



David Wilson
Wilson Cove, Middle Bay, Harpswell

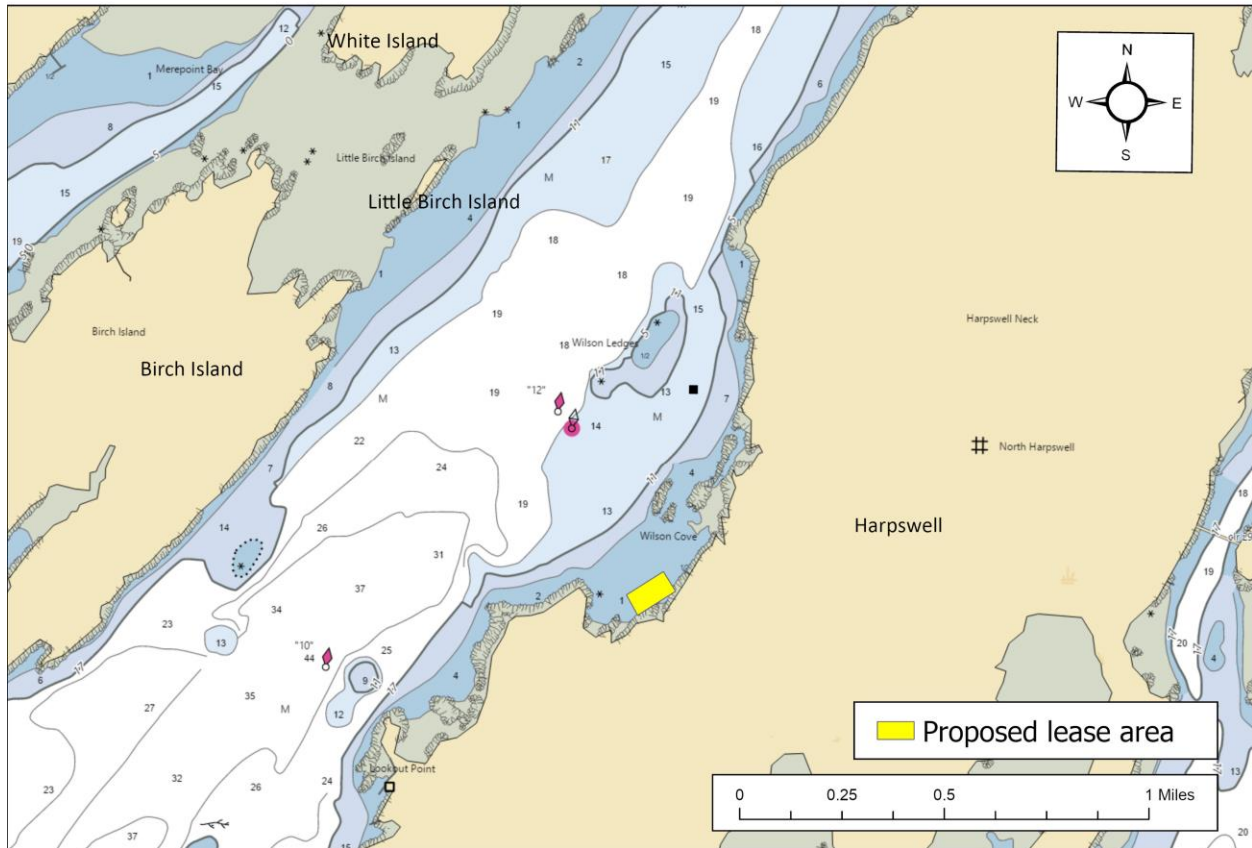


Figure 1. Vicinity map.¹

Location: Wilson Cove, Middle Bay, Harpswell, Cumberland County, Maine

Purpose: Experimental lease for suspended culture of hard clams/quahogs (*Mercenaria mercenaria*), soft-shell clams (*Mya arenaria*), and Atlantic razor clams (*Ensis directus*).

Site Review: Geoffrey Shook, Chloe Kilborn, and Joshua Rozov

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, David Wilson, is requesting 3.92² acres in Wilson Cove for the suspended culture of shellfish. The applicant intends to leave all gear on site with product in it year-round.³

General Characteristics

On October 4, 2023, Maine Department of Marine Resources (MDMR) scientists assessed the proposed lease site beginning at 9:05 AM. The shoreline of Wilson Cove, in the vicinity of the proposal, consists of residential uplands with a rocky coastline and muddy substrate on the seafloor.

Depth

MDMR scientists began collecting depths at 9:09 AM at the proposed site, which was approximately five minutes before low tide. Measured depths at corners of the proposed lease site ranged from 0.0 to 4.4 feet. Correcting for tidal variation derives water depths at mean low water (MLW, 0.0 feet) to be from 0.0 to 3.6 feet (Table 1). The proposed lease is partially located within the intertidal.

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

Date	Time	Height (ft)
2023/10/04	3:20 AM	9.1 H
2023/10/04	9:14 AM	0.8 L
2023/10/04	3:31 PM	9.8 H
2023/10/04	9:58 PM	0.0 L

Bottom Characteristics

MDMR scientists observed the bottom characteristics of the proposed lease site via a remotely operated vehicle (ROV) transect. 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.

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	Clam/Oyster Rubble

² Applicant originally requested 4.0 acres. MDMR calculations indicate the area is 3.92 acres.

³ Application page 6

⁴ <https://www.ussharbors.com/harbor/maine/south-harpswell-me/tides/?tide=2023-10#monthly-tide-chart>



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) – 3.92 Acres

<u>Corner</u>	<u>Latitude</u>	<u>Longitude</u>	
N	43.814844°	-69.980100°	then 298.2 feet at 149° True to
E	43.814153°	-69.979495°	then 578.0 feet at 238° True to
S	43.813288°	-69.981331°	then 300.3 feet at 332° True to
W	43.814004°	-69.981894°	then 563.7 feet at 57° True to N

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

Feature	Distance
Northern corner to closest dock	~229' to the northeast
Northern corner to "CBM SUM" buoy	~355' to the north
Eastern corner to MLW	0'
Southern corner to MLW	0'
Western corner to closest dock	~633' to the west
Western corner to closest mooring	~497' to the west



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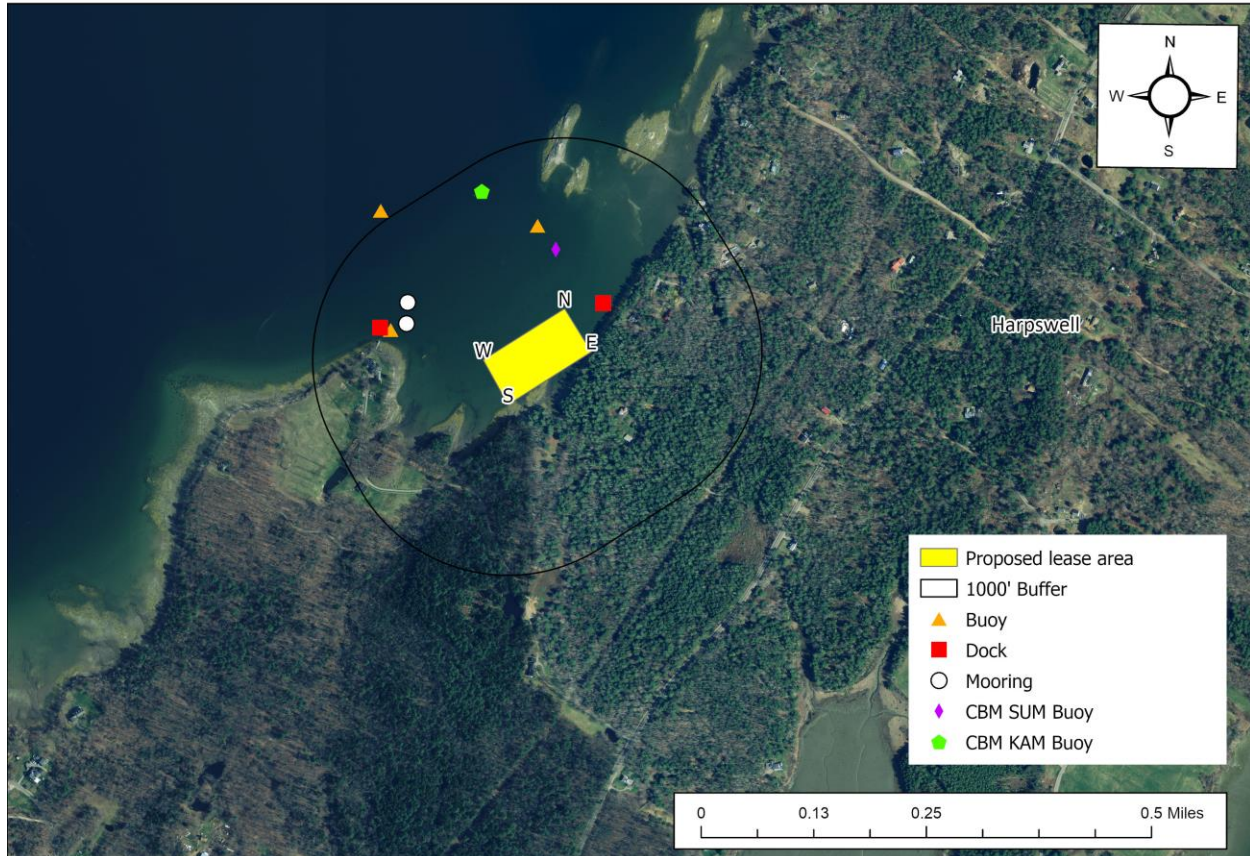


Figure 2. Proposed lease area with site visit observations.

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

MDMR scientists observed two moorings and two docks within 1,000 feet of the proposal. One mooring was located 497 feet west of the proposal and was vacant at the time of the visit. The other mooring was 557 feet west of the proposal, also vacant at the time of the visit, and was marked for removal. One dock was located approximately 633 feet west of the proposal and had a dingy tied up to it. The other dock was located approximately 229 feet northeast of the proposal. MDMR scientists also observed two unknown buoys located approximately 355 feet and 850 feet north of the proposal. One buoy was labeled “CBM SUM” and the other was labeled “CBM KAM”. It is possible the two unknown buoys could be active moorings, but based on the



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time of year MDMR conducted the site assessment, the mooring ball could have been removed for over wintering.

The eastern and southern corners of the proposed lease area are located within the intertidal. The applicant, David Wilson, received necessary permissions from nearby riparian landowners for use of their intertidal property.

(2) Navigation

The main navigational channel is located approximately 2,000 feet to the west of the proposal. Red navigational buoy "12" is located approximately 2,480 feet to the northwest of the proposal (Figure 3). During MDMR's site visit, one barge was observed navigating to the west of the proposed site in the main navigational channel.

A Harbormaster Questionnaire was sent to the Town of Harpswell, and the local harbormaster responded on May 10, 2022, stating the location of the proposal should have little to no effect on navigation.⁵

⁵ Harbormaster questionnaire received by MDMR on May 10, 2022.



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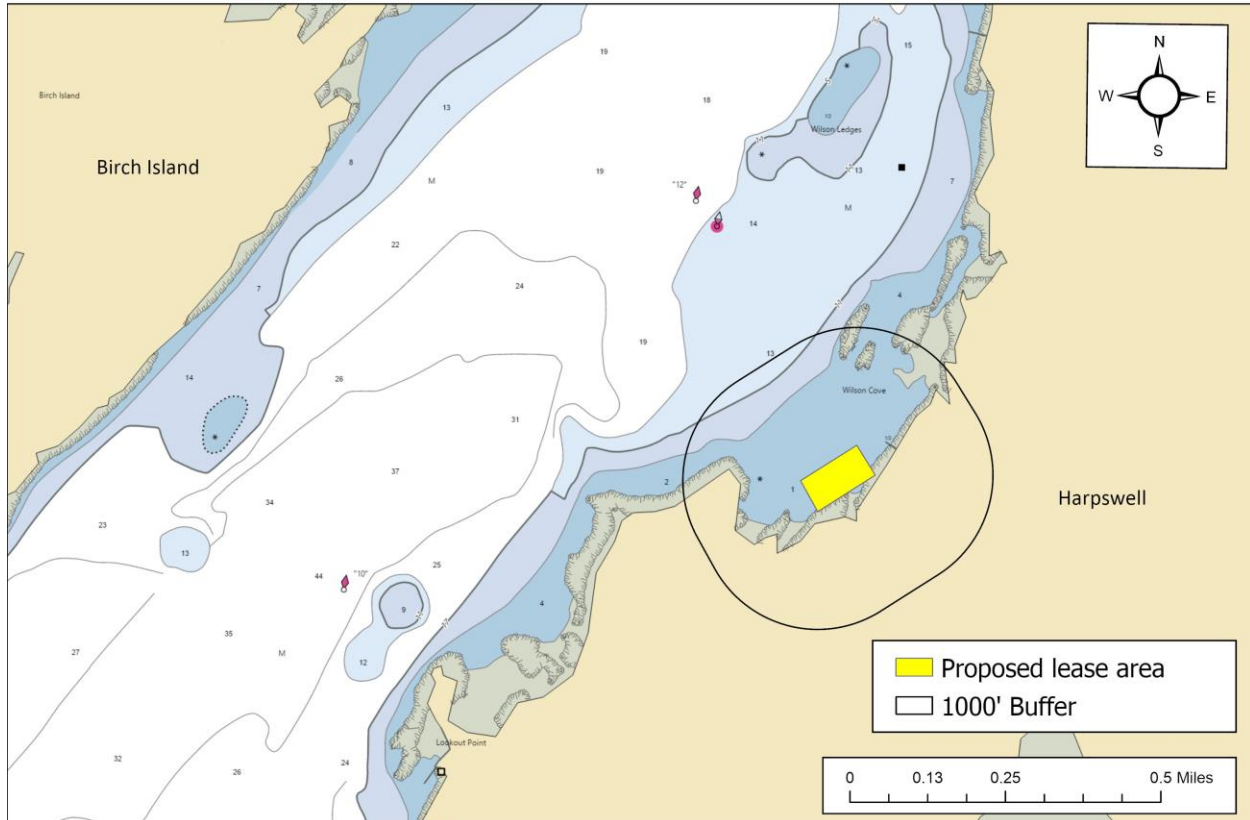


Figure 3. Proposed lease area with nearby navigational channels.

(3) Fishing and Other Uses

During the site visit, MDMR documented three lobster buoys in the vicinity of the proposal. The lobster buoys were approximately 516 feet, 572 feet, and 1,065 feet from the proposal (Figure 2). MDMR observed sparse lobstering activity to the west of the proposal, located closer to the main navigational channel. Additionally, at the time of the site visit, MDMR observed individuals actively working on aquaculture lease site MID WCx located northwest of the proposal.

The Town of Harpswell has a shellfish conservation program in accordance with 12 M.R.S.A. §6671 and because the site is partially within the intertidal, the applicant is required to obtain consent from the municipality. The applicant provided this permission with the application. The local harbormaster stated that both commercial and recreational shellfish harvesting have historically occurred in Wilson Cove. However, a shellfish survey conducted by the Town of



Harpswell in the last three years indicated there is little to no product currently available in Wilson Cove.⁶

(4) Other Aquaculture Uses

There are no aquaculture leases or limited purpose aquaculture (LPA) sites within 1,000 feet of the proposal (Figure 4).

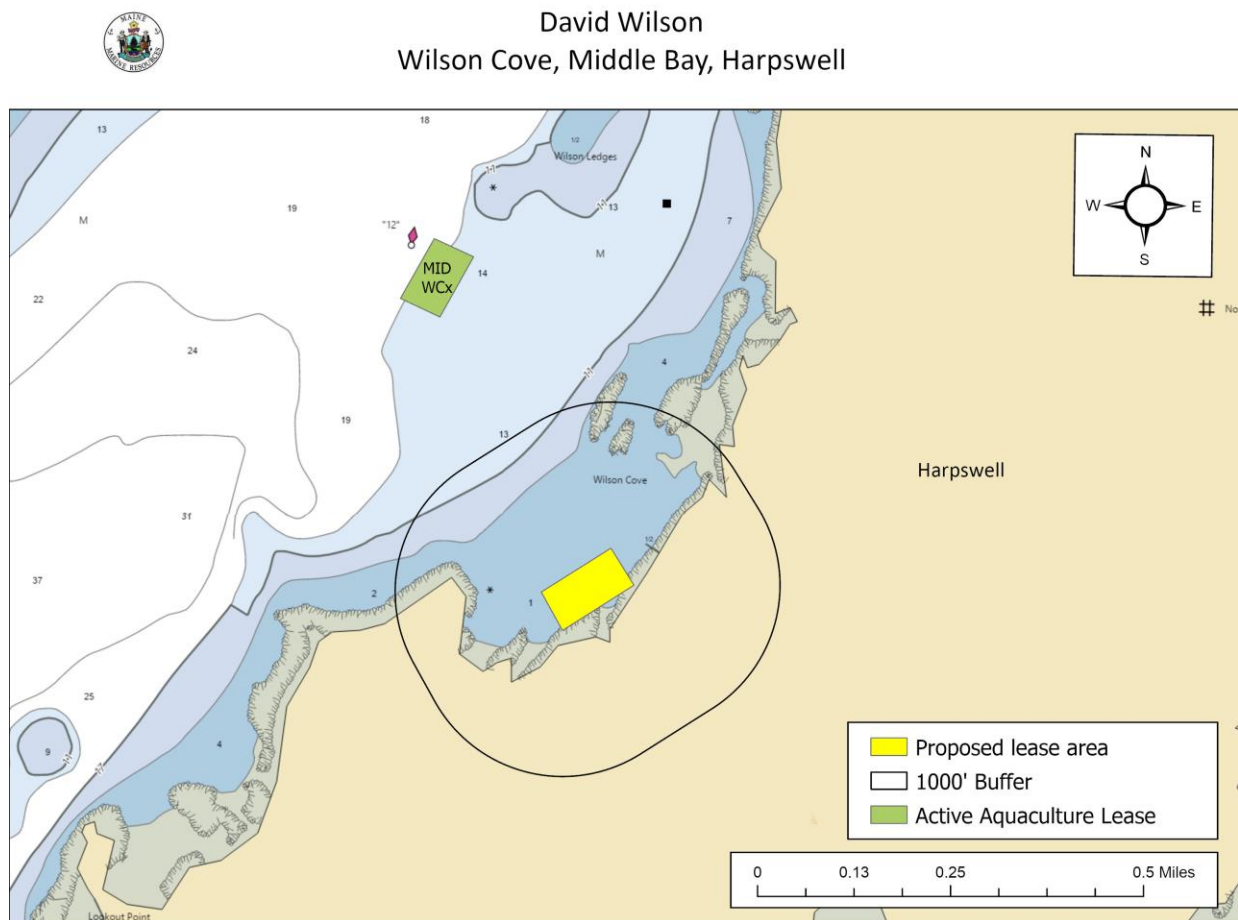


Figure 4. Aquaculture leases and LPA licenses in the vicinity of the proposal.

⁶ Harbormaster questionnaire received by MDMR on May 10, 2022.



(5) Existing System Support

Epibenthic Flora and Fauna

On October 4, 2023, MDMR scientists conducted a video transect utilizing an ROV to assess the epibenthic ecology of the proposed lease. The relative abundance of epibenthic flora and fauna observed is described below in Table 4. Additionally, MDMR observed American crow (*Corvus brachyrhynchos*), herring gulls (*Larinae argentatus*), and black guillemot (*Cepphus grille*) in the general vicinity of the proposal.

Table 4. Species observed during site assessment.

Species Observed	Abundance
Hermit Crab (<i>Pagurus sp.</i>)	Common
Seaweed (<i>Ascophyllum sp.</i>)	Occasional
Northern Shrimp (<i>Pandalus borealis</i>)	Occasional
American Oyster (<i>Crassostrea virginica</i>)	Occasional
Crab (<i>Cancer sp.</i>)	Occasional

Eelgrass (*Zostera marina*)

Data collected by the Maine Department of Environmental Protection (MDEP) and Casco Bay Estuary Partnership (CBEP) in 2022 indicates no mapped eelgrass presence in the vicinity of the proposal (Figure 5).⁷ No eelgrass was observed during MDMR’s site assessment.

⁷ 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.



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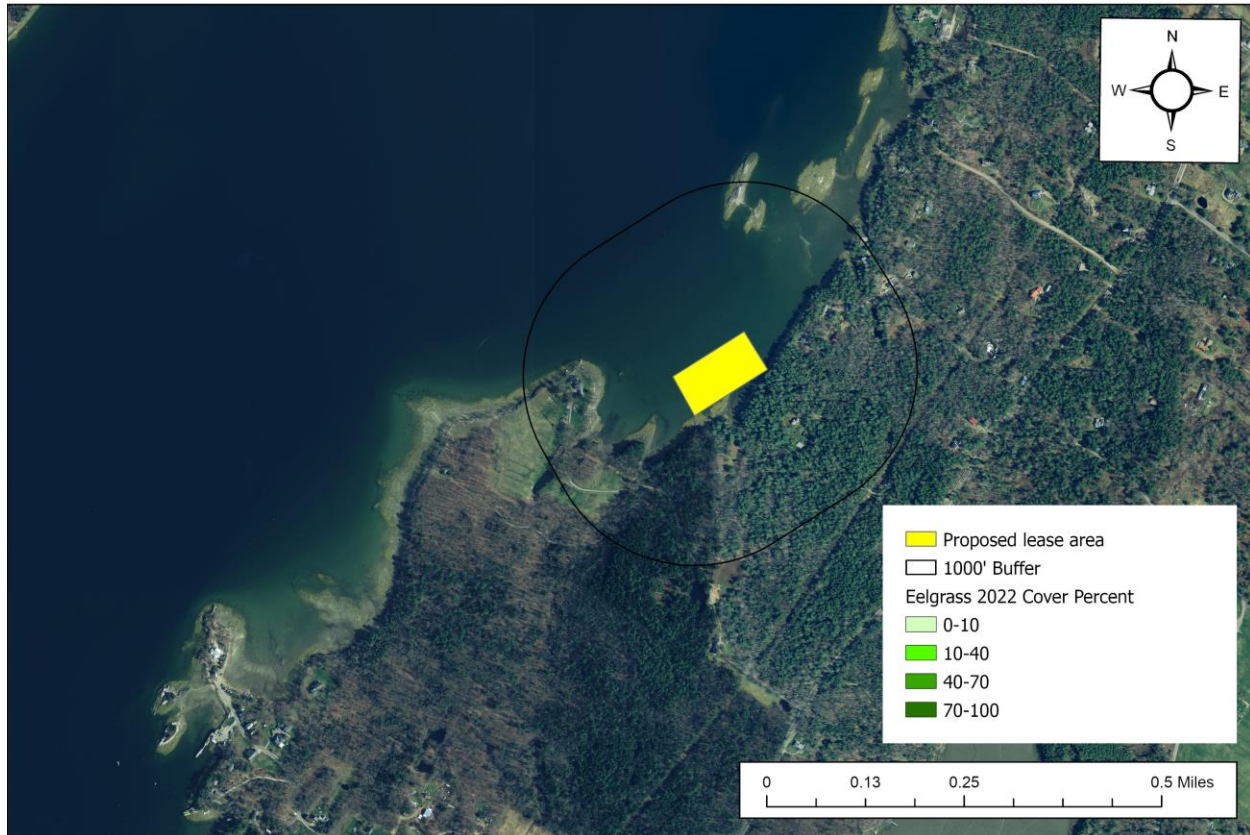


Figure 5. Mapped eelgrass (*Z. marina*) near the proposed lease utilizing 2022 data.

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 proposed lease is located approximately 1,900 feet to the northwest of mapped tidal waterfowl and wading bird habitat (Figure 6). Data collected by the United States Fish and Wildlife Service in 2023 by aerial nest survey⁸ shows the closest mapped Bald Eagle nesting site to be approximately 1.3 miles northwest of the proposal.

On May 6, 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.⁹

⁸ Data obtained from USFWS “Bald_Eagle_Nests_-_Maine_2023”.

⁹ Email correspondence between MDIFW and MDMR.



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Figure 6. Mapped Tidal Wading Bird and Waterfowl Habitat¹⁰.

(6) Interference with Public Facilities

The proposed lease is not located within 1,000 feet of any beach, park, or docking facility owned by federal, state, or municipal governments.

(7) Water Quality

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

On January 15, 2022, a staff member from the Bureau of Public Health responded by email to a “Request for Agency Review and Comment” stating that the razor clams (*Ensis directus*) will require a memorandum of understanding with MDMR and self-funding for the testing.

¹⁰ Data obtained from MDIWF maintained SDE Feature Class “GISVIEW.MEIFW.Twwh”.