

**STATE OF MAINE
DEPARTMENT OF MARINE RESOURCES**

Caitlin Gerber

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

FINDINGS OF FACT, CONCLUSIONS OF LAW, AND DECISION

Caitlin Gerber applied to the Department of Marine Resources (DMR) for a three-year experimental aquaculture lease located southeast of Moshier Island, in Casco Bay, Yarmouth, Cumberland County. The proposed lease is 3.90 acres and is 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*), nori (*Porphyra spp.*), red seaweed (*Gracilaria tikvahiae*), and sea lettuce (*Ulva lactuca*) for commercial aquaculture research and development. DMR accepted the application as complete on August 11, 2022.

1. THE PROCEEDINGS

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 Yarmouth and its Harbormaster, and others on DMR's mailing list. 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. Notice of the complete application and comment period was published in the August 25, 2022, 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 request a public hearing within the 30-day comment period. No requests for a public hearing were received during the comment period but DMR elected to hold a hearing on August 26, 2024. Notice of the hearing was published in the July 25, 2024, and August 8, 2024, editions of *The Northern Forecaster*. The evidentiary record regarding this lease application includes the application, DMR's site report dated January 2, 2024, and the case file. The evidence from each of these sources is summarized below.¹

LIST OF EXHIBITS

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

¹ These sources are cited, with page references, as App (Application), CF (case file), and SR (site report).

2. DESCRIPTION OF THE PROJECT

A. Proposed Operations

The purpose of the proposed experimental lease site is to determine the viability of growing marine algae in this location for commercial reasons (App 6). The applicant is proposing to culture marine algae using eight long lines, each approximately 1,000 feet in length (Gerber Testimony). Each line would be separated by approximately 20 feet (App 15). The marine algae would be seeded directly on the long lines, and the long lines would have buoyancy buoys and control weights attached to regulate the depth of the long lines (App 16). Each long line would have a marker buoy and 2,000lb mooring block attached to each end (App 16). All gear except for mooring blocks and corner markers would be removed from June to October (App 6).

Seeding would happen in November of each year and would take approximately four days to complete (App 6). After seeding, the applicant would be on site once every two weeks and after storm events to check on the gear (App 7). Harvesting would occur in May and would consist of the applicant using a hauler on a 40-foot lobster style boat to hoist the long lines out of the water for the marine algae to be harvested (Gerber/Rozov; App 7). Harvesting would take approximately two weeks (App 7).

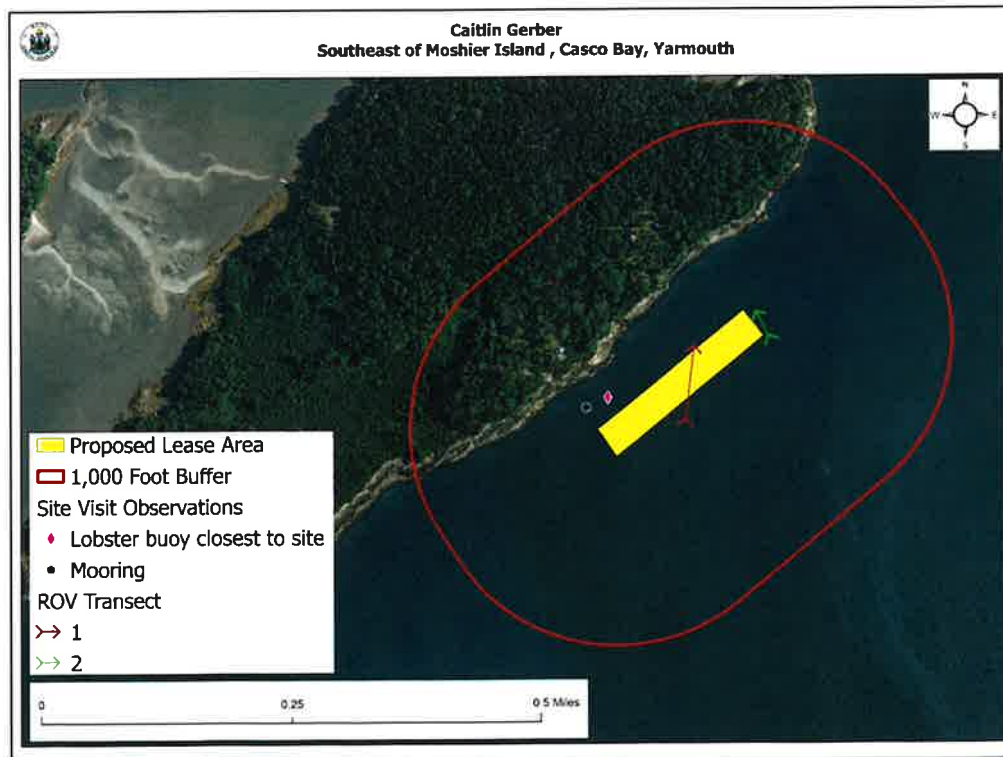


Figure 1: Proposed lease site and surrounding area. Image taken from DMR’s site report.

B. Site Characteristics

On July 19, 2023, DMR scientists assessed the proposed lease area. DMR scientists arrived on site at approximately 10:18 AM (SR 2). Moshier Island is approximately 230 feet to the northwest, which is comprised of rocky coastline with forested uplands (SR 2). The proposed lease area is approximately 1,200 feet to the west of a marked navigational channel (SR 2). The bottom of the proposed lease area is mud (SR 3).

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 water related uses of the area, taking into consideration other aquaculture uses in the area; with the ability of the lease site and 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 applicants have demonstrated that there is an available source of organisms to be cultured on 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)².

The proposed lease area is located off Moshier Island, in Casco Bay, Yarmouth. During the site visit on July 19, 2023, DMR staff observed two houses on the eastern shore of Moshier Island, within 1,000 feet of the proposal (SR 4). DMR observed a house located at the southwestern end of the proposal with a small wooden landing including a set of stairs that led to the shoreline (SR 4). At mean low water (MLW), the shoreline with the set of stairs is approximately 250 feet from the boundary of the proposal (SR 4). The house located at the northern end of the proposal did not have an observed pier, dock, stairs, or other structure for access to the shoreline (SR 4). At MLW, the shoreline for this house is

² 13-188 C.M.R. ch. 2. The Commissioner considers the applicable criteria contained in Chapter 2.37 pursuant to Chapter 2.64(11)(A).

approximately 340 feet from the boundary of the proposal (SR 4). The nearest dock observed was approximately 1,250 feet north of the proposal on the northern side of Moshier Island (SR 4). Additionally, DMR observed an empty mooring approximately 128 feet northwest of the southwestern corner of the proposal (SR 5). The proposal is approximately 264 feet from Moshier Island at the nearest point (SR 3).

DMR received a Harbormaster Questionnaire from the Yarmouth Harbormaster, dated September 10, 2022. The Harbormaster indicated this proposal could block access or impact ease of access for riparian landowners located within 1,000 feet of the proposal (CF – Harbormaster Questionnaire). The Harbormaster notes that, while not within the proposal boundary, there are moorings in the area and, because it is an island, it is common for residents of Moshier Island to access the island by personal boat (CF – Harbormaster Questionnaire).

At the hearing, the Harbormaster for the town of Yarmouth testified that he was familiar with the mooring approximately 128 feet northwest of the proposal, and that it belonged to individuals who owned property on Moshier Island (Owen/Ellis).³ The Harbormaster stated he observed the mooring being used from May through October (Owen/Ellis). The largest boat that the Harbormaster had seen using the mooring was approximately 30 feet in length (Owen/Ellis).

A mooring is present approximately 128 feet from the proposed lease site. As stated above, this mooring is used by a boat observed to be as large as 30 feet in length from at least May through October. Due to the location of the proposed lease site in relation to the mooring, in order to access the mooring, a vessel would need to approach the mooring either from the south or from the north, navigating between the shoreline of Moshier Island and the proposal for the length of the proposal. All other directions would be blocked by either the proposal or Moshier Island itself.

While this proximity of the proposal to the mooring may cause navigational challenges to those who wish to access the mooring, the proposal is approximately 264 feet from Moshier Island at the nearest point. While the presence of gear may require individuals wishing to access the mooring to approach at a different angle while gear is present and may add additional time to navigating to and from the mooring, the mooring would still be accessible. The distance between Moshier Island and the proposal provides approximately 264 feet of navigable waters for individual to navigate their vessel to reach the mooring. This distance would allow for vessels, including the 30-foot vessel that has been observed utilizing the mooring, to navigate the area safely. Even if the mooring is used year-round as suggested by the comment submitted by Henry and Ingrid Thomas, the mooring would still be accessible at all times of the

³ During the comment period on this application, DMR received a comment from Henry and Ingrid Thomas who identified themselves as the owners of the mooring in question and are riparian landowners whose shorefront boundaries are within 1,000 feet of the proposed site (see App 20). The comment raised concerns about access to this mooring and stated that they require access to the mooring year-round. DMR opted to hold a hearing to gather additional information. The Thomas's received personal notice of the hearing and opportunity to provide testimony. However, they did not participate in the hearing.

year given the amount of navigable water between the shoreline and the proposal. The proposal accordingly will not unreasonably interfere with the ingress and egress of riparian owners.

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). In examining navigation, 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.” Chapter 2, § 2.37(1)(A)(2).

The location of the proposal is approximately 1,200 feet to the west of a marked navigational channel that leads to the town of Freeport and the Harraseeket River (SR 5). Nearby navigational aids are located approximately 3,626 feet to the northeast and 5,121 feet to the southeast (SR 5).

During the site visit, DMR staff observed 12 recreational boats heading south in the channel and four lines of small recreational racing sailboats being towed north (SR 5). One kayaker was observed inside the boundaries of the proposal, paddling north (SR 5).

In response to the Harbormaster Questionnaire, the Harbormaster indicated that the area is highly traveled year-round between the Harraseeket River and the greater Portland area of Casco Bay (CF – Harbormaster Questionnaire). The Harbormaster also states that, due to the depth, fishing vessels travel close to the shore in the early mornings when daylight is limited (CF – Harbormaster Questionnaire). The Harbormaster stated that a lease site in this location would be a navigational hazard (CF – Harbormaster Questionnaire). The Harbormaster also stated that they have talked with different applicants about this location in the past and advised that it was not a good location for a lease site. With regard to past proposals in the area the harbormaster stated: “We [Town of Yarmouth] have had one other kelp farm on this side of Moshier Island, and we had many issues with navigation, commercial and recreational fishing” (CF-Harbormaster Questionnaire).

The applicant testified that they looked at Automatic Identification System (AIS) data to help assess navigation in the area during times of year gear would be deployed. Based on their review of AIS data they were able to see that this area was not commonly navigated by vessels (Gerber Testimony).⁴ However, on cross-examination, the applicant clarified that AIS is used by commercial fishing vessels and that not every vessel would have these systems onboard (Gerber/Ellis). The applicant estimated that

⁴ AIS is a short-range coastal tracking system which provides location and identification data of vessels that elect to have these systems onboard (Gerber/Ellis).

the average size of the vessels shown on the AIS data was approximately 40 feet – 50 feet (Gerber/Ellis). A participating member of the public testified that they have observed little boat traffic around the proposal (Ernest Testimony).

At the hearing, the Harbormaster for the town of Yarmouth reiterated many of the navigational concerns raised in the Harbormaster Questionnaire. The Harbormaster also testified that boats travel through the proposed area when accessing and exiting both the Royal River and the Harraseeket River (Owen Testimony). The Harbormaster stated that boats travel along the shores during the winter months, when the site is active, especially during low light hours (Owen/Rozov). The Harbormaster did testify that it would be possible for these vessels to navigate around the proposal if they were able to see it, but it would still be a potential hazard due to difficulty seeing the proposal during low light hours when the area is usually navigated (Owen/Rozov).

The AIS data testified to by the applicant led them to conclude that the area around the proposal was not commonly navigated by vessels and that the vessels navigating in the area are fishing vessels around 40 feet-50 feet in length. However, not all commercial vessels are equipped with AIS. While the AIS data described by the applicant suggests that the area of the proposal is not commonly navigated by commercial vessels equipped with AIS, the data does not account for any vessels not equipped with AIS, such as other commercial vessels, recreational vessels or smaller vessels that may be more likely to navigate closer to the shoreline of Moshier Island.

This area is highly traveled year-round between the Harraseeket River and the greater Portland area of Casco Bay. In consideration of the vessel traffic and navigation in the area, the Harbormaster testified the location would be a navigational hazard. The Harbormaster also testified that this area is commonly navigated during periods of low light in the early mornings when it would be difficult for an individual operating a vessel to see the boundary markers and gear and be able to navigate around it.

DMR finds credible the testimony of the Harbormaster related to traffic conditions and the navigational hazard posed by the proposed operations. The Harbormaster has extensive and direct knowledge of vessel traffic in this area including experience with similar aquaculture operations causing issues with navigation. Vessels navigate along the Moshier Island shoreline year-round and near and within the proposed lease boundaries. This proposal would unreasonably interfere with vessel traffic. For example, if multiple vessels were to attempt to navigate this area at the same time, the proposal would cause congestion and possible adverse vessel interactions. Due to most of the vessel traffic occurring in low light hours, the creation of a narrower navigation path between the island and the proposal further impedes safe passage, especially in light of the testimony from the Harbormaster stating that boats commonly navigate along the shore in this area and thus close to the proposed location. While the applicant testified that the AIS data showed most vessels navigated further away from Moshier Island, not

all vessels are equipped with AIS, meaning that data does not present a complete picture of the navigation in the area.

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 of the area (12 M.R.S.A. § 6072-A(13)(C); Chapter 2.37(1)(A)(3)). In examining 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, § 2.37(1)(A)(3).

Fishing. During the site visit, DMR staff observed four lobster buoys within 1,000 feet of the proposal (SR 6). All four of the observed buoys were located between the proposal and Moshier Island (SR 6). The closest buoy observed was approximately 97 feet to the north of the western boundary (SR 6). DMR staff also observed two recreational fishing boats within 1,000 feet of the proposal, fishing along the shore of Moshier Island (SR 6).

The application states that there is a small amount of commercial lobster and menhaden fishing near the proposal area from June to July (App 9). The application also states there is no recreational fishing in this area due to the area being exposed in the summer months (App 9).

During the comment period on this application, DMR received a comment from Stephen Hutnak, who identified himself as a landowner on Moshier Island and was listed on the riparian landowner list. Mr. Hutnak stated that he stays on Moshier Island from April through December and that there is a large amount of fishing that occurs in the area of the proposed lease. Mr. Hutnak did not attend the hearing and was not available for cross examination.

In response to the Harbormaster Questionnaire, the Harbormaster for the town of Yarmouth indicated this area is a “high commercial use area” (CF – Harbormaster Questionnaire). The Harbormaster questionnaire also states that because Moshier Island is just outside the outlets of the Royal River and Harraseeket River, it tends to have a large amount of commercial and recreational lobstering (CF – Harbormaster Questionnaire). Additionally, due to the depth of the area, it is a common area for recreational fishing because fishermen can get close to the shore (CF – Harbormaster Questionnaire).

At the hearing, the Harbormaster for the town of Yarmouth testified that there is no fishing around the proposed lease site in the winter months, when the site would be active (Owen/Rozov). The applicant testified that they had not observed any recreational or commercial fishing in the proposed lease area (Gerber/Rozov). No one else provided testimony concerning fishing in the area.

Gear would only be present from November through May. Both the applicant and the Harbormaster testified that they have not observed fishing in the area during these months. Commercial and recreational fishing regularly occur at other times of the year when the site would not be active. Although Mr. Hutnak submitted a comment that fishing does occur in this area, DMR was unable to gain further details from him about his observations such as frequency and time of year it occurs. While fishing may occur in the proposed lease site, it was testified to at the hearing by others who attended that the fishing does not occur during the months in which the lease would be active.

Other uses. No other uses were observed at the time of the site visit or were testified to at the time of the hearing.

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

D. Other Aquaculture Uses

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).

There are no active aquaculture leases or Limited Purpose Aquaculture sites within 1,000 feet of the proposal (SR 7).

No testimony regarding interference with other aquaculture activities in the area was given at the hearing.

Therefore, the activities proposed for this site will not unreasonably interfere with other aquaculture uses of the area.

E. Flora & Fauna

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) "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, § 2.37(1)(A)(5).

At the time of the site visit, DMR staff collected underwater footage using a remotely operated vehicle (ROV) (SR 7). Crab (*Cancer sp.*) and American lobster (*Homarus americanus*) were observed in rare abundance (SR 7).

According to data collected by the Maine Department of Environmental Protection and Casco Bay Estuary Partnership in 2022, there is no eelgrass (*Zostera marina*) within 1,000 feet of the proposal (SR 8). No eelgrass was observed during the ROV transects conducted by DMR staff during the site visit (SR 8).

During the site visit, DMR staff observed seals (*Phocidae sp.*), ring billed gulls (*Larus delawarensis*), and osprey (*Pandion haliaets*) in the general area (SR 9). There are no documented bald eagle nests within 1,000 feet of the proposed lease area (SR 9). 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 not within Tidal Waterfowl and Wading Bird Habitat (TWWH) (SR 9). On August 29, 2022, a Wildlife 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.⁵

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.

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 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, § 2.37(1)(A)(7); Chapter 2, § 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.

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

⁵ Email correspondence between MDIFW and DMR

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, § 2.37(1)(A)(6)).

The applicant proposes to obtain stock for 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*), nori (*Porphyra spp.*), red seaweed (*Gracilaria tikvahiae*), and sea lettuce (*Ulva lactuca*) from Atlantic Sea Farms in Biddeford, Maine (App 2). Atlantic Sea Farms is not currently an approved source of stock for shotgun kelp, Irish moss, nori, or red seaweed. Therefore, the applicant may only obtain sugar kelp, skinny kelp, winged kelp, horsetail/fingered kelp, dulse, and sea lettuce from Atlantic Sea Farms or another DMR approved source of stock.

There is currently no approved facility where the applicant could obtain shotgun kelp, Irish moss, nori, and red seaweed. The applicant has not demonstrated an approved source for this species. Therefore, it will not be authorized if the lease is granted. However, if the lease is granted and an approved source becomes available, prior to the expiration of the lease, the holder may request a source review. The review must be requested by the applicant in writing and include the name of the approved source. If DMR approves the request, then the applicant may deploy those species. If the lease is granted, a condition will be added accordingly.

Therefore, the applicant has demonstrated that there is available source of stock for sugar kelp, skinny kelp, winged kelp, horsetail/fingered kelp, dulse, and sea lettuce to be cultured for the lease site, but has failed to demonstrate that there is available source of stock for shotgun kelp, Irish moss, nori, and red seaweed.

4. CONCLUSIONS OF LAW

Based on the above findings, the Department concludes that:

1. The aquaculture activities proposed for this site will not unreasonably interfere with the ingress and egress of any riparian owner.
2. The aquaculture activities proposed for this site will unreasonably interfere with navigation.
3. The aquaculture activities proposed for this site will not unreasonably interfere with fishing or other uses of the area.
4. The aquaculture activities proposed for this site will not unreasonably interfere with other aquaculture uses of the area.

4. 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.

5. 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.

6. The applicant has demonstrated that there is an available source of stock for sugar kelp, skinny kelp, winged kelp, horsetail/fingered kelp, dulse, and sea lettuce to be cultured for the lease site, but has failed to demonstrate that there is available source of stock for shotgun kelp, Irish moss, nori, and red seaweed.

Accordingly, the evidence in the record supports the conclusion that the proposed aquaculture activities do not 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 denies the requested experimental lease of 3.90 acres to Caitlin Gerber.

Dated: _____

3/3/25

A handwritten signature in blue ink, appearing to read "P. C. Keliher", written over a horizontal line.

Patrick C. Keliher, Commissioner
Department of Marine Resources