

Town of Brunswick, Maine

OFFICE OF THE COASTAL RESOURCE MANGER

MEMORANDUM

TO: Cody Gillis, Brunswick Marine Resources Committee

FROM: Daniel Devereaux, Coastal Resource Manager

CC: **Brunswick Marine Resource Committee Members**, Julie Henzie, Town Manager, Julie Erdman, Director of Planning, Marko Melendy, Chair Coastal Waters Commission, Dan Sylvain, Brunswick Police Marine Resources

DATE: January 2, 2025

SUBJECT: Experimental Shellfish Lease (Woodward Cove)

Dear Chairman Gillis,

On December 13, 2024, the Town of Brunswick received an intertidal experimental lease application proposing the cultivation of various native shellfish using standard bottom planting techniques, incorporating predator protection gear. The applicant, Max Burtis, seeks approval for a 4-acre, 3-year experimental lease in Woodward Cove, adjacent to his family's property at 9 Pinefields Lane.

The application outlines a collaborative effort with Manomet Fisheries to research scalable intertidal shellfish-growing techniques. The applicant posits that farms of this nature can contribute to the enhancement of wild shellfish populations by providing additional spawning shellfish while also improving water quality. Furthermore, the proposed farm has the potential to supply seed quahogs to municipalities seeking to bolster their wild shellfish beds. Additional details are available in the attached application and Mr. Burtis's memo to the Brunswick Marine Resources Committee.

On December 16, 2024, at 3:30 PM, Warden Dan Sylvain and I conducted an on-site evaluation of the proposed lease area. We were accompanied by Chris Burtis, the property owner, and Max Burtis, the applicant. The findings and details of this evaluation are documented in the attached report.

The assessment was carried out using a systematic shellfish survey method as described in the *Maine Shellfish Handbook*, a resource provided by the Maine Department of Marine Resources. This method ensured a thorough and objective evaluation of the site's current shellfish resources and its potential suitability for the proposed activities.

We hope this information provides a clear overview of the proposal and its alignment with Brunswick's marine resource management goals. Please review the attached documentation for further insights into the findings and implications of this proposed project.

Sincerely

Daniel R. Devereaux, Coastal Resource Manager



Town of Brunswick Coastal Resource Office Site Evaluation

Application Type: Experimental Aquaculture Lease

Evaluation # 2024-FERDA-2

Applicant: **Max Burtis (Ferda Farms)**

13 Noble St F1

Brunswick, Maine 04011

207- 751-3687

maxburtis@gmail.com

Proposed Acreage: **4 Acres**

Proposed Area: **Woodward Cove, New Meadows River**

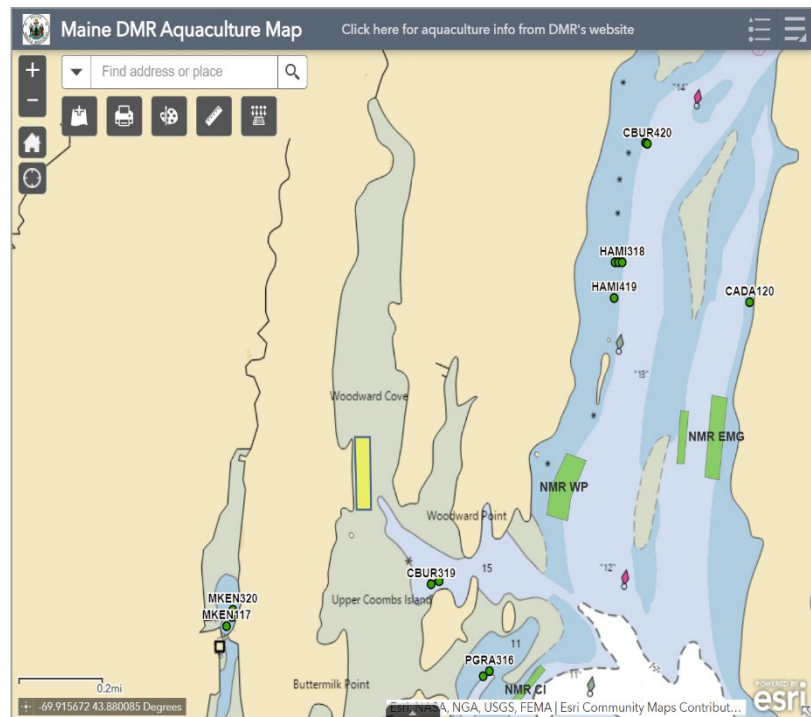
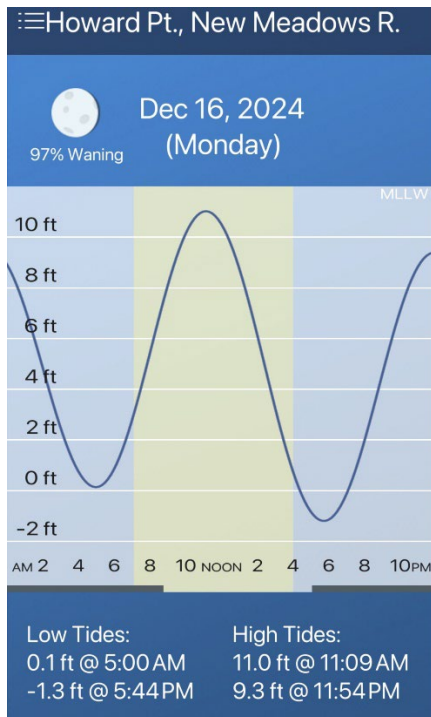
Proposed Species: Softshell Clams, Oysters and Quahogs

Date Conducted: December 16, 2024, 3:30pm to 4:30pm

Evaluators: Warden Dan Sylvain, Dan Devereaux

Public Present: Max Burtis (Applicant) and Chris Burtis (Abutting Landowner)

Sunrise: 7:06am, **Sunset:** 4:01pm, **Weather:** Cloudy/Overcast, **Tide:** Low Tide-1.3' @ 5:44pm





Town of Brunswick Coastal Resource Office Site Evaluation

Narrative:

A site assessment of the attached experimental lease proposal was conducted in accordance with Chapter 11, Article III, Section 168 of the Intertidal Aquaculture Review. This evaluation is strictly intended to inform the Town and the Brunswick Shellfish Committee on whether the proposed activities may interfere with the Municipal Shellfish Program. The applicant is also required to obtain permission from abutting landowners before proceeding.

Applicant Background:

Max Burtis, a licensed commercial shellfish harvester, is co-owner of his family's shellfish farm, Ferda Farm. With extensive experience in both wild and cultured shellfish propagation, Max has been an active participant in Brunswick's local shellfishing industry for several years, holding a commercial shellfishing license.

Under the Maine Department of Marine Resources (MEDMR) limited aquaculture license, which permits cultivation in areas up to 400 square feet, Max has successfully grown multiple species of shellfish to market size. Building on this success, he seeks an experimental lease to expand operations and continue Ferda Farm's work. Renowned for its leadership in shellfish farming and resource sustainability, Ferda Farm exemplifies innovation and stewardship. For more details, please refer to the attached application or visit the Ferda Farm website.

General Characteristics of the Area:

The proposed site is located in Woodward Cove, part of the larger New Meadows River area in Casco Bay. Known locally as "Big Bullpen," this cove encompasses approximately 55 acres of intertidal shellfish-growing habitat, which completely drains at low tide. Of these, 20 acres are classified as commercially productive under the town's shellfish management program.

The proposed farming area is situated near the cove's mouth, adjacent to the applicant's parents' property at 9 Pinefields Lane. This location has been recorded as nonproductive for shellfish harvesting over the past 25 years. The eastern shoreline is bordered by Maine Coast Heritage Land Trust's 87-acre wildlife preserve.

Note: Shellfishing areas are classified as productive or nonproductive based on annual field assessments, historical harvesting records, and the presence of commercially viable shellfish resources.

Proposed Operations:

The applicant proposes experimenting with bottom planting techniques, using nets and bags secured to the mudflats to grow seed shellfish obtained from hatcheries. These will be cultivated to either plantable size for wild propagation or to market size. Additional operational details are provided in the attached lease application.

Navigation, Fishing Activities, and Other Uses:

The proposed area is characterized by limited navigation and minimal competing uses:



Town of Brunswick Coastal Resource Office Site Evaluation

- **Moorings and Docks:** One registered mudflat mooring (GS138B) is located west of the proposed farm. The cove also contains eight residential piers and docks—two near the proposed site, five further north, and one southward.
- **Commercial and Recreational Use:** While commercial clamming occurs in the upper cove, it does not extend to the proposed farm's vicinity. The area is not used for lobstering due to tidal constraints. Occasional recreational activities, including sport fishing during high tides and kayaking, occur in the area, though no such activities were observed during the site evaluation.

Environmental Characteristics and Wildlife:

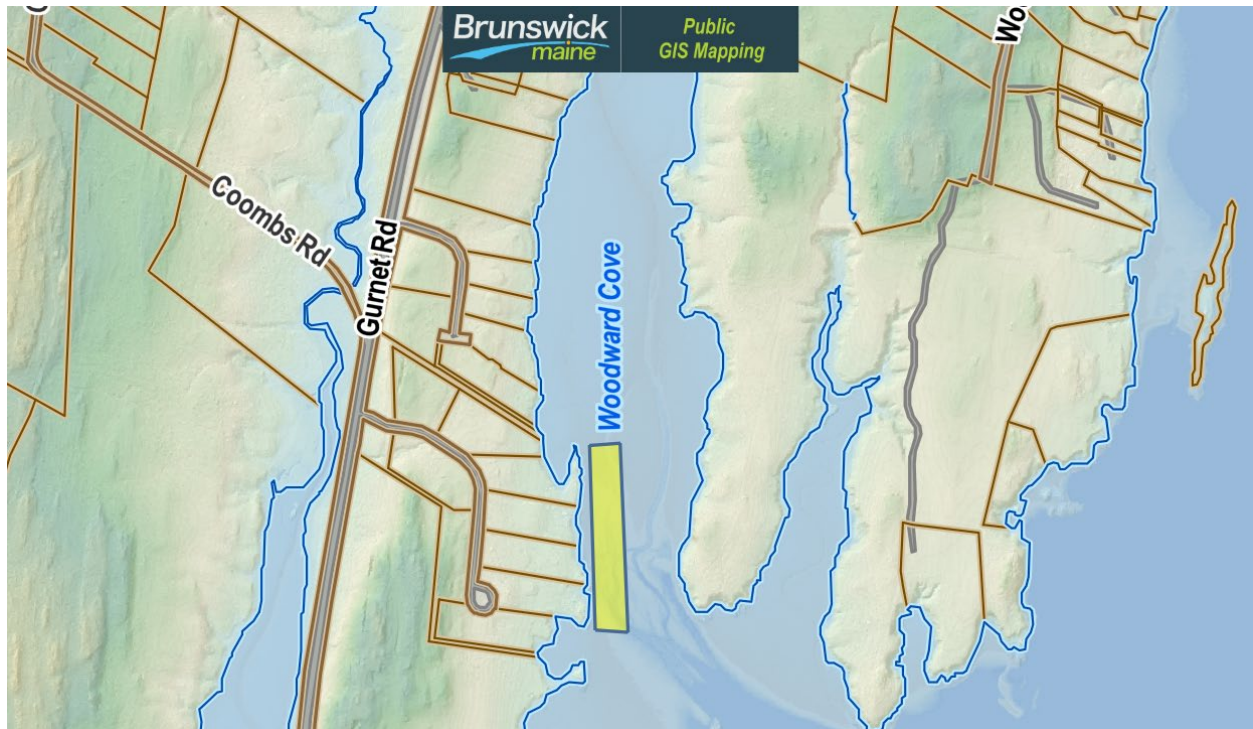
The proposed site consists of intertidal mudflats with fine sediments, shell hash, and scattered rocks and cobble. The upland shoreline is wooded, interspersed with residential homes, and largely conserved.

- **Habitat:** The area is classified as tidal waterfowl and wading bird habitat by the Maine Department of Inland Fisheries and Wildlife (IF&W). A spartina salt marsh to the west is recognized as a rare/exemplary natural community by IF&W's *Beginning with Habitat* program.
- **Species Presence:** No rare, threatened, or endangered species were identified in the vicinity. The nearest recorded American Bald Eagle nest is approximately 0.5 miles away on Lower Coombs Island.
- **Eelgrass:** There are no historical eelgrass beds in the area, and none were observed during the site assessment.

Shellfish Surveys:

A standard shellfish survey, as outlined in the *Maine Shellfish Handbook*, was conducted within the proposed area. Detailed survey results are provided at the end of this report.

TAX MAP





Woodward Cove
Shellfish Resource Map 2024

Legend

- Mudflat Mooring
- Private Pier
- Productive Shellfish Beds (SS)
- Proposed Boundary

Google Earth
Image © 2024 CNES / Airbus

2000 ft

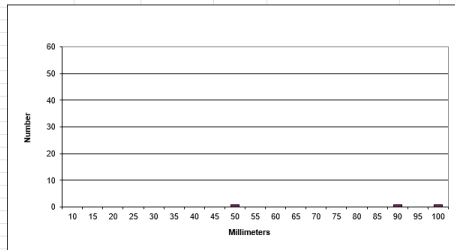
RESOURCE SUMMARY: The proposed location lies outside any navigational channels and is not expected to impact existing recreational activities. Specifically, the proposed bottom activity will have no adverse effects on sport fishing, kayaking, or swimming during mid to high tide stages. It is also important to note that there is no presence of eelgrass or sensitive wildlife habitats within or near the vicinity of the proposed site. Furthermore, evidence suggests that strategically positioned shellfish farms, particularly at the entrances to coves or bays, can enhance wild shellfish spat production in surrounding shellfish-growing areas, contributing to broader ecological and commercial benefits.



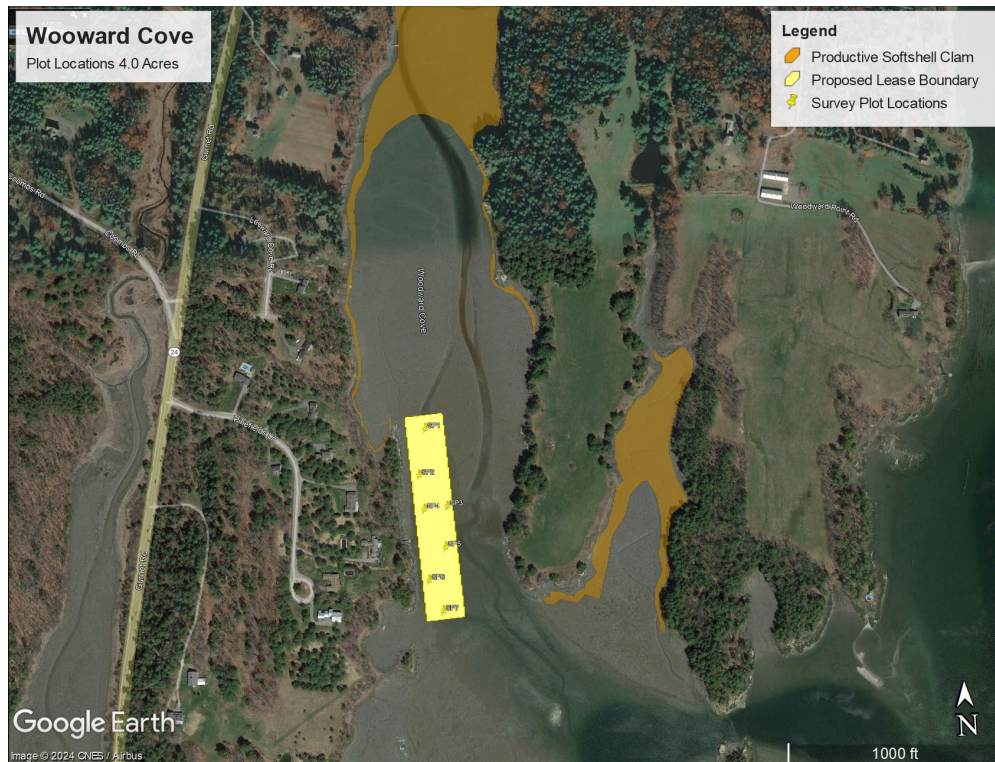
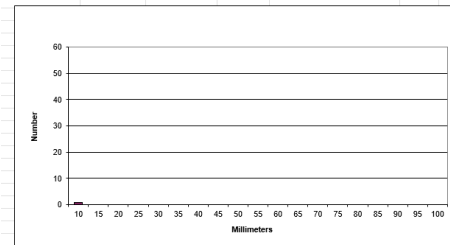
Town of Brunswick Coastal Resource Office Site Evaluation

Shellfish Assessment

Survey Results (Quahog)			
TOWN: Brunswick		PLOT SIZE: 1' x 2'	
FLAT: Woodward Cove		PLOT INTERVAL: 100	
CREW: Ferda Farms Eval		PLOTS: 7	
DATE: 12/16/2024		ACRES: 4	
Length (mm)	# of Clams	% Number	
10-14	0	0.0%	
15-19	0	0.0%	
20-24	0	0.0%	
25-29	0	0.0%	
30-34	0	0.0%	
35-39	0	0.0%	
40-44	0	0.0%	
45-49	0	0.0%	
50-54	0	33.3%	
55-59	0	0.0%	
60-64	0	0.0%	
65-69	0	0.0%	
70-74	0	0.0%	
75-79	0	0.0%	
80-84	0	0.0%	
85-89	0	0.0%	
90-94	0	33.3%	
95-99	0	0.0%	
100	0	33.3%	
Total # of Clams (Q)			3
Total # of Clams(Q) > 50.8mm			2
% of Clams(Q) > 50.8mm			66.67%
Total Average Bu./Acre			7.66
Total Avg. Bu./Acre > 50.8mm			7.12
Total standing crop (bu)			8
Total standing crop > 50.8mm			7
% of crop > 50.8mm			92.90%



Survey Results (Softshell Clam)			
TOWN: Brunswick		PLOT SIZE: 1' x 2'	
FLAT: Woodward Cove		PLOT INTERVAL: 200	
CREW: Ferda Farms Eval		PLOTS: 7	
DATE: 12/16/2024		ACRES: 4	
Length (mm)	# of Clams	% Number	
10-14	1	100.0%	
15-19	0	0.0%	
20-24	0	0.0%	
25-29	0	0.0%	
30-34	0	0.0%	
35-39	0	0.0%	
40-44	0	0.0%	
45-49	0	0.0%	
50-54	0	0.0%	
55-59	0	0.0%	
60-64	0	0.0%	
65-69	0	0.0%	
70-74	0	0.0%	
75-79	0	0.0%	
80-84	0	0.0%	
85-89	0	0.0%	
90-94	0	0.0%	
95-99	0	0.0%	
100	0	0.0%	
Total # of Clams (Q)			0
Total # of Clams(Q) > 50.8mm			0
% of Clams(Q) > 50.8mm			0.00%
Total Average Bu./Acre			0.03
Total Avg. Bu./Acre > 50.8mm			0.00
Total standing crop (bu)			0
Total standing crop > 50.8mm			0
% of crop > 50.8mm			0.00%



SURVEY SUMMARY: A shellfish survey was conducted within the proposed lease boundaries using seven random test plots, each measuring two square feet. The results revealed no softshell clams and three adult quahogs. Additionally, cultured American oysters were observed sporadically along the shoreline, which had been planted by the applicant and homeowner. Based on the shellfish survey model, the estimated standing crop is zero bushels of softshell clams and approximately seven bushels of quahogs. The quantities of shellfish present are projected by the model to support zero commercial licenses and three recreational licenses.



PHOTOS



CONCLUSION: Based on the comprehensive evaluation of the proposed lease site, it has been determined that the project will not unreasonably interfere with the Town of Brunswick's municipal shellfish management program. The proposed activities are situated in a nonproductive area for shellfish harvesting and, as such, will not detract from the resources or operations vital to the program's success. Additionally, the lease site is outside navigational channels and will not impede the ingress or egress of any riparian owners within Woodward Cove. The location and planned activities are compatible with current recreational and environmental uses of the area, including kayaking, swimming, and sport fishing during mid to high tide stages. Furthermore, there is potential for ecological benefits associated with the proposed lease. Research suggests that well-positioned shellfish farms, particularly near the entrances of coves or bays, can enhance wild shellfish spat production in adjacent growing areas, supporting broader ecosystem health and sustainability. In conclusion, the proposed lease represents a balanced and thoughtful use of intertidal resources, aligning with both ecological stewardship and the Town's commitment to supporting sustainable aquaculture practices.

Maxwell Burtis
13 Noble St,
Brunswick, ME 04011

Dear Members of the Brunswick Marine Resources Committee,

I hope this letter finds you well. I am writing to share details about my proposal for a 3-year, 4-acre experimental intertidal lease in Woodward Cove and to highlight how this project could bring significant benefits to the town's municipal resources.

The proposal is in front of my parent's home at 9 Pinefields, Ln., in a low-productivity area where there isn't commercial harvesting. One of my partners on this project is Manomet, a local nonprofit that has been conducting research into intertidal grow-out methods for hard clams. I plan to test these methods on a larger scale and experiment with softshell clams and oysters. This research will have significant benefits to the town:

1. Enhancement of Shellfish Populations Through Spawning:

- The presence of cultivated shellfish within the lease area can contribute to the natural recruitment of local shellfish populations.
- Quahogs and other species are broadcast spawners, releasing millions of larvae into the water column. This natural process has the potential to enhance the wild shellfish populations within the surrounding flats, benefiting local harvesters.

2. Seed Source for Stock Enhancement:

- I plan to produce quahog seed that can be sold to the town for less than what it can be grown for in the town's upweller.
- This would allow the town to supplement its conservation programs, enhancing the productivity of municipal shellfish beds for the benefit of commercial harvesters

3. Improved Water Quality:

- Shellfish are natural filter feeders that improve water quality by removing excess nutrients and particulate matter.
- The lease's activities may contribute to the overall health of Brunswick's estuarine ecosystems, benefiting other marine life and supporting biodiversity.

Please contact me at maxburtis@gmail.com or 207-751-3687 if you have any questions. Thank you for your time and consideration. I look forward to working with you to support the sustainability and productivity of Brunswick's marine resources.

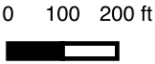
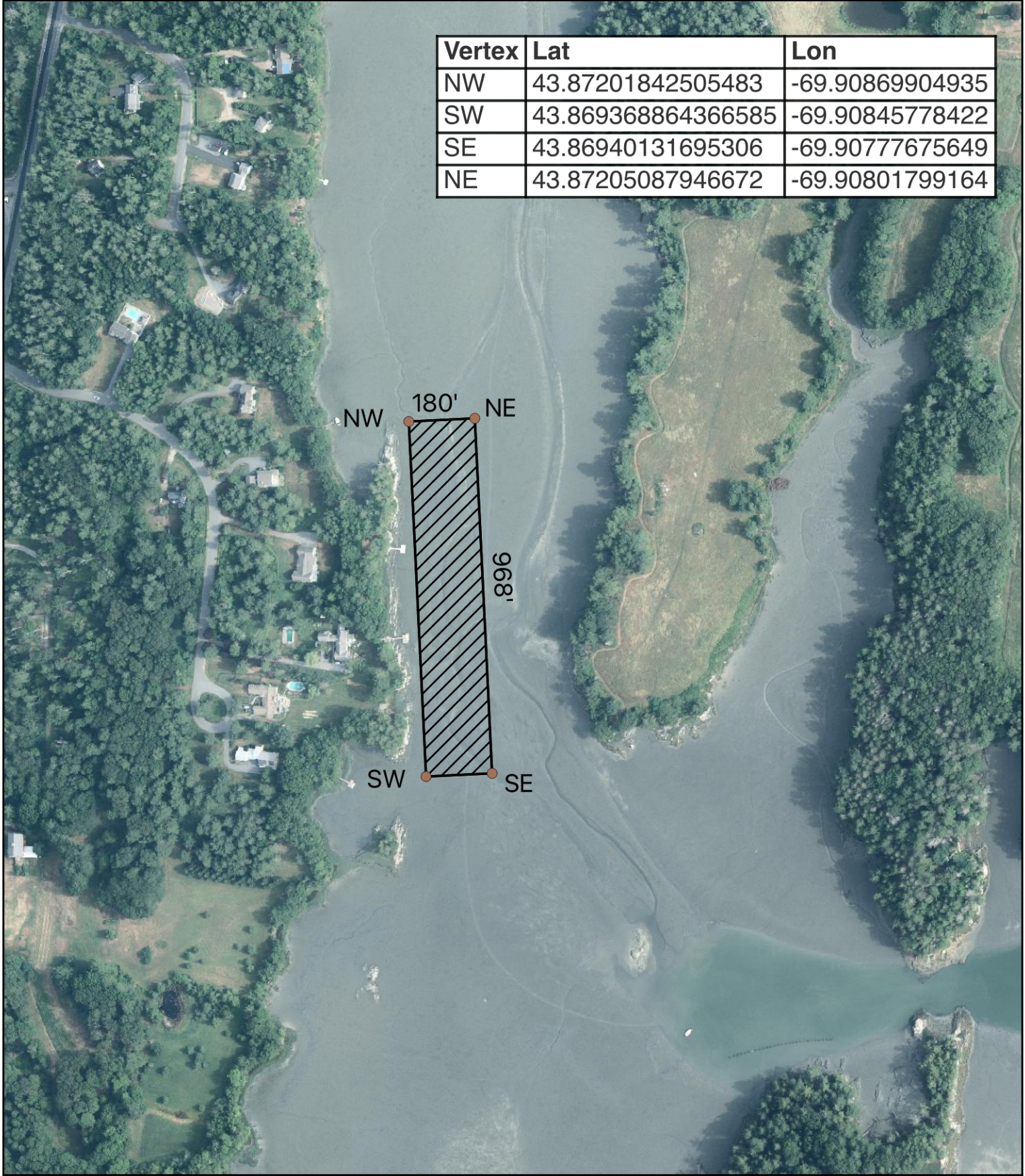
Sincerely,



Boundary Drawing
and Coordinate Description

Experimental Lease Application
New Meadows River, Maine
Ferda Farms LLC

Vertex	Lat	Lon
NW	43.87201842505483	-69.90869904935
SW	43.869368864366585	-69.90845778422
SE	43.86940131695306	-69.90777675649
NE	43.87205087946672	-69.90801799164



Revision: 12/12/2024
Author: Max Burtis
Datum: EPSG:4326 - WGS 84



Town of Brunswick, Maine

INCORPORATED 1739

COASTAL RESOURCE OFFICE

85 UNION STREET

BRUNSWICK, MAINE 04011

TELEPHONE 207-721-4027

Email – ddevereaux@brunswickme.org

Daniel R. Devereaux

Coastal Resource
Manager

Brunswick Marine Resources Committee Request for Aquaculture Application Review

You are applying for permission to conduct aquaculture activities within the Town of Brunswick shellfish management zone. It is the responsibility of the applicant to conduct and provide an ecological and shellfish resource assessment of the site to the Brunswick Marine Resources Committee and the Coastal Resource Office 14 days prior to meeting with the Committee. The Committee meets the first Wednesday of every month at 7PM. Completion of the below questionnaire shall meet that purpose of an individual assessment under Town of Brunswick Code of Ordinances Chapter 11 Section 11-167. A completed

Maine Department of Marine Resources aquaculture application must accompany this form when submitted.

Last Name: _____ First Name: _____ Middle Initial: _____

Address: _____ Town: _____ State: _____ Zip Code: _____

Telephone: _____ Email Address: _____ Cell Phone: _____

Riparian Owners Notified YES___ NO___

Site Information

Location (GPS): _____ Name of Waterbody: _____

Date of applicant assessment: _____

Is this area currently being harvested by shellfish or marine worm harvesters? Yes___ No___ (if yes please explain) _____

Is there existing shellfish resources within the site or nearby? Yes___ No___ (if yes please explain) _____

Is there existing marine worm resources within the site or nearby? Yes___ No___ (if yes please explain) _____

Are you aware of any historical shellfish resources being harvested from the proposed site? Yes ☒ No___ (if yes please explain) _____

Is there eel grass within 25' of the proposed site? Yes___ No___ (if yes please attach map of the location in relation to the site)

Is the proposed site within a mapped essential habitat? Yes___ No___ (if yes please attach map of the location in relation to the site and explain essential habitats) _____

Have you visited the site during all seasons? Yes___ No___ (if no please explain) _____

Do you consent to participate in a site visit with Town of Brunswick Staff or their consultants to verify the above assessment to help determine site feasibility if applicable? Yes___ No___ (If no please explain) _____

LOCAL ORDINANCE Sec. 11-168. - Intertidal aquaculture review.

The marine resource committee shall review and approve by majority vote any intertidal area for which a department of marine resources intertidal aquaculture application is proposed. The review, as prescribed by the Maine Department of Marine Resources Chapter 2 Aquaculture Lease Regulations, shall consist of the following:

(1) A shellfish inventory to determine existing managed shellfish resources, if any;

(2) A survey of existing and historical flora and fauna, including eel grasses, and marine worms; and

(3) The applicant shall submit a report detailing the findings of a shellfish inventory and flora and fauna study to the committee at least fourteen (14) business days in advance of the meeting date at which the application is to be reviewed by the committee.

(b) Aquaculture review fees. A person who has submitted an application to the Maine Department of Marine Resources for an aquaculture lease or license, intertidal or not, pursuant to 12 M.R.S.A. ch. 605, subchapter 2, and who has sought review by the Town of Brunswick shall pay a fee, as set forth in the master schedule of fees, adopted as an appendix to this Code, for the administrative costs associated with the application. The fee shall not exceed the amount as defined in 12 M.R.S.A. § 60

Signature: *Thy Burtis* Date: _____

***Note: Recommended survey dates 12/14-12/18, also considering alternate sites shown in Appendix C**

Appendix A:

The nearest active clam flat is 70' west of the north end of the proposal in an unnamed cove. This cove is small and is harvested on average two tides per year by one harvester. About 1500' to the north of the northern boundary of the proposal is the "Big Bull Pen", a clam flat that is harvested multiple times per week from May to September and approximately weekly on average during the off-season by multiple harvesters. The "Little Bull Pen" is a cove 1000' to the east of the proposal. It receives approximately $\frac{1}{4}$ as much pressure as the "Big Bull Pen" with the same seasonality. Approximately 1300' south-southwest of the southwest corner of the proposal is another small unnamed cove that has supported one harvester for roughly five tides per year.

I've spent a couple of tides harvesting within the site. There are no steamers. There are a few hundred oysters that I discarded near my parent's dock at 9 Pinefields Ln several years ago. There are very few quahogs on the north or south side of the proposal, but there are some in the middle of the proposal. A whole tide of harvesting the area (-1.7') got me \$70 worth of hogs with a lot of chowders and tops. I think it is safe to say that commercially harvesting in the area would be a waste of a drainer tide, and that the area is low productivity and not commercially viable.

Appendix B:

I have observed about five tides of harvesting within the boundaries of the proposal and immediately east of the proposal about 12-14 years ago, and no clamming in the proposal has been observed since then.

Appendix C: Alternate Sites



Appendix D: DMR Draft Application

EXPERIMENTAL LEASE APPLICATION

1. APPLICANT CONTACT INFORMATION

Applicant	Ferda Farms LLC
Contact Person	Maxwell Burtis
Address	9 Pinefields Ln
City	Brunswick
State, Zip	ME, 04011
County	Cumberland
Telephone	(207)751-3687
Email	maxburtis@gmail.com
Payment Type	<input type="checkbox"/> Check (included) <input checked="" 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 checked regularly. If you do not use email, please leave this blank.

2. PROPOSED LEASE SITE INFORMATION

Location of Proposed Lease Site	
Town	Brunswick
Waterbody	New Meadows River
General Description (e.g. south of B Island)	Woodward Cove
Lease Information	
Total acreage (4-acre maximum) and lease term (3-year maximum) requested	4.0
Type of culture (check all that apply)	<input checked="" type="checkbox"/> Bottom (no gear) <input checked="" type="checkbox"/> Suspended (gear in the water and/or on the bottom) <input type="checkbox"/> Net Pen (finfish)
How many pending experimental lease applications (including this one) do you have pending?	<input checked="" type="checkbox"/> One (1) <input type="checkbox"/> Two (2) Note: An applicant may have no more than two pending experimental leases at any time.

Do you have a legal interest in any entity that has a pending experimental application?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If “Yes” provide the name of the applicant(s): _____
Is any portion of the proposed lease site above mean low water?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>Note: If you selected “Yes”, you need to complete the steps outlined in the section titled: “Landowner/Municipal Permission Requirements”.</i>

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”):	WL
Growing Area Section (e.g. “A1”):	N/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

4. GENERAL LEASE 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. Hard clam, <i>Mercenaria mercenaria</i>	1. MUSCONGUS BAY AQUACULTURE PO BOX 204 BREMEN, ME 04551 2. MERRYMEETING SHELLFISH COMPANY 2 TOWN LANDING RD BATH, ME 04530 3. FERDA FARMS LLC NMR CL	500,000

2. Softshell clam, <i>Mya arenaria</i>	1. DOWNEAST INSTITUTE PO BOX 83 BEALS, ME 04611 2. WILD, SETTLING SPAT ON SITE	250,000
3. American oyster, <i>Crassostrea virginica</i>	1. DOWNEAST INSTITUTE PO BOX 83 BEALS, ME 04611 2. MUSCONGUS BAY AQUACULTURE PO BOX 204 BREMEN, ME 04551 3. FERDA FARMS LLC NMR CL	100,000
B. Do you intend to possess, transport, or sell whole or roe-on scallops? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		

If you answered “Yes” please contact the Bureau of Public Health to discuss your plans at the following email: 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

5. VICINITY MAP

Note: If you attach the map, please label it: ‘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 scalebar
- The approximate lease boundaries

- A 1,000 foot radius buffer around each corner

6. BOUNDARY DRAWING

Note: If you attach a drawing, please label it '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.

7. RESEARCH PROGRAM AND OPERATIONS

Directions: If you are cultivating more than one species, you will need to provide the below information for each species. Please attach a separate page if needed.

A. Type of study (check one): ☐ Scientific Research ☒ Commercial Research

Please note:

- a) *Product grown on experimental leases for scientific research cannot be sold. Results of scientific research are not kept confidential.*
- b) *Experimental leases for commercial research are not renewable. Results of commercial research are kept confidential.*

B. What is the purpose of the study? If scientific, please include a detailed study design.

The primary purpose of this study is to test commercial scale intertidal production of hard clams. The effects of mesh size, stocking density, and tidal height will be considered. Additional research may include seed settlement in bags, biodegradable mesh testing, softshell clam and oyster growout.

C. Describe the general culture process for each species proposed.

Hard Clams (*Mercenaria mercenaria*):

- Seed Procurement:
 - Hatchery-raised seed is purchased at a size of about 1-2 mm.
 - Seed may be grown to about 15 mm on NMR CL in floating gear.
- Planting:
 - Seed is evenly spread in designated plots or placed in mesh bags on the substrate.
 - Nets or mesh bags are securely anchored using rebar.
- Grow-Out:
 - Hard clams are grown intertidally, with regular maintenance to remove fouling, adjust netting, and check for predation.

<ul style="list-style-type: none"> • Periodic thinning may be required to prevent overcrowding.
<p>4. Harvest:</p> <ul style="list-style-type: none"> • Hard clams are harvested at market size (typically 1 inch in hinge width) using hand rakes, bull rake, or small drag. • Hard clams may also be sold to municipalities for stock enhancement.
<p>Softshell Clams (<i>Mya arenaria</i>):</p>
<p>1. Seed Procurement:</p> <ul style="list-style-type: none"> • Juvenile clams are sourced from hatcheries or collected as wild spat.
<p>2. Planting:</p> <ul style="list-style-type: none"> • Juvenile clams are planted directly into the substrate, often using a broadcast method. • Nets are secured over planting areas, allowing water and sediment to pass through while protecting the clams. • Buckets or pipes with mesh on top may be used in place of nets.
<p>3. Grow-Out:</p> <ul style="list-style-type: none"> • Clams burrow into the sediment and feed on suspended organic matter. • Periodic checks ensure nets remain intact and fouling is controlled.
<p>4. Harvest:</p> <ul style="list-style-type: none"> • Harvest is performed by hand or with specialized tools when clams reach market size (typically 2-3 inches) after removing the net, pipe, or bucket from the substrate.
<p>American Oysters (<i>Crassostrea virginica</i>):</p>
<p>1. Seed Procurement:</p> <ul style="list-style-type: none"> • Hatchery-raised seed is purchased at a size of about 4-5 mm. • Seed will be grown to about 25 mm or larger on NMR CL in floating gear.
<p>2. Planting:</p> <ul style="list-style-type: none"> • Juvenile oysters will be broadcasted onto the sediment
<p>3. Harvest:</p> <ul style="list-style-type: none"> • Oysters are harvested once they reach market size (typically 3 inches) using manual methods.

D. What months will the proposed activities (i.e. seeding, tending, and harvesting) occur?
<p>Seeding:</p> <ul style="list-style-type: none"> • May–June: When water temperatures consistently exceed 50°F (10°C) to promote growth and survival. • Seed can also be planted in late summer (August) if it’s sufficiently large to overwinter.
<p>Tending:</p> <ul style="list-style-type: none"> • May–October: Regular maintenance to remove fouling and check predator nets and bags during active growth months. • November–April: Minimal tending, except to inspect predator nets and bags after storms or ice events.
<p>Harvesting:</p> <ul style="list-style-type: none"> • Year-Round: as long as the sediment is accessible (ice-free conditions).

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

Seeding Periods:

Frequency:

- Daily to several times per week
- During active seeding, daily visits may be necessary to distribute seed, set up gear, and ensure proper placement and predator protection.
- Additional visits may be required to monitor environmental conditions (e.g., tides, storms) and inspect predator exclusion devices.

Duration:

- Seeding activities might last for 1–2 weeks per batch of seed, depending on the size of the lease and the volume of seed being deployed.
- Seeding may take up to 6 hours per tide, starting at 3 hours before low tide and ending 3 hours after low tide, totaling up to 12 hours per day.

Harvesting Periods:

Frequency:

- 2–4 days per week or as needed
- Harvesting schedules are influenced by market demand, tidal cycles, and weather conditions.

Duration:

- An intertidal harvesting session may span up to 6 hours per tidal cycle: three hours before low tide and three hours after, totaling up to 12 hours per day.
- Harvesting by bull rake from a boat may occur for up to 6 hours per tidal cycle: three hours before high tide and three hours after, totaling up to 12 hours per day.

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

Once to Twice per Week (May–October). During the active growing season, gear such as cages, bags, or nets must be inspected regularly to manage fouling, ensure proper water flow, and check for predator breaches.

Once Every 2–3 Weeks (November–April). During colder months, when growth slows and fouling pressure is lower, maintenance visits can be less frequent. However, inspections are necessary after storms, high winds, or ice formation.

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

1. Hard Clams (*Mercenaria mercenaria*): Hard clams may be harvested manually from a boat using bull rakes designed to penetrate the substrate and lift clams into the boat. Raking is performed during high tide when the substrate is covered with water, ensuring minimal disturbance to surrounding habitat. The hard clams may also be hand-dug using clam hoes or gloved hand at low tide.

2. Softshell Clams (*Mya arenaria*): Softshell clams will be harvested by digging into the sediment using clam hoes during low tide.

3. American Oysters (*Crassostrea virginica*): American oysters may be bull raked during high tide or picked up by hand during low tide from the surface of the substrate.

No Dragging Proposed:

For this lease manual methods will be employed to minimize environmental impacts and comply with DMR Chapter 10.01, Prohibitions on dredging for quahogs on the New Meadows River.

H. 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 moved from the site.

Predator nets will be removed and stored at 9 Pinefields Ln, Brunswick. Approximate dates for the removal and reinstallation of netting are December 31st and March 31st, respectively. Product will be overwintered in situ.

I. What type of machinery (e.g. generator, drag, grading equipment, etc.) will you be using on the site? When and how often will the machinery be used?

None.

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

The proposed gear such as nets, bags, and buckets are designed to prevent predators from eating the shellfish. American oysters, which will not be protected by gear, will be planted at a size where they are less vulnerable to predation, typically 25 mm or greater.

K. 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)

The proposed gear would always be suspended below the surface of the water at a depth sufficient to deter roosting.

8. EXISTING USES

Directions: Describe the existing uses of the proposed area. Please include the amount of activity, the time of year the activity occurs, frequency, and proximity to the lease site.

<p>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.</p>
<p>1. Commercial Fishing</p>
<p>a) Type: Menhaden Fishing b) Time of year: June-Nov (approx.) c) Frequency: Designated harvest days. In 2024, these were Monday, Wednesday, and Friday. d) Proximity to lease site: We have observed menhaden boats travel within 1000' of the proposal in search of fish, but we have never observed them setting a net there. The nearest net sets have been observed roughly 2500' east of the proposal.</p> <p>a) Type: Lobster Fishing b) Time of year: June-Nov (approx.) c) Frequency: 2-4 traps hauled every 2-7 days. d) Proximity to lease site: The nearest lobster fishing occurs in "Chuck's Hole", which is the closest deep water to the proposal, roughly 830' southwest of the proposal.</p> <p>a) Type: Worm Digging b) Time of year: Year-round c) Frequency: In the past 14 years, we have observed wormers harvest near the proposal. Sometimes 1-2 wormers will dig for a week of consecutive low tides, and sometimes only for one tide at a time. In the past five years, no worming has been observed. d) Proximity to lease site: The closest worm digging has been observed 750' to the north of the site.</p> <p>a) Type: Clam Digging b) Time of year: Year-round c) Frequency: Weekly to daily d) Proximity to lease site: We observed about five tides of harvesting within the boundaries of the proposal and immediately east of the proposal about 12 years ago and no clamming in the surrounding area has been observed since then except for the following: The nearest active clam flat is 70' west of the north end of the proposal in an unnamed cove. This cove is small and is harvested on average two tides per year by one harvester. About 1500' to the north of the northern boundary of the proposal is the "Big Bull Pen", a clam flat that is harvested multiple times per week from May to September and approximately weekly on average during the off season by multiple harvesters. The "Little Bull Pen" is a cove 1000' to the east of the proposal. It receives approximately ¼ as much pressure as the "Big Bull Pen" with the same seasonality.</p>

Approximately 1300' south-southwest of the southwest corner of the proposal is another small unnamed cove that has supported one harvester for roughly five tides per year.

- a) Type: Striped Bass Guiding
- b) Time of year: June-October
- c) Frequency: 2-5 times per week.
- d) Proximity to lease site: There is one guide that operates regularly in the area. He has been observed weekly circumnavigating upper Coombs island during high tide, 1000'ft Southeast of the proposal and 2-5 times per week in the Gurnet Straight which is about 3500' south of the proposal.

2. Recreational Fishing

- a) Type: Striped Bass Fishing
- b) Time of year: June-October
- c) Frequency: Daily to Monthly
- d) Proximity to lease site: We fish for striped bass monthly off our dock at 9 Pinefields Ln which is 25' to the west of the proposal. We have observed people fishing weekly for striped bass off the Woodward Pt. preserve trail which is about 1270' east-southeast of the southeast corner of the proposal. Daily fishing occurs in the Gurnet Straight which is about 3500' south of the proposal and in the navigation channel which runs 2100' east of the proposal between the western shore of the New Meadows River and a sandbar called the "Middle Ground". Fishermen also circumnavigate Upper Coombs Island weekly on average during high tide, 1000'ft Southeast of the proposal.

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

- e) Type: Sailing
 - f) Time of year: May-October
 - g) Frequency: Monthly to Daily
 - h) Proximity to lease site: We sail our 22' sailboat during high tide from our mooring (#NM253) which is about 870' southeast of the southeast corner of the proposal to our dock which is about 25' west of the proposal, and then to the New Meadows River proper which is 2100' east of the proposal. There are 5-8 sailboats in the Gurnet Straight mooring field which sail monthly on average from their moorings to the New Meadows River proper and back. The mooring field is about 3850' south of the proposal. 2-4 Sailboats per week on average traverse the navigable channel which is 2100' east of the proposal.
-
- a) Type: Jet Skiing
 - b) Time of year: June-September
 - c) Frequency: Weekly
 - d) Proximity to lease site: 1-2 Jet skis per week have been observed navigating the Gurnet Straight which is about 3500' south of the proposal

<ul style="list-style-type: none"> a) Type: Anchoring b) Time of year: June-September c) Frequency: Weekly d) Proximity to lease site: The nearest anchoring location is “Chuck’s Hole” roughly 830’ southwest of the proposal. Motorboats 20-30’ in length anchor here during the day weekly in the summer. <ul style="list-style-type: none"> a) Type: Pleasure boating b) Time of year: June-October c) Frequency: Monthly to Daily d) Proximity to lease site: Motorboats 15-25’ in length, drawing 1-2’ pass over the proposal at high tide twice per week on average in the summer and early fall. We have observed larger vessels, 20-30’ in length navigating “Chuck’s Hole”, roughly 830’ southwest of the proposal, twice per week on average during these months. <p>Distance to any navigable channel(s) from your proposed site at low water: 2100’ east of the proposal is a channel that runs between the western shore of the New Meadows River and a sandbar called the “Middle Ground”.</p>
<p>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.)</p>
<ul style="list-style-type: none"> a) Type: Ingress and Egress b) Time of year: May-October c) Frequency: Monthly to Daily d) Proximity to lease site: About 25’-182’ from the proposal depending on the dock. We dock our 19-23’ motor and sailboats which draw 2’ or less. Kenneth and Rebecca Hawkins and their guests dock their motorboat, a 22ft fiberglass center console drawing about 2’, twice/month on average on their dock. James and Ruth Wilson and their guests put in 1-2 kayaks, roughly once per month on average on their dock. Lisa Troup and Melissa Brame put in a dock this year. They use a 14’ aluminum skiff which draws about 1ft, once per month on average. Michael and Dorothy Jones and their guests take a Boston Whaler to and from their dock about twice per month on average. The Whaler is about 16’ in length and draws about 1’.
<p>5. Other uses (kayaking, swimming, etc.)</p>
<ul style="list-style-type: none"> a) Type: Kayaking b) Time of year: July-September c) Frequency: Monthly d) Proximity to lease site: James and Ruth Wilson and their guests put in 1-2 kayaks, roughly once per month on average on their dock which is about 25’ west of the proposal. They paddle through the proposal during high tide. <ul style="list-style-type: none"> a) Type: Paddleboarding b) Time of year: July-September c) Frequency: Monthly

d) Proximity to lease site: UCI 1000ft

a) Type: Swimming

b) Time of year: July-September

c) Frequency: 1-2 times per month

d) Proximity to lease site: James and Ruth Wilson and their guests swim 10-15' from their dock which is about 25' to the west of the proposal.

a) Type: Sculling

b) Time of year: July-September

c) Frequency: 1-2 times per year for about 5-6 years with the last observation occurring 2-3 years ago.

d) Proximity to lease site: 1-2 rowers were observed traversing the proposal during high tide.

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 proposed lease.

Name: Applicant's Mooring

Amount of activity: Limited recreational use

Time of year: May-October

Frequency: Weekly on average

Proximity to lease site: Our mooring, #NM253, is about 870' southeast of the southeast corner of the proposal.

Name: Applicant's Private Dock

Amount of activity: Moderate recreational and commercial use

Time of year: May-October

Frequency: 3-5 times per week

Proximity to lease site: Our dock is 25 ft to the west of the proposal.

Name: Kenneth and Rebecca Hawkin's Private Dock

Amount of activity: Limited recreational use

Time of year: June-September

Frequency: 2 times per month

Proximity to lease site: About 185' to the west of the northwest corner of the proposal.

Name: James and Ruth Wilson's Private Dock

Amount of activity: Limited recreational use

Time of year: July-September

Frequency: Twice per month

Proximity to lease site: About 25' to the west of the proposal.

Name: Lisa Troup and Melissa Brame's Private Dock

Amount of activity: Limited recreational use

Time of year: June-October

Frequency: Monthly

Proximity to lease site: About 25' to the west of the proposal.

Name: Michael and Dorothy Jones' Private Dock

Amount of activity: Limited recreational use

Time of year: June-October

Frequency: Twice per month

Proximity to lease site: About 186' to the west of the southwest corner of the proposal.

Name: Andrew and Maura Thomas's Private Dock

Amount of activity: No use observed

Time of year: N/A

Frequency: N/A

Proximity to lease site: About 680' to the north-northwest of the northwest corner of the proposal.

C. Are there public beaches, parks, or docking facilities within 1,000 feet of the proposed lease site. If yes, please describe and include approximate distances from proposed lease.

Name: Woodward Point Preserve public walking trails

Amount of activity: Moderate recreational use

Time of year: Year-round

Frequency: We have observed groups of people walking or cross country skiing the trails 3-5 times per week on average.

Proximity to lease site: About 360' to the east of the proposal.

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:
<https://www.maine.gov/dmr/aquaculture/leases/index.html>

Acronym: CBUR319

Amount of activity: Moderate commercial use

Time of year: April-December

Frequency: We operate this LPA weekly on average.

Proximity to lease site: About 1000' to the southeast of the proposal.

9. 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.

Ferda Farms has been in operation since 2018 and currently farms American oysters and hard clams on NMR CL, CBUR219, CBUR319, CBUR119, and CBUR420.

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

Our plans are to continue using existing LPAs and leases as we have been if the lease is granted. Existing leases or LPAs will not be relinquished.

10. 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).

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

At mean low water the north end of the proposal is approximately 1' above the mean low water mark, and the south end of the proposal is approximately 1' below the mean low water mark.

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

At mean high water the north end of the proposal is in approximately 9' of water and approximately 11' of water at the south end of the proposal.

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

Approximately 1 Knott from the north during ebb and 1 Knott from the south during flow.

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 northern 70% of the proposed area is a soft mud while the southern 30% is mostly shell hash and harder mud. There are a couple of streams that transect the area at low tide. These streams are wider at the southern end and narrower at the northern end.

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

There is a gradually decrease in elevation from the north to the south side of the lease. The mud is flat and the shell hash is rough.

<p>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?</p>
<ol style="list-style-type: none"> 1. Green crab, personal observation, common 2. Moon snail, personal observation, rare 3. Blue mussel, personal observation, common 4. Softshell clam, personal observation, rare 5. Hard clam, personal observation, rare 6. American oyster, personal observation, common. We discarded these several years ago around our dock. Other American oysters within the lease boundary are rare. 7. Periwinkle, personal observation, common 8. Mud snail, personal observation, abundant 9. Razor clam, personal, rare 10. Horseshoe crab, personal observation, common 11. Bloodworm, personal observation, common 12. Sandworm, personal observation, common 13. Barnacles, personal observation, common 14. Atlantic silverside, personal observation, abundant 15. Atlantic herring, personal observation, rare 16. Menhaden, personal observation, common 17. Striped bass, personal observation, common 18. Sand shrimp, personal observation, abundant 19. Mummichog, personal observation, common 20. Atlantic mackerel, personal observation, rare 21. Harbor seal, personal observation, rare 22. Grey seal, personal observation, rare
<p>4. Are there shellfish beds or fish migration routes in the surrounding area? If so, please describe.</p>
<p>The closest Anadromous fish migration routes include the Kennebec and Androscoggin Rivers. American eels migrate to the Kennebec River estuary as well. Mackerel, herring, and menhaden migrate to the New Meadows River during the summer and leave before winter.</p>



The nearby commercial softshell clam beds are shown in yellow.

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.

None observed on 11/16/24, walking across the lease area during a -1.7' tide.

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

The shoreline is rocky with rockweed. The upland to the west is sparsely forested residential, while the upland to the east is a former cattle pasture turned nature preserve with a line of trees along the shore.

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, phone: 207-287-5254) prior to application submission.

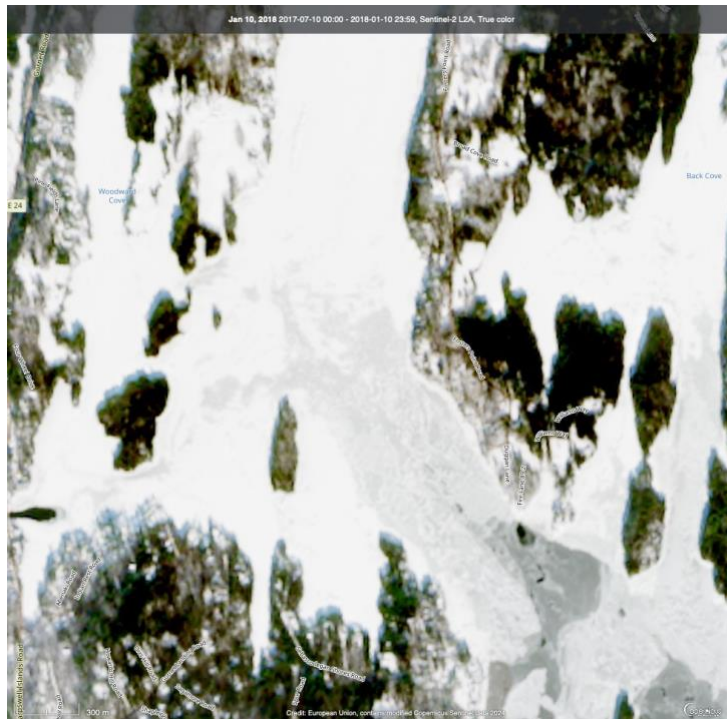
F. Will your operations discharge anything into the water such as feed (pellets, kelp, etc.) or chemical additives (therapeutants, chemical treatments, etc.)?

☐ Yes ☒ No

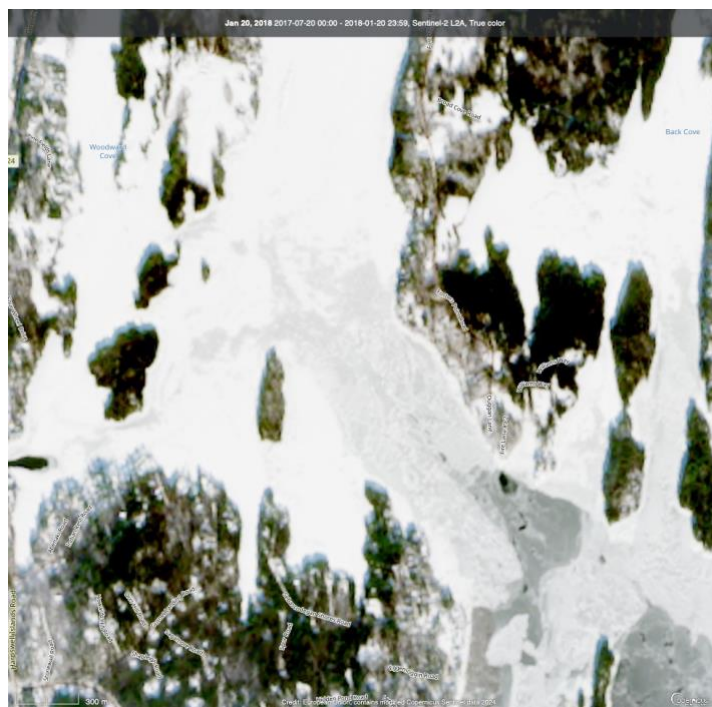
Note: If you answered yes, you must submit a video of the bottom using a method prescribed by the Department. **The video must be filmed between April 1 and November 15.** If a discharge is proposed you will also need to obtain a Maine Department of Environmental Protection (DEP) discharge permit. For information on this permit please contact DEP's Wastewater Licensing Program (Gregg.wood@maine.gov, 207-287-7693). Further sampling may be required by DMR, or DEP, depending on the characteristics of the site or the proposed activities.

G. Describe ice formation in the winter months at the proposed site.

The Sentinel-2 Satellite has been flying over the proposed lease at least weekly since 2015. Images from the months of December to March in the years from 2018 to 2024 were analyzed for presence of ice in the proposed lease. Sea ice formed over the proposed lease area and remained for about two weeks in January of 2018, but no sea ice was observed over the proposed lease in the following winters. On occasion, ice that forms in the nearby coves will break up and flows will drift through the lease site. These images can be retrieved from <https://browser.dataspace.copernicus.eu>.



Sea Ice on January 10, 2018.



Sea Ice on January 20, 2018.

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.

11. STRUCTURES *(if applicable)*

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 an **Overhead View** and **Cross-Section View** of your gear plans. It is important to note that, unlike Limited Purpose Aquaculture (LPA) Licenses, experimental and standard leases require that all gear, including moorings, must be located within the proposed lease boundaries.

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

A) Overhead View (please label this “Overhead View”):

Directions: All dimensions need to be labeled with the appropriate units (i.e. 10ft, 10in)

- Show maximum layout of gear including moorings.
- Show dimensions of entire gear layout
- Show approximate spacing between gear.
- Show lease boundaries and the location of proposed markers on all drawings.
- Gear orientation

B) Cross-Section View (please label this “Cross-Section View”):

Directions: The cross-section view must show the following:

- 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
- Water depth at mean high and mean low water

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).

C) Gear Description

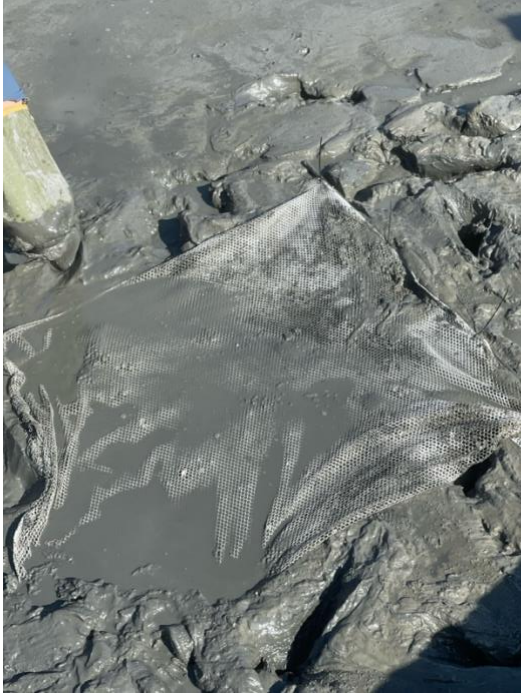
Directions: List and describe each individual gear type that you will use in the table below.

Specific Gear Type (e.g. soft mesh bag)	Dimensions (e.g. 16"x20"x2")	Time of year gear will be deployed (e.g. Spring, Winter, etc.)	Maximum amount of this gear type that will be deployed on the site (i.e. 200 cages, 100 lantern nets, etc.)	Species that will be grown using this gear type

Soft mesh bag with rebar	4' x 4'	Year-round	4194	Hard clam
Predator netting	14' x 20'	Spring, Summer, and Fall	440	Softshell clam
Toggle buoy	3.5" x 5.4"	Spring, Summer, and Fall	4400	All
Marker buoy	6" x 13"	Year-round	8	All
Cinder block	8" x 8" x 16"	Year-round	8	All
Line	3/8" x 14'	Year-round	8	All
5-gal bucket with pet screen on top	12" x 15"	Year-round	25	Softshell clam
PVC pipe with pet screen on top	4" x 18"	Year-round	25	Softshell clam

D) Gear Drawing (please label this “Gear Drawing”).

Directions: Include a drawing of an individual piece of gear for each of the gear type(s) you plan to use. The drawing(s) needs to depict the length, width, and height of each gear type with appropriate units referenced (i.e., 10in, 10ft, etc.).



Soft mesh bag with rebar zip tied on one end: 4' length, 4' width, 1" height



Predator netting: 14' width, 20' length, 0.1" height



Toggle buoy: 3.5" diameter, 5.4" length





Marker buoy: 6" diameter, 13" length



Cinder block: 8" height, 8" width, 16" length



5-gal bucket: 12" diameter, 15" height

 <p>Line: 3/8" diameter in 14' length sections. 1200' coil pictured</p>	 <p>PVC pipe: 4" diameter, 18" length</p>
--	---

12. 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. Marker buoys must 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: 1st Coast Guard District, Aids to Navigation Office.

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
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:

3. If any portion of the site is intertidal you need to complete the steps outlined in “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 (i.e. where on shore) will you access the proposed site?

We will access the site by walking down from our property (9 Pinefields Ln, Brunswick, ME 04011) at low tide or by 19-23’ outboard skiff when there is sufficient water. The skiffs are powered by 60-135 hp four-stroke engines.

RIPARIAN LANDOWNER LIST

*THIS LIST MUST BE **CERTIFIED** BY THE TOWN CLERK*

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: Brunswick

MAP #	LOT #	Landowner name(s) and address(es)
37	3	Bruce and Patricia Myer 521 Gurnet Rd, Brunswick, ME 04011
37	4	Richard Knedler PO Box 15429, Portland, ME 04112
37	6	Frank and Jane Connors 443 Gurnet Rd, Brunswick, ME 0411
37	7	Bruce and Patricia Myer 521 Gurnet Rd, Brunswick, ME 04011
37	10	Maine Coast Heritage Trust 1 Bowdoin Mill Island, Suite 201, Topsham, ME 04086
37	11	Lauren and Jonathan Agne Rathje Descendants Trust 39 Four Wheel Dr, Brunswick, ME 04011
37	61	Jon and Amy Lee PO Box 2189, Nantucket, MA 02584
37	62	Katherine Perry 5 Leeward Cove Rd, Brunswick, ME 04011
37	63	Andrew and Maura Thomas 7 Leeward Cove Rd, Brunswick, ME 04011
37	64	Three Pines LLC, C/O Peter Odell PO Box 244, Brunswick, ME 04011
37	65	Three Pines LLC C/O Peter Odell PO Box 244,

		Brunswick, ME 04011
37	72	Kenneth and Rebecca Hawkins 3 Pinefields Ln, Brunswick, ME 04011
37	73	Rebecca Clow 5 Pinefields Ln, Brunswick, ME 04011
37	74	James and Ruth Wilson 7 Pinefields Ln, Brunswick, ME 04011
37	75	Christopher and Matija Burtis 9 Pinefields Ln, Brunswick, ME 04011
37	76	Lisa Troup and Melissa Brame 11 Pinefields Ln, Brunswick, ME 04011
37	77	Michael and Dorothy Jones 12 Pinefields Ln, Brunswick, ME 04011

Please use additional sheets if necessary and attach hereto.

CERTIFICATION

I, _____, Town Clerk for the Town of _____ 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: _____ **DATE:** _____

14. 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	None
<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 feet of structure.

I, (*printed name of applicant*) Ferda Farms LLC have read DMR Aquaculture Regulations 2.64(12)(B)) and if this proposed lease is granted by DMR I will either open an escrow account or obtain a performance bond, depending on the category of lease.

Applicant Signature

Date

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

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 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, depending on the category of lease.

Applicant Signature

Date

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

15. 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 experimental lease process.

Printed name: _____

Title (*if corporate applicant*): _____

Signature: _____ Date: _____

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 (i.e. President, Treasurer, etc.) of the individual(s) signing on the company's behalf.

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

PART I: The use of private property to access your site.

Pursuant to 2.64(C)(6) to 12 M.R.S.A. §6072-A(8) if you are using private property to access the proposed lease site, you need to submit written permission from the property owner with your application. It is your responsibility to obtain written permission. Please note that the Department does not provide forms for landowner or municipal permission. **If any portion of your site is also intertidal you will need to complete the steps outlined in Part II, below.**

PART II: If any portion of the site is intertidal you need to complete the following steps:

Step I: Obtain written permission from all intertidal landowners.

As stipulated by 12 M.R.S.A. §6072-A(8) and required by 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. Therefore, you need to include written permission from the upland owner(s). 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.

1. 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: Ferda Farms LLC

2. Date of incorporation: 7/3/2018

State of incorporation: Maine

3. List the names, addresses, and titles of all officers:

Name	Address	Title
Christopher Burtis	9 Pinefields Ln, Brunswick, Maine 04011	Co-Owner
Maxwell Burtis	13 Noble St, Brunswick, Maine 04011	Co-Owner

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

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

Name	Address
Christopher Burtis	9 Pinefields Ln, Brunswick, Maine 04011
Maxwell Burtis	13 Noble St, Brunswick, Maine 04011

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.

Ferda Farms LLC, NMR CI, Approved

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
Christopher Burtis	9 Pinefields Ln, Brunswick, Maine 04011	51%
Maxwell Burtis	13 Noble St, Brunswick, Maine 04011	49%

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
Christopher Burtis	9 Pinefields Ln, Brunswick, Maine 04011	NMR CI	2.42
Maxwell Burtis	13 Noble St, Brunswick, Maine 04011	NMR CI	2.42

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.

MAINE
LIMITED LIABILITY COMPANY

STATE OF MAINE

CERTIFICATE OF FORMATION

Filing Fee \$175.00

File No. 20190124DC Pages 2
Fee Paid \$ 175
DCN 2181922260012 DLLC
FILED
07/03/2018

Julie L. Flynn
Deputy Secretary of State

A True Copy When Attested By Signature

Julie L. Flynn
Deputy Secretary of State

Pursuant to 31 MRSA §1531, the undersigned executes and delivers the following Certificate of Formation:

FIRST: The name of the limited liability company is:

Ferda Farms LLC

(A limited liability company name must contain the words "limited liability company" or "limited company" or the abbreviation "L.L.C.," "LLC," "L.C." or "LC" or, in the case of a low-profit limited liability company, "L3C" or "L3o" - see 31 MRSA 1508.)

SECOND: Filing Date: (select one)

☒
☐

Date of this filing; or

Later effective date (specified here): _____

THIRD: Designation as a low profit LLC (Check only if applicable):

☐

This is a low-profit limited liability company pursuant to 31 MRSA §1611 meeting all qualifications set forth here:

- A. The company intends to qualify as a low-profit limited liability company;
- B. The company must at all times significantly further the accomplishment of one or more of the charitable or educational purposes within the meaning of Section 170(c)(2)(B) of the Internal Revenue Code of 1986, as it may be amended, revised or succeeded, and must list the specific charitable or educational purposes the company will further;
- C. No significant purpose of the company is the production of income or the appreciation of property. The fact that a person produces significant income or capital appreciation is not, in the absence of other factors, conclusive evidence of a significant purpose involving the production of income or the appreciation of property; and
- D. No purpose of the company is to accomplish one or more political or legislative purpose within the meaning of Section 170(c)(2)(D) of the Internal Revenue Code of 1986, or its successor.

FOURTH: Designation as a professional LLC (Check only if applicable):

☐

This is a professional limited liability company* formed pursuant to 13 MRSA Chapter 22-A to provide the following professional services:

(Type of professional services)

Form No. MLLC-6 (1 of 2)

47

FIFTH: The Registered Agent is a: (select either a Commercial or Noncommercial Registered Agent)



Commercial Registered Agent

CRA Public Number: _____

(Name of commercial registered agent)



Noncommercial Registered Agent

Christopher Burtis

(Name of noncommercial registered agent)

9 Pinefields Ln

(Physical location, not P.O. Box -- street, city, state and zip code)

Brunswick, ME 04011

(mailing address if different from above)

SIXTH: Pursuant to 5 MRSA §105.2, the registered agent listed above has consented to serve as the registered agent for this limited liability company.

SEVENTH: Other matters the members determine to include are set forth in the attached Exhibit _____, and made a part hereof.

****Authorized person(s)**

Dated **June 28, 2018**



(Signature of authorized person)

Christopher Burtis

(Type or print name of authorized person)

Max Friedman

(Signature of authorized person)

Maxfield Friedman

(Type or print name of authorized person)

*Examples of professional service limited liability companies are accountants, attorneys, chiropractors, dentists, registered nurses and veterinarians. (This is not an inclusive list -- see 13 MRSA §723.7)

Pursuant to 31 MRSA §1676.1-A, Certificate of Formation **MUST be signed by at least one authorized person.

The execution of this certificate constitutes an oath or affirmation under the penalties of false swearing under 17-A MRSA §453.

Please remit your payment made payable to the Maine Secretary of State.

Submit completed form to:

Secretary of State

Division of Corporations, UCC and Commissions

101 State House Station

Augusta, ME 04333-0101

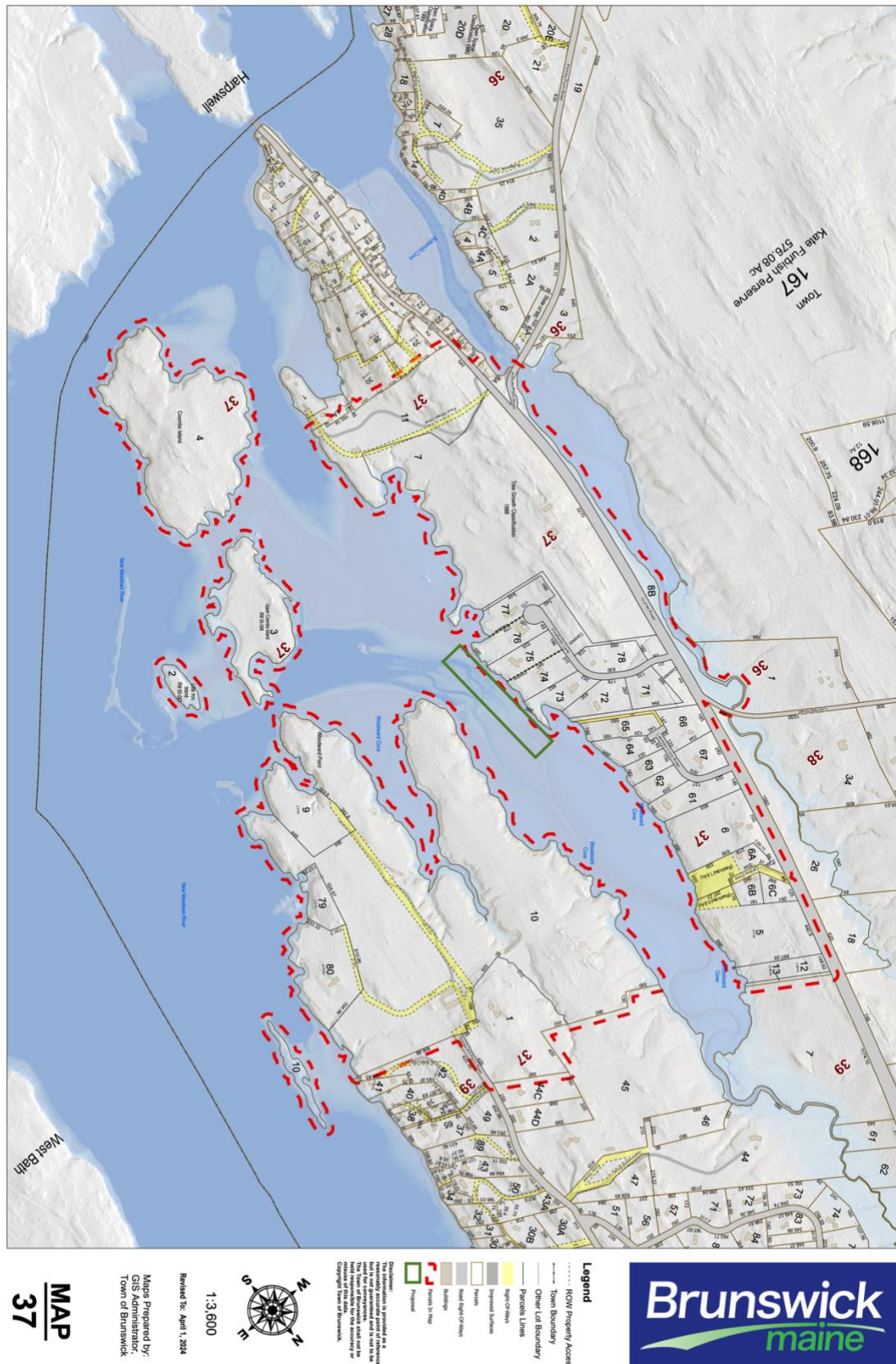
Telephone Inquiry: (207) 624-7752

Email Inquiry: CEC.Corporations@Maine.gov

Form No. MLLC-6 (2 of 2) Rev. 10/31/2012

48

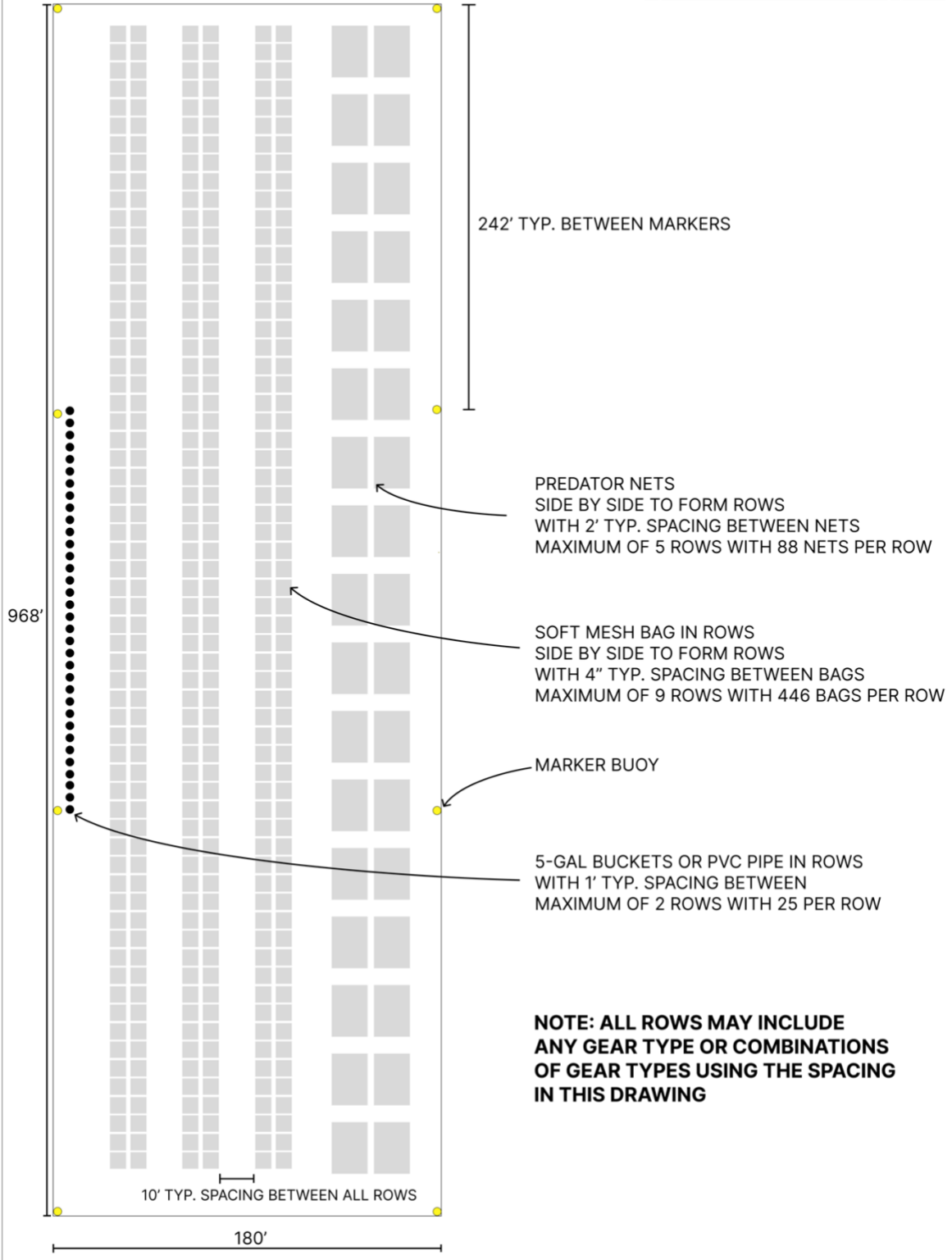
32 | Page



Overhead View: Low Tide Growing Season (All Gear Types)

NOT TO SCALE

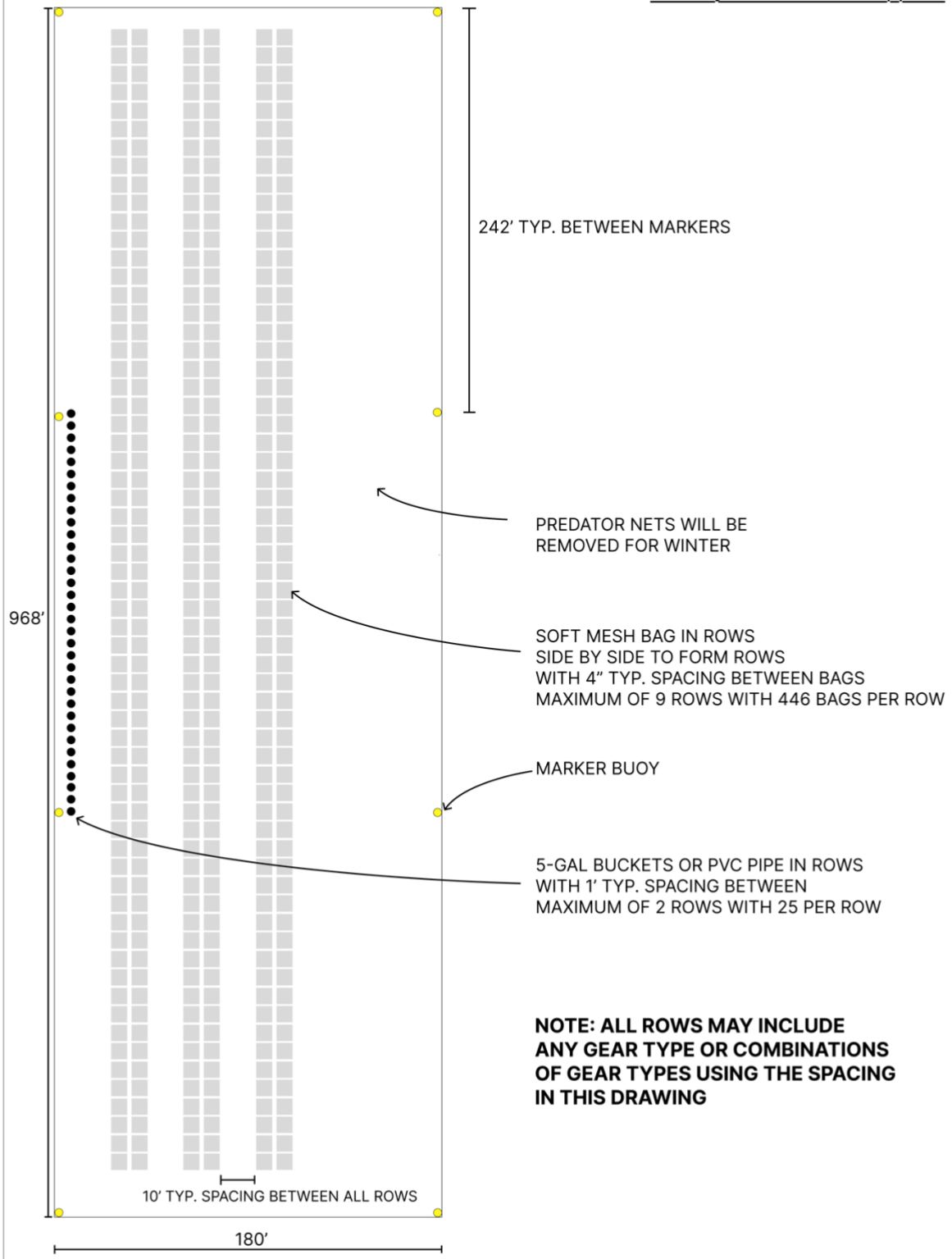
April 1st-December 31st approx.



Overhead View: Low Tide Overwintering (All Gear Types)

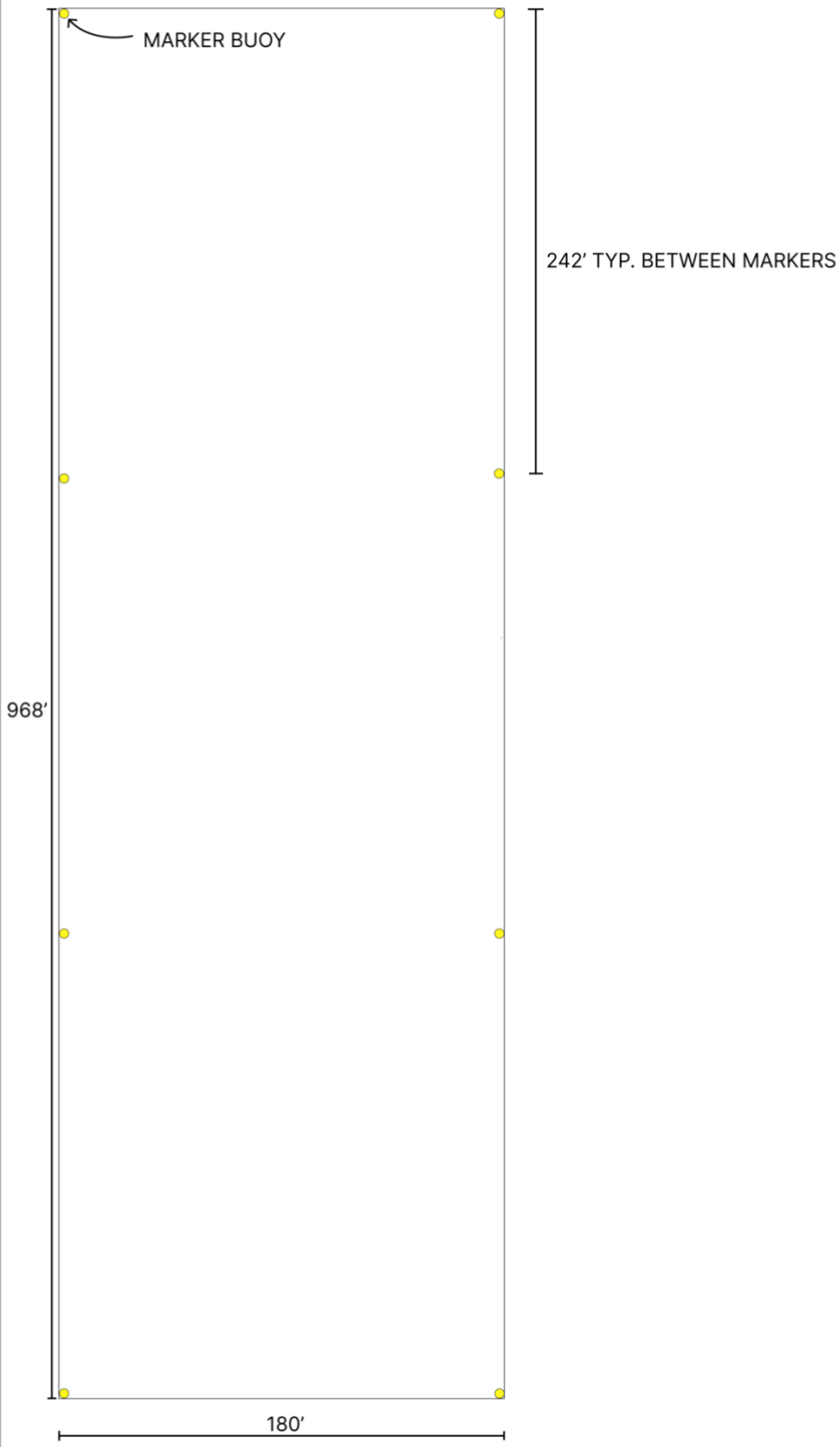
NOT TO SCALE

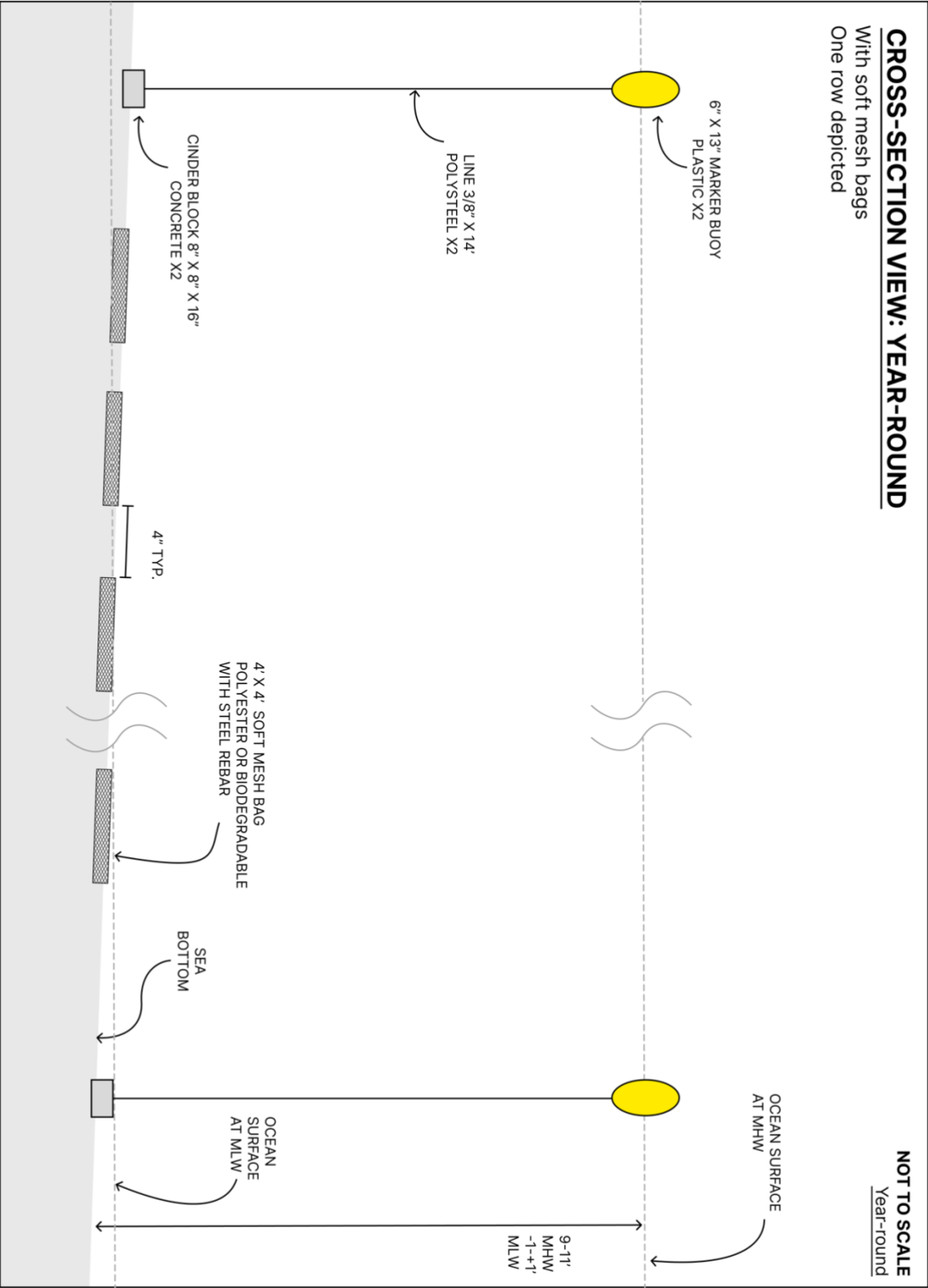
January 1st-March 31st approx.



Overhead View: High Tide (All Gear Types)

NOT TO SCALE
Year-round

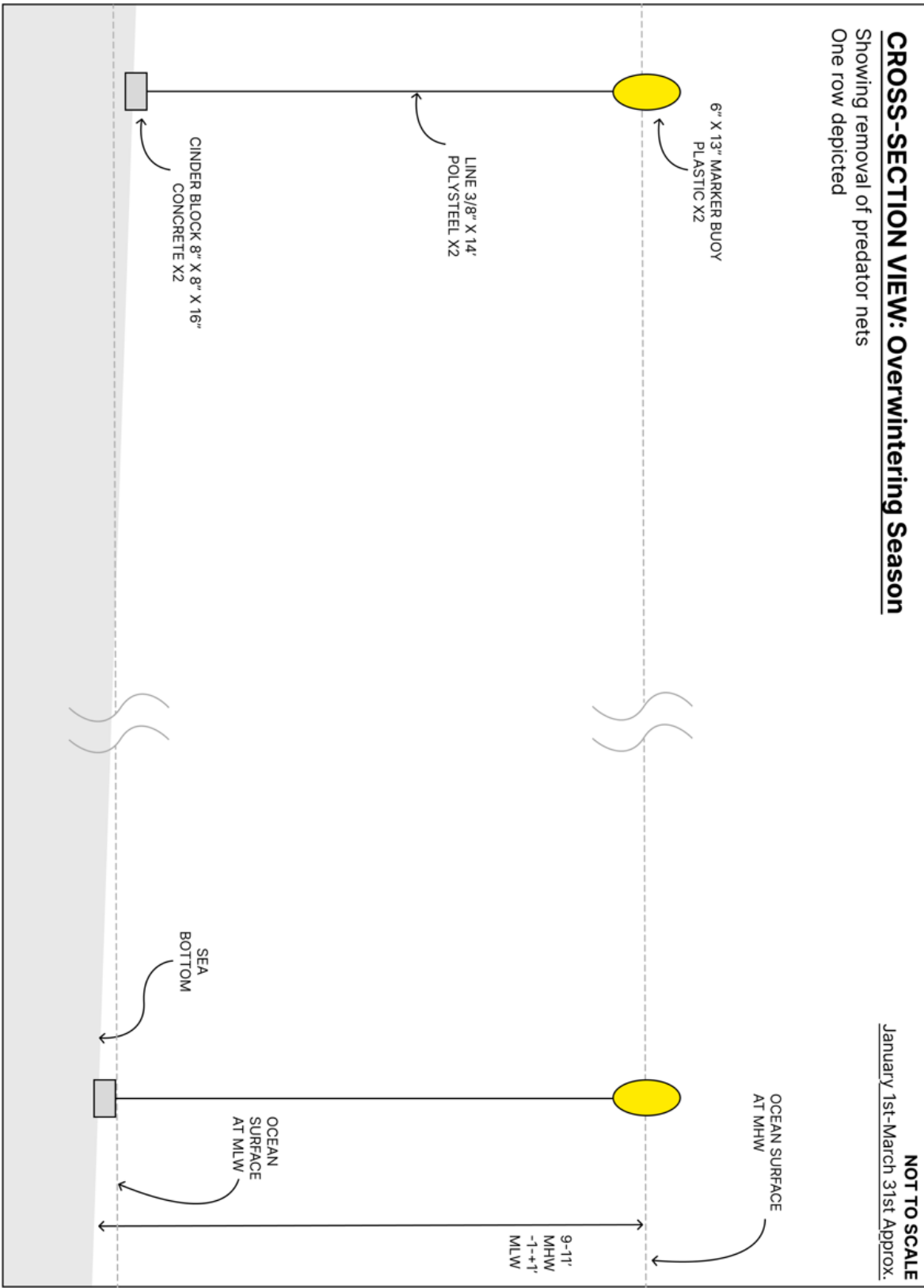




CROSS-SECTION VIEW: Overwintering Season

Showing removal of predator nets
One row depicted

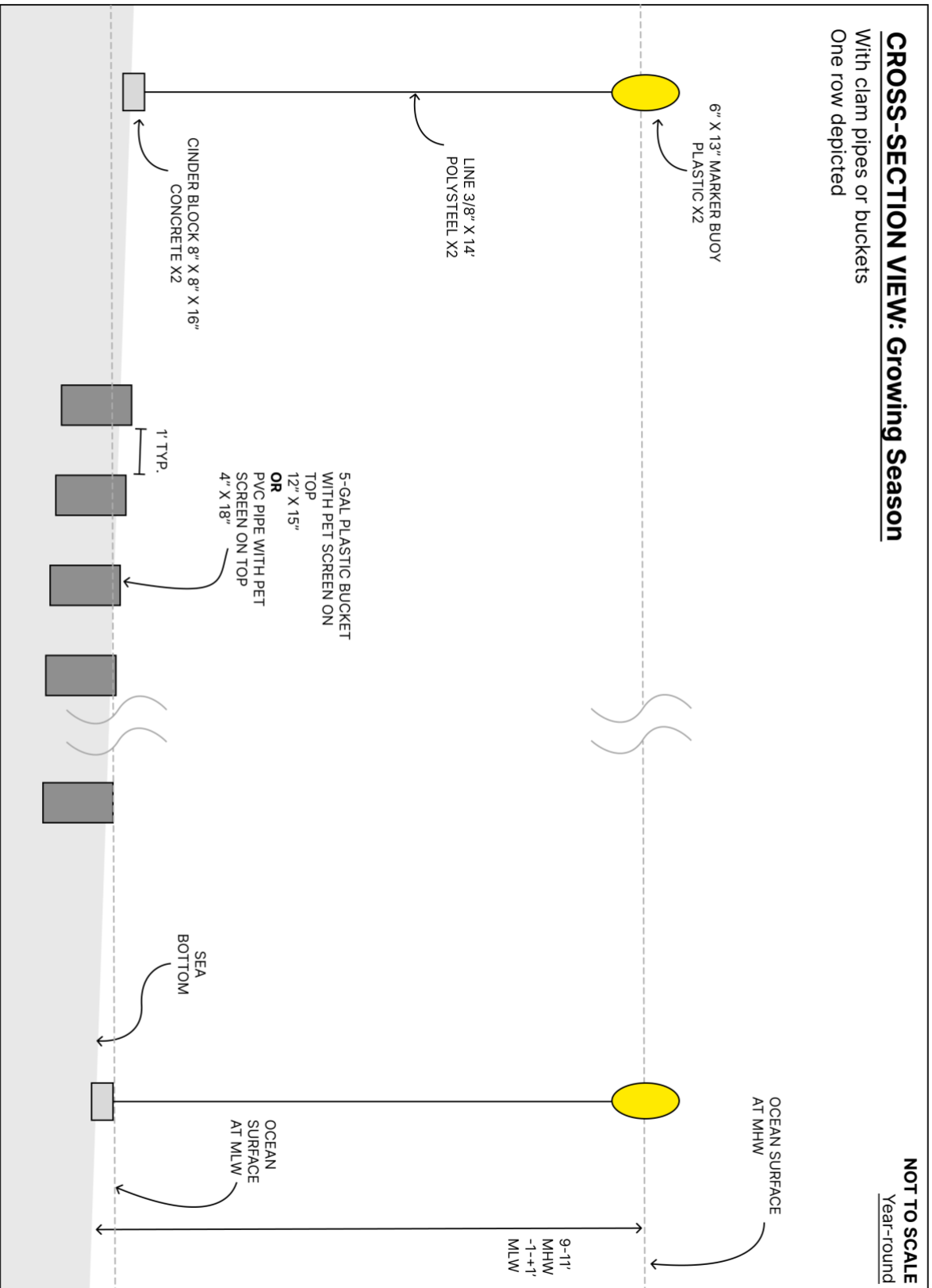
NOT TO SCALE
January 1st-March 31st Approx.



CROSS-SECTION VIEW: Growing Season

With clam pipes or buckets
One row depicted

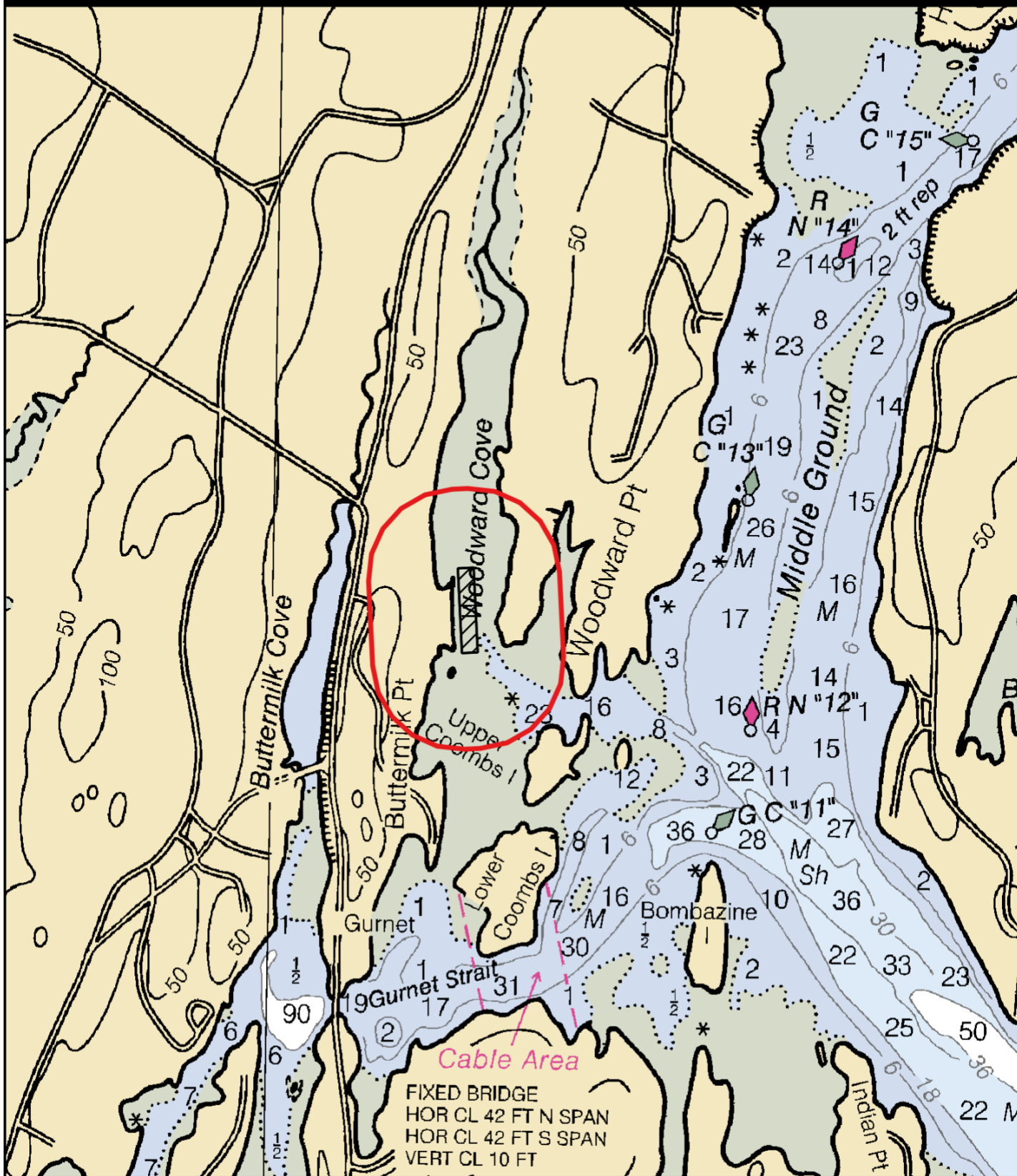
NOT TO SCALE
Year-round



Vicinity Map

NOAA Chart 13290: Casco Bay

Experimental Lease Application
New Meadows River, Maine
Ferda Farms LLC



1000' buffer
Lease Boundary

0 500 1,000 ft

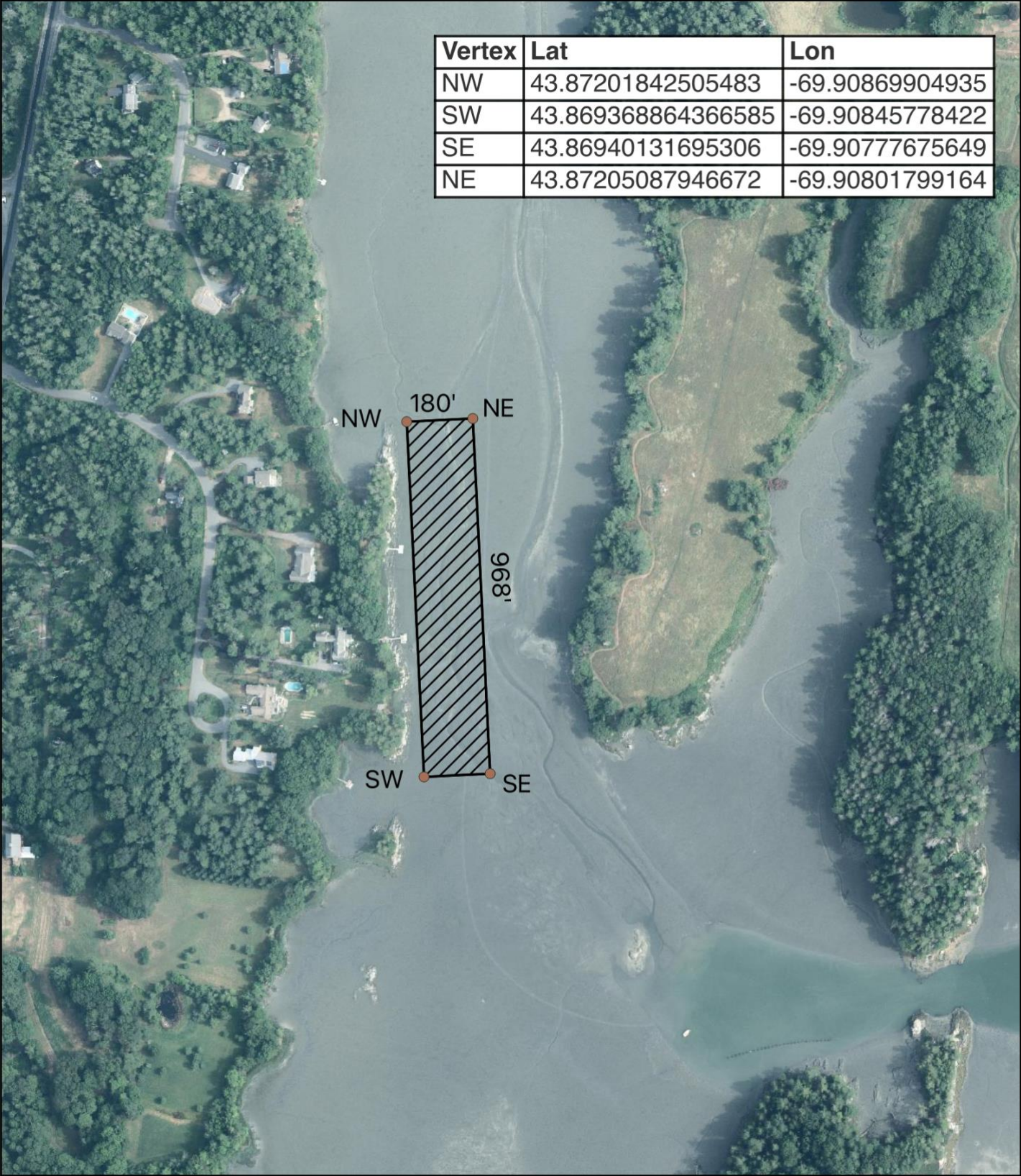


Revision: 12/12/2024
Author: Max Burtis
Datum: EPSG:7019 - NAD83(2011)/Maine
East (ftUS)

Boundary Drawing
and Coordinate Description

Experimental Lease Application
New Meadows River, Maine
Ferda Farms LLC

Vertex	Lat	Lon
NW	43.87201842505483	-69.90869904935
SW	43.869368864366585	-69.90845778422
SE	43.86940131695306	-69.90777675649
NE	43.87205087946672	-69.90801799164



0 100 200 ft

Revision: 12/12/2024
Author: Max Burtis
Datum: EPSG:4326 - WGS 84