



July 1, 2011

Mr, Eric Dyer
Town Administrator
Town of Chebeague Island
192 North Road
Chebeague Island, ME 04017

Dear Mr. Dyer;

Ocean Approved is applying for a state aquaculture lease in waters adjacent to Chebeague Island. Though the proposed lease site is over 1,000 feet from the low water mark of Chebeague, we want to make you aware of this application should you or residents of Chebeague have concerns. I have enclosed a copy of our application. Traditionally we forward a copy of lease applications to the harbormaster/shellfish warden. I understand from your town web site that this position is vacant at this time.

We propose to farm kelp at this site with gear identical to that of the farm just off the south beach of Little Chebeague (Long lines submerged at a depth of 7 feet or greater). Kelp farms have positive effects on the environment, removing excess nitrogen from the water and providing shelter and habitat from many marine organisms.

For over a decade we operated the Bangs Island mussel farm off your eastern shore and believe we have been good a neighbor and employer. We will make every effort to continue as a good neighbor and employer as we transition to kelp farming.

If you have questions or concerns I would be happy to meet with you to discuss our application and answer questions about kelp farming.

Respectfully,

Paul Dobbins
Ocean Approved
188 Presumpscot Street
Portland, ME 04103
207-409-6485
pdobbins@oceanapproved.com

C: APPLICATION COVER SHEET FOR AN EXPERIMENTAL LEASE

Name: Ocean Approved, LLC
Address: 188 Presumpscot Street
City: Portland
County: Cumberland

State, zip Maine, 04103

Telephone: business 207-671-7946 home 207-799-2022 cell 207-671-7946

Email address: tolson@oceanapproved.com

Location of lease site:

<u>town</u>	<u>county</u>	<u>waterbody</u>
Chebeague Island	Cumberland	Casco Bay

Additional description West South West of Indian Pt, North of Little Chebeague Island

Total acreage requested (4-acre maximum): 3.03 Acres

Growing Area # 13 Water Quality Classification Unrestricted (DMR Water Quality Map Included with Application, Figure 1.)

Type of culture (circle): Bottom (no gear) Suspended (gear in the water and/or on the bottom)
Net Pen (finfish)

Name of species to be cultivated, common and scientific names:

Sugar Kelp (*Saccharina latissima*), Horsetail Kelp (*Laminaria digitata*), Winged Kelp (*Alaria esculenta*)

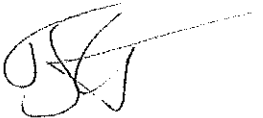
Name and address of the source of seed stock, juveniles, smolts, etc., to be cultivated:

Ocean Approved, LLC nursery- 188 Presumpscot Street, Portland, ME 04103

Amount of application fee enclosed: \$100.00

(\$100 payable to: Treasurer, State of Maine)

I hereby state that the information included in this application is true and correct and that I have read and understand the requirements of the Department's rules governing aquaculture.

Signature: 

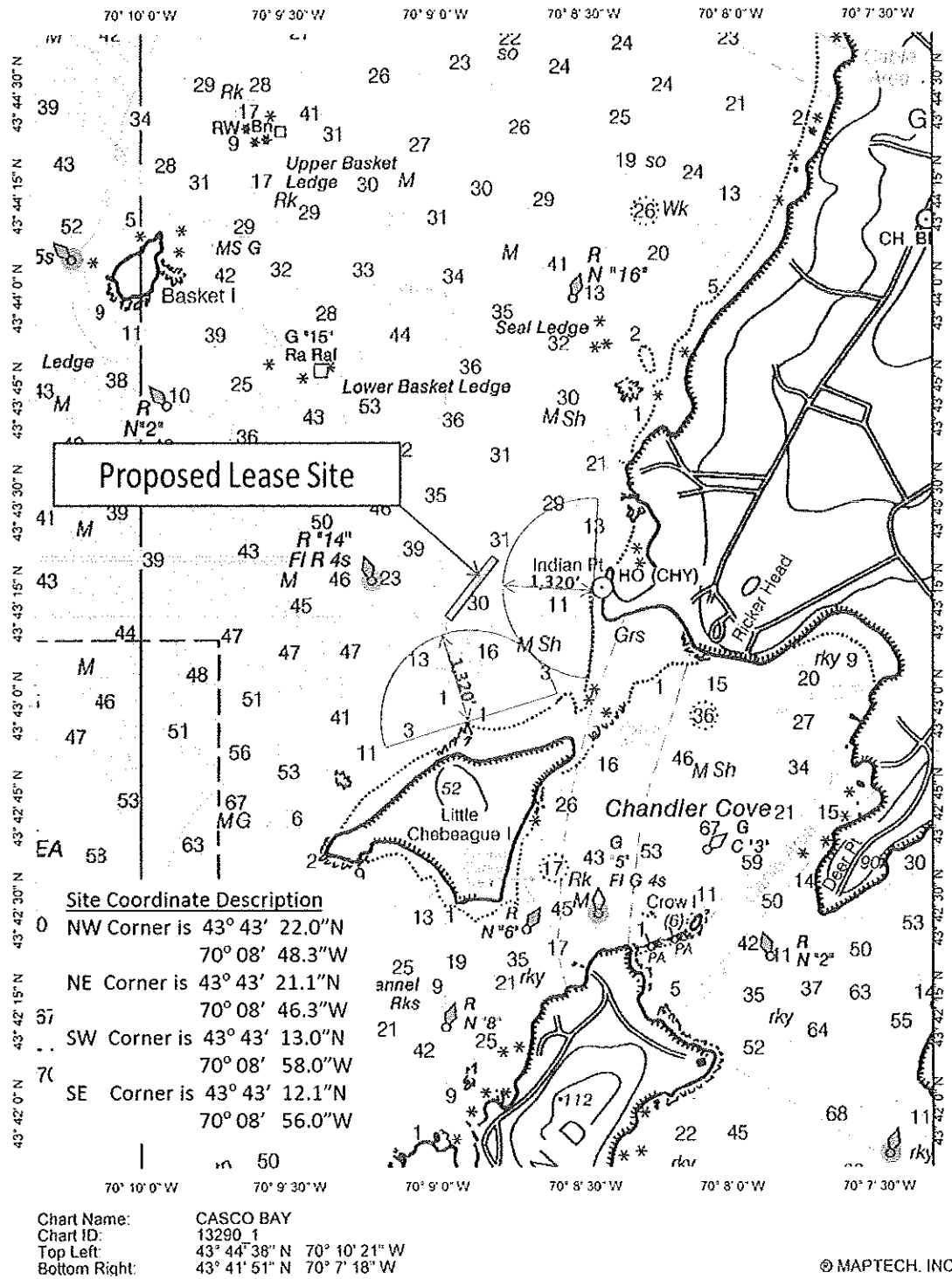
Date: 7/1/11

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.

PART D. EXPERIMENTAL LEASE APPLICATION INFORMATION

1. Location of proposed lease

A. Vicinity Map



B. Boundary Description

This proposed lease site is 1,100 feet in length and 120 feet in width. The location description was developed using NOAA chart number 13290 (datum coordinates WGS 84) and MapTech, Inc. charting software. The northern end of the site is west of Indian Point, Chebeague Island. The southern end of the site is north of Little Chebeague Island. The proposed lease site is in subtidle waters. These waters are unrestricted (Figure 1.).

1. Site Coordinate Description

NW Corner is $43^{\circ} 43' 22.0''\text{N}$
 $70^{\circ} 08' 48.3''\text{W}$
NE Corner is $43^{\circ} 43' 21.1''\text{N}$
 $70^{\circ} 08' 46.3''\text{W}$
SW Corner is $43^{\circ} 43' 13.0''\text{N}$
 $70^{\circ} 08' 58.0''\text{W}$
SE Corner is $43^{\circ} 43' 12.1''\text{N}$
 $70^{\circ} 08' 56.0''\text{W}$

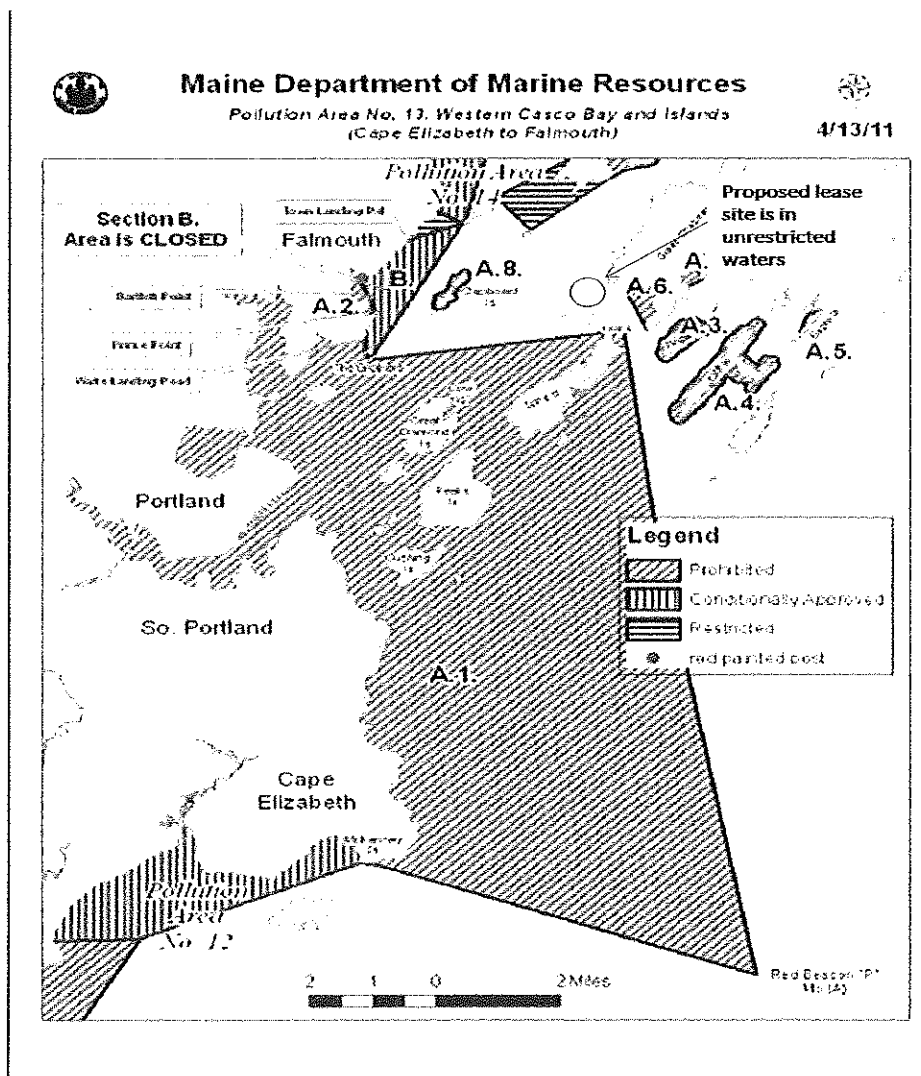


Fig.1. Maine Department of Marine Resources Water Quality Map

2. Land Owners

The proposed lease site is located between two islands- Little Chebeague Island, a small undeveloped island owned by the state of Maine, Bureau of Parks and Land and Chebeague Island, a town located in Cumberland County Maine. There are no riparian owners- defined as owning land within 1,000 feet of the proposed lease site. The closest land owner is Parcel 16 of Cumberland tax map I05 (Figure 2), owned by the Indian Island Company (c/o Ted Morse, 507 Askin Road, St. Davids, PA 19087). The proposed site is in excess of 1,320 feet from the low tide mark of the portion of the parcel 16 closest to the proposed lease site. Figure 3 describes the State of Maine as owner of Little Chebeague Island.

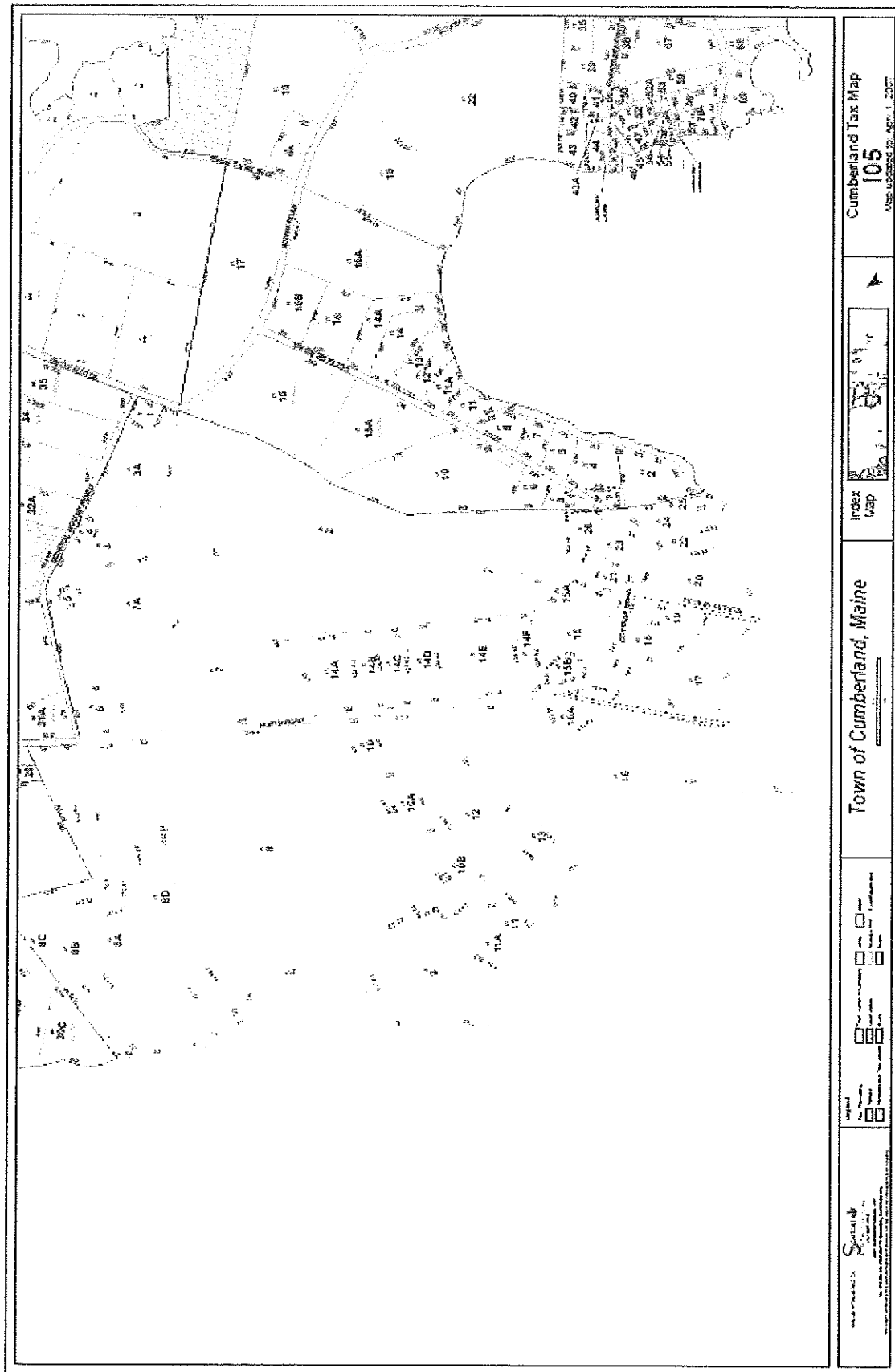


Figure 2. Chebeague Tax Map for Parcel 16

Figure 3. Portion of DMR Site Report #2011-02 that states Little Chebeague Island is owned by the State. Note that the comment “within 1,000 feet” does not apply to the proposed site application, but to the site applied for in report #2011-02.

The criteria MDMR uses to determine the suitability of an aquaculture operation to a particular area (DMR Regulations Chapter 2.37(1) (A)) are discussed, with respect to the application, below:

1) Riparian Owners Ingress and Egress

The State of Maine, Bureau of Parks and Land is the only riparian landowner within 1,000 feet of the proposed lease. Little Chebeague Island is an undeveloped island adjacent to the northwest corner of the more populated Long Island. On January 31, 2011 no docks or moorings were observed within the

3. Research Program and Application

A. The purpose and design of the study.

The purpose of this study is to determine the optimum growth environment and seeding and harvest periods through measurement of yields for native to Maine species of kelp to aid in selecting a permanent kelp aquaculture site. Growth rates will be monitored and wet weight yield per meter of long line will be calculated at harvest. Data from spring and fall plantings will be compared over a 3 year period with data from other sites.

B. The species, amount and proposed source of the organisms to be grown.

Sugar Kelp (*Saccharina latissima*), Horsetail Kelp (*Laminaria digitata*), Winged Kelp (*Alaria esculenta*). The amount to be grown will be the expected outcome of this three year study. The source of the organisms will be spores harvested from native plants collected in the wild. The spores will be grown to 2.5mm sporelings in Ocean Approved's laboratory prior to being placed at the site. This technology was developed by Ocean Approved in 2010 and funded by NOAA.

C. A description of the culture and harvesting techniques to be used.

1. The company will isolate and maintain native cultures of Sugar Kelp (*Saccharina latissima*), Horsetail Kelp (*Laminaria digitata*), Winged Kelp (*Alaria esculenta*) to be used as "seed stock" for the production of young plants (Figure 4).
2. Sporelings will be transferred to the site once they achieve 2.5 mm in length. Seed string with sporelings will be applied to long lines. (Figure 5).
3. The kelp will be harvested by lifting the long line to the surface and cutting the kelp at the intersection of the hold fast and the stipe, stripping the kelp from the line (Figure 6). The company will harvest the kelp from a 34 foot Coast Guard inspected lobster boat and a small tender. The boat "Sokor" is docked at Gowen Marine, Portland, ME.
4. Yield wet weight per meter of seed string will be measured and compared to yields from other sites grown using identical rigs and techniques.

D. The expected length of the study.

The expected length of this study is 3 years.

E. Specify whether the research is for scientific OR commercial research and Development.

This research is commercial research.



Fig. 4. Nursery Spool with Young *Saccharina latissima* Visible on Seed String and PVC Tube



Fig. 5. Kelp Seed String Deployed on Long Line



Fig. 6 Kelp Harvest

4 Existing Uses

The closest marked navigation channel is approximately 1,100 feet west of the proposed lease site and marked by red buoy #14 (NOAA Chart 13290 (Figure 7)).

Little Chebeague Island is a state owned recreation area accessible by boat at high tide and by foot at low tide via the bar connecting Little Chebeague to Chebeague Island. As such, there is seasonal recreational boating in the area to access the island. The proposed site is in excess of 1,320 feet from the closest low water mark (Figure 7) and should not unreasonably impede recreational access to the island due to its distance from the island and the submerged nature of the structure

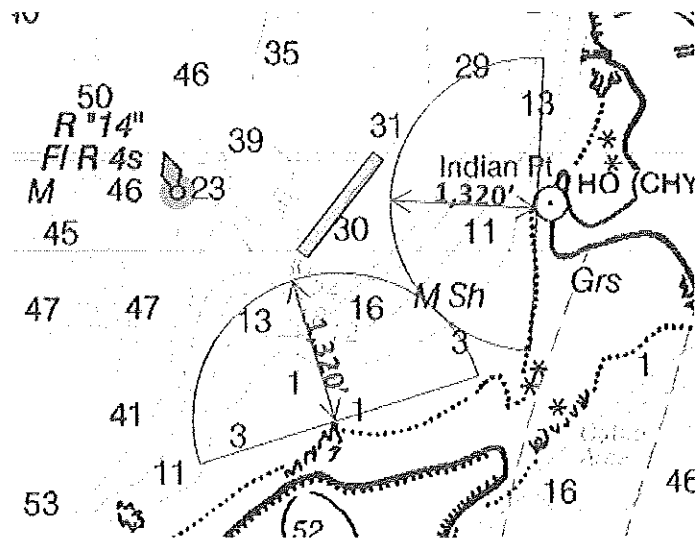


Fig. 7. Detail of NOAA Chart 13290

Indian Point on Chebeague Island has a dock on the northeast corner of the point (Figure 8) owned by the Indian Island Company that is approx 1,320 feet from the proposed lease site. There were approximately 10 seasonal moorings observed in proximity to the dock on 6/10/11. Given the distance from the dock and mooring field, and the submerged nature of the structure, the proposed site should not unreasonably impede access to the mooring field or dock.



Fig. 8. Indian Point Dock Location

No lobster gear was observed on 6/10/11 in or in close proximity to the proposed site. Lobster gear was observed on 6/10/11 off the SW tip of Little Chebeague Island-approximately 2,000 feet from the proposed lease site. Tom Hale, Marine Patrol Officer, visited the site on June 21, 2011 and reported some lobster gear (4 buoys) on the edges of the proposed site (see letter appendix 1.).

There are four Limited Production Aquaculture sites licensed for Blue Mussels (*Mytilus edulis*) located approximately 4,000 feet SW of the proposed lease site. These sites are PST01, PST02, PST03, and PST04 licensed to Peter J. Stocks, 98 Colchester Drive, S. Portland, ME 04106 (Figure 9). We understand that Peter Stocks is in the process of applying for 10 year leases at these sites.

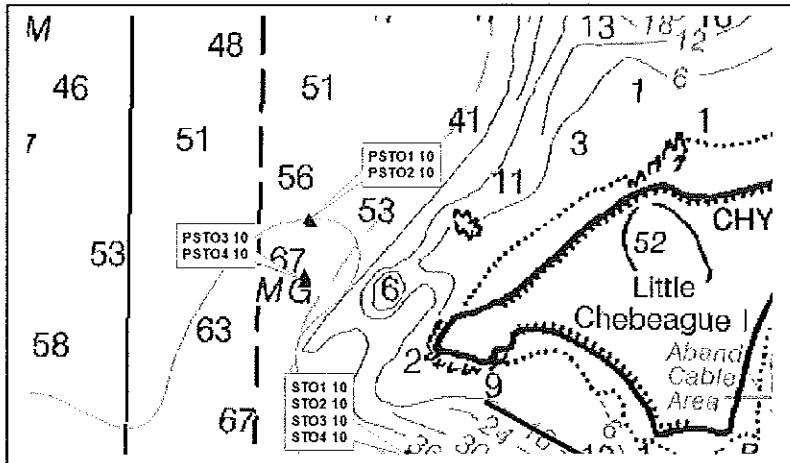


Fig. 9 Limited Production Aquaculture Sites

There are four Limited Production Aquaculture sites licensed for Blue Mussels (*Mytilus edulis*) located around the SW corner of Little Chebeague island. These sites are STO1, STO2, STO3 and STO4 licensed to Lynda Richards-Stocks, 98 Colchester Drive, S. Portland, ME 04106 (Figure 9).

There are two Limited Purpose Aquaculture sites licensed for American Oysters (*Crassostrea virginica*) located off Basket Island, approximately 1 mile northwest of the proposed site. These sites are GRE105 and GRE206, licensed to Mark Green, 5 Willow Street, Peaks Island, ME 04108

There is one experimental lease licensed for various seaweeds located off the south side of Little Chebeague Island. This lease site CAS LCI 1 is licensed to Aquafarms, LLC, Tollef Olson, 188 Presumpscot Street, Portland, ME 04103

5. Exclusive Use

The site structure design (illustrated in section 7 Structures) will allow for recreational boaters to transit the site. We request that fishing both lobster and dragging be restricted from the site to minimize the risk of gear entanglement.

6. Description of Proposed Lease Site

A. Environmental Characterization

1. Bottom Characteristics- The bottom in the proposed site area is mud.
2. Approximate Depths- Approximate depth at low tide is 30 feet. The approximate depth at high tide is 39.9 feet.
3. Topography- Flat topography. The lease site follows the 30 foot contour line.
4. Flora and Fauna- A dive site report dated June 14th, 2011, prepared by Paul Fisher observes that the bottom is featureless and composed of soft mud. There were no observed worms, seaweed or sea anemones. There was little observed lobster activity (Appendix 2. Paul Fischer Dive Site Report). The presence of seaweed cultivation in this area will provide additional structure and shade for a diverse array of species including juvenile fish, small invertebrates, diving birds, etc. Seaweeds provide excellent shelter and juvenile habitat.
5. Approximate Current Speed and Direction- The current in the proposed lease site area runs in several directions during both ebb and flow due to the nature of the bar between Chebeague Island and Little Chebeague Island. Prior to the bar being exposed on the ebb, the current runs SW along the shore of Chebeague and separates prior to reaching Little Chebeague, with one portion continuing SW, and the other continuing SE across the bar. Once the bar is exposed, the current runs SW along the shore of Chebeague/Little Chebeague. During flow, the current runs ENE along Little Chebeague. Once the bar is covered, the current also runs NW across the bar and merges with the NE flow. The current runs at approximately 0 to 1.5 knots depending on the state of the tide.
6. The General Shoreline and Upland Characteristics- The proposed site is located west of Indian Point, Chebeague Island and north of Little Chebeague Island. Indian Point, a lightly developed 22.6 acre parcel has a gently sloping beach of sand and mud with occasional rock outcroppings. The upland side of the beach rises gradually with low vegetation. There is a bar (primarily sand with a few rocks between Chebeague Island and Little Chebeague Island that is exposed at low tide. Little Chebeague Island, a small undeveloped island has a gently sloping beach of sand with a rocky outcrop in the middle that is exposed at low tide. The upland side of the beach rises rapidly and is covered with low vegetation giving way to trees.
7. Presence and Extent of Submerged Aquatic Vegetation- No observed aquatic vegetation (Appendix 2. Paul Fischer Dive Site Report).

B. Environmental Impact

Kelp cultivation can have a positive impact on the environment. As a sea plant, kelp consumes excess nitrogen and CO₂ in the water and expresses O₂, improving the water quality of the surrounding environment. The Town of Chebeague's Draft Comprehensive Report, March 2011, Volume 2, page 30-31 identifies excess nitrogen as an issue affecting the quality of the water surrounding the island and affecting the clam flats by increasing the prevalence of green algae (Figure 10).

In addition to improving the quality of the surrounding waters, kelp provides structure and shade for many marine organisms. It is an important habitat for juvenile fish and small invertebrates.

Kelp farm operations are low impact on the environment. Seeding is a relatively quick process accomplished from small skiffs. Based on our experience seeding should require not more than 2 days each planting season for the proposed site (wind dependent). Seeding takes place in fall, winter, and spring. Harvest is quick and efficient, and takes place in late fall and spring. It consists of bringing the long line onto the boat and removing the kelp with a small knife as the boat moves down the line. Husbandry for the site will include weekly or bi monthly trips to the site (season dependent) for plant sampling, data capture, and structure inspection/maintenance.

There are no Essential Wildlife Habitats, such as bald eagle nests surrounding Little Chebeague and Chebeague Islands, however the shoreline of these islands, and surrounding islands is designated a Significant Habitat for Tidal Waterfowl and Wading Birds (Figure 11). The proposed lease site should not interfere with this habitat as it is located in subtidal waters and is more than 1,320 feet from the shore.



Fig. 10. Green Algae on Chebeague Island. The Town of Chebeague's Draft Comprehensive Report, March 2011, Volume 2, page 30-31

The proposed lease site is not located in essential habitat. (Figure 11).

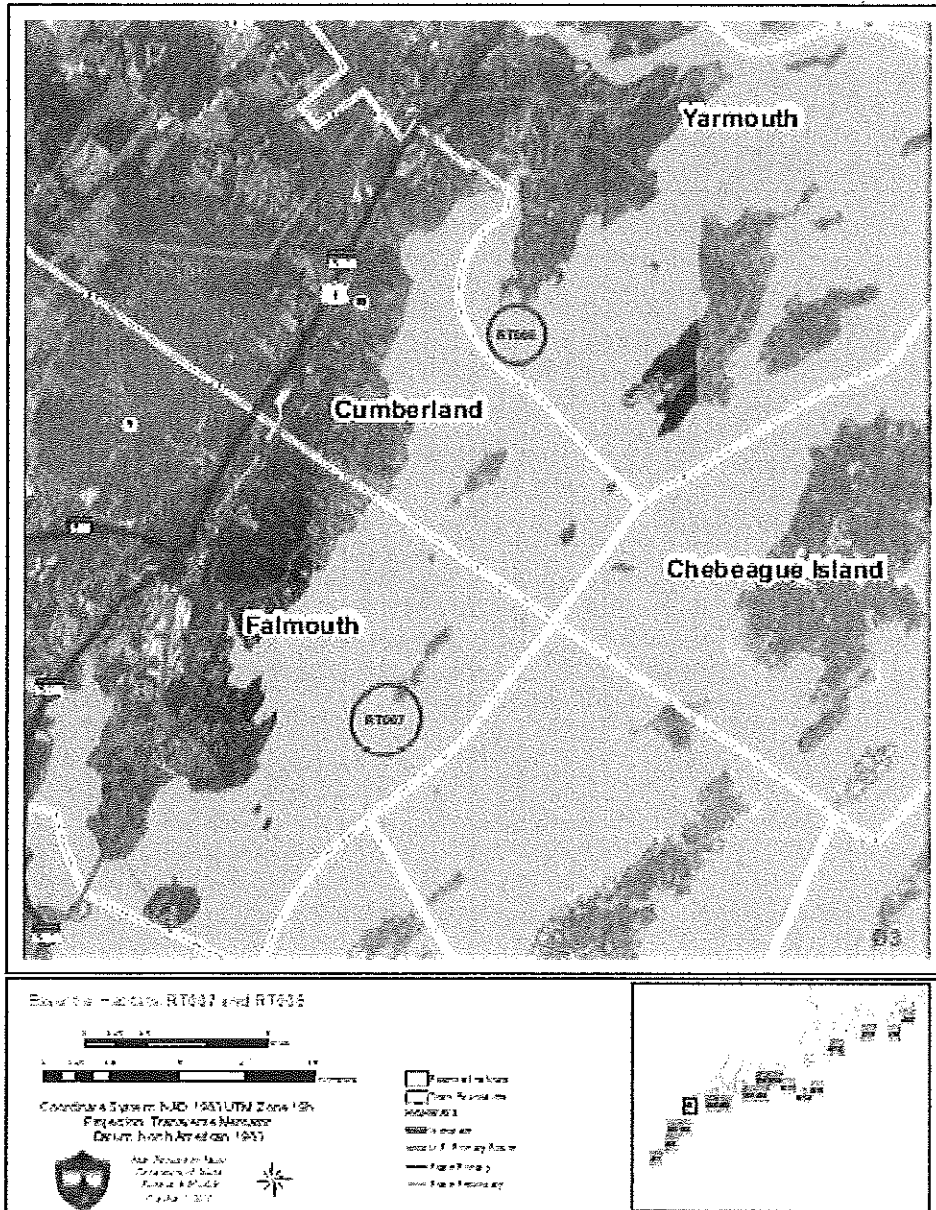
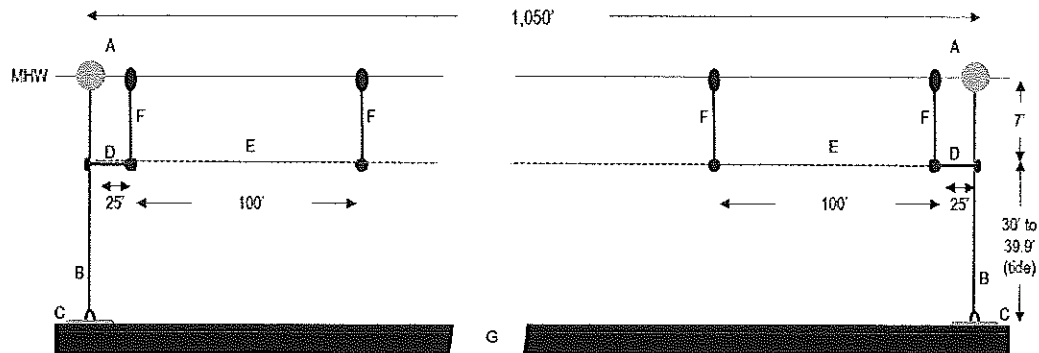


Fig. 11. Essential Habitat Map provided by State of Maine

7 Structures

Cross section and plan view full page prints are included in appendix 3 and 4.

Little Chebeague Site
Cross Section View- *Not to Scale*



Maximum Depth = 39.9'
Minimum Depth = 30.0'

- A = Mooring Ball
- B = 3/4" Mooring Chain
- C = 1,500 lb Mooring
- D = 1.5" Polyextralean hold fast shackled to mooring chain
- E = 1/2" controlled depth long line segment-100' lengths
- F = 7' depth control line with buoy and weight
- G = Sea Floor

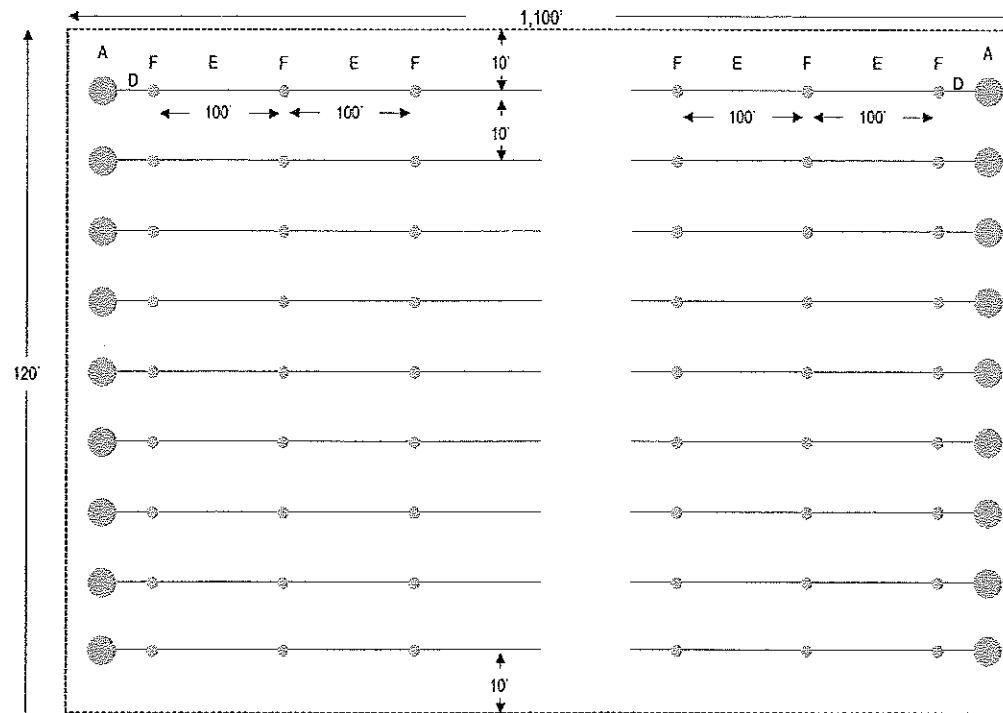
Ocean Approved, LLC
June, 2011

Little Chebeague Island Site
Plan View- *Not to Scale* Maximum Site Coverage

- A = Mooring Ball (mooring shown on cross view)
- D = 1.5" Polyextralean hold fast shackled to mooring chain 25' long
- E = 1/2" controlled depth long line segment-100' lengths
- F = 7' depth control line with buoy and weight



Ocean Approved, LLC
June, 2011



8. Discharge

Not Applicable

9. Marking

The proposed site will be marked as described in DMR Rule 2.8o3 Subsection (2)



PAUL R. LEPAGE
GOVERNOR

STATE OF MAINE
DEPARTMENT OF MARINE RESOURCES
MARINE RESOURCES LABORATORY
P.O. BOX 8, 194 MCKOWN POINT RD
W. BOOTHBAY HARBOR, MAINE
04575-0008

Appendix 1.

NORMAN H. OLSEN
COMMISSIONER

June 28, 2011

Ocean Approved, LLC
188 Presumpscot Street
Portland, Maine 04103

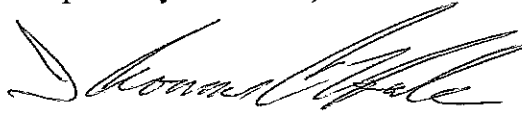
Dear Tollef:

During the month of June, I had the opportunity to review the activity in and around the lease sites that you are trying to have approved for use as kelp farms. I took care to examine the lanes of traffic as it may impede both your sites and the boating and fishing communities that surround the areas. I also checked to see what impact there was currently on each site, this included fixed gear fishing, transient boating and recreational use. My findings are as follows.

1. **Jewel Island.** These coordinates are located on the SW end of the island. The proposed site is very close to shore and is well inside of the usual channel used by the boating community to access Cocktail Cove and the campsites on this end of the island. I did see four lobster buoys on the edges of this site. Due to the location of this site and the shoal water, those factors make it unfavorable for larger draft vessels. There were no lobster boats working on June 19th when I did my inspection, nor were there any kayaks or small boats recreating in the area. This site I think would be acceptable for your use as an aquaculture site.
2. **Little Chebeague Island.** The coordinates for this site are shore side of the position of the USCG R14 navigational aid marking Indian Point on the SW side Great Chebeague Island. The area described by the coordinates almost bridges an area between both Little and Great Chebeague Islands. The area described, does have some fixed lobster gear on the edges at the time of my survey on June 21, 2011 but I did not see that as an issue. There were four buoys that were visible on that day. The area directly behind the proposed site is a land bridge between the islands at low tide and an impassable water covered sand bar at high tide. Only the smallest draft vessels may try to pass through that area. That area should be exempt from almost all boat traffic except for the lobster fishermen who may set more gear around the area as the summer continues. I believe this site would also be acceptable for your proposed use.

In closing it is my opinion that both sites would not impact any of the three areas adversely. Primary to my evaluation is the safety of the boating community while they operate any type of craft at any hour of the day or night. Each of these sites appear to be removed from any foreseeable hazard of vessels colliding with the equipment marking and used within the site. I do feel that there may be tension between the fixed gear fishermen in any of the areas, but that is expected.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Thomas C. Hale", written in a cursive style.

Officer Thomas C. Hale, Maine Marine Patrol

Appendix 2.

June 14, 2011

422 Mitchell Road

Cape Elizabeth, ME

Re: Ocean Approved Site Dive Report

Chebeague Island Proposed Lease Site

Site Coordinate Description

NW Corner is $43^{\circ} 43' 22.0''$ N

$70^{\circ} 08' 48.3''$ W

NE Corner is $43^{\circ} 43' 21.1''$ N

$70^{\circ} 08' 46.3''$ W

SW Corner is $43^{\circ} 43' 13.0''$ N

$70^{\circ} 08' 58.0''$ W

SE Corner is $43^{\circ} 43' 12.1''$ N

$70^{\circ} 08' 56.0''$ W

Throughout the dive on June 13, 2011 I made the following observations:

1. Featureless soft mud bottom throughout the site.
2. No observed worms, seaweed or sea anemonies observed.
3. Little observed lobster activity observed.

Thank you for contracting my services,

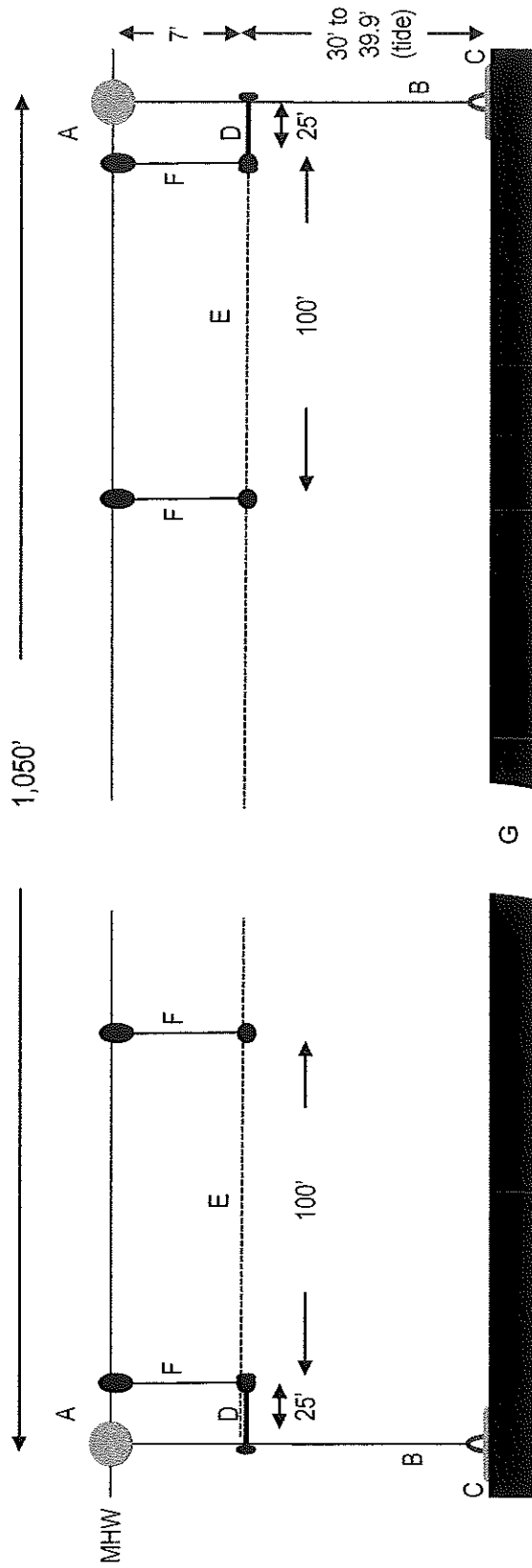


Paul Fischer

Appendix 3.

Little Chebeague Site

Cross Section View- Not to Scale



Maximum Depth = 39.9'
Minimum Depth = 30.0'

- A = Mooring Ball
B = 3/4" Mooring Chain
C = 1,500 lb Mooring
D = 1.5" Polytetralean hold fast shackled to mooring chain
E = 1/2" controlled depth long line segment-100' lengths
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Ocean Approved, LLC
June, 2011

Little Chebeague Island Site

Plan View- Not to Scale Maximum Site Coverage

A = Mooring Ball (mooring shown on cross view)
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Ocean Approved, LLC
 June, 2011

