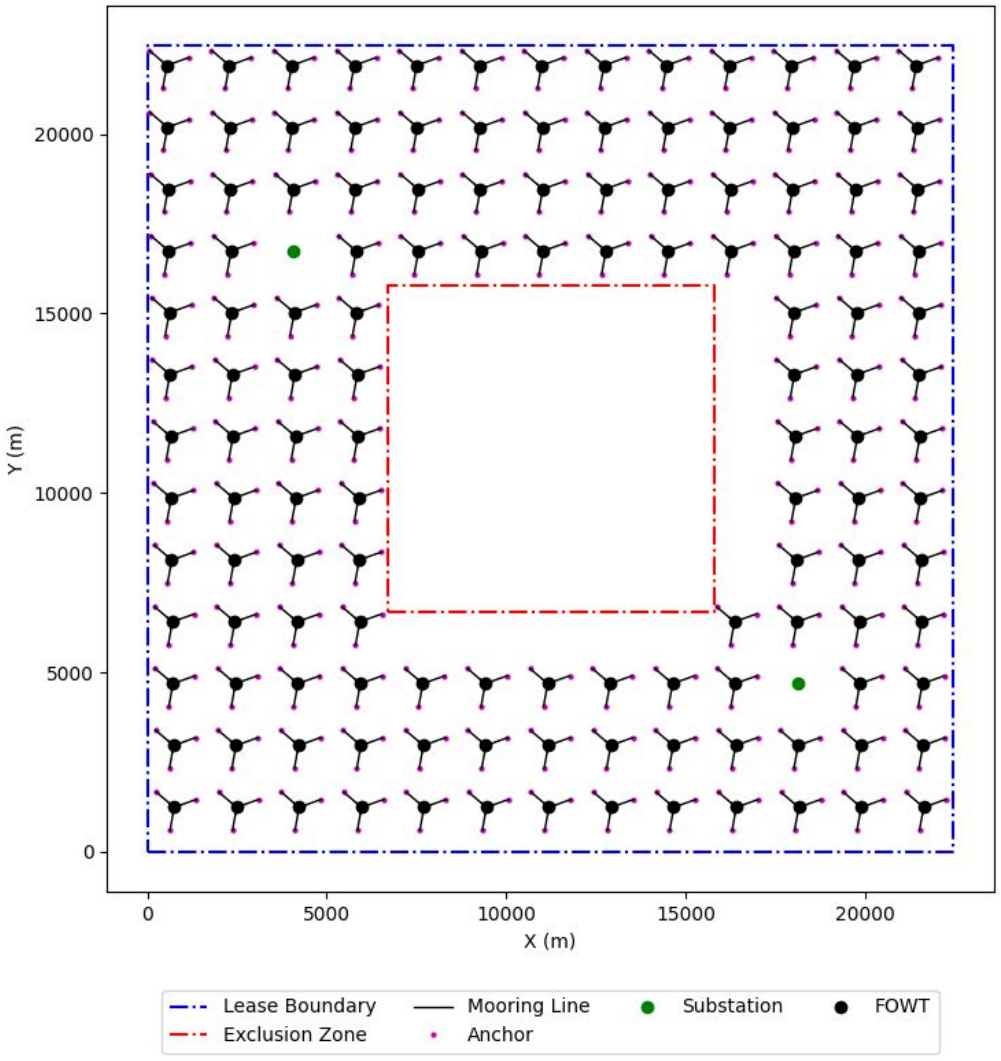


Cross-shaped fishing lanes

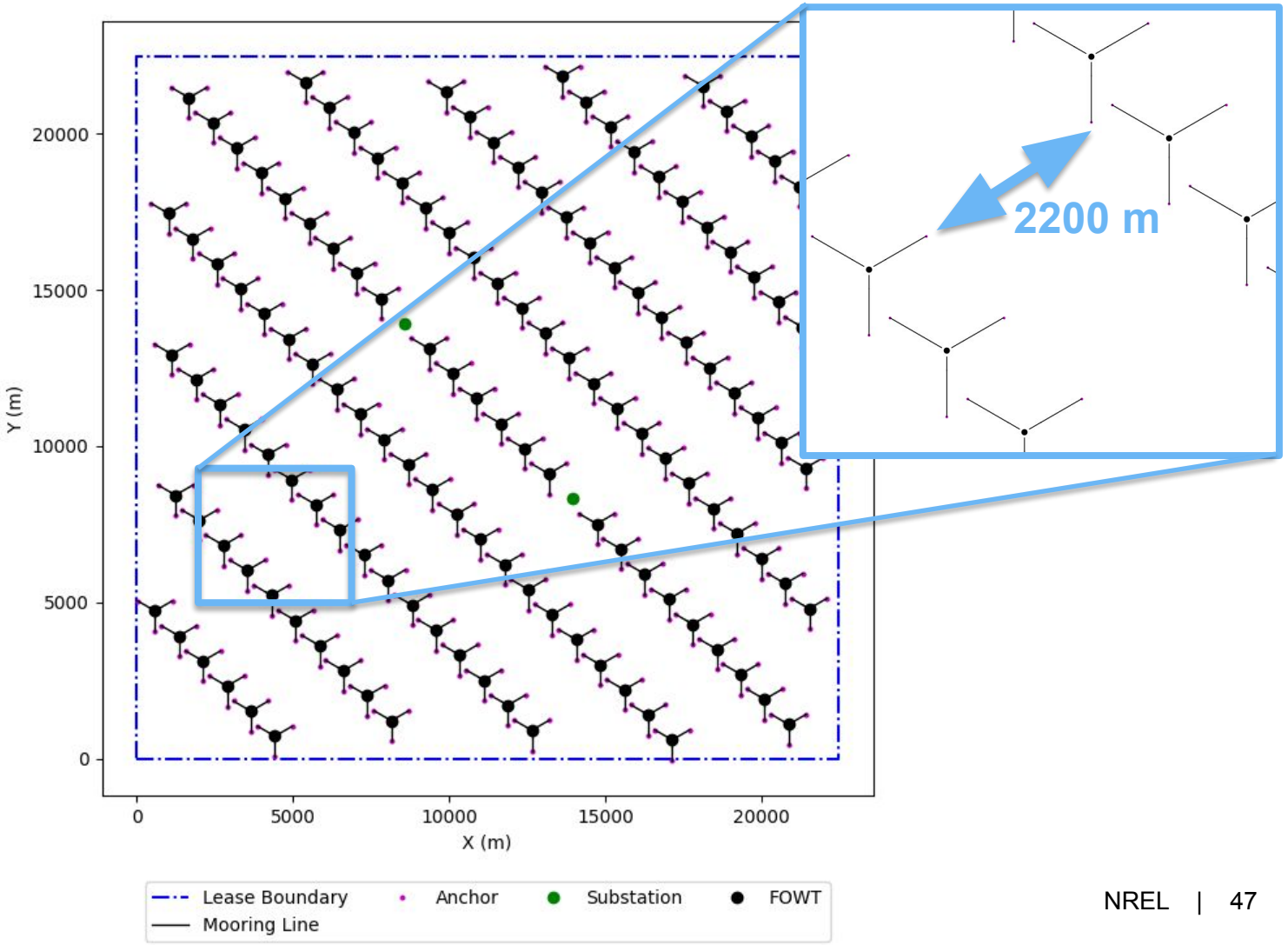


Array Scale Fishing Lanes

Box-shaped Fishing Area

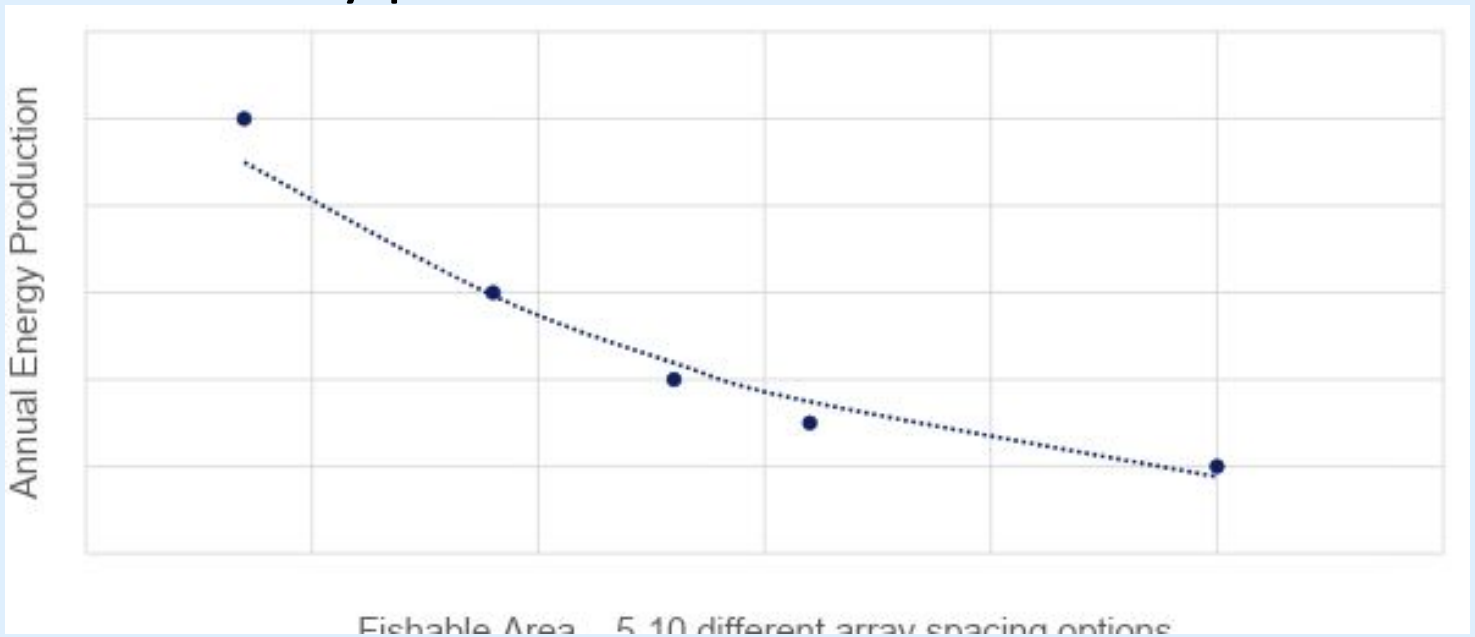


Rows wide enough to fish between



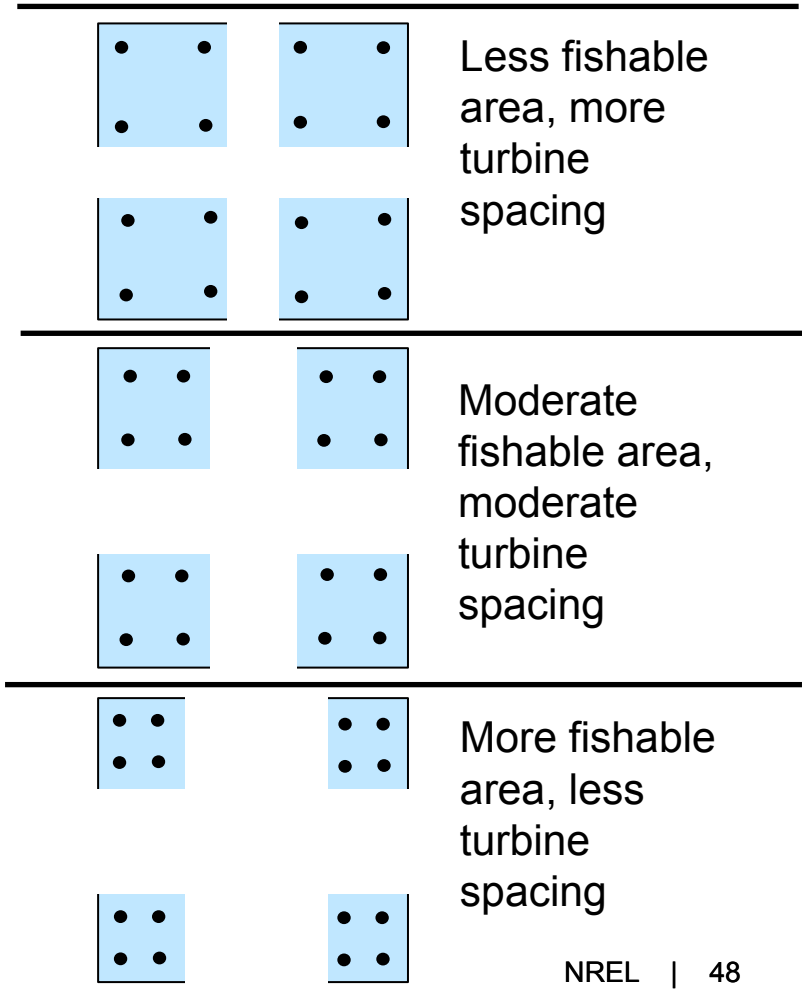
Array Scale Fishing Lanes

For each array pattern



- Minimum fishable area informed by fishery inputs
- Larger fishable areas will decrease turbine spacing
- Goal: analyze AEP vs fishing tradeoffs for a range of possible patterns

Example of fishable area changes for a pattern: (not to scale)

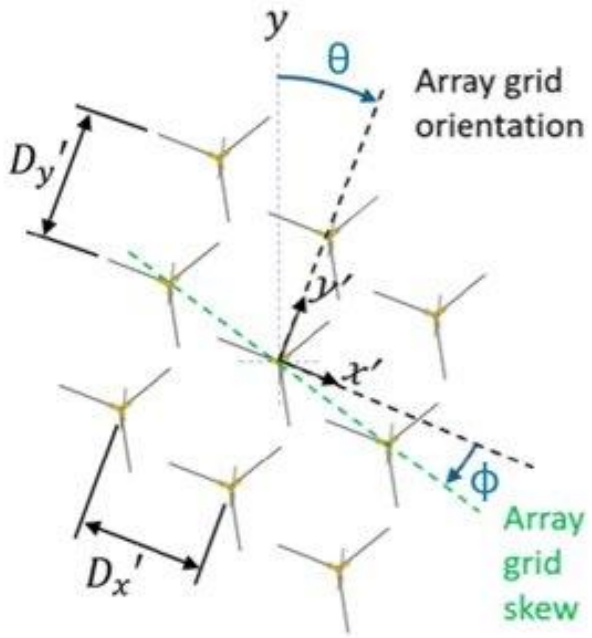


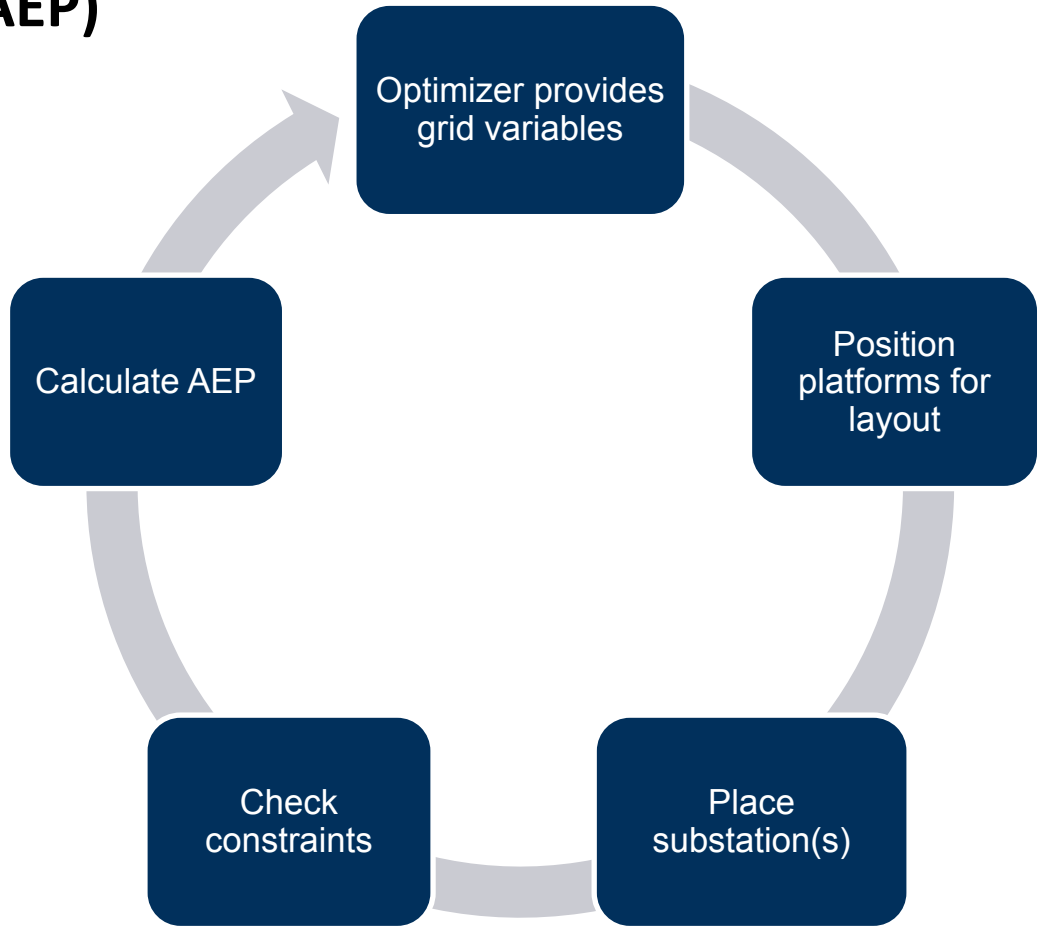
Array Scale Optimization

Layout optimization for annual energy production (AEP)

- Particle Swarm Optimization (PSO)
  - Gradient-free
- Design variables
  - X and Y spacing
  - X and Y translation
  - Grid orientation
  - Grid skew
  - Turbine orientation

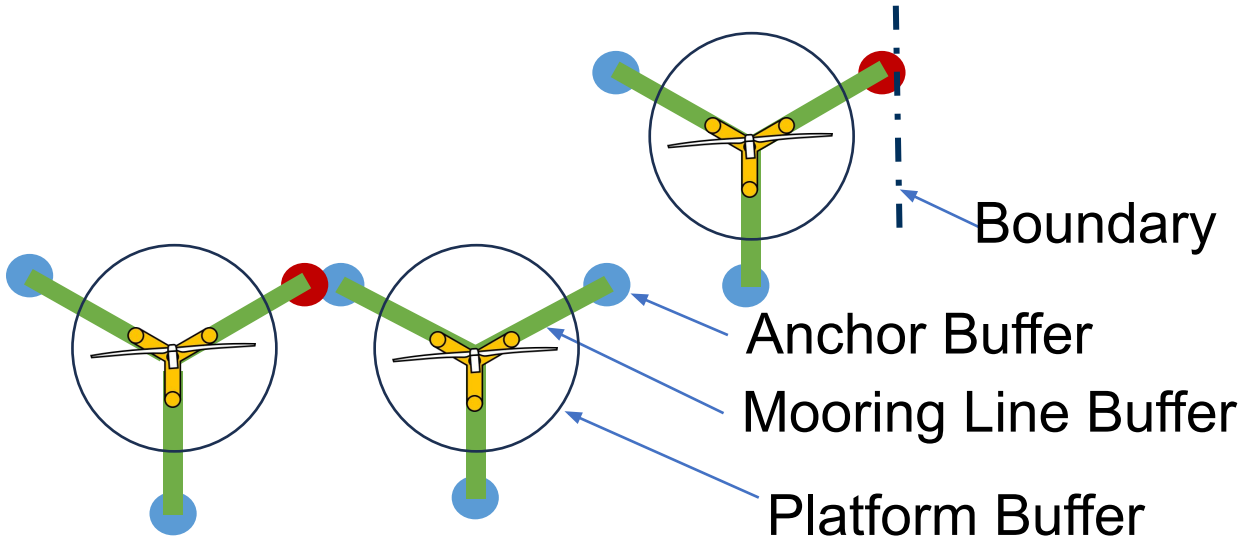
Challenge: layout optimizations are slow

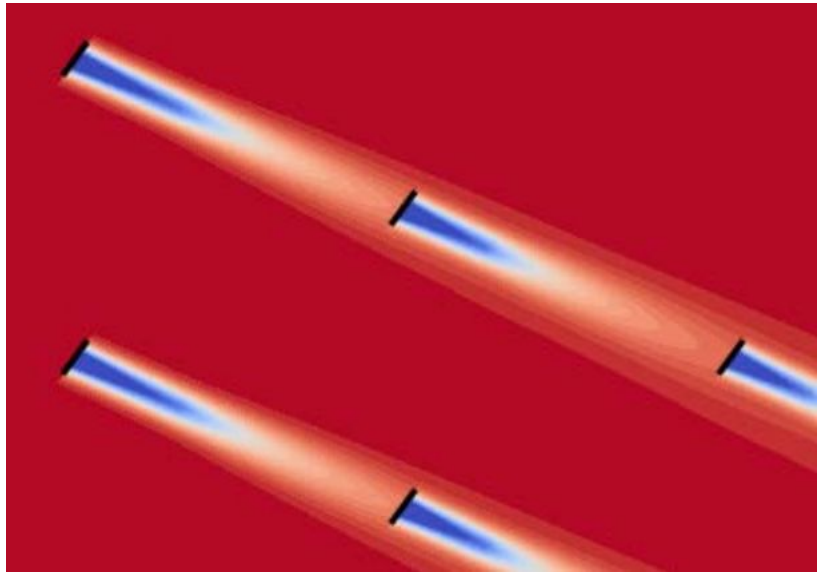




Array Scale Optimization

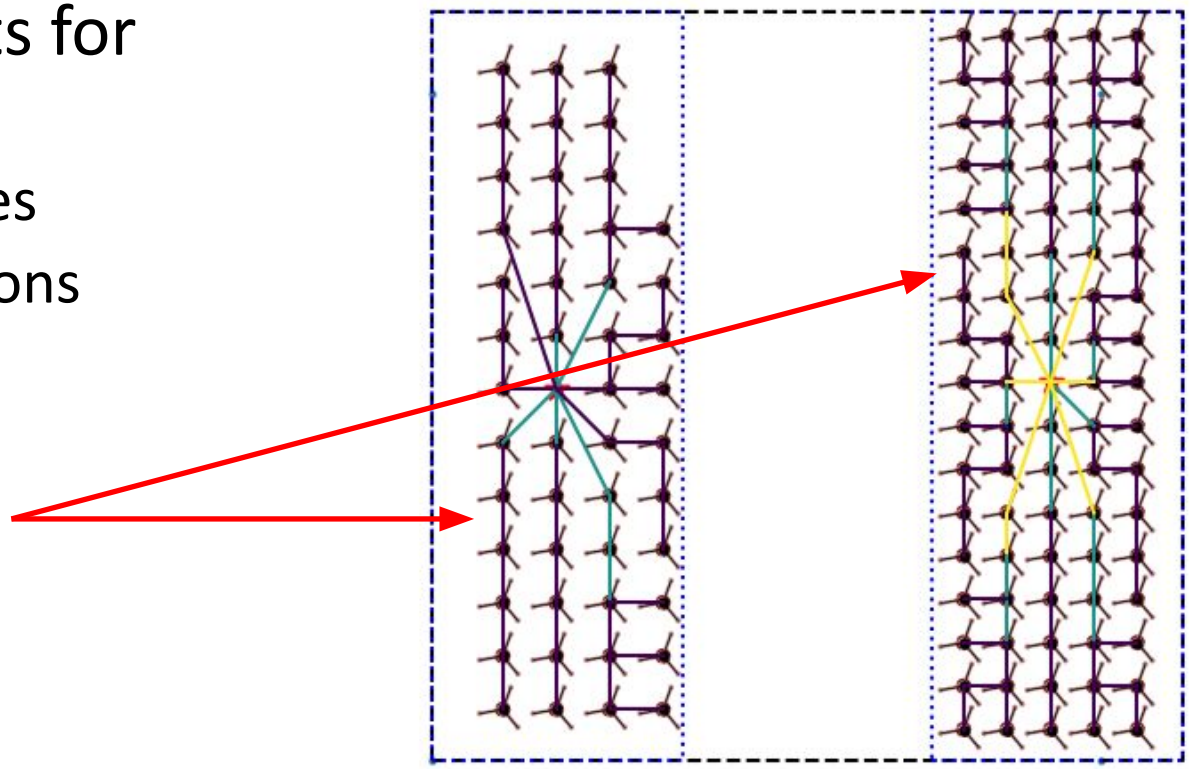
- Constraints check component crossing
- Buffer zones on components may not cross boundaries or exclusion zones
- AEP calculated from FLORIS (steady-state wake model)





Array Scale Optimization

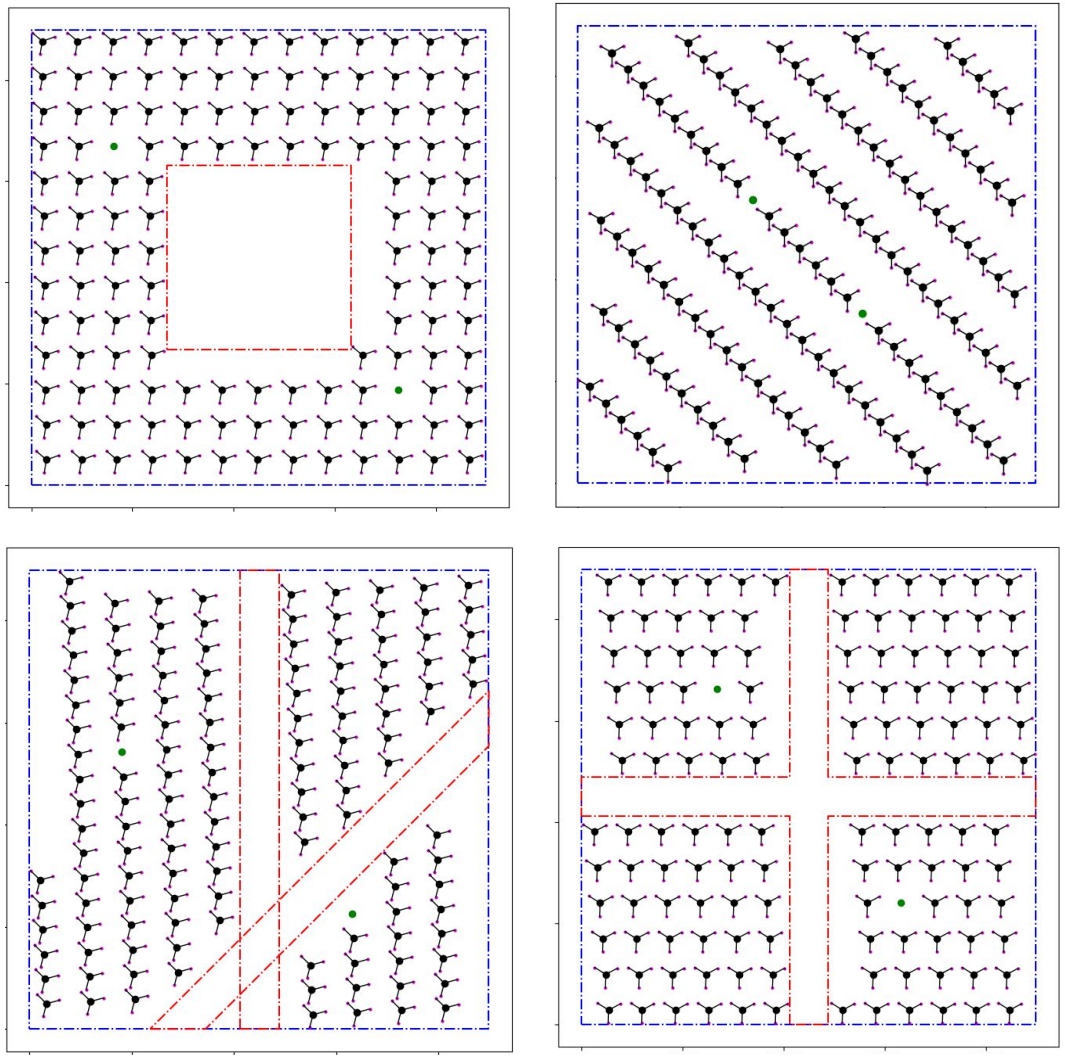
- Optimization tool improvements for fishing-friendly arrays:
  - Variable geometry exclusion zones
  - Different grid spacing in subsections
  - Runtime improvements



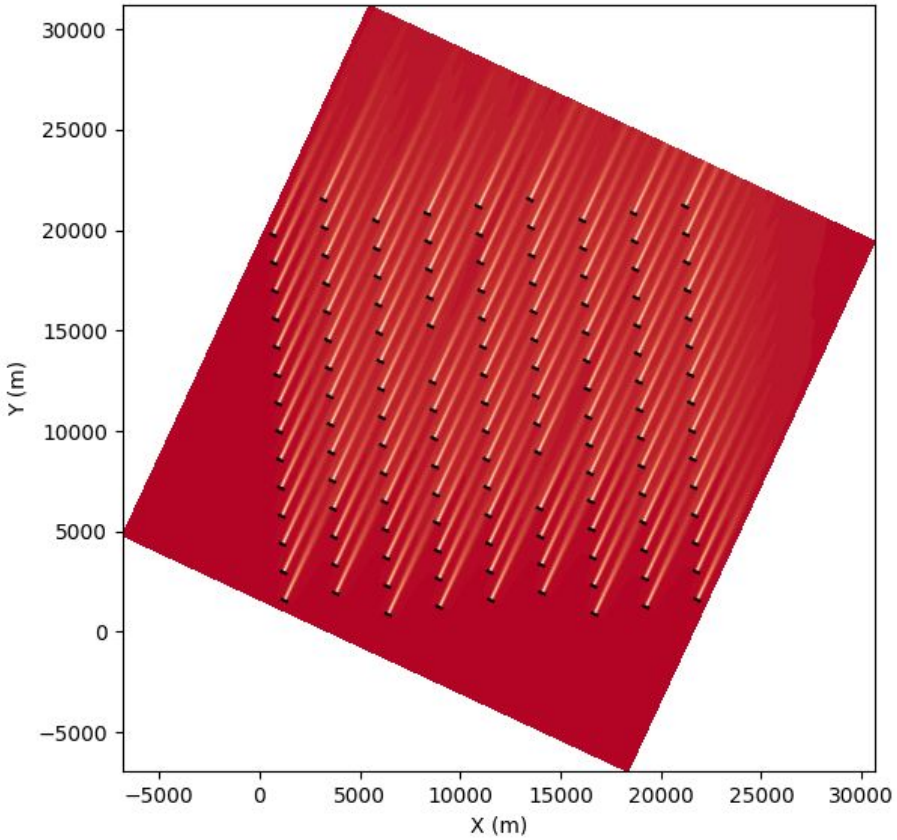
Fishing Friendly Array Designs

- Currently developing AEP-optimized layouts for the defined fishing lane ideas

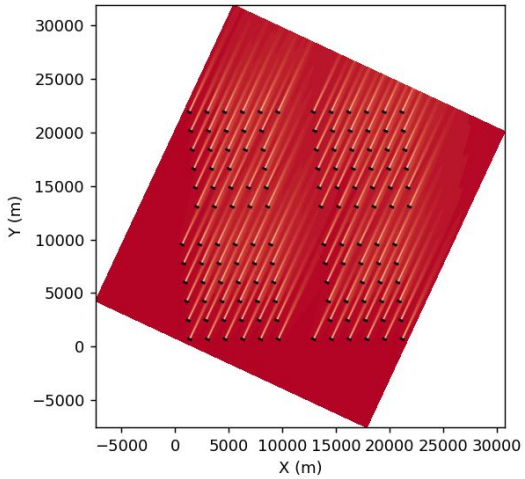
- In the case studies, these layouts will be shown to fishermen for their feedback



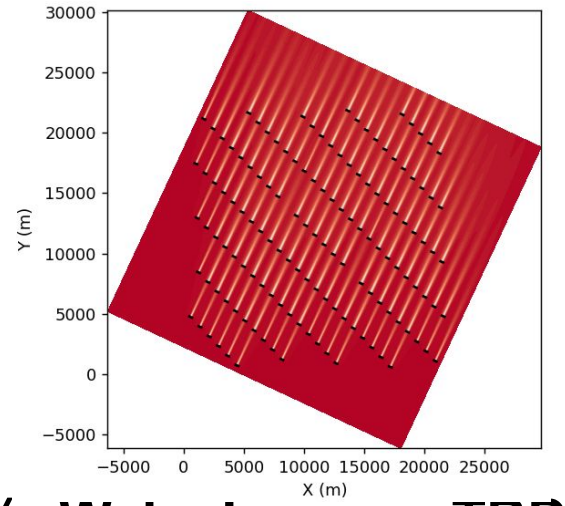
Layout Design Wake Losses



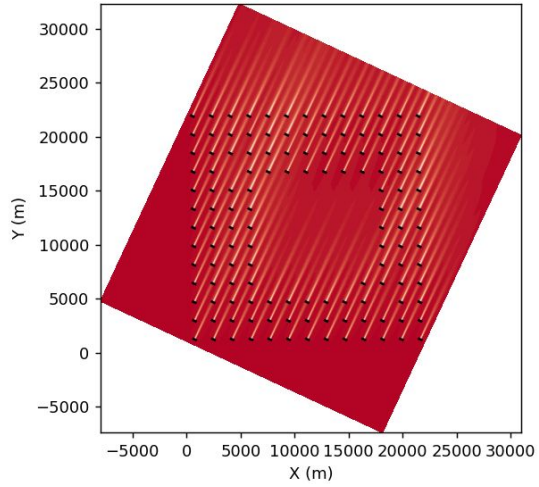
Baseline Wake Losses: 4.97%



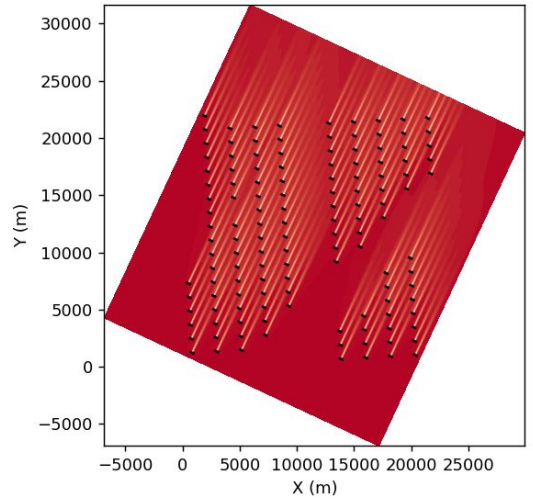
Wake Losses: 5.18%



Wake Losses: TBD



Wake Losses: 5.28%



Wake Losses: 5.65%

Next Steps and Challenges

- Develop representative site conditions for Gulf of Maine and Mid-Atlantic.
- Apply design models and optimize layouts for GOM.
- Share optimized layouts back to original interviewees and other fishermen in GOM.

- Release of report on fishing input has been paused by NREL.
- Continuation of the project contingent on DOE approval or identification of other funds by NOWRDC.

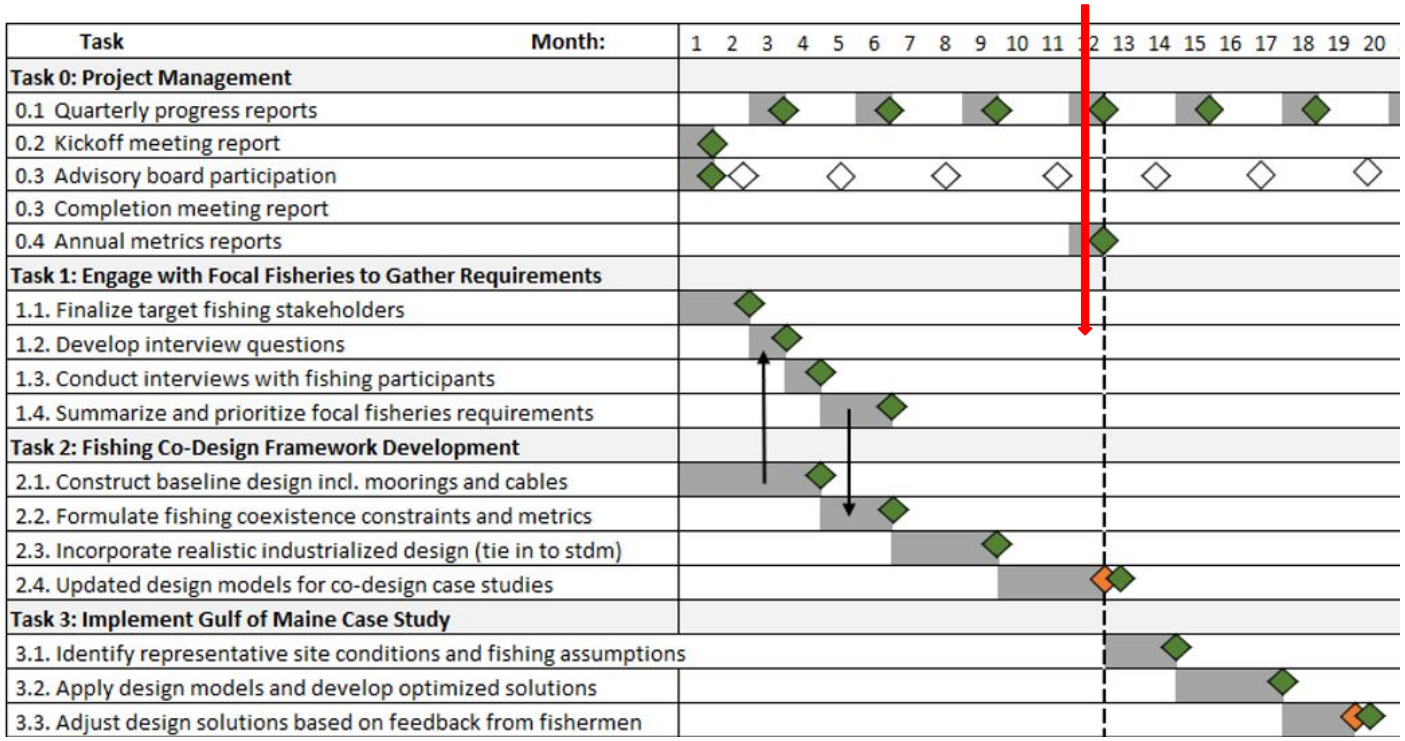
Next Steps

Task 2:

- Complete re-design baseline with updated tools
- Report on design tools and updated baseline

Task 3:

- Gulf of Maine case study site conditions and fishing assumptions



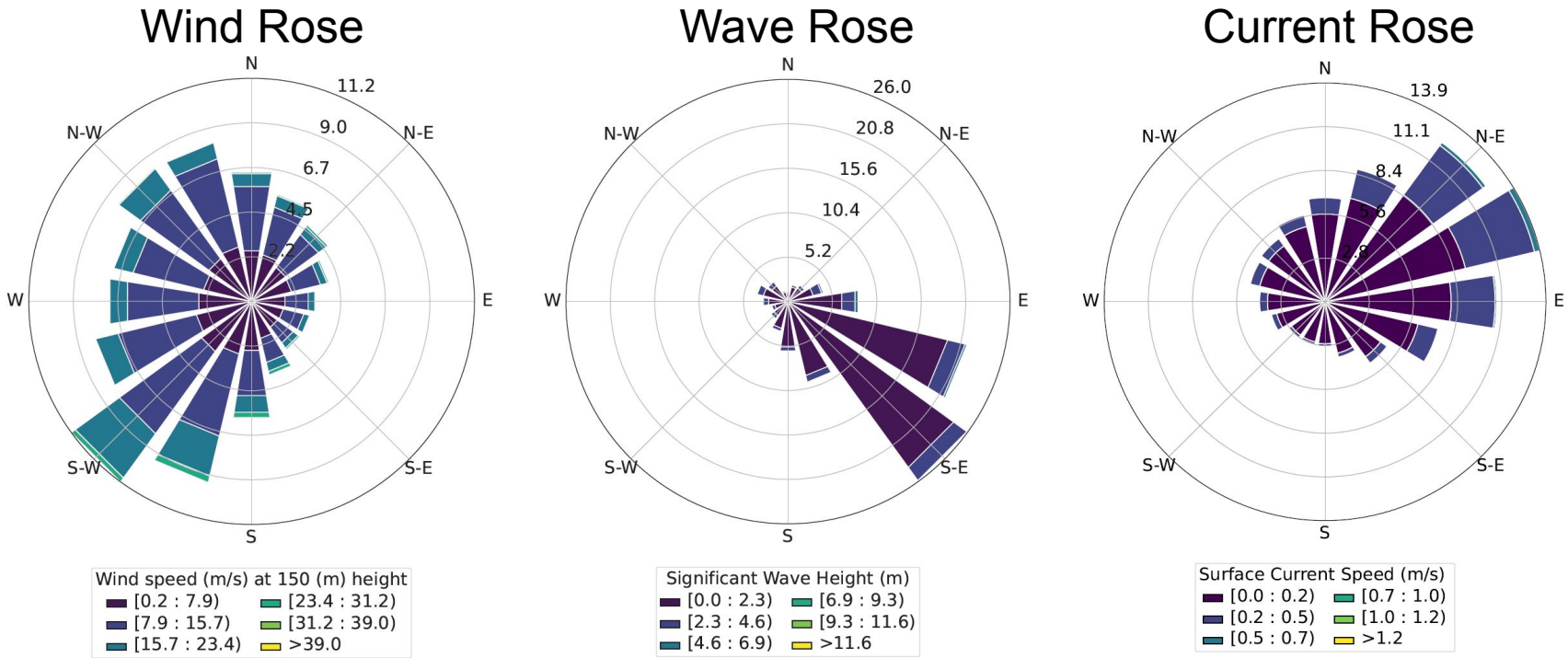
Questions and Feedback?

www.nrel.gov

Baseline Design

Baseline array design consists of a turbine layout, mooring system, anchors, and dynamic cables that does not consider fishing coexistence

- VolturnUS-S and IEA 15 MW
- East Coast site conditions – Gulf of Maine
- 150 m water depth



Baseline Design

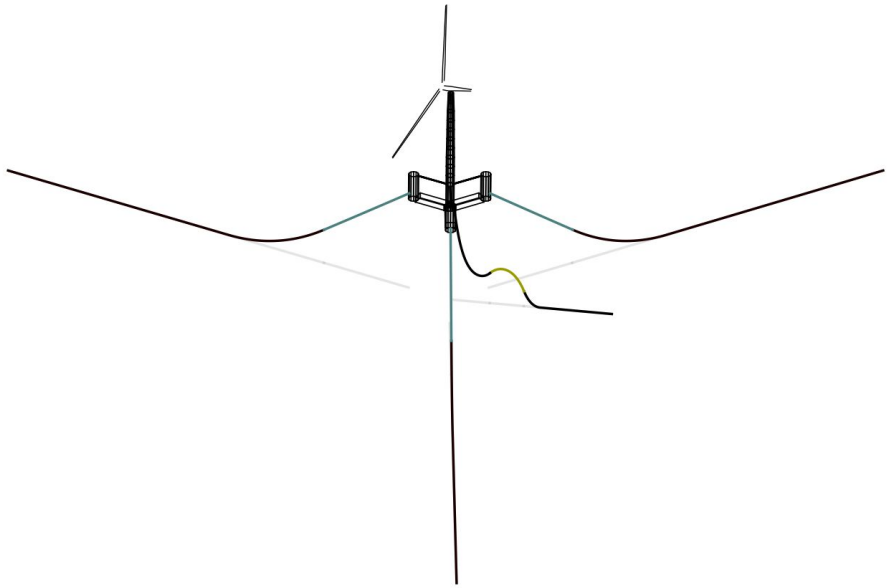
Mooring design

- Semi-taut and catenary designs initially considered
  - Semi-taut design chosen
- Evaluated extreme tensions in key load cases
  - DLC 1.6, 6.1, and SLC
- Fatigue analysis for chain sections

Cable Design

- Lazy wave configuration
- Evaluated extreme tensions and curvature in key load cases

Final Semi-taut Configuration



Action Items, Next Steps, and Other Business

- Upcoming ROSA Events

ROSA

Partner Updates

Massachusetts Fisheries Innovation Fund

Request for Proposals – Solicitation1 Update

Brad Schondelmeier
Offshore Wind and Fishery Specialist
Massachusetts Division of Marine Fisheries

Massachusetts Fisheries Innovation Fund Update

- Fisheries Innovation Fund (FIF): **$1.75m mitigation fund** created by Vineyard Wind to “support programs and projects that ensure safe and profitable fishing continues” as current and future offshore wind projects are developed
- Other developers will add mitigation funds to FIF, possibly $2.3-4.8m in future

<u>Progress Update</u>

May: Finished FIF Request for Proposals draft for funding Solicitation1

FIF Advisory Panel met to approve RFP priorities, scale, eligibility and evaluation criteria

June: Finalize RFP – Solicitation1 with EEA, post to CommBuys and on DMF website

Fisheries Innovation Fund – Solicitation 1

Project Priorities

Fishing Innovation | Community | Safety

Scale of Funding

- Up to $750,000 funding, with projects ranging from $25,000-$300,000 total
- Projects up to 3 years in duration

Eligible Entities

Commercial fishing businesses, non-profit fishing or research organizations, shoreside infrastructure businesses, academic institutions or public sector entities

Evaluation Criteria

Support for co-existence of marine fisheries and offshore wind development, direct engagement (or collaboration) with commercial or for-hire fishing, etc.

Timeline

Release Solicitation: End of June | Proposals Due: *August 15* | Projects Start: *January 1, 2026*

Learning from Scotland's Experience with Floating Offshore Wind– A Study Tour for Maine's Fishing Industry

ROSA Advisory Council Meeting

June 18, 2025

SAMBAS Consulting LLC

Background

- Maine Offshore Wind Research Consortium established through bipartisan legislation in 2021 to advance understanding of FOW impacts in the Gulf of Maine
- Consortium Advisory Board comprised of a diverse group of ocean users and stakeholders to collaboratively pursue high-priority research guided by their Research Strategy
- Research Strategy identifies the following strategies:
  - Share knowledge and promote joint learning about FOW technology
  - Collaborate and partner with government entities and other organizations focused on FOW research and monitoring
- Maine partnered with Carbon Trust and SAMBAS Consulting to organize the study tour
- State of Maine applied for and received funding through a Maine-based private foundation to fund the Maine-based participants

Objectives

- Establish a common understanding of FOW technology
- Understand the status of FOW development in Scotland, including planning and policy, science and research, and engagement with the fishing industry
- Learn about Kincardine FOW project, focusing on the technology employed, the design and installation process, and the engagement with the fishing industry and wider coastal communities during its development
- Exchange best practices for assessing and mitigating the impacts of FOW development on the fishing industry and wider coastal communities

Participants

- Organizers
  - Carbon Trust
  - SAMBAS Consulting
- Policy makers
  - Maine DMR
  - Maine GEO
  - Massachusetts DMF
- Fisheries
  - Broad group of fishermen and fisheries organizations

Engagement Sessions

- Scottish Government
- Carbon Trust
- Developers
  - Ocean Winds, Orsted, SSE
- University of Edinburgh
  - FloWave
- Peterhead Port Authority
- Scottish Fishermen's Federation

Key Takeaways- Kincardine FOW Farm

Key Takeaways- Fisheries Perspective

- Many similar issues – Data gaps, lack of research & monitoring in and around arrays and export cables
- Scottish fishing industry:
  - Mostly excluded from leasing process (similar to SNE)
  - Sees FOW arrays as non-mobile gear zones regardless of anchoring type
- Still unresolved grid and connection issues – How to get wind power to areas of need
- Port infrastructure needs totally different for FOW, Scotland infrastructure is getting there, US has to consider what port(s) can be upgraded or developed to support FOW
- Scottish government considering creating additional sanctuary areas to mitigate for impact of OSW, creating possibility of >50% closure of Scottish waters to fishing

Key Takeaways- High-level

- Compared to Scotland, feelings that the Gulf of Maine siting/leasing process was OK and used outreach and fisheries data to deconflict Lease Areas
- Many of the same research questions and limited funding
  - EMF, displacement modeling, coexistence, cumulative impacts
- See potential for fixed gear fishing within arrays but mobile gear will be highly dependent on layout
  - Anchoring footprint, inter-array cable routing design and burial/suspension a large factor
- Monitoring and enforcement a big question in Scotland
  - No equivalent of BSEE to ensure lease terms are being met
- In Scotland, both developers and fisheries want more government intervention to facilitate coexistence and baseline statutory requirements
  - Lot of issues around mitigation
  - No guidance or uniform method on fisheries direct compensation


FUEL SHUT OFF
BELOW DECK

Thank You!

Meghan Suslovic, Maine GEO- meghan.suslovic@maine.gov
Erin Wilkinson, Maine DMR- erin.Wilkinson@maine.gov
Brad Schondelmeier, Massachusetts DMF- brad.Schondelmeier@mass.gov

U.S. Offshore Wind Synthesis of Environmental Effects Research (SEER)

https://www.menti.com/als9by7yzgfm

GULF REGIONAL SCIENCE ENTITY

June 18, 2025

ROSA Advisory Council Meeting

OUR TEAM

Dave Reed

Program Director

Gulf of America Alliance

Willem Klajbor

Senior Research Associate

University of Miami CIMAS

Taryn Kiekow Heimer

Director, Ocean Energy

Natural Resources Defense Council

Michelle Van Deventer

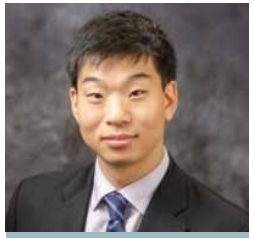
Ocean Strategy Lead

The Nature Conservancy

Rebecca Loomis

Project Attorney

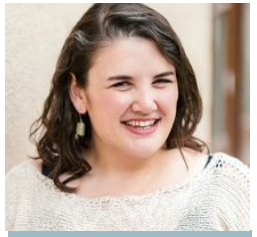
Natural Resources Defense Council



Jonathan Choi

Doctoral Candidate

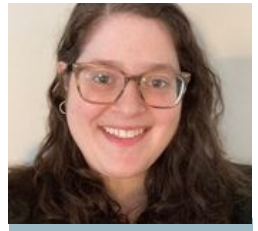
Duke University



Helen Rose Patterson

Senior Campaign Manager

National Wildlife Federation



Shayna Steingard

Senior Policy Specialist

National Wildlife Federation

Proposed Vision and Mission Statements

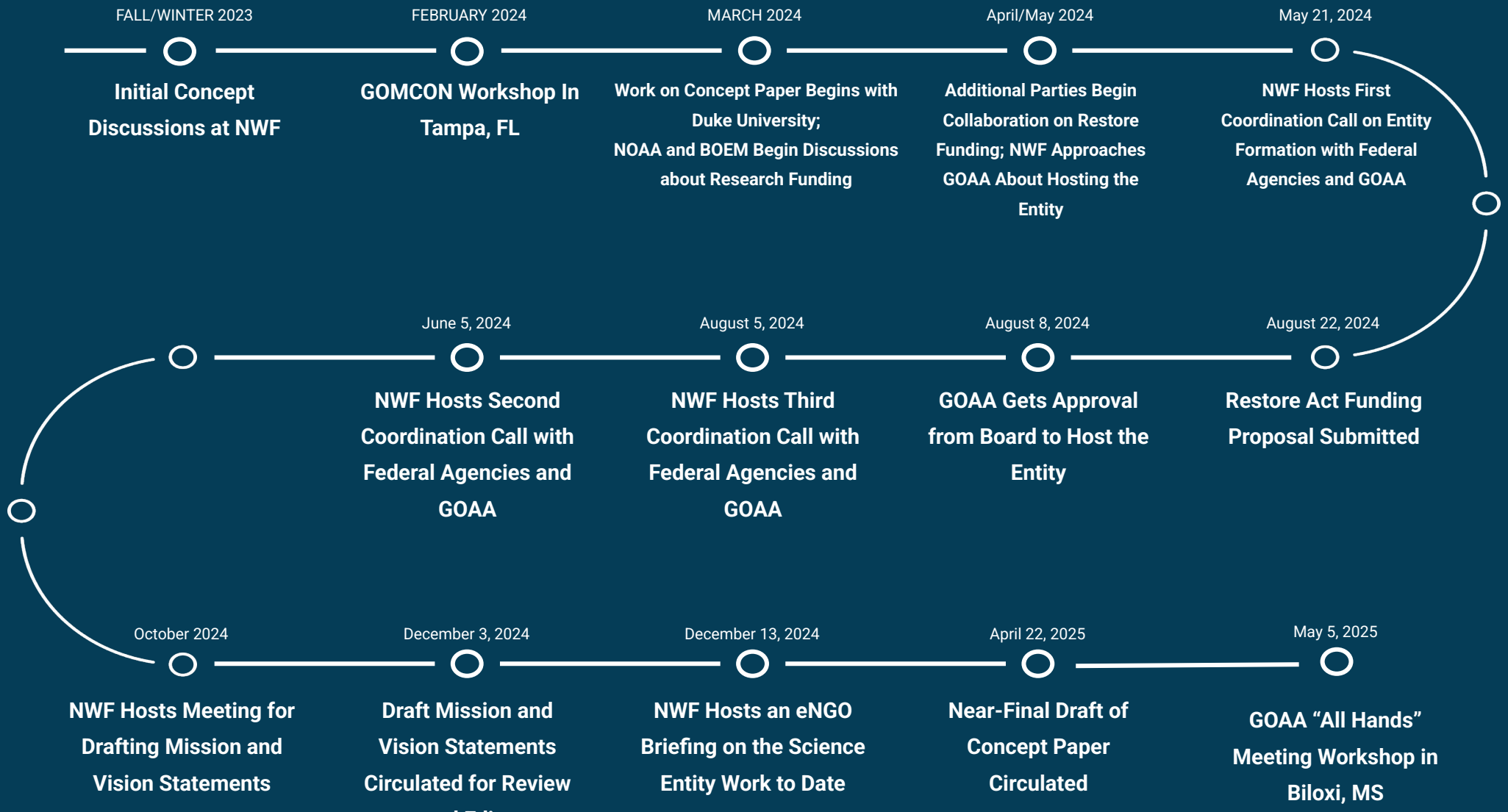
DRAFT MISSION STATEMENT

To facilitate the collection, standardization, and dissemination of credible research and monitoring data on wildlife and marine ecosystems and impacts on local communities, supporting the next generation of environmentally responsible offshore energy development in the Gulf of America.

DRAFT VISION STATEMENT

A Gulf of America where the next generation of energy development coexists and supports vibrant communities, thriving wildlife, healthy habitats, and sustainable ocean use, achieved through transparent, science-based collaboration and shared knowledge.

WORK TO DATE


FALL/WINTER 2023
Initial Concept Discussions at NWF
FEBRUARY 2024
GOMCON Workshop In Tampa, FL
MARCH 2024
Work on Concept Paper Begins with Duke University; NOAA and BOEM Begin Discussions about Research Funding
April/May 2024
Additional Parties Begin Collaboration on Restore Funding; NWF Approaches GOAA About Hosting the Entity
May 21, 2024
NWF Hosts First Coordination Call on Entity Formation with Federal Agencies and GOAA
August 22, 2024
Restore Act Funding Proposal Submitted
August 8, 2024
GOAA Gets Approval from Board to Host the Entity
August 5, 2024
NWF Hosts Third Coordination Call with Federal Agencies and GOAA
June 5, 2024
NWF Hosts Second Coordination Call with Federal Agencies and GOAA
October 2024
NWF Hosts Meeting for Drafting Mission and Vision Statements
December 3, 2024
Draft Mission and Vision Statements Circulated for Review and Edits
December 13, 2024
NWF Hosts an eNGO Briefing on the Science Entity Work to Date
April 22, 2025
Near-Final Draft of Concept Paper Circulated
May 5, 2025
GOAA "All Hands" Meeting Workshop in Biloxi, MS

Examples of Regional Science Entities

Entity	Region	Focus	Lead / Host Organization
Regional Wildlife Science Collaborative (RWSC)	U.S. Atlantic	Wildlife research coordination, data sharing, and research prioritization for offshore wind	Nonprofit, Multi-sector collaborative (state, fed, NGO, developer, academic); NROC, MARCO
Responsible Offshore Science Alliance (ROSA)	U.S. Atlantic	Fisheries research coordination, monitoring protocols, and collaborative science for offshore wind and fisheries	Independent nonprofit
Offshore Wind Evidence & Change Programme (OWEC)	United Kingdom	Coordinated evidence gathering and research on offshore wind's environmental, social, and economic impacts	The Crown Estate
Gulf of Mexico Research Initiative (GoMRI)	Gulf of Mexico	Research on ecosystem impacts of oil spills and long-term environmental monitoring	Funded by BP post-Deepwater Horizon; independent scientific oversight
GRIIDC (GoMRI Information & Data Cooperative)	Gulf of Mexico	Open-access marine environmental data repository from GoMRI and related research	Hosted by Texas A&M Corpus Christi
California Offshore Wind & Wildlife Science Entity (in development)	U.S. Pacific	Coordinating offshore wind and wildlife science priorities, data needs, and monitoring standards	California Ocean Protection Council

WHAT IS GOAA?

The Gulf Alliance is a regional network of stakeholders, initiated by the governors of the five Gulf States in 2004 to collectively address issues of common concern.

Our Mission

To enchance the ecological and economic health of the Gulf of America through increased regional collaboration

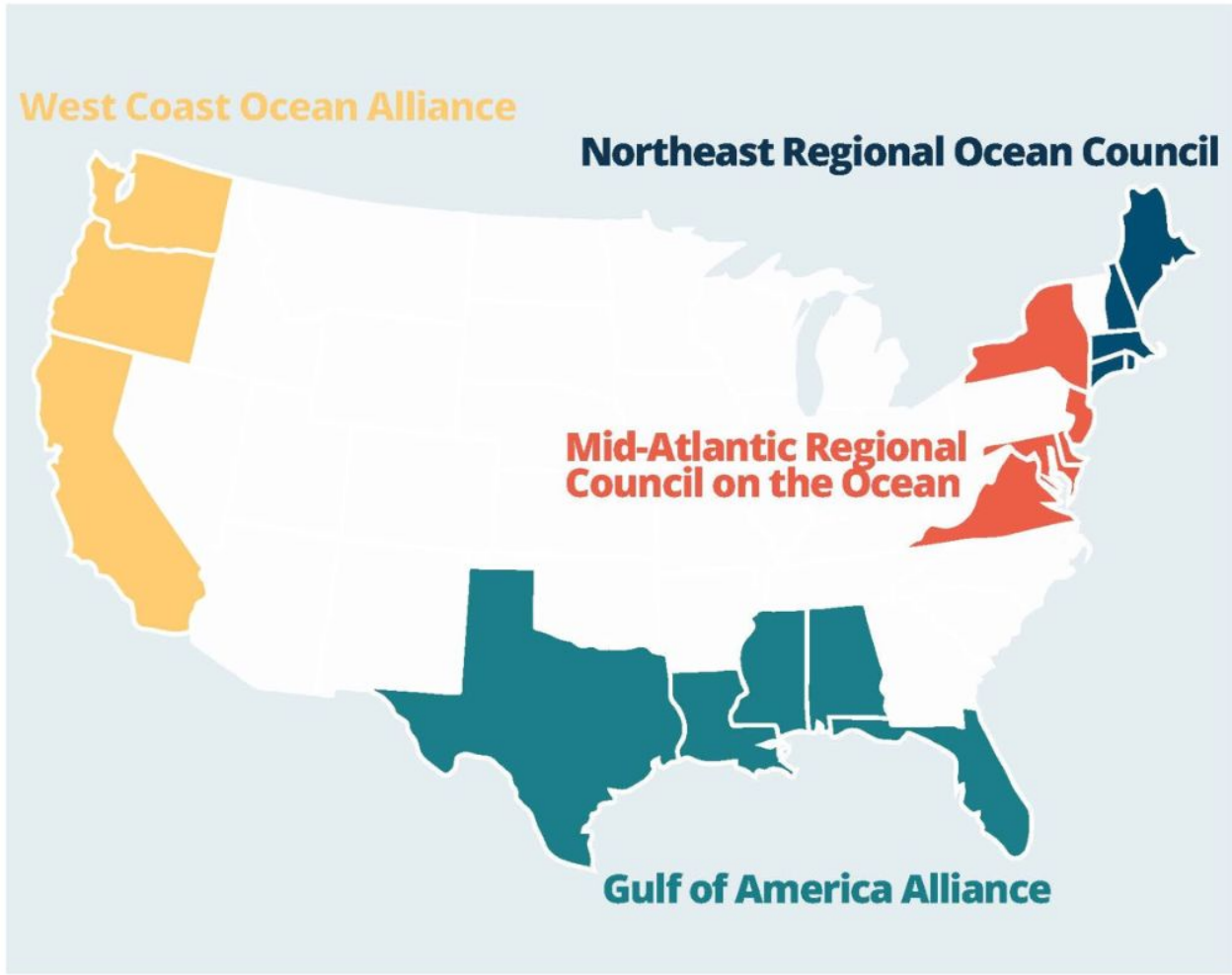
How?

We work in accordance with an Action Plan and implement projects that address our priorty issues

Who?

State and Federal agencies, academia, non-profits, business & industry representatives

AUTHORIZATION FOR REGIONAL OCEAN PARTNERSHIPS



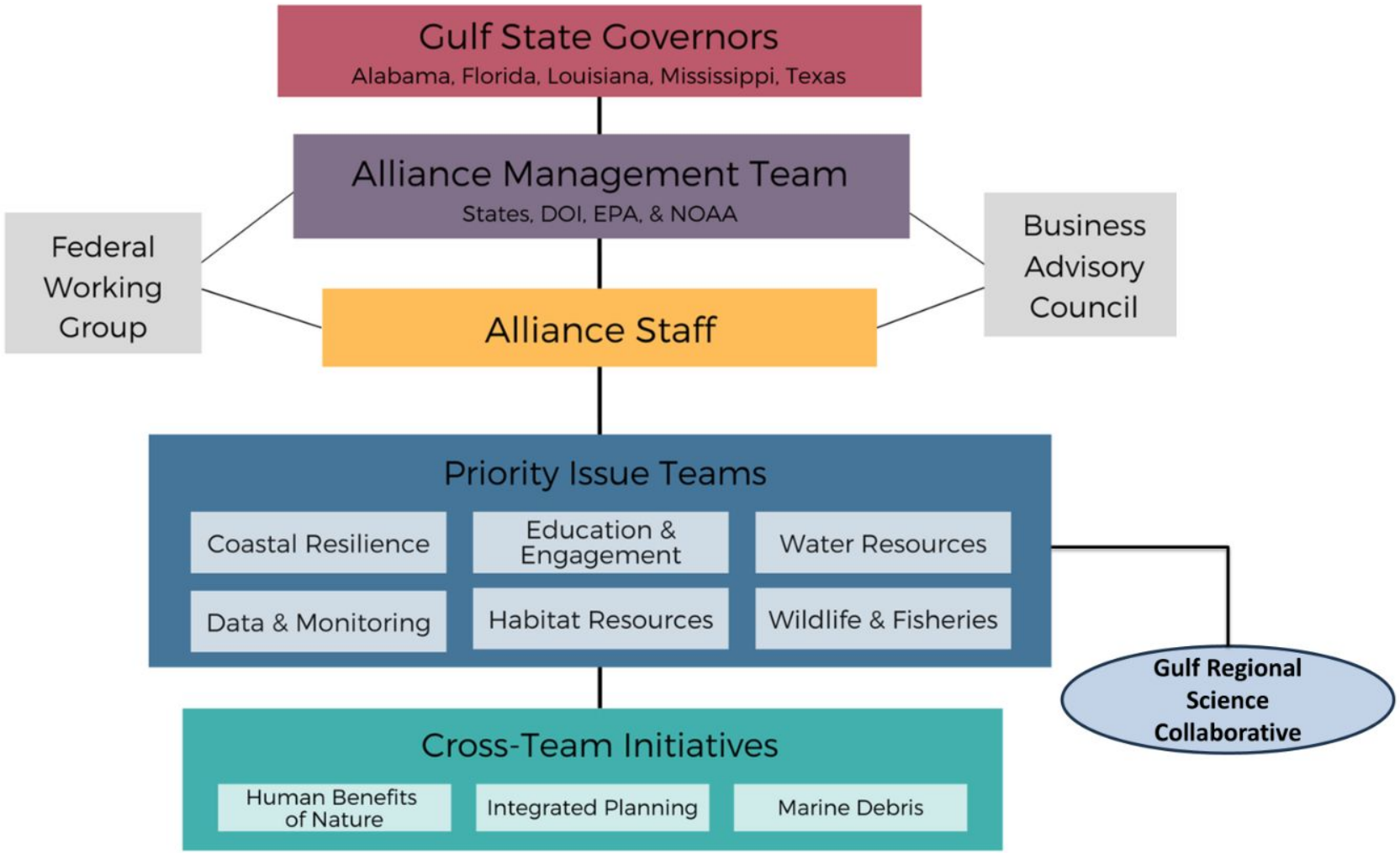
Authorizes ROPs:

- West Coast
- North Atlantic
- Mid-Atlantic
- Gulf of America

How We Are Organized

- Approximately 1100+ active members
- 165 organizations that participate in various teams, councils, working groups

- Alliance Management Team
- Federal Working Group
- Business Advisory Council
- Priority Issue Teams
- Cross-Team Initiatives



Break

Research Highlights

A synthesis of socioeconomic and sociocultural indicators for assessing the impacts of offshore renewable energy on fishery participants and fishing communities

Ellen Willis-Norton, Tracey Mangin, Donna Schroeder, Reniel B. Cabral, and Steven D. Gaines

Bren School of Environmental Science & Management

Introduction

- Offshore wind energy is rapidly expanding globally
- Addition of structures may impact fish production and preclude fishers from historical fishing grounds
- It is important to understand the **socioeconomic** and **sociocultural** impacts of offshore wind development to:
  - identify appropriate mitigation strategies
  - develop data collection, monitoring strategies, and adaptive management strategies

Objectives

Synthesize quantitative and qualitative indicators used to identify the impacts of offshore wind to fisheries

Serve as a guide to those designing monitoring plans and community benefit agreements

Methods

Systematic review of three causes for fisheries displacement:

1. vessel preclusion from marine renewable energy sites
2. marine spatial closures
3. shifts in fishery operations due to climate change

67 studies
49 indicators
9 categories

Information Provided

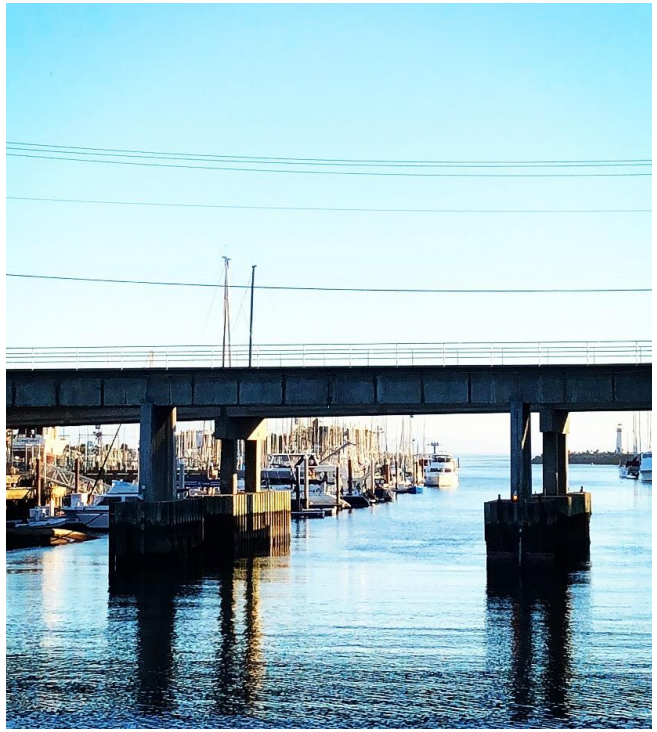
- Brief description (with calculation if needed)
- Required methods and datasets
- Example use

Changes in catch and revenue

- Total catch
- % of region-wide landings from closed area
- Total revenue (ex-vessel value)
- % of region-wide revenue from closed area
- Catch quality
- Catch composition
- Catch per unit effort
- Value per unit effort
- Value per unit effort

Changes in time spent on the water and in distance to port

- Time at sea
- Steaming time/ distance traveled
- Fishing effort
- % of effort inside closed area
- Number of fishing trips
- Primary landing port



Competition and safety concerns

- Competition (vessel density / crowding)
- Collision and capsizing risk
- Trips during dangerous conditions

Shifts in fishing costs

- Fixed costs (insurance, moorage/slip costs)
- Capital expenses (new license, new gear)
- Variable costs (fuel, maintenance)
- Average fleet cost ($\frac{total\ cost}{catch}$)

Shifts in fishery profit

- Profit
- Gross value added $(revenue - fuel\ cost)$
- Resource rent $(revenue - cost - subsidies)$

Livelihood and economic well-being effects

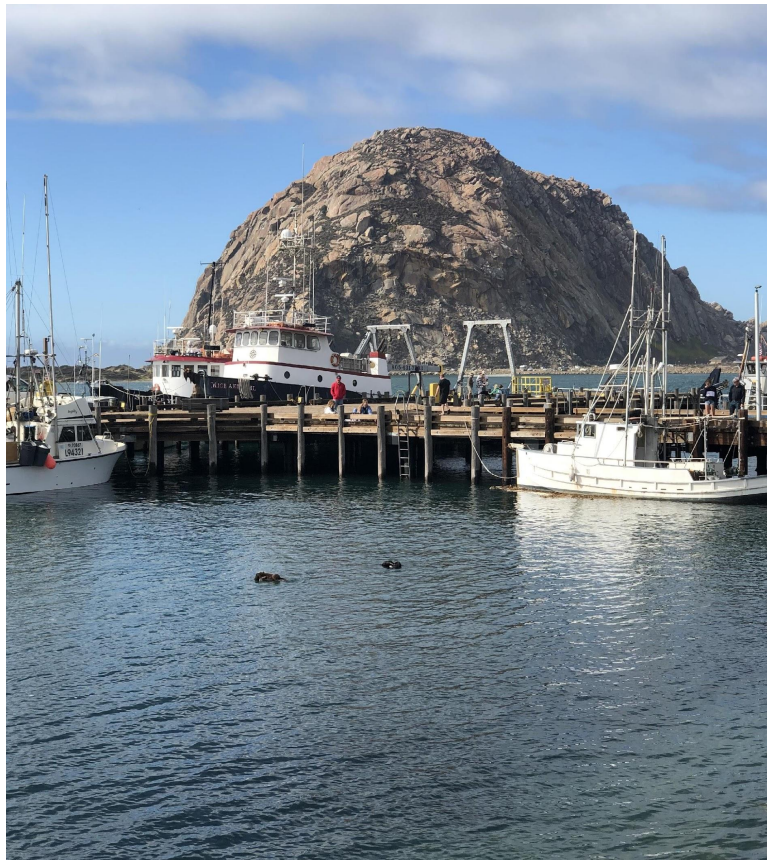
- Fisher's income
- Entrance and exit (# of fishers or vessels)
- Access and ability to switch to alternative economic opportunities
- Economic well-being

Community level impacts

- Total income generated in the county economy from fishing
- Fishing community infrastructure
- Tourism
- Food security / availability

Cultural and identity consequences

- Place-based identity
- Job satisfaction
- Traditional knowledge / cultural heritage
- Mental health



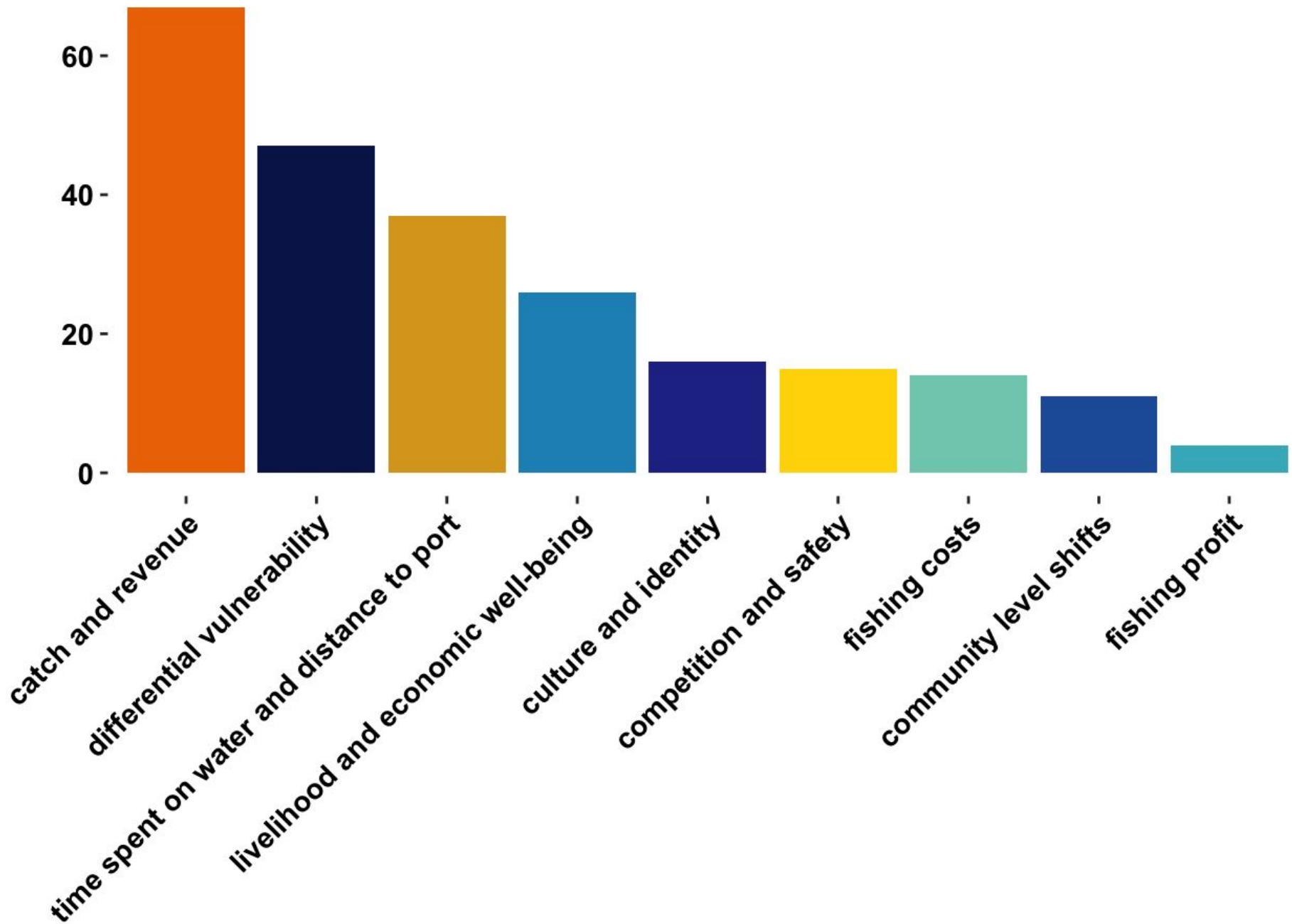
Indicators to assess fishers' differential vulnerability

Vessel attributes:

- Gear type / target species
- Vessel specifications
- Number of target species / permits associated with vessel
- Vessel home port

Fisher attributes:

- Dependence on fishing
- Number of dependents supported by fishing
- Wealth reserves
- Underrepresented groups
- Years spent fishing / fishers' age
- Previous employment
- Ability to fish out of other ports / boats
- Member of fisher association / network


60
40
20
0
catch and revenue
differential vulnerability
time spent on water and distance to port
livelihood and economic well-being
culture and identity
competition and safety
fishing costs
community level shifts
fishing profit

Summary

- Most common indicators were direct economic impacts
- Qualitative methods were often used to:
  1. deepen understanding of economic impacts
  2. provide context for unexpected results
  3. expand the scope of the analysis
- For most studies, only potential impacts were examined and often reported negative impacts of offshore wind.
- Studies measuring indicator values pre- and post-closure often reported neutral to positive effects.

Acknowledgements

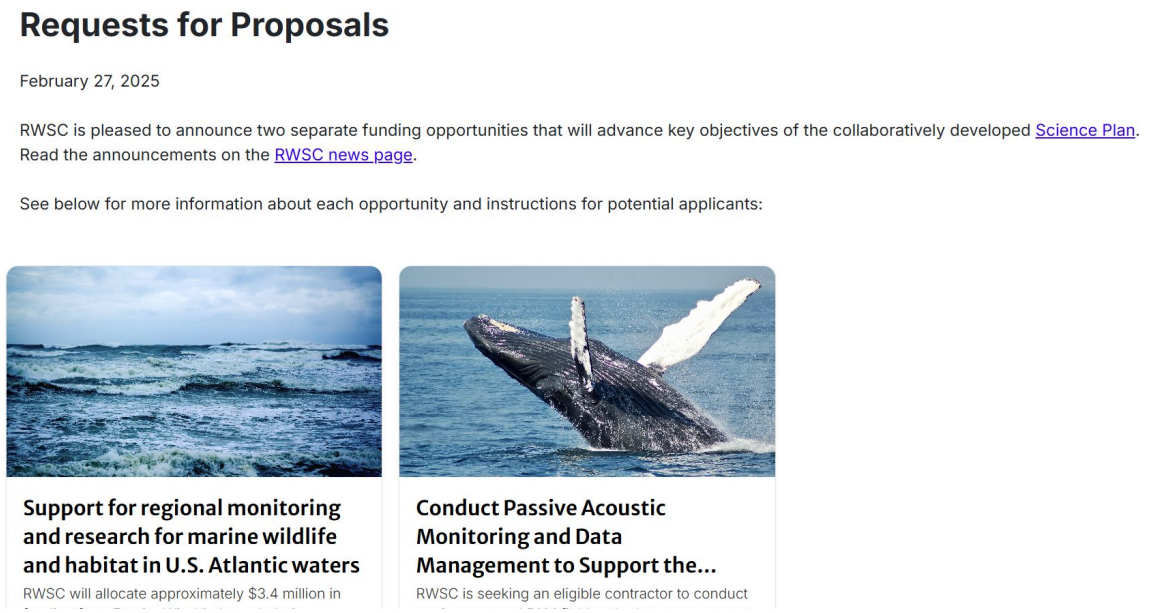
Study collaboration and funding were provided by the U.S. Department of the Interior, Bureau of Ocean Energy Management, Environmental Studies Program, Washington, DC under Agreement Number M21AC00023.

Action Items, Next Steps, and Other Business

RWSC RFPs: proposals.rwsc.org/rfps

- Support for regional monitoring and research for marine wildlife and habitat in U.S. Atlantic waters (Apr. 1)

- Conduct Passive Acoustic Monitoring and Data Management to Support the POWERON Initiative (Apr. 7)



Requests for Proposals

February 27, 2025

RWSC is pleased to announce two separate funding opportunities that will advance key objectives of the collaboratively developed Science Plan. Read the announcements on the RWSC news page.

See below for more information about each opportunity and instructions for potential applicants:

Support for regional monitoring and research for marine wildlife and habitat in U.S. Atlantic waters

RWSC will allocate approximately $3.4 million in

Conduct Passive Acoustic Monitoring and Data Management to Support the...

RWSC is seeking an eligible contractor to conduct

ROSA

Action Items, Next Steps, and Other Business

- Advancements in benthic mapping technologies
- The use of technology to transition from traditional survey methods, including highlights on new innovations
- Monitoring technologies applicable to offshore development
- A panel featuring perspectives from members of the fishing community

ROSA

Action Items, Next Steps, and Other Business

- Next AC meeting is September 25th 1-4pm ET
- TechSurge – October 8-9th, URI Bay Campus (in-person)

  Early Bird Registration: Ends August 8, 2025
  https://mtsociety.memberclicks.net/techsurge-fisheries-benthic-monitoring
  Call for Abstracts: Deadline to submit June 20, 2025
  Abstract Notification: July 30, 2025
  Abstract Presentations Due: September 26, 2025

  - American Fisheries Society Annual Meeting, San Antonio, Aug. 10-14
    - Early registration extended to July 8th

ROSA

ROSA
Responsible Offshore Science Alliance

Thank you!

NEXT ROSA Advisory Council Meeting
September 25, 2025 - 1pm ET