

**STATE OF MAINE
DEPARTMENT OF MARINE RESOURCES**

**Dirigo Marine Resources, LLC
CAS MOx**

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

FINDINGS OF FACT, CONCLUSIONS OF LAW, AND DECISION

Dirigo Marine Resources, LLC applied to the Department of Marine Resources (DMR) for a three-year experimental aquaculture lease located northeast of Moshier Island, in Casco Bay, Yarmouth and Freeport, Cumberland County. The proposed lease is 3.64¹ acres and is for the suspended cultivation of marine algae (*Saccharina latissima*, *Alaria esculenta*, and *Saccharina angustissima*) for commercial aquaculture research and development.

1. THE PROCEEDINGS

DMR accepted the application as complete on July 22, 2022. Notice of the application and the 30-day public comment period was provided to state agencies, the Towns of Yarmouth and Freeport and their harbor masters, and others on DMR's email listserv. There are no riparian lawn owners² within 1,000 feet of the proposal site. A Harbor Master Questionnaire was sent to both harbor masters requesting information about designated or traditional storm anchorages, navigation, riparian ingress and egress, fishing or other uses of the area, ecologically significant flora and fauna, beaches, parks, and docking facilities in proximity to the proposed lease. Notice of the complete application and comment period was published in the August 4, 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 and no hearing was conducted. The evidentiary record regarding this lease application includes the application, DMR's site report dated October 26, 2023, and the case file. The evidence from each of these sources is summarized below.³

¹ Applicant originally requested 3.9 acres. DMR calculations indicate the area is 3.64 acres.

² For purposes of notice, the Department defines "riparian owner" as a shorefront property owner whose property boundaries are within 1,000 feet of the proposed site.

³ Exhibits 1, 2, and 3 are cited below as: Case file – "CF", Application – "App", site report – "SR".

LIST OF EXHIBITS

1. Case file
2. Application
3. DMR site report, issued on October 26, 2023

2. DESCRIPTION OF THE PROJECT

A. Proposed Operations

The purpose of the proposed experimental lease site is to determine the viability of the site for commercial marine algae cultivation (App 4). The applicant is proposing to culture marine algae using fourteen 560-foot longlines as well as moorings, lobster-style or hardshell buoys, and corner marker buoys (App 13, 23). All gear, with the exception of the moorings (including lines, chains, and marking buoys) and the corner markers, will be removed from June 1st to November 1st (App 5, 13). The applicant intends to seed, tend, and harvest from November to June, with weekly site visits plus approximately one week for seeding and two weeks for harvesting (App 5). Marine algae will be harvested from a lobster-style boat with a hauler (App 6).

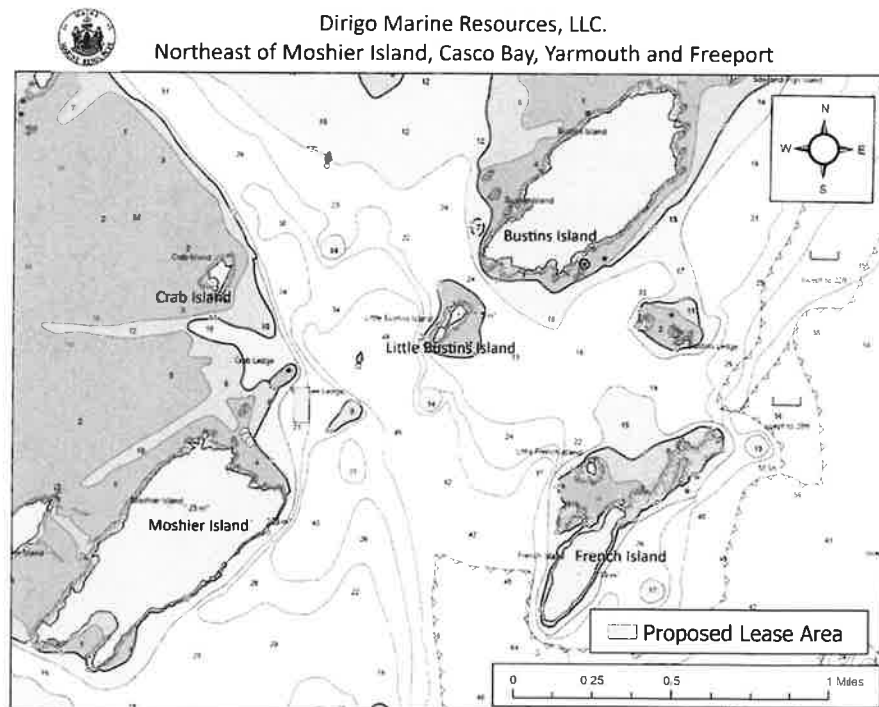


Figure 1: Vicinity map. Image generated by DMR staff. ⁴

⁴ 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.

B. Site Characteristics

On July 19, 2023, Maine Department of Marine Resources (DMR) scientists assessed the proposed lease site beginning at 11:30 AM. The northeastern shore of Moshier Island, in the vicinity of the proposal, consists of rocky coastline leading to coniferous uplands (SR 2).

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 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 for the lease site.

A. 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 water-related uses of the area. 12 M.R.S.A. § 6072-A(13)(C); Chapter 2.37(1)(A)(3)⁵. Additionally, the Commissioner considers any evidence concerning other aquaculture uses of the area. Chapter 2.37(1)(A)(4).

Fishing. During the site visit, DMR documented four lobster buoys near the proposed site, outside of the proposal boundaries. The observed lobster buoys were approximately 50 feet, 83 feet, 89 feet, and 330 feet from the proposal boundaries. Additionally, DMR observed approximately 20 lobster buoys to the north of the proposal.

The Yarmouth harbormaster stated that this proposal may affect commercial fishing activity in the area noting that lobster fishing can begin as early as May. The harbormaster stated that although most of the commercial fishing occurs during the summer months, leaving mooring gear and tackle in the water

⁵ 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).

during that time of year could affect commercial fishing in the area⁶ (SR 6). The level of fishing activity in the area during the summer months was characterized as high. DMR did not receive a completed questionnaire from the Freeport harbormaster.

The application states lobster fishing activity occurs in the area from June to November (App 7). No comments from the public concerning fishing were received by DMR. No comments concerning other water related uses of the area were received by DMR. The application specifies that all gear except for moorings would be removed by June 1 and then redeployed on or after November 1.

Discussion:

In evaluating fishing, 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.

During DMR's site assessment, which occurred on July 19, 2023, approximately 24 lobster buoys were observed in the vicinity of the proposal. The Yarmouth harbormaster stated that lobstering occurs at a high frequency in the area during the summer months and can begin as early as May. The harbormaster acknowledged that fishing would occur less frequently when operations are active, primarily during the winter months. However, gear is proposed to remain in place until June 1st, after the lobster season would likely start, and moorings would be present year-round.

The harbormaster stated his opinion that having moorings in place during the summer months would impact commercial fishing activity. Although not expressly stated in the Harbormaster Questionnaire, the implication is that commercial fishermen would generally avoid deploying traps within the boundaries of the site even during inactive periods (June 1-November 1) because moorings would suggest that subsurface gear is present. DMR did not receive any comments from lobster fishermen or other individuals that fish commercially or recreationally in the area.

In consideration of the substantial commercial fishing activity in the area as described by the harbormaster and observed by DMR, if the lease site is granted it will be conditioned. Specifically, DMR will require that all gear including moorings (mooring blocks may be left in the water provided no

⁶ Harbormaster questionnaire received by DMR on September 4, 2022.

lines/chains/buoys are attached) be removed from the site by May 1st and redeployment will be prohibited until November 1st. This means that the proposed site would not contain any gear in the water column or on the water surface, including mooring chains, lines, and buoys, from May 1st-October 31st when commercial trap fishing is expected to be most frequent per the harbormaster.

Other aquaculture uses. There is one existing standard aquaculture lease held by Love Point Oysters, LLC (CAS CB) approximately 1,000 feet to the northwest of the proposed lease. There are three limited purpose aquaculture (LPA) license sites located within the proposal boundaries. The LPAs are issued for the culture of marine algae, scallops, and sea urchins using suspended culture techniques. All three LPAs, JFOR121, JFOR221, JFOR321⁷, would be relinquished if this proposal were to be granted (SR 7). The Yarmouth Harbormaster stated that he had not expressed concerns about the existing LPAs when those licenses were under review but was concerned about the proposed expansion of activity via the lease proposal and possible impacts of leaving moorings in place year-round in the proposed expanded site. The Department did not receive any other comments concerning other aquaculture uses in the area.

In evaluating other aquaculture uses, the Commissioner must consider the following pursuant to Chapter 2.37(A)(4):

The Commissioner shall 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 factors 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.

DMR received no feedback relating to the CAS CB lease noted above. DMR only received feedback from the Yarmouth harbormaster concerning other aquaculture uses, and the feedback was specific to the three existing LPAs within the footprint of the proposed lease site. The harbormaster noted that the proposed lease represented an expansion of aquaculture activities when compared to the existing LPAs.

LPAs are annual licenses that expire December 31st each year (they may be renewed by the holder in subsequent years pursuant to law and rule). LPAs cannot exceed 400 square feet in size and there are limits governing the types of gear and species that may be deployed. While the three LPAs within the boundaries of the proposed lease site were reviewed and permitted for the deployment of suspended gear year-round, the proposed lease would be substantially larger than the existing three LPAs. For the reasons previously described, if this proposal is granted, a condition will be imposed requiring that all gear,

⁷ The license holder of the three LPAs is Jake Forgit. The applicant included a letter from Mr. Forgit in the lease application agreeing to relinquish the LPAs if this lease is granted.

including moorings be removed from the site from May 1st-October 31st. The three existing LPAs would be relinquished, meaning there would be no suspended gear or gear in the water column associated with aquaculture uses within the lease boundaries during May 1st-October 31st.

Therefore, given the lease condition that would be imposed if this lease is granted, the activities proposed for this site will not unreasonably interfere with fishing or other water related uses of the area including other aquaculture related uses.

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).

The proposal is located approximately 1,100 feet to the northeast of Moshier Island at mean low water (MLW). The main navigational channel is located to the east of the proposal. Green navigation buoy “1” is located approximately 900 feet to the northeast of the proposal. During DMR’s site visit, one commercial fishing boat was observed navigating to the west of the proposed site by the northern ledge of Moshier Island (SR 5).

A Harbormaster Questionnaire was sent to the Town of Yarmouth and a response was received on September 4, 2022, stating the proposal may affect navigation for vessels transiting through the area. The harbormaster indicated that although the proposal is located outside of the marked navigation channel, year-round commercial users transit the area, and it is part of the harbormaster’s patrol route⁸ (SR 5).

As noted in section 2.C. of this decision, the harbormaster also stated that the proposed site may limit direct access to moorings held by residents of Moshier Island. DMR did not receive a completed questionnaire from the Freeport harbormaster.

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.

⁸ Harbormaster questionnaire received by DMR on September 4, 2022.

There is one existing standard aquaculture lease held by Love Point Oysters, LLC (CAS CB) approximately 1,000 feet to the northwest of the proposed lease. There are three limited purpose aquaculture (LPA) lease sites located within the proposal boundaries. All three LPAs, JFOR121, JFOR221, and JFOR 321, would be relinquished if this proposal were granted.

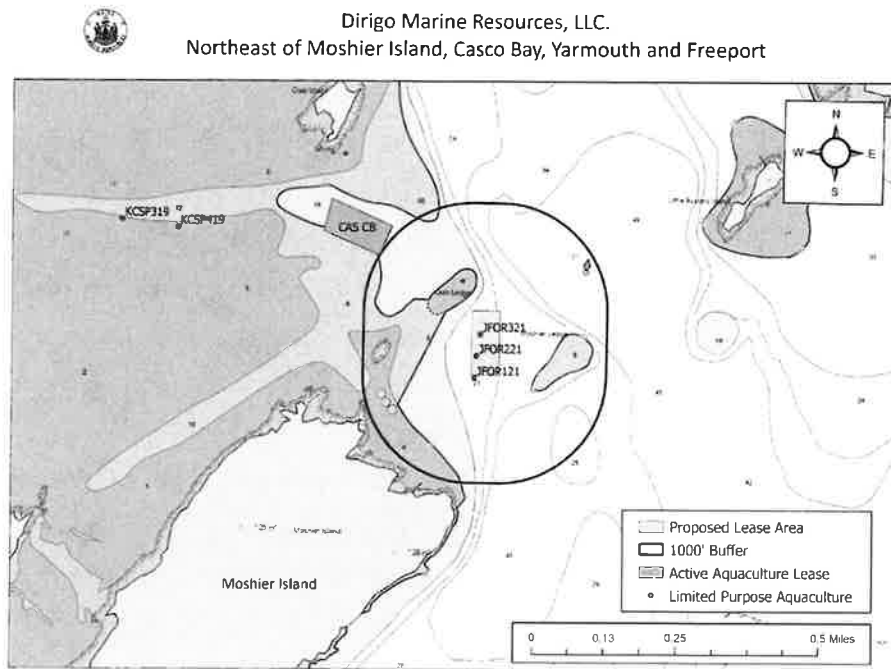


Figure 2: Aquaculture leases and licenses in the vicinity of the proposal. Image generated by DMR staff.

If granted, the lease would contain a condition requiring all gear, including mooring lines, chains, and buoys, and the corner markers, to be removed from May 1st to October 31st. While some navigation may occur in the winter months, it is likely the majority of the fishing and recreational traffic would occur when the gear is absent. It is likely some vessels may need to navigate around the project when the gear is present, but there is sufficient distance between the project site and the navigable channel for vessels transiting the area. In addition, the proposed site is not within the main navigational channel.

During the site visit, DMR observed eight moorings within 1,000 feet of the proposal. The closest observed mooring nearest to the proposal was located approximately 675 feet to the southwest of the site. Three LPAs are located within the footprint of the proposed new lease. Therefore, the public should be familiar with the use of the area for aquaculture, and DMR would expect to have received comments on this proposal if navigation were currently impeded by the existing LPAs. DMR did not receive public comments concerning mooring access or navigation from anyone other than the Yarmouth harbormaster. While it is possible the proposed site may alter the preferred or most direct course someone may take to

approach their mooring there is nothing in the record to indicate that such an alteration of course would be unreasonable.

Therefore, the aquaculture activities proposed for this site will not unreasonably interfere with navigation.

C. 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).

During the site visit, DMR observed eight moorings within 1,000 feet of the proposal. The mooring nearest to the proposal was located approximately 675 feet to the southwest of the site. Four docks were observed on Moshier Island located 1,070 feet, 1,090 feet, 1,220 feet, and 1,640 feet from the proposal. According to satellite imagery¹¹, nearby Little Bustins Island, located to the northeast of the proposal, has one building and pier. Satellite imagery also indicates that nearby Crab Island, located to the northwest of the proposal, has one building. Both Little Bustins Island and Crab Island are privately owned (SR 4, 5).

A Harbormaster Questionnaire was sent to the Town of Yarmouth and a response was received on September 4, 2022, stating the proposal may limit access to nearby moorings held by residents of Moshier Island. The harbormaster stated that although the riparian owners would be able to navigate around the lease, it will block direct access (SR 5). DMR did not receive a completed questionnaire from the Freeport harbormaster.

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.

The Yarmouth harbormaster stated that the proposal may limit access to moorings in the area. However, the regulatory standard for riparian access is specific to navigation to shore. Access to moorings is properly addressed in the navigation section of this decision. DMR did not receive any comments from residents of Moshier Island or surrounding areas regarding safe navigation to their shore or docks along the shore. In addition, all gear, including the moorings

(lines, chains, and marking buoys) and the corner markers, will be removed from May 1st to October 31st.

Because the Department did not receive any comments from riparian owners concerning access to their shores or docks, and because considerable space remains for riparians to navigate around the proposed lease to their shorelines and associated docks, the proposed impacts will not unreasonably interfere with riparian ingress and egress.

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

D. 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); Chapter 2.37(1)(A)(5).

On July 19, 2023, DMR conducted a transect utilizing a remotely operated vehicle to assess the epibenthic ecology of the proposed lease. Unclassified species of juvenile fish were found to be common. In the general vicinity of the proposal, there were double-crested cormorants (*Nannopterum auritum*), osprey (*Pandion haliaetus*), bonapartes gulls (*Chroicocephalus philadelphia*), and herring gulls (*Larinae argentatus*) (SR 8).

Data collected by the Maine Department of Environmental Protection (MDEP) and Casco Bay Estuary Partnership (CBEP) in 2022 indicates mapped eelgrass presence in the vicinity of the proposal. The nearest mapped eelgrass is approximately 650 feet west of the proposal.⁹ No eelgrass was observed on underwater camera footage during DMR's site assessment (SR 7).

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 located approximately 3,200 feet to the northeast of mapped tidal waterfowl and wading bird habitat. Data collected by the United States Fish and Wildlife Service in 2023 by aerial nest survey shows the closest mapped Bald Eagle nesting site to be approximately 1.8 miles west of the proposal (SR 9).

On August 16, 2022, a Wildlife Biologist with MDIFW responded by email to a "Request for Agency Review and Comment" stating minimal impacts to wildlife are anticipated for this project.¹⁰

⁹ Data obtained from The Maine Office of GIS "GISVIEW.MEDMR.Eelgrass". This is the most current record of mapped eelgrass within the vicinity of the proposal.

¹⁰ Email correspondence between MDIFW and DMR.

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.

E. 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, State, or municipal governments. 12 M.R.S.A. § 6072-A(13)(F); Chapter 2.37(1)(A)(7).

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.

F. 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 stock at Summit Point LLC in Falmouth, Maine. This facility is currently listed as an approved source for the proposed stock. If the applicant is unable to obtain stock from this facility, then it must come from another DMR approved source.

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

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 not unreasonably interfere with navigation.
3. Given the condition governing gear and mooring deployment, 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 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 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 requested experimental lease of 3.64 acres for commercial aquaculture research and development to Dirigo Marine Resources, 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 lessee¹¹; 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 marine algae (*Saccharina latissima*, *Alaria esculenta*, and *Saccharina angustissima*). The lessee shall pay the State of Maine rent in the amount of \$100.00 per acre per year. Since 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 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

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 Chapter 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. The following condition imposed on this lease:

¹¹ 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.”

1. All gear, including moorings (mooring blocks may be left in the water provided no lines/chains/buoys are attached) and the corner markers, must be removed from May 1st to October 31st.

7. REVOCATION OF EXPERIMENTAL LEASE

The Commissioner may commence revocation procedures upon determining pursuant to 12 MRSA §6072-A (22) that no substantial research has been conducted on the site within the preceding year, that research has been conducted in a manner injurious to the environment or to marine organisms, or that any conditions of the lease or any applicable laws or regulations have been violated.

Dated: 1/20/24



Patrick C. Keliher, Commissioner

Department of Marine Resources