

Fisheries Technical Working Group (F-TWG) Spring Meeting March 29, 2024



Ground Rules

- Contribute your perspectives are important
- Share time lots to cover and many people around the table
- Integrate ideas and pose questions
- Stay focused on the agenda
- Avoid multitasking and other distractions
- We all have our unique challenges in a hybrid environment – it will take all of us being mindful to make this work



State of the Science Workshop on Offshore Wind Energy, Wildlife, and Fisheries

Outcome – build on existing knowledge, collaborations, engage stakeholders, and to help develop a research agenda of key studies that could be conducted in the next 3-5 years

Theme:

- •2018: Understanding the current state of the science on wildlife and offshore wind energy development.
- •2020: Assessing the state of the knowledge of offshore wind development's cumulative effects on wildlife and ecosystems.
- •2022: Building on existing knowledge and emerging collaborations.
- •2024: Taking an Ecosystem Approach: Integrating Offshore Wind,

Wildlife, and Fisheries

https://www.nyetwg.com/2024-workshop

July 16 – 19, 2024 at Stony Brook University













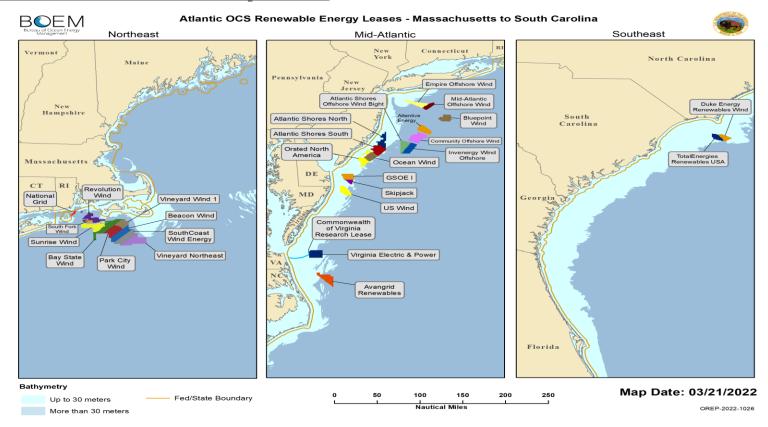




Establishing a Regional Compensatory Mitigation Claims Process for Offshore Wind Impacts on Fishing

Fisheries Compensation Mitigation: Issue

- Commercial and recreational fishermen are concerned about the <u>displacement</u> from fishing grounds due to multiple projects and the potential <u>ecological</u> <u>impacts</u> to fisheries
- Fishing industry desires a consistent structure that could provide <u>financial</u> compensation to offset impacts.



Maine New **Hampshire** Massachusetts Maryland Rhode Island Connecticut

New York

Delaware

Virginia

New Jersey

North Carolina

Fisheries Compensatory Mitigation

Objective: to establish a credible regional administrator for managing and distributing fisheries compensatory mitigation funds for impacts from offshore wind on commercial and for-hire recreational fishing industries

- Consistency across projects and developers
- Fairness for fisheries across home and landing port
- Administrator with the same processes and procedures so that fishermen fishing in or near many projects can have a "one stop shop"
- Scale large enough for building expertise and efficiencies of scale
- Gain efficiencies of scale, avoid duplication and re-creation, and ensure fishermen have access to compensation regardless of the homeport, where they fish, or which state has contracted with the OSW developer

Avoid Minimize Mitigate Compensate

How did we get here...



February 2021

NY Fisheries Technical Work Group publishes Draft Fisheries Compensation Overview Document



November 2021 - August 2022

BOEM issues draft compensatory mitigation guidance and holds listening sessions



Winter 2023 - **Summer 2023**

States, Fish Advisors, OSW developers hone governance and procurement needs



February 2024

RFP 5554 is released by NYSERDA on behalf of the 11 states and OSW developers. Proposals due March 26, 2024, by 3PM EST.

Nine states letter to Biden Administration to advance OSW responsibly, which includes fisheries compensation

June 2021

Nine states issue Scoping Document and RFI for targeted feedback

December 2022 - February 2023

Secure funding for Design and Development Phase

Fall 2023

Planned kick off of Regional Fund Administrator to begin Design and Development Phase

) \$

Summer 2024

Request for Proposals and Next Steps

February 2024: NYSERDA issued Request for Proposals (RFP) 5554 Regional Fund Administrator for an Offshore Wind Fisheries Mitigation Fund on behalf of multi-stakeholder effort

Proposals due March 26, 2024 by 3:00 p.m. ET

See RFP 5554 details here: https://www.nyserda.ny.gov/Funding-Opportunities/Closed-Funding-Opportunities/Closed-Funding-Opportunities/2024

Early Spring 2024: Identify and Convene Design Oversight Committee

Late Spring 2024: Select and contract for design and development phase

Early Summer 2024: Commence Regional Fund design and development phase

For more information on the Regional Fund Administrator and BOEM efforts, visit:

- https://offshorewindpower.org/fisheries-mitigation-project
- https://www.boem.gov/renewable-energy/request-information-reducing-or-avoiding-impacts-offshore-wind-energy-fisheries



Master Plan 2.0

New York State Request for Additional Wind Energy Areas off the New York Bight Report



RECOMMENDATIONS



Reinitiate an inclusive New York Bight Intergovernmental Renewable Energy Task Force.

Engage with stakeholders:

- Get input to refine wind energy areas to Lease Areas.
- Provide education on floating offshore wind technology.
- Prioritize NYSERDA Technical Study recommendations.



Develop plan for resolving data gaps:

- ✓ Review NYSERDA Technical Reports, prioritizing areas that are beyond the 60-meter contour and before the shelf break.
- ✓ Address potential weaknesses in available data with spatial modeling.
- Consider needs for assessment of emerging high voltage direct current transmission technologies.



Reassess State's Master Plan 1.0 recommendations for Lease Areas that have not been advanced.

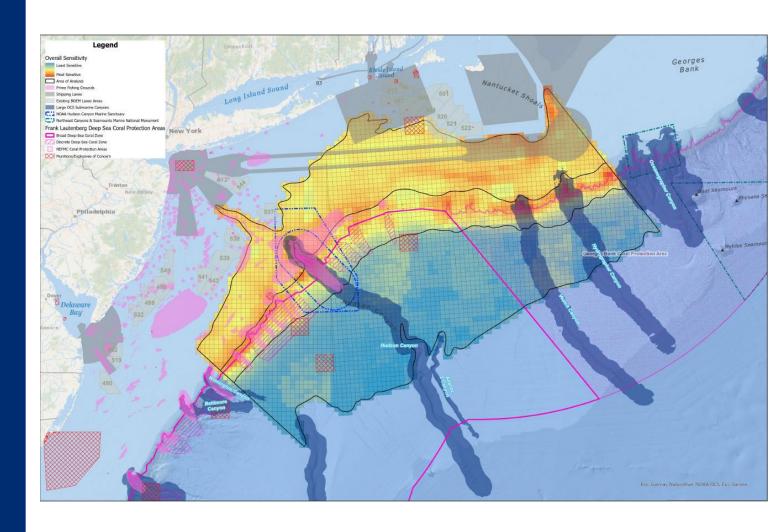
Master Plan 2.0 Area of Analysis:

- **Zone 1:** 12, 040 sq. mi.
- > Zone 2: 6,830 sq. mi.
- > Zone 3: 16,800 sq. mi.

Area of Analysis extends east from 60-meter contour out past the continental shelf break to the edge of the 3,000-meter contour.

- > Zone1 (remaining shelf) extends from the 60-meter contour to the continental shelf break.
- ➤ Zone 2 spans the steep-sloped continental shelf break (unique canyon habitats).
- > Zone3 extends from the continental shelf break out to the 3,000-meter contour.

Overall Sensitivity Analysis



Overview of Master Plan 2.0 Studies

2023 – Track 1 (To be released Mid-April 2024)

Maritime Activity

> Maritime Assessment: Commercial and Recreational Uses Study

Technology

- > Offshore Wind Resource Assessment
- > Deepwater Wind Technologies: Technical Concepts Study

Feasibility

> Technology Assessment and Cost Considerations Study

The Environment

- > Birds and Bats Study
- > Fish and Fisheries Study
- > Marine Mammals and Sea Turtles Study
- > Benthic Habitats Study
- > Environmental Sensitivity Analysis

"NewYork
State Request
for Additional
Wind Energy
Areas off the
New York
Bight" to
Bureau of
Ocean Energy
Management
(BOEM)

2024 – Track 2 (In Progress)

Supply Chain

- Vessel Analysis for Deepwater Wind Development and Operation
- > Port and Supply Chain Study

Feasibility

> Deepwater Cost Reduction Study

Workforce

 Navigating Workforce Opportunities and Challenges of Scaling Up Offshore Wind Targets in New York State

Disadvantaged Communities

 Empowering Potential: Cataloging Existing Community Assets for Harnessing Offshore Wind Opportunities in New York State's Disadvantaged Communities

The Environment

Characterizing
 Oceanographic
 Conditions and Analyzing
 Extreme Weather Risks
 and Potential Interactions
 with New York State's
 Offshore Wind
 Infrastructure

Track 2 Study to inform Master Plan 2.0 for 2024 Characterizing Oceanographic Conditions and Analyzing Extreme Weather Risks and Potential Interactions with New York State's Offshore Wind Infrastructure

Assesses the current state of oceanographic conditions in the Area of Analysis and the potential impact of Offshore Wind (OSW) development on these conditions.

Assesses impacts of climate change and severe weather events on OSW projects.



- > Analyzes how the introduction of new OSW infrastructure impacts oceanographic conditions.
- > Evaluates vulnerabilities of OSW infrastructure to extreme weather conditions.
- > Highlights opportunities and means of mitigating potential impacts.
- > Offers insight into enhancing the resilience and durability of OSW installations in the face of unprecedented climatic conditions.

Characterizing Oceanographic Conditions and Analyzing Extreme Weather Risks and Potential Interactions with New York State's Offshore Wind Infrastructure

StudyTimeline

Spring F-TWG Meeting takes place.

March 2024

Spring E-TWG Meeting takes place.

May 2024

Final Report of Study anticipated.

Early September 2024

Study will be incorporated as part of Synthesis Document published.

Late 2024/Early 2025

Early February 2024

DNVStudy Kick-Off Call takes place; PAC is engaged.

April 2024

Request for Additional Wind Energy Areas off the New York Bight anticipated to be submitted to BOEM. Early to Mid-August 2024

Draft Report of Study

anticipated allowing for 2-weeks Technical Review/TWG/State agency Reviews.

October 2024

Study

undergoes Legal and Marketing Reviews.

Information on upcoming and past studies is available on NYSERDA's website:

https://www.nyserda.ny.gov/All-Programs/Offshore-Wind/About-Offshore-Wind/Master-Plan

New York Offshore Wind Solicitation and Portfolio Updates

Public Service Commission Decision



PSC Issues Decision to Preserve Competitive Renewable Energy Market and Protect Consumers

Denies Petitions Filed by Renewable Energy Developers Seeking Financial Relief

Commission Reaffirms Commitment to Achieve Renewable Energy Targets

ALBANY — The New York State Public Service Commission (Commission) today denied petitions filed by a group of offshore wind developers and a state renewable energy trade association seeking billions of dollars in additional funding from consumers for four proposed offshore wind projects and 86 land-based renewable projects. In denying financial relief, the Commission opted to preserve the robust competitive bidding process that provides critically needed renewable energy resources to New York in the fairest and most cost-effective manner that protects consumers.





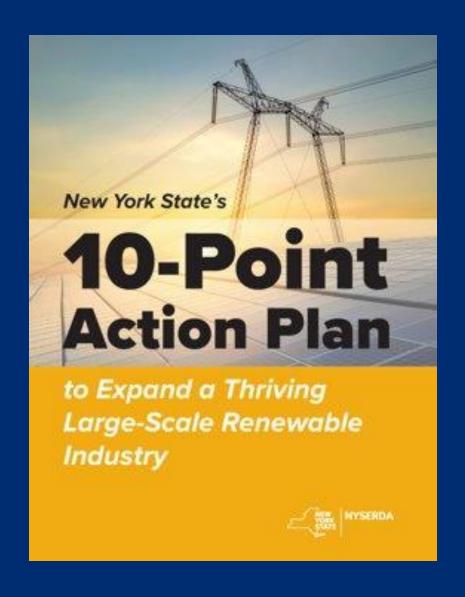
"NYSERDA remains steadfast in its commitment to develop renewable energy projects on behalf of New Yorkers and is proud to showcase this plan which effectively captures the strategic vision Governor Hochul has for growing a vibrant renewable energy industry. Over the coming months, we will demonstrate to the nation how to collectively recalibrate in the face of an evolving renewables marketplace and address the growing energy and supply chain challenges head-on in a comprehensive, cost-effective and responsible manner."

NYSERDA President and CEO Doreen M. Harris



"The requested amendments to the contracts would have provided adjustments outside of the competitive procurement process; such relief is fundamentally inconsistent with long-standing Commission policy."

Commission Chair Rory M. Christian



Action 1: Announce Offshore Wind and Onshore Renewables Awards in the Near Future

Action 2: Execute on Public Service Commission Order and Assess Renewables Portfolio Status

Action 3: Launch Accelerated Competitive Procurements

Action 4: Leverage Federal Support and Partnerships

Action 5: Build Transmission Infrastructure

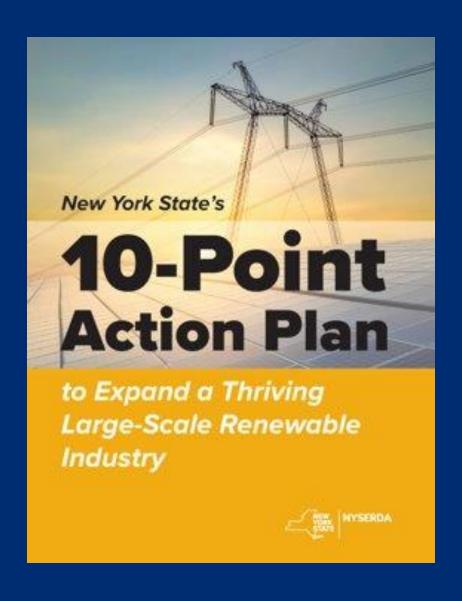
Action 6: Build the Offshore Wind Supply Chain

Action 7: Build the Clean Energy Workforce

Action 8: Plan for Next Phase of Offshore Wind Deployment

Action 9: Engage in Active Industry Outreach and Dialogue

Action 10: Advance Public Engagement and Outreach



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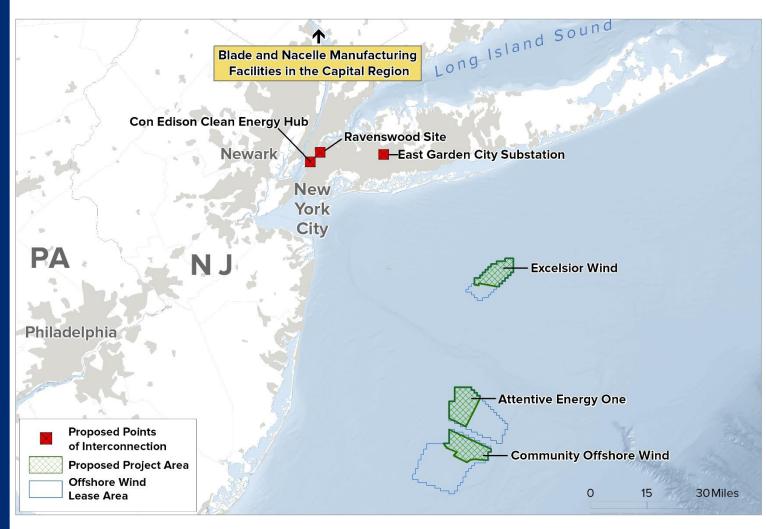
Attentive Energy One (1,404 MW) Community Offshore Wind (1,314 MW) Excelsior Wind (1,314 MW)

- Enough energy to power 2 million homes
- > \$15 billion in anticipated in-state spending, including \$3.4 billion in commitments to spending in Disadvantaged Communities
- More than \$85 million to support wildlife and fisheries research, mitigation, and enhancement

\$300 million state investment in the nation's first blade and nacelle manufacturing facilities in New York's Capital Region

- ➤ Leveraging more than \$2 of privately-committed capital for every \$1 of New York State funding
- > Total investment of \$968 million

New York's 3rd OSW Solicitation 3 OSW Projects + Blade and Nacelle Manufacturing



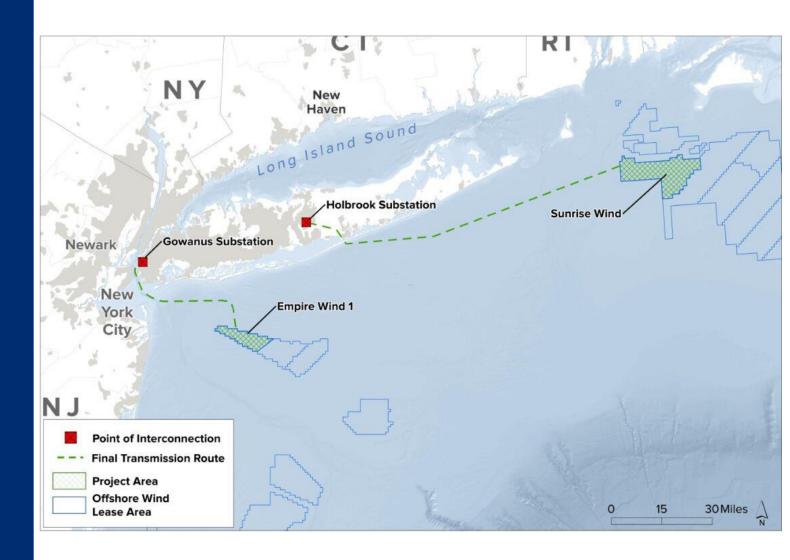
Empire Wind One (810 MW) Sunrise Wind (924 MW)

- Enough energy to power 1 million homes
- > \$6 billion in anticipated in-state spending, including \$1 billion in commitments to spending in Disadvantaged Communities
- More than \$16.5 million to support wildlife and fisheries research, mitigation, and enhancement
- Support 1,000 jobs over project lifetime with \$43 million in workforce investments

Supply Chain and Port Investments

- Construction at South Brooklyn Marine Terminal and Port of Coeymans
- > \$188 million in U.S. Iron and Steel

New York's 4th OSW Solicitation 2 OSW Projects



Thank You

Sherryll Huber
Senior Project Manager, Offshore Wind
Sherryll.Huber@nyserda.ny.gov

Tess Arzu
Special Projects Manager, Offshore Wind
Tess.Arzu@nyserda.ny.gov





Fisheries Stakeholder Engagement – Feedback from MP2.0 Office Hours

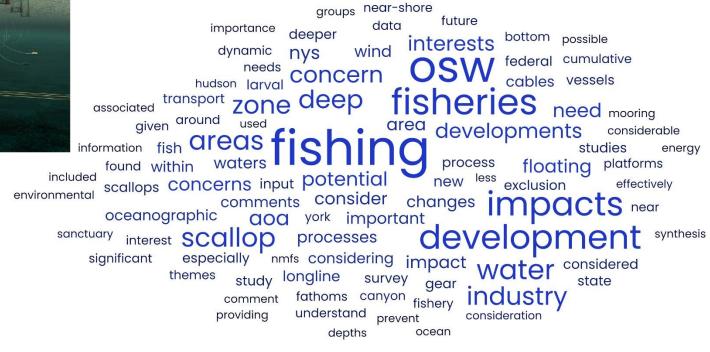


Feedback from Office Hours – Input & Concerns





- Four Sessions (June August)
- Participation = 3 to 14 attendees during each session (fishermen, fishing organizations)
- Total attendees = 21 individuals, representing themselves or their organizations
- Summary Memo available as part of MP 2.0



Feedback Summary from Office Hours – Topics to Consider for Deep Water



- Oceanographic Processes & Upwelling
- Larval Transport
- Fisheries Exclusion, Transit/Navigational Safety
- Turbine Spacing
- Economic Impacts
- Deep Water Benthic Habitats
- Cooling Water Use
- Entanglement
- Species Dispersal/Range Shifts
- Export/Inter-array Cable Constraints Unique to Deep Water
- Cumulative Impacts

Coming Soon:

Questionnaire on prioritizing these topics, and how to best approach

Source: TenneT/Siemens, BorWin Gamma



Cooling Water Use at Offshore Converter Stations



29 March 2024



What is an Offshore Converter Station?



- Specialized substation that converts the AC power generated by the windfarm, into DC power for transmission via HVDC export cables
- Typically only needed for projects with long export cables
- The conversion process generates heat, which requires cooling
 - Once-through cooling
 - Closed-cycle cooling
 - Other technologies/alternatives
- Potential impacts:
 - Entrainment of ichthyoplankton at the intakes
 - Thermal plume/mixing zone at the discharge
- CWA §316(a) and §316(b) regulations applicable through NPDES permitting
- Concept first presented to F-TWG in Nov. 2021 by Sunrise Wind (awaiting final NPDES Permit)
- As projects get further away from shore, converter stations may be increasingly necessary

<u>Objective</u>: provide an overview of the use of cooling water for offshore wind projects, as a tool to inform stakeholders, agencies, and developers.

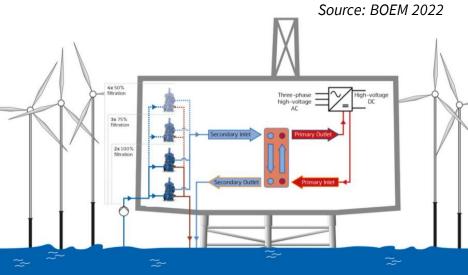
Source: Sunrise Wind NPDES Permit Application



Report Outline & Timeframe



- Introduce the general concepts of an offshore converter station and the use of cooling water
- Overview of the regulatory setting within the context of NPDES, §316(a), and §316(b)
- Literature review and available data sources
- Comparison with other facilities, including;
 - offshore oil & gas platforms,
 - offshore LNG ports,
 - onshore conventional power generation, and
 - other sources of cooling water in the ocean environment (e.g., vessels)
- Overview of the risks and impacts
- "Best technologies available to minimize impacts to fish populations"
- Mitigation and monitoring
- Timeframe (tentative):
 - Draft Report (now through fall 2024)
 - F-TWG review/feedback (fall 2024)
 - Final Report (winter 2025)







Juvenile Surfclam Survival and Growth to Support Enhancement of Sustainable Fisheries

Project Update: Agreement # 211764 NYSERDA FTWG March 29,2024

Daphne Munroe

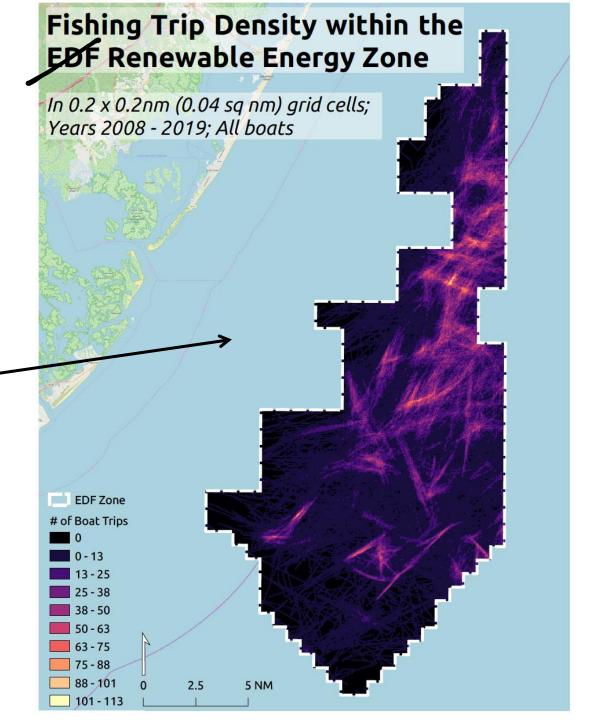
Associate Professor, Department of Marine & Coastal Sciences Haskin Shellfish Research Laboratory Rutgers University





Atlantic Shores





Fisheries enhancement: not new idea



Hatchery releases represent one of the largest fishery stocking programs in the world

2021 - commercial Alaskan fleet caught ~\$140M of hatchery raised salmon (28% - statewide salmon harvests)



Mass-release of cultured juveniles, removal of predators, and rotational fishing efforts

Release 1 year old scallops, harvest 3 years later. Harvest 300,000 tonnes per year.

Feasibility of Seed Production



AQUACULTURE, FISH and FISHERIES

ORIGINAL ARTICLE

Open Access

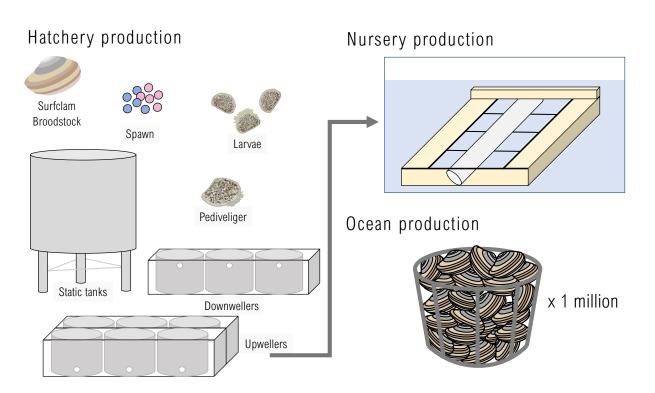
© ①

Hatchery capacity needed to support large-scale Atlantic surfclam fishery enhancement

Caela B. Gilsinan X, Sarah Borsetti, Daphne M. Munroe, Andrew M. Scheld

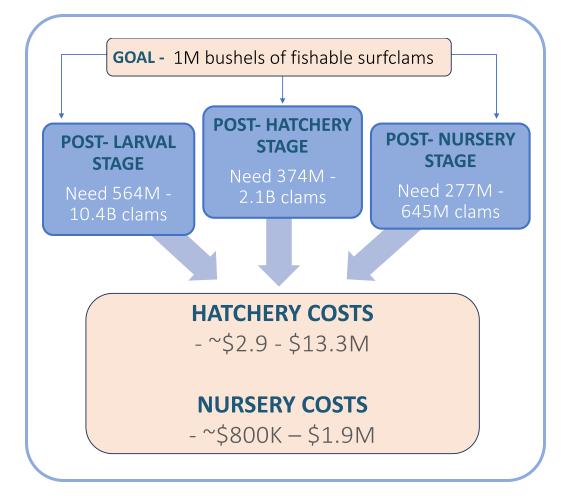
First published: 04 December 2023 | https://doi.org/10.1002/aff2.1

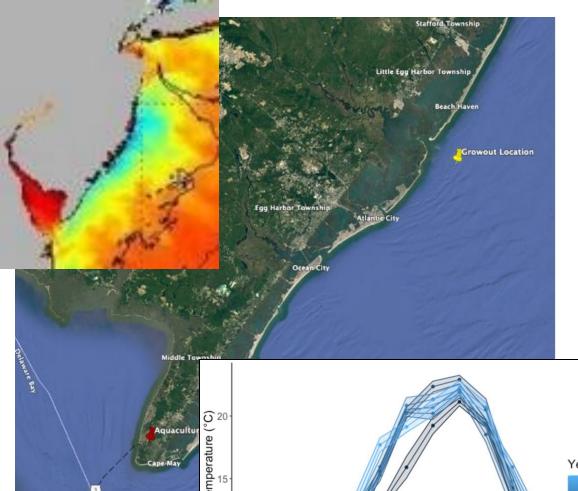




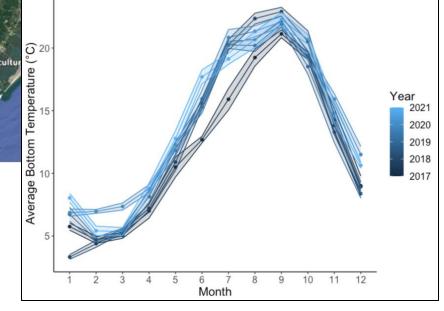
Reports and primary literature

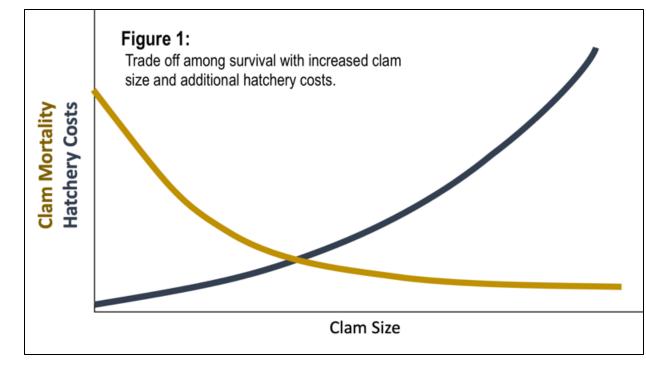
Understand growth and survival of surfclams in aquaculture settings



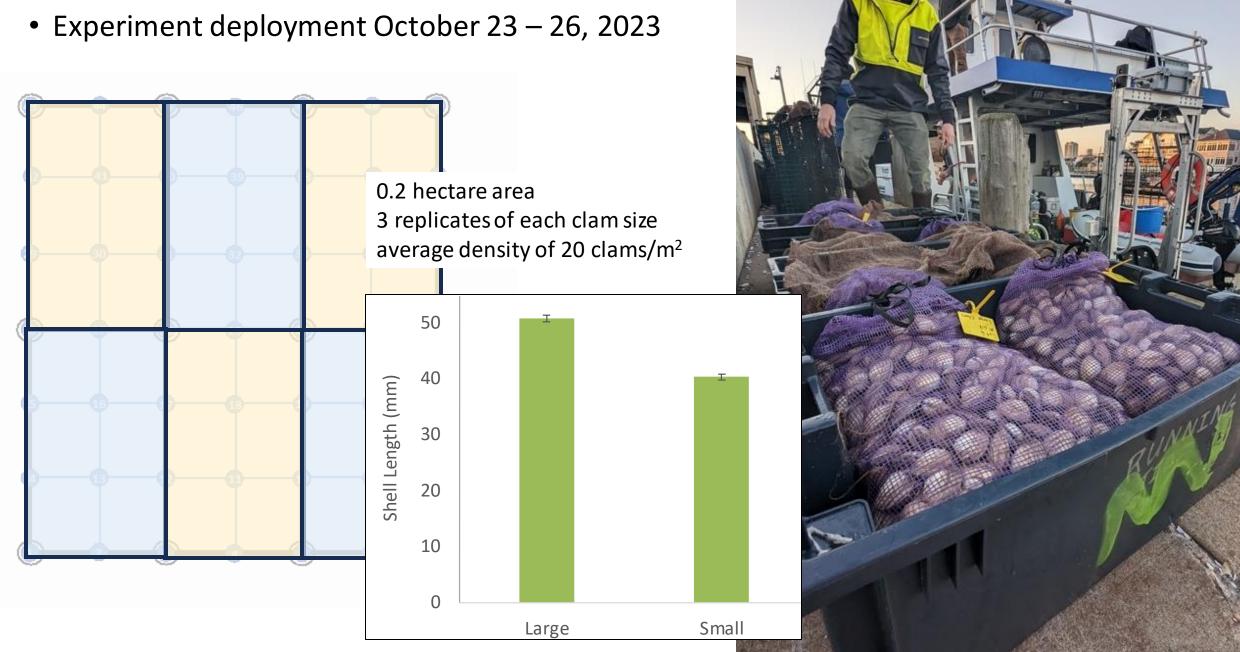




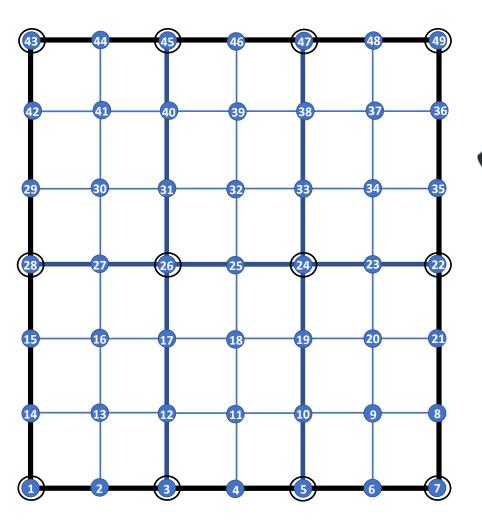


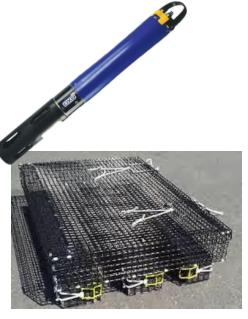


• Kickoff meeting October, 2023

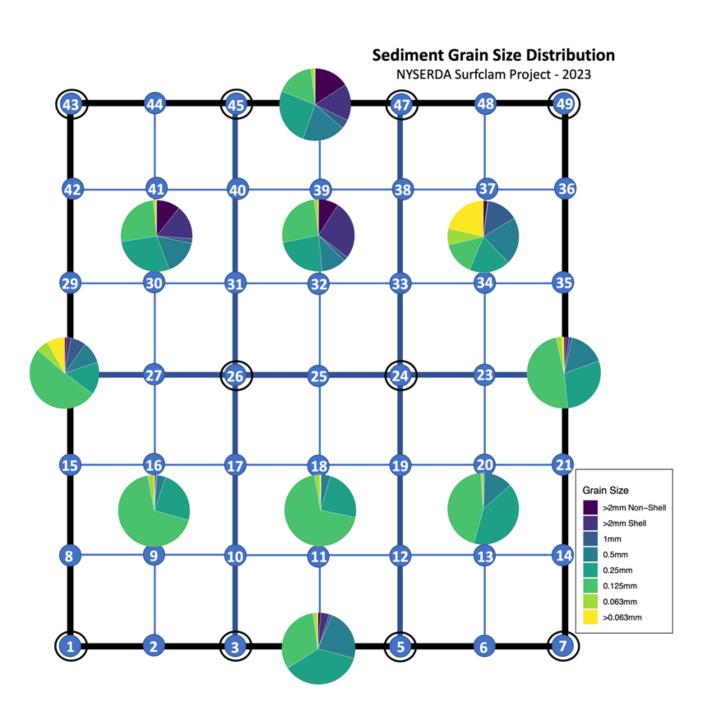


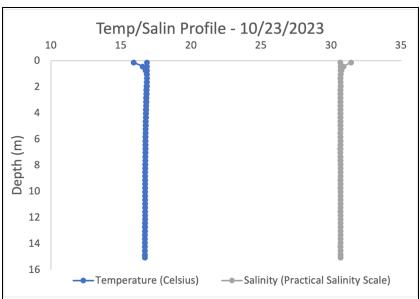
- Kickoff meeting October 27, 2023
- Experiment deployment October 23 26, 2023

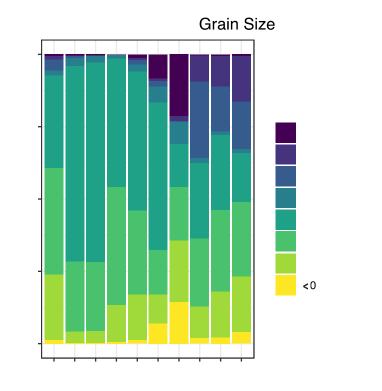




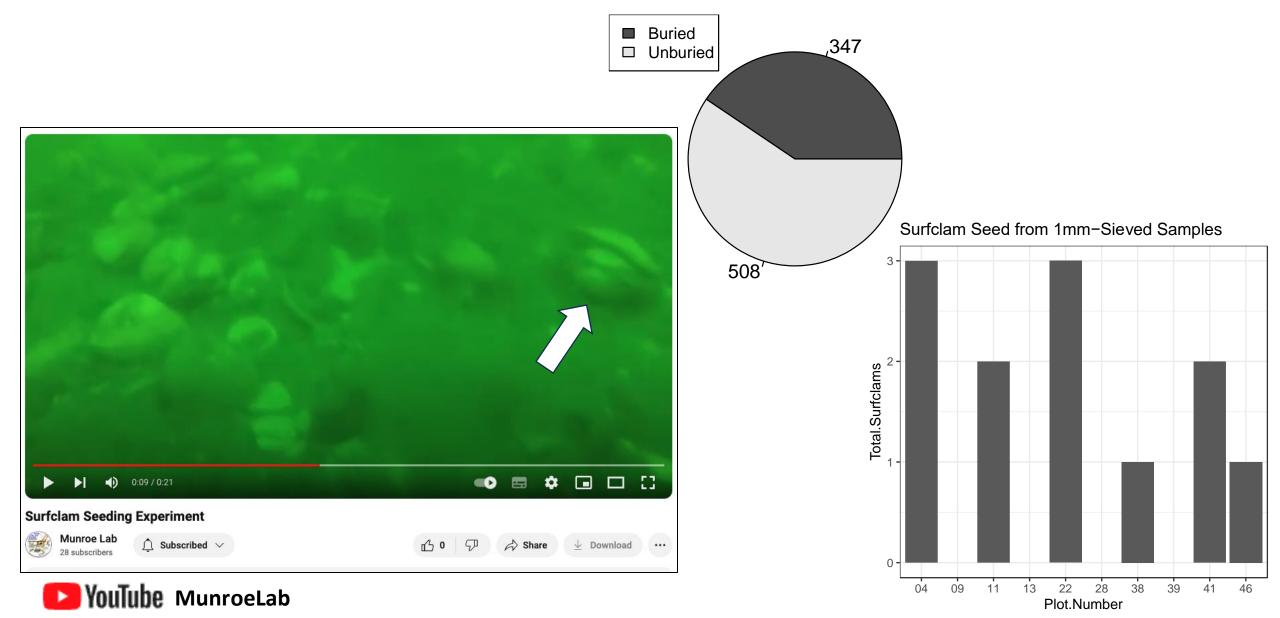








Burial Success and Wild Seed in Sediment Samples

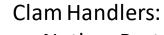




NYSERDA

Captain: Ross Baxter Dive Crew:

- Rusty Cassway
- Jenn Patterson
- John Copeland
- Jason Spencer



- Nathan Porter
- Alex Gross
- Max Horovitz
- Simon Hulbert



RUNING TIDE



Evaluating offshore wind farm impacts on Mid-Atlantic fisheries stock assessment









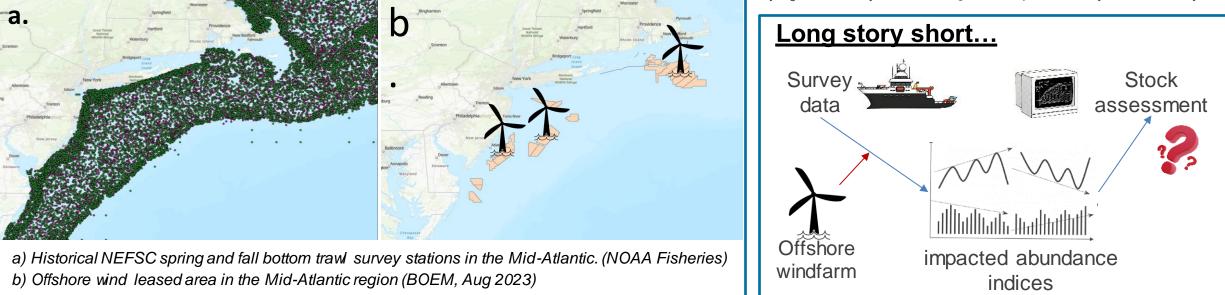




PI: Dr. Yong Chen

PI: Dr. Ming Sun Krystina Braid

yong.chen.2@stonybrook.edu ming.sun@stonybrook.edukrystina.braid@stonybrook.edu



Case study fisheries and assessment models



Background







Atlantic Surfclam Ocean Quahog Spisula solidissima Arctica islandica

ummer Flounder	Longiii Squid
aralichthys dentatus	Doryteuthis (Amerigo) pealeii

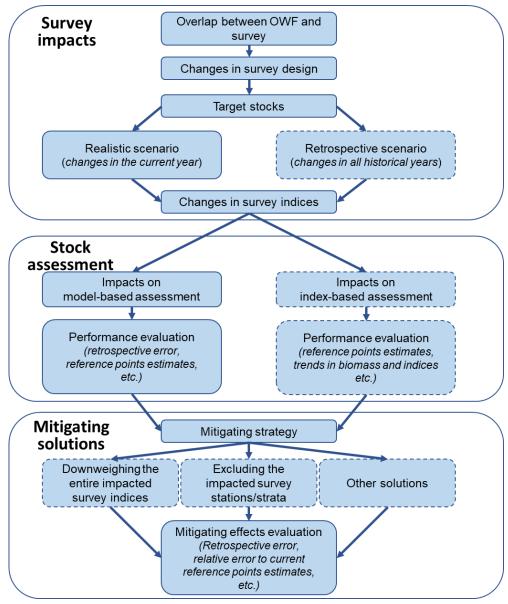
Species	Assessment model	Most recent two assessment years	Surveys to evaluate
Atlantic surfclam	Stock Synthesis	2020, 2016	NEFSC Dredge Survey
Ocean quahog	Stock Synthesis	2020, 2017	NEFSC Dredge Survey
Summer flounder	Age Structured Assessment Program	2021, 2019	NEFSC Bottom Trawl Survey spring and fall
Longfin inshore squid	Index method	2020, 2017	NEFSC Bottom Trawl Survey spring and fall

Project Objective and Goals









Obj. 1. Characterization of impacted survey abundance index

- Identify survey stations and strata overlapped with OWF areas.
- Evaluate survey impacts on survey indices time-series data.

Obj. 2. Evaluation of stock assessment performance

- Apply the impacted survey indices as input data to stock assessment.
- Model-based assessment and index-based assessment.

Obj. 3. Development and evaluation of mitigating strategies

- Examine several mitigating strategies to deal with the survey impacts on stock assessment demonstrated.
- "Downweighing strategy", "excluding strategy", "model-based indices", "up-sampling".

Status and Timeline





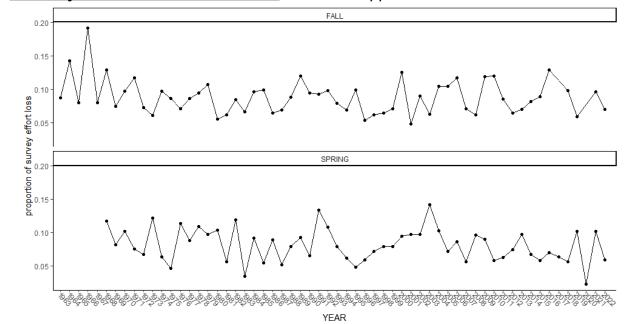


Oct. 2025

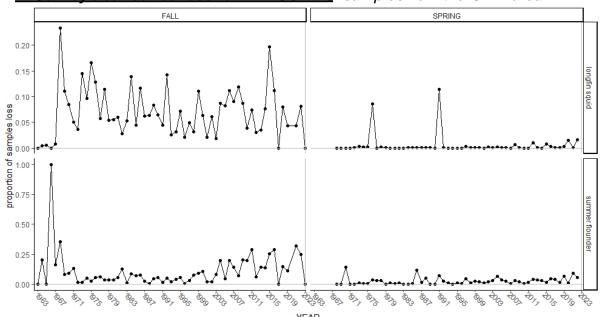
● Nov. 2023 Nov. 2024 · Project kickoff Starting Task 3: testing mitigating strategies Collating data: BOEM offshore wind area data, Strategy scenarios building NOAA survey data, NOAA stock assessment data Re-run stock assessment models Starting Task 1: characterizing survey data • Evaluate mitigating effects with assessment output Spatial overlap & indices time-series analyses Task 2 Task 1 Task 3 **July 2024** Feb. 2025 Finishing Task 1: impacted survey indices Finishing Task 2: stock assessment outputs Mar. 2024 - Now • Starting Task 2: stock assessment with impacted survey data

Model parameterization, tuning, etc.

I. Survey effort loss for NEFSC BTS: tows overlapped with OWF area



II. Survey abundance loss for NEFSC BTS: samples from the OWF area



Final Products







- General audience:
 - Final project report
- Fisheries science and management community:
 - A replicable workflow to evaluate OWF impacts on survey and stock assessment
 - Peer-reviewed research papers
- Students and next-generation scientists:
 - Integrate project findings into undergraduate/graduat marine sciences courses

Project Advisory Committee members

- John Maniscalco, Bureau Chief, Marine Fisheries, NYSDEC
- Julia Beaty, Fishery Management Specialist, Mid-Atlantic Fishery Management Council
- Kristen Anstead, Senior Stock Assessment Scientist, Atlantic States Marine Fisheries Commission
- Mike Pol, Research Director, Responsible Offshore Science Alliance (ROSA)
- Russell Brown, Scientist, Population Dynamics Branch, NOAA Northeast Fisheries Science Center

Stakeholder engagement

Long-term strategic influence

- A communication mechanism with NOAA offshore wind scientist to support NOAA fisheries and BOEM Federal Survey Mitigation Strategy development.
- Supporting Regional Fisheries Management Council process.
- Highlighting the importance of continued monitoring in leased areas for OWF Developers.
- Open science: data and code sharing.



Operational influence during the project

- Interacting with PAC members to evolve the project design and disseminate the findings.
- Hosting stakeholder workshops through online webinar and in-person meeting (NYSERDA, federal/state agencies, developers, public).

Mechanical jigs for resilience of sustainable fishing to wind farm development

Matt Rodriguez, N. David Bethoney Spring 2024 TWG 3/29/2024





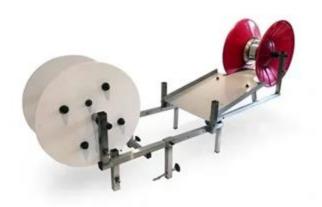
Background

- Fishing integral to Southern New England.
- Many modern problems.
 - Climate change
 - Offshore wind
 - Species changes
- Mechanical jigging could address some of these.



Project Objectives

- 1.) Pilot three mechanical jig systems aboard commercial fishing vessels near the Block Island Wind Farm;
- 2.) Compare the quality and quantity of catch between systems;
- 3.) Estimate start-up costs and develop an implementation;
- 4.) Communicate findings to the fishing community.

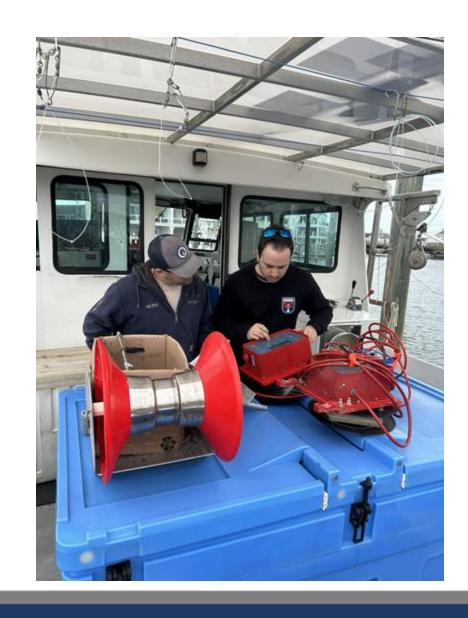






Stakeholder Engagement

- We work directly with stakeholders.
- At the conclusion of the project we will hold a workshop to highlight project findings. Including:
 - Machine efficacy
 - Cost associated with each system
 - Best practices
- Project related reports will be posted:
 - Our social media accounts
 - Monthly newsletter (>1500 individuals)



Project Status

- Currently on track.
 - Earlier this month we posted solicitation materials.
 - The application window has since closed and applicants are being reviewed.
- Field trials will begin in June and continue once a month through December.

CALL FOR APPLICANTS

The Commercial Fisheries Research Foundation (CFRF) is seeking commercial F/Vs to participate in an upcoming mechanical jigging study. The project aims to assess the viability of using different mechanical jigging systems within offshore wind farms.

Responsibilities and Requirements:

- F/Vs will assist in determining the best practices for fishing 3 different mechanical jig systems in and around the Block Island Wind Farm
- Selected F/Vs are asked to:
 - Outfit 3 individual jigging machines to their vessels
 - Test each system once per month, June-December, for two years starting June 2024
 - · Host 1-2 CFRF staff on each testing trip and assist with data collection
 - · Provide feedback on the performance of the equipment

Compensation

- CFRF will provide all jigging machines, training, and associated equipment free of charge
- F/Vs will recieve a \$3,000 stipend per testing day
- · Participants can keep and sell catch, depending on individual permitting



Interested? Please contact Matt Rodriguez by March 15th:
Email: mrodriguez@cfrfoundation.org

Phone: (813) 486-6463



NYSERDA

For more information, check out the project website: https://www.cfrfoundation.org/piloting-mechanical-jigging



Next Steps

- Questionnaire on prioritizing topics to consider for deep water will be available soon.
- NYSERDA is working through the review process for the RFA; the award announcement will be made sometime this spring/early summer.
- There will be an opportunity to review the Master Plan 2.0 Track 1 studies when they are released this spring.
- Draft Report on Cooling Water Use at Offshore Converter Stations will be available this fall.
- Deadline to submit abstracts for the "Offshore Wind, Fish, and Fisheries Emerging
 Knowledge and Applications" symposium at the AFS Annual Meeting (September 15-19, 2024)
 in Honolulu, HI is April 26, 2024.

