

Figure 1. Vicinity map.¹

Location: East of Lower Coombs Island, New Meadows River, Brunswick, Cumberland County, Maine

Purpose: Standard lease for suspended culture of American/Eastern Oysters (*Crassostrea virginica*) and Quahogs (*Mercenaria mercenaria*).

Site Review: Geoffrey Shook, Molly Waters, Heidi Bray (Dive Support)

Report Preparation: Geoffrey Shook, Meryl Grady, Amanda Ellis

¹ Unless otherwise noted, all figures in this report were created in ArcGIS Pro version 2.9 using digitized NOAA Nautical Charts or georeferenced aerial photographs provided by The Maine Office of GIS.



Application Overview

The applicant, Ferda Farms LLC, is requesting a 2.42² acre standard lease in the New Meadows River east of Lower Coombs Island for the suspended culture of shellfish. The proposed lease is comprised of two tracts separated by chartered intertidal mudflats. The northern tract is 1.20 acres and the southern tract is 1.22 acres based on MDMR calculations. Gear is intended to be onsite year-round with cages sunk to the bottom in the winter when ice is a concern. Winter sticks are intended to replace corner marker buoys during the winter season.³ The applicant currently operates four Limited Purpose Aquaculture (LPA) sites within the vicinity of the proposal: MBUR520, MBUR620, MBUR720, and MBUR820⁴.

General Characteristics

On July 27, 2023, Maine Department of Marine Resources (MDMR) scientists assessed the proposed lease site. MDMR scientists arrived on site at approximately 8:00 AM. The proposal is in a shallow subtidal area west of the main navigation channel and east of Lower Coombs Island in the New Meadows River. The shoreline of the surrounding islands consists of a mixture of seaweed covered rock ledges and marshland leading to mixed forest uplands. There are four small islands within 1,000 feet of the proposal, as well as the larger Sebascodegan Island to the south. Lower Coombs Island, to the west, and Bombazine Island to the east each have one house with a dock near the southern tip and northern tip, respectively.

Depth

On July 27, 2023, MDMR scientists began collecting depths at the proposed site at approximately 8:04 AM at the north tract and at approximately 9:09 AM at the south tract. The tide was ebbing with the next low tide predicted at 12:24 PM (Table 1). Depths were determined to be between 11.2-16 feet in the northern tract and between 8.3-17.9 feet in the southern tract. Correcting for tidal variations derives depths at mean low water (MLW, 0.0 feet) to be from 9.9-14.7 feet on the northern tract and 5.1-14.7 feet on the southern tract.

Table 1. Predicted tidal heights in the New Meadows River, Brunswick, Maine.⁵

Date	Time	Height (ft)
2023/07/27	12:16 AM	1.2 L
2023/07/27	6:19 AM	8.0 H
2023/07/27	12:24 PM	1.4 L
2023/07/27	6:39 PM	9.3 H

² Applicant originally requested 2.33 acres. MDMR calculations indicate the area is 2.42 acres.

³ Application pages 4,6,7

⁴ Application page 10

⁵ <https://www.usharbors.com/harbor/maine/new-meadows-river-me/tides/?tide=2023-7#monthly-tide-chart>



Bottom Characteristics

MDMR scientists observed the bottom characteristics of the proposed lease site via SCUBA. One dive was conducted within each tract of the proposal. Bottom characteristics were categorized using the Coastal and Marine Ecological Classification Standard (CMECS), a national standard for describing features of the marine environment (Table 2). Sediment information was determined based on visual analysis of the video. The bottom of the lease site is primarily composed of mud.

Table 2. Bottom characteristics of the proposed site.

Substrate Origin	Substrate Class	Substrate Subclass	Substrate Group
Geologic Substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Mud

Position and Distances to Shore

The geodesic measuring tool in ArcGIS Pro 2.9 was used to verify the distances and bearings between proposed lease corners. Distances to shore were determined using the measuring tool in ArcGIS Pro 2.9, digital orthophotography provided by the Maine Office of GIS, and the application coordinates (Table 3, Figure 2).

Application Coordinates (WGS84) – 2.42 Acres

<u>Corner</u>	<u>Latitude</u>	<u>Longitude</u>	
North Tract			
1	43.864769°	-69.899844°	then 80.1 feet at 130° True to
2	43.864619°	-69.899622°	then 659.8 feet at 222° True to
4	43.863289°	-69.901319°	then 78.8 feet at 316° True to
3	43.863433°	-69.901542°	then 661.6 feet at 42° True to 1
South Tract			
5	43.862869°	-69.903578°	then 80.0 feet at 110° True to
6	43.862803°	-69.903289°	then 665.6 feet at 200° True to
8	43.861078°	-69.904117°	then 79.9 feet at 292° True to
7	43.861156°	-69.904400°	then 661.0 feet at 19° True to 5



Table 3. Approximate distances from proposed lease corners to surrounding features (Figure 2).

Feature	Distance
Corner 2 to green navigational buoy "11"	~600 feet to the southeast
Corner 4 to northern tip of Bombazine Island MLW	~973 feet to the east-southeast
Corner 3 to Upper Coombs Island closest point MLW	~732 feet to the northwest
Corner 5 to Lower Coombs Island closest point MLW	~172 feet to the northwest
Corner 7 to Lower Coombs Island closest point MLW	~166 feet to the west
Corner 8 to Sebascodegan Island community dock	~1,130 feet to the southwest

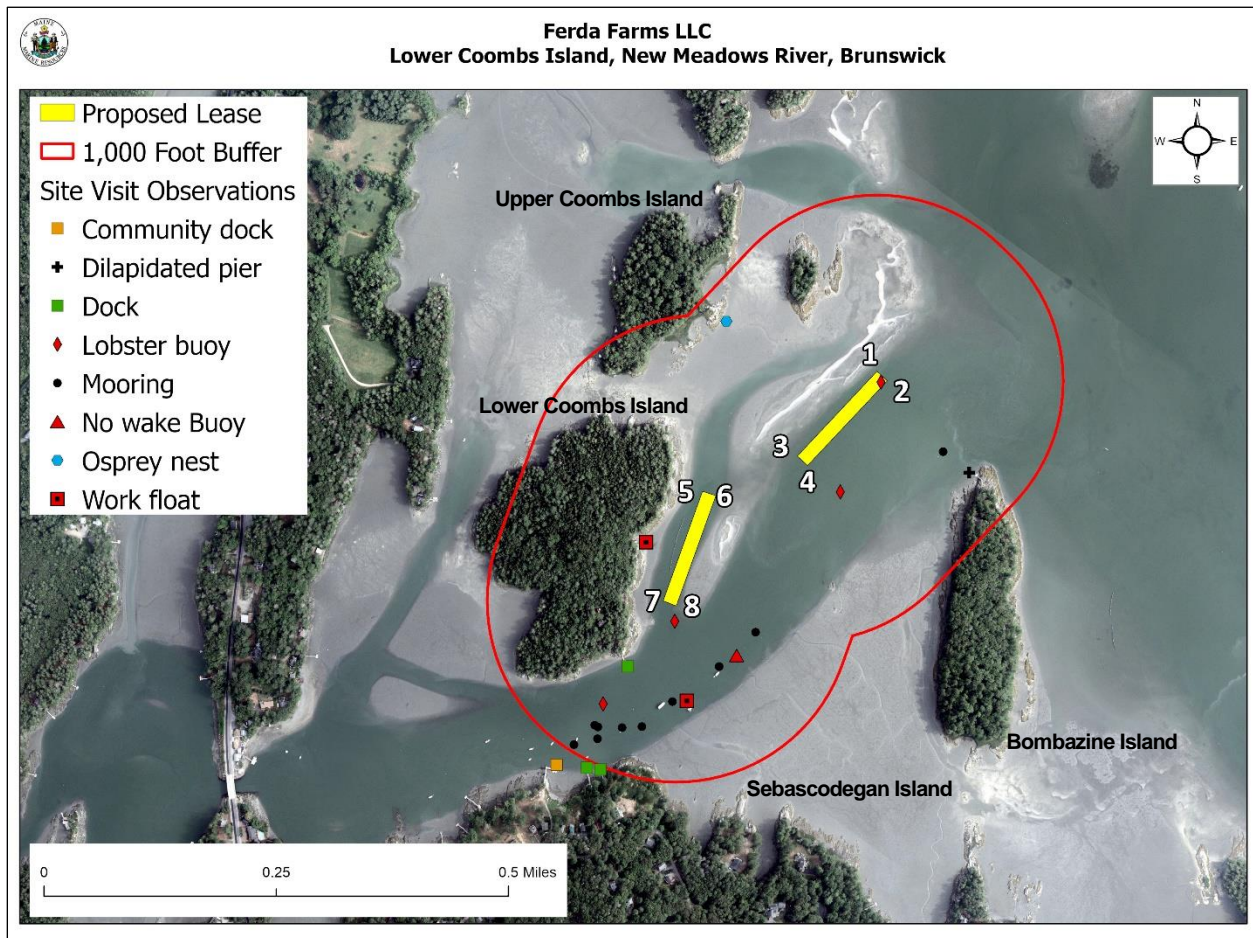


Figure 2. Proposed lease area with site visit observations.

Pursuant to statute and regulation, aquaculture leases are evaluated in consideration of applicable decision criteria. The site report documents MDMR's observations of the area and other information, in consideration of those criteria, as noted below:



(1) Riparian Ingress and Egress

During MDMR's site assessment, scientists observed a house on the northern tip of Bombazine Island and a dilapidated pier. Scientists also observed two docks tied to the shore on Lower Coombs Island, adjacent to the western tract, as well as a pier and dock with a lobster style boat on Lower Coombs Island. A mooring field and community dock were observed to south on Sebascodegan Island. There are approximately ten moorings within 1,000 feet of the proposal. At the time of the site assessment, the community dock had several small powerboats tied to it and some of the moorings were observed to be occupied with small powerboats. In addition, two private docks were observed directly to the east of the community dock (Figure 2). One of the docks had kayaks on it and the other had a small power boat tied up to it.

A Harbormaster Questionnaire was completed by the local harbormaster and submitted to the MDMR Aquaculture Division on March 22, 2022. The harbormaster indicated that riparian ingress and egress should not be affected.

(2) Navigation

The north tract of the proposal is located approximately 550 feet to the west of the primary marked navigation channel in the New Meadows River and approximately 40 feet to the northwest of deeper water associated with an unmarked navigational thoroughfare that runs southwest/northeast through the area between Lower Coombs Island and Sebascodegan Island. The south tract is approximately 1,575 feet to the west of the marked navigational channel and approximately 140 feet to the northwest of the navigational thoroughfare. According to navigational charts, at MLW, there is approximately 155-240 feet of water between Lower Coombs Island and the western boundary of the south tract (Figure 3). During MDMR's site assessment, scientists observed one fishing boat in transit to the south of the proposal as well as two recreational powerboats transiting in the navigational channel to the east.

The Harbormaster Questionnaire indicated that navigation should not be affected by the lease proposal.

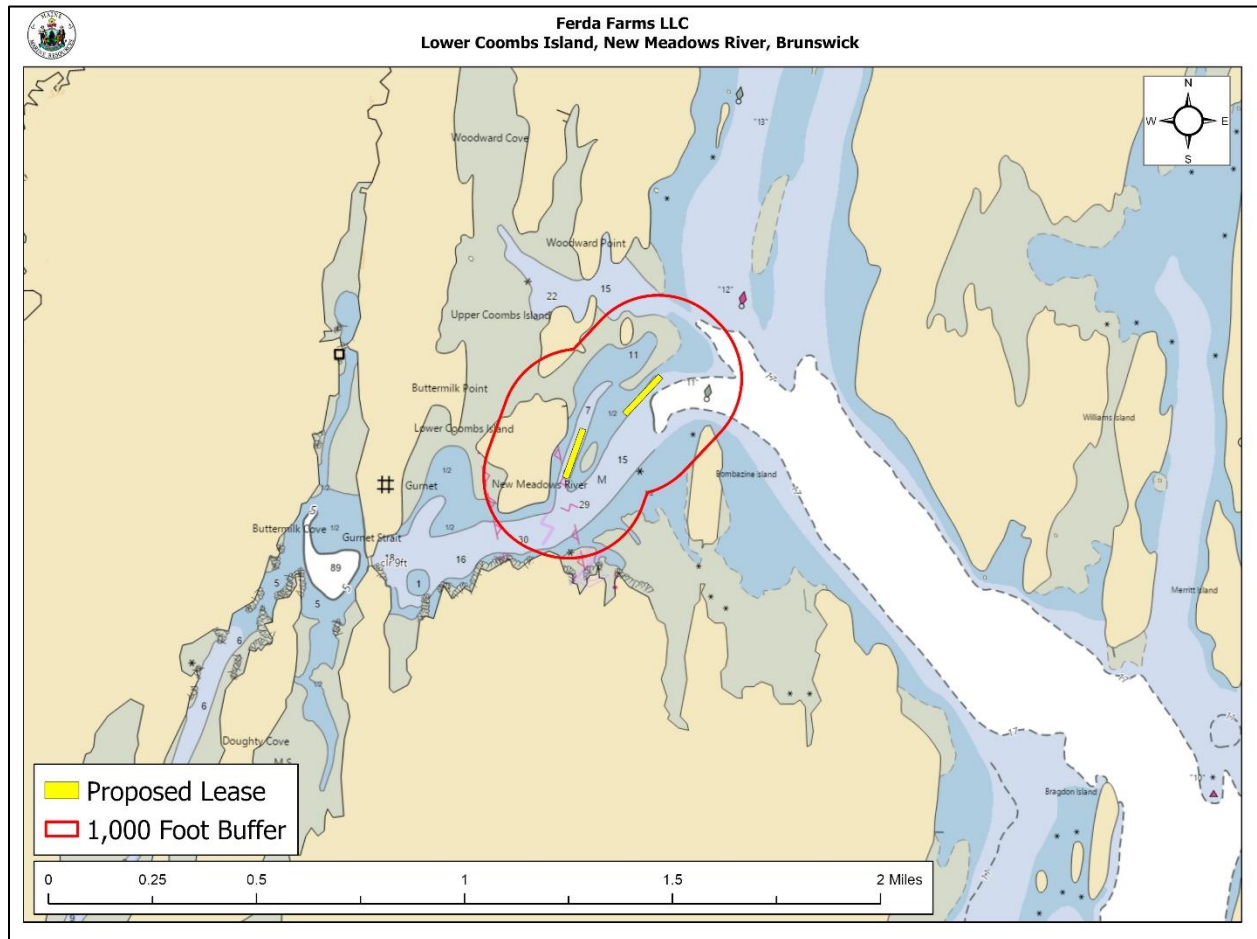


Figure 3. Navigational channels in the vicinity of the proposed lease area.

(3) Fishing and Other Uses

During MDMR's site assessment, there were four lobster buoys observed within 1,000 feet of the proposal. One of the four observed lobster buoys was located inside the north tract. The closest lobster buoy to the south tract was located approximately 87 feet to the south (Figure 2). MDMR scientists observed evidence of light lobster fishing activity to the south and moderate lobster fishing activity to the east with an additional 16-20 lobster buoys observed beyond 1,000 feet. Three lobster boats were observed working in the general vicinity of the proposal.

Along the eastern shoreline of Lower Coombs Island scientists observed two docks being stored on the shore (Image 1).



Image 1. Docks stored on the shore of Little Coombs Island

(4) Other Aquaculture Uses

There are six LPAs within 1,000 feet of the proposal. An individual with an interest in the company applying for the lease operates four LPAs in the vicinity - MBUR520, MBUR620, MBUR720, and MBUR820. If the proposal is granted, the application indicates that the four LPAs would be relinquished.⁶ The other two LPAs within 1,000 feet, PGRA216 and PGRA316, are located approximately 450 feet to the northwest of the north tract (Figure 4). There are no aquaculture leases within 1,000 feet of the proposal.

During MDMR's site assessment, scientists observed three farmers working on a float approximately 242 feet to the south of the south tract (Figure 2). Scientists also observed a float with aquaculture cages stored on it in shallow water near the shoreline in a small cove on Lower Coombs Island adjacent to the south tract (Image 2).

⁶ Application page 10

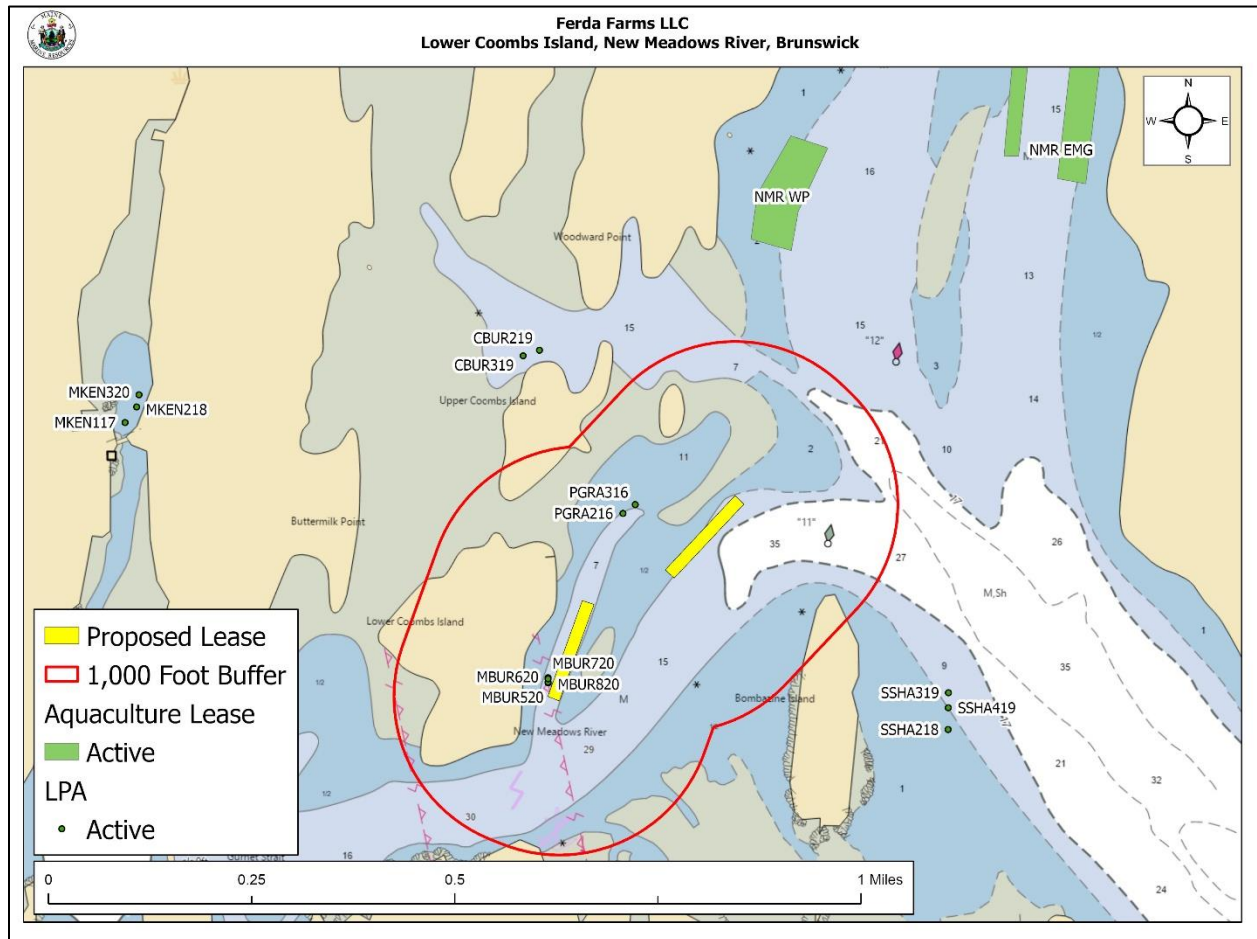


Figure 4. Aquaculture leases and LPA licenses in the vicinity of the proposed lease area.



Image 2. Aquaculture gear storage float near Lower Coombs Island.

(5) Existing System Support

Epibenthic Flora and Fauna

MDMR scientists conducted two dives (one dive within each tract) using SCUBA to assess the epibenthic ecology of the proposed lease. The relative abundance of epibenthic flora and fauna observed in the video transects is described below in Table 4.

Table 4. Species observed using underwater camera footage.

Species Observed	Abundance
Hermit Crab (<i>Paguroidea</i> spp)	Rare
American/Eastern Oyster (<i>Crassostrea virginica</i>)	Rare
Sand shrimp (<i>Crangon septemspinosa</i>)	Occasional



Eelgrass (*Zostera marina*)

Historical records of eelgrass collected in 2022⁷ indicate that there is no mapped eelgrass within 1,000 feet of the proposal. The nearest mapped eelgrass is approximately 1,620 feet to the northeast of the north tract. During MDMR’s site assessment, scientists did not observe any eelgrass from the surface or on underwater footage collected during SCUBA.

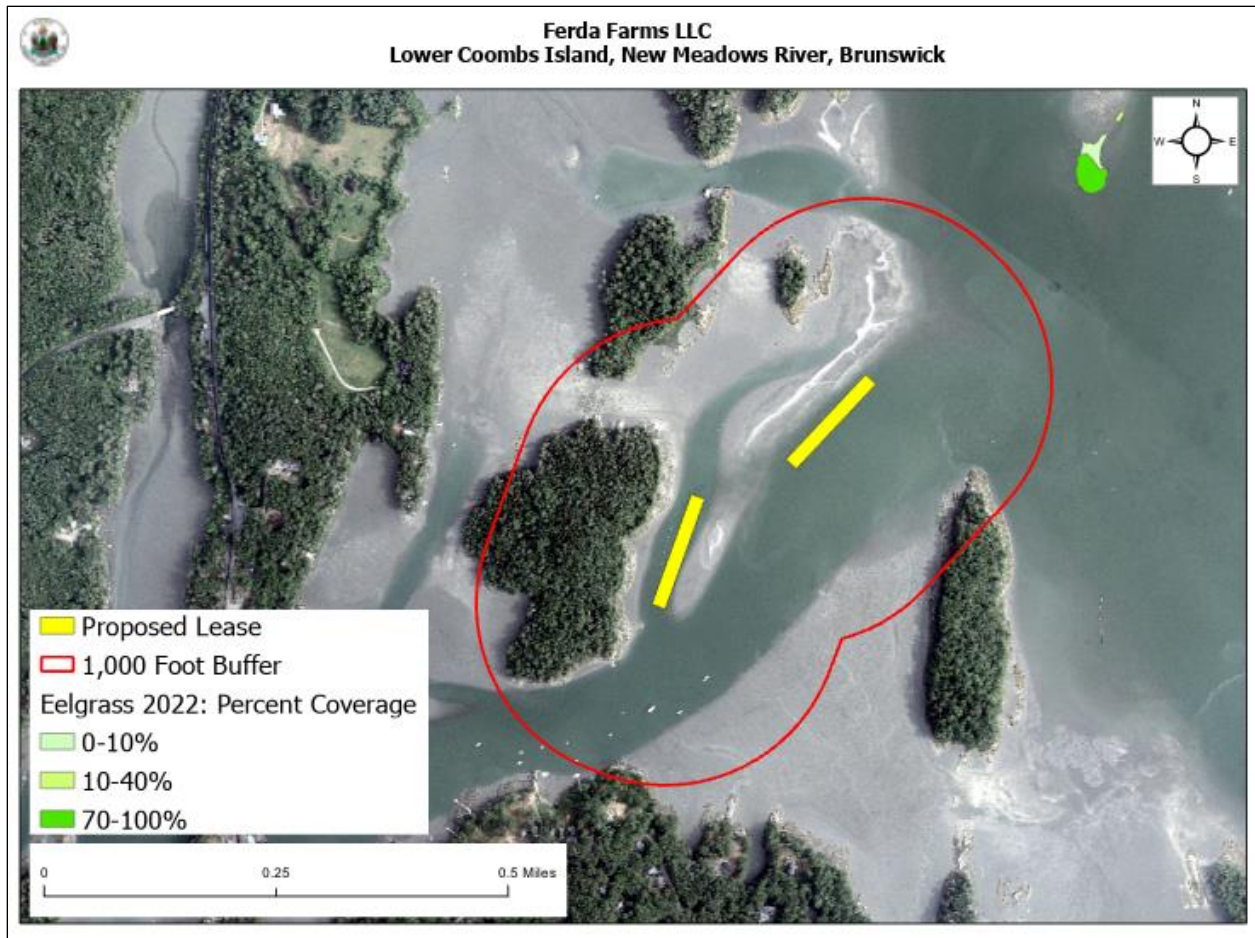


Figure 5. Mapped eelgrass (*Z. marina*) in the vicinity of the proposed lease area.

⁷ Data obtained from The Maine Office of GIS "GISVIEW.MEDMR.Eelgrass". This is the most current record of mapped eelgrass in the vicinity of the proposal.



Maine Department of Marine Resources Site Report

Ferda Farms LLC
New Meadows River
Brunswick

Wildlife

According to Geographic Information System (GIS) data maintained by the Maine Department of Inland Fisheries and Wildlife (MDIFW) and available through the Maine Office of GIS (MEGIS), the proposed lease is within 1,000 feet of mapped tidal waterfowl and wading bird habitat. More than half of the northern part of the north tract is within this habitat designation, including a small portion of the northern part of the south tract. There is a bald eagle (*Haliaeetus leucocephalus*) nest mapped approximately 975 feet to the west of the south tract and another nest mapped approximately 1,225 feet to the southeast of the north tract.

On March 14, 2022, a Wildlife Biologist with MDIFW responded by email to a “Request for Agency Review and Comment”, stating that a portion of the proposal is located within Tidal Waterfowl and Wading Bird Habitat. Recommendations were made related to maximum mesh and twine size if predator exclusion nets are to be used within the proposal.

During MDMR’s site assessment, scientists observed double-crested cormorants (*Nannopterum auritum*), common terns (*Sterna hirundo*), herring gulls (*Larus argentatus*), laughing gulls (*Leucophaeus atricilla*), common eiders (*Somateria mollissima*) and a grey seal (*Halichoerus grypus*) in the vicinity of the proposed lease. Scientists also observed an osprey (*Pandion haliaetus*) and osprey nest on Upper Coombs Island approximately 970 feet to the northwest of the north tract.

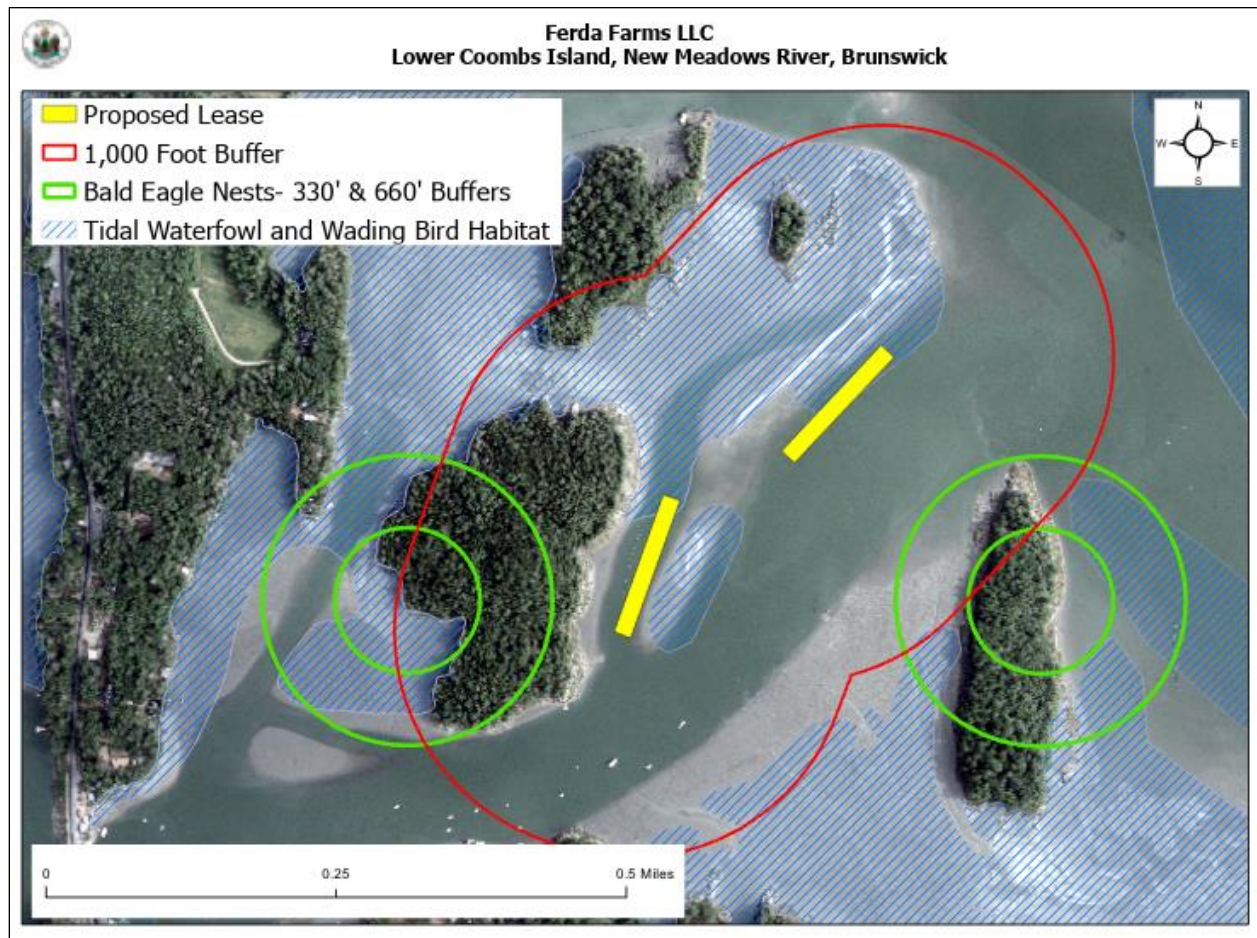


Figure 6. Mapped bald eagle nests and tidal waterfowl and wading bird habitat. ⁸

⁸ Data obtained from USFWS "Bald_Eagle_Nests_-_Maine_2023" and MDIFW maintained SDE Feature Class "GISVIEW.MEIFW.Twwh"



(6) Interference with Public Facilities

The proposed lease is not within 1,000 feet of any beach, park, docking facility, or conserved lands owned by federal, state, or municipal governments. Upper and Lower Coombs Island are privately owned by the Brunswick-Topsham Land Trust (Figure 7).

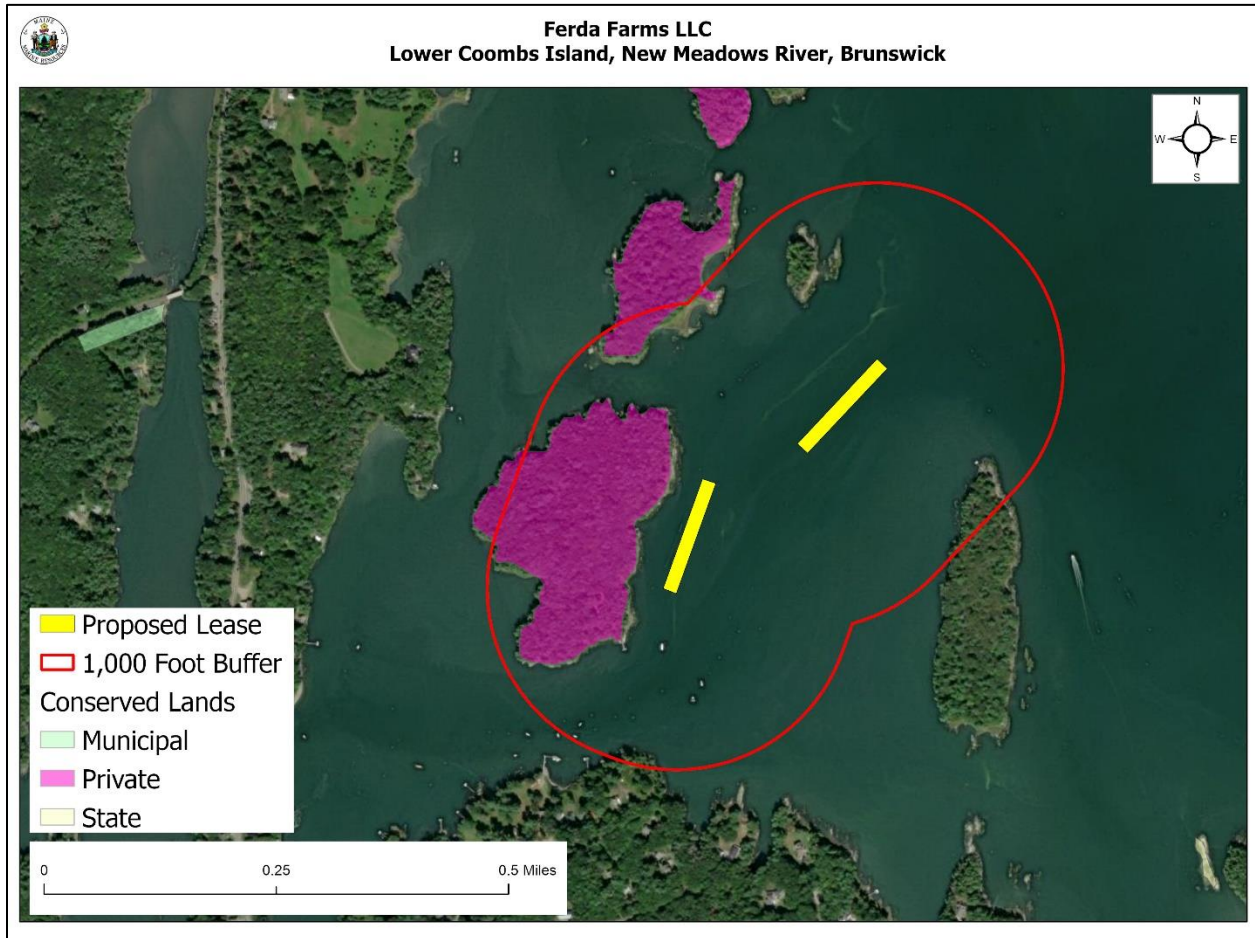


Figure 7. Public facilities near the proposed lease site.⁹

(7) Water Quality

The proposed lease is located within an area that is currently classified as Open/Approved for the harvest of shellfish by the MDMR Bureau of Public Health and Aquaculture.

⁹ Data obtained from The Maine Office of GIS "GISVIEW.MECONSLANDS.Conserved_Lands"