



Maine Department of Marine Resources
Site Report

Jason Brewer
Northwest of Carlisle Island, Damariscotta River
Boothbay



Jason Brewer - Northwest of Carlisle Island, Boothbay

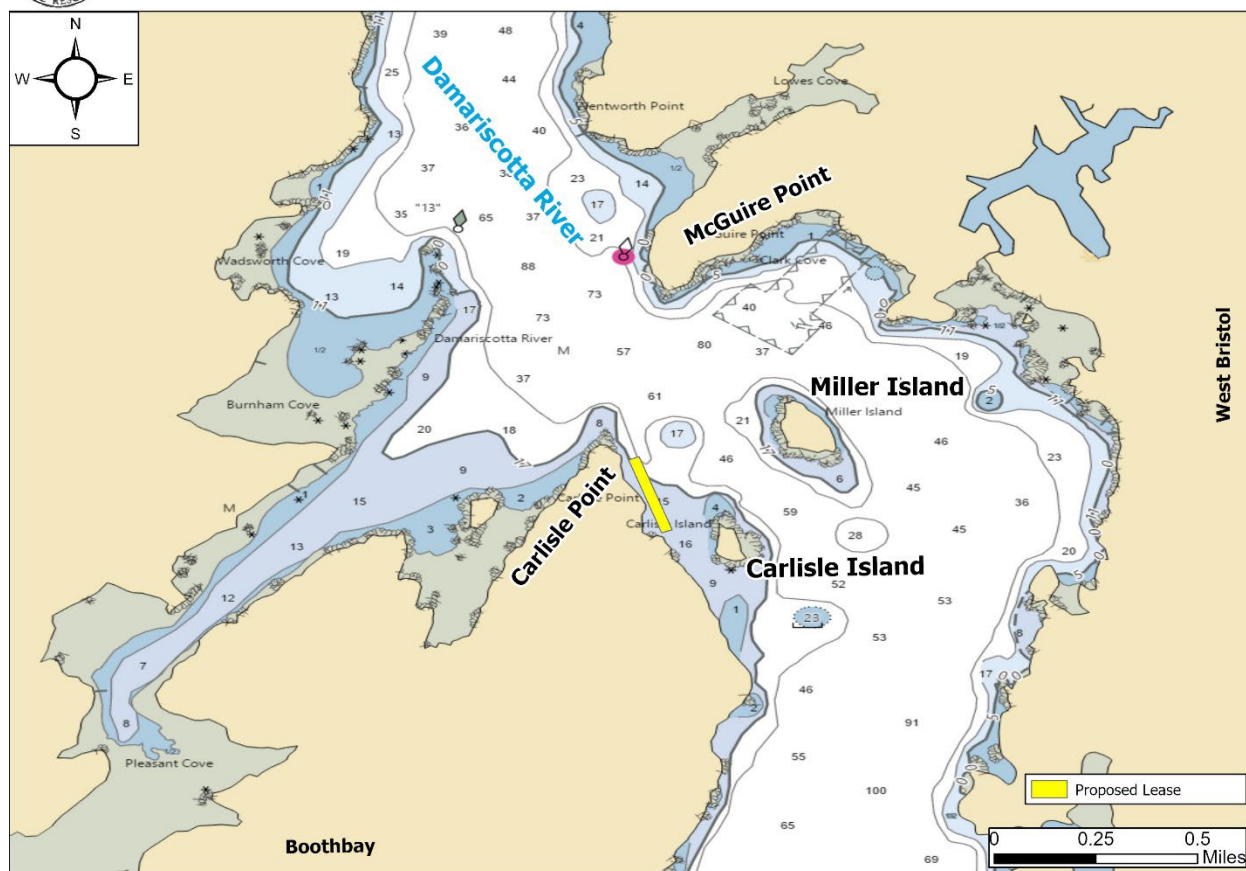


Figure 1. Vicinity map.¹

Location: Northwest of Carlisle Island, Damariscotta River, Boothbay, Lincoln County, Maine

Purpose: Experimental lease for suspended culture of Eastern/American oysters (*Crassostrea virginica*)

Site Review: Geoff Shook, Katie von Hohenleiten

Report Preparation: Katie von Hohenleiten, Geoff Shook, Meryl Grady

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.



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Application Overview

The applicant, Jason Brewer, is requesting a 2.43² acre experimental lease northwest of Carlisle Island in the Damariscotta River for the suspended culture of American oysters (*Crassostrea virginica*). The applicant intends to have gear onsite year-round.³

General Characteristics

On June 12, 2024, Maine Department of Marine Resources (MDMR) scientists assessed the proposed lease site. MDMR scientists arrived on site at approximately 11:05 AM. The coastline of the surrounding area was rock ledges leading to mixed forest uplands.

Depth

MDMR scientists began collecting depths at the proposed site after low tide at approximately 11:06 AM. Measured depths at corners of the proposed lease site ranged from 8.3 to 38.5 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 7.5 to 37.7 feet (Table 1).

Table 1. Predicted tidal heights in East Boothbay, Maine.⁴

Date	Time	Height (ft)
2024/06/12	3:51 AM	9.1 H
2024/06/12	10:21 AM	0.6 L
2024/06/12	4:39 PM	8.3 H
2024/06/12	10:36 PM	1.8 L

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 mud with an overlay of sheet algal beds.

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
Benthic/Attached Biota	Aquatic Vegetation Bed	Benthic Macroalgae	Sheet Algal Bed
Biogenic Substrate	Shell Substrate	Shell Rubble	Not Classified

² Applicant originally requested 2.5 acres. MDMR calculations indicate the area is 2.43 acres.

³ Application pages 5, 13

⁴ <https://www.usharbors.com/harbor/maine/east-boothbay-me/tides/?tide=2024-06#monthly-tide-chart>



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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, a nautical chart provided by the National Oceanic and Atmospheric Administration (NOAA), and the application coordinates (Table 3, Figures 2,3).

Application Coordinates (WGS84) – 2.43 Acres

<u>Corner</u>	<u>Latitude</u>	<u>Longitude</u>	
NW	43.92350°	-69.57940°	then 107 feet at 063° True to
NE	43.92362°	-69.57903°	then 438 feet at 161° True to
EM	43.92248°	-69.57851°	then 560 feet at 162° True to
SE	43.92102°	-69.57785°	then 107 feet at 248° True to
SW	43.92092°	-69.57823°	then 568 feet at 342° True to
WM	43.92240°	-69.57890°	then 422 feet at 342° True to NW

Table 3. Approximate distances from proposal corners to surrounding features (Figures 2 & 3).

Feature	Distance
NE corner to unnamed navigation buoy by McGuire Point	~2,598' to the northeast
NE corner to McGuire Point at MLW	~2,047' to the northeast
NE corner to Miller Island shoreline at MLW	~1,276' to the east
NW corner to green navigation buoy "13"	~3,406' to the northwest
NW corner to McGuire Point at MLW	~2,104' to the northeast
NW corner to Carlisle Point shoreline at MLW	~72' to the west
EM corner to Miller Island shoreline at MLW	~1,277' to the east-northeast
SE corner to Miller Island shoreline at MLW	~1,403' to the northeast
SE corner to Carlisle Island shoreline at MLW	~375' to the east-southeast
SE corner to eastern shoreline of the Damariscotta River at MLW	~3,340' to the northeast
SW corner to western shoreline of the Damariscotta River at MLW	~45' to the west
WM corner to Carlisle Point shoreline at MLW	~57' to the west



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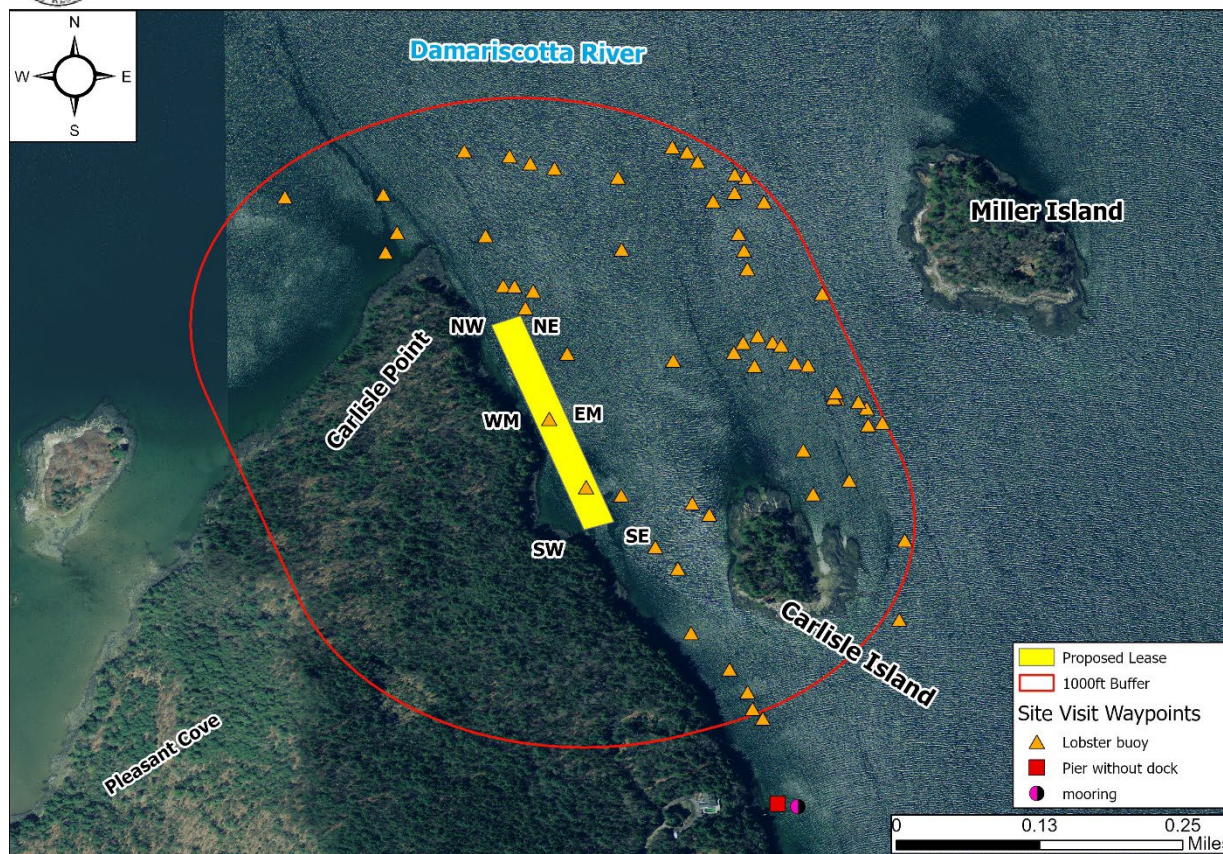


Figure 2. Proposed lease area with site visit observations.

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

The land nearest to the proposal is Carlisle Point approximately 45 feet to the west at MLW. During the site visit, MDMR observed one mooring approximately 1,444 feet south-southeast of the proposal. This was the closest observed mooring to the proposal. MDMR also observed one pier without a dock approximately 1,404 feet to the south-southeast of the proposal (Figure 2). There is a residential property on Miller Island as observed by aerial imagery⁵, approximately 1,650 feet northeast of the proposal. The property and associated pier with dock is on the eastern shoreline of Miller Island.

⁵ Maine orthoimagery midcoast 2023



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A Harbormaster Questionnaire was sent to the Town of Boothbay. MDMR did not receive a response.

(2) Navigation

The proposal is located approximately 45 feet east of Carlisle Point and 375 feet northwest of Carlisle Island at MLW. Nearby Miller Island splits the navigational channel into two parts. The proposal is approximately 289 feet to the west of the western channel, if a line is drawn between navigational buoy "13" and the northern shore of Carlisle Island at MLW. There is approximately 2,047 feet between the NE corner of the proposal and McGuire point at MLW (Figure 3).

During MDMR's site visit, one recreational powerboat was observed transiting through the proposal heading north towards the main navigational channel, and one sailboat under power was observed transiting north in the navigational channel.



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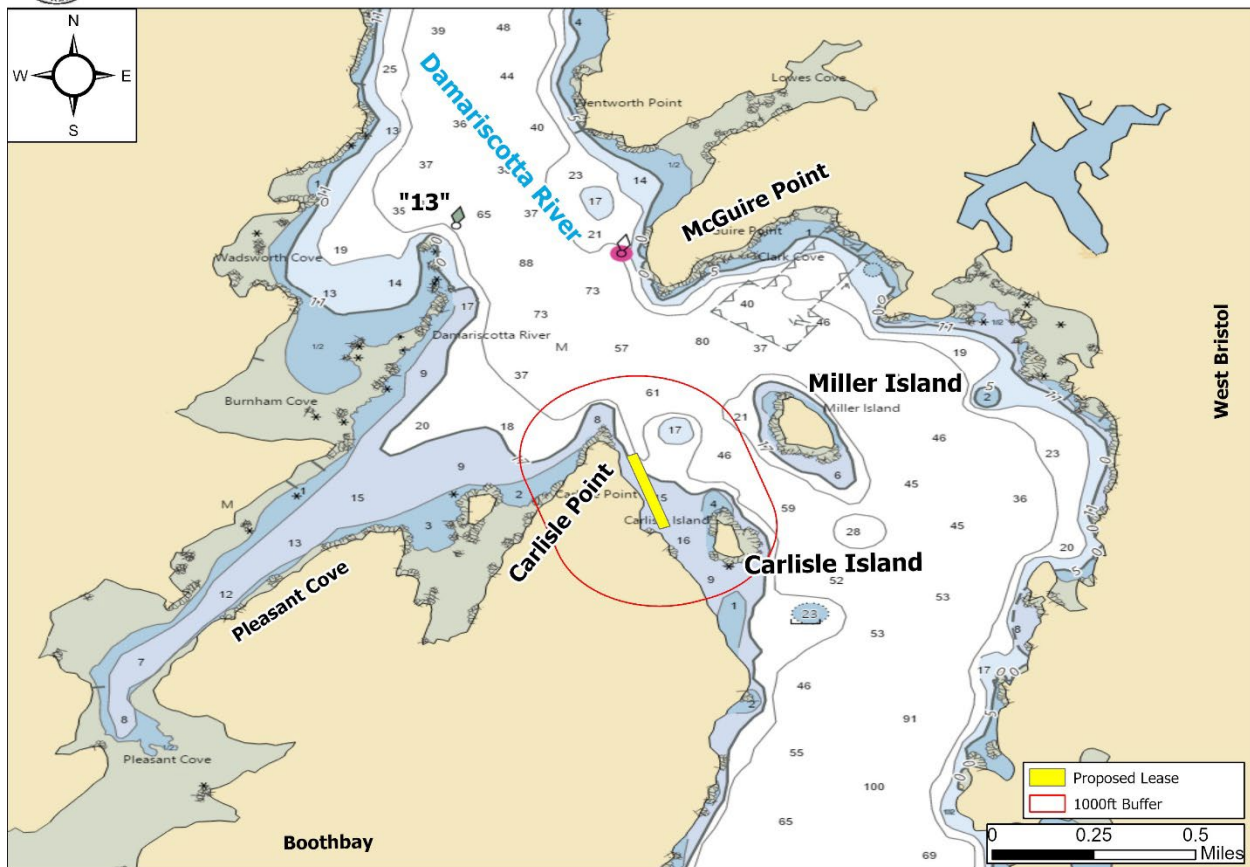


Figure 3. Navigational channels in the vicinity of the proposed lease area.



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(3) Fishing and Other Uses

During the site visit, MDMR observed 62 lobster buoys in the general vicinity of the proposal, two of which were within the boundaries of the proposal (Figure 2). During the site visit, MDMR scientists observed a lobster boat actively hauling and setting traps to the east of the proposal.

(4) Other Aquaculture Uses

There are four limited purpose aquaculture (LPA) sites within 1,000 feet of the proposal. MRIT524, MRIT624, MRIT724 and MRIT824 are licensed to Max Ritchie. The LPAs are approximately 832 – 963 feet southwest of the proposal. There are no licensed aquaculture leases or applications under review by MDMR within 1,000 feet of the proposal (Figure 4).



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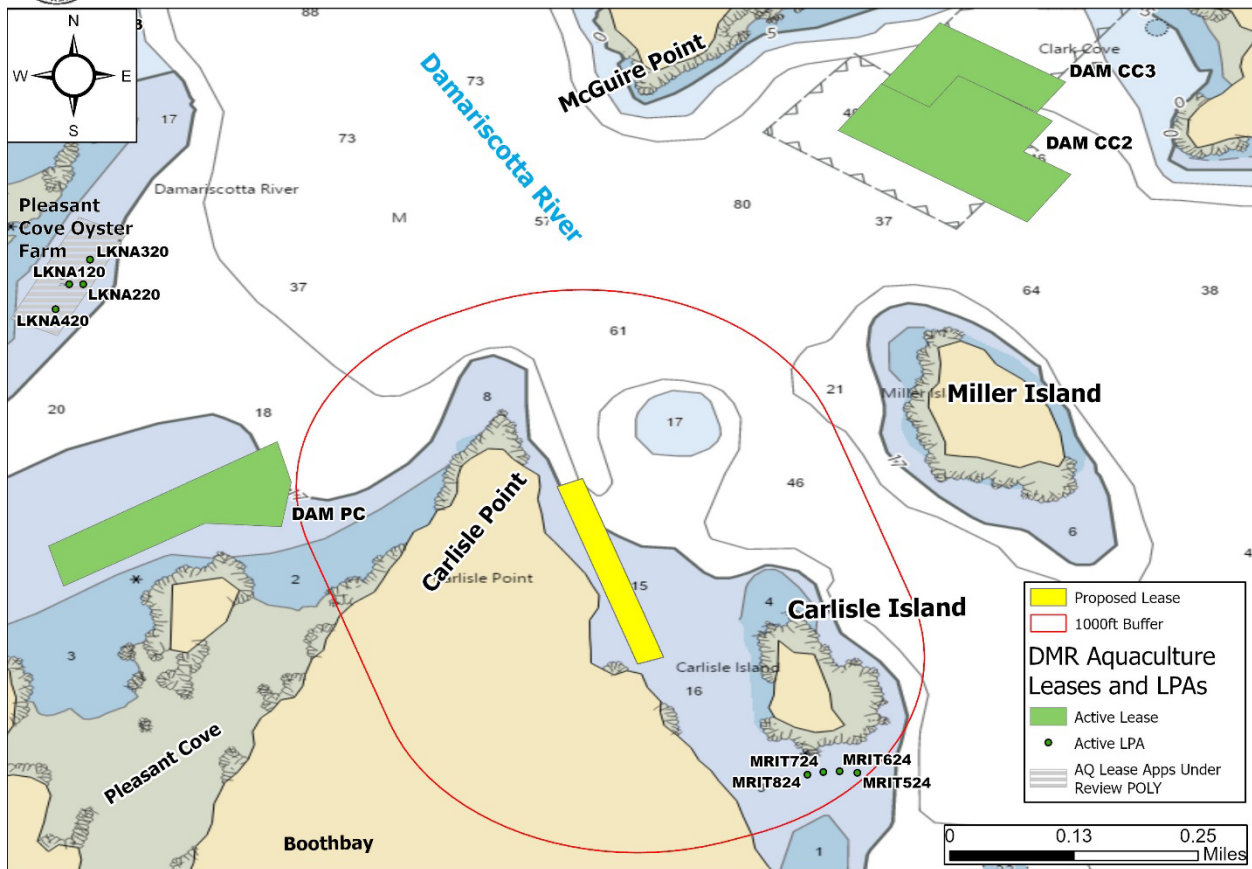


Figure 4. Aquaculture leases, LPA licenses, and applications under review by MDMR in the vicinity of the proposed lease area.



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(5) Existing System Support

Epibenthic Flora and Fauna

On June 12, 2024, 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 footage is described below in Table 4.

Table 4. Species observed on underwater video footage.

Species Observed	Abundance
Mysid Shrimp (<i>mysis sp.</i>)	Abundant
Sand Shrimp (<i>Crangon septemspinosa</i>)	Common
Winter Flounder (<i>Pseudopleuronectes americanus</i>)	Common
American Lobster (<i>Homarus americanus</i>)	Occasional
Rock Crab (<i>Cancer irroratus</i>)	Occasional
Long clawed hermit crab (<i>Pagurus longicarpus</i>)	Occasional
<i>Dasysiphonia japonica</i>	Occasional
Frilled anemone (<i>Metridium senile</i>)	Occasional
Rock weed (<i>Ascophyllum nodosum</i>)	Rare
Fig Sponge (<i>Suberites ficus</i>)	Rare

Eelgrass (*Zostera marina*)

Records of seagrass collected by the Maine Department of Environmental Protection (MDEP) in 2023⁶ indicates no mapped eelgrass presence in the vicinity of the proposal. The nearest mapped eelgrass is approximately 2,365 feet southeast of the proposal (Figure 5). No eelgrass was observed on underwater video footage within the proposal boundaries during MDMR's site visit.

⁶ 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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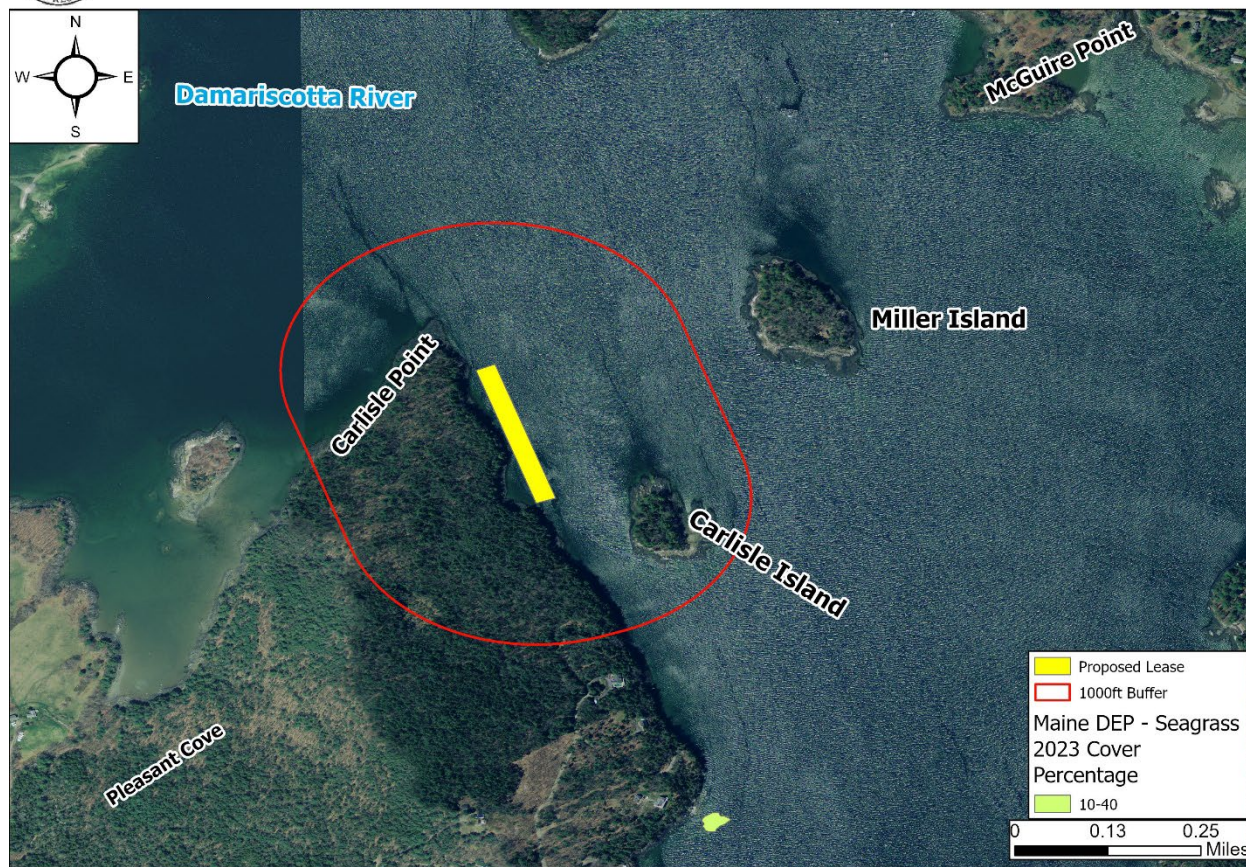


Figure 5. Mapped eelgrass (*Z. marina*) in the vicinity of the proposed lease area.

Wildlife

During MDMR's site visit, scientists observed herring gulls (*Larus argentatus*), common tern (*Sterna hirundo*), a black tern (*Chlidonias niger*), and harbor seal (*Phoca vitulina*) in the general vicinity of the proposal.

The Maine Department of Inland Fisheries and Wildlife (MDIFW) has jurisdiction over inland fisheries and wildlife resources of the state. MDIFW also has the authority to conserve wildlife populations and their ecosystems through applicable state laws and rules. MDMR provides MDIFW with notice and the opportunity to comment on all complete lease applications. In addition, the site report also includes MDIFW designated and mapped habitat types that are within 1,000 feet of the lease proposal, if applicable. According to Geographic Information System (GIS) data maintained by MDIFW and available through the Maine Office of GIS (MEGIS), there are no mapped habitat types within 1,000 feet of the lease proposal (Figure 6).



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Though bald eagles are no longer listed on Maine's Endangered and Threatened Species List, the United States Fish and Wildlife Service (USFWS) may also have jurisdiction over the management and conservation of the species based on applicable law and rule. Data collected by USFWS in 2023 by aerial nest survey shows the nearest bald eagle nesting site to be approximately 1,750 feet northeast of the proposal on Miller Island (Figure 6).

MDIFW was provided with the opportunity to comment on this proposal. On May 9, 2024, a Resource Biologist with MDIFW responded by email to a "Request for Agency Review and Comment" stating that minimal impacts to wildlife are anticipated for this project.⁷



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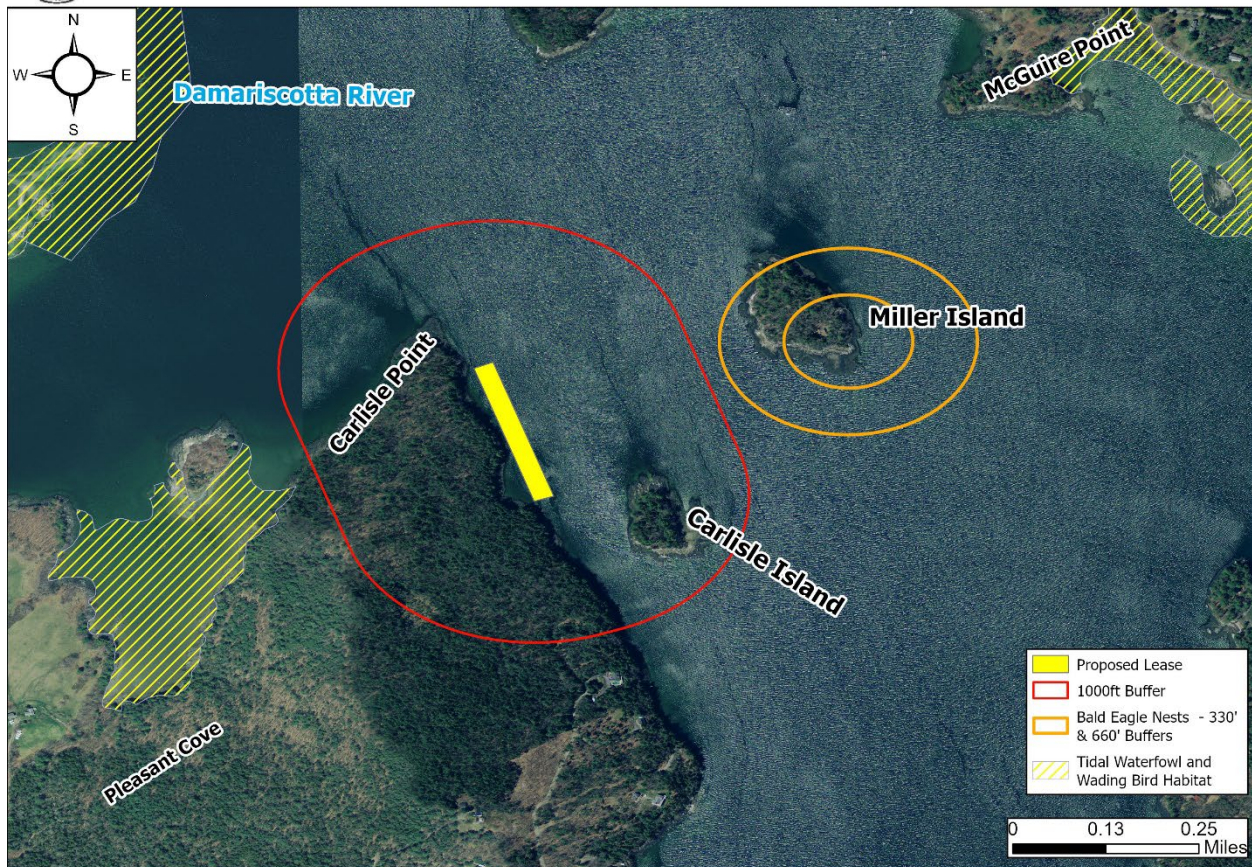


Figure 6. Mapped habitats in the vicinity of the proposed lease area.⁸

⁷ Email correspondence between MDIFW and MDMR

⁸ Data obtained from USFWS "Bald_Eagle_Nests_-_Maine_2023" and MDIFW "EHRTERN", "EHPLVTRN", "GISVIEW.MEIFW.Twwh", "ShorebirdAreas", and "SNI".



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(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.