

## STANDARD LEASE APPLICATION: NON-DISCHARGE

### 1. APPLICANT CONTACT INFORMATION

Applicant	Shearwater Ventures, LLC		
Contact Person	Nathan Johnson		
Address	23 Fern Avenue		
City	Long Island		
State, Zip	Maine, 04050		
County	Cumberland		
Telephone	(207) 712-2927		
Email	shearwaterventures@gmail.com		
Type of Application	<input checked="" type="checkbox"/> Draft Application <small>[submitted before scoping session]</small>		<input type="checkbox"/> Final Application <small>[submitted after scoping session]</small>
Dates	Pre-Application Meeting: 5/14/24	Draft Application Submitted:	Scoping Session:
Payment Type	Draft Application: <input type="checkbox"/> Check (included) <input checked="" type="checkbox"/> Credit Card		Final Application: <input type="checkbox"/> Check (included) <input type="checkbox"/> Credit Card

**Note:** The email address you list here will be the primary means by which we will contact you. Please provide an email address that is checked regularly. If you do not use email, please leave this blank.

### 2. PROPOSED LEASE SITE INFORMATION

Location of Proposed Lease Site	
Town	Long Island
Waterbody	Casco Bay
General Description (e.g. south of B Island)	Northwest of Little Chebeague Island
Lease Information	
Total acreage requested (100-acre maximum)	15.43 Acres
Lease term requested (20-year maximum)	20 years
Type of culture (check all that apply)	<input type="checkbox"/> Bottom (no gear) <input checked="" type="checkbox"/> Suspended (gear in the water and/or on the bottom)
Is any portion of the proposed lease site above mean low water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

**Note:** If you selected yes, you need to complete the steps outlined in the section titled: "Landowner/Municipal Permission Requirements".

### 3. GROWING AREA DESIGNATION

**Directions:** Information for growing area designations can be found here:

<https://www.maine.gov/dmr/shellfish-sanitation-management/closures/index.html>

Growing Area Designation (e.g. WL):	WI
Growing Area Section (e.g. "A1"):	A

**Note:** If you are proposing to grow molluscan shellfish in waters classified as anything other than open/approved, you will need to contact the Bureau of Public Health to discuss your plans at the following email: [DMRPublicHealthDiv@maine.gov](mailto:DMRPublicHealthDiv@maine.gov)

### 4. SPECIES INFORMATION

A. Please complete the table below and add additional rows as needed.

Name of species to be cultivated (include both common and scientific names):	Name and address of the source of seed stock or juveniles	Maximum number (or biomass) of organisms you anticipate on the site at any given time
1. Sugar Kelp ( <i>Saccharina latissima</i> )	Atlantic Sea Farms 20 Pomerleau Street Biddeford, Maine 04005	65,000 linear feet (if only species)
2. Skinny Kelp ( <i>Saccharina angustissima</i> )	Atlantic Sea Farms 20 Pomerleau St. Biddeford, ME 04005	65,000 linear feet (if only species)
3. Winged Kelp ( <i>Alaria esculenta</i> )	Atlantic Sea Farms 20 Pomerleau St. Biddeford, ME 04005	65,000 linear feet (if only species)
4. Horsetail / Fingered Kelp ( <i>Laminaria digitata</i> )	Atlantic Sea Farms 20 Pomerleau St. Biddeford, ME 04005	65,000 linear feet (if only species)
5. Shotgun Kelp ( <i>Agarum cribosum</i> )	Atlantic Sea Farms 20 Pomerleau St. Biddeford, ME 04005	65,000 linear feet (if only species)
6. Irish Moss ( <i>Chondrus crispus</i> )	Atlantic Sea Farms 20 Pomerleau St. Biddeford, ME 04005	25,000 linear feet (combined with kelp species)
7. Dulse ( <i>Palmaria palmata</i> )	Atlantic Sea Farms 20 Pomerleau St. Biddeford, ME 04005	25,000 linear feet (combined with kelp species)
8. Sea Lettuce ( <i>Ulva lactuca</i> )	Atlantic Sea Farms 20 Pomerleau St. Biddeford, ME 04005	25,000 linear feet (combined with kelp species)
9. Nori ( <i>Porphyra</i> spp.)	Atlantic Sea Farms 20 Pomerleau St. Biddeford, ME 04005	25,000 linear feet (combined with kelp species)
10. <i>Gracilaria tikvahiae</i>	Atlantic Sea Farms 20 Pomerleau St. Biddeford, ME 04005	25,000 linear feet (combined with kelp species)

B. Do you intend to possess, transport, or sell whole or roe-on scallops?  Yes  No

If you answered “yes” please contact the Bureau of Public Health to discuss your plans at the following email: [DMRPublicHealthDiv@maine.gov](mailto:DMRPublicHealthDiv@maine.gov)

**Note:** If you are proposing to grow molluscan shellfish, this application also serves as your written operational plan as required in the National Shellfish Sanitation Program (NSSP) Model Ordinance Chapter 2 and must be maintained in your files. If you wish to submit an operational plan separate from this application, please contact: [DMRPublicHealthDiv@maine.gov](mailto:DMRPublicHealthDiv@maine.gov)

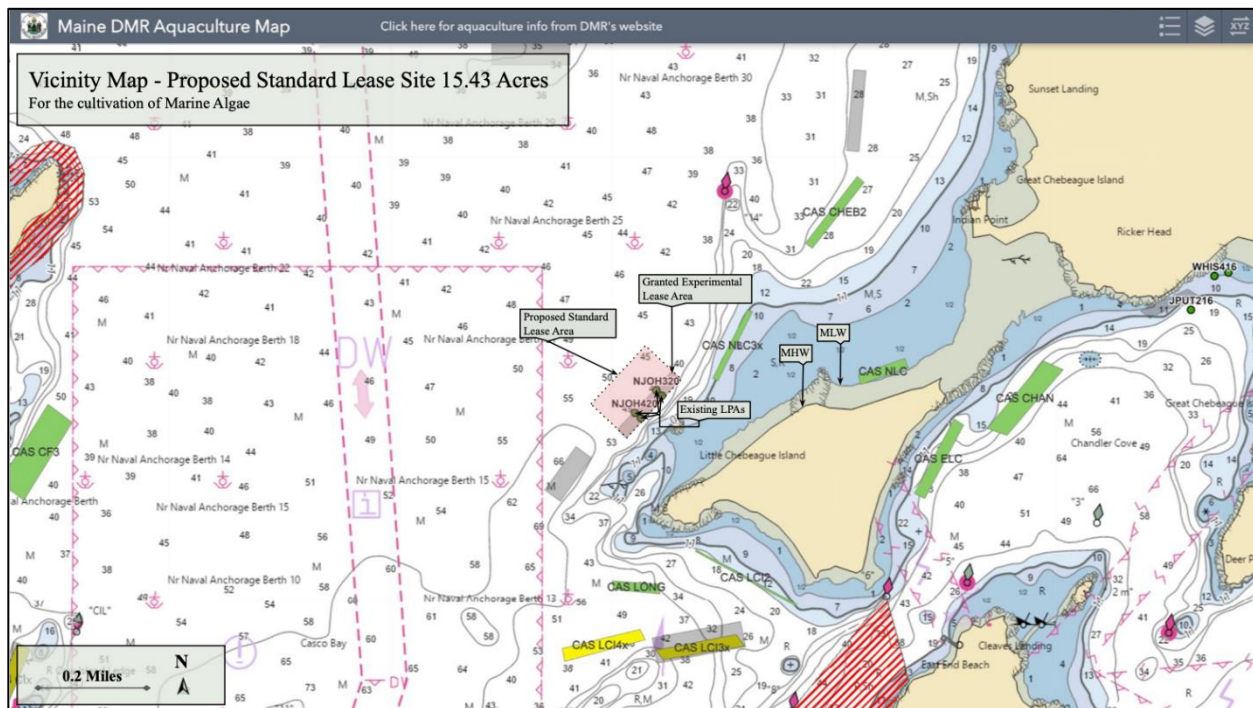
## 5. VICINITY MAP

**Note:** Please label as: ‘Vicinity Map’.

**Directions:** Using a NOAA Chart or USGS topographic map, show the area within a minimum of one-half mile of the proposed lease site.

The map needs to display the following:

- The waters, shore lands, and lines of mean high and mean low water within the general area of the lease
- An arrow indicating true north
- A scale bar
- The approximate lease boundaries



**Figure 1. Vicinity Map** - The proposed Standard Lease is located northwest of Little Chebeague Island in Casco Bay and will encompass the existing LPAs (NJOH 120, NJOH 220, NJOH 320, NJOH 420) and Experimental Lease CAS-Lox of the applicant.

## 6. BOUNDARY DRAWING

**Note:** Please label as: 'Boundary Drawing'.

**Directions:** Depict the boundaries of the proposed lease site. Provide a drawing with all corners, directions, and distances labeled. Provide coordinates for each corner as follows:

- Coordinate Description

Provide geographic coordinates for each corner of the lease site in latitude and longitude in decimal degrees (e.g., 43.123456 N, -69.123456 W). Identify the datum from the map, chart, or GPS unit used to develop these coordinates. The datum will be shown on the map or chart you are using. The Coordinate Description may be provided separately from the Boundary Drawing.



**Figure 2. Boundary Drawing.** The proposed Standard Lease site is 1,050 feet in length and 640 feet in width. This footprint results in an area of 672,000 sq. ft or 15.43 acres. The site is located northwest of Little Chebeague Island in Casco Bay. The proposed lease site is in subtidal waters. Longitude/latitude coordinates for the corners of the proposed lease area are from Google Earth. The internal coordinate system of Google Earth is geographic coordinates (latitude/longitude) on the World Geodetic System of 1984 (WGS84) datum.

## 7. SITE DEVELOPMENT

**Directions:** If your operations require the use of cages, nets, ropes, trays, or any object (structure) other than the organism to be grown directly on the bottom or buoys to mark the corners of the lease site, you must submit gear drawings and maximum structure schematics (information below). This section is intended to provide accurate plans depicting the physical structures to be placed in the proposed area. All dimensions need to be labeled with the appropriate units (i.e. 10ft, 10in). If you are proposing a bottom lease (no gear), please skip to question “F. Marking”.



**Note:** You may embed the schematics within the document or attach them to the end of your application. If you attach the schematics, please label them according to the instructions provided below.

**A. Gear Information**

**Directions:** Include a drawing of an individual piece of gear for each of the gear type(s) you plan to use. Include units referenced (i.e. 10in, 10ft, etc.).

1. Gear Drawing: Please include the following for each gear type that will hold organisms to be cultured (e.g. polar circles, marine algae longlines, oyster cages) and label as “Gear Drawing”. This view must show the following:
  - Length, width, and height of each gear type.

The only gear that will hold organisms will be 3/8-inch pot warp longlines. Photo 1 shows the 3/8-inch long line with early kelp growth (left) and a drone image of longlines at CAS-ELC (right) with growth after approximately 2 months. Longlines will be 1,000 ft in length as shown on Figures 4 and 6.



**Photo 1. Gear Drawing Photo.** Longline (left) and drone view (right). See Figures 4 and 6 for additional details.

2. Gear Table: List and describe each individual gear type that you will use in the table below. (e.g. polar circles, marine algae longline, oyster cages, moorings, mooring lines, buoys, etc.).

Note that below Gear Table includes four modules as shown in the Figure 3. The first module will be installed under the pending experimental lease application if approved.

<b>Specific Gear Type</b> <i>(e.g. soft mesh bag)</i>	<b>Dimensions</b> <i>(e.g. 16"x20"x2")</i>	<b>Time of year gear will be deployed</b> <i>(e.g. Spring, Winter, etc.)</i>	<b>Maximum amount of this gear type that will be deployed on the site</b> <i>(i.e. 200 cages, 100 lantern nets, etc.)</i>	<b>Species that will be grown using this gear type</b>
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Mooring balls (including state-required lease markers)	20.5" x 27"	<u>Seasonal</u> : 130 mooring balls deployed October 15 - June 15 <u>Year-round</u> : 6 mooring balls (corners of lease and center of boundary lines)	130	Marine algae
Mooring lines attached to helical anchors	~60' of 1" line	Year-round	18	Marine algae
Helical anchors	1 ¼" x 10" x 96"	Year-round	18	Marine algae
Longline leader	25' ⅜" pot warp	Seasonal: Red or Green Algae September 1 – November 15/March 1 – April 15 Kelp species October – June 15	Red or Green Algae: Up to 50 (2 per longline) Kelp species: Up to 130 (2 per longline, inclusive of red or green algae)	Marine algae
Longlines	1000' of ⅜" pot warp	Seasonal: Red or Green Algae September 1 – November 15/March 1 – April 15 Kelp species October – June 15	Red or Green Algae: Up to 25 Kelp species: Up to 65 (inclusive of red or green algae)	Marine algae
14-lb Displacement buoys (for depth control lines & spreader lines)	7" x 14"	Seasonal: Red or Green Algae September 1 – November 15/March 1 – April 15 Kelp species October – June 15	Depth control line buoys: Red or Green Algae: 450 (up to 18 per long line) Kelp species: Up to 1,170 (up to 18 per long line, inclusive of red or green algae)	Marine algae
Depth control line	~7' of ⅜" pot warp	Seasonal: Red or Green Algae September 1 – November 15/March 1 – April 15 Kelp species October – June 15	Depth control line buoys: Red or Green Algae: 450 (up to 18 per long line) Kelp species: Up to 1,170 (up to 18 per long line, inclusive of red or green algae)	Marine algae

Counterweight (for depth control lines)	~ 8-10 lbs; 8" x 4" x 8"	Seasonal: Red or Green Algae September 1 – November 15/March 1 – April 15 Kelp species October – June 15	Depth control line buoys weights: Red or Green Algae: 450 (up to 18 per long line) Kelp species: Up to 1,170 (up to 18 per long line, inclusive of red or green algae)	Marine algae
Mooring line for spreaders	~60' of 3/4" line	Year-round	6	Marine algae
Spreader line	640' of 3/8" pot warp	Seasonal: October 15 - June 1	3	Marine algae
Spreader line end buoys (75-lb displacement) - includes center state-required lease marker on long boundary side	23" x 17"	Year-round	6	Marine algae
Gravity anchors for spreader lines	2,000 lb	Year-round	6	Marine Algae

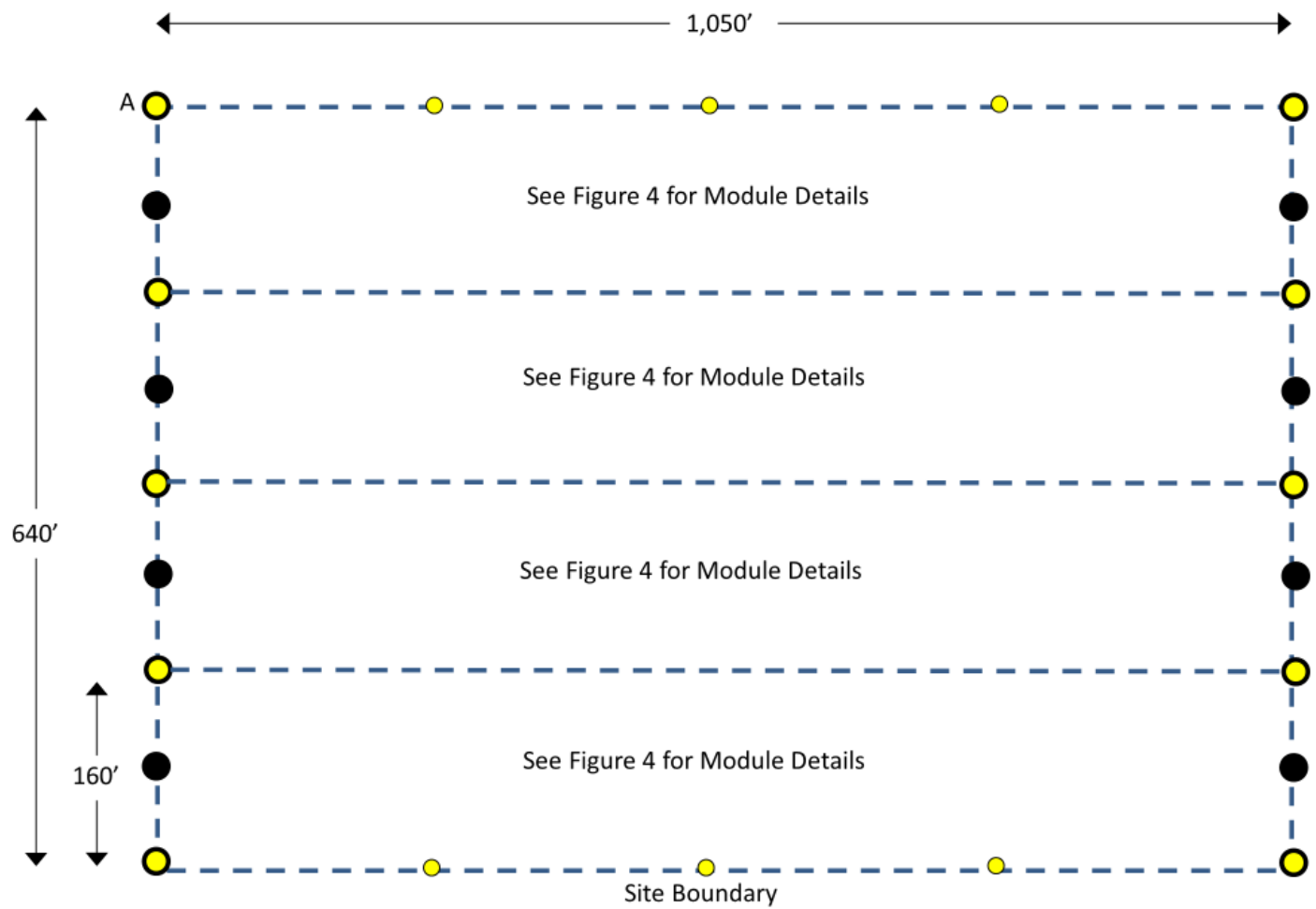
## **B. Maximum Structure and Mooring System Schematic**

**Directions:** Include drawings of your maximum gear layout. Include units referenced (i.e. 10in, 10ft, etc.).

1. Overhead View. Please include the following and label as “Overhead View”:
  - Maximum layout of gear, including moorings.
  - Length and width of project.
  - Approximate spacing between gear.
  - Lease boundaries and the location of proposed corner markers and any additional gear markers that would be present.
  
2. Cross-Section View. Please include the following and label as “Cross-Section View”:
  - The sea bottom.
  - Profile of gear in cross-section as it will be deployed.
  - Label gear with dimensions and materials.
  - Show mooring gear with mooring type, scope, hardware, and line type and size.
  - Depth of gear in relation to the water’s surface at mean low water and mean high water (if applicable).

Note: Please include an additional Cross Section View, depicting the elements listed above, if there will be seasonal changes to gear layout (i.e. over wintering).





Legend

A. Mooring ball (100 lb. displacement)

**Shearwater**

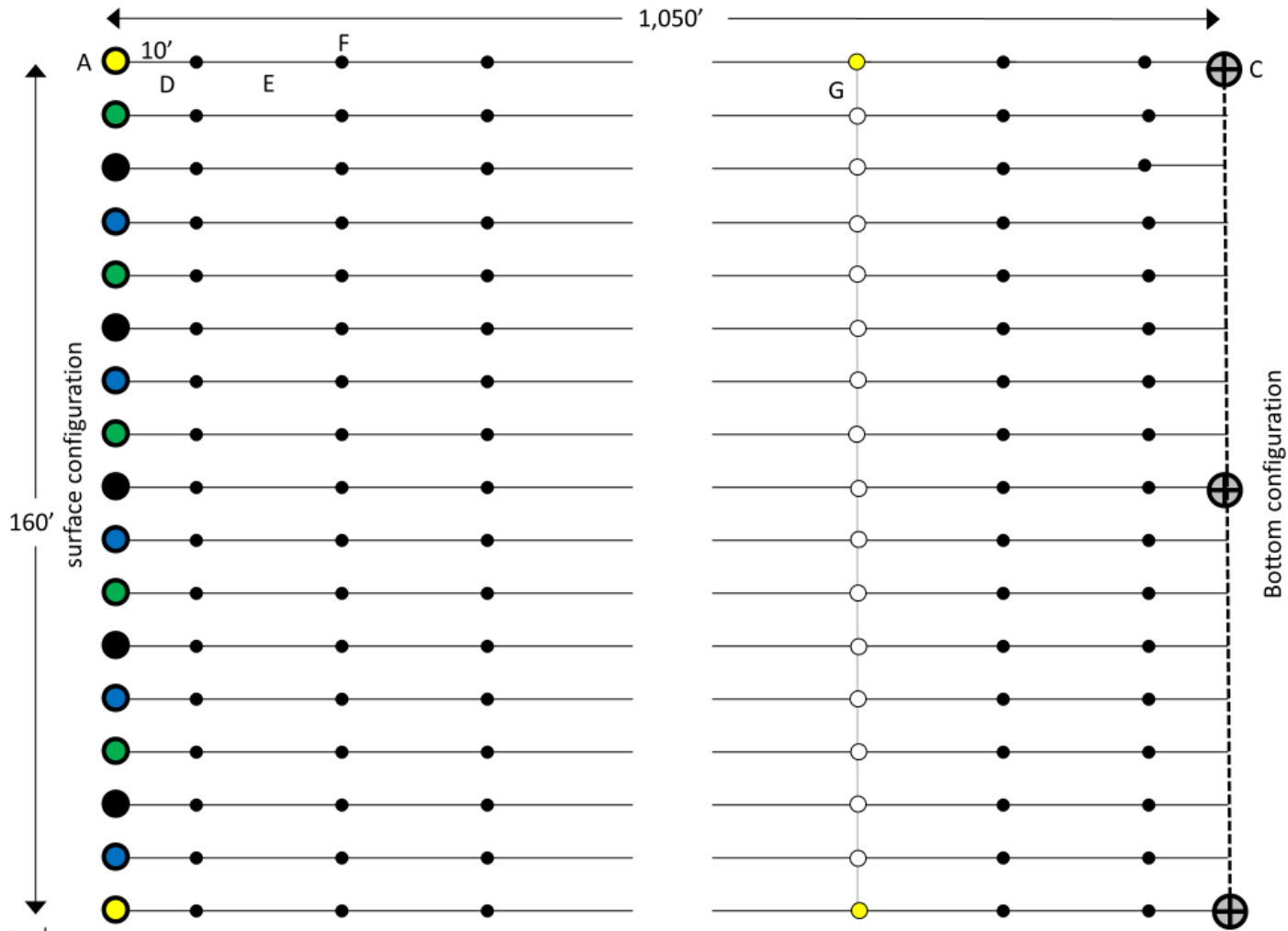
Ventures, LLC.

Figure 3. Overhead View

Grow Season

September 2024





**Legend**

- A. Mooring ball (100 lb. displacement)
- C. (6) terminal 10-inch helical anchors (3 on each end)
- D. 3/8" hold fast connected to mooring line 25' long
- E. 3/8" controlled depth long line (pot warp), 1,000 ft total length
- F. 7' depth buoy (14 lb. displacement)
- G. 3/8" spreader line with surface buoys (75 lb displacement on ends, 14 lb. displacement for others). Typical of 3 (separating longline into 4, 250 ft segments).

**Shearwater  
Ventures, LLC.**

Figure 4. Overhead View Single Module  
Grow Season  
September 2024



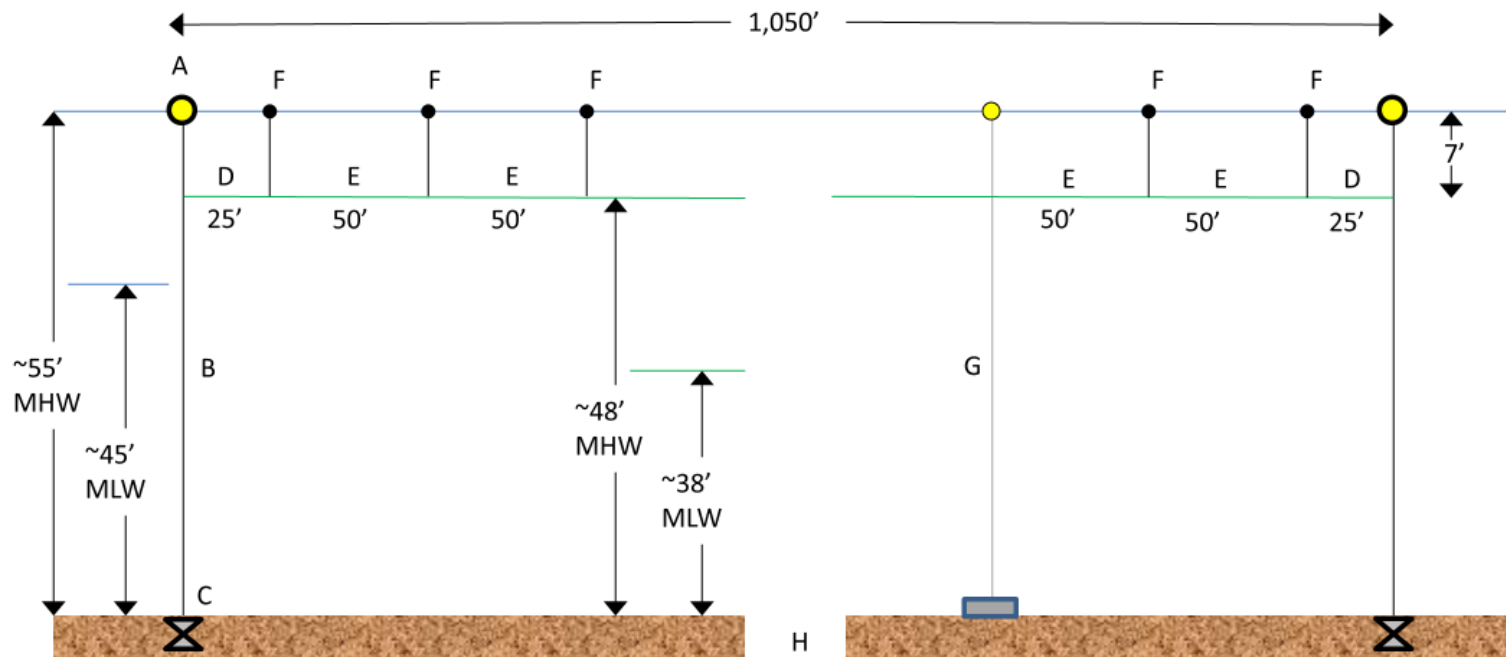


Legend

A. Mooring ball (100 lb. displacement)

**Shearwater**  
Ventures, LLC.  
Figure 5. Overhead View  
Non-Grow Season  
September 2024



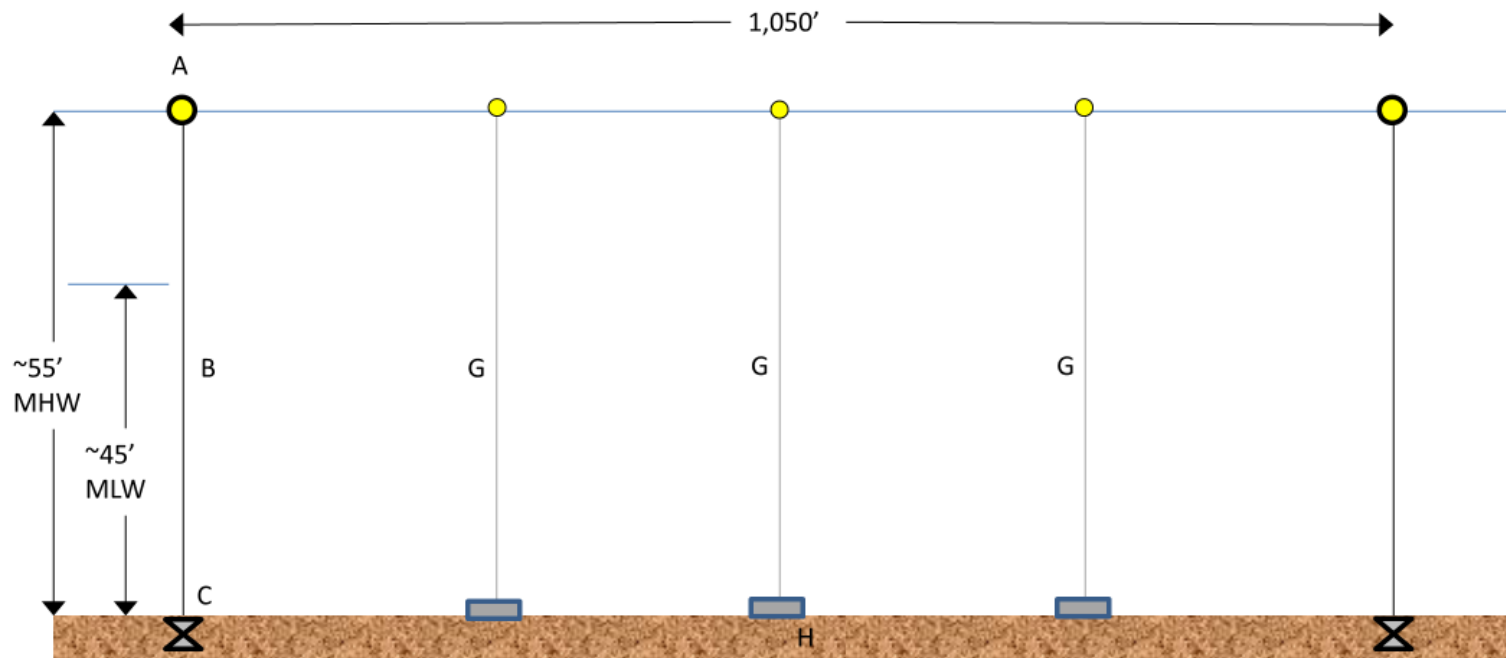


**Legend**

- A. Mooring ball (100 lb. displacement)
- B. 1" mooring line, approximately 55' long
- C. (6) terminal 10-inch helical anchors (3 on each end)
- D. 3/8" hold fast connected to mooring line 25' long
- E. 3/8" controlled depth long line (pot warp), 1,000 ft total length
- F. 7' depth buoy (14 lb. displacement)
- G. 3/4" mooring for end of spreader line with 2,000 lb gravity anchor. Typical of 3 spreader lines.
- H. Sea floor

**Shearwater  
Ventures, LLC.**

Figure 6. Cross Section View  
Grow Season  
September 2024

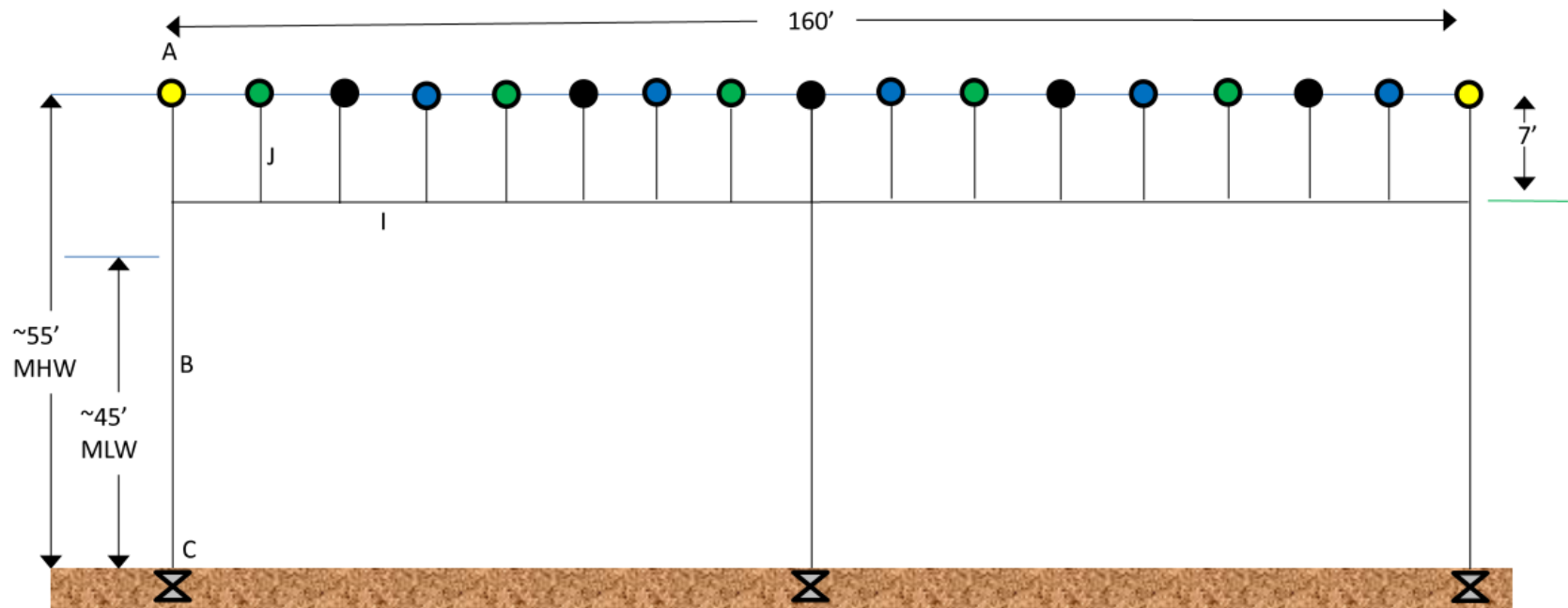


Legend

- A. Mooring ball (100 lb. displacement)
- B. 1" mooring line, approximately 55' long
- C. (6) terminal 10-inch helical anchors (3 on each end)
- G. 3/4" mooring for end of spreader line with 2,000 lb gravity anchor. Typical of 3 spreader lines.
- H. Sea floor

**Shearwater**  
Ventures, LLC.

Figure 7. Cross Section View  
Non-Grow Season  
September 2024



Legend

- A. Mooring ball (100 lb. displacement)
- B. 1" mooring line, approximately 55' long
- C. (6) terminal 10-inch helical anchors (3 on each end)
- H. Sea Floor
- I. 7/8" mooring header line
- J. 5/8" mooring line off header line (typical of 12 each end)

**Shearwater**

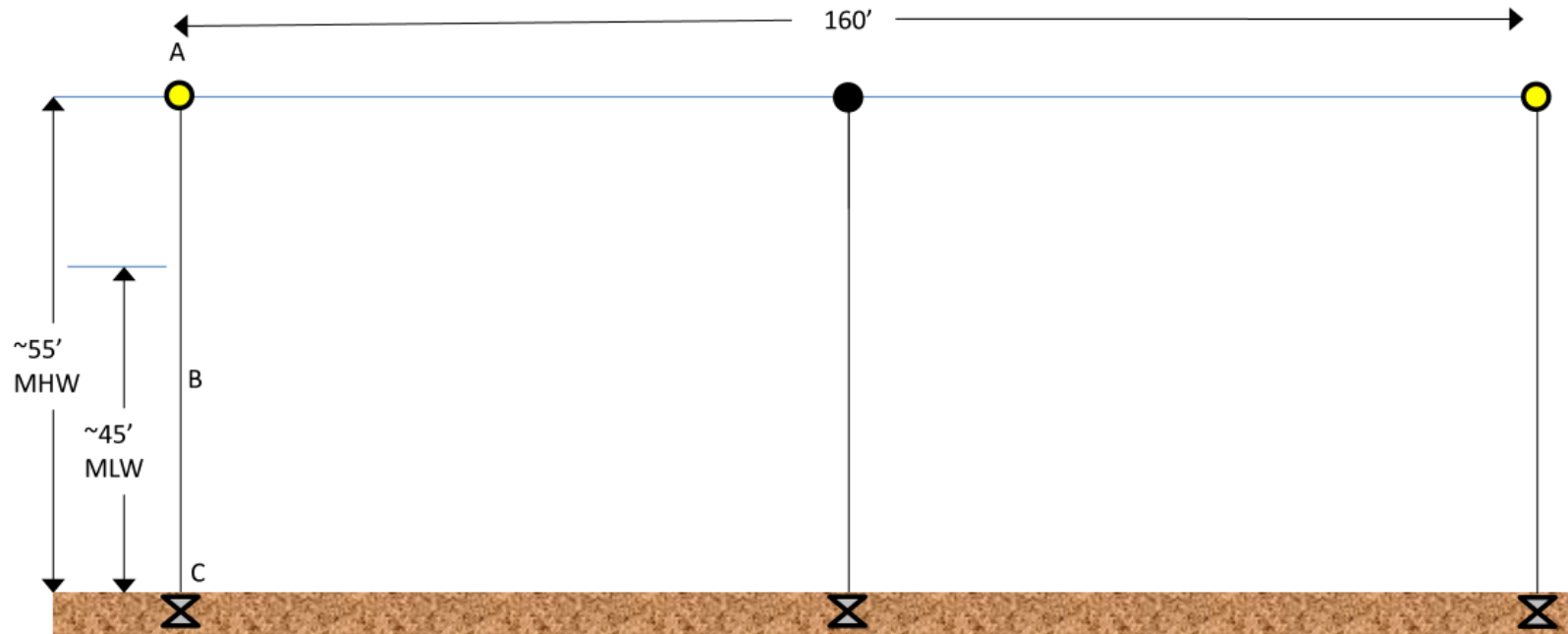
Ventures, LLC.

Figure 8. Cross Section (End View)

Grow Season

September 2024





Legend

- A. Mooring ball (100 lb. displacement)
- B. 1" mooring line, approximately 55' long
- C. (6) terminal 10-inch helical anchors (3 on each end)
- H. Sea Floor

**Shearwater**

**Ventures, LLC.**

Figure 9. Cross Section (End View)

Non-Grow Season

September 2024

**C. On-Site Support Structures**

1. Describe structures such as barges, sheds, etc., to be located on-site. Provide a schematic and indicate the dimensions, including height above sea level, materials, etc.

Not applicable.

2. Describe the storage and use of oil, gasoline, or other hazardous materials on site. If petroleum products are to be stored on site, provide a spill prevention plan.

Not applicable.

**D. Gear Color**

Provide the color of the gear and structures proposed to be used at the lease site.

State-required lease markers will be yellow. The color of all mooring buoys and all internal buoys (depth control line buoys and spreader line buoys) will comply with Chapter 2.37 (1)(A)(10).

**E. Equipment Layout**

Provide schematic or photographic renderings of the generalized layout of the equipment as depicted from two vantage points on the water. Provide the locations of the two vantage points.

Figures 10 and 11 show approximate location of proposed lease superimposed on drone images taken on September 7, 2024. Photo 2 shows a drone image of CAS-ELC taken in January 2021. CAS-ELC, also owned and operated by Shearwater Ventures, is approximately the size and layout of each module proposed in this application (four modules proposed).



**Figure 10.** Approximate boundary of proposed lease. Looking northeast towards Little Chebeague Island with Long Island in the background. Drone image, September 7, 2024.



**Figure 11.** Approximate boundary of proposed lease. Looking northwest towards Basket Island with Cumberland in the background. Drone image, September 7, 2024.



**Photo 2.** CAS ELC kelp farm for reference in module size. Drone image, January 1, 2021.

## **F. Marking**

Will you be able to mark your site in accordance with DMR regulations, Chapter 2.80? In part, this requires marker buoys which clearly display the lease ID and the words SEA FARM to be located at each corner of the lease. Effective January 1, 2023, marker buoys need to be yellow and host reflective material.

Yes  No

If you answered no, explain why and suggest alternate markings.

**Note:** If a lease is granted, you will also be required to mark the site in accordance with appropriate US Coast Guard Regulations. If you have questions about US Coast Guard Regulations contact: 1<sup>st</sup> Coast Guard District, Aids to Navigation Office (617-223-3293).

## 8. PRODUCTION ACTIVITIES

**Directions:** If you are cultivating more than one species, you will need to provide the following information for each species. Please attach additional pages if needed.

**A.** Please explain your proposed seeding activities. What months will seeding occur and how often will you be onsite to seed during this time.

Seeding of kelp species will begin no earlier than October 15 and will be completed by early December. Depending on weather and availability of seed, outplanting will occur over the course of 6-15 days.

Seeding red and green seaweed species will occur in the fall over the course of 3-5 days between September and November and/or in the spring over the course of 3-5 days between March and April with exact timing dependent on weather and seasonal availability of seed stock.

All seeding activities will be conducted during daylight hours.

**B.** Please explain your proposed tending/maintenance activities.

The proposed lease site will be tended from seeding through harvest at least every two weeks, if weather permits, and after any major storms to ensure longlines are on station, the anchoring system is performing properly, and lines are not tangled.

**C.** How frequently will you visit the site for routine tending/maintenance (i.e. flipping cages, etc.)?

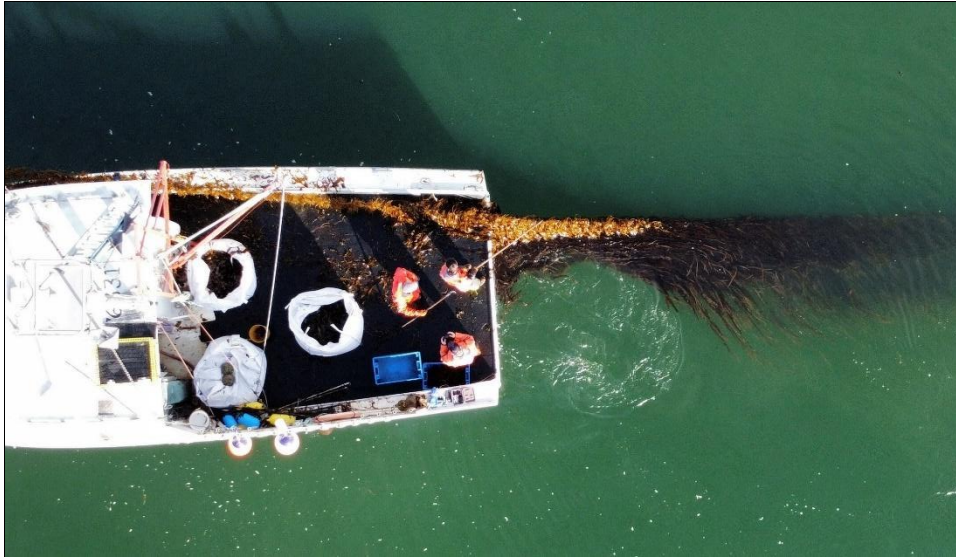
The proposed lease site will be tended between seeding through harvest at least every two weeks, if weather permits, and after any major storms.

All tending/maintenance activities will be conducted during daylight hours.

**D.** Describe the harvesting techniques you will use. If you plan on using a drag, please provide the dimensions.

Longlines will be harvested using a lobster boat style vessel or custom barge mounted on pontoons. Culture lines will be hauled out of the water and seaweed will be harvested into 1,000 lb bags as shown in Photos 3 and 4.





**Photo 3.** Drone image of kelp harvesting, April 15, 2024



**Photo 4.** Kelp harvesting – removing kelp from longline. April 7, 2024.

**E.** How often will you be at the site during harvesting periods?

Kelp harvesting will take place over 30-45 days between March 1 and June 15. Harvesting of red or green seaweeds would take place over 5-10 days in November/December or April/May timeframes. Hours on site per day during harvest will typically be up to 8.

**F.** Will gear be on the site year-round?  Yes  No



**G.** Describe any overwintering or “off season” plans for the site. For example, will you remove gear from the site and/or deploy gear in different areas within the proposed site? Please include where gear or product will be located if removed from the site.

Only moorings and corner marker buoys will be present from June 16 to September 1. Longlines, spreader lines, counterweights, and header lines will be removed during the off season (June 16 - October 14) and stored at Johnson’s Boatyard on Long Island.

From September 1 to June 15 each year, some marine algae will be cultured. Portions of the gear associated with red and or green seaweed (up to 25,000 ft) may be deployed as early as September 1 while kelp will be deployed in October.

**H.** Please provide details on any predator control techniques you plan to employ.

Not applicable.

**I.** Suspended culture gear can attract birds that roost on the gear and defecate, potentially creating a pollution source impacting shellfish held within the gear. In order to comply with the National Shellfish Sanitation Program (NSSP) Model Ordinance (MO), DMR is requiring that applications for the suspended culture of shellfish include a description of mitigation or deterrent measures to minimize the potential pollution impacts of birds at the proposed site. If appropriate, include sketches or photos that clearly depict those measures put into practice.

Examples may include:

- Submerging suspended gear and associated product at a depth sufficient to deter roosting for two weeks before harvest
- Attaching physical deterrents (i.e. zip ties) to gear
- The site is proposed for the culture of seed only
- The site is proposed for the culture of adductor-only scallops (i.e. no other shellfish species would be grown on the site)
- Proposed gear would always be suspended below the surface of the water at a depth sufficient to deter roosting (i.e. as is common for scallop lantern nets)

Not applicable.

## 9. NOISE AND LIGHT

**Directions:** If a question does not pertain to your proposed operations, please write “**not applicable**” or “**N/A**”.

**A.** What type of boats will be used on the site? When and how often will these vessels be on the site?

Boats will be on site for approximately 6-12 days to set up gear in early October, 6-15 days for seeding kelp species between mid-October and early December, 3-5 days for seeding red and green seaweed species between September and November and/or between January and March, one day at least every two weeks for tending/maintenance (or more often depending on weather), and 30-45 days for harvest and removal of gear between March 1 and June 15. Hours on site per day during harvest will typically be up to 8. Seeding, inspection and maintenance activities will primarily be conducted using an 18 ft skiff with 70-100hp outboard (Photo 5). Harvesting activities will be conducted using a 30-50ft lobster style boat with diesel engine, typically in the 200-400hp range (Photo 6 and 7).



**Photo 5.** 18ft skiff used for seeding, inspection and maintenance.



**Photo 6.** Fishing vessel, 30ft in length, previously used for transporting kelp.



**Photo 7.** Lobster/fishing vessel, 42ft in length, used for harvesting and transporting of kelp.

**B.** What type of powered equipment (e.g. generator, power washer, grading equipment, barges, etc.) will be used on the site? When and how often will the equipment be used?

To date a lobster boat's hydraulic hauler has been used to advance line and an electric winch and boom to raise the line for harvesting. Other equipment that could be used, most likely as temporary back up options, include a portable hydraulic power pack and/or gas powered generator. Power equipment will be used during harvesting activities between March 1 and June 15 (30-45 days total). Harvesting activities typically take place over the course of 8 hours on the farm.

**C.** Specify how you intend to reduce noise levels from the boats and other powered equipment.

All farming operations are on the boats listed in 9A and additional powered equipment beyond that described in 9B is not anticipated. There will be minimal engine noise that will not exceed what is typical for traditional lobster fishing operations in the area. If temporary back-up options including a generator or hydraulic power pack are used, measures will be taken such as such dampening enclosures, to further reduce noise.

The nearest residence to the proposed site is located over 1 mile away, both on Long Island and Chebeague Island. Therefore noise, especially during colder parts of the year, is not anticipated to be a concern.

**D.** Provide the number, type (whether fixtures are shielded), wattage and location of lights, other than those used for navigation or marking, that will be used at the proposed lease site.

Lobster boats to be used for harvesting activities include deck lights typical for operations. Typical lighting will be 1-2 DuraBrite Mini lights or similar, each of which have a total power

consumption of 210 watts. Lights are capable of being shielded.

The nearest residence to the proposed site is located over 1 mile away, both on Long Island and Chebeague Island. Due to the distance, as well as operation of lights similar to existing fishing activities, is not anticipated to result in concerns.

**E. Indicate under what circumstances you might work at your site beyond daylight hours.**

In rare circumstances harvest operations may be initiated before dawn in order to avoid adverse weather conditions, such as high winds, later in the day that could pose a threat to farm integrity or mariner safety. It is not anticipated that lights will be used longer than 2 hours.

## 10. CURRENT OPERATIONS

**Directions:** If a question does not pertain to your proposed operations, please write “**not applicable**” or “**N/A**”.

**A. Describe your existing aquaculture operations, including the acronyms of all active leases and/or licenses.**

The applicant installed, maintains, and operates Standard Lease CAS ELC, located to the east of Little Chebeague Island, and four LPAs (NJOH 120, 220, 320, 420), located in the footprint of the proposed standard lease.

Additionally, they have been granted (October 2, 2024) an experimental lease, CAS-LOx, located within the footprint of the proposed standard lease. CAS-LOx will constitute one of four modules that comprise this proposed standard lease.

**B. What are your plans for any existing leases and/or Limited Purpose Aquaculture (LPA) licenses if the lease is granted? Will any existing leases and/or LPA licenses be relinquished if the lease is granted? If so, please indicate which ones.**

I anticipate that at the time of this lease being granted, I will relinquish LPAs NJOH120, NJOH220, NJOH320, and NJOH420 and/or apply for them to be located in a different location in Casco Bay. Should this lease be granted while experimental lease CAS-LOx is still active, I will relinquish that lease.

Standard lease CAS ELC will continue to operate as it has been.

## 11. ENVIRONMENTAL CHARACTERIZATION

**Directions:** Using your knowledge of the area, describe the environment of the proposed lease site. Be sure to include units of measurement in your answers (i.e. feet, cm/s).

It should be noted that Maine Department of Marine Resources (MDMR) scientists assessed

the experimental lease site, currently in application phase, on August 29, 2023. This comprised one of the four modules proposed in this Standard Lease application and has site characteristics representative of the area. The Site Report, dated May 2, 2024, is available at the following link: [https://www.maine.gov/dmr/sites/maine.gov/dmr/files/inline-files/SITEREPORT\\_05.02.2024\\_E\\_ShearwaterVentures\\_CascoBay\\_LongIsland.pdf](https://www.maine.gov/dmr/sites/maine.gov/dmr/files/inline-files/SITEREPORT_05.02.2024_E_ShearwaterVentures_CascoBay_LongIsland.pdf)

**A. What are the approximate depths at mean low water?**

The approximate depths at mean low water range from 38ft on the eastern lease boundary to 50ft on the western lease boundary.

**B. What are the approximate depths at mean high water?**

The approximate depths at mean high water range from 48ft on the eastern lease boundary to 60ft on the western lease boundary.

**C. Provide the approximate current speed and direction during the ebb and flow.**

Based on tide and wind-generated velocities, the flood and ebb currents run northeast and southwest respectively at a maximum of 0.5-1 knots. FVCOM model results confirm on site conditions and are show in Figure 12 (flood tide example).



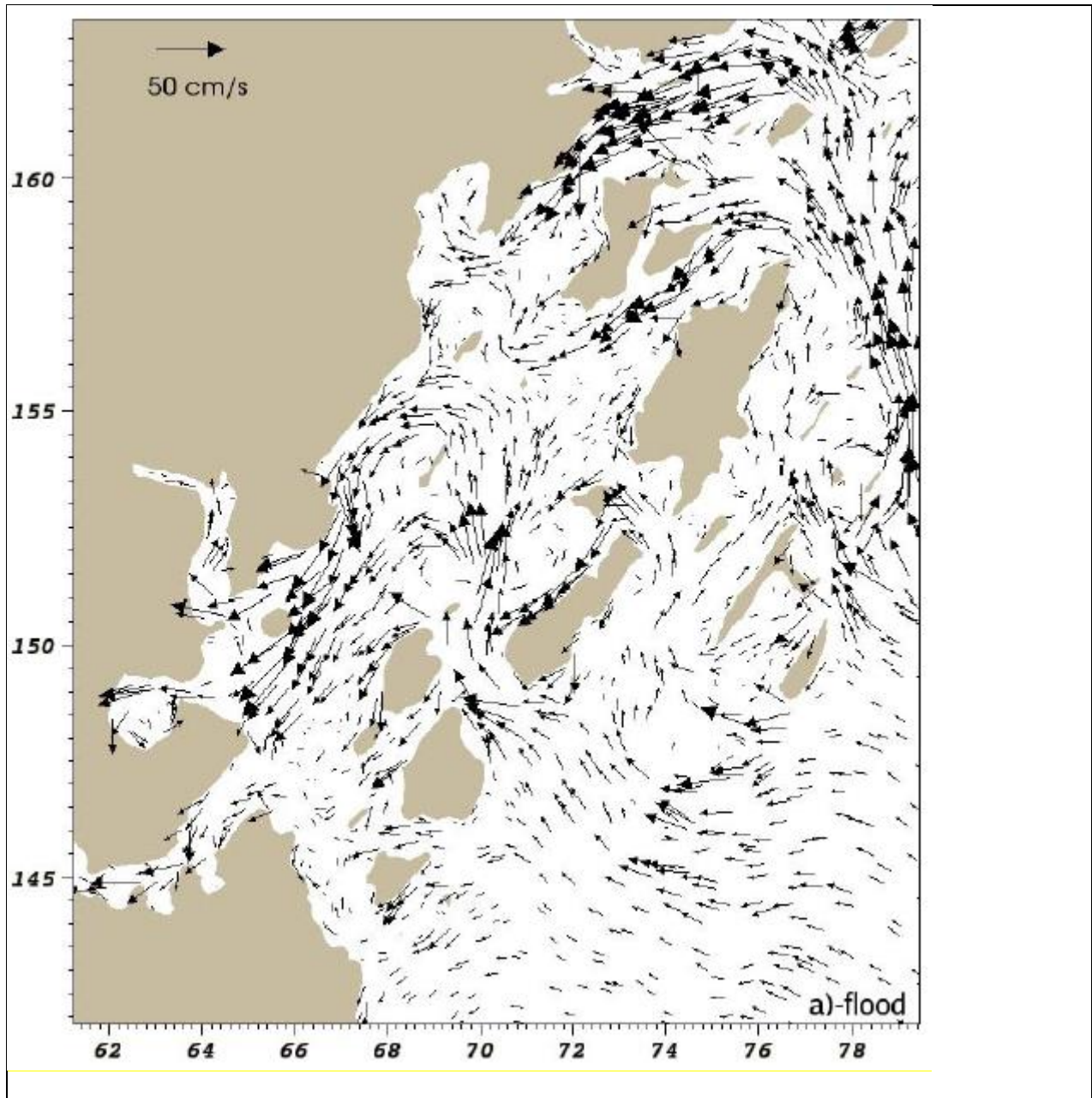


Figure 12. Norwich University FVCOM model predictions of wind and tidal induced circulation in Casco Bay, flood (upper panel) and ebb (lower panel), western ( left) and eastern ( right) side of the bay.

**D.** The following questions (D.1 through D.6) may be answered in writing or by submitting a video. If you plan to submit a video, please contact the Department prior to video collection.

**1.** What are the bottom characteristics (mud, sand, gravel, rock, ledge or some mix, etc.)?

The bottom of the proposed site area is composed primarily of mud.

**2.** Describe the bottom topography (flat, steep rough, etc.).

The site's slope gently decreases from the eastern to the western lease boundary.

**3.** Describe marine organisms by species or common names. Based on your personal observations or other sources of information, are these species abundant, common, or



rare?

Benthic organisms in the vicinity of the site are similar to common species in the area including lobster, crabs, and snails. Fish, including mackerel, menhaden, and striped bass, occur commonly during the summer when longlines are not present.

**4.** Are there shellfish beds or fish migration routes in the surrounding area? If so, please describe.

The applicant is not aware of any shellfish beds or fish migration routes in the surrounding area.

**5.** Describe the presence and extent of submerged aquatic vegetation, i.e. eelgrass, within the proposed lease area. Please include the date of this observation along with the method of observation. If submerged aquatic vegetation is observed, please also describe the abundance below and sketch the limits of the beds in the vicinity map.

Based on data collected in 2022 by the State of Maine Department of Environmental Protection, the proposed lease is outside of the eelgrass zone and the nearest eelgrass coverage (40-70%) is approximately 390 feet from the site. Eelgrass beds are generally observed in shallow waters which allow for adequate light penetration to support photosynthesis. The proposed site is in a water depth between 38-50ft (MLW) and 48-60ft (MHW) which is not ideal habitat for eelgrass.

**6.** Describe the general shoreline and upland characteristics (rocky shoreline, forested, residential, etc.)

The proposed lease site is located northwest of Little Chebeague Island, a small undeveloped island with a gently sloping beach of sand on the northwest shore between a sand and gravel headland to the northeast and rock headland to the southwest. A rock ledge is located approximately 300 to 500 ft (depending on tide) off the beach and submerged at high tide. The upland side of the beach rises rapidly and is covered with low vegetation giving way to trees. There is a bar (primarily sand with a few rocks) between Chebeague Island and Little Chebeague Island that is exposed at low tide. Visitors to the island typically access the island from the beach on the southeast side of the island.

**E.** Is your proposed lease located within a Maine Department of Inland Fisheries and Wildlife designated Essential Habitat?  
 Yes  No

**Note:** The location of Essential Habitats in the State of Maine, along with information on how projects within these areas are reviewed, can be found here: <https://www.maine.gov/ifw/fish-wildlife/wildlife/endangered-threatened-species/essential-wildlife-habitat/index.html>

**If a project is located within an Essential Habitat,** applicants are strongly encouraged to contact the MDIFW Environmental Review Coordinator ([John.Perry@maine.gov](mailto:John.Perry@maine.gov), phone: 207-287-5254) prior to application submission.

**F. Describe ice formation in the winter months at the proposed site.**

The applicant has lived on Long Island, Maine the vast majority of their life and has not observed ice formation at the site location. Infrequent ice (every 5 to 10 years) can be blown away from the mainland shoreline by north or northwest winds and travel through the site but these conditions have not been observed in the last 5 years. The water depth, distance from shore (approximately 1,000 ft) and persistent north/northwest wind during growing season minimize the formation and presence of ice. In addition, the applicant has had LPAs at the proposed location for multiple years and during that time there have been no issues with ice.

**Note:** Description of ice should incorporate data such as water temperature or ice out date over a ten-year period or observations over several (no less than 5) recent winters from the harbormaster, a municipal official such as a shellfish warden, local harbor committee, Marine Patrol Officer, fishing/aquaculture industry members, or the applicant.

Stating “no ice observed last year” will not be accepted as a complete answer.

## 12. EXISTING USES

**A. Describe the existing uses of the proposed area in questions A.1 through A.5 below. Please include the a) type b) time of year c) frequency and d) proximity to the lease site for each existing use.**

### 1. Commercial Fishing

Limited lobster gear occurs seasonally in the vicinity of the proposed site during the summer and early fall. Minimal to no gear is present during the proposed time of kelp operation (October 15 - June 15). Discussions with local fishermen indicate no scallop dragging occurs at the location during the winter. In addition, the presence of LPAs by the applicant for multiple years has grown general awareness of kelp farming at the location. During a site visit on September 7, 2024 one lobster trawl (two buoys) was present in the western portion of the proposed lease. This is a time of year that kelp lines will not be present, with possible red and/or green algae but not covering the whole lease area (up to 25,000 linear feet).

### 2. Recreational Fishing

Recreational fishing has not been observed at the proposed location and is not anticipated during the kelp season (October 15 - June 15). Infrequent recreational fishing is possible in September when red and/or green algae may be present but is not anticipated. Recreational clamming occurs very infrequently (once or twice a year) at the beach on the northwest side of the island, located approximately 1,000 ft from the nearest part of the proposed lease.

### 3. Boating Activities (please also include the distance to any navigable channel(s) from your proposed site at low water)

Most visitors to Little Chebeague Island access the island in the vicinity of the beach on the opposite side of the island from the proposed site. The proposed lease and gear are not anticipated to impede access to the island in any way. The proposed lease is over 900 feet to the east of the nearest marked channel and over 2,500 feet to the east of the recommended two-way route for deep draft vessels.

<b>4. Ingress and egress (i.e. coming and going) of shorefront property owners within 1,000 feet of the proposal (e.g. docks, moorings, landing boats on shore, etc.)</b>
There are no shorefront property owners within 1,000 ft of the proposed lease. The Maine Island Trail Association (MITA) maintains a network of paths on the island. During previous conversations, the MITA confirmed the growing season for the kelp farm (October to early June) is not likely to impact visitors to the island.
<b>5. Other uses (kayaking, swimming, etc.)</b>
These activities primarily occur during summer and early fall when operations at the site do not occur and primarily on the east side of Little Chebeague Island, approximately 3,000 ft away. Limited activities occur during summer and fall on the beach closest to the proposed lease, approximately 1,000 ft away.

<b>B. Are there private docks, moorings, or other access points within 1,000 feet of the proposed lease? If yes, please include approximate distance from the proposed lease.</b>
No.

<b>C. Are there public beaches, parks, docking facilities or federally, state, or municipally conserved lands within 1,000 feet of the proposed lease site? If yes, please describe and include approximate distances from proposed lease.</b>
Little Chebeague Island is state owned conserved land and is 900' southeast of corner S.

<b>D. Are there any Limited Purpose Aquaculture (LPA) licenses or aquaculture leases within 1,000 feet of your proposed lease site? If yes, please list their acronyms below. Current and pending aquaculture leases and active LPA licenses may be found here: <a href="https://www.maine.gov/dmr/aquaculture/leases/index.html">https://www.maine.gov/dmr/aquaculture/leases/index.html</a></b>
There is one experimental lease site (CAS NLC3x) located approximately 410 feet to the northeast of the proposed site. The proposed standard lease site will not interfere with operations at CAS NLC3x.
There are 4 LPAs (NJOH 120, 220, 320, 420), licensed to the applicant, within the footprint of the proposed standard lease.

### 13. RIPARIAN LANDOWNERS AND SITE ACCESS

- A. If your lease is within 1,000ft of shorefront land (which extends to mean low water or 1,650 ft. from shore, whichever is less, according to NOAA charts), the following supporting documents are required:**
1. A labeled copy of a tax map(s) depicting the location of the proposed lease site and including the following elements:

- Label the map “Tax Map: Town of (name of town).”
- Legible scale
- Tax lot numbers clearly displayed
- The boundaries of the proposed lease



Figure 13. Tax Map, Town of Long Island

2. Please use the Riparian Landowner List (included on the next page) to list the name and address of every shorefront landowner within 1,000ft of the proposed lease site. Have the tax collector or clerk of the municipality certify the list. Refer to the riparian determination guidance document to ensure all riparian landowners are included: <https://www.maine.gov/dmr/aquaculture/forms/documents/RiparianDetermination.pdf>
3. If any portion of the site is intertidal, you need to complete the steps outlined in the section titled: “Landowner/Municipal Permission Requirements”.

**B.** Will your access to the lease area be across riparian land?

Yes  No

**Note:** If you selected yes, you will need to complete the landowner permission requirements included in “Landowner/Municipal Permission Requirements” of this application.

**C.** How will you access the proposed site?

Via custom barge, skiff, or lobster-style boat from Long Island.

**D. How will your proposed activities affect riparian ingress and egress?**

There will be no impact to riparian ingress and egress.





STATE OF MAINE  
 DEPARTMENT OF MARINE RESOURCES  
 21 STATE HOUSE STATION  
 AUGUSTA, MAINE  
 04333-0021

**RIPARIAN**

**OWNERS LIST -**

THIS LIST MUST  
**CERTIFIED BY**

JANET T. MILLS  
 GOVERNOR

BE

THE TOWN CLERK

PATRICK C. KELIHER  
 COMMISSIONER

On this list, please include the map number, lot number, and the current owners' names and mailing addresses for all shorefront parcels within 1,000 feet of the lease site. It is the applicant's responsibility to assemble the information for the Town Clerk to certify. The Town Clerk only certifies that the information is correct according to the Town's records. Once you have completed the form, ask the Town Clerk to complete the certification section below. If riparian parcels are located within more than one municipality, provide a separate, tax map and certified riparian list for each municipality.

TOWN OF: Long Island, Maine

MAP #	LOT #	Landowner name(s) and address(es)
	010	Maine State Bureau of Parks and Lands (BPL):  Maine BPL 22 State House Station 18 Elkins Lane (AMHI Campus) Augusta, ME 04333-0022 Phone: (207) 287-3821 Fax: (207) 287-6170

use additional sheets if necessary and attach hereto.

**CERTIFICATION**

I, Amy Tierney, Town Clerk for the Town of Long Island, certify that the names and addresses of the property owners listed above, as well as the map and lot numbers, are those listed in the records of this municipality and are current as of this date.

SIGNED:

Amy Tierney

DATE:

8/7/24

OFFICES AT 32 BLOSSOM LANE, MARQUARDT BUILDING, AUGUSTA, MAINE  
<http://www.Maine.gov/dmr>

PHONE: (207) 624-6550

FAX: (207) 624-6024



## 14. TECHNICAL CAPABILITY

Provide information regarding professional expertise. Attaching resume or documentation of practical experience necessary to accomplish the proposed project would satisfy this requirement.

Mr. Johnson's professional expertise centers on the nexus of water, energy and the environment. He pioneers innovative approaches to implementing emerging technologies in a cost effective and environmentally responsible manner. Mr. Johnson also focuses on building strategic partnerships and projects to accelerate new industries and contribute to the sustainability of global communities.

A native of Long Island, Maine, Nathan has a diverse background that includes renewable energy, aquaculture, commercial fishing, groundwater exploration and development, construction management, and environmental engineering. He has been farming kelp in the waters of Chebeague Island and Long Island for the past ten years. He frequently mentors new farmers and presents to stakeholders on kelp farming and the responsible growth of the sector. Nathan presented to the Long Island community in July 2024 on his farming plans, including this proposed standard lease, as well as information exchange related to a recent trip to Japan with other industry leaders.



Photo 8. Town of Long Island community presentation, July 23, 2024

He serves on the Board of the Island Institute and the Maine Fishermen's Forum as well as the Policy Advisory Committee for Maine Sea Grant. In addition, he is a selected member of the newly formed State of Maine Blue Economy Task Force..

LinkedIn profile: <https://www.linkedin.com/in/nathan-johnson-98546b45/>

## 15. FINANCIAL CAPABILITY

### A. Financial Capability

Please provide a letter from a financial institution indicating the applicant has an account in good standing.

**Note:** Any financial information you submit with your application is part of the public record. Please exercise discretion when submitting financial information.

Please see attached letter from the applicant's financial institution, Bangor Saving's Bank.

### B. Cost Estimates

Please provide cost estimates of the proposed aquaculture activities.

It is anticipated that if this lease is granted there will already be gear on the site associated with the proposed 4-acre experimental lease within the same footprint. The below cost estimate is associated with the addition of three additional modules to the initial module, pending approval.

Item	Unit	Quantity	Cost
GoDeep LD Buoys	Each	864	\$ 10,480
Go Deep Round Buoys	Each	96	\$ 2,030
Long lines (3/8-inch)	Foot	48,000	\$ 5,910
Buoy lines (3/8-inch line)	Foot	8640	\$ 1,060
Polyballs (A3)	Each	84	\$ 6,030
Corner buoys	Each	0	\$ -
7/8-inch header line	Per Module	3	\$ 8,880
1-inch mooring line	Per Module	3	\$ 6,000
10-inch helical anchors & install	Each	18	\$ 7,200
PVC pipe (3/4-inch)	Foot	4320	\$ 4,560
Shackles - 1-inch	Each	18	\$ 950
Chain (1/2" or 1")	Foot	216	\$ 1,820
<b>TOTAL</b>			<b>\$ 54,920.00</b>

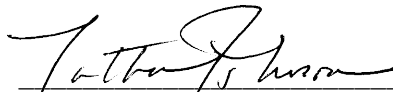
**16. ESCROW ACCOUNT OR PERFORMANCE BOND**

Check the category that describes your operation:

Check Here	Lease Category	Amount of Required Escrow or Performance Bond
<input type="checkbox"/>	No gear/structure, no discharge	\$500.00
<input type="checkbox"/>	No gear/structure, discharge	\$500.00
<input type="checkbox"/>	≤ 400 square feet of gear/structure, no discharge	\$1,500.00
<input checked="" type="checkbox"/>	>400 square feet of gear/structure, no discharge	\$5,000.00*
<input type="checkbox"/>	Gear/Structure, discharge	\$25,000.00

\*DMR may increase the bond/escrow requirements for leases with more than 2,000 square feet of structure.

I, (printed name of applicant) Nathan Johnson have read DMR Aquaculture Regulations Chapter 2.64(10) (D) and if this proposed lease is granted by DMR, I will either open an escrow account or obtain a performance bond, in the amount determined by the lease category.



**Applicant Signature**

*Note: Add title if signing on behalf of a corporate applicant.*

November 22, 2024

**Date**

**ADDITIONAL APPLICANTS:** Each applicant must sign this section indicating that they will open an escrow account or obtain a performance bond. Use the space below for additional persons listed on the application. You may attach additional pages, if necessary.

I, (printed name of applicant) \_\_\_\_\_ have read DMR Aquaculture Regulations Chapter 2.64(10) (D) and if this proposed lease is granted by DMR, I will either open an escrow account or obtain a performance bond, in the amount determined by the lease category.

**Applicant Signature**

*Note: Add title if signing on behalf of a corporate applicant.*

September 9, 2024


**Date**

**17. APPLICANT SIGNATURE PAGE**

I hereby state that the information included in this application is true and correct. I have also read and understand the requirements of the Department’s rules governing aquaculture and the application instructions pertaining to the standard lease process.

Printed name: Nathan E. Johnson

Title (*if corporate applicant*): Founder and Manager

Signature:  Date: November 22, 2024

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.

**Note:**

- All applicants must sign and date this page. Please use the space below, if additional signatures are required.
- Corporate applicants, please be sure to include the title(s) (i.e. President, Treasurer, etc.) of the individual(s) signing on the company’s behalf.

**Additional Applicant:**

Printed name: \_\_\_\_\_

Title (*if corporate applicant*): \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**18. LANDOWNER/MUNCIPAL PERMISSION REQUIREMENTS** *(if applicable)*

**Directions:** If any portion of the site is intertidal, you need to complete the steps outlined below.

**Step I: Obtain written permission from all intertidal landowners.**

Obtain written permission from all intertidal landowners. Pursuant to 12 M.R.S.A. §6072(4)(F), the applicant must submit written permission of every riparian owner whose land to the low water mark will be used. The written permission needs to include the parcel and lot number of the shorefront owner(s), whose intertidal property the proposed site occupies, as recorded on the riparian landowner list.

**Step II: Determine if the municipality where your site is located has a shellfish conservation program.**

Pursuant to 12 MRSA §6072(3) *In any municipality with a shellfish conservation program under section 6671, the Commissioner may not lease areas in the **intertidal zone** within the municipality without the consent of the municipal officers.*

If the municipality where the proposed lease site is located has a shellfish conservation program, it is your responsibility to obtain consent for the proposed lease site from the municipal officers (i.e. the selectmen or councilors of the town, or the mayor and aldermen or councilors of a city.) Consent means a majority vote of the municipal officers as recorded in a public meeting.

It is your responsibility to contact the municipality and determine if they have a shellfish conservation program. Best practices would include discussing your plans with shellfish committee members, but only the consent of municipal officers is required.

Does the municipality, where the proposed site is located, have a shellfish conservation program?  Yes  No

**If you answered yes**, please attach documentation from a public meeting demonstrating that a majority of municipal officers have consented to your proposal.



## MAINE DEPARTMENT OF MARINE RESOURCES

*Aquaculture Division, 21 State House Station, Augusta, ME 04333-0021 (207) 624-6567*

### **CORPORATE APPLICANT FORM** **For Standard and Experimental Aquaculture Lease Applications**

Corporations or partnerships that apply for aquaculture leases in the State of Maine must complete this form. Corporations must submit information as requested under A. Corporate Applicant. Partnerships must submit information as requested under B. Partnership Applicant.

#### **A. Corporate Applicant**

**Note:** You must attach a copy of the Articles of Incorporation (Inc.) or Certificate of Formation (LLC) to your application.

1. Name of Corporation: Shearwater Ventures, LLC.
2. Date of incorporation: 10/08/2015                      State of incorporation: Maine
3. List the names, addresses, and titles of all officers:

<b>Name</b>	<b>Address</b>	<b>Title</b>
Nathan Johnson	285 Fern Avenue, Long Island, ME 04050	Founder & Manager

**Please use additional sheets if necessary and attach to the application.**

4. List the names and addresses of all directors/members:

<b>Name</b>	<b>Address</b>
Nathan Johnson	285 Fern Avenue, Long Island, ME 04050

**Please use additional sheets if necessary and attach to the application.**

5. Has the corporation, or any stockholder, director, or officer applied for an aquaculture lease for Maine lands in the past?  Yes  No

If you selected “yes,” please indicate who applied for the lease and the status of the application or lease. Shearwater Ventures, LLC holds the Standard Lease CAS-ELC and LPAs NJOH-120, NJOH-220, NJOH-320 and NJOH-420. All are in good standing.

6. List the names and addresses of all stockholders who own or control at least 5% of the outstanding stock and the percentage of outstanding stock currently owned or controlled by each stockholder.

Name	Address	Percentage of Owned Stock
Nathan Johnson	285 Fern Avenue, Long Island, ME 04050	100%

**Please use additional sheets if necessary and attach to the application.**

7. List the names and addresses of stockholders, directors, or officers owning an interest, either directly or beneficially, in any other Maine aquaculture leases, as well as the quantity of acreage from existing aquaculture leases attributed to each such person based on the percentage of owned stock listed in question 6. If none, write, “None.”

Name	Address	Lease Acronym	Acreage
Nathan Johnson	285 Fern Avenue, Long Island, ME 04050	CAS-ELC	3.84
Nathan Johnson	285 Fern Avenue, Long Island, ME 04050	NJOH-120	0.0092
Nathan Johnson	285 Fern Avenue, Long Island, ME 04050	NJOH-220	0.0092
Nathan Johnson	285 Fern Avenue, Long Island, ME 04050	NJOH-320	0.0092
Nathan Johnson	285 Fern Avenue, Long Island, ME 04050	NJOH-420	0.0092
Nathan Johnson	285 Fern Avenue, Long Island, ME 04050	CAS-LOx	3.90

**Please use additional sheets if necessary and attach to the application.**

8. Has the corporation or any officer, director, member, or shareholder listed in item 5 above ever been arrested, indicted, convicted of, or adjudicated to be responsible for any violation of any marine resources or environmental protection law, whether state or federal?

Yes  No

If you selected “yes”, please provide details.

**B. Partnership Applicant**

**Note:** You must attach a copy of either the Certificate of Limited Partnership or documentation of the formation of a General Partnership to your application.

1. Name of Partnership: \_\_\_\_\_

2. Date of formation: \_\_\_\_\_ State of partnership: \_\_\_\_\_

3. List the names, addresses, and ownership shares of all partners:

Name	Address	Ownership Shares
N/A		

**Please use additional sheets if necessary and attach to the application.**

4. Has the partnership, or any partner applied for an aquaculture lease for Maine lands in the past?  Yes  No

If you selected “yes,” please indicate who applied for the lease and the status of the application or lease.

5. List the names and addresses of any partner owning an interest, either directly or beneficially, in any other Maine aquaculture leases, as well as the quantity of acreage from existing aquaculture leases attributed to each such person, based on their ownership shares from question 3.

Name	Address	Lease Acronym	Acreage
N/A			




**Please use additional sheets if necessary and attach to the application.**

6. Has the partnership or any partner been arrested, indicted or convicted of or adjudicated to be responsible for any violation of marine resources or environmental protection law, whether State or Federal?

Yes  No

If you selected "yes", please provide details.