

STATE OF MAINE
DEPARTMENT OF MARINE RESOURCES
Experimental Aquaculture Lease Application
Suspended culture of American Oysters, Damariscotta River

Mook Sea Farm, Inc.
Lease DAM PIN
Docket #2014-08E
November 5, 2014

FINDINGS OF FACT, CONCLUSIONS OF LAW, AND DECISION

Mook Sea Farm, Inc. applied to the Department of Marine Resources (“DMR”) for a three-year experimental aquaculture lease on 0.80 acres located in the coastal waters of the State of Maine, northwest of Peters Island in the Damariscotta River, South Bristol, Lincoln County, for the purpose of cultivating American oysters (*Crassostrea virginica*), using suspended culture techniques. DMR accepted the application as complete on July 10, 2014. No public hearing was held on this application.

1. THE PROCEEDINGS

Notice of the application, the DMR site report, and the 30-day public comment period were provided to state and federal agencies which were requested to review the project, as well as to riparian landowners, the Town of South Bristol and its Harbormaster, members of the Legislature, representatives of the press, aquaculture and environmental organizations, and others on the Department’s mailing list. Notice of the application and comment period was published in the *Lincoln County News* on July 31, 2014. No comments or requests for hearing were received by the Department.

The evidentiary record before the Department regarding this lease application includes the application and the Department’s site report dated October 20, 2014, as well as the case file. The evidence from all of these sources is summarized below.¹

2. DESCRIPTION OF THE PROJECT

Proposed Operations

According to the application, the proposed lease site will be used for commercial research, consisting of “testing the suitability of the area around Peters Island for winter holding of market oysters.” Developing ice-free winter holding sites will enable the applicant to market oysters year-round, providing the business with a “market advantage” (App 2).

Mook Sea Farm has an experimental lease for similar purposes south of Peters Island (lease DAM PI). The company selected the proposed site for further study after experiencing icing at the DAM PI site in the winter of 2013-14 (App 2-3). The two sites will be compared and evaluated with regard to risk of damage from ice, survival and meat quality of overwintered oysters, and use of floating oyster cages for

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

overwintering oysters at the water's surface (App 2-3). The lower Damariscotta River is considered less likely to experience icing in winter than the upper river, where the applicant's primary lease sites, DAM EL3 and DAM PP2, are located.

Mook Sea Farm expects to hold 350,000–400,000 market-size oysters at the proposed lease site. Beginning in late October or November, the oysters will be brought from the company's upriver lease sites and placed in plastic mesh bags in 360 floating oyster cages deployed in eight parallel rows (App 8-9).

Company staff will travel to the site by boat once or twice each week to remove batches of oysters and transport them off-site for packing and shipping. Oysters will be stocked at the ice-free site from October through December and removed from January through March. In April, the cages will be removed and the mooring system sunk to the bottom. From May to October, only the lease marking buoys will be visible on the site (App 2-3).

Site Characteristics

The proposed lease site is 0.80 acres in size and is located on the eastern side of the lower Damariscotta River, off the northwest shore of Peters Island. The surrounding waters are currently classified by the Department of Marine Resources Water Quality Classification program as "open/approved for the harvest of shellfish" (SR 7).

DMR biologists visited the proposed lease site on September 24, 2014, and assessed the site in light of the criteria for granting an experimental aquaculture lease. The DMR site report describes the site as follows:

The proposed lease occupies shallow subtidal waters between the northern end of Peters Island and the mainland. Upland characteristics consist of exposed ledge leading to mixed forest. The nearest development observed was a residential property located to the east of Peter's Island and north of the applicant's existing lease "DAM PI" (Figures 2& 3). At lower tidal stages, extensive mud flats are located to the northeast of the proposed lease area (SR 2).

As shown in the following illustration from the DMR site report, the northwest corner of the proposed lease site is approximately 230 feet from the nearest mainland shore at mean low water, 100 feet from the navigational channel to the west, and 2,660 feet from the western shore of the river. The northeast corner is approximately 80 feet from the nearest mainland at mean low water (SR 3). The southern boundary is just off the northwest shore of Peters Island.

Water depths are shallower at the northeast end of the proposed lease site, deepening toward the northwest end (App 3, SR 3). Depths are greatest at the northwest corner (29 feet at MLW, 39 feet at MHW), decreasing to the southwest corner and along the eastern boundary (1 foot at MLW, 11 feet at MHW) (SR 3). The site report notes:

The cages proposed by the applicant measure 1.67' in height. Within the shallower, eastern portion of the proposed lease the cages would presumably sit on, or close to, the bottom sediments at MLW (o.o') and any minus tides (SR 3).



DMR Site Report, Figure 3: Map created in ArcMap version 10.1 using geo-referenced aerial photographs taken at low water in 2013 and provided by the Maine Office of GIS.

The application characterizes the environmental aspects of the site as follows:

The bottom is soft mud and mud with shell hash and there are no eelgrass beds. ... Current speeds are low (<1 knot) with flooding tides moving to the northeast into the cove to the northeast of Peter's Island, and ebb tide moving in the opposite direction. (App 3-4)

The application states that the project will have little environmental impact, since only mooring gear will be placed on the bottom. "Because of the low water temperatures during the time of use, there will be little feeding or feces production by the oysters held on site" (App 4).

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 uses of the area, taking into consideration the number and density of aquaculture leases in an 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 for the lease site.

A. Riparian Access

The DMR site report describes the lack of shoreline development in the vicinity of the proposed lease site:

At the time of DMR's site assessment, no houses, docks or moorings were observed within the immediate vicinity of the proposed lease site. The nearest documented dock is located more than 860 feet to the southeast (straight-line distance), in the channel between the eastern side of Peter's Island and the mainland (Figure 3). The deeper channel around the southern end of Peter's Island would provide the primary access to this property, especially at lower tidal stages (SR 5-6).

The site report also notes that some restriction of access to the northwest shore of Peters Island will occur when gear is deployed on the site:

The proposed lease site will, if granted, limit water-borne access to a small area of Peter's Island. Due to the sharp increase in water depth from the mainland shore, small vessels will maintain the ability to navigate around the northern edge of the proposed lease. (SR 6)

The evidence shows that the lease activities will be conducted solely in the water, with access by boat. No riparian land will be used for access to the proposed lease site. Use of the lease site will be from October to April and will not occur in the vicinity of the dock on the other side of Peters Island. Although the gear will limit access to a small portion of the northwestern Peters Island shore, the island is uninhabited, and the remainder of the island's shoreline is unobstructed. No surface gear will be deployed on the site from April to October, the more active season for recreational boating. Thus, while the potential for interference with access to the northwest corner of the island exists, it appears from this evidence to be minimal.

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

B. Navigation

The Department's site report assesses the potential impact of the lease on navigation in several respects (SR 6). The main channel of the Damariscotta River is more than 100 feet west of the proposed lease site, so vessels traveling in the channel will not be affected by the gear when it is deployed on the lease site. To the west of the site, the river is over 2,600 feet wide, allowing ample room for navigation.

Although the presence of the aquaculture gear from October to April will limit access by water to a small part of the northwestern shore of Peters Island south of the proposed lease site, there is at least 80 feet of navigable water between the northern boundary of the site and the mainland shore to the north, sufficient space for small power boats, kayaks, canoes, and similar vessels to navigate between the mainland and the north end of Peters Island (SR 6). Given the shallow water to the northeast of the site, these are the types of vessels most likely to navigate in this area. The site report notes:

Access to the inner coves and tidal flats will be limited more by tidal stage and the resulting water depths than the presence of the aquaculture gear, as described.

Furthermore, navigation through this area during the months of October through April should be greatly reduced from what is expected during the summer months (SR 6).

It appears from this evidence that any potential restriction on navigation in the area will be limited to the colder six months of the year when vessel traffic is limited and will affect only a small area of Peters Island. Navigation will not be unduly affected by the presence of the gear on the proposed lease site. Aquaculture lease sites are required to be marked for navigation purposes in accordance with U. S. Coast Guard requirements.

Therefore, I find that the aquaculture activities proposed for this site will not unreasonably interfere with navigation. The lease site must be marked in accordance with U.S. Coast Guard requirements.

C. Fishing & Other Uses

The application states:

There is no evidence of any commercial or recreational use of the lease area from October through April. There undoubtedly is clamming that occurs in the coves and shores around the proposed site, and lobstering occurs to the northwest, west, and southwest of Peters Island. These activities are minimal during the time the site will be used (October through April) (App 3).

At the time of the DMR site visit on September 24, 2014, no fishing activity was observed within the proposed lease boundaries. One lobster buoy was located outside the northern boundary (SR 6). The report states:

The Department recognizes that commercial and recreational fishing is seasonally dependent. During summer months some lobster traps are likely set in these shallow waters. Recreational hook and line fishing for striped bass (*Morone saxatilis*) and, to a

lesser extent, mackerel (*Scomber scombrus*) is also expected to occur in the area. During the months when the proposed activities are to take place (October through mid-April), however, limited interference with trap and hook and line fishing would be expected (SR 6).

The site report notes that the South Bristol Harbormaster reported occasional clam harvesting in the intertidal flats around Peters Island; as the report observes, small power boats normally used by clam harvesters are unlikely to be impeded by the gear on the proposed lease site. Access to the flats from south and east of Peters Island will be unaffected, and adequate navigable waters will remain open to the north of the proposed lease site to reach the flats (SR 6). As noted above, ample space remains in the main part of the river to the west of the site to accommodate fishing. It appears from this evidence that the proposed lease site is unlikely to affect fishing in the area.

Exclusivity. According to the application, Mook Sea Farm requests the following restriction on the use of the proposed lease site by others:

The only uses which would be excluded from the site would be placement of moorings and other uses requiring placement of gear that might interfere with the mooring or the cages. Navigation in and around the site or "line and hook" fishing, even when cages are present, would not be excluded (App 3).

These restrictions are reasonable in order to enable the aquaculture project to be carried out while encouraging the greatest number of compatible uses of the area, as provided in 12 MRS §6072-A (15). Conditions reflecting these restrictions will be included in the lease, as follows:

Moorings, anchoring, lobstering, dragging, or other disturbances of the bottom are prohibited within the lease boundaries except by permission of the leaseholder. Navigation and recreational hook-and-line fishing are permitted within the lease boundaries.

Other aquaculture leases. Three other aquaculture leases and two limited-purpose aquaculture (LPA) licenses exist in the vicinity of the proposed lease. The two LPA licenses (SHAW-1-14, SHAW-2-14) are approximately 218 feet west of the proposed lease site.² Mook Sea Farm's existing lease, DAM PI, is approximately 880 feet southeast of the proposed lease site. Lease DAM CC2 and lease DAM LW2 are 1.2 and 1.6 miles north, respectively. The site report states:

Due to both distance and the season in which the proposed operations are to occur, the proposed activities would have no ecological effects on existing aquaculture operations in the area (SR 7).

² CF, E-mail message, Jon Lewis to Diantha Robinson, 6-25-14.

Based on this evidence, it appears that, with the conditions listed above, the proposed lease will not unreasonably interfere with fishing or other uses of the area, including aquaculture. The lease must be marked in accordance with DMR Rule 2.80³

Therefore, considering the number and density of aquaculture leases in the area, I find that the aquaculture activities proposed for this site will not unreasonably interfere with fishing or other uses of the area. Navigation and recreational hook-and-line fishing will be permitted, but moorings, anchoring, lobstering, dragging, or other disturbance of the bottom will be prohibited within the lease boundaries except by permission of the leaseholder.

D. Flora & Fauna

The application characterizes the marine life on and around the proposed lease site as follows:

Macroalgae are primarily rockweeds attached to the ledges surrounding the cove. Infaunal species include the usual invertebrates: Polychaete worms, soft shell clams, razor clams, etc. Epifauna include rock crabs, green crabs, mussels, etc. (App 3-4)

DMR scientists visited the site but, as is usual in the case of experimental lease applications, they did not dive or collect underwater video. The site report notes, however, that

Because the oysters would be floated at the surface and contained in bags and cages, no interference with the bottom dwelling marine organisms would be anticipated. (SR7)

No eelgrass was observed in the vicinity of the proposed lease and records of eelgrass distribution at DMR do not indicate any historical presence in the area. (SR7)

The Maine Department of Inland Fisheries and Wildlife advised DMR that “There are no Essential or Significant Wildlife Habitats associated with the proposed lease site” (SR 7).

³**2.80 Marking Procedures for Aquaculture Leases**

1. When required by the Commissioner in the lease, aquaculture leases shall be marked with a floating device, such as a buoy, which displays the lease identifier assigned by the Department and the words SEA FARM in letters of at least 2 inches in height in colors contrasting to the background color of the device. The marked floating device shall be readily distinguishable from interior buoys and aquaculture gear.
2. The marked floating devices shall be displayed at each corner of the lease area that is occupied or at the outermost corners. In cases where the boundary line exceeds 100 yards, additional devices shall be displayed so as to clearly show the boundary line of the lease. In situations where the topography or distance of the lease boundary interrupts the line of sight from one marker to the next, additional marked floating devices shall be displayed so as to maintain a continuous line of sight.
3. When such marking requirements are unnecessary or impractical in certain lease locations, such as upwellers located within marina slips, the Commissioner may set forth alternative marking requirements in an individual lease.
4. Lease sites must be marked in accordance with the United State's Coast Guard's Aids to Private Navigation standards and requirements.

Based on this evidence, it appears that the activities proposed for this lease site will not interfere with the plants and animals existing on and around the site.

Therefore, I find that 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

According to the site report, there are no public docking facilities or beaches within 1,000 feet of the proposed lease (SR 7). All land within 1,000 feet of the site is privately owned (App 7).

Therefore, I find that 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.

F. Source of Organisms

According to the application, stock for this proposed lease site will consist of market-ready American oysters cultured on and taken from Mook Sea Farm's upriver leases, DAM PP2 and DAM EL3 (App 1).

Movement of American oysters from the Damariscotta and Johns Rivers is restricted by DMR Rule, Chapter 24, in order to limit the spread of certain oyster diseases. Oysters from those waters cannot be moved to any Maine coastal waters south of a line between Ocean Point, Boothbay and Pemaquid Point, Bristol, without obtaining a transfer permit from DMR. Oysters can legally be moved without a transfer permit from Mook Sea Farm's lease sites in the upper Damariscotta River to the proposed lease site in the lower river.

Therefore, I find that the applicant has demonstrated that there is an available source of American oysters (*Crassostrea virginica*) 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. The lease site must be marked in accordance with U. S. Coast Guard requirements.

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. The lease boundaries must be marked in accordance with the requirements of DMR Rule 2.80. Moorings,

anchoring, lobstering, dragging, or other disturbances of the bottom are prohibited within the lease boundaries except by permission of the leaseholder. Navigation and recreational hook-and-line fishing are permitted within the lease boundaries.

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 American oysters (*Crassostrea virginica*) 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 0.80 acres to Mook Sea Farm, 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 applicant⁴; however, no aquaculture rights shall accrue in the lease area until the lease is fully executed.

This lease is granted to the applicant for the purpose of cultivating American oysters (*Crassostrea virginica*) using suspended culture techniques. The applicant 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 applicant shall post a bond or establish an escrow account pursuant to DMR Rule 2.64 (10) (D) in the amount of \$5,000.00, conditioned upon its 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 MRSA §6072-A (15)⁵. Conditions are designed to

⁴ 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.”

⁵ 12 MRSA §6072-A (15) provides that:

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 will be incorporated in the lease:

1. The lease site must be marked in accordance with both U.S. Coast Guard requirements and DMR Rule 2.80.
2. Moorings, anchoring, lobstering, dragging, or other disturbances of the bottom are prohibited within the lease boundaries except by permission of the leaseholder.
3. Navigation and recreational hook-and-line fishing are permitted within the lease boundaries.

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: 11-5-14



Meredith Mendelson
Deputy Commissioner
Department of Marine Resources

“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.”