



Figure 1: Area map created in ArcMap version 9.3 using NOAA Chart #13290.

Location: West Southwest of Indian Point, Great Chebeague Island, in Casco Bay, Chebeague, Maine

Purpose: Experimental long-line culture of Sugar Kelp (*Saccharina latissima*), Horsetail Kelp (*Laminaria digitata*), and Winged Kelp (*Alaria esculenta*).

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Figure 2: Vicinity map created in ArcMap version 9.2 using geo-referenced aerial photographs taken at low tide (2001) and provided by The Maine Office of GIS.

On October 3, 2011 we visited the proposed experimental aquaculture lease located off the southwestern side of Great Chebeague Island in Casco Bay in the town of Chebeague, Maine. We arrived on site at 11:50 a.m.

Long Island, Casco Bay, Maine

3 October 2011

43.6900° N, 70.1700° W

04:15 EDT	9.33 feet	High Tide
10:13 EDT	0.56 feet	Low Tide
16:32 EDT	10.22 feet	High Tide
23:01 EDT	-0.07 feet	Low Tide

The applicant is requesting 3.03 acres (120 feet by 1,100 feet) for the culture of three species of indigenous seaweed. Structures would consist of up to nine 1,050 foot long-lines strung parallel to one another across the length of the lease area (see application for details).

The proposed lease is bounded to the southeast by Little Chebeague Island and to the northeast by Great Chebeague Island. To

the east lies a sand bar connecting the two islands at low water. To the west is the main navigational channel as defined by USCG navigational aids.

Water depths within the proposed lease area were collected via depth sounder on October 3, 2011. Depths were collected through the center of the site at 11:50 a.m, 1 hour and 37 minutes post slack low water. A relatively uniform depth of 23 feet was measured across the length of the site. Correcting to mean low water (0.0'), depths within the area range from ~21.5 to 23.5 feet. Mean tidal range within the area is 9.1 feet. Ocean Approved, LLC is requesting to place long-lines for kelp culture at a controlled depth of 7'. The location provides adequate depth for the proposed activities.

Position and Distances to Shore

A WASS enabled Global Positioning System (GPS) was used to navigate to each corner of the proposed lease, as described in the application. On October 3, 2011, a single buoy depicting “Sea Farm” designated each corner of the proposal. A fifth buoy that reportedly had been set too short to be visible at high water had been dragged and relocated nearby the SE corner of the proposed lease site. This buoy was removed from the water on October 3, 2011, leaving four accurately placed corner markers. POSAID Positioning Software was used to verify distances and bearings between corners. Distances to shore were determined using the measuring tool in ArcMap version 9.3, geo-referenced aerial photographs taken at low tide in 2008, and the application coordinates listed below.

Page 3 of the application described a site of 120-feet by 1,100 feet which describes the 3.03 acres stated in the application cover sheet. Using the application coordinates, we used POSAID positioning software to derive the metes and bounds as described below describing an area of 4.56 acres. The maximal acreage allowed under the application is 4.0 acres. The Department has the ability to decrease the size of the site to 4.0 acres by developing corrected coordinates to describe such an area. Alternatively, the Department, in consultation with the applicant, has the ability to develop corrected coordinates describing a 120 foot wide by 1,100 foot long area (3.03 acres). In either case, the area described by the coordinates in the application would need to be reduced. Which alternative is preferred by the applicant will need to be determined.

Application Coordinates – 4.56 acres (Figure 2)

<u>Corner</u>	<u>Latitude</u>	<u>Longitude</u>	
NW	43° 43' 22.0"N	70° 08' 48.3"W	<i>then 172.8 feet at 121.8° True to</i>
NE	43° 43' 21.1"N	70° 08' 46.3"W	<i>then 1156.7 feet at 218.0° True to</i>
SE	43° 43' 12.1"N	70° 08' 56.0"W	<i>then 172.8 feet at 301.8° True to</i>
SW	43° 43' 13.0"N	70° 08' 58.0"W	<i>then 1156.7 feet at 38.0° True to NW.</i>

Distances to Shore

NE Corner to nearest MLW – Indian Point	~1,312 feet @ 102°T
NE Corner to dock at Indian Point	~1,330 feet @ 098°T
East Boundary to nearest sandbar (N end L. Chebeague)	~1,876 feet @ 129°T

SE Corner to nearest sandbar (N end L. Chebeague)	~1,495 feet @ 173°T
SE Corner to 12' depth contour (MLW)	~669 feet @ 178°T
SW Corner to Nun "14"	~1,167 feet @ 308°T
NW Corner to Daymark "15"	~3,936 feet @ 317°T

The criteria MDMR uses to determine the suitability of an experimental aquaculture operation to a particular area (DMR Regulations Chapter 2.64(7) (A)) are discussed, with respect to the proposal, below:

(1) Riparian Owners Ingress and Egress

On October 3, 2011 there were no nearby docks or moorings with which the proposed activities might interfere. The nearest mooring associated with Indian Point was approximately 1,000 to the east of the proposed northeastern corner. Access to the Indian Point dock, located 1,300 feet from the proposed lease would not be restricted as there is more than adequate room to approach the dock from the north and the south.

(2) Navigation

The east side of the main navigational between Lower Basket Island and Great Chebeague and Little Chebeague Islands is defined by buoys 12, 14, and 16. The southwestern corner of the proposed lease is located approximately 1,100 feet from this channel. Navigation in the vicinity of the proposed lease would likely consist of vessels travelling to the Indian Point dock, to the sandbar between the islands, and nearshore recreational boaters. Adequate room exists on all sides of the proposed lease to accommodate these activities.

(3) Fishing

On October 3, 2011, no fishing activities (including the presence of lobster buoys) were observed within the boundaries, or nearby the proposed lease site. Most lobster buoys were placed in proximity to, and beyond, the 36-foot depth contour approximately 400 feet to the west. Additional buoys (approximately 20-25) were scattered between the eastern boundary of the proposed lease site and the tidally exposed sand bar extending between Great Chebeague Island and Little Chebeague Island. NOAA charting describes the proposed lease area as relatively flat with a bottom composition of mud/sand and mud/shell. When removing the fifth buoy and its associated mooring tackle (see page 3, Position and Distances to Shore) on October 3, 2011, the concrete block was clearly stained by the anoxic mud, and mud remained attached to the block at the surface. It is likely that lobsters would move over this bottom at certain times of year, however, little structure is present that would tend to "hold" lobsters in this area.

Recreational hook and line fishing may also occur in the areas adjacent to the proposed lease.

(4) Other Aquaculture Uses

The names and distances to the MDMR leases nearest the proposal are listed below. Distances were measured, straight-line, in ArcMap 9.3.

The applicant (Ocean Approved, LLC.) has a .86 acre experimental aquaculture lease for the long-line culture of seaweeds located off the southern side of Little Chebeague Island (**CAS LCI**), approximately 3,900 feet to the south.

Aqua Farms, LLC. operates a 2 acre aquaculture lease for the raft culture of blue mussels (*Mytilus edulis*) off the west side of Bangs Island (CAS BA2), approximately 2.6 miles to the east.

Trundy Point, LLC. operates a 1.74 acre experimental aquaculture lease for the raft culture of blue mussels and located to the south of Little Chebeague Island (CAS LONG), approximately 4,500 feet to the southwest.

The applicant (Ocean Approved, LLC.) has a pending 3 acre experimental aquaculture lease for the long-line culture of seaweeds located off the western side of Jewell Island, approximately 3.7 miles to the southeast.

The proposed activities will not interfere with existing aquaculture operations in the region. Other shellfish farms are present in Casco Bay in the neighboring towns of Cumberland, Falmouth, Yarmouth, Harpswell and Freeport. For more information on these and other aquaculture leases please visit:

<http://www.maine.gov/dmr/aquaculture/leaseinventory/index.htm>.

(5) Existing System Support

According to records available at MDMR, there are no documented eelgrass (*Zostera marina*) beds within the proposed area. The nearest eel grass bed is located along the western shores of Great Chebeague Island and Little Chebeague Island; approximately 975 feet from the proposed NE corner, 685 feet from the proposed SE corner and 900 feet from the eastern boundary. Water depths and substrate in the area of the proposed lease likely preclude the spread of eel grass into that area.

According to Maine Department of Environmental Protection and Inland Fisheries and Wildlife habitat mapping, the western shores of the two islands are designated Tidal Wading Waterfowl Habits. These habitats overlap with the aforementioned eel grass distribution; therefore distances to this habitat are the same as in the previous paragraph.

Wildlife

According to Scott Lindsay, Regional Biologist at The Maine Department of Inland Fisheries and Wildlife (MDIF&W), "The only habitat of management concern is the mapped eelgrass beds closer to the island, but it appears as though these will not be impacted by the location and type of lease."

(6) Interference with Public Facilities

No publicly owned facilities are located within 1,000 feet of the proposed lease.

(7) Water Quality Classification

The proposed lease is in an area currently classified by the Department of Marine Resources Public Health Division as “Open” for the harvest of shellfish. This classification, however would not affect the harvest of algae from the proposed lease site. Likewise, biotoxin, or PSP closures, would not affect the proposed lease activities.