

**STATE OF MAINE  
DEPARTMENT OF MARINE RESOURCES**

**Great Ledge Cove Seafood, LLC  
CAS LCx**

Experimental Aquaculture Lease Application  
Suspended Culture of Marine Algae  
Casco Bay, Long Island, Maine

**FINDINGS OF FACT, CONCLUSIONS OF LAW, AND DECISION**

Great Ledge Cove Seafood, LLC applied to the Department of Marine Resources (DMR) for a 4.0 acre experimental lease west of Little Chebeague Island, Casco Bay, in the town of Long Island, Cumberland County, for the suspended culture of sugar kelp (*Saccharina latissima*), skinny kelp (*Saccharina angustissima*), winged kelp (*Alaria esculenta*), horsetail/fingered kelp (*Laminaria digitata*), shotgun kelp (*Agarum clathratum*), dulse (*Palmaria palmata*), Irish moss (*Chondrus crispus*), and sea lettuce (*Ulva lactuca*) for commercial aquaculture research and development.

**1. THE PROCEEDINGS**

DMR accepted the application as complete on June 8, 2023. Notice of the application and the 30-day public comment period was provided to state agencies, riparian landowners within 1,000 feet of the proposed site, the Town of Long Island and its Harbormaster, and others on DMR's email listserv. Notice to the municipality included a Harbormaster Questionnaire requesting information related to designated or traditional storm anchorages, navigation, riparian ingress and egress, and fishing or other uses of the area, among other considerations. No response was received from the Harbormaster. Notice of the complete application and comment period was published in the June 22, 2023, edition of *The Northern Forecaster*. Title 12 M.R.S.A. §6072-A (6) provides that the Commissioner shall hold a public hearing if five or more persons<sup>1</sup> request a public hearing within the 30-day comment period. The comment deadline expired on July 22, 2023. 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 December 18, 2024, and the case file. The evidence from each of these sources is summarized below.<sup>2</sup>

**LIST OF EXHIBITS**

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<sup>1</sup> Title 12 M.R.S.A. §6072-A (6) now requires 10 or more hearing requests to be received for the Commissioner to hold a hearing, however, at the time of this comment period, the requirement was five or more.

<sup>2</sup> These sources are cited, with page references, as App (Application), CF (case file), and SR (site report).

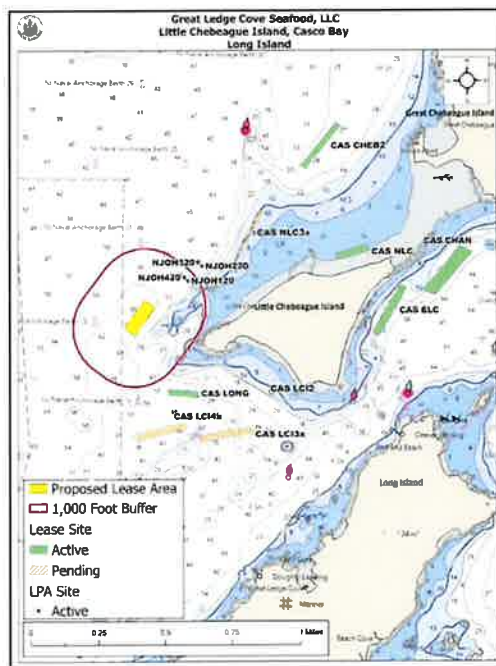
1. Case file
2. Application
3. DMR site report, issued on December 18, 2024

## 2. DESCRIPTION OF THE PROJECT

### A. Proposed Operations

The purpose of the proposed experimental lease site is to determine the viability of culturing marine algae at this location (App 5). The applicant is proposing to culture sugar kelp (*Saccharina latissima*), skinny kelp (*Saccharina angustissima*), winged kelp (*Alaria esculenta*), horsetail/fingered kelp (*Laminaria digitata*), shotgun kelp (*Agarum clathratum*), dulse (*Palmaria palmata*), Irish moss (*Chondrus crispus*), and sea lettuce (*Ulva lactuca*) using thirteen 660-foot longlines. The applicant also proposes five cross-lines, counterweights, moorings with lines and chains, PVC pipe, and buoys (App 13-14).

According to the application, all gear, except marker buoys, will be removed from June 2 to September 30 every year (App 6).



**Figure 1:** Aquaculture leases and LPA licenses in the vicinity of the proposed lease area. Image generated by DMR staff.<sup>3</sup>

### B. Site Characteristics

<sup>3</sup> Unless otherwise noted, all figures in this report were created in ArcGIS Pro version 2.9 using digitized NOAA Nautical Charts or geo-referenced aerial photographs provided by The Maine Office of GIS.

On August 14, 2024, DMR scientists assessed the proposed lease site. The proposal is located in subtidal waters in Casco Bay approximately 1,047.7 feet to the west of Little Chebeague Island. The shoreline of Little Chebeague Island contains sandy beaches with shrubs and mixed forests uplands. Little Chebeague Island is an uninhabited island that is open to the public for hiking and camping. The beach on the east side of the island can be used as a landing and anchoring location for boaters accessing the island. An intertidal sandbar connects Little Chebeague Island to Great Chebeague Island around low tide.<sup>4</sup> The proposal is also located approximately 30.5 feet to the east of an area designated as a “*Naval Anchorage Berth*” on navigation charts (SR 2, 6) (Figure 3).



**Figure 2.** Proposed lease area with site visit observations. Image from DMR site report.

### **3. STATUTORY CRITERIA & FINDINGS OF FACT**

Approval of experimental aquaculture leases is governed by 12 M.R.S.A. §6072-A. This statute provides that a lease for commercial aquaculture research and development or for scientific research may be granted by the Commissioner of DMR upon determining that the project will not unreasonably interfere with the ingress and egress of riparian owners; with navigation; with fishing or other uses of the area, taking into consideration other aquaculture uses in the area; with the ability of the lease site and

<sup>4</sup> <https://www.mainetrailfinder.com/trails/trail/little-chebeague-island>

surrounding areas to support existing ecologically significant flora and fauna; or with the 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 Access**

Before granting a lease, the Commissioner must determine that the proposed project “will not unreasonably interfere with the ingress and egress of riparian owners[.]” 12 M.R.S.A. § 6072 - A(13)(A). In examining riparian owner ingress and egress, the Commissioner “shall consider the type of structures proposed for the lease site and their potential impact on the vessels which would need to maneuver around those structures.” Chapter 2, § 2.37(1)(A)(1).

During the site visit, DMR scientists did not observe any piers, docks, or residential properties within 1,000 feet of the proposal. Little Chebeague Island is the nearest land to the proposal at approximately 1,047.7 feet to the southeast. The island is owned by the Maine Bureau of Parks and Lands and is uninhabited. The beach on the east side of the island can be used as a landing and anchoring location for boaters accessing the island. There is a dock and small mooring field on Indian Point, Great Chebeague Island approximately 1.1 miles to the northeast of the proposal, as well as a dock and mooring field at Doughty Landing on Long Island approximately 1.0 miles to the southeast (Figure 2) (SR 5).

In evaluating riparian ingress and egress, the commissioner must consider the following pursuant to Chapter 2.37(A)(1):

The Commissioner shall examine whether the riparian owners can safely navigate to their shore. The Commissioner shall consider the type of shore involved and the type of vessel that can reasonably land on that shore. The Commissioner shall consider the type of structures proposed for the lease and their potential impact on the vessels which would need to maneuver around those structures.

DMR did not receive any comments from riparian owners concerning the proposed lease. Given the distance to riparian structures and available space for access, the proposed lease will not adversely impact riparian access.

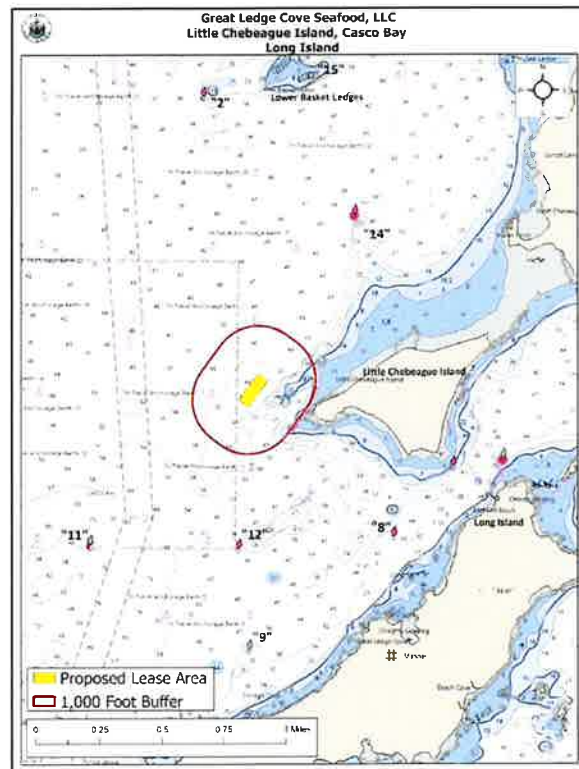
**Therefore**, the aquaculture activities proposed for this site will not unreasonably interfere with the ingress and egress of any riparian owner.

#### **B. Navigation**

When examining navigation, the Commissioner considers whether the lease activities would interfere with commercial or recreational navigation around the lease area and considers the current uses of the navigational channels in the area. 12 M.R.S.A. § 6072-A(13)(B); Chapter 2.37(1)(A)(2). Chapter 2, § 2.37(1)(A)(2).

The proposal is located in subtidal waters approximately 1,047.7 feet to the west of Little Chebeague Island. The proposal is approximately 1,980.0 feet east of a navigational channel that runs north/south towards Cousins Island (Figure 3). There is approximately 1.4 miles of navigable water between the proposal and Clapboard Island to the west.

During the site visit, DMR scientists observed two lobster boats and eight recreational boats transiting through the proposal area, two recreational boats transiting to the south of the proposal, and six recreational boats and one commercial fishing boat transiting east of the proposal (SR 5).



**Figure 3.** Navigational channels in the vicinity of the proposal. Image from DMR site report.

In evaluating navigation, the commissioner must consider the following pursuant to Chapter 2.37(A)(2):

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. The Commissioner shall consider the current uses and different degrees of use of the navigational channels in the area in determining the impact of the lease operation.

No comments regarding impacts to navigation were received by DMR.

The application states that there is significant boat traffic from July to September, but the gear should not impede traffic around Little Chebeague Island because of the seasonal nature of the deployment (October 1 to June 1) (App 8). The application also states that recreational boat traffic is negligible in the winter and fishing vessel traffic is greatly reduced (App 8).

Given the distance to the designated navigation channel, the available area and water depths surrounding the lease area, and the seasonal deployment of the gear, the proposed lease will not unreasonably interfere with navigation.

**Therefore,** the aquaculture activities proposed for this site will unreasonably interfere with navigation.

### **C. Fishing & Other Uses**

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

**Fishing.** During the site visit, DMR scientists observed moderate to heavy lobstering activity in the vicinity of the proposal. DMR scientists mapped 52 lobster buoys within 1,000 feet of the proposal. The lobster buoy mapped nearest to the proposal was located approximately 24.3 feet to the west. DMR scientists also observed two large, white buoys observed approximately 863.9 feet and 1,134.7 feet to the northeast of the proposal. The purpose and use of the buoys was unknown (SR 6-7).

The application states there is lobster fishing in the project area. However, the application states it is not common near the site at the time of year the gear would be deployed. The application also states no recreational fishing had been observed by the applicant in the general area (App 8).

In evaluating fishing and other uses, the commissioner must consider the following pursuant to Chapter 2.37(A)(3):

The Commissioner shall examine whether the lease activities would unreasonably interfere with commercial or recreational fishing or other water-related uses of the area. This examination 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.

No comments regarding impacts to fishing were received by DMR. The site visit was completed in August, when lobster fishing is likely more prevalent than the October 1 to June 1 period when gear would be deployed. Given that no lobster buoys were observed in the proposal footprint, and the seasonal deployment of the aquaculture gear, the proposed lease would not interfere with commercial and recreational fishing activities in the area.

**Other uses.** According to the application, kayaking does occur near the site in the summer and early fall, but the project as proposed will not hinder this activity (App 8). DMR scientists observed one kayak pulled up on the western shore of Little Chebeague Island, as well as a sailboat pulled up on the beach on the southeastern shore of the island. No comments regarding impacts to other uses of the lease area were received by DMR. Given the timing of aquaculture gear deployment, the lease as proposed would not prevent recreational activities from occurring in the area.

**Therefore,** the activities proposed for this site will not unreasonably interfere with fishing or other water related uses of the area.

#### **D. Other Aquaculture Uses**

In considering the proposal's effect on other uses of the area pursuant to 12 M.R.S.A. § 6072-A(13)(C), DMR's Chapter 2 regulations require the Commissioner to consider any evidence submitted concerning other aquaculture uses of the area. "The intensity and frequency of such uses as well as the degree of exclusivity required for each use shall be a factor in the Commissioner's determination of whether any interference is unreasonable. The number, size, location, and type of other aquaculture leases shall be considered by the Commissioner." Chapter 2, § 2.37(1)(A)(4).

When the site report was published, there were two Limited Purpose Aquaculture sites (LPAs) within 1,000 feet of the proposal. LPAs NJOH420 and NJOH120 were located approximately 823.1 feet and 832.6 feet to the northeast of the proposal, respectively. The LPAs were held by Nathan Johnson and the applicant indicated that they spoke with Mr. Johnson about aquaculture operations in the area and negative interactions are not anticipated.<sup>5</sup> These LPAs were relinquished in 2025. Shearwater Ventures LLC, of which Mr. Johnson is the founder and manager, has a pending experimental aquaculture lease application under review in the same area.

There are no active aquaculture leases within 1,000 feet of the proposal (SR 7).

Given the relinquishment of the LPAs and the absence of leases in the area, the lease as proposed will not interfere with existing aquaculture in the area.

**Therefore,** the aquaculture activities proposed for this site will unreasonably interfere with existing aquaculture uses in the area.

#### **E. Flora & Fauna**

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<sup>5</sup> Application page 12

When examining existing system support, the Commissioner considers the degree to which the use of the lease site will interfere with significant wildlife habitat and marine habitat or with the ability of the lease site and marine and upland areas to support ecologically significant flora and fauna (12 M.R.S.A. § 6072-A(13)(D); Chapter 2, § 2.37(1)(A)(5)).

DMR utilized a remotely-operated vehicle (ROV) to assess the epibenthic ecology of the proposed lease. Shrimp (*Crangon septemspinosa*) were found to be common on the site, but the majority of the area inspected was mud with little to no benthic flora and fauna (SR 8).

#### **Eelgrass (*Zostera marina*)**

Records of eelgrass collected in 2022<sup>6</sup> indicate that there is mapped eelgrass within 1,000 feet of the proposal. The nearest mapped eelgrass is located approximately 968.5 feet to the east of the proposal. During DMR's site visit, scientists observed unattached eelgrass floating in the vicinity of the proposal. No eelgrass was observed on underwater footage (SR 10).

#### **Wildlife**

According to Geographic Information System (GIS) data maintained by the Maine Department of Inland Fisheries and Wildlife (MDIFW) and available through the Maine Office of GIS (MEGIS), the proposed lease is within 1,000 feet of Tidal Waterfowl and Wading Bird Habitat (TWWH). The closest area of mapped TWWH is located approximately 650.6 feet to the east of the proposal (Figure 4). The nearest bald eagle (*Haliaeetus leucocephalus*) nest is mapped approximately 1.6 miles to the northwest of the proposal (SR 11).

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<sup>6</sup>Data obtained from The Maine Office of GIS "GISVIEW.MEDEV.Seagrass2022". Widgeon grass was observed only in the New Meadows River area off Old Brunswick Road near shore. Eelgrass was the dominant vascular species in all other locations. This is the most current record of mapped eelgrass within the vicinity of the proposal.





**Figure 4.** Mapped TWWH in the vicinity of the proposed lease area.<sup>7</sup>

During DMR’s site visit, scientists observed harbor porpoise (*Phocoena phocoena*), harbor seals (*Phoca vitulina*), common eiders (*Somateria mollissima*), laughing gulls (*Leucophaeus atricilla*), herring gulls (*Larus argentatus*), black guillemot (*Cephus grylle*), common terns (*Sterna hirundo*), great cormorants (*Phalacrocorax carbo*), and double-crested cormorants (*Nannopterum auritum*) in the vicinity of the proposal (SR 11).

Given the findings of the site report and that the project is not located in mapped wildlife habitat, the proposed activities will not unreasonably interfere with the ability of the lease site and surrounding areas to support existing ecologically significant flora and fauna.

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

<sup>7</sup> Data obtained from USFWS “Bald\_Eagle\_Nests\_-\_Maine\_2023” and MDIFW maintained SDE Feature Class “GISVIEW.MEIFW.Twwh”

#### **F. Public Use & Enjoyment**

When examining interference with public facilities, the Commissioner considers the degree to which the lease interferes 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 government (12 M.R.S.A. § 6072-A(13)(F); Chapter 2.37(1)(A)(7)) and 2.64(11)(A)).

There are no beaches, parks, or docking facilities owned by federal, state, or municipal government within 1,000 feet of the proposed lease site. The proposal is located approximately 1,047.7 feet west of Little Chebeague Island which is owned by the Maine Bureau of Parks and Lands.

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

#### **G. Source of Organisms**

When examining the source of organisms, the Commissioner shall include but not be limited to, consideration of the source's biosecurity, sanitation, and applicable fish health practices (12 M.R.S.A. § 6072-A(13)(E); Chapter 2.37(1)(A)(6)).

The applicant proposes to obtain sugar kelp (*Saccharina latissima*), skinny kelp (*Saccharina angustissima*), winged kelp (*Alaria esculenta*), horsetail/fingered kelp (*Laminaria digitata*), shotgun kelp (*Agarum clathratum*)<sup>8</sup>, dulse (*Palmaria palmata*), Irish moss (*Chondrus crispus*), and sea lettuce (*Ulva lactuca*) from Atlantic Sea Farms (ASF) (Biddeford, Maine). ASF is an approved source of stock for all of these species except *Ulva lactuca*. ASF has a land-based aquaculture license for the culture of *Ulva fenestrata*, a different species of sea lettuce, replacing the previously cultured *Ulva lactuca*. Due to this change in source for sea lettuce, *Ulva fenestrata*, not *Ulva lactuca* will be approved for the lease.

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

#### **4. CONCLUSIONS OF LAW**

Based on the above findings:

1. The aquaculture activities proposed for this site will not unreasonably interfere with the ingress and egress of riparian owners.
2. The aquaculture activities proposed for this site will not unreasonably interfere with navigation.

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<sup>8</sup> Application states the scientific name as *Agarum cribosum*, however the current accepted scientific name is *Agarum clathratum*.

3. The aquaculture activities proposed for this site will not unreasonably interfere with fishing uses of the area.

4. The aquaculture activities proposed for this site will not unreasonably interfere with other uses of the area, specifically existing aquaculture uses of the area.

5. 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.

6. 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 municipal, state, or federal governments.

7. 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 the application for a proposed experimental lease of 4.0 acres to Great Ledge Cove Seafood, LLC, for three years, the term of the lease to begin within twelve months of the date of this decision, on a date chosen by the lessee<sup>9</sup>; 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 suspended cultivation of sugar kelp (*Saccharina latissima*), skinny kelp (*Saccharina angustissima*), winged kelp (*Alaria esculenta*), horsetail/fingered kelp (*Laminaria digitata*), shotgun kelp (*Agarum clathratum*), dulse (*Palmaria palmata*), Irish moss (*Chondrus crispus*), and sea lettuce (*Ulva fenestrata*). The lessee shall pay the State of Maine rent in the amount of \$100.00 per acre per year. Because this is an experimental lease with more than 400 square feet of structures and no discharge, a bond or escrow account is required. The lessee shall post a bond or establish an escrow account pursuant to DMR Rule 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. CONDITIONS TO BE IMPOSED ON LEASE**

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<sup>9</sup> DMR Rule 2.64 (14) provides:

“The term of the lease shall begin within 12 months of the Commissioner’s decision, on a date chosen by the applicant. No aquaculture rights shall accrue in the lease area until the lease term begins and the lease is signed.”

The Commissioner may establish conditions that govern the use of the lease area and impose limitations on aquaculture activities, pursuant to 12 M.R.S.A §6072-A (15) and 2.64(11)(B). Conditions are designed to encourage the greatest multiple compatible uses of the lease area, while preserving the exclusive rights of the lessee to the extent necessary to carry out the purposes of the lease. No conditions shall be imposed on this lease.

**7. REVOCATION OF EXPERIMENTAL LEASE**

The Commissioner may commence revocation procedures upon determining pursuant to 12 MRSA §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 or any applicable laws or regulations have been violated.

Dated: 5.12.25

A handwritten signature in blue ink, appearing to read "Carl J. Wilson", is written over a horizontal line.

**Carl J. Wilson, Commissioner**

**Department of Marine Resources**