

Habitat Committee

Michelle Bachman and Jennifer Couture
NEFMC staff

Habitat Advisory Panel
September 12, 2022
Via webinar



Review of Final Report Exempted Fishing Permit 19066

GSC HMA Research Objectives (June 2019)

1. Improve the Council's understanding of the distribution of living and non-living habitat features within the GSC HMA, including topography, substrate, epifauna, and infauna (i.e., develop habitat maps).
2. Improve the Council's understanding of habitat stability including epifaunal persistence in relation to substrate type, tidal flows and storm events.
3. Improve the Council's understanding of habitat vulnerability to mussel and clam dredges. Vulnerability includes both the nature of habitat/gear interactions (susceptibility) and recovery rates.
4. Improve the Council's understanding of why the GSC HMA is important to managed species, such as Atlantic cod.

Not intended to be accomplished through a single project

EFP 19066 Project Objectives

1. Use dredge-mounted cameras to document substrate, habitat features (e.g., sand waves, mussel beds), fishes and invertebrates within the Rose and Crown area of the HMA.
2. Create spatiotemporal distributions of biotic and abiotic habitat features to be used to inform future management actions regarding the HMA.
3. Establish relationships between high clam CPUE and habitat complexity.
4. Determine spatiotemporal presence of Atlantic cod in this area.

Project represents the only EFP-based research that has been conducted in research area since implemented.

Main Project Results

- Complex habitat is widespread throughout project area
- Clam dredges operate in areas with complex pebble-cobble bottom
- Habitat is very heterogenous even on small spatial scales (based on substrate patch sizes on scale of tens of meters)

Surfclams:

- Clam catch sig. increased with increasing percent pebble-cobble coverage
 - Other significant variables: swept area, season, tidal stage

Fish:

- High abundances of dogfish, black seabass (attracted to dredge?) esp. in summer, fall
 - Significant variables: season, swept area, mussel clump coverage, diel phase (dogfish only)
- Flatfish abundance (windowpane, yellowtail) also modeled; season was significant

PDT Concerns

- Sampling methods make results difficult to use for understanding habitat complexity
 - Characterized areas dredged commercially, but not unfished areas
 - Areas with fewer clams or large boulders were avoided; fishing locations not evenly distributed or randomized; tows not independent from each other
- Seasonal changes in benthic characteristics could reflect true seasonal differences, or may be due to differences in fishing locations across seasons or the result of impacts from prior dredging
- Limits to what can be concluded re-fish distribution/abundance
 - Detectability in sampling gear unknown; unobserved or rare species may occur or be more prevalent even if not seen in video

Utility of study for management

- Results cannot be used to design future exemption areas in the Rose and Crown area of the HMA, assuming the Council's objective is to minimize adverse impacts of fishing on complex habitats
- Evidence that habitat is very heterogenous at scales of tens of meters and clam catches are distributed throughout the area
 - Unable to identify discrete zones for fishing where interactions with complex habitat is unlikely
- Reaffirm the need for additional mapping in other areas of the HMA
 - We don't know if other areas have different patch sizes, or larger areas of "less-complex" habitat that might be suitable for exemptions
- Study was not designed to evaluate gear impacts, habitat recovery rates vs. natural disturbance, or habitat stability over time
 - Need a properly designed study to understand impact & recovery relative to natural disturbance

Committee Feedback from Aug. 18th

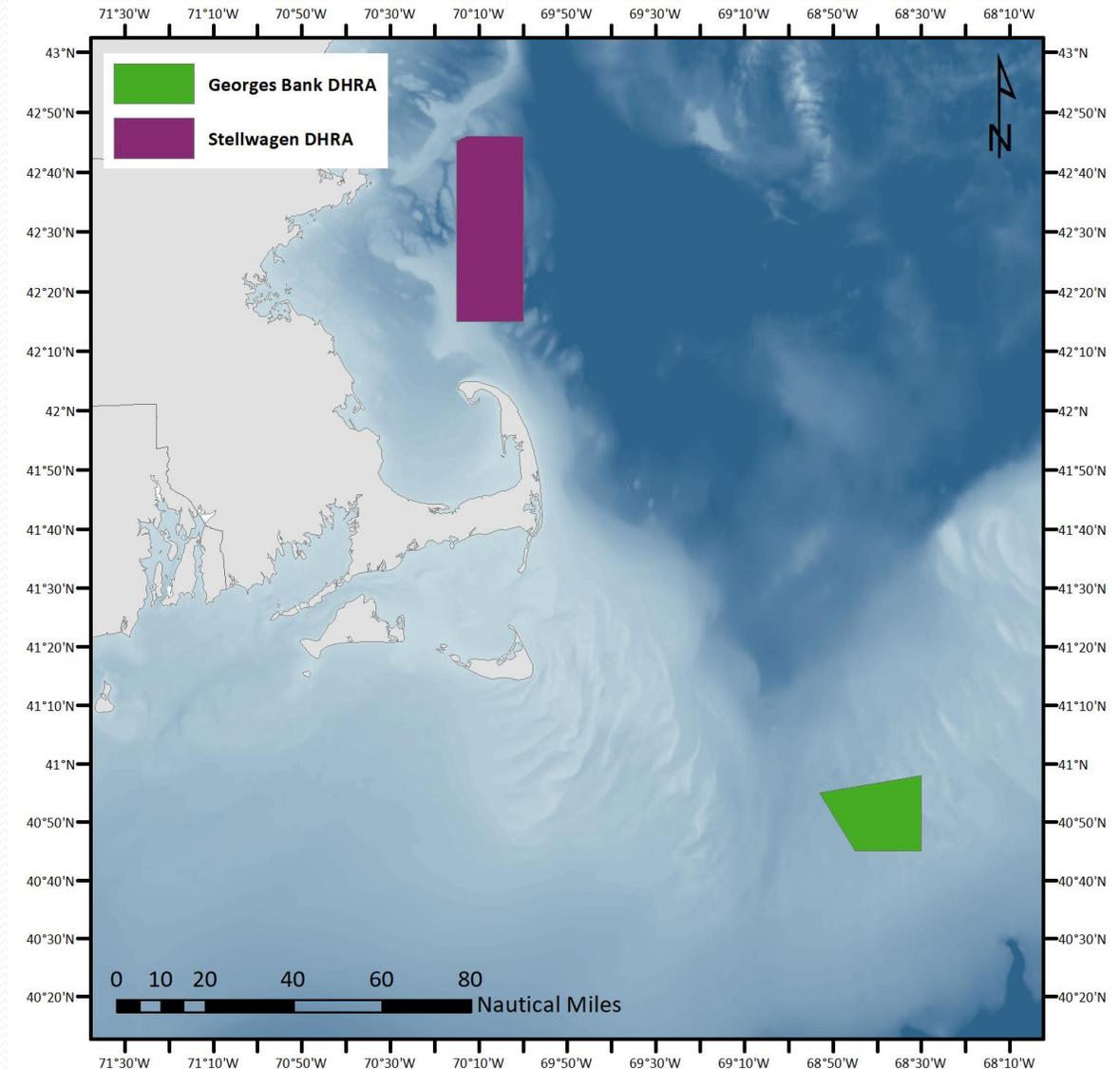
- The Council should clarify info needed to support management, including complex habitat
- EFP-based studies can provide useful information but should be carefully designed; additional surveys using fishery-independent techniques would be helpful (HabCam, acoustics, drop camera)
- Funding for habitat characterization and fishing impacts research is limited
 - Compensation fishing may be needed
 - Plans for such fishing should be clearly outlined, strategically implemented

Committee wrote a cover memo to the PDT's EFP review for Council review

GARFO Review of Dedicated Habitat Research Areas

Dedicated Habitat Research Areas

- Designated via OHA2, implemented April 2018
- Administrative sunset prohibition – GARFO to review after 3 years, determine whether DHRA should be kept or removed
- [Public comment period](#) closed 8/19
- GARFO summarized findings (document 6b)



DHRA Research Objectives (from OHA2)

- Gear impacts
 - How do different gears affect susceptibility and recovery?
 - How do fishing impacts influence habitat complexity, community state, recovery rates, etc.?
- Habitat recovery
 - What recovery trajectories/models are evident? Are habitats resilient to smaller scale impacts? Is the first pass more detrimental? Are there tipping points beyond which recovery is unlikely?
- Natural disturbance – how does it compare to fishing disturbance?
- Productivity – how does it vary by habitat type, across oceanographic and regional settings?

DHRA Sunset Provision

- Allows administrative removal w/out further Council action after 3 yrs, if no research designed to evaluate habitat effects of fishing initiated
- Removal by NMFS via rulemaking or notice consistent with APA, coordinated by GARFO
- The following criteria must be met for the DHRA to continue after the three-year review:
 - Documentation of active and ongoing research in the DHRA area, in the form of data records, cruise reports or inventory of samples with analytical objectives focused on DHRA topics.
 - Documentation of pending or approved proposals or funding requests (including ship time requests) with objectives focused on DHRA topics.

Evaluation flowchart for DHRAs

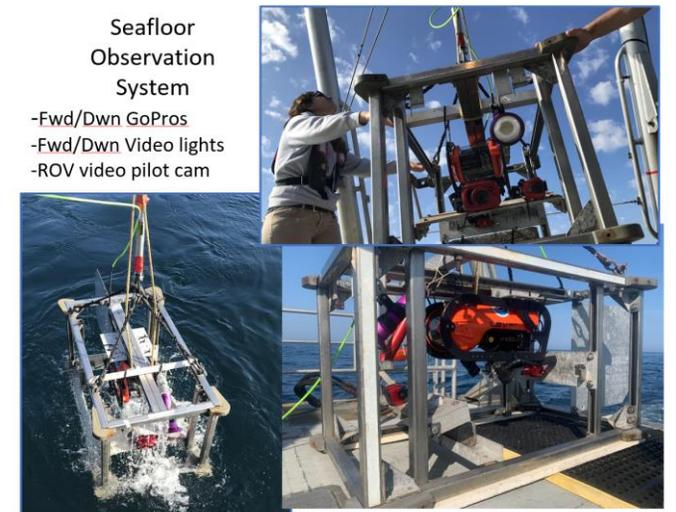
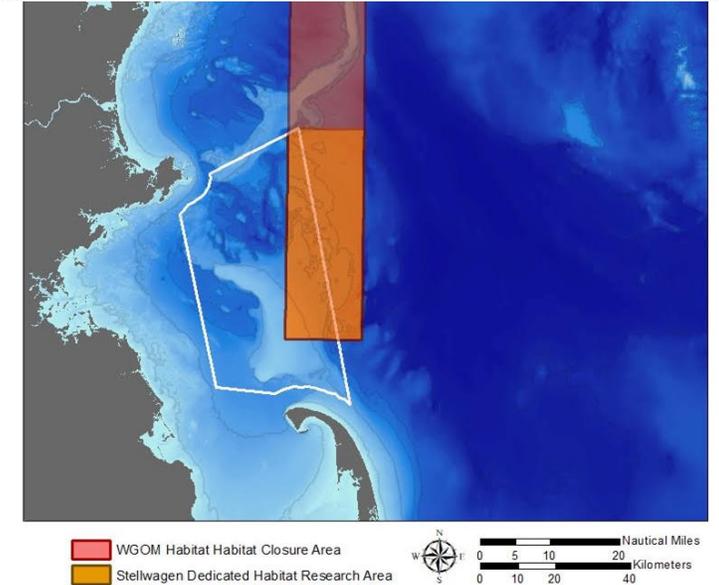
- Is research actively being conducted in the DHRA?
 - If yes, is it anticipated that it will continue beyond this fishing year?
- Is there potential research:
 - Currently in the permitting process at GARFO or other entities, e.g., SBNMS?
 - Currently in the funding process?
 - If yes, is there a high likelihood that the project will be funded?
 - Is there potential research at some other critical stage in the idea —> funding process?
- Are the fishing restrictions associated with the DHRA designation an explicit part of the design of the [existing or proposed] project?

Committee Feedback from Aug. 18th

- Recommended that the Council wait until GARFO completes its review and consider their findings before submitting any Council feedback or comments
- If the DHRA designations are removed, research would continue to be allowed, however could send a message that this type of habitat impact research is not a priority for the Council
 - Noted that Stellwagen DHRA has other fishery management closures in the area so fishing restrictions would not change if designation is removed, while Georges Bank DHRA does not have other fishing restrictions so removing designation would allow fishing with trawls, dredges to resume

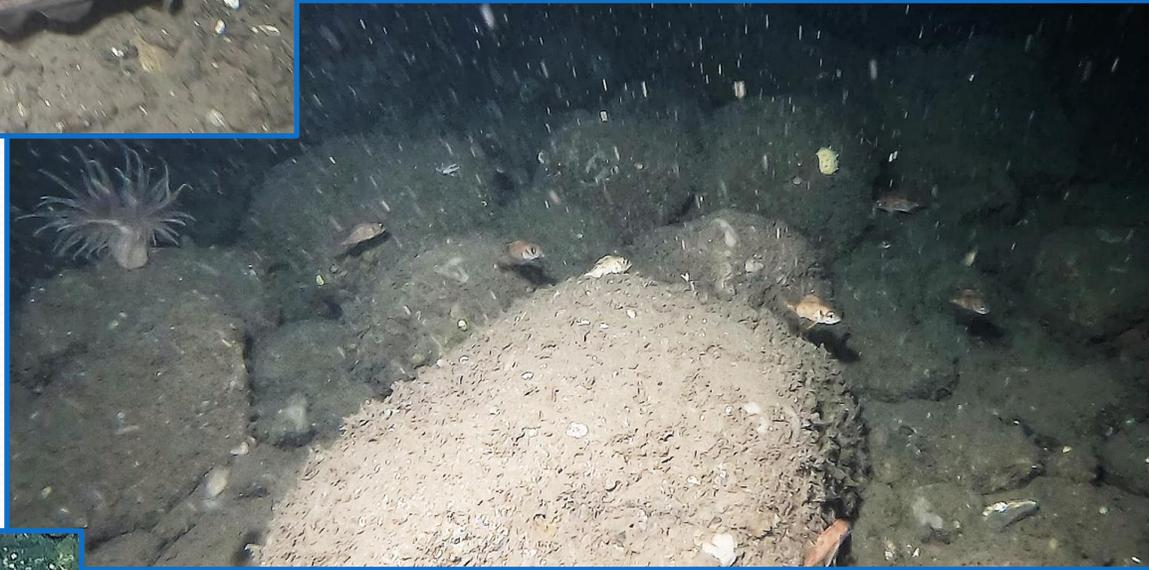
SBNMS monitoring project in Stellwagen DHRA

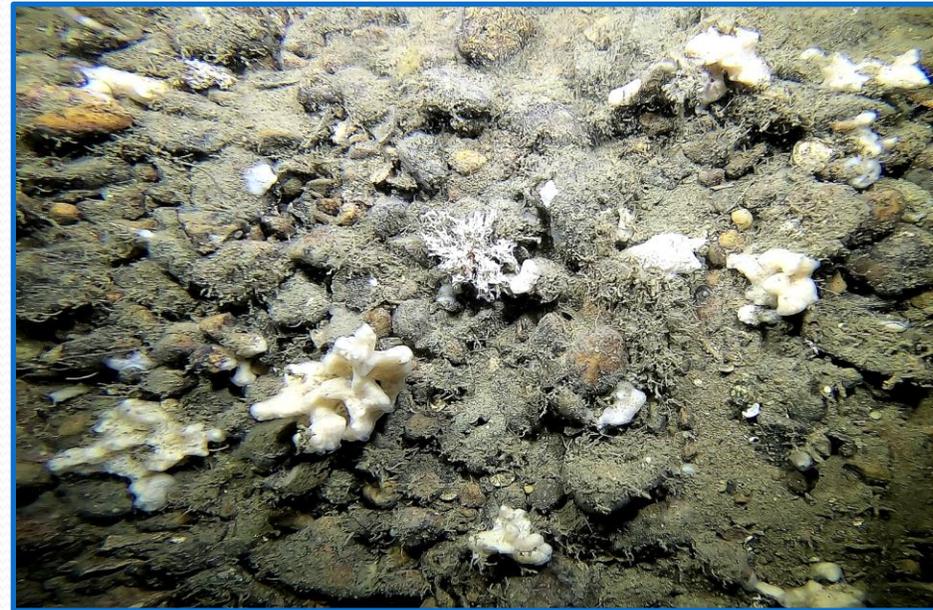
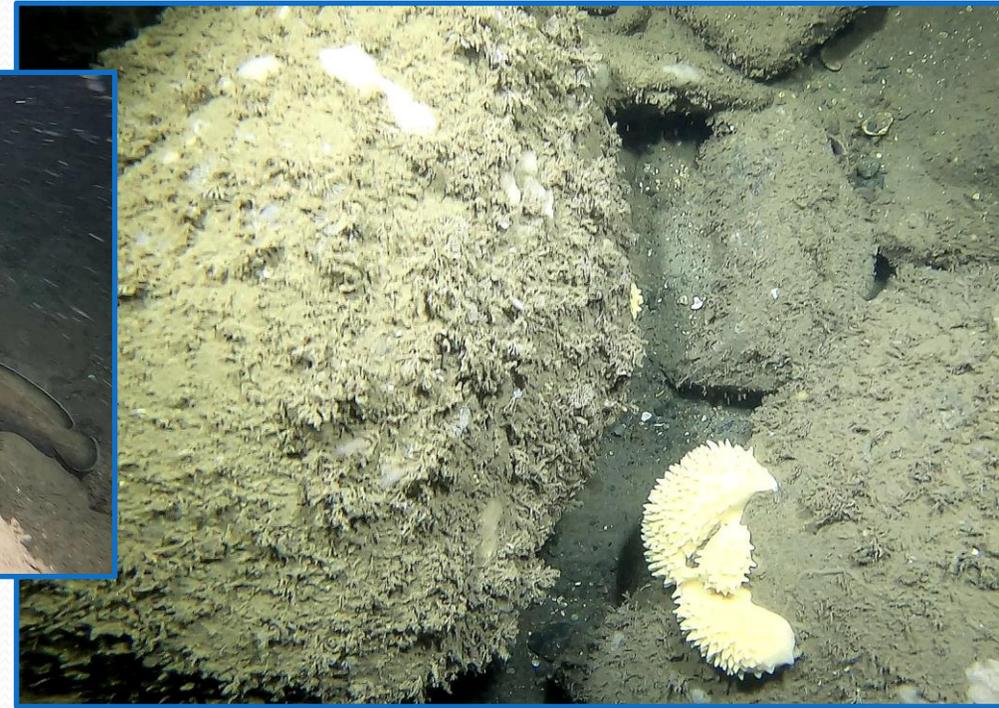
- In August 2021, SBNMS reinitiated monitoring of the DHRA where it overlaps with the WGOM closure
- Collaboration with Dr. Peter Auster, Mystic Aquarium/UConn and Habitat PDT member
- Objective: Assess the status and dynamics of seafloor habitats/communities in the DHRA
- Monitoring addresses comparable research needs identified in multiple venues (see next slide)



Research agenda/priorities alignment

NEFMC OHA2 DHRA Research Agenda	NEFMC 2020-24 Research Priorities	Draft Stellwagen SERA Proposal Research Priorities from 2012
<p>Habitat Recovery</p> <p>What recovery models (e.g., successional vs. multiple-stable states) are operant in the region and how resilient are seafloor habitats to disturbance?</p>	<p>Productivity</p> <p>Characterize and evaluate current and potential HMAs and HAPCs. Identify nursery and over-wintering habitats of species vulnerable to habitat alteration by fishing gear.</p>	<p>Gear Impacts</p> <p>What are the spatial patterns of diversity and do they vary in phase with increasing levels of disturbance (i.e., both natural and human-caused)?</p>
<p>Natural Disturbance</p> <p>In the absence of fishing, what are the dynamics of natural disturbance on seafloor habitat (especially biological components). In areas where natural disturbance is high, are signals of the impacts of fishing masked?</p>		<p>Habitat Recovery</p> <p>Do communities across disturbance regimes exhibit predictable shifts in state or are changes stochastic, especially as species distributions shift under climate change?</p>
		<p>Natural Disturbance</p> <p>What is the relationship between biodiversity and ecological resilience? What are the relationships between disturbance regime and persistence of rare species?</p>





Aquaculture Framework Action

Atlantic salmon – original FMP (1987)

- Management objective: Complement restoration and management programs of the states and the North Atlantic Salmon Conservation Organization (NASCO)
- Management unit: All anadromous salmonids of US origin in the N. Atlantic throughout their migratory range, except when in the waters of another nation
- Federal management program: prohibits directed or incidental fishery, and possession of salmon, in federal waters (3-200 miles)

Atlantic Salmon FMP Amendments

- Amendments 1 (1999) and 3 (2018) designated and subsequently updated essential fish habitat and habitat area of particular concern
- Amendment 1 also allows for salmon aquaculture if “action is consistent with the goals and objectives of the Atlantic Salmon FMP” ([final rule](#))
 - NEFMC aquaculture measures must include 1+ of following: minimum fish sizes, gear restrictions, minimum mesh sizes, possession limits, tagging requirements, monitoring requirements, reporting requirements, permit restrictions, area closures, establishment of special management areas or zones, and any measures within the FMP.
- Salmon regulations: <https://www.ecfr.gov/current/title-50/chapter-VI/part-648/subpart-C>

Potential Scope of Council aquaculture framework

- Focus on authorizing salmon possession
 - Reminder, FMP recommends no commercial fishery for salmon, directed or incidental, and prohibition on possession in federal waters 3-200 miles
 - Dealers cannot buy products prohibited under MSA
 - Allowing possession at sea via framework should allow dealers to buy product
- Suggest making this authorization generic to any future salmon aquaculture project (vs. Applying to Blue Water Fisheries project only)

Subpart C - Management Measures for Atlantic Salmon

§ 648.40 Prohibition on possession.

- (a) *Incidental catch.* All Atlantic salmon caught incidental to a directed fishery for other species in the EEZ must be released in such a manner as to insure maximum probability of survival.
- (b) *Presumption.* The possession of Atlantic salmon is prima facie evidence that such Atlantic salmon were taken in violation of this regulation. Evidence that such fish were harvested in state waters, or from foreign waters, or from aquaculture enterprises, will be sufficient to rebut the presumption. This presumption does not apply to fish being sorted on deck.

Council can address other issues via consultation

- Various concerns about potential impacts of aquaculture articulated in our 2020 [Aquaculture Policy](#)
- Consult and coordinate with lead agencies on aquaculture projects to address these issues
 - Agencies: NOAA Fisheries/NMFS, EPA, Army Corps of Engineers
 - Issues: siting/spatial planning, water quality, genetics/source of cultured fish, emergency response plans, etc.
 - Comments throughout project-specific permitting process, or related to regional planning (i.e., aquaculture opportunity area development) based on the Council's 2021 [Coordination Plan](#)

Committee Feedback from Aug. 18th

- Recommended the Council initiate an action to consider authorizing Atlantic salmon aquaculture in the EEZ in September
 - Framework should focus on authorizing possession of farm raised salmon, raised according to NASCO standards
 - Other issues to explore include enforcement and reporting, including landing/production reporting
 - EPA, USDA, USFWS, NMFS have permit requirements for chain of custody, effluent, escapement, health reporting/disease, etc. → would be redundant if Council focused on these issues
- Also recommend continuing to consult and coordinate on individual aquaculture projects

Offshore Development

GOM Request For Competitive Interest (RFCI)

- Comments due October 3 - ~10,000 acres, 12-turbine array, 16 mi² limit
- Requesting comments, supporting data on (Council-related ones highlighted):
 - Research priorities, justifications to advance floating wind
 - Geological and geophysical conditions
 - Known archaeological, cultural, historic resource sites
 - Other uses of RFCI area incl. commercial vessel, recreation, commercial/rec fisheries
 - Potential impacts to existing communication cables
 - Dept. of Defense activities that may be impacted
 - Impacts from renewable energy development on future uses of the area
 - Other relevant, socioeconomic info

RFCI Draft Council Comments

- Key opportunity for learning prior to commercial development – however, pace between research and commercial leasing almost concurrent
 - Likely unable to adopt lessons learned
 - Unable to inform commercial lease areas, where initial siting is critical for minimizing impacts
- Recommend following NMFS' guidance on data to include in analysis
- Unclear if/how research array area will change as a result of the ongoing PARS
- Meaningful engagement difficult with pace of projects
- Additional comments to be developed...

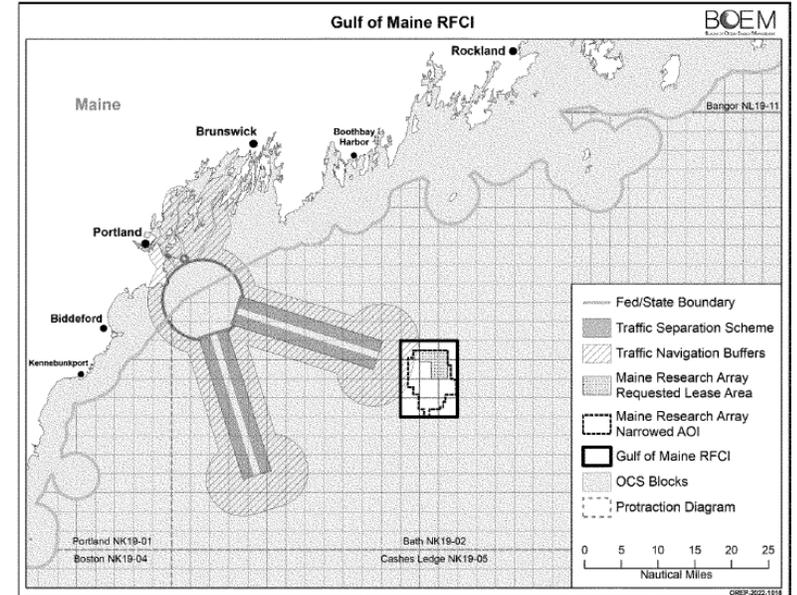


Figure 1: Request for Competitive Interest Area, Including Maine's Requested Research Lease Area, Narrowed Area of Interest, and Traffic Separation Scheme

GOM Request for Information (RFI)

- Comments due Oct. 3 (same day as GOM RFCI); BOEM to use RFI to schedule competitive lease sale or issue a noncompetitive lease
- Already excluded areas within national parks/wildlife refuges/marine sanctuaries/monuments; existing separation schemes; RFCI area
- Requesting info on:
 - Environmental issues, concerns
 - Site conditions, resources, multiple uses close to/within RFI Area
 - Best available data to use incl. commercial/rec. fishing, protected species, habitat, socioeconomic, interconnection/transmission backbone opportunities, radar interference, environmental conditions, conflicting uses in area, ecosystem-based spatial models

RFI Draft Council Comments

- RFI Area is large (13.7 M acres)
- Excludes incompatible areas including existing traffic separation schemes – unclear how the current PARS timing will align or not
- Suggest specific data sources/areas to exclude from RFI (list under development)
- Make recommendations about evaluating fisheries uses
- Additional comments to be developed...

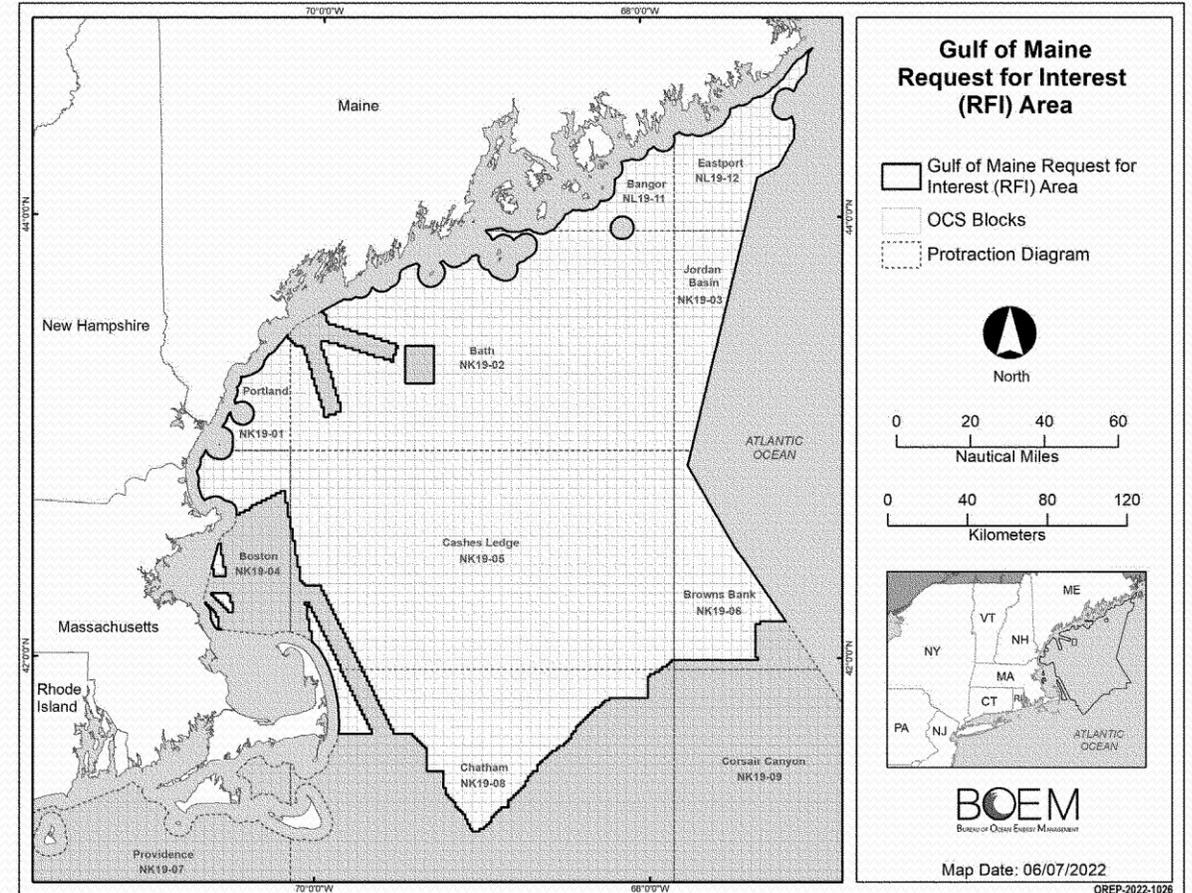


Figure 1: Gulf of Maine Request for Interest Area

Revolution Wind DEIS

- Comments due Oct. 17th
- Public hearings starting Sept. 29 – Oct. 11th (mix of virtual and in-person)
- 704 – 880 MW, up to 100 turbines, 2 offshore substations, located 15 nm SE of Point Judith with connection in North Kingstown, RI
 - 704 MW power procured from CT and RI
- Includes 5 alternatives and No Action (excluded 12 other alternatives that did not meet purpose and need / screening criteria)

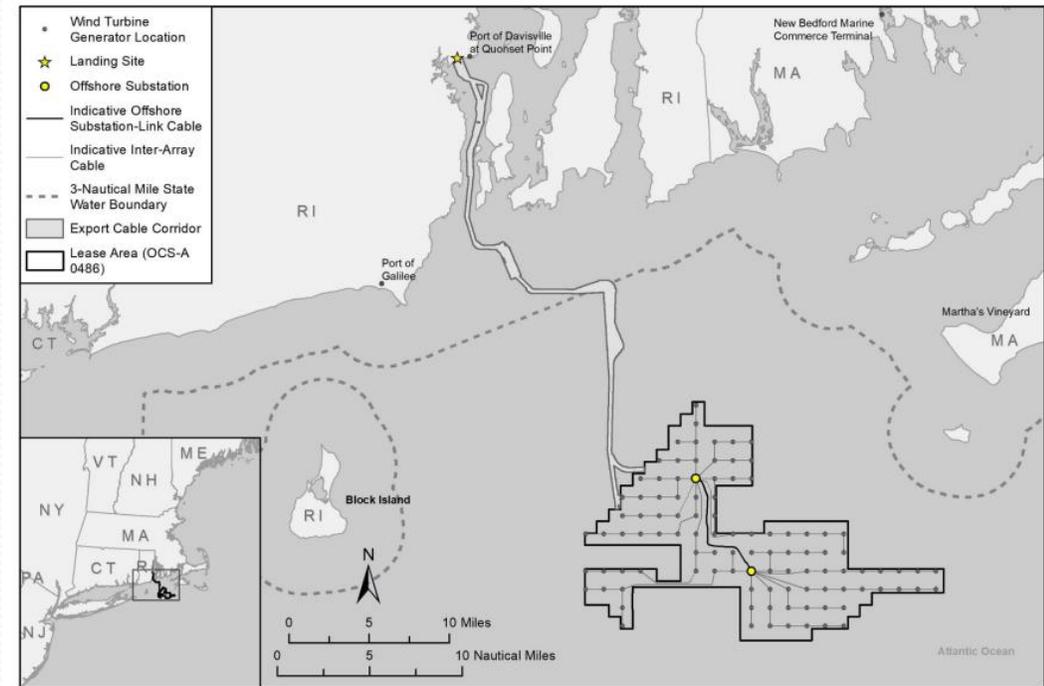


Figure 1.1-1. Project overview.

Revolution Wind Draft Council Comments

- Support the **habitat impact minimization alternative** especially potential for micrositing or removal of WTG locations to still meet 704 MW power purchase agreements (only 64-65 turbines, not the full 100 proposed, does not state MW this is based on – 11 MW?)
- Support the **no surface occupancy in 1+ outermost portion of project area** to allow transit lane of ~4nm to meet 880 MW (78-93 turbines based on 12 MW turbines, which is different than other alt.)
- Unclear why 14 MW is an alternative when this is outside the project design envelope in the COP → what is the purpose of the design envelope?

Draft Council Comments Cont.

- Some alternatives are based on 704 MW and some on 880 MW
- Alternatives are not consistent with turbine size assumption
 - Impacts the total number of turbines needed to meet project purpose & need and minimization measures
 - Each alternative should assume a specific turbine size (not a large range like what is included in the COP of 8-12 MW)
- Additional comments to be developed...

2023 Council Priorities

2022 Habitat Work Priorities

- Action largely complete
 - **Develop a Habitat Area of Particular Concern for Southern New England**
 - Final Council action June 30; initial document submission this month
 - **Northeast Regional Habitat Assessment**
 - 3-yr project ended in July; working to finalize products and begin formal rollout
- Ongoing work
 - **Comment on and engage in aquaculture planning**
 - **Engagement with ROSA and other OSW partners**
 - **Prepare comments on non-fishing activities, mostly OSW-related**
 - **Staff participation on ASMFC Habitat Committee**
 - **NEPA analysis of Council actions**
- New action
 - **Framework to facilitate Atlantic salmon aquaculture**
 - Council can consider initiating a framework in September, as recommended by Committee on August 18

Potential 2023 priorities

Ongoing
work,
continuing
from 2022
(and earlier)

- **Participate in ROSA activities; collaborate with NMFS and other partners on offshore wind science issues**
- **Develop habitat and fishery-related comments on non-fishing activities including offshore wind, aquaculture, and cable projects, using the Council's policies and aquaculture coordination plan, and in consultation with other agencies (NMFS, MAFMC, BOEM)**
- **Participate on ASMFC Habitat Committee**
- **Habitat impacts (NEPA analyses) of management actions**
- **Action to authorize and facilitate Atlantic salmon aquaculture in the EEZ**

Potential new priorities

New priorities?

- **Review and revise essential fish habitat designations (Committee recommendation)**
 - Building on Northeast Regional Habitat Assessment modeling and other products
 - Which species to work on first?
- **Revise habitat management areas on the northern edge of Georges Bank (Committee recommendation)**
 - Eval. of issue 2021 work priority. PDT developed white paper, presented February 2022.
 - Continuation of work was not recommended by the Executive Committee for 2022; not adopted by Council as a 2022 priority
 - Forthcoming information this fall from an ongoing contract with Coastal Ocean Vision – continuation of prior BACI study
- **Revise clam/mussel dredge exemption program in Great South Channel Habitat Management Area (not a Committee recommendation)**
 - Current exemptions and research areas will remain in effect unless modified by Council
 - Surfclam industry raised concerns with Council in December 2021
- **Other ideas?**

Northern Edge BACI study

- Contract with Coastal Ocean Vision
- Analyze seabed images collected in June 2022 from previously established study sites on the Northern Edge
- Assess current condition of sites, which were last assessed in 2018, to determine whether recovery has occurred
- Analyze images (training data set plus machine learning), conduct statistical analysis comparing site attributes over time, prepare report, present results to the Council, provide GIS database to Council
- Contract started in July; results available early fall 2022 (Joint Habitat/Scallop PDT webinar on October 13)

Committee Feedback from Aug. 18th

- Agreed with slight wording adjustments to ongoing work items, and kept these priorities on the 2023 list
- Recommended adding two priorities for management actions:
 1. Revise management areas on the Northern Edge of Georges Bank – Committee interested in reviewing the Northern Edge Before-After-Control-Impact (BACI) study before finalizing priorities in Dec.
 2. Revise and review essential fish habitat designations – these are supposed to be reviewed every 5 years

Other Business