

Figure 1. Vicinity map.¹

Location: Dodge Lower Cove, Damariscotta River, Edgecomb, Lincoln County, Maine

Purpose: Experimental lease for suspended culture of American/eastern oyster (*Crassostrea virginica*)

Site Review: Meryl Grady and Geoffrey Shook

Report Preparation: 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, Glidden Point Oyster Company, is requesting 3.97 acres in Dodge Lower Cove, Damariscotta River in the town of Edgecomb for the suspended culture of American/eastern oysters (*Crassostrea virginica*) (Figure 1). The applicant intends to utilize bags and cages for cultivation and will sink gear to the bottom for overwintering.² The applicant currently operates standard lease DAM DL2 in the footprint of the proposal (Figure 4).

General Characteristics

On August 9, 2023, Maine Department of Marine Resources (MDMR) scientists assessed the proposed lease site. MDMR scientists arrived on site at approximately 8:51 AM. The western shore of the Damariscotta River in the vicinity of the proposal is rocky leading to forested uplands with scattered houses. There is a small uninhabited island 140 feet to the west of the proposal at mean low water (MLW).

Depth

MDMR scientists began collecting depths at the proposed site 2.5 hours after high tide at 8:56 AM. Measured depths at corners of the proposed lease site ranged from 22.2 to 39.9 feet. Correcting for tidal variation derives water depths at the corners of the proposal at mean low water (MLW, 0.0 feet) to be from 18.4 to 36.1 feet (Table 1).

Table 1. Predicted tidal heights in Newcastle, Maine.³

Date	Time	Height (ft)
2023/08/09	12:20 AM	0.3 L
2023/08/09	6:25 AM	9.0 H
2023/08/09	12:32 PM	1.0 L
2023/08/09	6:46 PM	10.0 H

Bottom Characteristics

MDMR scientists observed the bottom characteristics of the proposed lease site via a remotely operated vehicle (ROV). 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 composed of boulders, mud, and shell hash.

Table 2. Bottom characteristics of the proposed site.

Substrate Origin	Substrate Class	Substrate Subclass	Substrate Group
Geologic Substrate	Unconsolidated Mineral Substrate	Coarse Unconsolidated Substrate	Gravel (Boulder)

² Application page 9, 10

³ <https://www.usharbors.com/harbor/maine/newcastle-me/tides/?tide=2023-08#monthly-tide-chart>



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

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) – 3.97 Acres

<u>Corner</u>	<u>Latitude</u>	<u>Longitude</u>	
1	43.980344°	-69.568247°	then 179.1 feet at 126° True to
2	43.980058°	-69.567694°	then 956.5 feet at 220° True to
3	43.978049°	-69.570031°	then 187.7 feet at 314° True to
4	43.978402°	-69.570550°	then 932.0 feet at 040° True to NW

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

Feature	Distance
Corner 1 to Damariscotta River shoreline at MLW	~220' to the west
Corner 4 to uninhabited island at MLW	~140' to the west
Corner 3 to Damariscotta River shoreline at MLW	~1,280' to the southwest
Corner 2 to eastern Damariscotta River shoreline at MLW	~2,650' to the east



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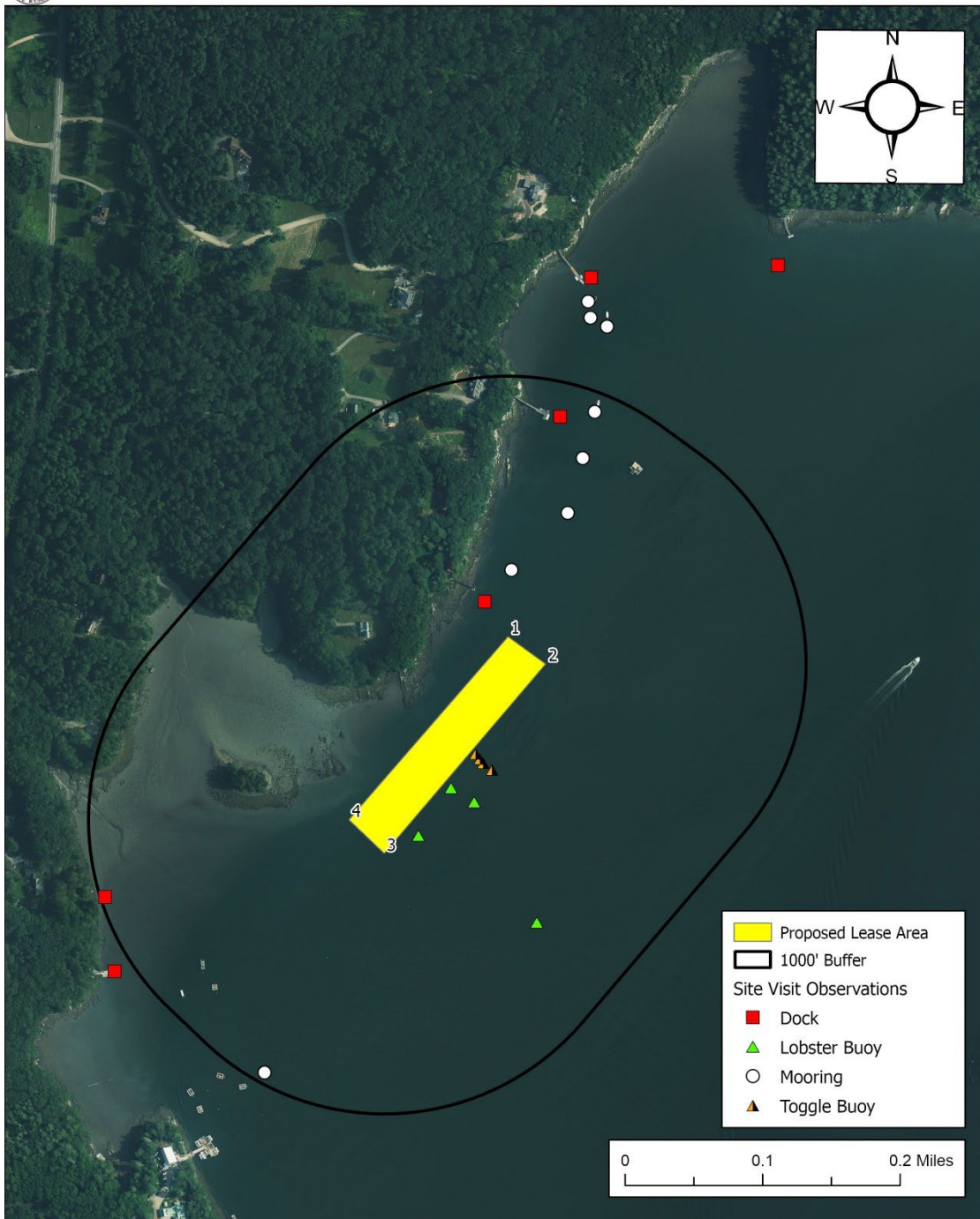


Figure 2. Proposed lease area with site visit observations.

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 eight docks in the vicinity of the proposal. Four of the eight docks are within 1,000 feet of the proposal. Distances and descriptions for the nearby docks are listed below in Table 4 and depicted in Figure 2.

Table 4. Approximate distances from the proposal to nearby docks. Starting with the most northern dock seen in Figure 2, moving counterclockwise.

Dock	Distance
Dodge Point Public Land pier and dock	~1,870' to the north
Pier and dock with two small skiffs	~1,380' to the north
Pier and dock with a small powerboat	~844' to the north
Pier and dock with four kayaks	~218' to the northwest
Pier and dock ⁴	~944' to the west
Pier (no dock present)	~1,000' to the southwest
Pier and dock with two small skiffs and aquaculture gear	~1,090' to the southwest
Pier and docks at Dodge Cove Marine Farm facility ⁵	~1,271' to the southwest

MDMR also observed eight moorings in the vicinity of the proposal. Five of the eight moorings observed are within 1,000 feet of the proposal. The southernmost mooring denoted in Figure 2 was unoccupied at the time of the site visit and is located inside aquaculture lease DAM DL3x held by Muscongus Bay Aquaculture. The mooring closest to the proposal was 256 feet to the north and unoccupied at the time of the site visit. Another mooring was located 527 feet north of the proposal with a small powerboat. Of the remaining two moorings within 1,000 feet of the proposal, one was unoccupied, and one had a small sailboat present.

(2) Navigation

The proposal is located approximately 1,100 feet to the west of the main navigational channel in the Damariscotta River. The main navigational channel is heavily utilized by vessels traveling north/south on the Damariscotta River. To the west of the proposal, there is approximately 100 feet of navigable water at MLW between the proposal and the western shore of the Damariscotta River (Figure 3). During MDMR's site visit, seven outboard powerboats and a catamaran were observed navigating in the main river channel to the east of the proposal.

⁴ MDMR observed an additional dock to the west of the proposal inside the cove, but could not access the dock via vessel to collect a waypoint due to shallow water depth at the time of the site visit. The dock is visible in aerial imagery from 2023 (Maine Orthoimagery Coastal Midcoast 2023).

⁵ MDMR did not collect a waypoint, but pier and docks were observed during the site visit (also visible in aerial imagery from 2023).



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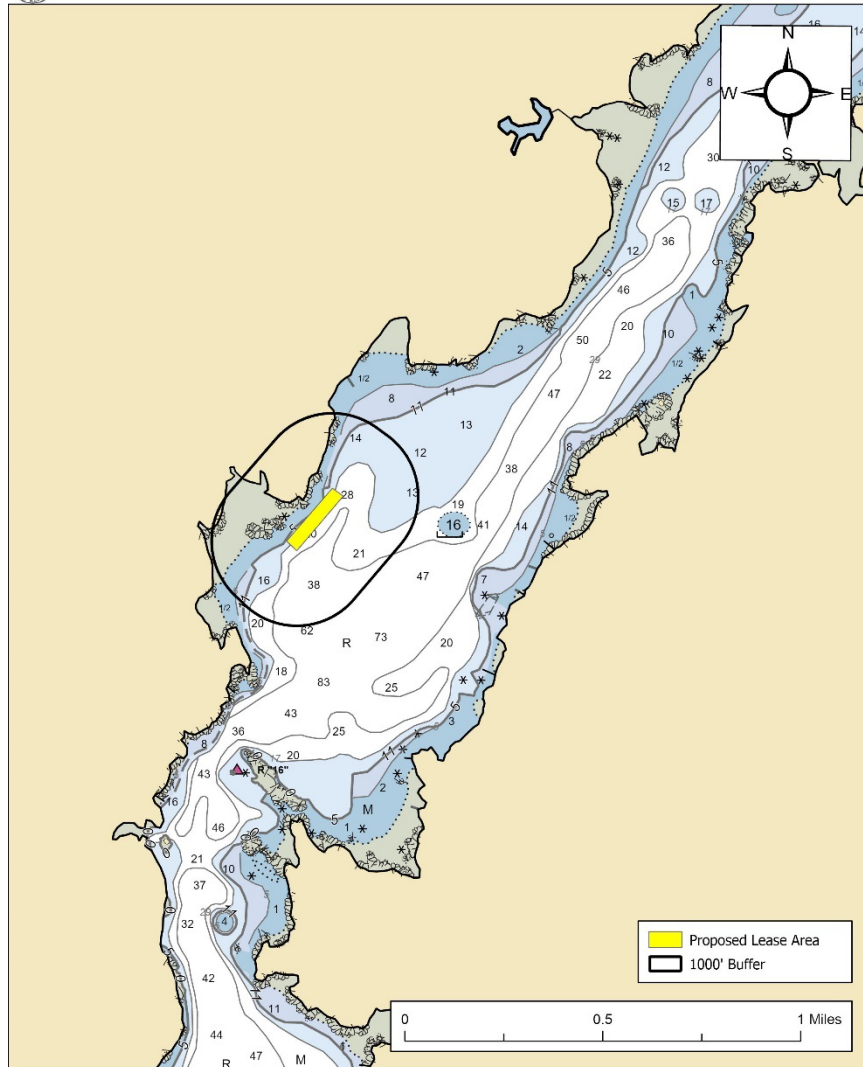


Figure 3. Navigational channels in the vicinity of the proposed lease area.

(3) Fishing and Other Uses

During the site visit, MDMR observed light lobstering activity to the east of the proposal. MDMR documented four lobster buoys within the vicinity of the proposal. The closest lobster buoy was 30 feet to the east (Figure 2). During the site visit, MDMR observed one recreational fishing vessel approximately 30 feet west of the proposal fishing with rod and reel and casting towards the shoreline.



(4) Other Aquaculture Uses

There are two aquaculture leases and ten limited purpose aquaculture (LPA) sites within 1,000 feet of the proposed lease site. This proposal is located within the footprint of DAM DL2. DAM DL2 is held by Glidden Point Oyster Company for bottom culture only. DAM DL3x is held by Muscongus Bay Aquaculture. The ten LPAs within 1,000 feet of the proposal are as follows: HBUR122, PSMI1821, PSMI1921, PSMI1021, RPAN120, RPAN220, RPAN320, RPAN420, SBEL217, and RJOL223 (Figure 4). An individual affiliated with Glidden Point Oyster Company operates LPAs RPAN120, RPAN220, RPAN320, and RPAN420, which are the LPAs closest to the proposed site and within or near the boundary of DAM DL2.⁶

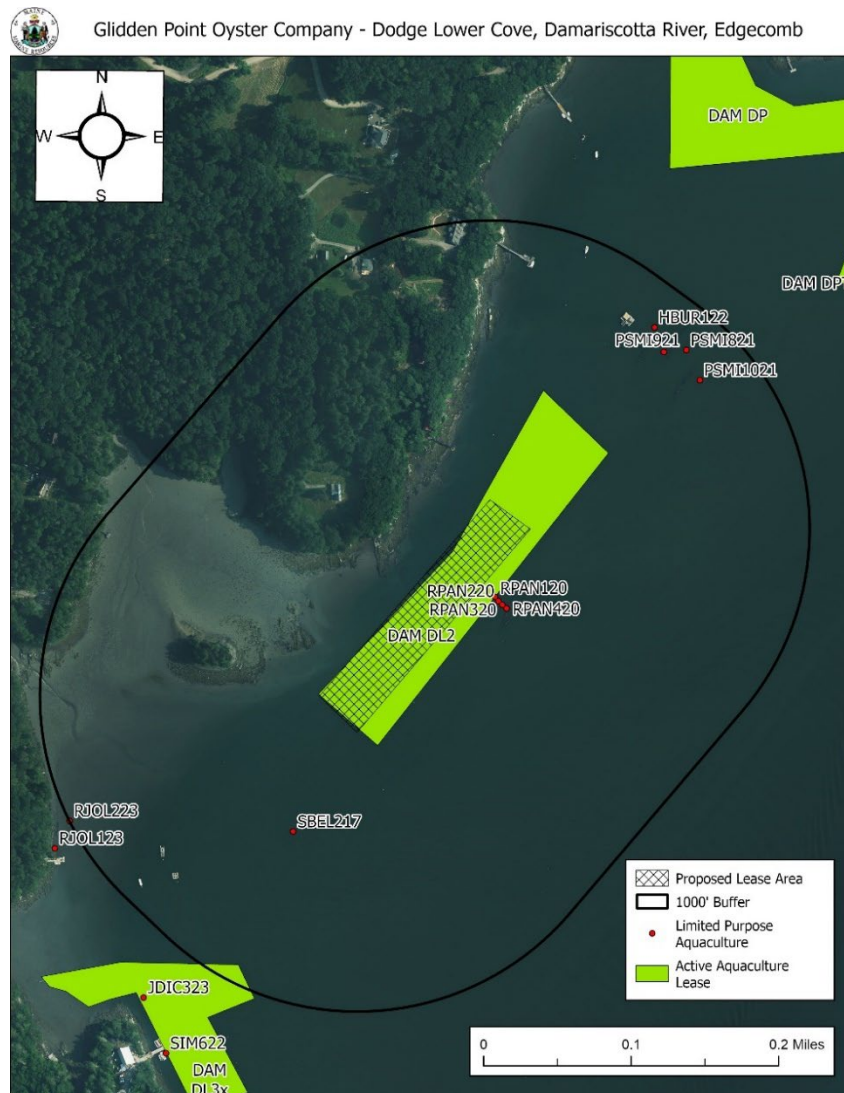


Figure 4. Aquaculture leases and LPA licenses in the vicinity of the proposed lease area.

⁶ Application page 13



(5) Existing System Support

Epibenthic Flora and Fauna

On August 9, 2023, MDMR scientists utilized an ROV 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 5.

Table 5. Species observed on underwater camera footage.

Species Observed	Abundance
Quahog (<i>Mercenaria mercenaria</i>)	Common
Sand shrimp (<i>Crangon septemspinosa</i>)	Common
Pancake batter tunicate (<i>Didemnum vexillum</i>)	Common
European oyster (<i>Ostrea edulis</i>)	Occasional
American/eastern oyster (<i>Crassostrea virginica</i>)	Occasional
Hermit crab (<i>Pagurus</i> spp)	Occasional
Red Crab (<i>Cancer</i> spp)	Occasional
Rockweed (<i>Ascophyllum nodosum</i>)	Rare
Cunner (<i>Tautoglabrus adspersus</i>)	Rare

Eelgrass (*Zostera marina*)

Recent records of eelgrass collected by Maine Department of Environmental Protection (MDEP) in 2023 indicate no mapped eelgrass presence in the vicinity of the proposal. The nearest mapped eelgrass is approximately 5.1 miles upriver 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.Seagrass2023”. Widgeon grass was observed only in a tributary to the Great Salt Bay, upstream of a culvert that likely restricts tidal flow. Eelgrass was the dominant vascular species in all other locations. This is the most current record of mapped eelgrass within the vicinity of the proposal.



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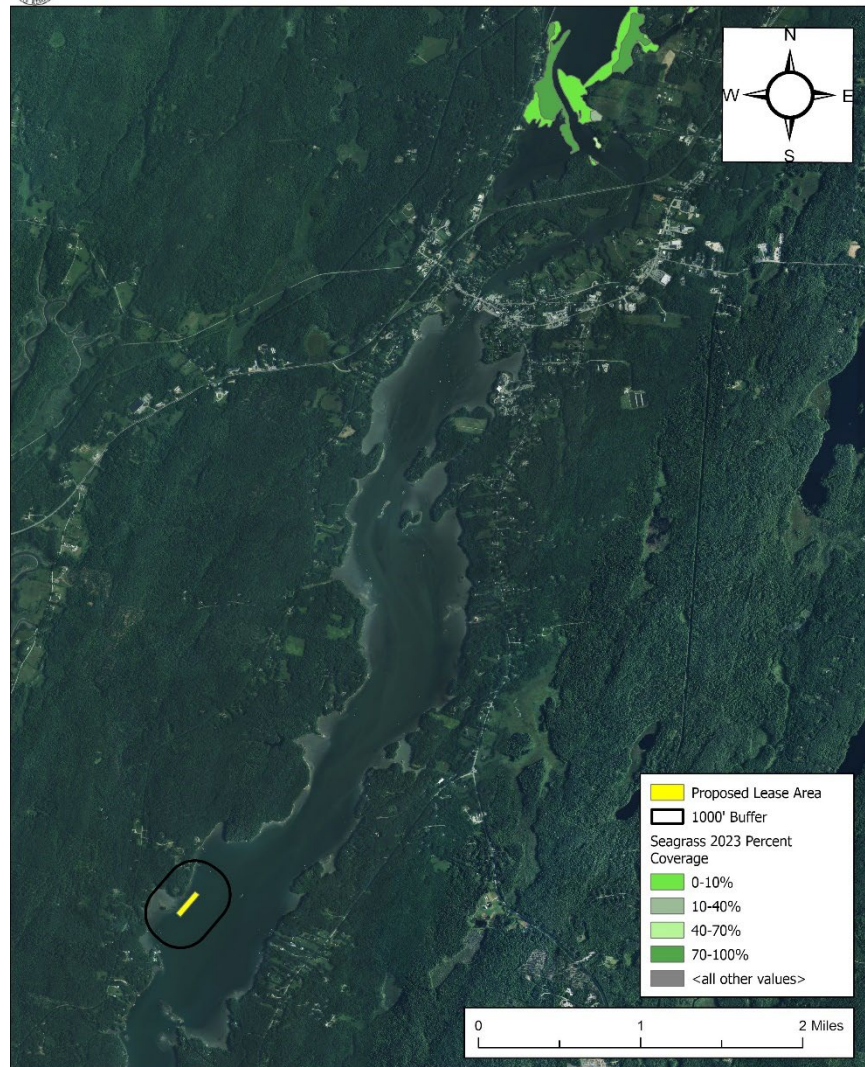


Figure 5. Mapped eelgrass (*Z. marina*) in the vicinity of the proposed lease area.

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 127 feet to the east of mapped Tidal Waterfowl and Wading Bird Habitat (TWWH) (Figure 6). Data collected by the United States Fish and Wildlife Service in 2022 by aerial nest survey shows the closest mapped bald eagle nesting site to be approximately 1.45 miles south of the proposal.

During the site assessment, MDMR scientists observed double-crested cormorant (*Nannopterum auritum*), osprey (*Pandion haliaetus*), a bald eagle (*Haliaeetus leucocephalus*), common tern



(*Sterna hirundo*), herring gulls (*Larus argentatus*), and great blue heron (*Ardea Herodias*) in the general vicinity of the proposal.

On December 7, 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.⁸



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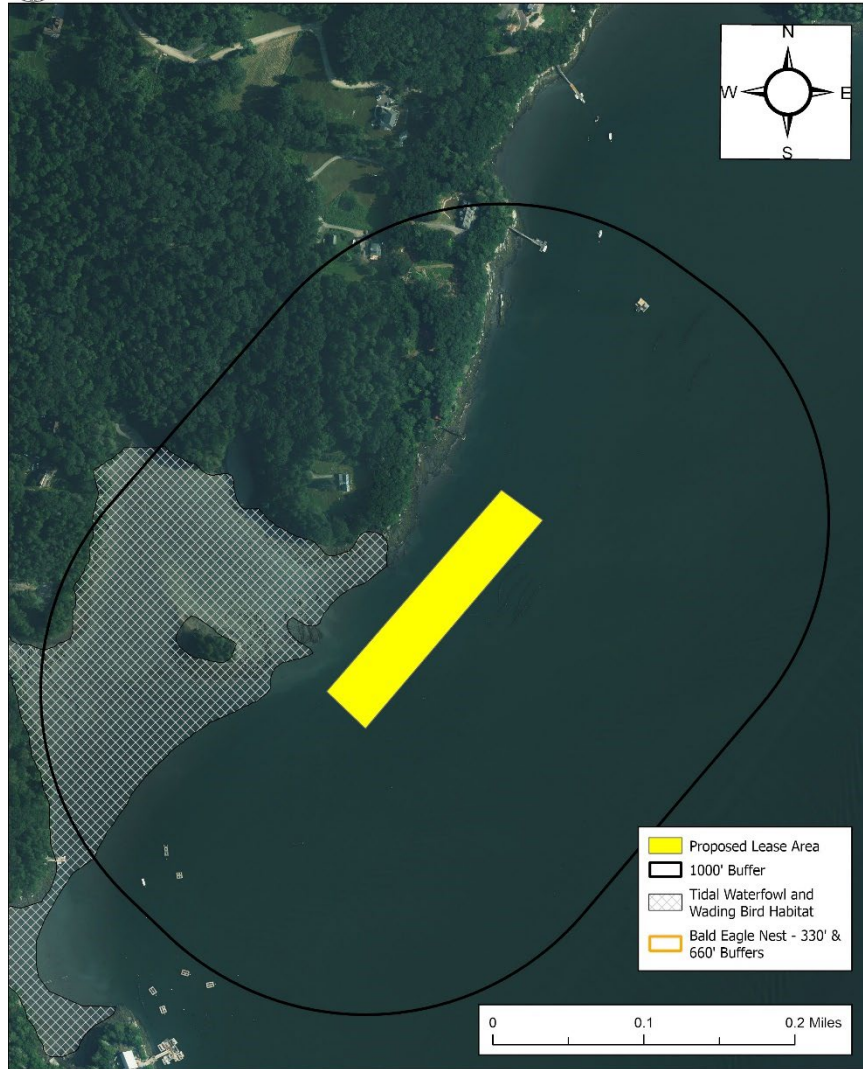


Figure 6. Mapped TWWH.⁹

⁸ Email correspondence between MDIFW and MDMR

⁹ Data obtained from USFWS “Bald_Eagle_Nests_-_Maine_2023” and MDIFW maintained SDE Feature Class “GISVIEW.MEIFW.Twwh”



**Maine Department of Marine Resources
Site Report**

Glidden Point Oyster Company
Dodge Lower Cove, Damariscotta River
Edgecomb

(6) Interference with Public Facilities

The proposed lease is not 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 Approved by the MDMR Bureau of Public Health and Aquaculture.