

STATE OF MAINE
DEPARTMENT OF MARINE RESOURCES
Experimental Aquaculture Lease Application
Suspended culture of seaweeds, Casco Bay

Aqua Farms, LLC
Docket # 2009-04E
Lease CAS-LCI

FINDINGS OF FACT, CONCLUSIONS OF LAW, AND DECISION

On February 13, 2009, the Department of Marine Resources (“DMR”) received an application from Aqua Farms, LLC for a three-year experimental aquaculture lease on a 0.86-acre site¹ located in the coastal waters of the State of Maine, south of Little Chebeague Island in Casco Bay, in the Town of Long Island in Cumberland County, for the purpose of cultivating the following seaweeds:

Sugar Kelp (*Laminaria saccharina*),
Hollow-stemmed Kelp/Oarweed (*Laminaria longicruris*),
Fingered/Horsetail Kelp (*Laminaria digitata*),
Winged/Edible Kelp (*Alaria esculenta*),
Dulse (*Palmaria palmata*), Nori/Laver (*Porphyra sp.*), and
Sea Lettuce (*Ulva lactuca*),

using suspended culture techniques. The application was accepted as complete on March 25, 2009.

1. THE PROCEEDINGS

A 30-day public comment period was advertised in the *Portland Press Herald* on April 29, 2009, but no comments or requests for a hearing were received, and no hearing was held. Department biologists visited the proposed site on July 10, 2009.

The evidentiary record before the Department regarding this lease application includes the case file, Docket No. 2009-04E; the application, dated February 12, 2009; and the DMR site report, dated July 16, 2009.

Notices and copies of the application and 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 Long Island and the Long Island Harbormaster², members of the Legislature, representatives of the press, and private individuals.

2. DESCRIPTION OF THE PROJECT

Proposed Operations

¹ The application listed the site as 0.87 acres; the site report found an error in the coordinates and recalculated the area to 0.86 acres.

² The Long Island Harbormaster did not return the Harbormaster Questionnaire sent by the Department.

The applicant proposes to experiment with growing a variety of seaweeds using 6-ft.-high net bags floating vertically in the water column and attached at intervals to two long lines lying on the sea floor. The net bags (called “floaters”), in which the seaweed will grow, have a weight at the bottom and a float at the top to hold them in position. The floaters are attached at 10-ft. intervals to two parallel 5/8” sinking ground lines 1,500 ft. long that are set 15 ft. apart on the bottom. The two lines are anchored at each end by 1,500-lb. moorings. Each of the four moorings is marked by two mooring balls, one to float on the surface at high water, and a second ball about 10 ft. below it, to mark the mooring at low water (application, pp. 9, 10). Testing the gear is part of the experiment.

Immature seaweed will be gathered from gear on which it has naturally settled at Aqua Farms’s other lease sites in Casco Bay and in the Blue Hill Salt Pond. Seaweed for the experiment will also be bred in captivity in experiments conducted at the Center for Cooperative Aquaculture Research on Taunton Bay in Franklin, Maine. The seaweed from these sources will be attached to the floaters, which will be deployed initially under the mussel rafts on the company’s Casco Bay lease sites, CAS CF2, southeast of Clapboard Island, and CAS BA2, west of Bangs Island. The application notes that “Studies indicate there will be natural recruitment from these plants and floaters may be self perpetuating once they are deployed” (application, p. 4). Once the seaweed has started to grow on the net bags, they will be set out on the experimental lease site, as described in the application:

The floaters will be securely attached to the mainline. They will be spaced at a distance that will prevent them from tangling with each other. The dominant currents run lengthwise along the system which should limit sideways motion. There will be sufficient weight from the moorings and floater weights combined with tension from the buoy system to hold the system in place during inclement weather (application, p. 4).

Three methods for tending the site will be used. Deployment of the gear, major seeding, and harvest operations will be conducted from a 41-ft. barge tended by a 27-ft. Carolina skiff. A 34-ft. lobster boat will be used to grapple lines for inspection and seeding. Finally, a diver will inspect the system regularly.

Site Characteristics

The proposed lease site is located parallel to and at least 300 ft. from the southwest shore of Little Chebeague Island in Casco Bay. The site is a long, narrow rectangle, 25 ft. wide by 1,500 ft. long. According to the site report (p. 2-3), water depths on the site range from 19.9 ft. to 26.7 ft. at mean high water and from 11.3 ft. at the eastern edge of the site to 18.1 ft. at the western edge of the site at mean low water. The bottom is flat mud that slopes gradually downward to the west. The site report notes:

Little Chebeague Island is a small, undeveloped island owned by the State of Maine, Bureau of Parks and Land. It is connected to Great Chebeague Island via a sandbar exposed at low water. The shoreline adjacent to the proposed lease can be characterized as a sand beach bordered by rocky outcrops. The upland is dominated by dense shrub and forest (site report, pp. 2-3).

The nearest navigational channel lies to the south and east of the site. Water quality at the site is classified by the Department as "Open/Approved for the harvest of shellfish" (site report, p 6.)

The applicant will gain access to the site by boat launched from public boat ramps in Portland or South Portland and/or from a boat kept in a local marina in winter and on the applicant's mooring in summer (application, p. 2).

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

Little Chebeague Island is owned by the State of Maine, as noted above; it is uninhabited. It is accessible from the water by small boat, primarily to and from the south end of the island (application, p. 3). No docks or moorings were observed in the vicinity of the proposed lease site by DMR biologists during the site visit on July 10, 2009. According to the site report, the nearest docks observed are located on Long Island, over 1,700 feet to the southeast.

The evidence shows that the proposed lease site lies well offshore from Little Chebeague (at least 300 ft.) and will not interfere with boat access to and from the island.

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 site lies approximately 700 ft. northwest of the navigational channel between Little Chebeague and Long Island. According to the application, while lobster fishing occurs in the area in summer, it is not heavily fished; the proposed site lies well outside the channel. There is light recreational boat traffic to and from the south end of Little Chebeague Island (application, p. 3).

During the DMR site visit, the majority of vessel traffic observed (several large fishing vessels) was using the deeper waters of the channel, some 700 ft. to the south and east of the site, to reach

Chandler Cove to the north, at the south end of Great Chebeague Island. One vessel was observed traversing the waters between the site and the shore of Little Chebeague. Several other fishing vessels were anchored in the shallows along the eastern point of Little Chebeague, but the site report concludes that the lease activities will not impede navigation “to and from Chandler Cove or the adjacent islands” (site report, p. 5).

DMR biologists suggest that “it would be prudent of the applicant to deploy” intermediate markers along the long sides of the site to mark the location of the submerged gear, noting that gear at the east end of the site could be as little as four to five feet below the surface at mean low water, shallow enough for a 5-ft. draft vessel’s propeller to tangle with the gear (site report, p.5). The application notes that vessel traffic is light in the lease location, so anchoring (and potential entanglement with the gear) is not likely to occur. The applicant would prefer to use only corner buoys to mark the site, in order to “reduce potential gear entanglements” (application, p. 4).

The lease must be marked in accordance with DMR Rule 2.80³ Subsection (2) of that rule says:

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. [*Emphasis added*]

Although the applicant is concerned that using additional, intermediate marker buoys could lead to gear entanglement, the rule is clear that more markers are required than simply corner buoys when a boundary is more than 300 ft. long. The north and south boundaries of the proposed lease site are five times that length, so additional marking is needed, both to alert the public to the existence of the site and its gear, and to enable DMR Marine Patrol to enforce laws protecting the lease site.

There is some flexibility for the applicant in deciding how to comply with the marking requirement, particularly in determining the distances between buoys, as long as the lease boundary is clearly visible as such. The applicant must contact the U.S. Coast Guard to determine marking

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.

requirements for navigational purposes. Once these requirements have been determined and the site is fully marked, Aqua Farms will be required to provide DMR with a plan showing all the markers at the site.

The evidence shows that while navigation occurs in the area of the proposed lease, it mainly follows the channel to the south and east of the lease site. The gear on the lease will generally be deep enough not to interfere with vessels, but intermediate marking will be necessary, as required by DMR Rule C. 2.80. Vessels can continue to traverse the site to fish or to reach the shore of Little Chebeague Island.

Therefore, I find that the aquaculture activities proposed for this site will not unreasonably interfere with navigation, provided the boundary is clearly marked in accordance with DMR Rule C. 2.80 and with any requirements of the U. S. Coast Guard.

C. Fishing & Other Uses

The applicant has observed no recreational fishing at this location. The only commercial fishing noted in the application is summer lobstering. The application states that the proposed lease site is near shore and not heavily fished (application, p. 3). The DMR site report notes relatively light fishing activity at the time of the site visit on July 10; two lobster-fishing vessels were observed in the vicinity. Several lobster buoys were observed in the immediate area of the lease, with some buoys set within the boundaries of the proposed lease site itself and others nearer to shore or easterly along the edge of the channel; all these buoys had the same license number. DMR biologists discussed the application with the captain of the fishing vessel hauling the traps, but he did not comment on the proposed lease. Two other buoys with different license numbers were observed between the lease site and Little Chebeague Island (site report, p. 5).

The applicant requests that dragging be prohibited on the site but notes that the gear is “designed to allow lobstering to take place with minimal entanglements” (application, p. 4). As noted above, the Harbormaster Questionnaire, which DMR uses to elicit local expertise with respect to the effect of the proposed lease on fishing, navigation, and riparian access, was not completed.

Aqua Farms holds the nearest aquaculture lease, CAS CF2 for suspended culture of blue mussels and seaweed at Clapboard Island, 1.6 miles west of this proposed site. The applicant’s other mussel/seaweed lease, CAS BA2, lies just west of Bangs Island, off the east side of Great Chebeague. Two limited-purpose aquaculture licenses (LPAs) for the culture of American oysters are located off Basket Island, 1.6 miles northwest of the proposed site. These neighboring aquaculture sites are too far distant to be affected by this project.

Based on this evidence, it appears that the proposed aquaculture project will not unreasonably interfere with fishing, including aquaculture, in the vicinity of the site. The area is clearly used for lobstering, especially in summer, but the gear for this project has been designed to accommodate lobstering. There is no evidence of other forms of fishing in the area, commercial or recreational. While it is possible that lobstermen may choose not to set traps within the lease boundaries because of the aquaculture gear there, the site is relatively small, and there is ample space to set traps all around this

site. In addition, lobster traps are normally moved to different locations throughout the season. Such interference with lobstering as this lease may create will not be unreasonable. Dragging will be prohibited on the site, as requested by the applicant.

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; dragging, however, will be prohibited on the site.

D. Flora & Fauna

The application notes that “There are many seaweed beds in the general region suggesting it will grow well on this site.” Polychaete worms are common on the site, and lobsters and crabs are present in summer and fall (application, p. 3). According to the site report, “The variety of seaweeds proposed for culture will likely attract a diverse array of species, including juvenile fish, small invertebrates, diving birds, etc. Seaweeds provide excellent shelter and juvenile habitat” (site report, p. 6).

The site report notes that there are no Essential Wildlife Habitats surrounding Little Chebeague Island, such as bald eagle nests, but the shoreline of that island and the neighboring islands is designated a Significant Habitat for Tidal Waterfowl and Wading Birds. The report notes that the proposed lease will not interfere with this habitat, as the lease is located in subtidal waters more than 300 ft. from the shore.

At one time, eel grass apparently grew between the proposed site location and the adjacent shore. The site report states that the lease site will be situated beyond the area where eelgrass has previously been documented but it cautions that “the potential exists for limited shading of remnant eelgrass beds” (site report, p. 6).

According to the evidence, there appears to be no conflict between the proposed aquaculture activities and the surrounding ecosystem; in fact, the additional seaweed may benefit the area. Should the project succeed and the applicant apply for a standard lease, DMR will reassess the eelgrass situation at that time.

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

Little Chebeague Island is owned by the State of Maine, has beaches along its shore, and lies approximately 300 feet from the proposed lease site. Otherwise there are no government-owned beaches, parks, or docking facilities located within 1,000 ft. of the proposed lease. Access to Little Chebeague is by foot across a sandbar connected to Great Chebeague Island at low tide or by boat to the shoreline of Little Chebeague. According to the Site report, the proposed lease activities “will not unreasonably obstruct access to or recreational uses of the island and adjacent waters” (site report, p. 6).

The evidence shows that there is ample room for users of Little Chebeague to reach the island, and the aquaculture activities will not interfere with the recreational use of the island, its beaches, shoreline, and adjacent waters.

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

Seaweed for the floaters will be obtained from Aqua Farms's other lease sites in Casco Bay (CAS CF2 and CAS BA2), from its lease site BHB SP in the Blue Hill Salt Pond in Blue Hill, and from the Center for Cooperative Aquaculture Research (CCAR) on Taunton Bay in Franklin, according to the application (application, p. 2).

Therefore, I find that the applicant has demonstrated that there is an available source of Sugar Kelp (*Laminaria saccharina*), Hollow-stemmed Kelp/Oarweed (*Laminaria longicruris*), Fingered/Horsetail Kelp (*Laminaria digitata*), Winged/Edible Kelp (*Alaria esculenta*), Dulse (*Palmaria palmata*), Nori/Laver (*Porphyra sp.*), and Sea Lettuce (*Ulva lactuca*) 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. Navigation will be permitted on the lease site. The lease site must be marked in accordance with the requirements of DMR Rule 2.80 and of the U. S. Coast Guard. Once the site is fully marked, Aqua Farms must provide DMR with a plan showing all the markers at the site.

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. Lobstering will be allowed on the lease site, but dragging will be prohibited.

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 Sugar Kelp (*Laminaria saccharina*), Hollow-stemmed Kelp/Oarweed (*Laminaria longicruris*), Fingered/Horsetail Kelp (*Laminaria digitata*), Winged/Edible Kelp (*Alaria esculenta*), Dulse (*Palmaria palmata*), Nori/Laver (*Porphyra sp.*), and Sea Lettuce (*Ulva lactuca*) 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 0.86 acres to Aqua Farms, LLC, 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;⁴ 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 Sugar Kelp (*Laminaria saccharina*), Hollow-stemmed Kelp/Oarweed (*Laminaria longicruris*), Fingered/Horsetail Kelp (*Laminaria digitata*), Winged/Edible Kelp (*Alaria esculenta*), Dulse (*Palmaria palmata*), Nori/Laver (*Porphyra sp.*), and Sea Lettuce (*Ulva lactuca*) using suspended culture techniques, as described in the application.

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 2.40 (2) (A) in the amount of \$ 1,500.00, 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 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.

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:

“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.”

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. When the Coast Guard requirements, if any, are established and the lease markings are in place, the lessee shall file a plan with the Department showing how the site is marked.
2. Fishing and boating are allowed on the lease site, but dragging is prohibited.

7. REVOCATION OF LEASE

The Commissioner may commence revocation procedures if s/he determines that substantial aquaculture has not been conducted within the preceding year or that the lease activities are substantially injurious to marine organisms. If any of the conditions or requirements imposed in this decision, in the lease, or in the law is not being observed, the Commissioner may revoke the aquaculture lease.

Dated: 8/24/09 _____

/s/ George Lapointe
George D. Lapointe (Commissioner)
Department of Marine Resources