



Love Point Oysters, LLC
 Southeast of Upper Goose Island, Middle Bay, Harpswell

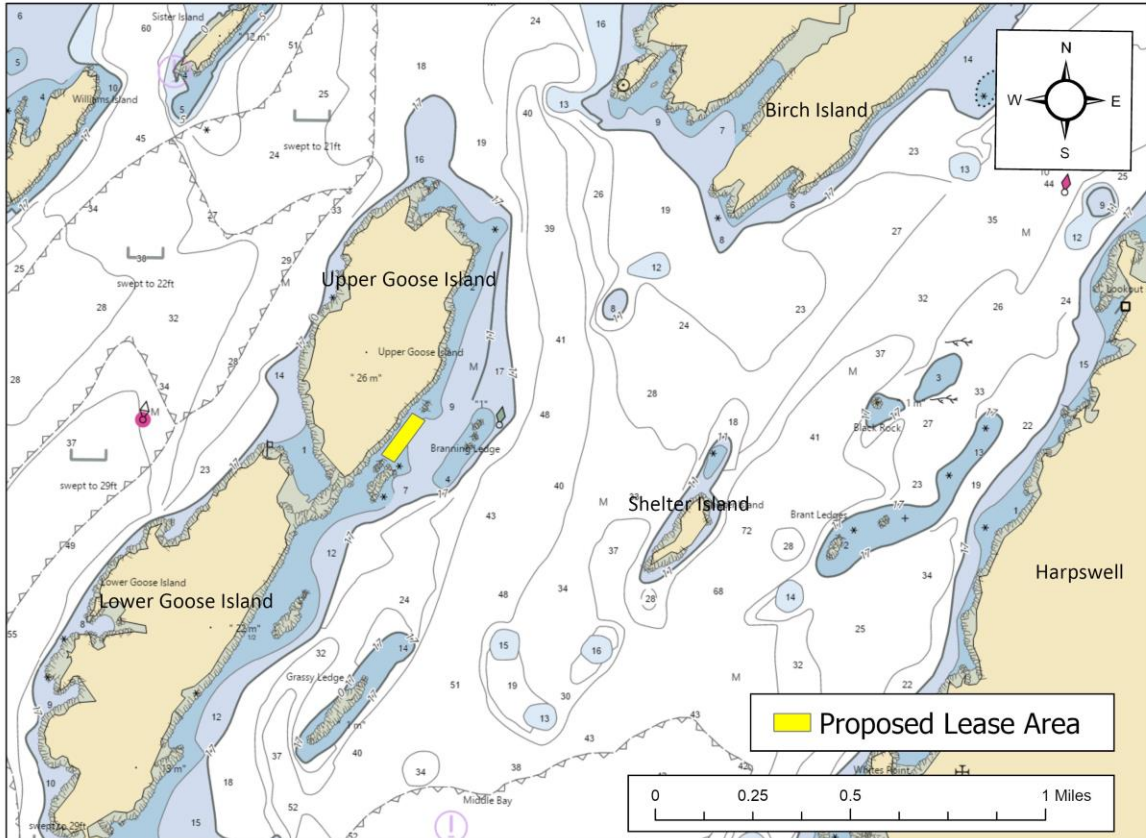


Figure 1. Vicinity map.¹

Location: Southeast of Upper Goose Island, Middle Bay, Harpswell, Cumberland County, Maine

Purpose: Standard lease for suspended culture of American Oysters (*Crassostrea virginica*) and Sugar Kelp (*Saccharina latissima*).

Site Review: Geoffrey Shook, Molly Waters, and James Becker

Report Preparation: Chloe Kilborn, Meryl Grady, and 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 geo-referenced aerial photographs provided by The Maine Office of GIS.



Application Overview

The applicant, Love Point Oysters, LLC, is requesting 3.24² acres southeast of Upper Goose Island in Middle Bay for the suspended culture of American oysters and sugar kelp. The applicant currently operates experimental lease MID G1x, which is partially located within the footprint of this standard lease proposal (Figure 4). The applicant is proposing an expansion from 2.86³ acres to 3.24 acres.

General Characteristics

On July 12, 2023, Maine Department of Marine Resources (MDMR) scientists assessed the proposed lease site beginning at 8:00 AM. The proposal is situated on the southeastern shore of Upper Goose Island which consists of a rocky coastline leading to mixed forest.

Depth

MDMR scientists began collecting depths at 8:04 AM. Measured depths at corners of the proposed lease site ranged from 11.5 to 16.9 feet. Correcting for tidal variation derives water depths at the corners of the proposal at the previous high tide to be from 11.6 to 17.0 feet and from 3.0 to 8.4 feet at mean low water (MLW, 0.0 feet) (Table 1).

Table 1. Predicted tidal heights in South Harpswell, Maine.⁴

Date	Time	Height (ft)
2023/07/12	1:24 AM	0.4 L
2023/07/12	7:37 AM	8.6 H
2023/07/12	1:35 PM	0.9 L
2023/07/12	7:59 PM	9.8 H

Bottom Characteristics

MDMR scientists observed the bottom characteristics of the proposed lease site via SCUBA. 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 proposed lease site is primarily composed of mud and shell rubble.

² Applicant originally requested 3.2 acres. MDMR calculations indicate the area is 3.24 acres.

³ Experimental lease MID G1x decision history page 1.

⁴ <https://www.usharbors.com/harbor/maine/south-harpswell-me/tides/?tide=2023-07#monthly-tide-chart>



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
Biogenic Substrate	Shell Substrate	Shell Rubble	Not Classified

Position and Distances to Shore

The 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) – 3.24 Acres

<u>Corner</u>	<u>Latitude</u>	<u>Longitude</u>	
N	43.802833°	-70.029861°	then 202.9 feet at 120° True to
E	43.802556°	-70.029194°	then 700.1 feet at 217° True to
S	43.801000°	-70.030750°	then 203.1 feet at 299° True to
W	43.801278°	-70.031417°	then 699.8 feet at 37° True to N

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

Feature	Distance
NE corner to green navigational buoy “1”	~1,000’ to the east
SE corner to Shelter Island shoreline at MLW	~3,660’ to the southeast
SW corner to Upper Goose Island shoreline at MLW	~75’ to the northwest
NW corner to Upper Goose Island shoreline at MLW	~65’ to the northwest



Love Point Oysters, LLC
 Southeast of Upper Goose Island, Middle Bay, Harpswell

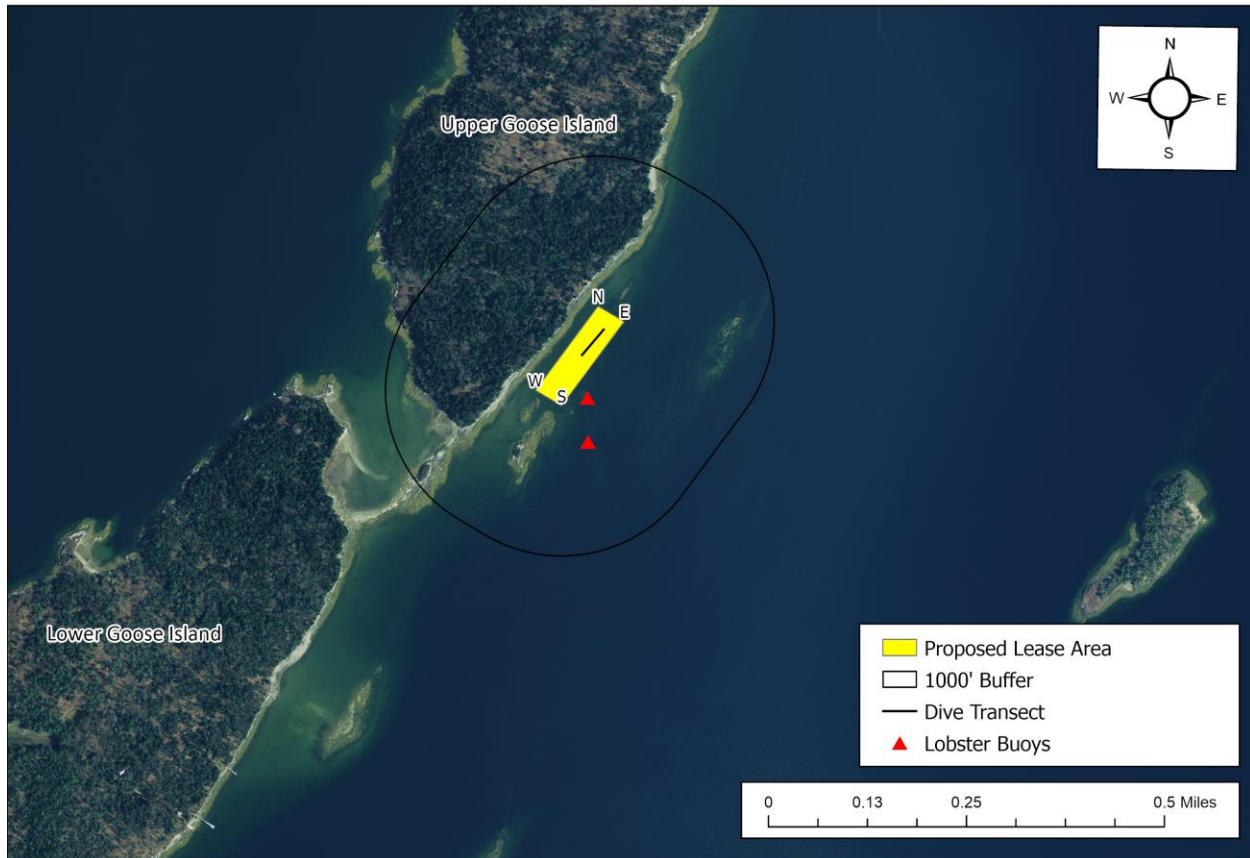


Figure 2. Proposed lease area with site visit observations.

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

Upper Goose Island, located approximately 65 feet northwest of the proposal at MLW, is privately owned by the Nature Conservancy for ecosystem conservation. There were no observed moorings, docks, or piers within the vicinity of the proposal during MDMR’s site assessment.



(2) Navigation

The proposal is located approximately 65 feet southeast of Upper Goose Island at MLW. The main navigational channel is located to the east of Branning Ledge. Branning Ledge is approximately 660 feet east of the proposal. Green navigational buoy “1” is located approximately 1,000 feet east of the proposal (Figure 3). During MDMR’s site assessment, scientists observed one sailboat transiting north, one commercial fishing vessel traveling south, and one powerboat all operating within the channel to the east of Branning Ledge.



Love Point Oysters, LLC
Southeast of Upper Goose Island, Middle Bay, Harpswell

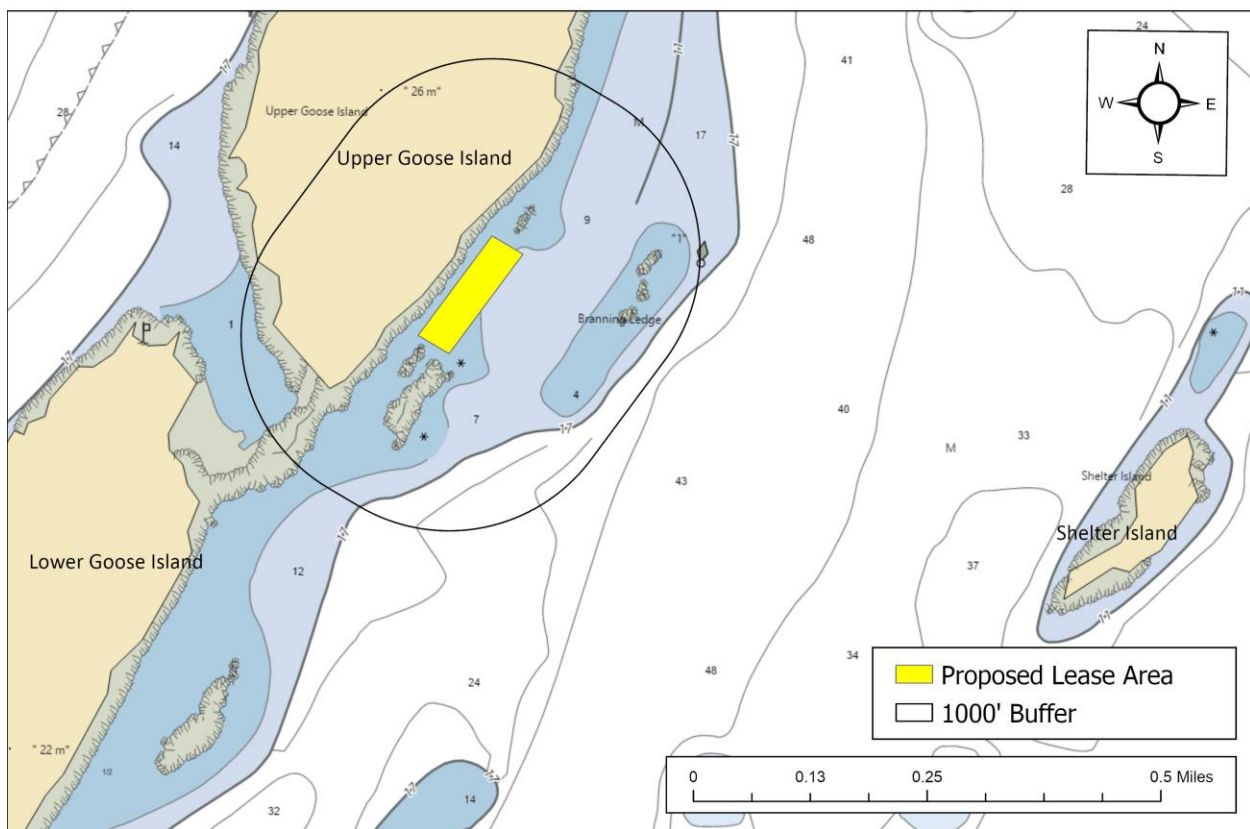


Figure 3. Proposed lease area, 1000’ buffer, navigation channels, and channel markers.

(3) Fishing and Other Uses

During the site visit, MDMR documented two lobster buoys approximately 105 feet and 290 feet southeast of the proposal (Figure 2). MDMR observed approximately six lobster buoys in total within 1,000 feet of the proposal.



(5) Existing System Support

Epibenthic Flora and Fauna

On July 12, 2023, MDMR scientists conducted one SCUBA dive transect and three point dives to assess the epibenthic ecology of the proposed lease. The relative abundance of epibenthic flora and fauna observed in the video transect is described below in Table 4.

Table 4. Species observed on underwater footage.

Species Observed	Abundance
Crab (<i>Cancer sp.</i>)	Abundant
Hermit Crab (<i>Pagurus sp.</i>)	Abundant
American Lobster (<i>Homarus americanus</i>)	Common
Northern Sea Star (<i>Asterias vulgaris</i>)	Common
Seaweed (<i>Ascophyllum sp.</i>)	Common
Sand anemone (<i>Cerianthus borealis</i>)	Occasional
Sea spaghetti (<i>Gracilaria anderspni</i>)	Occasional

Eelgrass (*Zostera marina*)

Since data collected by the Maine Department of Environmental Protection (MDEP) in 2018⁵ showed historical eelgrass presence within the proposal boundaries, MDMR conducted one SCUBA transect and three additional point dives to determine if eelgrass was present within the proposal boundaries and/or in the vicinity of the proposal. The dive transect was conducted in the northern half of the proposal, which passed through an area of historically mapped eelgrass. No eelgrass was observed during the transect. The second dive was conducted to confirm there was no eelgrass present, referred to as “Dive 2” in Figure 5. No eelgrass was observed. The third dive targeted another historically mapped patch of eelgrass and no eelgrass was observed. The fourth dive was conducted approximately 70 feet east of the proposal boundary to investigate another historically mapped patch of eelgrass (Figure 5). There was no eelgrass observed during the site assessment.

⁵ Data obtained from The Maine Office of GIS “GISVIEW.MEDEP.Eelgrass2018_CascoBay”.



Data collected by MDEP and Casco Bay Estuary Partnership (CBEP) in 2022 indicates there is no mapped eelgrass in the vicinity of the proposal. The nearest mapped eelgrass is approximately 2,160 feet southwest of the proposal (Figure 6).⁶



Love Point Oysters, LLC
 Southeast of Upper Goose Island, Middle Bay, Harpswell



Figure 5. Mapped eelgrass (*Z. marina*) near the proposed lease utilizing 2018 data.

⁶ Data obtained from The Maine Office of GIS "GISVIEW.MEDEP.Seagrass2022_CascoBay". This is the most current record of mapped eelgrass within the vicinity of the proposal.



Love Point Oysters, LLC
 Southeast of Upper Goose Island, Middle Bay, Harpswell

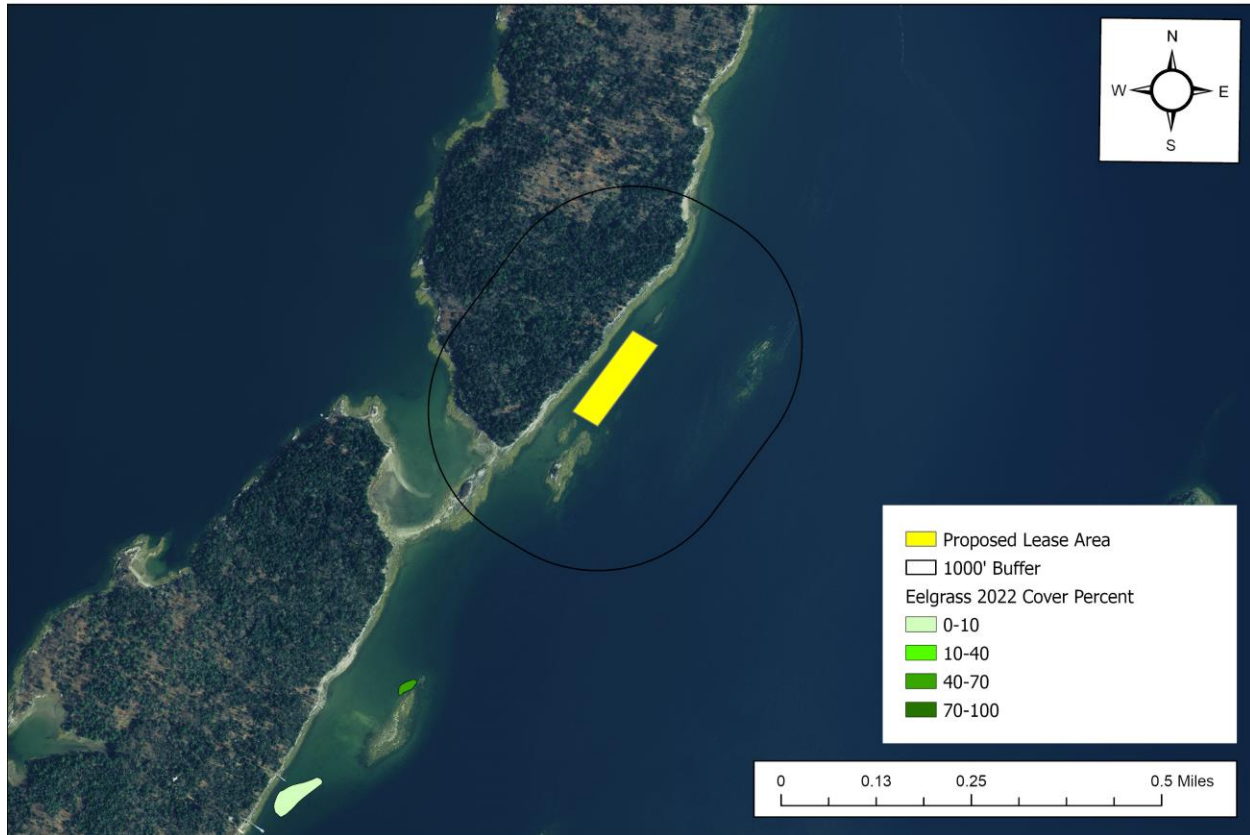


Figure 6. Mapped eelgrass (*Z. marina*) near the proposed lease utilizing 2022 data.

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 closest mapped tidal waterfowl and wading bird habitat is approximately 3,100 feet to the southwest of the proposal. Data collected by the United States Fish and Wildlife Service in 2023 by aerial nest survey shows the closest mapped Bald Eagle nesting site to be approximately 1.2 miles northwest of the proposal (Figure 7). During the site assessment, MDMR observed double-crested cormorant (*Nannopterum auritum*), osprey (*Pandion haliaetus*), sea duck (*sp.* unclassified), and gulls (*Larus sp.*) in the general vicinity of the proposal.

On February 15, 2022, a Wildlife Biologist with MDIFW responded by email to a “Request for Agency Review and Comment” stating minimal impacts to wildlife are anticipated for this project.⁷

⁷ Email correspondence between MDIFW and MDMR.



Love Point Oysters, LLC
 Southeast of Upper Goose Island, Middle Bay, Harpswell

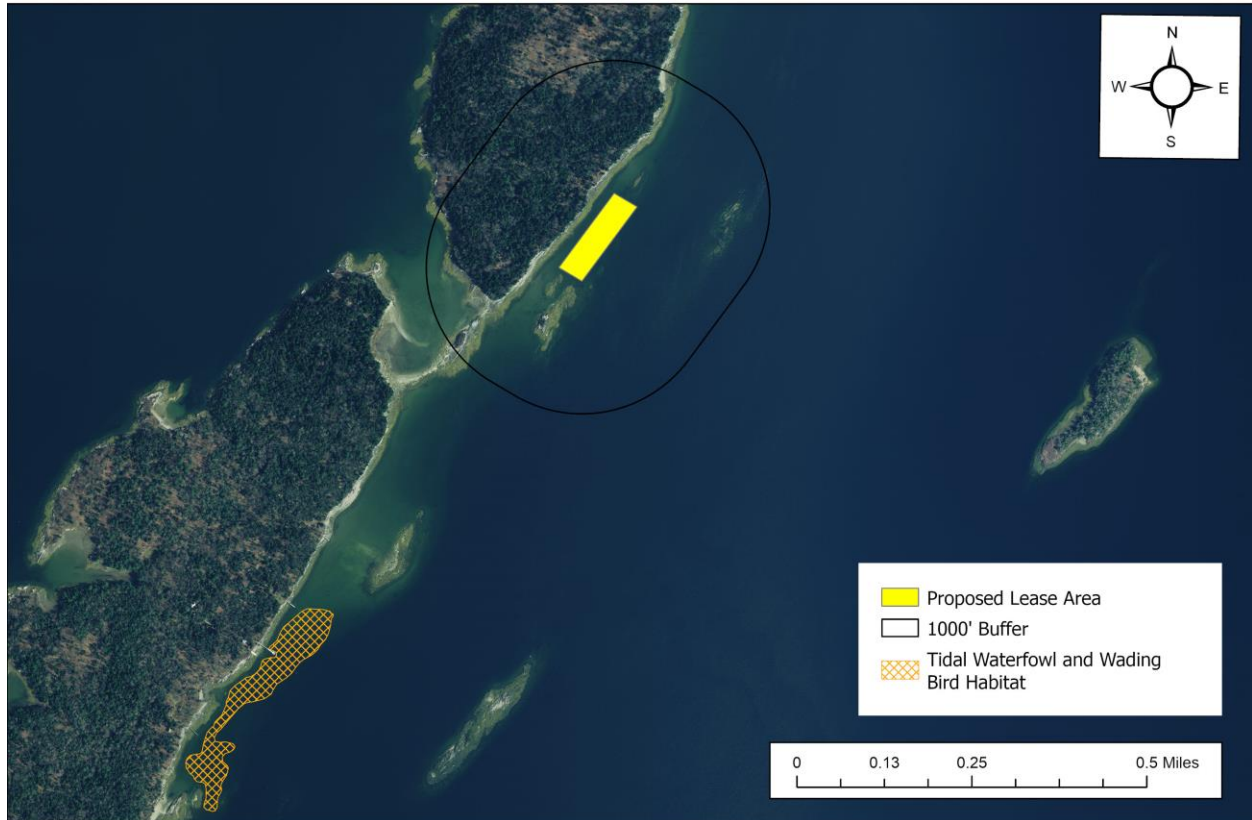


Figure 7. Mapped Tidal Wading Bird and Waterfowl Habitat⁸.

(6) Interference with Public Facilities

The proposed lease is located approximately 65 feet southeast of private conserved land on Upper Goose Island owned by the Nature Conservancy. The proposal is not within 1,000 feet of any beach, park, or docking facility owned by federal, state, or municipal governments (Figure 8).

⁸ Data obtained from MDIWF maintained SDE Feature Class "GISVIEW.MEIFW.Twwh".

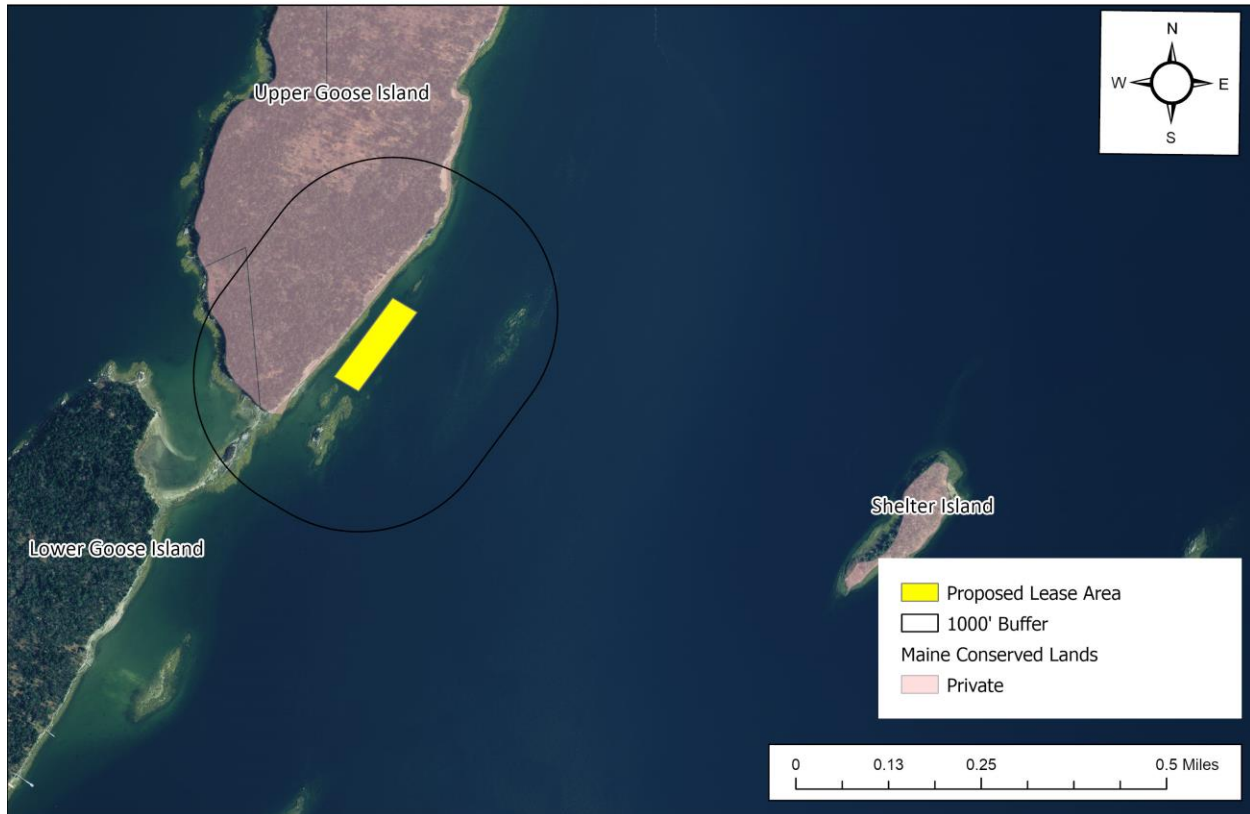


Figure 8. Public facilities near the proposed lease site⁹.

(7) Water Quality

The proposed lease is currently located within an area classified as “Open/Approved” by the MDMR Bureau of Public Health.

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