

**STATE OF MAINE**  
**DEPARTMENT OF MARINE RESOURCES**  
Experimental Aquaculture Lease Application  
Bottom & suspended culture of shellfish  
South of Blackstone Point, Damariscotta River

**Damariscotta River Association**  
**Lease DAM BP**  
Docket # 2011-18E  
February 8, 2012

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

The Damariscotta River Association applied to the Department of Marine Resources (“DMR”) for a three-year experimental aquaculture lease on 0.06 acres (2,500 sq. ft.) located in the coastal waters of the State of Maine, on the east side of the Damariscotta River south of Blackstone Point in the Town of Damariscotta in Lincoln County, for the purpose of cultivating American oysters (*Crassostrea virginica*), soft clams (*Mya arenaria*), and northern/hard clams or quahogs (*Mercenaria mercenaria*), using bottom and suspended culture techniques. DMR accepted the application as complete on July 20, 2011. The Department advertised a 30-day public comment period, but no comments or requests for hearing were received. No hearing was held on this application.

### **1. THE PROCEEDINGS**

Notices of the application, comment period, and DMR site report were sent to numerous state and federal agencies for their review, as well as to various educational institutions, aquaculture and environmental organizations, the Town of Damariscotta and the Damariscotta Harbormaster, members of the Legislature, representatives of the press, riparian landowners, and other private individuals. Notice of the public comment period was published in the *Lincoln County News* on August 11, 2011.

The evidentiary record before the Department regarding this lease application includes the application, site report, and other materials contained in the Departments file on this application. The evidence from all of these sources is summarized below.<sup>1</sup>

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

The Damariscotta River Association plans to use the proposed lease site as a location to conduct an educational program that “uses aquaculture to teach students about such issues as water quality, estuarine ecology, resource use and management, shellfish biology and husbandry” (App 4). Students will grow oysters and possibly soft and hard clams for their own consumption. According to the application,

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<sup>1</sup> These sources are cited below as: Case file – “CF”; Application – “App”; site report – “SR”.

DRA and Maine Sea Grant are working together, in an attempt to transfer the OG [Oyster Garden] program into DRA programming, and the change in location for field activities is part of that work. Ideally, if the DRA finds the OG program to be a successful effort, it will be a model for other watershed or conservation/education groups around the state to learn from (App4).

Given this description of the aquaculture activities planned for this site, it is apparent that this experiment is not commercial in nature but rather more akin to a scientific research project, as the project is intended for educational and scientific purposes and shellfish grown at the site will not be sold. Therefore, the Department will consider this lease to be an experimental lease for scientific purposes, which can be renewed, without fee, at three-year intervals, provided it meets the legal standards for renewal contained in DMR Rule 2.64 (12.)

### **Proposed Operations**

The proposed lease site will be used for teaching and demonstration of shellfish aquaculture. American or Eastern oysters will be grown in mesh bags placed on “oyster tables” or “oyster trestles”, which are frames constructed of rebar, wood, or wood and rope on cinder-block supports. The trestles measure approximately 5 ft. by 6 ft. and are approximately 6 to 12 inches high. The bags are clipped with wire to bridles of nylon line that are fastened to the trestles. The trestles will be placed in different locations on the site to test the growth of oysters under different conditions.

Alternatively, some oyster bags may be deployed floating on the surface of the water and secured to cinder block moorings.

A maximum of 15 trestles are proposed for the site, holding up to 4 bags each, for a total of 60 bags. Oysters will be harvested simply by removing them from the bags. Oysters will be wintered over either in pits on the upland shore (which is owned by the applicant) or at the Darling Marine Center in Walpole.

Clams, both soft clams and quahogs, will be free-planted on the bottom in 3-ft. square plots covered with ¼” plastic mesh screening held up by small floats. Clams will be harvested with clam rakes or by hand picking.

According to the application, the focus of the project will be oyster culture. Each student will have 500 to 600 15-mm oyster seed to grow. If clam species are used, students will receive similar amounts of seed. The applicant expects about 12 students to participate in the program (App 4).

### **Site Characteristics**

Department biologists visited the proposed site and conducted a SCUBA dive there on October 28, 2011. The site report notes:

Before visiting the lease site, DMR staff verified the location of the coordinates provided in the application. Due to the very small size of the proposed lease site, the coordinates provided in the application did not accurately describe the desired 50' by 50' square located fifteen feet from shore. Working with the applicant, DMR staff derived coordinates that accurately describe the desired dimensions and location. They are listed above [i.e., in the site report] and describe an area of 0.06 acres.

The coordinates developed by Department staff will be used in the lease.

The map in the application and the aerial photograph in the site report show the site as a very small square tucked up close to shore on the southeast side of Blackstone Point on the east side of the Damariscotta River above the northernmost Route 1 bridge (App 2, SR 1). The application describes the bottom of the site as flat, consisting of 8–10 inches of silty mud over bedrock. Water depths are listed in the application as approximately 1 ft. at low tide and 4 ft. at high tide. The current runs north-south with the flow of the tide, but its speed is minimal to non-existent, since the site is located well away from the channel.

The upland of Blackstone Point is undeveloped and consists mainly of gently sloping old fields with grasses and shrubs and some stands of mature trees (App 7). The Damariscotta River Association owns Blackstone Point. Several widely-spaced residential properties lie along the shoreline to the east of the point.

The site report notes that “the area of the proposed lease is classified as “conditionally approved” for the harvest of shellfish. This approval is contingent upon appropriate operation of the Great Salt Bay sewage treatment facility” (SR3).

### **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 if s/he determines 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**

According to the site report, “No moorings or docks were located in the immediate vicinity. One dock is located approximately 620 feet to the southeast of the proposed location and should not be affected by the proposed activities”. The report concludes that “Riparian access would not be restricted in any way,” noting that the Damariscotta River Association is

the nearest shorefront property owner (SR2). Based on this evidence, it appears that the proposed lease site will not hamper riparian access to and from the shore.

**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 site report observes that “Navigation in the area is expected to be very light and the area of the proposed lease is approximately 15’ from shore in shallow water (1-4 feet)” (SR 2). The proposed lease site is very near shore at the head of the cove formed where Blackstone Point juts southward into the Damariscotta River. It is located completely out of the channel in shallow water. Based on this evidence it is clear that the proposed lease site will not restrict navigation in the area.

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

### **C. Fishing & Other Uses**

According to the site report,

No commercial fishing was observed on October 28th and none is expected in the area. No commercially exploitable resources were evident in the area and navigation from the upper reaches of the Damariscotta estuary is greatly restricted by shallow water and rapid current between two bridges (Main St. and Route 1). Some recreational hook and line fishing may occur in the vicinity although the small size of the proposed lease (50’ x 50’) should represent minimal interference.

The application states that no one has been seen “closer to the proposed site than on the DRA trails some 50’ from the edge of the water” (App 5). Based on this evidence it appears that the proposed lease will not infringe on other activities, including fishing, in the area.

**Exclusivity.** The application states that as long as gear at the site is not molested, the applicant is not requesting any restrictions on other activities at the site. To protect the shellfish there, a condition will be placed on the lease prohibiting shellfish harvesting on the site by anyone except the applicant or its authorized agents; students using the site are considered authorized agents for purposes of this condition. Fishing, other than dragging or shellfish harvesting, and boating will be allowed in the open areas of the lease site.

**Other aquaculture leases.** One other aquaculture lease is located across the river approximately 900 ft. south of the proposed lease site, and two license sites are located approximately 700 ft. to the southeast. The proposed lease site will not interfere with activities at either of these existing sites.

The lease must be marked in accordance with DMR Rule 2.80<sup>2</sup>

**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. Shellfish harvesting will be prohibited on the site by anyone except the applicant or its authorized agents; students using the site are considered authorized agents for purposes of this condition. Boating and fishing other than dragging will be allowed in the open areas of the lease site. The lease must be marked in accordance with DMR Rule 2.80.

#### **D. Flora & Fauna**

The aquaculture activities at the proposed site will be conducted on foot, so that people will be standing in the mud to tend the oyster bags. The site report makes the following observations:

The entire cove in which the lease site is proposed is designated tidal wading bird habitat by the Maine Dept. of Environmental Protection. Records at the Maine DMR show eel grass (*Zostera marina*) located in the outer cove approximately 400 feet from the proposed lease site. While snorkeling the area of the proposed lease site, DMR staff noted the regular occurrence of eel grass starting approximately 75 feet from shore throughout the area. Estimated total coverage was 15 percent. The location of the lease site did not contain eel grass. The area also contained a large number of mud snails (*Nassarius obsoletus*) and “sea lettuce” (*Ulva lactuca*).

The bottom substrate was very fine mud which when disturbed created a mud-plume that was very slowly dispersed by negligible currents. Excessive sedimentation in the water column can interfere with the growing oysters themselves and also with photosynthesis by eel grass. Therefore bottom disturbance around the site should be managed (SR 3).

According to the site report, the applicant has agreed to the following restrictions in order to protect the eel grass in the vicinity (SR 3):

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#### <sup>2</sup>**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.

1. Limit the total person-in-the-water on the site to 15 hours any given week and not more than 5 hours/day.
2. When there are more than eight people in the water the DRA will limit the time in the water to no more than one hour followed by a minimum of 1 hour "sediment settling time".
3. Maintain an activity log with a sign-in / sign-out component for farm activities that would be available to DMR staff for inspection should concerns about bottom disturbance arise.

The application notes that the DRA will use the site

"...for educational purposes and field trial (growing species by means of a less common method, suspended from fixed tables in the near-shore area). As an educational program the site is accessible by the DRA's other members, and we anticipate using it as a teaching tool to DRA members and guests who are not necessarily a part of the OG program. For example, we welcome hundreds of children and older students to the property, and we can use the OG site as a way to teach material related to water quality, food production, multiple use of natural resources, management, and many other issues"(App 5).

Thus, it appears possible that more people than twelve oyster gardening students may be present on the proposed lease site from time to time. It is important that the applicant apply the restrictions to all people using the aquaculture site, not just to participants in the oyster gardener program.

It is also important to note that because of the presence of the oyster disease "MSX", American oysters from the Damariscotta and Johns Rivers may not be moved to any other coastal waters outside the area north of a line between Ocean Point, Boothbay and Pemaquid Point, Bristol.<sup>3</sup> It is vital that the DRA ensure that anyone taking oysters from the proposed lease site be made aware of this restriction and the potential consequences of disregarding it, which include the risk of spreading disease to areas that are not now affected. The applicant will be required to post a sign at the site warning that oysters from the Damariscotta River must not be moved to other Maine coastal waters, in order to prevent the spread of disease.

**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, provided that conditions are placed on the lease as described above to limit and track activity on the site in order to limit sedimentation, and provided that the applicant posts a sign at the site regarding disease restrictions on American oysters in the Damariscotta River.

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<sup>3</sup> DMR Rules, Chapter 24 <http://www.maine.gov/sos/cec/rules/13/chaps13.htm>

#### **E. Public Use & Enjoyment**

According to the site report, there are no government-owned beaches, parks, or docking facilities located within 1,000 ft. of the proposed lease site (SR 3).

**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**

The application indicates that seed for the aquaculture project will be obtained from Muscongus Bay Aquaculture in Bremen, Maine; Pemaquid Oyster Company in Waldoboro, Maine; and Downeast Institute in Beals, Maine.

**Therefore, I find** that the applicant has demonstrated that there is an available source of American oysters (*Crassostrea virginica*), soft clams (*Mya arenaria*), and northern/hard clams or quahogs (*Mercenaria mercenaria*) 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 shall 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. Shellfish harvesting will be prohibited on the site by anyone except the applicant or its authorized agents; students using the site are considered authorized agents for purposes of this condition. Boating and fishing other than dragging will be allowed in the open areas of the lease site. The lease must be marked in accordance with DMR Rule 2.80.
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, provided that activity on the site is restricted in extent, duration, and frequency as specified above in this decision and a record of the activities on site is maintained in order to limit sedimentation, and provided that the applicant posts a sign at the site regarding disease restrictions on American oysters in the Damariscotta River.
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*), soft clams (*Mya arenaria*), and northern/hard clams or quahogs (*Mercenaria mercenaria*) 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 0.06 acres to the Damariscotta River Association 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 applicant<sup>4</sup>; however, no aquaculture rights shall accrue in the lease area until the lease is fully executed. This limited-purpose (experimental) lease is granted to the applicant for the purpose of cultivating American oysters (*Crassostrea virginica*), soft clams (*Mya arenaria*), and northern/hard clams or quahogs (*Mercenaria mercenaria*) using bottom and suspended culture techniques. The applicant shall pay the State of Maine rent in the amount of \$100.00 per acre per year. 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 the performance of the obligations contained in the aquaculture lease documents and all applicable statutes and regulations.

The Department will consider this lease to be an experimental lease for scientific purposes, which can be renewed, without fee, at three-year intervals, provided it meets the legal standards for renewal contained in DMR Rule 2.64(12.)

## **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)<sup>5</sup>. 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:

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<sup>4</sup> 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.”

<sup>5</sup> 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.”

1. The lease site must be marked in accordance with both U.S. Coast Guard requirements and DMR Rule 2.80.

2. Shellfish harvesting will be prohibited on the site by anyone except the applicant or its authorized agents; students using the site are considered authorized agents for purposes of this condition. Boating and fishing other than dragging will be allowed in the open areas of the lease site. The lease must be marked in accordance with DMR Rule 2.80.

3. To minimize sediment disturbance, people may be in the water at the site for a maximum of 5 hours per day and 15 hours per week. Groups of more than 8 people are limited to no more than one hour in the water, after which a one-hour sediment settling time is required during which no person is allowed in the water at the site.

4. The lessee must maintain a log to record daily use of the site by all users and document the numbers of people and the times when they are in the water. The log must be available for inspection by DMR staff to determine compliance with these lease conditions.

5. The lessee must post a sign at the site warning that oysters from the Damariscotta River must not be moved to other Maine coastal waters in order to prevent the spread of disease.

#### **7. REVOCATION OF 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:

FEB 8, 2012



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