

**STATE OF MAINE
DEPARTMENT OF MARINE RESOURCES**

Mook Sea Farms Inc.

Standard Aquaculture Lease Application
Suspended Culture of Shellfish
Days Cove, Damariscotta River
Damariscotta, Maine

DAM DC

FINDINGS OF FACT, CONCLUSIONS OF LAW, AND DECISION

Mook Sea Farms Inc. applied to the Department of Marine Resources (DMR) for a twenty-year standard aquaculture lease on 3.85¹ acres located in Days Cove, Damariscotta River, Damariscotta, Maine. The proposal is for the suspended culture of American/eastern oysters (*Crassostrea virginica*), bay scallops (*Argopecten irradians*), soft-shell clams (*Mya arenaria*), and Atlantic surf clams (*Spisula solidissima*). The applicant currently operates experimental lease DAM DCx within the footprint of the standard lease proposal.

1. THE PROCEEDINGS

The pre-application meeting on this proposal was held on March 1, 2022, and a scoping session was held on May 4, 2022. DMR accepted the final application as complete on August 2, 2022. Notice of the completed application and public hearing was provided to state agencies, the Town of Damariscotta, riparian landowners within 1,000 feet of the proposed site, and subscribers to DMR's aquaculture email listserv. A Harbormaster Questionnaire was sent to the Harbormaster, requesting information about designated or traditional storm anchorages, navigation, riparian ingress and egress, fishing or other uses of the area, among other considerations. A response was received by DMR on November 15, 2022. Notice of the hearing was published in the *Lincoln County News* on October 3, 2024. The public notice for the hearing indicated that the proceeding would be conducted in-person and directed interested persons to register to provide testimony or ask questions during the proceeding. No applications for intervenor status were received by DMR. A public hearing on this application was held on November 7, 2024. One individual registered to participate in the hearing but did not testify.

Sworn testimony was given at the hearing by Steve Zimmerman, a representative for Mook Sea Farms Inc.

Additional DMR staff and members of the public attended the hearing but did not offer testimony. The hearing was recorded by DMR. The Hearing Officer was Maria Eggett. At the end of the hearing, the record was closed. However, in accordance with Chapter 2.31(6)(B), on January 24, 2025,

¹ Applicant originally requested 4.0 acres. DMR calculations indicate the area is 3.85 acres.

DMR reopened the hearing record for 30-days to get clarification concerning comments submitted by the Maine Department of Inland Fisheries and Wildlife (MDIFW). Clarification from MDIFW was necessary because the comments they submitted on March 29, 2019, as part of the review of the experimental lease, DAM DCx contradicted the comments they submitted on November 15, 2022, as part of the review of this application. However, there are no substantive differences (i.e. changes in operation, acreage, etc.) between the experimental site and the standard lease proposal. MDIFW submitted an additional comment on February 5, 2025, and the applicant was given the opportunity to review the comment and file their own response. The applicant declined to comment and the record was closed on February 6, 2025.

According to the application, a work barge would be moored near the proposed lease. At the hearing, in response to a question from DMR, the applicant stated that a work barge would be moored within the lease boundaries. In accordance with Chapter 2.31(6)(B), DMR reopened the hearing record on March 4, 2025, to request further specifications of the work barge. The applicant was given 30 days to provide the requested information to DMR. On March 14, 2025, and March 26, 2025, the applicant submitted supplemental materials about the work barge, as requested. The record was closed on April 2, 2025.

The evidentiary record before DMR regarding this lease application includes the record of testimony at the hearing. The evidence from all sources is summarized below.²

LIST OF EXHIBITS

1. Case file
2. Application
3. DMR site report, issued on May 21, 2024
4. Updated corporate application form submitted to DMR on November 7, 2024
5. Supplemental barge information, submitted March 14, 2025
6. Color photograph of the barge, submitted March 26, 2025

2. DESCRIPTION OF THE PROJECT

A. Proposed Operations

The applicant proposes to culture shellfish using suspended culture techniques (App 1, 2). The applicant proposes to use 13,200 Zapco tumblers (13-inches by 35-inches) secured with either 4,400 rebar staples (10-foot by 5-foot) or 3,520 PVC pipes (5-foot by 3-inch) with plastic cable (0.5-inch by 30-foot).

² Exhibits 1, 2, 3, and 5 are cited below as: Case file – “CF”, Application – “App”, site report – “SR”, Revised Application Sections “Rev App”.

The applicant anticipates seeding shellfish from March through October and tending the site 3-5 days per week from approximately March to January (Zimmerman testimony). At the hearing, the applicant testified that harvesting would typically occur from approximately May to October, depending on DMR regulations concerning vibrio (Zimmerman testimony). The Zapco tubes will be removed from the site from January to March and the rebar staples will be removed, bundled, and laid on the river floor from January to March (App 8).

The application states that a 15-foot wide by 43-foot long work barge will be moored near the site from April to December (Exhibit 5, page 6). In response to a question from DMR at the hearing, the applicant stated the barge would actually be kept within the lease boundaries from March to January. The applicant further clarified that the barge would contain a generator in a noise suppression shed and that the cabin on the barge depicted in the application is no longer part of the proposal (Zimmerman testimony). The barge and the associated equipment have been moored outside the boundaries of the experimental lease site and regularly used to service that site. The location of the work barge relative to the experimental lease is depicted in Figure 2.

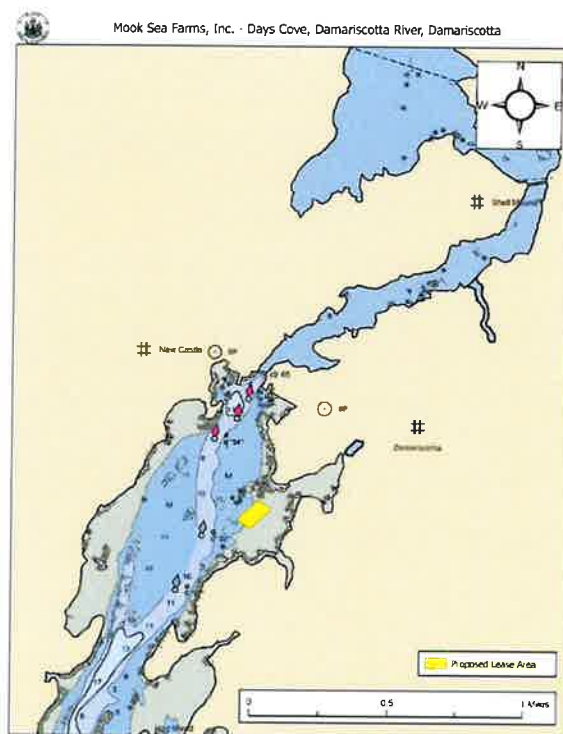


Figure 1: Proposed standard lease boundaries. Image from DMR site report.

B. Site Characteristics

On August 9, 2023, DMR scientists assessed the proposed lease site. The proposal is located in shallow subtidal waters of Days Cove. The surrounding area is both commercially and residentially

developed containing residential homes, a hospital, and a senior living facility on the eastern shoreline. Expansive mudflats, which are tidally exposed, lie to the north and east of the proposal. There is a mooring field to the northwest of the proposed lease area (SR 2).



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

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

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(7-A)(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 2.37(1)(A)(1)³.

During the site visit on August 9, 2023, DMR observed nine moorings in the vicinity of the proposed lease. Many of the moorings were located to the west of the proposal in a designated mooring field. The moorings were occupied with a variety of small power boats, sailboats, and one commercial fishing vessel. DMR did not observe any riparian docks within 1,000 feet of the proposal at the time of the site visit. One work barge was observed 160 feet to the southwest of the proposal. The work barge was associated with the applicant’s experimental lease DAM DCx (Figure 2). According to the applicant’s testimony at the hearing, if the lease is approved, the work barge would be moored within the lease site.

A Harbormaster Questionnaire was completed by the local harbormaster and submitted to DMR on February 2, 2023. The Harbormaster indicated that the proposal should not impact riparian ingress and egress, and there are no permitted moorings within the proposed lease boundaries.

The applicant currently operates experimental lease DAM DCx within the boundaries of this proposal. No comments concerning riparian ingress or egress have been received by DMR about DAM DCx.

No testimony was offered at the hearing concerning riparian ingress and egress.

Given the evidence in the record, including distances to riparian docks, riparian ingress and egress will not be adversely affected.

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(7-A)(B); Chapter 2.37(1)(A)(2)).

³ 13-188 C.M.R. ch. 2.

The proposal is located in shallow water within Days Cove. At lower tidal stages, navigation within and around the proposed lease is limited due to shallow water depths of approximately one foot at mean low water (MLW). The designated navigational channel is located approximately 400 feet west of the proposal (Figure 3). Most vessels transiting the Damariscotta River utilize the designated navigational channel. DMR did not observe any vessels operating in the vicinity of the proposal during the site assessment, but did observe a variety of vessels utilizing the designated navigational channel in the vicinity of the proposal while transiting to and from the site (SR 6).

The applicant indicated that because the proposed lease will have gear protruding from the ground and only visible at lower tidal stages, in addition to lease boundary markers, they will place a sign on the western border of the lease warning mariners of the submerged gear.⁴ DMR scientists observed this sign marking the applicant's experimental lease (DAM DCx) during the site assessment (SR 6).

The Harbormaster indicated in the questionnaire that the proposal should have no effect on navigation or storm anchorages in the area.

The applicant has operated experimental lease DAM DCx within the boundaries of this proposal for the last five years. During that time, no issues concerning navigation have been reported.

During the public hearing, no testimony or evidence was offered regarding potential impacts to navigation. Due to the water depths at the proposal's location and the distance to the navigational channel, navigation would not be adversely impacted.

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 uses, including water-related uses, of the area (12 M.R.S.A. § 6072(7-A)(C); Chapter 2.37(1)(A)(3)).

The applicant has operated experimental lease DAM DCx within the boundaries of this proposal for the last five years. During that time, no issues concerning fishing and other uses have been reported.

Fishing. During DMR's site assessment, no commercial or recreational fishing activity was observed within the boundaries of the proposed lease. The Harbormaster indicated in the questionnaire that there is no commercial fishing in the proposed lease area. There is occasional recreational fishing in the summer months (SR 7).

The application states that while it is possible that recreational fishing occurs in the area, none has been observed (App 14).

⁴ Application page 6

No testimony was given at the public hearing concerning impacts to commercial or recreational fisheries.

Other uses. The application states that kayaking is common in the area, but that the proposed lease activities will not prohibit future use of the area by kayakers (App 15). No evidence or testimony was provided at the hearing concerning other uses including water-related uses in the area.

Therefore, based on the information in the record, the aquaculture activities proposed for this site will not unreasonably interfere with fishing or other uses, including water-related 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).

The applicant currently operates experimental lease DAM DCx within the boundaries of this proposal. This standard lease proposal is intended to replace DAM DCx. There are two aquaculture leases within 1,000 feet of this proposal. DAM NP is held by Eric Peters and licensed for bottom and suspended culture. DAM JP2 is held by Glidden Point Oyster Company Inc. and licensed for bottom culture only. DAM JP3, which is 1,075 feet northeast of the proposal, is also held by Glidden Point Oyster Company Inc. and is licensed for bottom and suspended culture. There are no limited purpose aquaculture (LPA) sites within 1,000 feet of the proposed lease site (Figure 4) (SR 7).

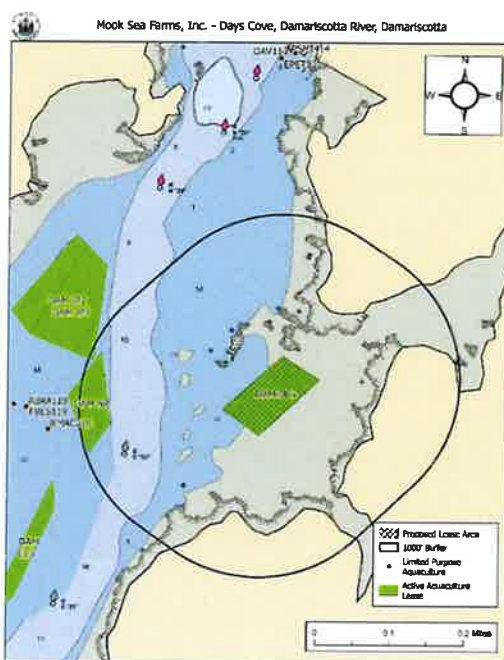


Figure 4. Aquaculture leases and LPA licenses in the vicinity of the proposed lease area. Image from DMR site report.

No evidence or testimony was provided at the hearing concerning other aquaculture uses in the area. Given the distance to existing aquaculture leases, it is unlikely the proposed lease will unreasonably interfere with other aquaculture activities in the area.

Therefore, based on the information in the record, the aquaculture activities proposed for this site will not unreasonably interfere with existing aquaculture operations in 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(7-A)(D); Chapter 2.37(1)(A)(5)).

The applicant has operated experimental lease DAMDCx within the boundaries of this proposal for the last five years. During that time, no issues concerning flora and fauna have been reported to DMR.

Site observations. DMR utilized a remotely operated vehicle (ROV) to assess the epibenthic ecology of the proposed lease (SR 8). Occasional mud shrimp (*Crangon sp.*) were observed and European green crab (*Carcinus maenas*) and hermit crab (*Pagurus sp.*) were common at the site.

Eelgrass. Records of eelgrass collected by Maine Department of Environmental Protection (MDEP) in 2023 indicate no mapped eelgrass presence in the vicinity of the proposal.⁵ The nearest mapped eelgrass is 1.5 miles upriver in the Great Salt Bay. No eelgrass was observed within the proposal boundaries during DMR's site assessment (SR 9).

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 located adjacent to, and slightly within, mapped Tidal Waterfowl and Wading Bird Habitat (TWWH). Corners 2 and 3 are located within TWWH by approximately 10-15 feet. Data collected by the United States Fish and Wildlife Service in 2022 by aerial nest survey shows the closest mapped bald eagle nesting site to be approximately 0.85 miles southwest of the proposal (Figure 6).

During the site assessment, DMR observed double crested cormorant (*Nannopterum auritum*), common tern (*Sterna hirundo*), great blue heron (*Ardea herodias*), herring gull (*Larus argentatus*), and osprey (*Pandion haliaetus*) in the vicinity of the proposed lease.

On November 15, 2022, a Wildlife Biologist with MDIFW responded by email to a "Request for Agency Review and Comment" stating that portions of the proposed lease intersect with mapped TWWH, and it is recommended that the lease be located in deeper water to not utilize the TWWH.⁶



Figure 5. Mapped bald eagle nests and Tidal Waterfowl and Wading Bird Habitat. ⁷ Image from site report.

⁵ Data obtained from The Maine Office of GIS "GISVIEW.MEDEP.Seagrass2023". Widgeon grass was observed only in a tributary to the Great Salt Bay, upstream of a culvert that likely restricts tidal flow. 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.

⁶ Email correspondence between MDIFW and DMR.

⁷ Data obtained from USFWS "Bald_Eagle_Nests_-_Maine_2023" and MDIFW maintained SDE Feature Class "GISVIEW.MEIFW.Twwh"

According to an email from MDIFW dated March 29, 2019, regarding the proposed (at the time) experimental lease DAM DCx, which had the same footprint as this proposal, the lease area was “just outside” of the TWWH⁸ and minimal impacts to wildlife resources were anticipated. To clarify the discrepancy between the comments, DMR reopened the record and requested additional information from MDIFW. In an email dated January 31, 2025, MDIFW stated “It looks like there were some mapping discrepancies which accounts for why it appeared to us that the lease site changed slightly. Regardless of the mapping, based on our understanding of the lease, we anticipate minimal impacts.” Furthermore, the applicant has operated an experimental lease within the footprint of this site for over five years. During that time, DMR has not received any complaints or concerns about the operations impacting wildlife from the public or MDIFW.

Based on the record, including the clarifying comments from MDIFW, it appears that the proposed lease activities 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.

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, docking facility, or certain conserved lands owned by the Federal Government, the State Government, or a municipal government (12 M.R.S.A. § 6072(7-A)(F); Chapter 2.37(1)(A)(7)).

The proposal is not within 1,000 feet of any beach, park, docking facility, conserved lands owned by federal, state, or municipal governments (SR 11).

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.

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(7-A)(E); Chapter 2.37(1)(A)(6)).

⁸ Email to DMR from MDIFW.

According to the application, American/eastern oysters (*Crassostrea virginica*) will be sourced from Mook Sea Farm in Walpole, Maine (App 2). Mook is currently listed as an approved hatchery source for *C. virginica*.

The applicant proposes to source bay scallops (*Argopecten irradians*), soft-shell clams (*Mya arenaria*), and Atlantic surf clams (*Spisula solidissima*) from Mook Sea Farm in Walpole, Maine (App 2), which is not currently an approved hatchery source for these species. However, there are other facilities currently listed as an approved hatchery for bay scallops (*Argopecten irradians*), soft-shell clams (*Mya arenaria*), and Atlantic surf clams (*Spisula solidissima*). In response to a question from DMR at the hearing, the applicant confirmed that all stock will be obtained from a DMR approved source (Zimmerman testimony).

Based on the application, Mook had originally intended to source shellfish stock from its facility, which is currently an approved hatchery for some, but not all species proposed. When DMR asked for clarification during the hearing, it was clear Mook intended to source all species from a facility (referenced as an approved source). To ensure that the facility complies with DMR's biosecurity and sanitation requirements, if the lease is granted, it will be conditioned so that the holder is required to obtain Atlantic surf clams, soft-shell clams, and bay scallops from a DMR approved hatchery.

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

H. Light

The Commissioner considers whether there will be an unreasonable impact from lighting in accordance with 12 M.R.S.A §6072(7-A)(G) and the regulatory standards specified in Chapter 2.37(1)(A)(8). The statute specifies that a lease must not result in an unreasonable impact from light at the boundaries of the proposed site. The applicable regulation imposes specific requirements related to lighting, including a requirement that the applicant demonstrate that all reasonable measures will be taken to mitigate light impacts associated with the lease activities.

According to the application, lights would only be used on the proposed lease site in emergency situations (App 10). Chapter 2.37(1)(A)(8) exempts the use of lights in such situations.

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

I. Noise

The Commissioner considers whether there will be an unreasonable impact from noise in accordance with 12 M.R.S.A §6072(7-A)(G) and the regulatory standards specified in Chapter 2.37(1)(A)(9). The statute specifies that a lease must not result in an unreasonable impact from noise at the boundaries of the proposed site. The applicable regulation imposes specific requirements related to noise, including a requirement that the applicant take all reasonable measures to mitigate noise impacts associated with the lease activities.

According to the application, a 28-foot skiff or other shallow draft vessels with quiet four-stroke engines will be used on the site (App 10). The application also states that because the site is accessed at low tidal stages, the water is too shallow for the propeller on the boat's motor (App 10). Therefore, the applicant intends to operate at the vessel at lower revolutions per minute (RPM) or turn off the engines, which further reduces noise from the vessels (App 10).

A small gas engine may also be used to power a post-driver (App 10). The gas engine is characterized as quiet and efficient (App 10). According to the application, the proposed lease is located near a channel, and boat traffic producing similar noise is common (App 10). In response to a question at the hearing, the applicant clarified that if the post driver was needed, it would be used one hour per day, from March to April (Zimmerman testimony).

The additional information the applicant provided about the work barge states that two oyster tumblers would be used on the barge from May to December, five days per week for up to four hours per day (Exhibit 5, page 3-4). A 6,500-watt gas generator would be used from May to December, up to five days every other week, for a maximum of four hours per day (Exhibit 5, page 2) to power the oyster tumblers and an oyster seed bagger (Exhibit 5, page 4-5). The completed application and associated supplemental materials (Exhibit 5) state that the gas generator and tumblers produce low dBA. The bagger does not produce any noise, aside from its source of power, the generator. During the hearing, the applicant testified that the generator would also be housed in a container shed that further reduces noise output (Zimmerman testimony).

The barge and associated equipment were used in the experimental lease operations. The inclusion of the barge within the lease boundaries will not alter the volume of noise generated. The applicant has selected motors that are quiet and efficient to mitigate noise impacts. The applicant would also house the generator in a noise suppression structure. In addition, the nature of the operations and characteristics of the site further limit noise. For example, the applicant will either operate vessel engines at low RPMs or turn off the engines. Based on the evidence, the applicant has taken all reasonable measures to mitigate noise.

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

J. Visual Impact

Before granting a lease, the Commissioner must determine that the proposed project will be in compliance with visual impact criteria adopted by the commissioner relating to color, height, shape and mass (12 M.R.S.A § 6072(7-A)(H)). The Commissioner has adopted such regulatory standards in Chapter 2.37(1)(A)(10).

The application stated that the color of the Zapco tubes is black, the rebar staples will be oxidized metal, and the PVC will be white or gray. The overall height, as measured from the waterline, of the work barge is approximately 11 feet. In Exhibit 6, a photograph of the barge, the highest feature is the sun shade. The supplemental materials submitted about the barge state that it will be black, with a brown non-reflective tarp for a sun shade, and that the tumblers are gray in color (Exhibit 5, page 7). In accordance with Chapter 2.37(1)(A)(10), approved gear colors are grays, blacks, browns, blues, and greens. In response to a question from DMR at the hearing, the applicant confirmed that if the project is approved, all surface gear will comply with the approved colors so anything that is currently proposed as white will either be gray, black, brown, blue, or green (Zimmerman testimony). With this change, the proposed lease is in compliance with the visual impact standards adopted by the Commissioner.

Lease sites must be marked in accordance with Chapter 2.80 of DMR's regulations, which specify that marker buoys must be yellow in color. If the lease is granted, the holder would be responsible for complying with these marking requirements.

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, the Department concludes 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 uses, including water-related uses, of the area.
- d. The aquaculture activities proposed for this site will not unreasonably interfere with other aquaculture uses of the area.
- e. The aquaculture activities proposed will not unreasonably interfere with the ability of the lease site and surrounding areas to support existing ecologically significant flora and fauna.

- f. The aquaculture activities proposed for this site will not unreasonably interfere with the public use or enjoyment within 1,000 feet of beaches, parks, docking facilities, or certain conserved lands owned by municipal, state, or federal governments.
- g. The applicant has demonstrated that there is an available source for organisms to be cultured for the lease site.
- h. The aquaculture activities proposed for this site will not result in an unreasonable impact from light at the boundaries of the lease site.
- i. The aquaculture activities proposed for this site will not result in an unreasonable impact from noise at the boundaries of the lease site.
- j. 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 a lease to Mook Sea Farm Inc. for 3.85 acres for twenty years for the cultivation of American/eastern oysters (*Crassostrea virginica*), bay scallops (*Argopecten irradians*), soft-shell clams (*Mya arenaria*), and Atlantic surf clams (*Spisula solidissima*) using suspended culture techniques. 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).⁹ 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 shall be imposed on this lease:


- 1. The applicant is required to obtain bay scallops (*Argopecten irradians*), soft-shell clams (*Mya arenaria*), and Atlantic surf clams (*Spisula solidissima*) from a DMR approved hatchery.

⁹ 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."

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 over the course of the lease, that the lease activities are substantially injurious to marine organisms or public health, or that any of the conditions of the lease or any applicable laws or regulations have been violated.

Dated: _____

5.2.25

Carl J. Wilson, Commissioner
Department of Marine Resources

STATE OF MAINE
DEPARTMENT OF MARINE RESOURCES

Experimental Aquaculture Lease Application
Suspended Culture of Shellfish
Damariscotta River, Day's Cove

Mook Sea Farms Inc.
DAM DCx

August 27, 2019

FINDINGS OF FACT, CONCLUSIONS OF LAW, AND DECISION

Mook Sea Farms Inc. applied to the Department of Marine Resources ("DMR") for a three-year experimental aquaculture lease located in Day's Cove, Damariscotta, Lincoln County. The proposed lease is 3.85¹ acres in size and is for the suspended cultivation of American/eastern oysters (*Crassostrea virginica*), bay scallops (*Argopecten irradians*), and surf clams (*Spisula solidissima*)². DMR accepted the application as complete on February 14, 2019. No requests for a public hearing were received during the comment period, and no hearing was held.

1. THE PROCEEDINGS

Notice of the application and the 30-day public comment period were provided to state and federal agencies, riparian landowners, the Town of Damariscotta and its Harbormaster, and others on DMR's mailing list. Notice of the application and comment period was published in the March 14, 2019 edition of the *Lincoln County News*. The evidentiary record regarding this lease application includes the application, DMR's site report dated June 12, 2019, and the case file. The evidence from each of these sources is summarized below.³

2. DESCRIPTION OF THE PROJECT

A. Proposed Operations

The purpose of the proposed lease site is to explore the feasibility of cultivating shellfish using a novel type of suspended gear (App 4). The applicant intends to deploy plastic mesh tubes (referred to in the application as "Zapco tubes"), A total of 13,464 Zapco tubes are proposed to be deployed on the lease site. (App 6). The tubes would be hung from a line supported by posts, and have flotation built into the ends, which would allow the bags to flip with the changing tides (App 4). Tubes would be in use during ice free months (March-January), seeded in the spring, and harvested in the middle of summer or early fall. The gear would be removed by the end of December, except for stake footers, if used (App 4). Stake footers are

¹ Applicant originally requested 4 acres. DMR calculations, based on the coordinates provided, indicate the proposed site is 3.85 acres.

² Applicant and the Site Report originally referenced *Spisula solida* but follow up communication with the applicant (via e-mail on July 29, 2019) clarified that the surf clam species to be cultivated is in fact, *Spisula solidissima*.

³ These sources are cited, with page references, as CF (case file), App (application), SR (site report).

wider sleeves that are sunk into the mud in which posts could be placed. Shellfish from the site would be overwintered at one of the applicant's other lease sites (App 5).⁴

The proposed lease site is in a water quality area classified as "Conditionally Restricted" by DMR's Bureau of Public Health (App 1)⁵. Due to the proposal being sited in a conditionally restricted area, there is a requirement to relay product to an area classified as "open/approved" for a predetermined period prior to harvest. The Aquaculture Division, after consultation with the Bureau of Public Health⁶, informed the applicant that if the proposal is granted they would be subject to one of the two options listed below:

1. Complete a contamination reduction study, at the applicant's expense and according to DMR specifications, and the receiving site will be closed for harvest for a minimum of 14 days; or
2. Do not complete a contamination reduction study and the receiving site will be closed for harvest for 60 days.

The applicant indicated that they would prefer option one⁷. Given this, a contamination reduction study will need to be completed, and the receiving site will be closed for harvest for a minimum of 14 days. If the proposal is granted, a condition reflecting this restriction will be placed on the lease.

B. Site Characteristics

On April 18, 2019, DMR scientists visited the proposed lease site and assessed it and the surrounding area in consideration of the criteria for granting an experimental aquaculture lease. The proposed site occupies shallow subtidal waters in Day's Cove, Damariscotta River (SR 2). Tidally exposed mudflats lie between the proposed lease site and the uplands to the north, east and south. At extreme tides of less than 0.0 feet, portions of the proposed lease are expected to be devoid of water (SR 7). Navigable waters of the Damariscotta River lie to the west (SR 2).

⁴ The applicant intends to overwinter product on their other active lease sites DAM PP and DAM EL3.

⁵ When the Applicant applied, the proposed site was in a water quality area classified as "prohibited", it has since been reclassified as "conditionally restricted" by DMR's Bureau of Public Health

⁶ CF: Email to A. Ellis, B. Lewis, and E. Wilkinson from K. Kanwit dated July 31, 2019

⁷ CF: Email to E. Wilkinson from B. Mook dated August 6, 2019

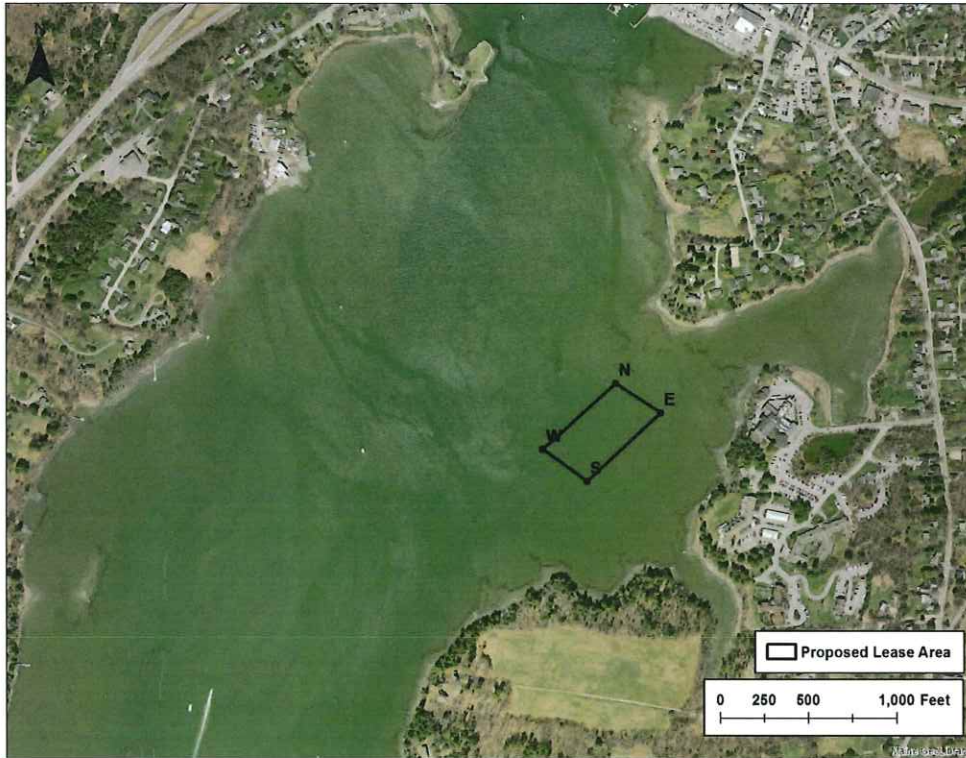


Image 1: Location of the proposed lease site within Day's Cove

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 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 applicant has demonstrated that there is an available source of organisms to be cultured on the lease site.

A. Riparian Access

During the site visit, DMR staff observed many houses and commercial properties along the adjacent shoreline to the north and east of the proposed lease site (SR 8). While homes were present along the southern shoreline, it is less densely populated. The western shoreline of the Damariscotta River is also densely populated by commercial and residential properties, including a boatyard (SR 8). During the site visit, DMR staff did not observe any docks with which the proposed lease might interfere (SR 8). Kayaks were observed on the property on the point to the northeast. Because of the restrictive water depths and a lack of docks, hand-carry watercraft are likely a more common means of access to surrounding properties

(SR 8). The Harbormaster Questionnaire indicates that the proposed lease site will not interfere with the ability of riparian landowners to access their property.⁸

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

B. Navigation

At low tidal stages water depths in Day's cove are less than 1 foot, and navigation is limited. Vessels transiting the upper Damariscotta River during low tide stages use the marked navigation channel located over 400 feet to the west of the proposed lease site (SR 9). At higher tidal stages, water depths are conducive to navigation closer to the lease site. There are approximately 425-450' between the eastern shoreline (Mean High Water) of the Damariscotta River and the proposed lease site (SR 9). The applicant plans to leave 9-foot-wide corridors between lines of floating gear. These channels would be large enough for small hand and power watercraft (kayaks, canoes, skiffs) to navigate through the area, providing they are comfortable travelling between lines of posts and floating gear (SR 9).

Should the lease be granted, the available area for tacking small sailboats between the eastern shore and existing aquaculture operations along the west side of the river will be reduced by approximately 790 feet, at the narrowest. Vessels under sail will not be able to safely travel through the 9-foot- wide navigation corridors proposed by the applicant (SR 9). The Harbormaster Questionnaire noted that given the proximity of existing aquaculture operations in the area, small boat sailing will become difficult depending on wind direction. Should this lease be granted, it will pose a new challenge for small boat sailors trying to tack across the upper bay of the Damariscotta River. In addition, with the location of a boatyard opposite the proposed lease area, boat access via motor and sail is imperative. The Harbormaster Questionnaire expressed concern that an additional aquaculture lease crowding the remaining navigable waters in the area would complicate the business of the boatyard.⁹ However, at this time, one of the two closest existing aquaculture leases (DAM JP2) to the proposed site is approved only for bottom culture (SR 10)¹⁰. Should this application for a lease in Day's Cove be approved, it is not likely to interfere with access to the boat yard, given its location across the river from the boatyard.

The applicant noted that there is frequent use of the channel during the summer months, but that since their proposed lease site is on a shallow mudflat it is not inside any boat moorings or constant boat activity (App 9). The site report notes that access to the marked navigation channel will remain unobstructed (SR 13). While navigation for some vessels under sail may be challenging, the location of this lease site does not preclude it, and navigable waters remain in the marked channel. During the review period, DMR did not receive any other comments concerning navigation. Based on the absence of public comments, the fact that the lease is located on the opposite side of the river from the boatyard and because

⁸ CF: Harbormaster Questionnaire signed April 2, 2019

⁹ CF: Harbormaster Questionnaire signed April 2, 2019

¹⁰ DAM JP2 does have an application in for consideration of suspended gear, it has not yet been approved.

the marked navigation channel will remain unobstructed, it is reasonable to conclude that navigation in the area will not be unduly affected by the proposed lease application.

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

C. Fishing & Other Uses

Fishing. At the time of the site assessment, no commercial or recreational fishing activities were observed within the boundaries of the proposed site (SR 9). DMR recognizes that commercial and recreational fishing are more prevalent during the summer months. Due to the timing of the site visit, it is likely that other activities occur near the proposed lease that were not witnessed during the site visit (SR 9). Recreational hook and line fishing is common in the Damariscotta River (SR 9). During the review period, DMR did not receive any feedback regarding commercial or recreational fishing. Given the absence of public comments expressing concerns regarding interference with fishing, it is reasonable to conclude that there are no concerns about the effects the proposed site may have on commercial or recreational fishing. It appears from this evidence that the proposed lease is unlikely to unreasonably affect commercial and recreational fishing activities in the area.

Exclusivity. The applicant requests that any recreational or commercial shell fishing be prohibited from the lease site (App 9). Conditions reflecting these restrictions will be included in the lease. Such a restriction is reasonable to enable the project to be carried out while also encouraging the greatest number of compatible uses of area, as provided in 12 MRSA §6072-A(15).

Other aquaculture uses. There are seven Limited Purpose Aquaculture (LPA) licenses and nine leases located within one mile of the proposed lease site (SR 9). The nearest active aquaculture site is DAM NP, which is located 790 feet to the west and approved for suspended culture of American oysters. Two leases¹¹, and three LPAs¹² are also located opposite the proposed lease, along the western edge of the navigation channel. Except for lease DAM JP2, each of these leases and licenses is approved for the use of floating gear to culture American oysters. Due to this distance, and the absence of public comments concerning the impact of the proposal on existing aquaculture operations, it is unlikely that the activities proposed by the applicant will negatively impact existing aquaculture leases and licenses in the area. Based on this evidence, it appears that the proposed lease will not unreasonably interfere with other aquaculture uses in the area.

Other water-related uses. During the review period, the Department did not receive any comments detailing other uses of the area not already contemplated in other sections of this decision. Based on the absence of public comments, it is reasonable to conclude that there are no concerns regarding the effects the proposed lease may have on other water-related uses of the area.

¹¹ DAM JP and DAM JP2

¹² CPRE118, RMAC218, and YOST118

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

D. Flora & Fauna

During the site visit on April 18, 2019 DMR staff observed herring gulls (*Larus argentatus*), buffleheads (*Bucephala albeola*), and cormorants (*Phalacrocorax auratus*) near the proposed lease site. According to data maintained by the Maine Department of Inland Fisheries and Wildlife (MDIFW), the proposed site abuts, but is not within an area designated as Tidal Wading Bird and Waterfowl Habitat (SR 11). DMR sent a copy of the application to MDIFW for their review and comment. MDIFW indicated that “minimal impacts are anticipated.”¹³

Data collected by DMR, in 1997 and 2019, indicate that the nearest eelgrass bed was located more than 2,300 feet to the northeast of the proposed site (SR 12). The proposed lease, if granted, will not result in physical disturbance to this existing eelgrass bed (SR 12).

According to DMR, a population of horseshoe crabs (*Limulus Polyphemus*) exists throughout Day’s Cove.¹⁴ Breeding horseshoe crabs have been documented and monitored by DMR and the Damariscotta River Association for several years. These crabs seem to be present from mid-May to late June, and routinely move in and out of the cove with the tide (SR 12). The applicant did not note the presence of horseshoe crabs on their application, but potential conflict could be minimized by positioning oyster flip bags so that they always remain suspended above the mud (SR 12). DMR will condition the lease, so that between May 1 and July 1, except for posts, all gear must remain off the bottom to allow horseshoe crabs to freely move in and out of Day’s Cove.

Based on the evidence, and given the condition described above, it appears that the proposed aquaculture activities will not unreasonably 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

Per the site report, “there are no beaches, parks, or docking facilities owned by federal, state, or municipal government within 1,000 feet of the proposed lease site” (SR 13).

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 municipal, state, or federal governments.

F. Source of Organisms

The applicant intends to source American oysters, bay Scallops, and surf clams from Mook Sea Farms, Walpole, Maine, which is a DMR approved source of stock (SF 13).

¹³ CF: Email from R. Settele (MDIFW) to C. Burke dated March 29, 2019.

¹⁴ CF: Email from P. Thayer dated June 7, 2019

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, I conclude 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. The aquaculture activities proposed for this site will not unreasonably interfere with fishing or other uses of the area, taking into consideration the number and density of aquaculture leases in the area.
4. Given the conditions related to gear deployment, 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 3.85 acres to Mook Sea Farms Inc. 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 lessee¹⁵; 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 culture of American/eastern oysters (*Crassostrea virginica*), bay Scallops (*Argopecten irradians*), and surf clams (*Spisula solidissima*). 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 sq. ft. 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) (B) 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.

¹⁵ 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.”

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 MRSA §6072-A (15)¹⁶. 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 conditions shall be incorporated into the lease:

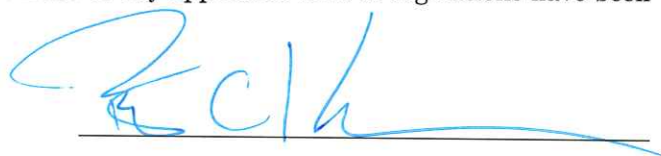
1. The lease site must be marked in accordance with both U.S. Coast Guard requirements and DMR Rule 2.80.
2. Between May 1 and July 1, except for posts, all gear must remain off the bottom to allow horseshoe crabs to freely move in and out of Day's Cove.
3. Unless permission is granted by the leaseholder, recreational or commercial shellfish harvesting is prohibited within the boundaries of the lease site.
4. All product must be relayed to an aquaculture site in an area classified as "open/approved". A contamination reduction study must be completed, at the applicant's expense, according to DMR specifications, and the receiving site will be closed for harvest for a minimum of 14 days.

7. REVOCATION OF EXPERIMENTAL LEASE

The Commissioner may commence revocation procedures upon determining pursuant to 12 MRSA §6072-A (22) and DMR Rule Chapter 2.64 (13) 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: _____

Aug 27, 2019



Patrick C. Keliher, Commissioner
Department of Marine Resources

¹⁶ 12 MRSA §6072-A (15) provides that:

"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. The commissioner may grant the lease on a conditional basis until the lessee has acquired all the necessary federal, state and local permits."