

**STATE OF MAINE  
DEPARTMENT OF MARINE RESOURCES**

**ISLESBORO MARINE ENTERPRISES, INC.**

Standard Aquaculture Lease Application  
Suspended Culture of Shellfish and Marine Algae  
Penobscot Bay, Islesboro, Maine

**PEN FI**

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

Islesboro Marine Enterprises, Inc. applied to the Department of Marine Resources (DMR) for a twenty-year standard aquaculture lease on 6.17<sup>1</sup> acres northeast of Flat Island in Penobscot Bay, Islesboro, Maine. The proposal is for the suspended culture of blue mussels (*Mytilus edulis*), sugar kelp (*Saccharina latissima*), skinny kelp (*Saccharina angustissima*), horsetail kelp (*Laminaria digitata*), winged kelp (*Alaria esculenta*), and dulse (*Palmaria palmata*).

**1. THE PROCEEDINGS**

The pre-application meeting on this proposal was held on June 11, 2020, and a scoping session was held on December 7, 2020. DMR accepted the final application as complete on March 11, 2021. A public hearing on this application was held on November 15, 2022. Notice of the completed application and public hearing was provided to state and federal agencies, the Town of Islesboro, riparian landowners<sup>2</sup> within 1,000 feet of the proposed site, and subscribers to DMR’s aquaculture email listserv. Notice of the hearing was published in the *Courier-Gazette* October 13, 2022, and October 20, 2022. The public notice for the hearing indicated that the proceeding would be conducted both in-person and remotely and directed interested persons to contact DMR to sign up to participate in the proceeding. Two individuals registered to participate in the hearing, including one that indicated an intention to provide testimony. No applications for intervenor status were received by the Department.

Sworn testimony was given at the November 15, 2022 hearing by the following witnesses:

<b>Name</b>	<b>Affiliation</b>
Shey and Josh Conover	Islesboro Marine Enterprises, applicant
Cheyenne Adams	DMR Marine Scientist
Kenneth Smith, Cindy Gorham	Interested persons

<sup>1</sup> Applicant originally requested 6 acres. DMR calculations in the site report, based on the provided coordinates, indicate the area is 6.17 acres.

<sup>2</sup> The Department defines “riparian owner” as a shorefront property owner.

The Hearing Officer was Lisa White. Other DMR staff and members of the public attended the hearing either in person or remotely but did not offer testimony. The hearing was recorded by DMR.

The evidentiary record before DMR regarding this lease application includes three exhibits at the hearing and the record of testimony at the hearing. The evidence from these sources is summarized below.<sup>3</sup>

### **LIST OF EXHIBITS**

1. Case file
2. Application
3. DMR site report, issued on January 21, 2022
4. Experimental Lease Decision, signed January 17, 2018

## **2. DESCRIPTION OF THE PROJECT**

### **A. Site Characteristics**

On August 3, 2021, DMR staff assessed the proposed lease site and the surrounding area in consideration of the criteria for granting a standard aquaculture lease (SR 2). The proposed lease site occupies subtidal waters off the west coast of Islesboro between Seal and Flat Islands. Flat Island, located southwest of the proposed lease site, has a shoreline that is composed mostly of rock, with a small beach located on the island's eastern shore. Seal Island, located to the north of the proposed lease site, has a rocky shoreline leading to a forested upland. Flat Island is an undeveloped island owned by the Maine Department of Inland Fisheries and Wildlife (MDIFW), while Seal Island is privately owned. The Islesboro shoreline is rocky, leading to a residential and forested upland. During the site assessment on August 3, 2021, a small mooring field was observed to the north of the proposal and east of Seal Island. During a previous site visit to the area on December 20, 2017<sup>4</sup>, DMR observed a partially constructed pier, ramps, floats, and moorings on Seal Island's east side, which appeared to be completed by the August 3, 2021, site visit. The proposed lease is located to the west of Seal Harbor, Islesboro. A publicly owned pier is located within Seal Harbor.

At the time of the Department's site assessment in 2021, water depths at the proposed lease corners site ranged from 57.8 feet to 59.4 feet. Depth measurements were collected using a transom-mounted depth sounder. Department staff observed the depths of the proposed lease site at approximately 10:00 am; high tide was predicted to have occurred at 7:59 am with a height of 8.10 feet. Correcting for tidal variation

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<sup>3</sup> Exhibits 1, 2, 3, and 4 are cited below as: Case file – “CF”, Application – “App”, site report – “SR”, Experimental Lease Decision – “Exhibit 4”

<sup>4</sup> Site visit conducted during the experimental lease application process for PEN FIX.

derives water depths 51.2 feet and 52.8 feet at mean low water. The bottom of the proposed lease area is composed of mud with sections of dense blue mussel shell rubble (SR 3).

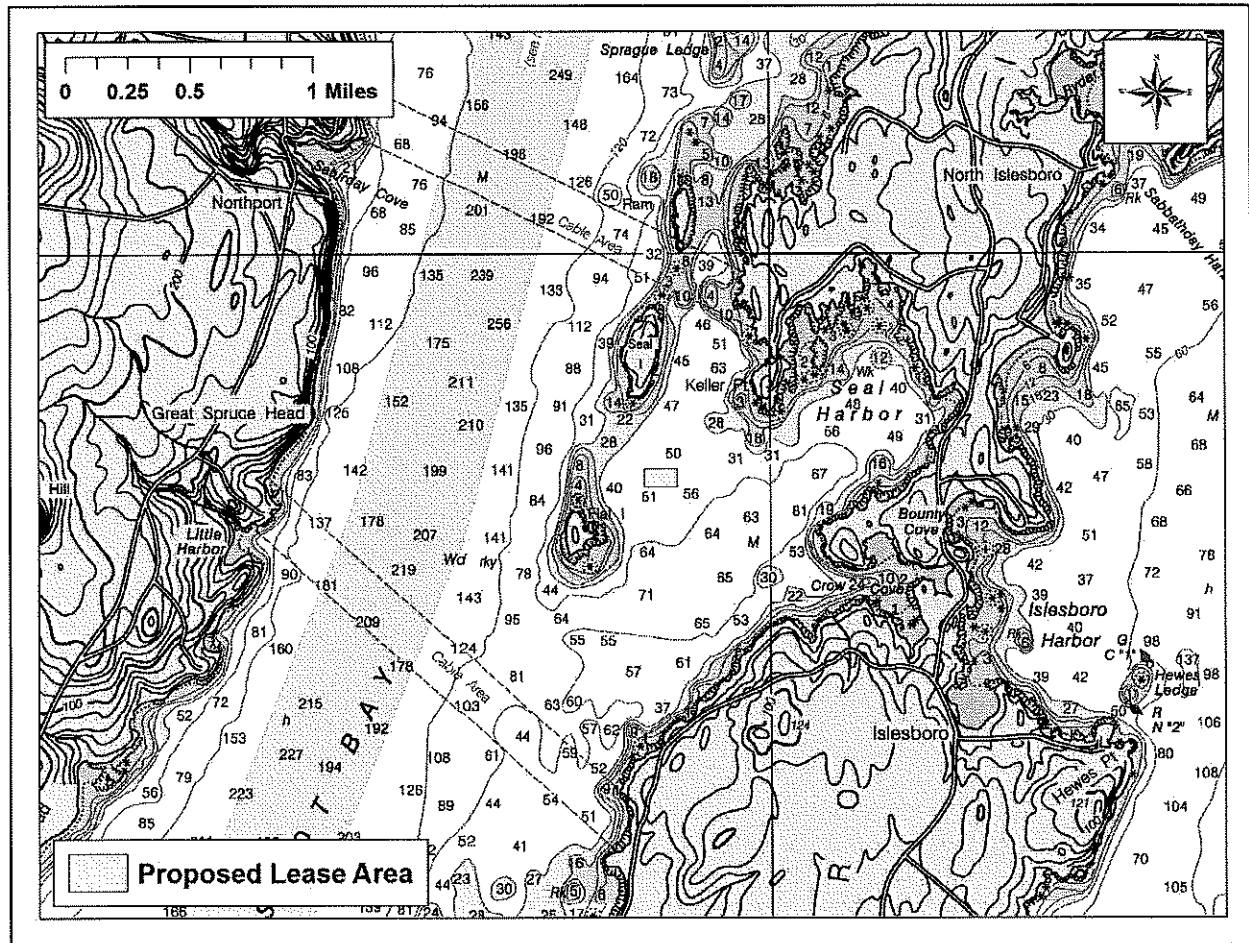


Figure 1: Proposed lease site and surrounding area. Image taken from DMR’s site report.

**Application Coordinates (WGS84) – 6.17 acres**

<u>Corner</u>	<u>Latitude</u>	<u>Longitude</u>
NW	44° 19.250' N	68° 55.618' W then 382.64 feet at 179.95° True to
SW	44° 19.187' N	68° 55.618' W then 702.19 feet at 89.95° True to
SE	44° 19.187' N	68° 55.457' W then 382.64 feet at 359.95° True to
NE	44° 19.250' N	68° 55.457' W then 702.18 feet at 269.95° True to NW.

## **B. Proposed Operations**

The applicant currently operates an experimental lease on the proposed site, PEN Fix. The experimental lease is for the cultivation of blue mussels (*Mytilus edulis*) using suspended culture techniques with mussel rafts arranged in rows oriented in a north to south direction (Exhibit 4, pg. 1). Each raft measures 40' x 40' and contains 400 suspended ropes that collect mussel spat and grow mussels to market size. This standard lease proposal, if granted, would replace and expand the existing experimental lease operation.

The standard lease proposal, if granted, would be for the culture of blue mussels (*Mytilus edulis*), sugar kelp (*Saccharina latissima*), skinny kelp (*Saccharina angustissima*), horsetail kelp (*Laminaria digitata*), winged kelp (*Alaria esculenta*), and dulse (*Palmaria palmata*) using suspended culture techniques (App 1). Up to 18 rafts (each measuring 40' x 40') for the culture of blue mussels and 16 longlines (eight 650' lines and eight 200' lines) for the culture of marine algae are proposed for the site (App 6).

Mussel rafts will be in the water year-round and will be tended 2 to 4 days per week for seeding, maintenance and harvesting (App 12). Mussels will be harvested approximately 18 to 24 months after seeding using a processing barge with a conveyor to get the lines out of the water (App 13). Mussels will be stripped off the lines and fed into a declumper, then to a debysser and sorted using a grading table. After, the barge will be towed back to its mooring in Crow Cove.

Kelp lines will be in the water from October 1 to May 30 and will be tended 2 to 4 days per week for maintenance and harvest (App 12). Kelp lines will be hauled in the spring with a 38-foot lobster boat. Kelp will be cut from the longline and all gear will be removed and stored on land once harvest is complete (App 13).

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

Approval of standard aquaculture leases is governed by 12 M.R.S.A. §6072. This statute provides that a lease may be granted by the Commissioner upon determining that the project will not unreasonably interfere with: the ingress and egress of riparian owners; navigation; fishing or other uses of the area, taking into consideration other aquaculture uses of the area; the ability of the lease site and surrounding areas to support existing ecologically significant flora and fauna; or the public use or enjoyment within 1,000 feet of beaches, parks, docking facilities, or conserved lands 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; that the lease will not result in an unreasonable impact from noise or lights at the boundaries of the lease site; and that the lease will comply with visual impact criteria adopted by the Commissioner.

### **A. Riparian Access**

DMR's Chapter 2 regulations require the Commissioner to examine whether riparian owners can safely navigate to their shore. 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.

There are no riparian landowners within 1,000 feet of the proposed lease site. At the time of DMR's site assessment on August 3, 2021, a total of 1 dock and 8 boat moorings were observed in the general vicinity (SR 8). The dock on the eastern shore of Seal Island was observed with a lobster fishing vessel and two smaller motorboats tied to the associated float. The nearest observed mooring was approximately 1,550 feet to the northeast of the proposal. The nearest observed dock was approximately 1,950 feet to the northeast of the proposal (SR 8). Based on these distances, DMR staff conducting the site review reported that if the lease were granted, adequate space would likely remain for access to these structures.

During the processing of the application, DMR did not receive any comments regarding riparian access. No testimony was presented at the hearing regarding riparian access. Given the absence of comments and testimony it is reasonable to conclude that there are no concerns for ingress and egress by 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. DMR's site assessment states that Seal Harbor is over 2,000 feet to the east of the proposed lease and contains a mooring field and town-owned pier. The proposed site occupies subtidal water between Flat, Seal and Islesboro islands and is over 1,000 feet to the north of the main channel for entering and exiting Seal Harbor. The site assessment states that if the proposed lease were granted it would not impede vessel flow within the main channel (SR 9).

During DMR's site assessment on August 3, 2021, one motoring sailboat was observed to the northeast of the proposal. DMR's site assessment states that the proposal does not prevent vessel access to Seal Harbor. The site report states that vessel traffic entering Seal Harbor from points north of Flat Island would have at least 1,600 feet between the proposal and the 18-foot depth contour around Keller Point, which is more distance than similar depth contours between Flat and Seal Island and between Seal Island and Islesboro (SR 9).

The Islesboro Harbormaster, in a questionnaire received by DMR on April 5, 2021, stated that the proposed lease would not adversely affect navigation. DMR did not receive any other public comments regarding navigation. Mr. Kenneth Smith, a member of the Islesboro Harbor Committee, testified that the Harbor Committee has not received any complaints regarding navigation around the experimental lease site and stated no concerns about the standard lease proposal unreasonably interfering with navigation. The Department finds that based on available information and hearing testimony, the placement of the proposed project will still allow for adequate distances for navigation, in some places more than the other navigable areas between Flat, Seal and Islesboro Islands.

**Therefore**, the aquaculture activities proposed for this site will not 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 water-related uses of the area. Additionally, the Commissioner considers any evidence concerning other aquaculture uses of the area.

**Fishing.** At the time of the Department's site assessment on August 3, 2021, moderate lobster fishing with scattered lobster (*Homarus americanus*) trap buoys were observed to the west, northwest, and southwest of the proposal. The nearshore lobster fishery in Maine takes place during the summer and fall seasons due to the annual migration and molt cycle of lobsters. Fishing effort may be present in closer proximity to the site later in the season than when DMR conducted the site assessment. In summer months, some recreational fishing activity occurs in the area. No negative interactions have been reported during the three years that the experimental lease has been operated. The Islesboro Harbormaster stated on the questionnaire that approximately 12 lobster trap buoys may be affected by the proposed lease during the summer and that there would be minimal effects on recreational fishing.

**Exclusivity.** The applicant requests that lobster fishing around the rafts within the boundaries of the site be prohibited to avoid possible gear entanglement (App 19). Such a restriction is reasonable to enable the aquaculture project to be carried out while encouraging the greatest number of compatible uses of the area, as provided in 12 M.R.S.A. §6072 (7-B). A condition reflecting this restriction and requiring that lobster fishermen obtain authorization from the lease holder prior to deploying gear within the site will be included in the lease. A requirement requiring authorization from the lease holder, prior the deployment of fishing gear within the site, is intended to provide the holder and fishermen with the opportunity to discuss placement of gear.

DMR did not receive any comments regarding fishing. At the hearing on November 15, 2022, Mr. Kenneth Smith testified that the Islesboro Harbor Committee has not received any complaints regarding fishing and the experimental lease site and stated no concerns about the standard lease proposal unreasonably interfering with fishing. Based on the evidence, it is unlikely that commercial or recreational fishing will be significantly impacted by the proposed activity.

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

**Other aquaculture uses.** The nearest lease not associated with the proposal is PEN BB, located over 3.5 miles to the northwest and authorized for the suspended culture of shellfish and marine algae (SR 9). The nearest Limited Purpose Aquaculture (LPA) site is GZLO122, located 0.8 miles to the east of the proposal and authorized for the suspended culture of marine algae (Adams testimony). Access to, and navigation around, the nearby aquaculture sites would not be impacted by the proposal if the lease were to be granted.

No testimony was received by other aquaculture lease or license holders in the area to indicate they have concerns regarding the proposed activities. Based on this evidence, it appears that the proposed lease will not unreasonably interfere with other aquaculture activities in the area.

**Other water-related uses.** The application states that occasional kayaking occurs in the area during the summer months (App 18). The application also indicates that any part of the lease that is not covered by aquaculture gear may be used by recreational and commercial boaters (App 19).

DMR did not receive any comments regarding other water-related uses. The applicant reported no negative interactions with recreational users while operating the experimental lease site (App 18). No testimony was given at the hearing. Based on the record, it is reasonable to conclude that other water-related uses would not be impacted by the proposal.

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

#### **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.

**Site observations.** On August 3, 2021, DMR staff conducted two drop camera transects to assess the epibenthic ecology of the area. The observed bottom was semi-soft mud, with abundant blue mussel

(*Mytilus edulis*) rubble beneath and near the applicant’s existing shellfish rafts (SR 10). Other organisms were noted occasionally and are listed below:

Species Observed	Abundance
Benthic diatoms	Abundant in areas not beneath or otherwise near shellfish rafts
Blue mussel ( <i>Mytilus edulis</i> )	Abundant beneath and near shellfish rafts
Northern sea star ( <i>Asterias rubens</i> )	Abundant beneath and near shellfish rafts
Jonah crab ( <i>Cancer borealis</i> )	Abundant beneath and near shellfish rafts, rare otherwise
Mud burrows	Common in areas not beneath or near shellfish rafts
Solitary tunicate ( <i>Ciona intestinalis</i> )	Rare
American lobster ( <i>Homarus americanus</i> )	Rare

**Eelgrass.** According to historical data collected by DMR in 2004, the closest eelgrass bed to the proposed lease was approximately one mile to the southeast. No eelgrass was observed in the drop camera transects conducted on August 3, 2021. Moreover, the depth of the proposed lease site would likely limit light levels below what is required by eelgrass for photosynthesis (SR 13).

**Wildlife.** According to GIS data maintained by MDIFW, the intertidal areas to the northeast of the proposal, is designated Tidal Wading Bird and Waterfowl Habitat (TWWH) that is considered Significant Wildlife Habitat under Maine’s Natural Resource Protection Act. At the nearest point, the proposed lease area is approximately 3,200 feet from designated TWWH. Flat Island, located approximately 1,160 feet to the southwest of the proposed lease, is a Seabird Nesting Island owned by MDIFW (SR 13). Furthermore, on April 2, 2021, a MDIFW wildlife biologist responded by email to a “Request for Agency Review and Comment” stating that “minimal impacts to wildlife are anticipated.” (SR 14). No other comments regarding wildlife were submitted.

During the application process for their experimental lease, PEN F1x, the applicant consulted with MDIFW about the netting to exclude common eiders (*Somateria mollissima*) without causing mortality. (Exhibit 4, pg. 2). Each raft has a 40’ x 40’ net, with a 4” mesh size, that surrounds the perimeter of each raft from above the water’s surface to below the depths of the ropes. At the hearing, Shey Conover, testified that they would continue to deploy netting and would vary bird deterrent techniques at the water’s surface



to deter roosting birds (S. Conover/White). Deterrents would include a rotation of fake owls, whirligigs, bird spiders, and a hawk kite.

Based on this evidence, it appears that the proposed lease site will not interfere with the ecological functioning of the area.

**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 beach, park, docking facility, or certain conserved lands owned by the Federal Government, the State Government, or a municipal government.

There are no beaches, parks, docking facilities, or conserved lands owned by federal, state, or municipal government within 1,000 feet of the proposed lease site. The nearest conserved land, Flat Island, is 1,160 feet to the southwest of the proposal and is owned by State of Maine and designated as a State Wildlife Management Area (SR 15).

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

The applicant proposes to cultivate wild blue mussel (*Mytilus edulis*) seed that has been collected on the proposed lease site and will obtain marine algae seed from Atlantic Sea Farms. This hatchery is approved by DMR.

**Therefore**, the applicant has demonstrated that there are available sources of stock to be cultured for the lease site.

#### **G. Light**

According to the application, no lights would be used on the proposed lease site and no work would occur beyond daylight hours, except for an emergency that required immediate repair (App 14). The applicant testified that in the case of an emergency where lighting was necessary, they would use flashlights,

head lamps, or lights on the boat or barge (J. Conover/Adams). There was no testimony provided at the hearing to indicate there was concern regarding light associated with the proposed activities.

**Therefore**, the proposed aquaculture activities will not result in an unreasonable impact from light at the boundaries of the lease site.

#### **H. Noise**

According to the application, a generator would be used to power a wash-down pump and conveyors two to three days a week from the processing barge (App 14). A hydraulic power pack is used to run the resocking machine, declumper, and debysser on the processing barge year-round. A generator-powered power washer would be used 10 to 20 days a year on the crane barge to clean nets in the late spring and fall. Noise will be reduced using mufflers on boat engines and sound insulation around powered equipment (App 14). Powered equipment would only be run as needed.

There was no testimony provided at the hearing to indicate there was concern regarding noise associated with the proposed activities. Based on this evidence, it appears that any noise generated by the proposed operations is unlikely to have a significant effect at the boundaries of the lease site.

**Therefore**, the aquaculture activities proposed for this site will not result in an unreasonable impact from noise at the boundaries of the lease.

#### **I. Visual Impact**

The applicant plans to deploy mussel rafts and longlines for marine algae culture as described in Section 2B, above. During mussel harvesting, a 40' L x 20' W x 10' H processing barge will be towed to the site by a 38-foot lobster boat (App 9). Occasionally, a 55' L x 24' W x 10' H crane barge will be on site for maintenance of mussel lines (App 14 and J. Conover/Adams). A 38-foot lobster boat and 13-foot Carolina skiff will be used to deploy, maintain, and harvest kelp. Except for yellow marker buoys and white mooring and kelp longline buoys, the gear will be gray, black, or brown in color. The gear proposed by the applicant complies with DMR's height and visual impact limitations.

**Therefore**, the equipment utilized on the proposed lease site will comply with the DMR's visual impact criteria.

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

Based on the above findings, I conclude that:

- a. The aquaculture activities proposed for this site will not unreasonably interfere with the ingress and egress of any riparian owner.
- b. The aquaculture activities proposed for this site will not unreasonably interfere with navigation.

- c. The aquaculture activities proposed for this site will not unreasonably interfere with fishing or other water-related uses of the area, taking into consideration other aquaculture uses in the area.
- d. 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.
- e. The aquaculture activities proposed for this site will not unreasonably interfere with the public use or enjoyment within 1,000 feet of beaches, parks, docking facilities, or certain conserved lands owned by municipal, state, or federal governments.
- f. The applicant has demonstrated that there is an available source of blue mussel and marine algae seed to be cultured for the lease site.
- g. The aquaculture activities proposed for this site will not result in an unreasonable impact from light at the boundaries of the lease site.
- h. The aquaculture activities proposed for this site will not result in an unreasonable impact from noise at the boundaries of the lease site.
- i. The aquaculture activities proposed for this site will comply with the visual impact criteria contained in DMR Regulation 2.37(1)(A)(10).

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.

## **5. DECISION**

Based on the foregoing, the Commissioner grants the requested lease to Islesboro Marine Enterprises, Inc. for 6.17 acres for 20 years for the cultivation of blue mussels (*Mytilus edulis*), sugar kelp (*Saccharina latissima*), skinny kelp (*Saccharina angustissima*), horsetail kelp (*Laminaria digitata*), winged kelp (*Alaria esculenta*), and dulse (*Palmaria palmata*) using suspended culture techniques. Final approved coordinates for this lease are provided in Section 2A above. The lessee shall pay the State of Maine rent in the amount of \$100.00 per acre per year. The lessee shall post a bond or establish an escrow account pursuant to DMR Rule 2.40 (2)(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 (7-B).<sup>5</sup> Conditions are designed to

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<sup>5</sup> 12 MRSA §6072 (7-B) states: "The commissioner may establish conditions that govern the use of the leased area and limitations on the aquaculture activities. These conditions must encourage the greatest multiple, compatible uses of the leased area, but must also address the ability of the lease site and surrounding area to support ecologically significant flora and fauna and preserve the exclusive rights of the lessee to the extent necessary to carry out the lease purpose."

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 conditions shall be incorporated into the lease:

1. Lobster fishing within the lease boundaries is prohibited, except by authorization of the leaseholder.
2. Other public uses that are not inconsistent with the purposes of the lease are permitted within the lease boundaries.

**7. REVOCATION OF LEASE**

The Commissioner may commence revocation procedures upon determining, pursuant to 12 M.R.S.A. §6072 (11), that no substantial aquaculture has been conducted within the preceding year, that the lease activities are substantially injurious to marine organisms, or that any of the conditions of the lease or any applicable laws or regulations have been violated.

Dated: \_\_\_\_\_

1/10/2023



**Patrick C. Keliher, Commissioner  
Department of Marine Resources**