

**STATE OF MAINE**  
**DEPARTMENT OF MARINE RESOURCES**

**Keith Butterfield**  
**CAS Mlx**  
Docket #2016-11-E

Experimental Aquaculture Lease Application  
Suspended culture of American/Eastern oysters  
and sea scallops,  
Southeast of Moshier and Little Moshier Islands,  
Casco Bay, Yarmouth, Maine

Date: July 14, 2017

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

Keith Butterfield applied to the Department of Marine Resources (“DMR”) for an experimental aquaculture lease on 3.55 acres<sup>1</sup> located in Casco Bay, southeast of Moshier and Little Moshier Islands, Yarmouth, Cumberland County, Maine, for the purpose of cultivating American/Eastern oysters (*Crassostrea virginica*) and sea scallops (*Placopecten magellanicus*) using suspended culture techniques. DMR accepted the application as complete on August 29, 2016. No requests for a public hearing were received during the comment period and no hearing was held.

**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 Yarmouth 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 *Forecaster* on September 1, 2016.

The evidentiary record before the Department regarding this lease application includes the application and the Department’s site report dated June 28, 2017, as well as the case file. The evidence from all of these sources is summarized below.<sup>2</sup>

---

<sup>1</sup> Applicant originally requested 3.21 acres, but DMR calculated the proposed area to be 4.29 acres. Pursuant to 12 M.R.S.A. §6072-A, experimental leases cannot exceed 4 acres in size. The proposed acreage has been reduced, with the applicant’s consent, to 3.55 acres. All descriptions of Tract 1 reflect the reduction in acreage as documented in the site report.

<sup>2</sup> These sources are cited below, with page references, as CF (case file), App (application), and SR (site report).

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

### **A. Proposed Operations**

The purpose of the proposed lease site is to explore the commercial feasibility of oyster and scallop production using a combination of floating and submerged cages (App 3). Tract 1 will contain a maximum of 1,250 cages distributed along 50 long-lines (App 8-11, SR 2)<sup>3</sup>. Tract 2 will contain a maximum of 500 cages supported by 20 long-lines (App 8-11, SR 2). The long-lines on each tract will be spaced 20 feet apart (SR 2). Oysters, the primary species to be cultured, will be grown in a combination of floating screen boxes and cages. The floating gear will be deployed in spring and removed in late fall or early winter (App 5). Scallops will be grown in submerged cages and/or ear-hung from vertical buoy lines (App 3). The oysters and scallops will be overwintered in sinking cages on the bottom of the proposed tracts, with Tract 2 being the primary overwintering site (App 5). Oysters and scallops will be sorted and harvested by hand (App 5). The applicant will access the site using a 24 foot Carolina Skiff.

Eventually, the applicant intends to sell whole scallops (App 4). The possession, transport, and, or sale of whole or roe-on scallops is prohibited pursuant to 12 M.R.S.A. §6073-C and Chapter 96.22 unless the applicant first obtains a Memorandum of Understanding from the DMR Bureau of Public Health. The applicant is aware of this prohibition and will obtain the necessary permissions (App 4). A condition reflecting this restriction will be included in the lease.

### **B. Site History**

The applicant has four Limited Purpose Aquaculture License (LPA) sites; two sites are within the vicinity of the proposed lease tracts, one site is located in the proposed lease boundary of Tract 1, and one site is located in the proposed lease boundary of Tract 2 (App 2, SR 10)<sup>4</sup>. The LPAs were originally granted in 2014 for the cultivation of American/Eastern oysters (*Crassostrea virginica*), and sea scallops (*Placopecten magellanicus*). The LPAs have been renewed each year and the Department has not received any complaints regarding the operation of any of these licenses. The applicant notes: "the LPA sites that I currently utilize will not be renewed as long as this experimental lease is approved" (App. 2). The oysters and scallops on the license sites will be transferred to the proposed lease site (App 2).

---

<sup>3</sup> It is likely that less gear will be used as the acreage of Tract 1 was reduced.

<sup>4</sup> BUTT114, BUTT214, BUTT314, BUTT414



**C. Site Characteristics**

On June 2, 2017, DMR scientists visited the proposed lease site and assessed it and the surrounding area in light of the criteria for granting an aquaculture lease. The proposed lease site is comprised of two tracts.

Tract 1 is 2.72 acres and located in subtidal waters within a small cove formed by Little Moshier Island to the west and Moshier Island to the east (SR 2). The upland is characterized by a steep, rocky shoreline that leads to a combination of mature forest, shrubs, and fields (SR 2). One residential property, set back from the shoreline, was observed near the southwest corner of the proposed lease tract (SR 2). At mean low water, the distance from the northwest corner of the proposed tract to the northeastern side of Little Moshier Island is ~30 feet; the southwest corner of the proposed tract is ~60 feet from the shore (cf., email from Marcy Nelson to Amanda Ellis 07/05/17). Water depths are between 4.75-5.25 feet at mean low water between the southwest and southeast corners of the proposed tract (SR 6). DMR scientists were unable to assess water depth at the northern corners of the proposed lease, because the water depth was less than 3 feet during low water (SR 6). The site report indicates that the northern corners remained submerged at low water (SR 6). The bottom of Tract 1 is characterized by mud with flat topography (App 6). The current speed is approximately 1-3 knots (App 6).

Tract 2 is 0.83 acres and located in subtidal waters adjacent to the southeastern shoreline of Moshier Island. The upland is characterized by ledges that give way to a combination of mixed forest, bushes, and residential properties (SR 4). At mean low water the distance from the southwest corner of the proposed tract to the northeast side of Moshier Island is ~80 feet; the northwest corner of the proposed tract is ~85 feet from the shore (SR 9). Water depths are between 13.8-14.95 feet at mean low water between the southwest and northwest corners of the proposed tract (SR 5). Water depth ranged between 18.35-21.2 feet at mean low water between the northeast and southeast corners of the proposed tract (SR 5). The bottom of Tract 2 is characterized by mud with flat topography (App 6). The current speed is approximately 1-3 knots (App 6).

The proposed lease is in an area currently classified by the Department of Marine Resources Water Quality Classification program as “open/approved for the harvest of shellfish” (SR 14).

### **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 applicant indicates that the proposed tracts will not interfere with riparian access (App 5). During the June 2, 2017 site visit DMR staff observed:

Riparian access to Little Moshier Island (Tract 1) appears to be by way of a dock located along the southwestern shore of the island and ~800 feet (straight-line distance over land) from proposed Tract 1. Similarly, on June 2, 2017, no docks or moorings were observed in the general vicinity of proposed Tract 2 (Moshier Island). The nearest observed docks are located in a small cove on the southern end of Moshier Island and approximately 450 feet (straight line distance over land) to the west of the proposed lease site (SR 9).

The Harbormaster notes that there are no permitted moorings within the proposed lease area and that the proposed lease would not interfere with riparian ingress and egress (CF, Harbormaster Questionnaire). No comments were received regarding interference with shore access. The evidence shows that docks used for access to both islands are located well away from the proposed lease tracts. Activities at the lease site in subtidal waters are unlikely to hamper 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 proposed lease tracts are located in shallow subtidal waters outside of any navigational thruways (SR 9). Tract 1 is situated more than 2,000 feet from the main navigation channel, and there is more than 4,500 feet of navigable waters between Tract 2 and the nearest navigational hazard (SR 9). The Harbormaster indicates that the proposed lease will not interfere with navigation (CF, Harbormaster Questionnaire).

It appears from this evidence that the proposed lease tracts lie far away from the areas where navigation in the area is most likely to occur and thus are unlikely to affect boat traffic. 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 site report describes the following:

On June 2, 2017 no commercial or recreational fishing activity was observed within the immediate vicinity of Tract 1 (Little Moshier Island). A single lobster pot buoy was noted to the southwest, outside of the cove. Six lobster pot buoys were observed within the vicinity of Tract 2 (Moshier Island); 3 to the south of the proposal, 1 to the north, and 2 to the west. Based on varying buoy colors, there appeared to be 3 different individuals utilizing the area at the time (SR 9).

The Harbormaster noted that there is little commercial fishing activity in the area and did not anticipate any conflicts with fishing, or other water related activities (CF, Harbormaster Questionnaire). The applicant notes that “fisherman and recreational paddle boarders, kayakers, etc., are welcome and they will not be excluded from boating and fishing at or around the lease site” (App 5).

It appears from this evidence that the proposed lease site is unlikely to affect what little fishing in the area

**Exclusivity.** The applicant requests that motorized vessels be prohibited within the proposed lease boundaries in order to avoid gear entanglement (App 5). Such a restriction is 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). A condition reflecting this restriction will be included in the lease.

**Other aquaculture leases.** In addition to the four existing LPA licenses held by the applicant, the site report details the following:

Four LPA licenses are located 563-2,186 feet to the east/northeast of the proposed site, for the suspended culture of marine algae<sup>5</sup>. Two LPAs are located approximately 4,713 feet to the northwest of the proposed site, for the suspended culture of American oysters. An experimental lease is located 1.1 miles from the proposed site for the culture of American oysters.<sup>6</sup> A standard lease is located 1.6 miles to the northwest of the proposed lease site for the culture of American Oysters.<sup>7</sup>

According to the site report, “the proposed activities are unlikely to negatively impact existing aquaculture operations in the area” (SR 11).

Based on this evidence, it appears that the proposed lease will not unreasonably interfere with fishing or other uses of the area. The lease must be marked in accordance with DMR Rule 2.80<sup>8</sup> Navigation and fishing will be permitted on the lease site.

**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.

---

<sup>5</sup> TJAG116-TJAG416

<sup>6</sup> CAS LJIX, 1.97 acres

<sup>7</sup> ROY LAM, 6.59 acres

<sup>8</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.



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

**Site Observations.** During the site visit, Department staff identified eelgrass (*Zostera marina*) along the southeastern boundary of proposed Tract 1 (SR 14). To prevent aquaculture gear from being deployed over the eelgrass bed and ensure compliance with the 25 foot setback required by the Army Corps of Engineers, the southern boundary of Tract 1 will be shifted approximately 275 feet to the northeast (SR 14). This will reduce the total size of Tract 1 from the original calculated size of 3.46 acres to 2.72 acres. The applicant has been notified of the changes to Tract 1 and is amenable to the reduction in acreage (SR 14).

**Fisheries and Wildlife.** During the site visit, Department staff observed wild turkeys (*Meleagris gallopavo silvestris*) on Little Moshier Island (SR 14). Common eiders (*Somateria mollissima*), some with chicks, were also observed in the cove between Moshier and Little Moshier Islands. The site report notes that tidally exposed mud flats to the northeast of proposed Tract 1 are classified as Tidal Wading Bird and Waterfowl Habitat by the Maine Department of Inland Fisheries and Wildlife (MDIFW) (SR 14). DMR sent a copy of this lease application to MDIFW for their review and comment. No comments were received. Normally MDIFW comments on aquaculture applications when it has concerns about potential effects on wildlife. DMR interprets the absence of any comment as indicating that MDIFW has no concerns in this instance.

Based on this evidence, it appears that the culture of oysters and scallops as proposed for this lease site will not interfere with the ecological functioning of the area.

**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 14).

**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, seed stock for this proposed lease site will be obtained from Mook Sea Farm in Walpole, Maine and Pine Point Oysters in Cape Elizabeth, Maine.

**Therefore, I find** that the applicant has demonstrated that there is an available source of American/Eastern oysters (*Crassostrea virginica*), and sea scallops (*Placopecten magellanicus*) to be cultured for the lease site.

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

Based on the above findings, I conclude that:

- A. The aquaculture activities proposed for this site will not unreasonably interfere with the ingress and egress of any riparian owner.
- B. The aquaculture activities proposed for this site will not unreasonably interfere with navigation.
- C. The aquaculture activities proposed for this site will not unreasonably interfere with fishing or other uses of the area, taking into consideration the number and density of aquaculture leases in the area.
- D. 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. 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. The applicant has demonstrated that there is an available source of American/Eastern oysters (*Crassostrea virginica*), and sea scallops (*Placopecten magellanicus*) 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 3.55 acres to Keith Butterfield 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 lessee<sup>9</sup>; however, no aquaculture rights shall accrue in the lease area until the lease is fully executed.

---

<sup>9</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.”



This lease is granted to the lessee for the purpose of cultivating American/Eastern oysters (*Crassostrea virginica*), and sea scallops (*Placopecten magellanicus*) using suspended culture techniques. 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 (10) (D) 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 MRSA §6072-A (15)<sup>10</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.

- A. The following conditions shall be incorporated into the lease:
- B. The lease site must be marked in accordance with both U.S. Coast Guard requirements and DMR Rule 2.80.
- C. Dragging and shellfish harvesting are prohibited except by authorization of the leaseholder.
- D. Navigation by motorized vessels is prohibited within the lease boundaries, except in open areas of the lease site.
- E. Other public uses that are not inconsistent with the purposes of the lease are permitted within the lease boundaries.
- F. The possession, transport and, or sale of whole or roe-on scallops shall be prohibited unless the applicant first obtains a Memorandum of Understanding from DMR Bureau of Public Health.

---

<sup>10</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.”

**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: 7.14.17

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