

**STATE OF MAINE
DEPARTMENT OF MARINE RESOURCES**

MUSCONGUS BAY KELP

Experimental Aquaculture Lease Application
Suspended Culture of Marine Algae
Muscongus Bay, Bristol

MUS LIX

Findings of Fact, Conclusions of Law, and Decision

Muscongus Bay Kelp applied to the Department of Marine Resources (DMR) for a three-year experimental aquaculture lease on 3.96¹ acres located southeast of Louds Island, Muscongus Bay, Bristol, Lincoln County. The proposal is for the suspended culture of sugar kelp (*Saccharina latissima*), skinny kelp (*Saccharina angustissima*), winged kelp (*Alaria esculenta*), horsetail kelp (*Laminaria digitata*), shotgun kelp (*Agarum clathratum*), Irish moss (*Chondrus crispus*), dulse (*Palmaria palmata*), nori/laver (*Porphyra spp*) and sea lettuce (*Ulva lactuca*). The proposal is for commercial research and development.

1. Proceedings

On May 6, 2024, DMR accepted the final application as complete. Notice of the completed application and the 30-day public comment period was provided to state agencies, the Town of Bristol, riparian landowners within 1,000 feet of the proposed site, and subscribers to DMR's aquaculture email listserv, and it was published in the *Lincoln County News* on May 16, 2024. On May 14, 2024, DMR sent a Municipal Questionnaire to the Town of Bristol, requesting information about designated or traditional storm anchorages, navigation, riparian ingress and egress, fishing or other uses of the area, among other considerations. DMR did not receive a response.

The version of 12 M.R.S.A. § 6072-A(6) that was in effect when this application was deemed complete provided that the Commissioner may hold a public hearing, and that they shall hold a public hearing if ten or more persons request a public hearing within the 30-day comment period. On June 15, 2024, the comment period ended. No requests for a public hearing were received during the comment period, and no hearing was conducted.

The evidentiary record regarding this lease application includes the application, DMR's site report dated June 25, 2025, and the case file. The evidence from each of these sources is summarized below.

A. List of Exhibits

1. Case file (CF)
2. Application (App)

¹ Applicant originally requested 4.0 acres. DMR calculations indicate the area is 3.96 acres.

3. DMR site report, issued on June 25, 2025 (SR)

The case file, application and site report are referred to in the decision with their designated abbreviations.

2. Description of the Project

A. Site History

Based on DMR records, no prior aquaculture activities have occurred in the area of this proposed lease site.

B. Proposed Operations

The purpose of the proposed experimental lease site is to determine the viability of culturing marine algae at this site (App 6). The applicant is proposing to culture marine algae using up to fifteen 1,000-foot longlines and up to four 140-foot crosslines (App 17). The applicant also proposes using PVC pipes, counterweights, moorings with lines and chains, and buoys (App 17-18). The depth control and mooring buoys, counterweights, PVC pipes, crosslines, and longlines would be removed from June 16 through October 31 (App 17-18). Mooring blocks and required lease corner markers (with their associated moorings) would remain on site year-round (App 17-18). Mooring lines and chains will also stay on-site year-round but will be submerged from June 16 to October 31 (App 17-18). Seeding would be conducted between November and March (species dependent) and would take approximately 2-6 days (App 6). Harvesting would take up to 10 days between mid-April and June 15 (App 6). At least once every two weeks, a site visit will be conducted to tend the site between the seeding and harvesting activities (App 6).

Table 1. Power equipment proposed for the lease site

Equipment	Description	Frequency of Use
Pot hauler	Hydraulic	1-3 days during seeding and 5-10 days during harvest

C. Site Characteristics

Description. On September 12, 2024, DMR scientists visited the proposed lease site (SR 2). The proposal is located in the subtidal waters of Muscongus Bay approximately 760 feet southeast of Louds Island at mean low water (MLW) (Figure 1 ; SR 2). The area in the vicinity of the proposal was observed to consist of islands containing cobble and boulder shorelines with mixed forest uplands (SR 2).

Depths at the proposed site were determined to be between 36 to 49 feet at mean low water (MLW, 0.0 feet) when corrected for tidal variations (SR 2).

DMR scientists observed the bottom characteristics of the proposed lease site via SCUBA (SR 2). Sediment information was determined based on visual analysis of the video taken while diving (SR 2). The bottom of the proposed lease site is primarily composed of sandy mud and shell rubble (SR 2).

Growing Area Classification. Growing Area Classifications are pertinent to bivalve shellfish species cultured and harvested for human consumption. The proposal does not include the cultivation or harvest of any bivalve shellfish species, so Growing Area Classifications do not apply.

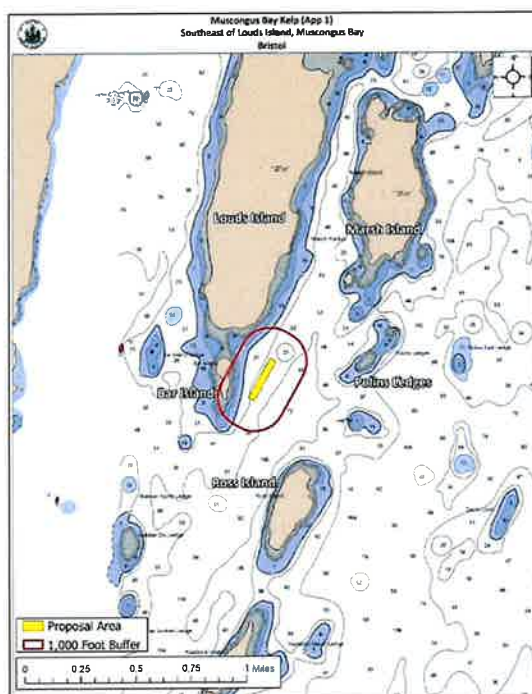


Figure 1. Proposed lease site and surrounding area².

3. Legal Criteria and Findings of Fact

Approval of experimental aquaculture leases is governed by 12 M.R.S.A. § 6072-A and DMR Regulations, Chapter 2.37 and 2.64.³ The statute and regulations provide that a lease for commercial aquaculture research and development or for scientific research may be granted by the Commissioner upon determining that the project will not unreasonably interfere with: the ingress and egress of riparian owners;

² Unless otherwise noted, all figures in this report were created in ArcGIS Pro version 3.3 using digitized NOAA Nautical Charts or geo-referenced aerial photographs provided by The Maine Office of GIS.

³ Chapter 2 of DMR Regulations is published at 13-188 C.M.R. ch. 2 and may be found at <https://www.maine.gov/dmr/rules-enforcement/regulations-rules>.

navigation; fishing or other uses of the area; other aquaculture uses in the area; the ability of the lease site and surrounding areas to support existing ecologically significant flora and fauna; and public use or enjoyment within 1,000 feet of beaches, parks, or docking facilities owned by municipal, state, or federal governments. The Commissioner must also determine that the applicant has demonstrated that there is an available source of organisms to be cultured for the lease site.

A. Riparian Owners Ingress and Egress

When examining riparian access, the Commissioner considers whether the proposed lease will unreasonably interfere with the ingress and egress of riparian owners. 12 M.R.S.A. § 6072-A(13)(A). The Commissioner shall examine whether the riparian owners can safely navigate to their shore and consider the type of shore, the type of vessel that can reasonably land on that shore and the types of structures proposed for the lease and their potential impact on the vessels which would need to maneuver around those structures. Chapter 2.37(1)(A)(1).

During the site visit, DMR scientists did not observe any docks, houses, or moorings within the vicinity of the proposal (SR 5). The southern end of Louds Island, as well as Bar Island, are part of a nature preserve and are not inhabited⁴ (SR 5). Aerial imagery⁵ indicates the nearest residential pier and dock is located on the western shore of Marsh Island approximately 3,855 feet northeast of the proposal (SR 5).

A Municipal Questionnaire was sent to the Town of Bristol (SR 5). DMR did not receive a response (SR 5).

⁴ <https://www.mcht.org/preserve/elizabeth-noves-preserve/>

⁵ Maine Orthoimagery Coastal Midcoast 2023

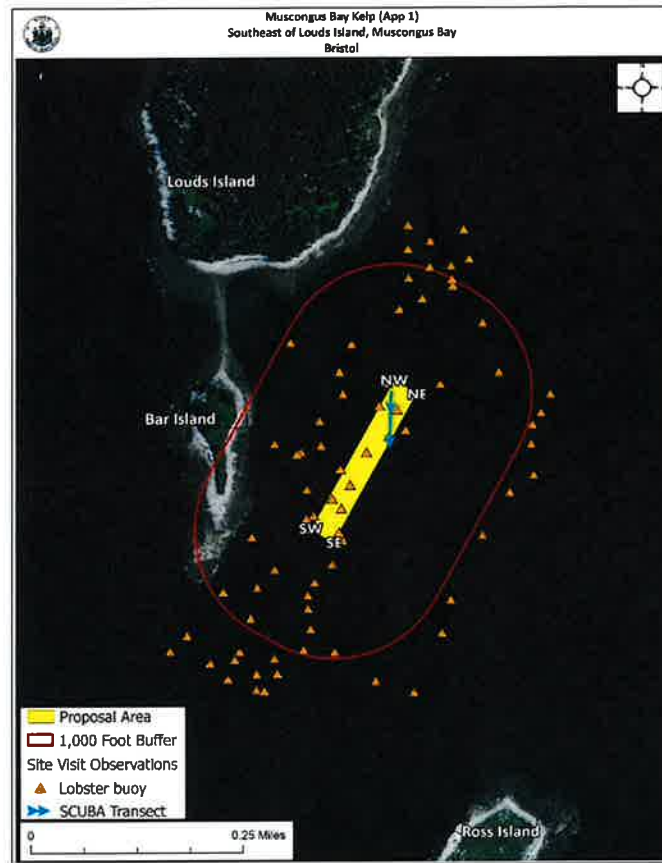


Figure 2. Proposed lease area with site visit observations.

Given the considerable distance to riparian structures, the lease as proposed will not interfere with riparian ingress and egress.

Therefore, the aquaculture activities as proposed will not unreasonably interfere with riparian owner ingress and egress.

B. Navigation

When examining navigation, the Commissioner considers whether the proposed lease will unreasonably interfere with navigation. 12 M.R.S.A. § 6072-A(13)(B). The Commissioner shall examine whether any lease activities requiring surface and or subsurface structures would interfere with commercial or recreational navigation around the lease area and consider the current uses and different degrees of use of the navigational channels in the area. Chapter 2.37(1)(A)(2). High tide “short cuts” shall not be considered navigational ways for purposes of this section. Chapter 2.37(1)(A)(2).

The proposal is located in subtidal, navigable waters approximately 760 feet southeast of Louds Island and approximately 369 feet east of Bar Island at MLW (SR 5). There is approximately 1,876 feet of navigable water between the proposal area and Polins Ledges to the east (SR 5). The proposal is outside of any marked navigational channels (SR 5). Although there is a navigable channel between Louds and Marsh Islands, the primary marked navigational channels that provide access to upper Muscongus Bay and the Medomak River are located west of Louds Island and east of Marsh Island (Figure 3; SR 5).

During DMR's site visit, scientists observed two lobster boats transiting to the south in the vicinity of the proposal (SR 5).

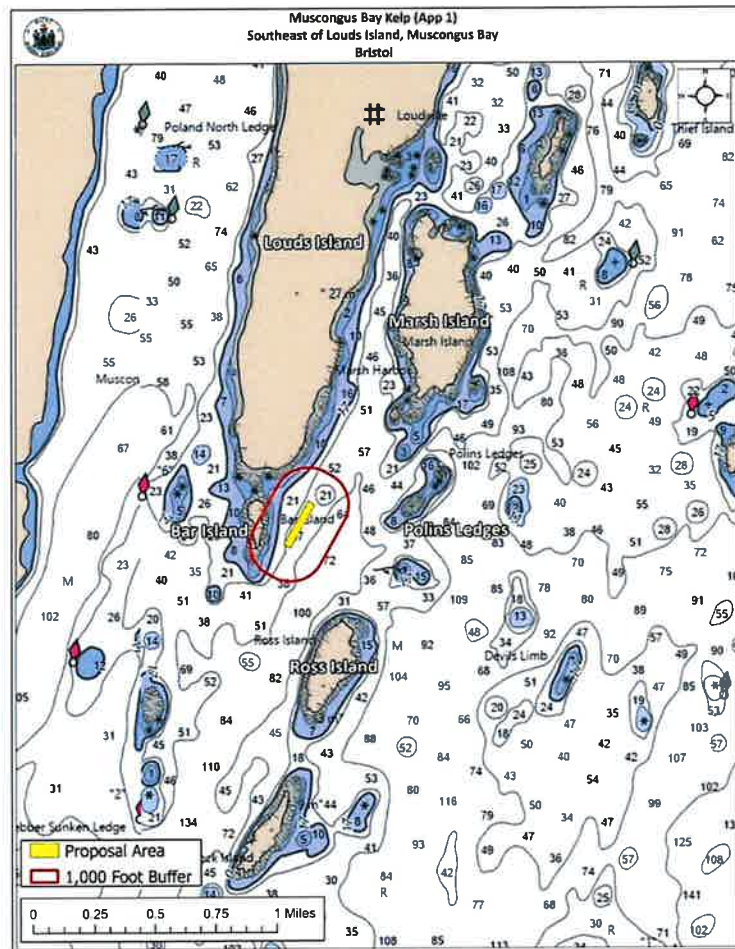


Figure 3. Navigational channels in the vicinity of the proposed lease area.

Because the proposed lease site is surrounded by abundant navigable waters, there will not be any adverse impacts to navigation.

Therefore, the aquaculture activities as proposed will not unreasonably interfere with navigation.

C. Fishing and Other Uses

When examining fishing and other uses, the Commissioner considers whether the proposed lease activities will unreasonably interfere with fishing or other uses of the area. 12 M.R.S.A. § 6072-A(13)(C). The Commissioner shall examine whether the lease activities would unreasonably interfere with commercial or recreational fishing or other water-related uses of the area. Chapter 2.37(1)(A)(3).

Fishing. With respect to fishing, the Commissioner shall consider such factors as the number of individuals that participate in recreational or commercial fishing, the amount and type of fishing gear utilized, the number of actual fishing days, and the amount of fisheries resources harvested from the area. Chapter 2.37(1)(A)(3).

During DMR's site visit on September 12, 2024, scientists observed 74 lobster buoys in the vicinity of the proposal, of which seven were located within the proposal boundaries (Figure 2; SR 6). DMR scientists also observed a lobster boat working approximately 0.5 miles east of the proposal (SR 6).

While there was documented lobster fishing in the area at the time of the DMR visit, it was largely observed outside of the proposed lease boundaries. The application states that mooring blocks would remain on site year-round with their lines and chains sunk to the seafloor (App 17-18). The state-required lease markers with their moorings would also remain on site year-round (App 17). However, all other gear will be removed from the site between June 16 and October 31 (App 17-18). If granted, the lease will be conditioned for gear removal from June 16 to October 31 with mooring lines and chains sunk to the seafloor. Therefore, given the ample space available for commercial fishing outside of the proposed lease area and the seasonal nature of the gear deployment, the proposed lease activities will not unreasonably interfere with fishing.

Other Uses. The southern end of Louds Island as well as Bar Island, located approximately 760 feet northwest of the proposal and approximately 369 feet west of the proposal, respectively, are owned by the Maine Coast Heritage Trust and open to the public for day use (SR 6). Access is by boat only and visitors are instructed to land on the beach at the southern tip of Louds Island or anchor directly east of the ledge that extends between Louds and Bar Islands (Figure 3; SR 6).⁶

According to the application, no recreational activities have been observed within 1,000 feet of the lease site, but kayaking may occur in the area rarely in the summer months (App 9).

Given the distance between the proposed lease and Bar Island, the seasonal nature of kayaking in Maine, and the ample area to kayak around the site when the gear is present, no other uses of the area will be impacted by the lease activities.

⁶ <https://www.mcht.org/preserve/elizabeth-noyes-preserve/>

Therefore, as conditioned, the aquaculture activities as proposed will not unreasonably interfere with fishing or other uses, including water-related uses of the area.

D. Other Aquaculture Uses

Pursuant to 12 M.R.S.A. § 6072-A(13)(C), in evaluating the proposed lease, the Commissioner shall take into consideration the number and density of aquaculture leases in an area. The Commissioner shall consider any evidence submitted concerning other aquaculture uses of the area, the intensity and frequency of such uses, the degree of exclusivity required for each use as well as the number, size, location, and type of other aquaculture leases. Chapter 2.37(1)(A)(4).

There are not any licensed aquaculture leases or limited purpose aquaculture (LPA) sites within 1,000 feet of the proposed lease site (SR 7; Figure 1).

Therefore, the aquaculture activities as proposed will not unreasonably interfere with other aquaculture uses in the area.

E. Existing System Support

When examining existing system support, the Commissioner considers whether the proposed lease activities will unreasonably interfere with significant wildlife and marine habitat or with the ability of the lease site and surrounding marine and upland areas to support existing ecologically significant flora and fauna. 12 M.R.S.A. § 6072-A(13)(D). Such factors as the degree to which physical displacement of rooted or attached marine vegetation occurs, the amount of alteration of current flow, increased rates of sedimentation or sediment resuspension, and disruption of finfish migration shall be considered by the Commissioner in this determination. Chapter 2.37(1)(A)(5).

Site Observations. DMR scientists utilized SCUBA to assess the epibenthic ecology of the proposed lease (SR 8). The relative abundance of epibenthic flora and fauna observed in the video footage taken while diving is described below in Table 2 (SR 8).

Table 2. Species observed on underwater video footage.

Species Observed	Abundance
American lobster (<i>Homarus americanus</i>)	Abundant
Green algae (<i>Cladophora</i>)	Common
Irish moss (<i>Chondrus crispus</i>)	Common
Shotgun kelp (<i>Agarum clathratum</i>)	Common
Sugar kelp (<i>Saccharina latissima</i>)	Occasional
Hermit crab (<i>Paguroidea</i>)	Occasional

Species Observed	Abundance
Atlantic surf clam (<i>Spisula solidissima</i>)	Occasional
Horse mussel (<i>Modiolus modiolus</i>)	Occasional
Cancer crab (<i>Cancer</i> spp.)	Rare
Tunicate (<i>Didemnum vexillum</i>)	Rare
Sponge (<i>Porifera</i> sp.)	Rare
Eelgrass (<i>Zostera marina</i>)	Rare
Atlantic sea scallop (<i>Placopecten magellanicus</i>)	Rare

Marine Vegetation. Records of eelgrass collected by the Maine Department of Environmental Protection (MDEP) in 2023⁷ indicate there is no eelgrass mapped in the vicinity of the proposal. The nearest mapped eelgrass is approximately 1,712 feet north of the proposal (SR 8).

During DMR's site visit, eelgrass was observed floating on the surface of the water in the vicinity of the proposal (SR 8). Two blades of unattached eelgrass were observed drifting on the bottom on underwater video footage (SR 8).

Wildlife. During DMR's site visit, scientists observed a loon (*Gavia immer*), osprey (*Pandion haliaetus*), herring gull (*Larus argentatus*), double crested cormorant (*Nannopterum auritum*), and harbor porpoise (*Phocoena phocoena*) in the general vicinity of the proposal (SR 9).

The Maine Department of Inland Fisheries and Wildlife (MDIFW) has jurisdiction over inland fisheries and wildlife resources of the state (SR 9). MDIFW also has the authority to conserve wildlife populations and their ecosystems through applicable state laws and rules (SR 9). DMR provides MDIFW with notice and the opportunity to comment on all complete lease applications (SR 9). In addition, the site report also includes MDIFW designated and mapped habitat types that are within 1,000 feet of the lease proposal, if applicable (SR 9).

According to Geographic Information System (GIS) data maintained by MDIFW and available through the Maine Office of GIS (MEGIS), there is one mapped habitat type within 1,000 feet of the lease proposal (SR 9-10). The proposal is near Tidal Waterfowl and Wading Bird Habitat (TWWH), which is a type of Significant Wildlife Habitat designated and regulated by MDIFW (SR 10).⁸ Based on data maintained by MDIFW, the nearest mapped TWWH is located approximately 108 feet west of the proposal (SR 10; Figure 4).

⁷ Data obtained from The Maine Office of GIS "GISVIEW.MEDEP.Seagrass2023". This is the most current record of mapped eelgrass within the vicinity of the proposal.

⁸ <https://www.maine.gov/ifw/programs-resources/environmental-review/significant.html>

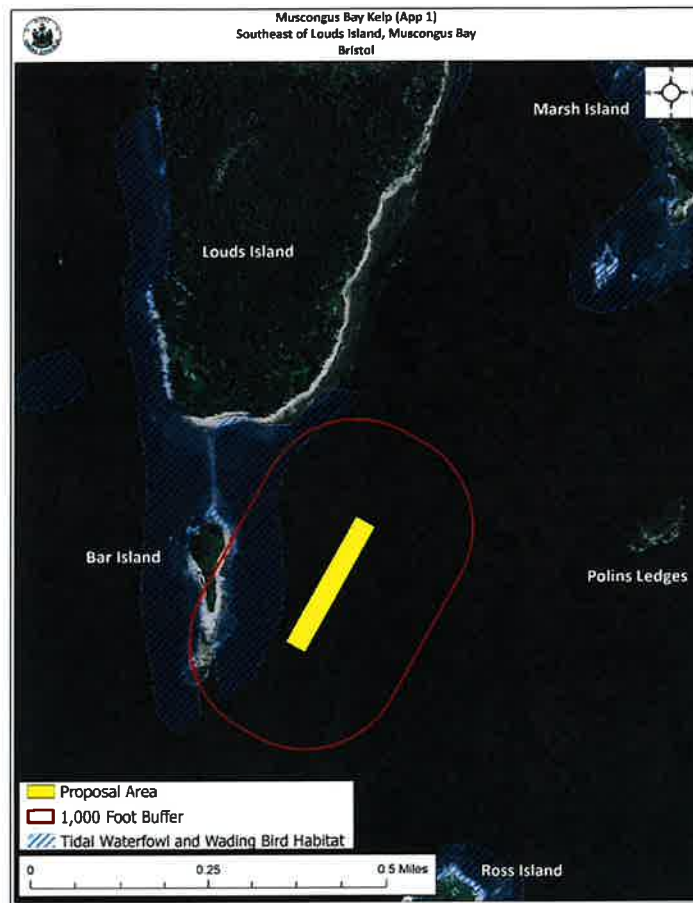


Figure 4. Mapped habitats in the vicinity of the proposed lease area.⁹

MDIFW was provided with the opportunity to comment on this proposal (SR 10). On May 29, 2024, a Resource Biologist with MDIFW responded by email to a “Request for Agency Review and Comment” stating that minimal impacts to wildlife are anticipated for this project (SR 10).¹⁰

Though bald eagles are no longer listed on Maine’s Endangered and Threatened Species List, the United States Fish and Wildlife Service (USFWS) may also have jurisdiction over the management and conservation of the species based on applicable law and rule (SR 10). Data collected by USFWS in 2023 by aerial nest survey shows the nearest mapped bald eagle nesting site to be approximately 2.1 miles north of the proposal (SR 10).

Based on the record, including the absence of rooted eelgrass and mapped significant wildlife habitats in the lease footprint, and IFW’s comment, the proposed lease activities will not interfere with the

⁹ Data obtained from USFWS “Bald_Eagle_Nests_-_Maine_2023” and MDIFW “EHRTERN”, “EHPLVTRN”, “GISVIEW.MEIFW.Twwh”, “ShorebirdAreas”, and “SNI”.

¹⁰ Email correspondence between MDIFW and DMR

ecological functioning of the area. Additionally, the proposal indicates suspended gear would be used for the culture of marine algae which would not disrupt the benthos where lobsters were observed to be abundant.

Therefore, the aquaculture activities as proposed will not unreasonably interfere with significant habitat and the ability of the lease site and surrounding areas to support existing ecologically significant flora and fauna.

F. Source of Organisms to be Cultured

Pursuant to 12 M.R.S.A. § 6072-A(13)(E), in evaluating the proposed lease, the Commissioner shall determine that the applicant has demonstrated there is an available source of organisms to be cultured for the lease site. The Commissioner shall include but not be limited to, consideration of the source's biosecurity, sanitation, and applicable fish health practices. Chapter 2.37(1)(A)(6).

According to the application, sugar kelp (*Saccharina latissima*), skinny kelp (*Saccharina angustissima*), winged kelp (*Alaria esculenta*), horsetail kelp (*Laminaria digitata*), shotgun kelp (*Agarum clathratum*), Irish moss (*Chondrus crispus*), dulse (*Palmaria palmata*), and sea lettuce (*Ulva fenestrata*)¹¹ will be sourced from Atlantic Sea Farms (ASF)¹² in Biddeford, Maine (App 2-3). This is currently an approved source for these species. The application also states that nori/laver (*Porphyra spp*) will be sourced from ASF. This is not an approved source for nori/laver. However, there is a facility currently approved for nori/laver (*Porphyra spp*). If the lease is granted, the applicant is required to obtain this species from a DMR approved source.

Therefore, the applicant has demonstrated that there is an available source of stock to be cultured for the lease site.

G. Interference with Public Facilities

When examining interference with public facilities, the Commissioner considers whether the proposed lease will unreasonably interfere with public use or enjoyment within 1,000 feet of a beach, park, or docking facility owned by the Federal Government, the State Government or a municipal governmental agency. 12 M.R.S.A. § 6072-A(13)(F); Chapter 2.37(1)(A)(7) and 2.64(11)(A)).

¹¹ The application listed *Ulva lactuca*. Atlantic Sea Farms previously cultured *Ulva lactuca* but has amended their land-based aquaculture license to culture *Ulva fenestrata*.

¹² Since the application was submitted, this facility has changed its name to Seaweed Cultivation Center.

The proposed lease is not within 1,000 feet of any beach, park, or docking facility owned by federal, state, or municipal governments.

Therefore, the aquaculture activities as proposed will not unreasonably interfere with the public use or enjoyment within 1,000 feet of beaches, parks or docking facilities owned by federal, state, or municipal government.

4. Conclusions of Law

Based on the above findings, DMR concludes that:

- a. The aquaculture activities proposed for this site will not unreasonably interfere with the ingress and egress of riparian owners.
- b. The aquaculture activities proposed for this site will not unreasonably interfere with navigation.
- c. The aquaculture activities for this site, as conditioned, will not unreasonably interfere with fishing uses of the area, including water-related uses of the area.
- d. The aquaculture activities proposed for this site will not unreasonably interfere with other aquaculture uses of the area.
- e. The aquaculture activities proposed will not unreasonably interfere with the ability of the lease site and surrounding areas to support existing ecologically significant flora and fauna.
- f. The aquaculture activities proposed for this site will not unreasonably interfere with the public use or enjoyment within 1,000 feet of beaches, parks, or docking facilities owned by federal, state, or municipal government.
- g. The applicant has demonstrated that there is an available source of stock to be cultured for the lease site.

Accordingly, the evidence in the record supports the conclusion that the proposed aquaculture activities meet the requirements for the granting of an aquaculture lease set forth in 12 M.R.S.A. § 6072-A.

5. Decision

Based on the foregoing, the Commissioner grants an experimental lease to Muscongus Bay Kelp, for 3.96 acres for three years, the term of the lease to begin within 12 months of the date of this decision, on a date chosen by the lessee; however, no aquaculture rights shall accrue in the lease area until the lease is fully executed.

This lease is granted to the lessee for the cultivation of sugar kelp (*Saccharina latissima*), skinny kelp (*Saccharina angustissima*), winged kelp (*Alaria esculenta*), horsetail kelp (*Laminaria digitata*), shotgun kelp (*Agarum clathratum*), Irish moss (*Chondrus crispus*), dulse (*Palmaria palmata*), nori/laver (*Porphyra spp*), and sea lettuce (*Ulva fenestrata*) using suspended culture techniques. The granted lease coordinates are contained in the Appendix to this decision. The lessee shall pay the State of Maine rent at \$100.00 per acre per year. The lessee shall post a bond or establish an escrow account pursuant to Chapter 2.64(12)(A) in the amount of \$5,000.00 conditioned upon performance of the obligations contained in the aquaculture lease documents and all applicable statutes and regulations.

6. Lease Conditions

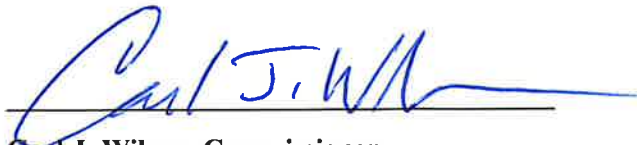
The Commissioner may establish conditions that govern the use of the leased area and impose limitations on aquaculture activities, pursuant to 12 M.R.S.A. § 6072-A(15) and Chapter 2.64(11)(B). Conditions are designed to encourage the greatest multiple compatible uses of the lease area, while addressing the ability of the lease site and surrounding area to support ecologically significant flora and fauna, and preserving the exclusive rights of the lessee to the extent necessary to carry out the purposes of the lease. The following condition shall be incorporated into the lease:

1. All gear, except moorings and mooring lines/chains that must be sunk, and the corner markers, shall be removed from the site between June 16 and October 14.

7. Revocation of Lease

The Commissioner may initiate revocation proceedings and revoke the lease upon determining, pursuant to 12 M.R.S.A. § 6072-A(22), that no substantial aquaculture or research has been conducted on the site over the course of the lease, that aquaculture has been conducted in a manner substantially injurious to marine organisms, or that any condition of the lease has been violated.

Dated: 9.29.2026


Carl J. Wilson, Commissioner
Department of Marine Resources

Appendix

Granted Lease Coordinates

<u>Corner</u>	<u>Latitude</u>	<u>Longitude</u>					
NW	43.90741°	-69.43622°	then	161	feet at	118°	True to
NE	43.90719°	-69.43569°	then	1,062	feet at	209°	True to
SE	43.90464°	-69.43764°	then	163	feet at	300°	True to
SW	43.90486°	-69.43818°	then	1,063	feet at	029°	True to NW