

AN UPDATE ON ESTABLISHING AN OFFSHORE MUSSEL FARM IN FEDERAL WATERS IN THE GULF OF MAINE

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Project Goals

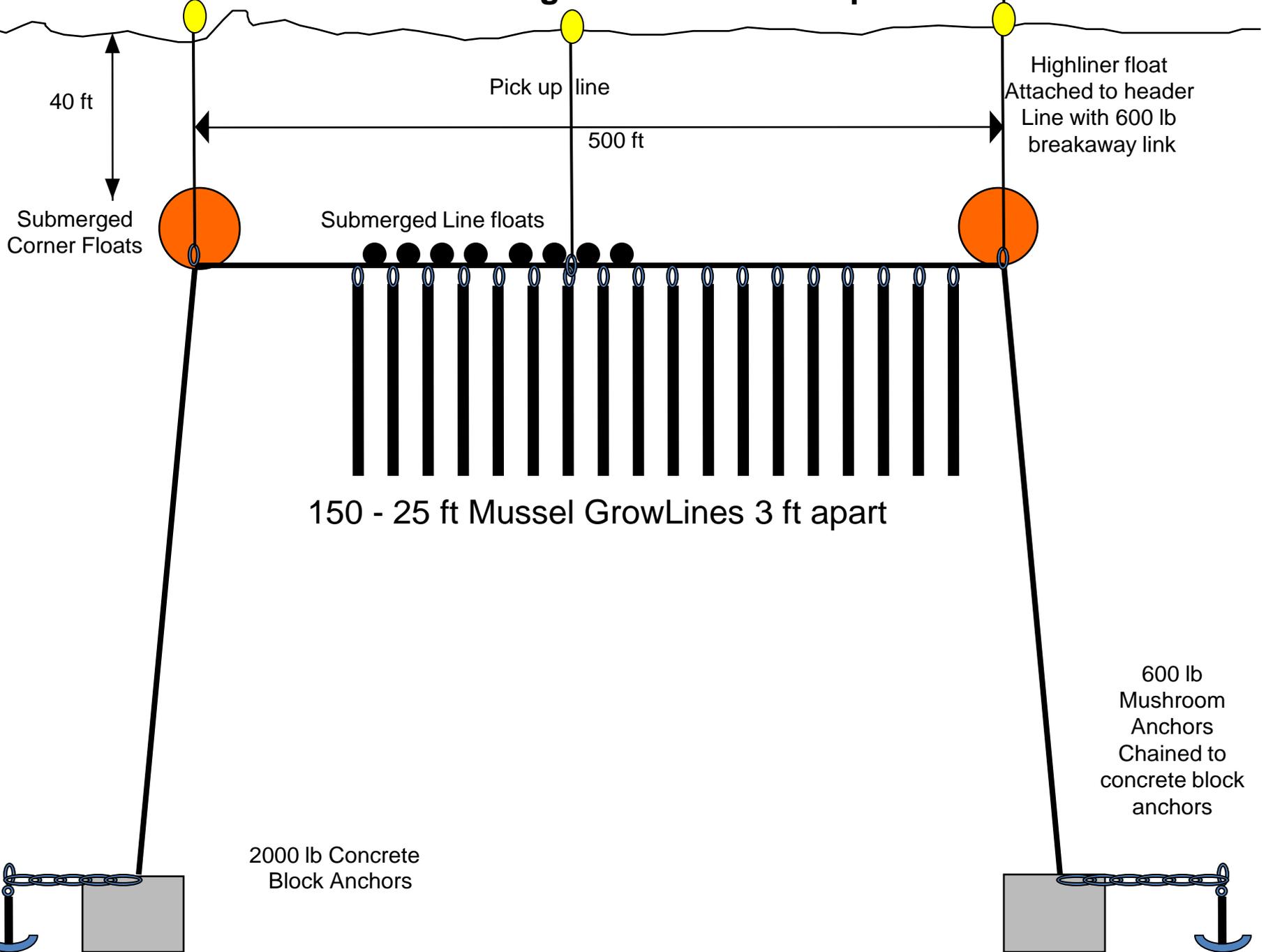
- Permit and Establish a commercial scale (33 acre, 1.44 million sq ft.) submerged blue mussel (*Mytilus edulis*) farm in federal waters 8.5 miles off Cape Ann, Massachusetts.
- The proposed full-scale farm will consist of 40 – 500 ft submerged longlines in a 2 by 20 array.
- Refine and enhance offshore mussel culture as an alternative fishing option for fishermen and lobstermen currently displaced or negatively impacted by current fishery restrictions.
- To increase the participation of the Gloucester, MA area displaced fishing industry participants into aquaculture.

Proposed NEMAC Offshore Mussel Farm Site

Figure 1. Proposed NEMAC Offshore Mussel Farm Site



Mussel Long-Line Culture Setup



Permitting Process Timeline

- **May 2012:** NOAA Fisheries awarded a grant to support a demonstration mussel farm in federal waters off the coast of Massachusetts.
- **September 2012:** Initial Permit Application submitted to ACOE pursuant to Sec 10 Rivers and Harbors Act (33 USC Sections 401).
- **December 21, 2012:** Submitted Impact Report to ACOE and MA CZM.
- **January 4, 2013:** MA CZM requests federal consistency review to NOAA Ocean Service Office of Ocean and Coastal Resource Management (OCRM).
- **March 19, 2013:** OCRM Denies Commonwealth of MA Review of Unlisted Activity based on permitting of coastal permits previously issued.
- **April 23, 2013:** ACOE issues Public Notice (NAE-2012-1598)
- **May 23, 2013:** Public Comment period ended.

Permitting Process Timeline

- **June – November 2013:** Resolution of concerns raised by USCG and various NOAA offices.
- **November 5, 2013:** Letter received by USCG. Based on the information provided in the NSRA, the Coast Guard has no objections to the location of the mussel aquaculture farm, provided prescribed recommendations are met.
- **November 13, 2013:** Meeting at ACOE with NOAA Aquaculture, Protected Resources, Stellwagen Bank National Marine Sanctuary, and Essential Fish Habitats. Determined that a Biological Assessment (BA) in the NOAA prescribed format be submitted for review.
- **January 2014:** Biological Assessment submitted to NOAA
 - Currently under review

Biological Assessment

I. Background / History

A. Project History

i Documentation of Relevant Correspondence

II. Description of the Action and Action Area

A. Discussion of Federal Action and Legal Authority / Agency Discretion

B. Description of the Project Purpose and Objectives

C. Project Descriptions

i. Description of Project Activities

ii. Operational Characteristics of the Proposed Project

iii. Description of Proposed Conservation

Measures Broader Interrelated Actions

iv. Discussion of Underlying Action / Context / Interdependent and

D. Discussion of Known Ongoing and Previous Projects in the Action Area

i Fishing Activity In Area

ii Vessel Traffic

iii Fishing Closures

E. Project Area and Action Area Defined

F. Maps of Project Area and Action Area

III. Status of Species and Critical Habitat

A. Essential Fish Habitat (EFH) Designation

B. Endangered Species Act (ESA) Species Plan

IV. Environmental Baseline

Description of the Action Area and Project Area

Description of the Environmental Baseline

i Site profile

ii Faunal Analysis

V. Effects of the Action

A. Direct Effects

B. Indirect Effects

C. Effects from Interdependent and Interrelated

Actions D. Effects from Ongoing Project Activities

i Fishing Activities

ii Vessel Traffic

E. Use of Best Scientific and Commercially Available Data Monitoring Protocols:

i Biological Monitoring

ii Monitoring For Interactions With Protected Species

iii Actions To Be Taken In The Event Of A Marine Mammal Or Sea Turtle Entanglement

iv Monitoring Of Gear

v Invasives Monitoring And Prevention

vi Shipboard Testing Of Mussel Meat For Saxitoxins (PSP)

vii Data Sharing Plan

G. Effects Determination for Listed Species and Designated Critical Habitat

H. Decommissioning

Permitting Concerns

Impacts To Current Fisheries

- Minimal impact to established fisheries (lobster, gillnet)
- Vessel Trip Reports (NOAA/NMFS)
 - In 2011 the percent of catch landed from within 2NM of the proposed site is less than 0.01%
 - For the years 2007 – 11, landings never gets above 0.08%.
 - Proposed site is .02 NM sq within this area
- Cooperative lobster fishing is possible?

Permitting Concerns

Endangered Species Protection

- **Not Likely to Adversely Affect (NLTA) determination desired**
 - Longline under tension
 - break away links on marker lines
 - Longline submerged at least 25 ft (surface feeding)
 - Bottom clearance at least 60 ft (bottom feeding)
 - Mussel grow lines less than 26 ft (8M)
 - Report observations
 - Frequent site visits
 - No reported entanglements in other NE mussel farms

Permitting Concerns

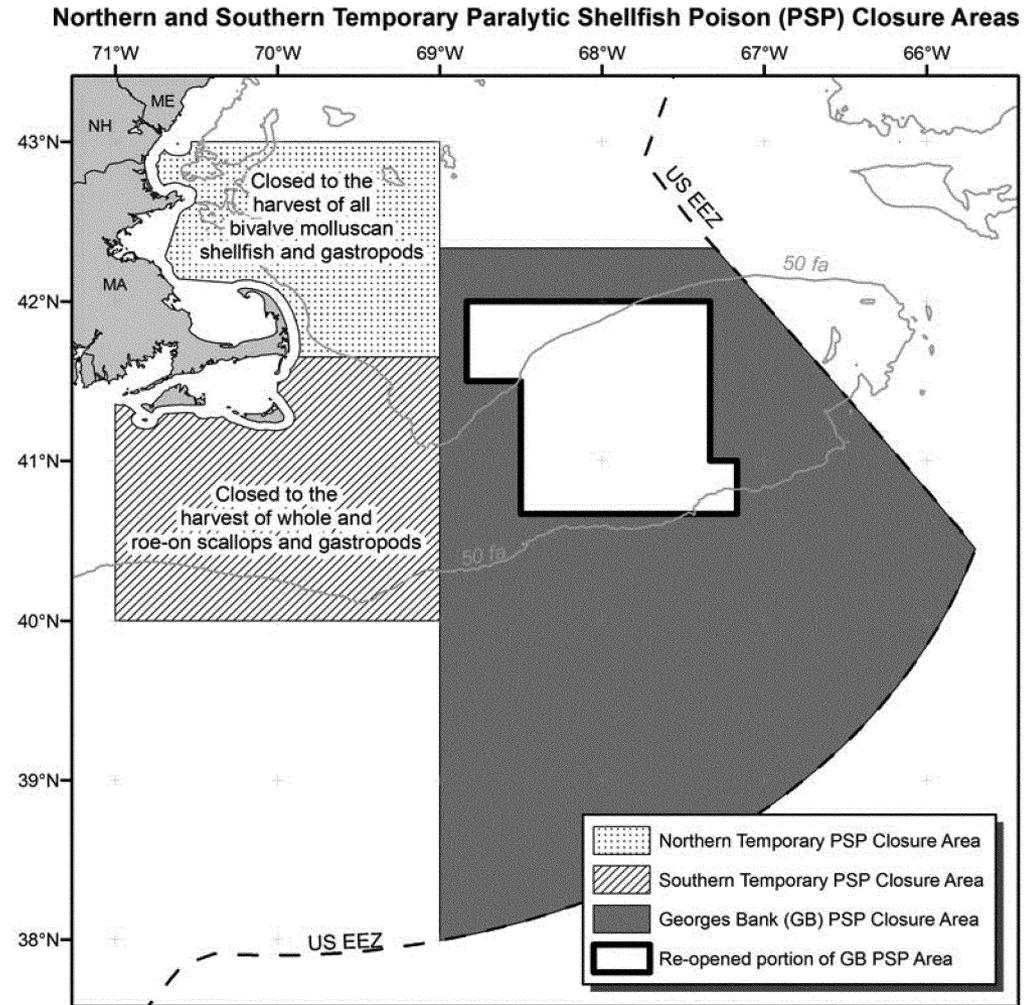
Navigation

Based on the information provided in the Navigation Safety Risk Assessment (NSRA), the Coast Guard has no objections to the location of the mussel aquaculture farm, provided the following recommendations are met:

- The header ropes and submerged floats are submerged to a minimal depth of 50ft.
- All surface buoys have breakaway links installed and configured to be in compliance with 50 CFR 229.32.
- The mussel farm is properly charted through National Oceanic and Atmospheric Administration (NOAA) prior to any installation of gear.
- A notice of the mussel farm is advertised in the Coast Guard Local Notice to Mariners at least 30 days prior to the installation of gear.
- The site corners are clearly marked with non-lateral lighted Private Aids to Navigation.

Federal Temporary PSP Closures

- Closed since 2005
- Recent opening of Georges Banks to Atlantic surfclams and Ocean Quohog Fishery
 - Requires on-board and dockside PSP toxin testing
 - FDA/NSSP, MA DPH regulations
- Looking into similar options for permitting



Operational Characteristics of the Proposed Project

- **Year 1: Establish A Demonstration Farm For Research and Feasibility Studies.**
 - Secure ACOE § 10 RHA permit
 - Obtain a Letter of Authorization (LOA) from the NOAA Regional Administrator to conduct pilot study research.
 - Set up 2 – 500 ft longlines in permitted area.
 - Set out socked mussel lines utilizing various seed densities and socking technologies.
 - Monitor biological and chemical oceanographic parameters on site.
 - Establish baseline surveys prior to longline deployment
 - Conduct regular monitoring at site on each visit
 - Monitor growth rates over time.
 - Monitor for HABs and PSP toxins on site
 - Explore methods for collection and hatchery rearing of mussel seed.

Operational Characteristics of the Proposed Project

- **Year 2: Continuation of Monitoring, harvest and re-stocking.**
 - Continue research and monitoring
 - Harvest Year 1
 - Determine harvest yields.
 - Develop accepted PSP monitoring protocols with US FDA and MA DPH, DMF.
 - Explore possibilities of obtaining Exempted Fishing Permit (EFP)

Operational Characteristics of the Proposed Project

- **Year 3: Expansion of longlines and recruit additional participants.**
 - Pursue possibility of site expansion
 - Consultation with ACOE, NOAA, USCG
 - Set up 2 more 500ft longlines
 - Continue research and monitoring
 - Continue harvest, spat collection and re-socking
 - Conduct workshops
 - Recruit additional farmers to engage in setting up additional longlines
 - Expand long-lines with recruited farmers

Status/Summary

- Secure ACOE § 10 RHA permit
- Secure funding to establish pilot study and monitoring.
 - Establish long term monitoring station
- Secure EFP to allow harvest with on-site and dockside PSP Toxin testing.
- Open communication channels with NOAA offices and other entities to ease future applicants through permitting process.

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 - Jim Blake, FV After Five, Rockport, MA
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