

Figure 1. Vicinity map¹

Location: Northwest of Peters Island, Damariscotta River, South Bristol, Lincoln County, Maine

Purpose: Standard lease for suspended culture of Blue Mussels (*Mytilus edulis*)

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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 imagery provided by Esri Firefly.



Application Overview

The applicant, Dewey's Shellfish LLC, is requesting a .58-acre standard lease for the suspended culture of blue mussels (*Mytilus edulis*) northwest of Peters Island, Damariscotta River, in the town of South Bristol. The applicant intends to culture mussels on six rafts each measuring 40 feet by 20 feet. Gear is intended to be on site year-round and production activities are intended to be carried out year-round. The applicant intends to collect wild spat within the proposed lease boundaries on nets deployed around the rafts.² At the time of the site assessment, the applicant was operating two LPAs at the northern end of the proposal, SHAW114 and SHAW214, which would be relinquished if the proposal is granted (Figure 4).

General Characteristics

Scientists from the Maine Department of Marine Resources (MDMR) assessed the proposed lease site on September 17 and 30, 2021. On September 17, 2021, MDMR scientists arrived at approximately 1:50 PM and on September 30, 2021, MDMR scientists arrived at approximately 9:45 AM. Underwater video footage was collected on September 30, 2021, by conducting a dive transect using SCUBA within, and to the south, of the proposed lease area. The proposal is located along the eastern shore of the Damariscotta River. The eastern boundary is located approximately 450 feet to the west of the Peters Island shoreline at mean high water (MHW). Peters Island is an uninhabited private island with a dock on its eastern shore approximately 1,000 feet from the proposal. The shoreline of the Damariscotta River in the vicinity of the proposal is a mixture of rock ledges and mud with mixed forest uplands. The proposal is located outside of the primary navigational channel for the Damariscotta River and no houses or inhabited properties were observed within 1,000 feet.

Depth

On September 30, 2021, MDMR scientists assessed the site at approximately 9:45 AM. The tide was falling with the next low tide predicted at 12:33 PM. Depths were recorded at the corners of the proposal area and were determined to be between 52 feet and 64 feet. Correcting for tidal variations derives depths to be a range from 48.6 - 60.6 feet at mean low water (MLW, 0.0 feet) and from 56.1 – 68.1 feet at high tide.

Table 1. Tide observations at Walpole Station 8416721, South Bristol, Maine.³

Date	Time	Height (ft)
9/30/2021	12:25 AM	1.6 L
9/30/2021	6:43 AM	7.4 H
9/30/2021	12:33 PM	2.3 L
9/30/2021	6:51 PM	8.4 H

² Application pages 4, 36

³ <https://www.usharbors.com/harbor/maine/south-bristol-me/tides/>



Bottom Characteristics

MDMR scientists observed the bottom characteristics of the area via a single dive using SCUBA. Observed 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). The observed sea floor within the proposal boundaries was composed primarily of soft mud with occasional clam rubble.

Table 2. Bottom characteristics of the proposed site.

Substrate Origin	Substrate Class	Substrate Subclass	Substrate Group
Geologic Substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Mineral Substrate	Mud
Biogenic Substrate	Shell Substrate	Shell Rubble	Clam 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) – .58 Acres (Figure 2)

<u>Corner</u>	<u>Latitude</u>	<u>Longitude</u>					
NW	43.90970	-69.56773	then	85.4	feet at	103°	True to
NE	43.90965	-69.56742	then	316.6	feet at	186°	True to
SE	43.90878	-69.56750	then	75.6	feet at	280°	True to
SW	43.90882	-69.56778	then	322.2	feet at	3°	True to NW

Table 3. Approximate distances from proposed lease to surrounding features.

Feature	Distance
NE corner to Peters Island, nearest point (~MLW)	~370 feet to the southeast
NE corner to mainland, nearest point (~MLW)	~221 feet to the northeast
SE corner to intertidal ledge (~MLW)	~675 feet to the south
Western proposal boundary to open river navigational channel	~600 feet to the west

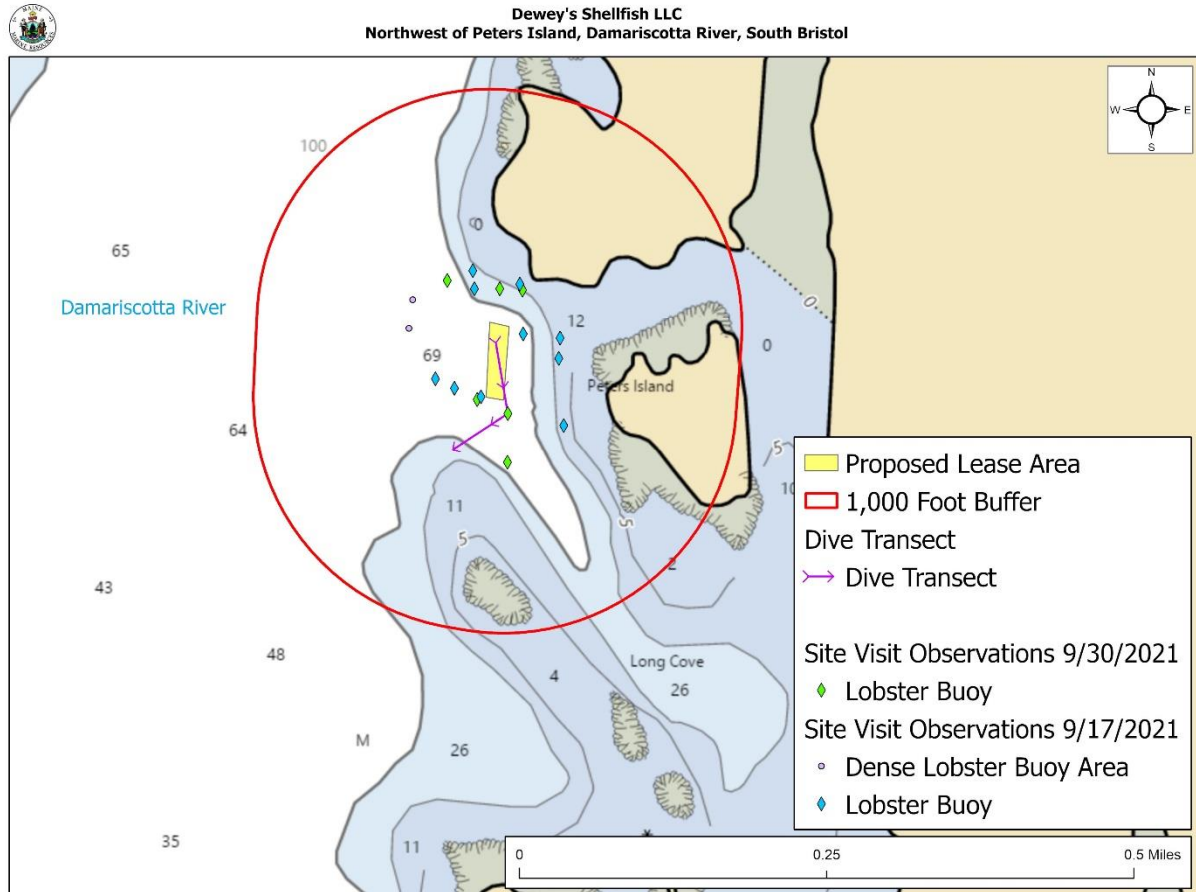


Figure 2. Approximate dive transects, nearby features, and site visit observations

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

(1) Riparian Ingress and Egress

The location of the proposal is on the eastern side of the Damariscotta River, northwest of Peters Island and near the entrance to Long Cove. No docks or moorings were observed within 1,000 feet of the proposal. The nearest docks are on the east side of Peters Island and on the mainland shore directly to the east of Peters Island approximately 1,000 feet and 1,350 feet away, respectively. The nearest riparian parcel is Peters Island approximately 370 feet to the southeast at MLW. The proposal is located near the northern entrance to Long Cove (Figure 2). Approximately 675 feet of navigable water exists at MLW between the southern boundary of the proposal and an intertidal ledge located at the entrance to Long Cove.



At the time of MDMR's site visit on September 17, 2021, scientists observed approximately 7 piers and docks in Long Cove to the southeast of the proposal. In Long Cove, the nearest dock to the proposal is approximately 1,660 feet to the southeast.

(2) Navigation

The location of the proposal is on the eastern side of the Damariscotta River. There is approximately 600 feet between the western boundary of the proposal and the primary navigational route in the Damariscotta River. The proposal is also located near the northern entrance to Long Cove. There is approximately 675 feet between the southern boundary of the proposal and an intertidal ledge to the south of the proposal near the entrance to Long Cove (Figure 3).

At the time of MDMR's site assessment on September 17, 2021, a boat was observed operating in the main river channel to the west of the proposal.

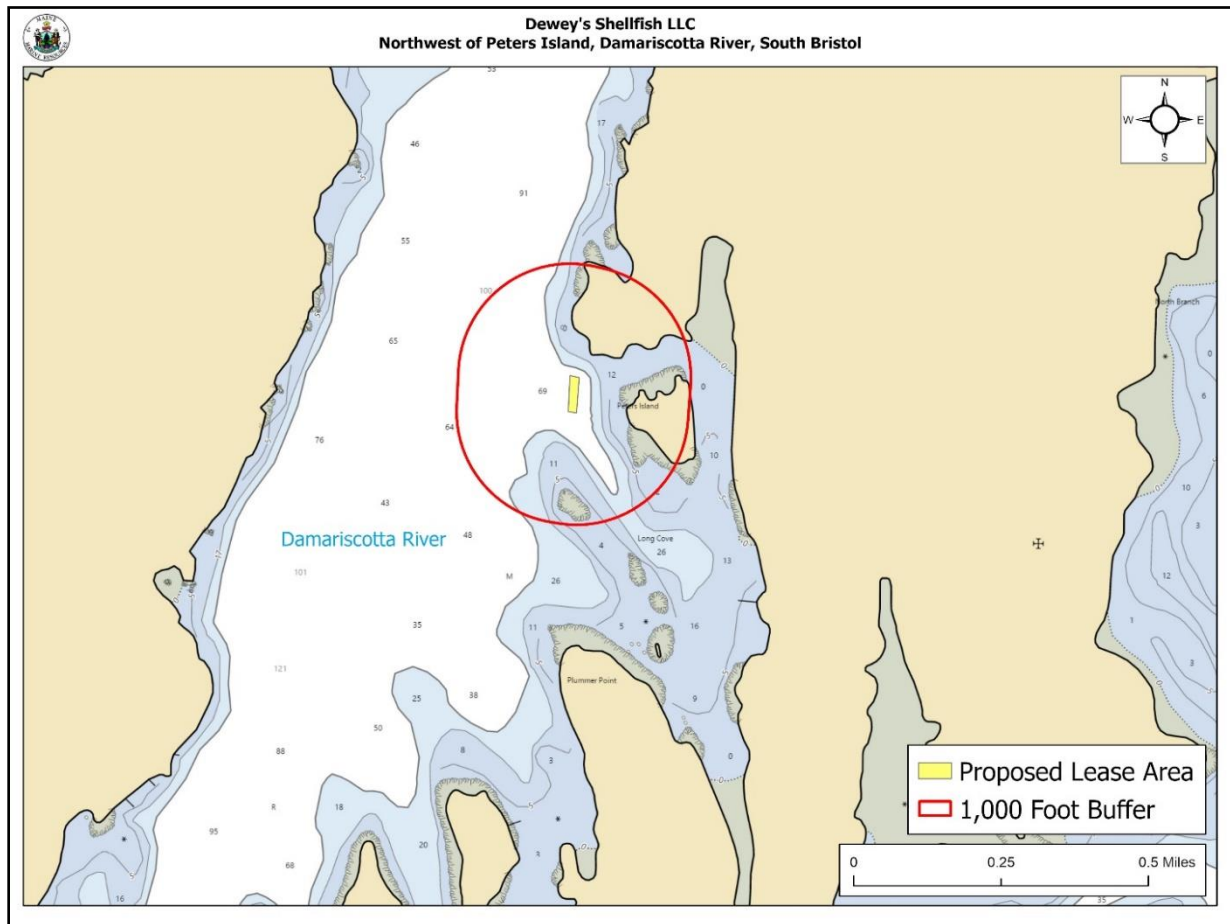


Figure 3. Proposed lease area and navigation channels.



(3) Fishing and Other Uses

During MDMR's site assessment on September 17, 2021, scientists observed several lobster buoys in the vicinity of the proposal and observed heavy lobstering activity in the main river to the west of the proposal (Figure 2). One boat was observed operating to the south of the proposal in the main channel. During the site assessment on September 30, 2021, MDMR scientists observed several lobster buoys in the vicinity of the proposal and, again, observed heavy lobstering activity in the main river channel. Two lobster boats were observed operating near the proposal: one boat to the south and one to the north. During the dive transect on September 30, 2021, MDMR scientists observed American Lobster (*Homarus americanus*) occasionally within the boundaries of the proposal (Table 4). According to the Harbormaster Questionnaire received by MDMR on September 16, 2021, the area is used for lobstering. MDMR scientists did not observe any shellfish harvesting during either site assessment.

(4) Other Aquaculture Uses

There is one tract of existing aquaculture lease site DAM PI2 and two Limited Purpose Aquaculture (LPA) licenses, SHAW114 and SHAW214, within 1,000 feet of the proposed lease site. At the time of the site assessment, the applicant was operating both SHAW114 and SHAW214 directly to the north of the proposal (Figure 4).

According to the Harbormaster Questionnaire received by MDMR on September 16, 2021, this proposal could interfere with existing lease site DAM PI2 during the winter storage process for that lease site.

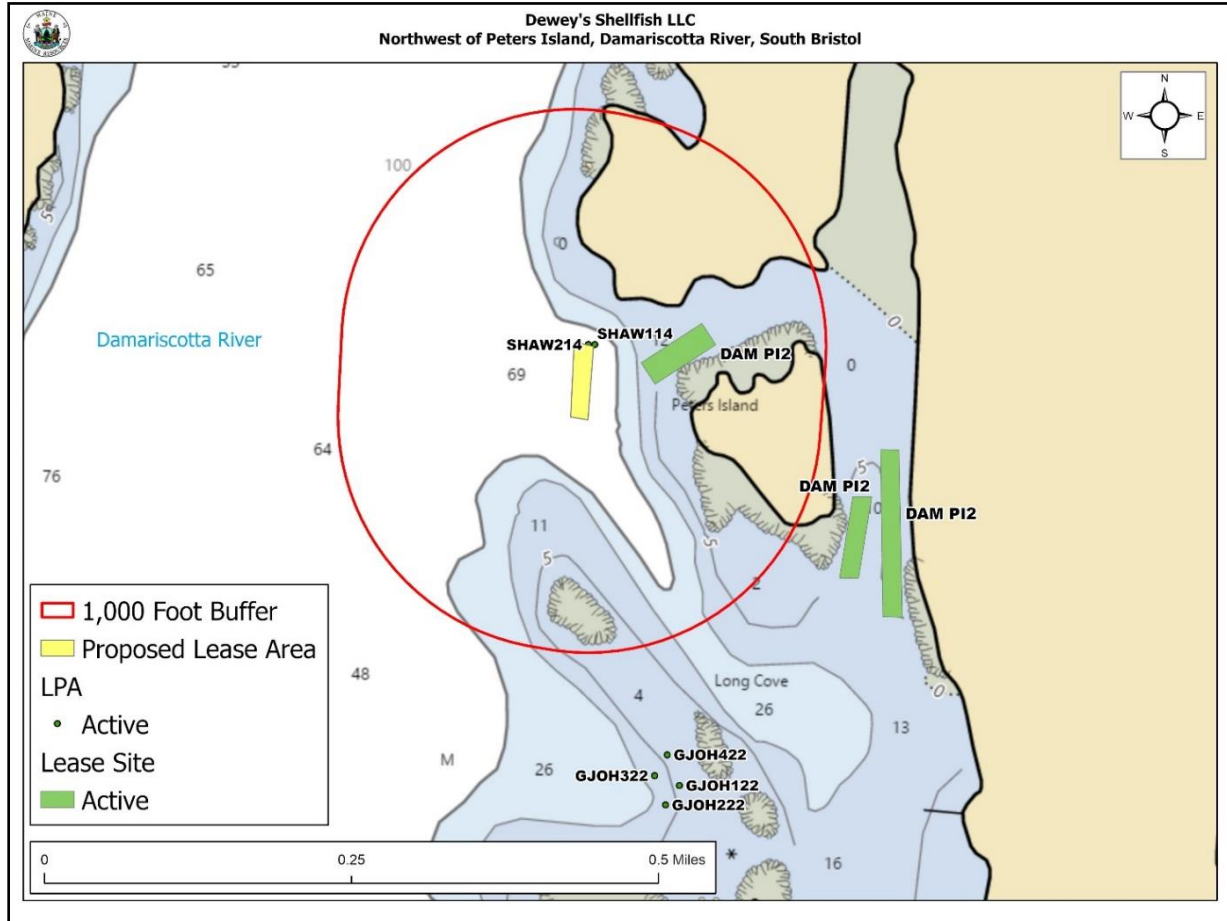


Figure 4. Aquaculture leases and LPA licenses in the general area of the proposal.

(5) Existing System Support

Epibenthic Flora and Fauna

On September 30, 2021, MDMR scientists conducted a dive using SCUBA to assess the epibenthic ecology of the area (Figure 2). The observed bottom within the boundaries of the proposal was primarily soft mud with sporadic shell rubble. American lobster (*Homarus americanus*) and lobster burrows were observed within the boundaries of the proposal. Horseshoe crabs (*Limulus polyphemus*) were also occasionally observed within the boundaries of the proposal.

Table 4. Species observed on underwater footage collected by MDMR.

Species Observed	Abundance
American lobster (<i>Homarus americanus</i>)	Occasional
Horseshoe crabs (<i>Limulus polyphemus</i>)	Occasional



Eelgrass (*Zostera marina*)

Historical records of eelgrass collected by MDMR in 2010 indicate mapped eelgrass (*Zostera marina*) located within 1,000 feet of the proposal on the intertidal ledge south of the proposal (Figure 5). No *Z. marina* was observed during the SCUBA dive conducted by MDMR on September 30, 2021.

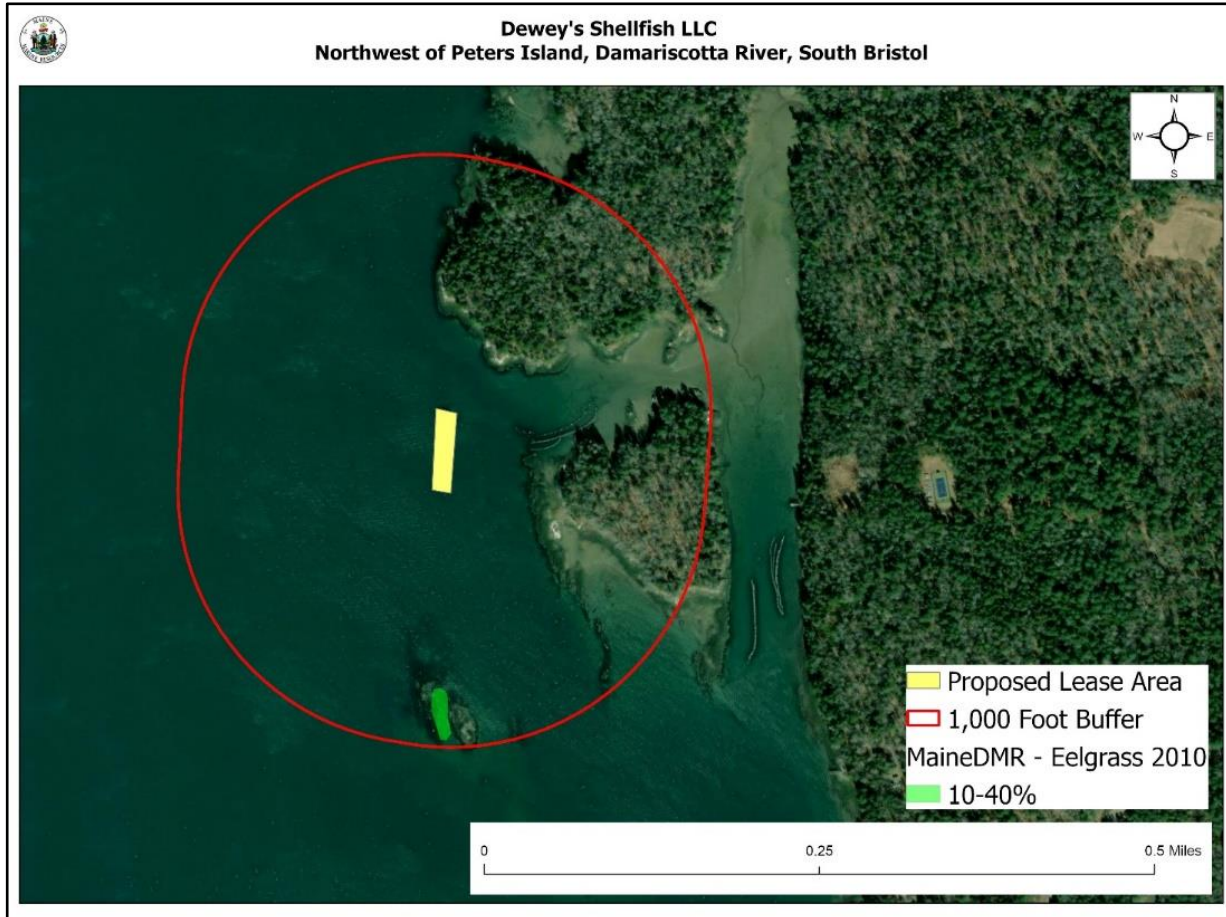


Figure 5. Mapped eelgrass (*Z. marina*) near the proposed lease site utilizing 2010 data.⁴

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 proposal is not located within tidal waterfowl and wading bird habit. There is tidal waterfowl and wading bird habitat within the 1,000-foot buffer area along the shoreline of Peters Island, and the intertidal ledge south of the proposal (Figure 6). The nearest bald eagle (*Haliaeetus leucocephalus*) nest documented near the site is approximately .8 miles to the southwest.

⁴ Data obtained from The Maine Office of GIS (Eelgrass 2010). This is the most current record of mapped eelgrass within the vicinity of the proposal.



During MDMR's site assessment on September 30, 2021, scientists observed cormorants (*Phalacrocoracidae spp.*) within the vicinity of the proposal.

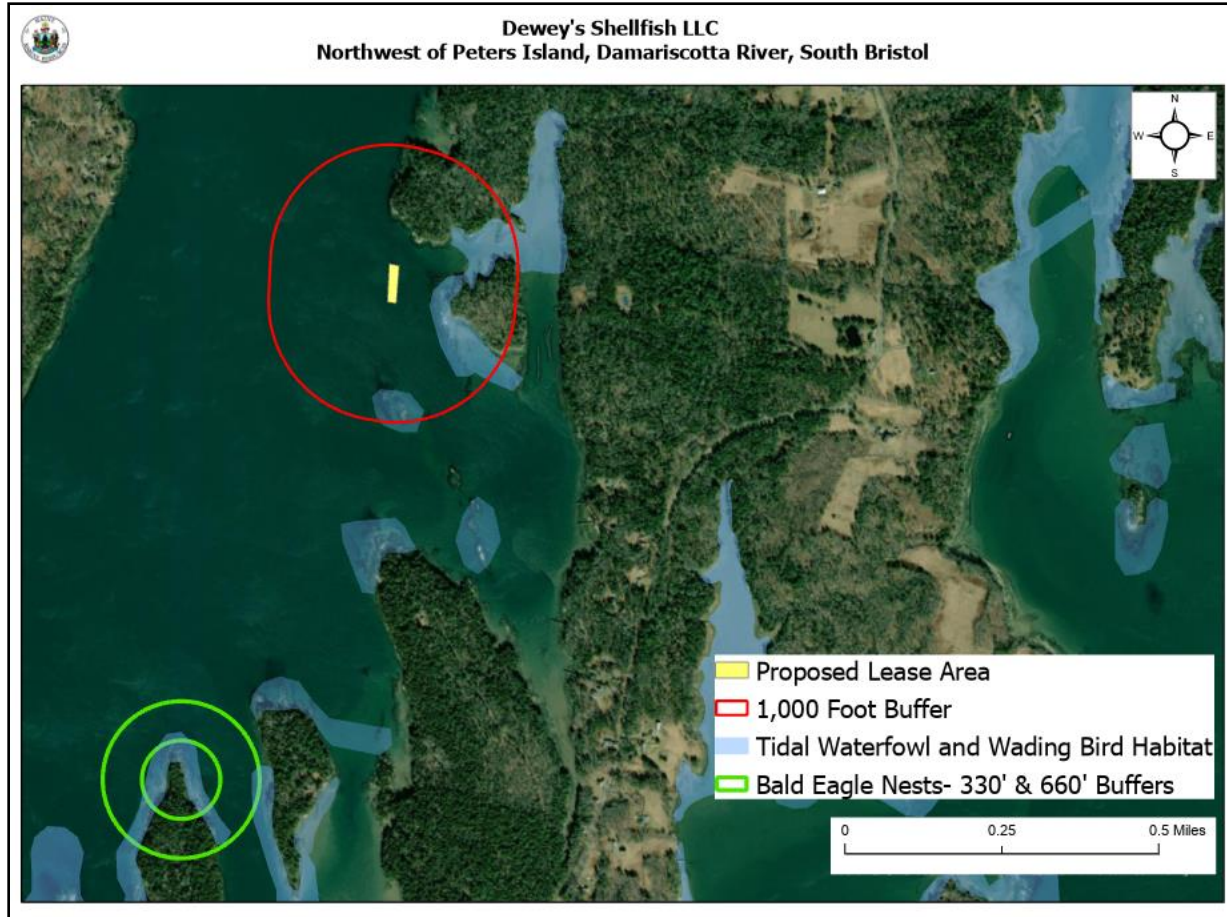


Figure 6. Mapped Tidal Wading Bird and Waterfowl Habitat⁵ and mapped bald eagle nests.⁶

(6) Interference with Public Facilities

The proposal is not within 1,000 feet of any local, state, or federally owned lands or facilities (Figure 7).

⁵ Data obtained from MDIWF maintained SDE Feature Class "GISVIEW.MEIFW.Twwh"

⁶ Data obtained from USFWS maintained SDE Feature Class "Bald Eagle Nests-330' & 660' Buffers"

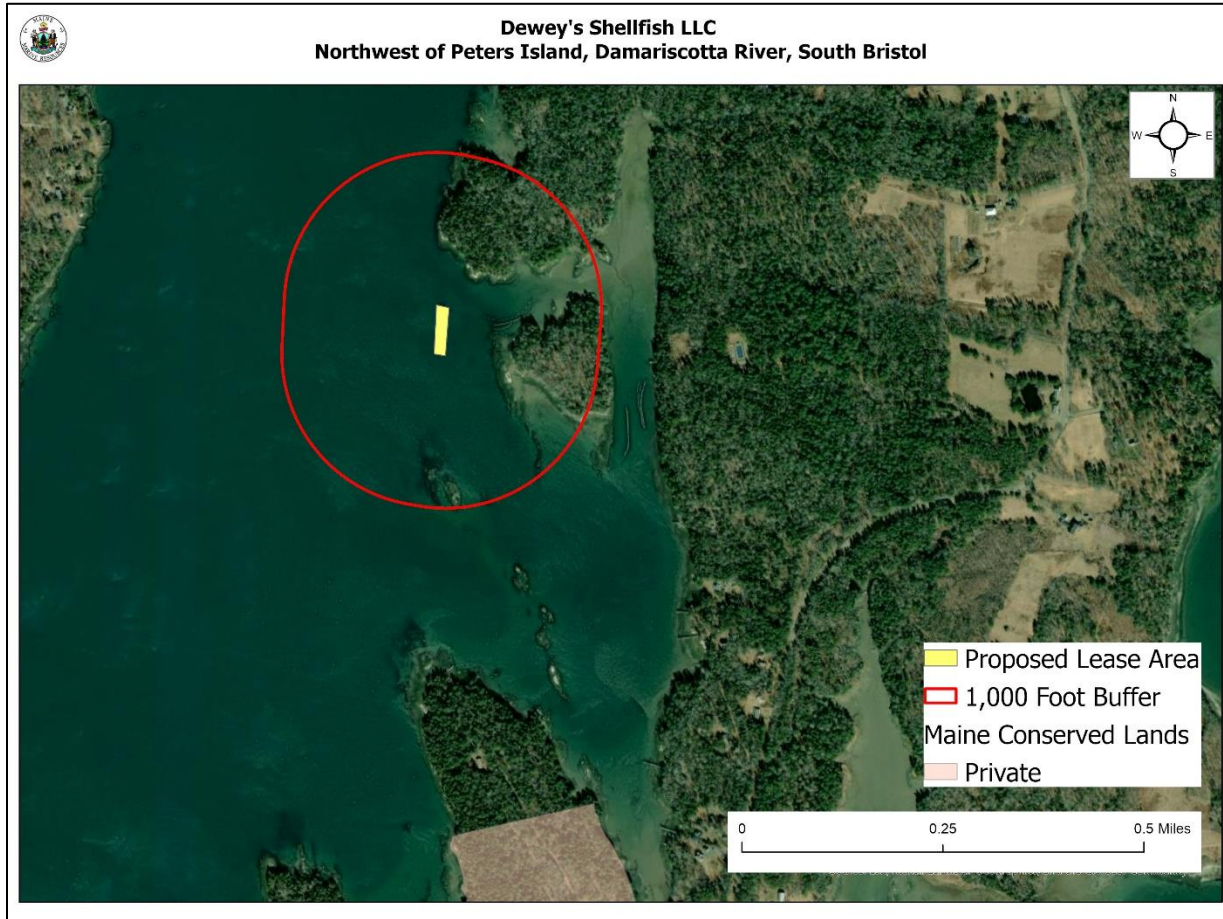


Figure 7. Public facilities near the proposed lease site.⁷

(7) Water Quality

The proposed lease area is currently classified as “Open/Approved” by the MDMR Bureau of Public Health and Aquaculture. In a request for agency input, a staff member from the Bureau of Public Health responded to MDMR’s request by email on February 5, 2020, indicating that biotoxins could be a concern in the area of the proposal.

⁷ Data obtained from The Maine Office of GIS “GISVIEW.MECONSLANDS.Conserved_Lands”