

Figure 1. Vicinity map.<sup>1</sup>

**Location:** Northwest of Norton Island Ledges<sup>2</sup>, Wheeler Bay, St. George, Knox County, Maine

**Purpose:** Experimental lease for suspended culture of sugar kelp (*Saccharina latissima*), skinny kelp (*Saccharina angustissima*), winged kelp (*Alaria esculenta*), dulse (*Palmaria palmata*), and sea lettuce (*Ulva lactuca*).

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Report Preparation: Geoffrey Shook and Meryl Grady

<sup>1</sup> Unless otherwise noted, all figures in this report were created in ArcGIS Pro version 2.9 using digitized NOAA Nautical Charts or aerial imagery provided by ESRI (Firefly World Imagery).

<sup>2</sup> Application page 1 indicates proposal is northwest of Norton Island, but MDMR mapping indicates it is northwest of Norton Island Ledges.

<sup>3</sup> Dive support



**Application Overview**

The applicant, Brian Tarbox, is requesting a 3.97-acre<sup>4</sup> experimental lease northwest of the Norton Island Ledges in Wheeler Bay, within the town of St. George, for the suspended culture of marine algae. Aquaculture gear is intended to be on site seasonally from October 15 – June 15. Moorings, mooring lines, and required markers are intended to remain onsite year-round with mooring lines and chain sunk to the seafloor seasonally between June 16 – October 14.<sup>5</sup> The applicant currently operates four limited purpose aquaculture (LPA) sites within the boundaries of the proposal, BTAR120, BTAR220, BTAR320, BTAR420. All four sites would be relinquished if the proposal is granted.<sup>6</sup>

**General Characteristics**

On July 16, 2024, Maine Department of Marine Resources (MDMR) scientists assessed the proposed lease site. MDMR scientists arrived on site at approximately 7:41 AM. The proposal is located in open, subtidal waters in Wheeler Bay approximately 400.9 feet to the northwest of the Norton Island Ledges at MLW and approximately 3,020.2 feet to the southwest of Norton Island at MLW. Wheeler Bay consists of several islands, both inhabited and uninhabited. There is open ocean to the south with a mooring field and several piers and docks in the northern end of the bay. There is exposed ledge approximately 400.9 feet to the southeast that is part of the Norton Island Ledges. There is no other land within 1,000 feet of the proposal (Figure 1).

**Depth**

On July 16, 2024, MDMR scientists began collecting depths at the proposed site at approximately 7:41 AM. The tide was ebbing with the next low tide predicted at 1:12 PM (Table 1). Depths were determined to be between 42.5-58.1 feet. Correcting for tidal variations derives depths at mean low water (MLW, 0.0 feet) to be between 34.8-50.4 feet.

**Table 1.** Predicted tidal heights in Tenants Harbor, Maine.<sup>7</sup>

Date	Time	Height (ft)
2024/07/16	1:11 AM	1.6 L
2024/07/16	7:22 AM	7.8 H
2024/07/16	1:12 PM	2.0 L
2024/07/16	7:36 PM	9.2 H

<sup>4</sup> Applicant originally requested 3.99 acres. MDMR measurements indicate the area is 3.97 acres.

<sup>5</sup> Application pages 9, 17

<sup>6</sup> Application page 12

<sup>7</sup> <https://www.usharbors.com/harbor/maine/tenants-harbor-me/tides/?tide=2024-7#monthly-tide-chart>



**Bottom Characteristics**

MDMR scientists observed the bottom characteristics in the vicinity 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 lease site is primarily composed of shell hash and sandy mud.

**Table 2.** Bottom characteristics of the proposed site.

Substrate Origin	Substrate Class	Substrate Subclass	Substrate Group
Geologic Substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Sandy Mud
Biogenic Substrate	Shell Substrate	Shell Hash	Mussel, Clam Hash
Biogenic Substrate	Shell Substrate	Shell Rubble	Mussel, Clam Rubble

**Position and Distances to Shore**

The geodesic 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>	
NW	43.97773°	-69.15664°	then 163.2 feet at 119° True to
NE	43.97751°	-69.15610°	then 1,059.2 feet at 210° True to
SE	43.97501°	-69.15815°	then 163.2 feet at 299° True to
SW	43.97523°	-69.15869°	then 1,059.2 feet at 30° True to NW

**Table 3.** Approximate distances from proposal corners to surrounding features (Figure 3).

Feature	Distance
NW corner to green navigational buoy “3”	~2,331.1 feet to the northwest
NW corner to Eagle Island closet point MLW	~2,438.9 feet to the northeast
NE corner to Norton Island closest point MLW	~3,020.2 feet to the northeast
NE corner to exposed Norton Island ledge closest point MLW	~400.9 feet to the southeast
SE corner to green navigational buoy “1”	~1,997.9 feet to the southeast
SW corner to exposed Seavey Ledge closest point MLW	~1,566.5 feet to the west
SW corner to charted submerged hazard	~945.9 feet to the southwest

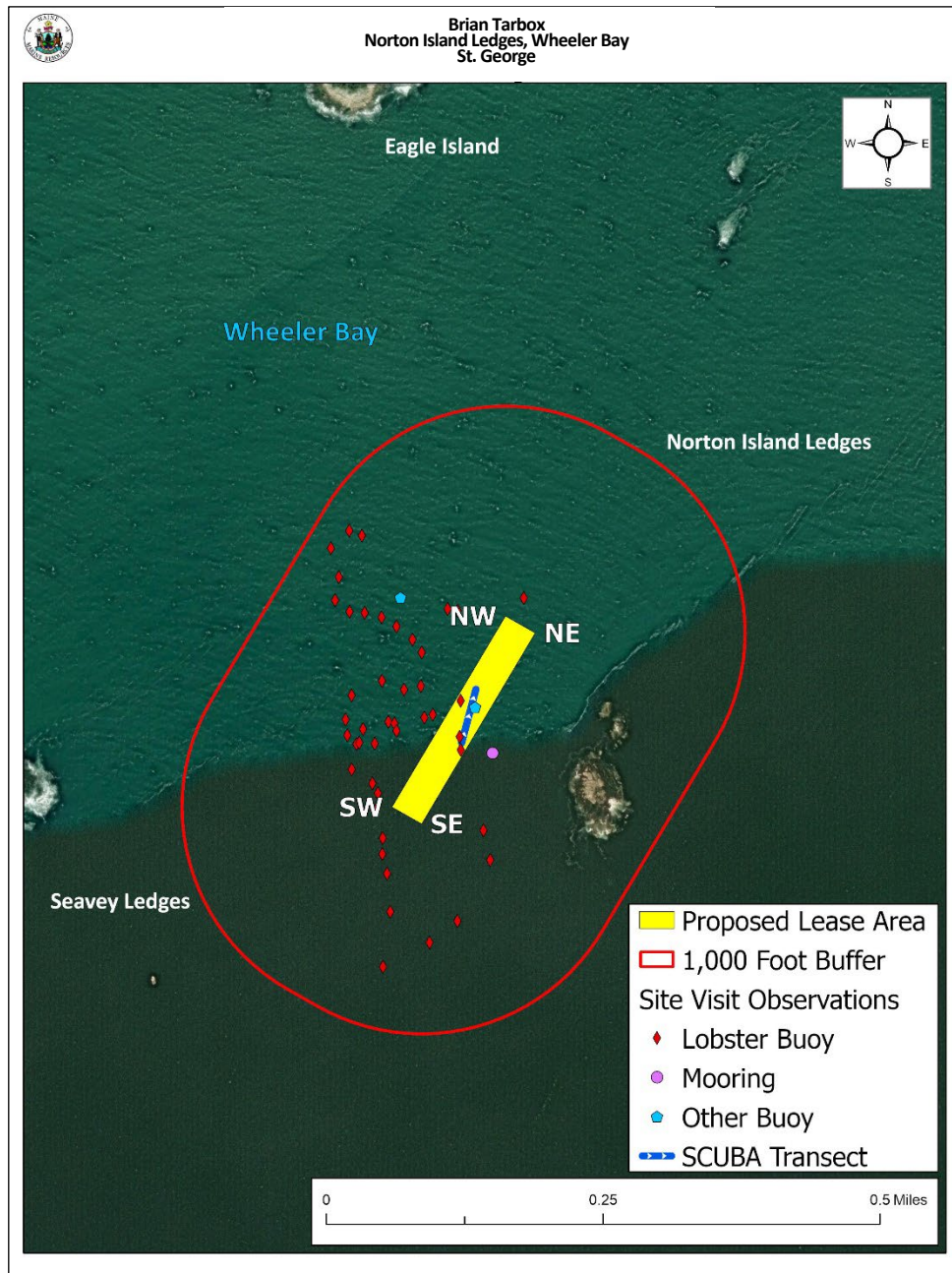


Figure 2. Proposed lease area with site visit observations.

*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:*



## Department of Marine Resources Site Report

Brian Tarbox  
Wheeler Bay  
St. George

### **(1) Riparian Ingress and Egress**

During MDMR's site assessment, scientists did not observe any piers, docks, or residential properties within 1,000 feet of the proposal. The only land within 1,000 feet is an uninhabited area of exposed ledge approximately 400.9 feet to the southeast. The nearest inhabited land is Rackliff Island approximately 3,481.4 feet to the northeast at MLW (Figure 1). There is also a mooring field and several piers and docks in the northern end of the bay over 1.4 miles to the north. MDMR scientists observed a mooring within 1,000 feet located approximately 117.6 feet to the east of the proposal. The mooring may be associated with nearby aquaculture operations (LPAs), or another purpose as there are not any docks, piers, or residential properties within the vicinity of the proposal (Figure 2).

In a completed Harbormaster Questionnaire submitted to MDMR on June 28, 2023, it was indicated that riparian ingress and egress would not be affected.

### **(2) Navigation**

The proposal is located in subtidal waters approximately 400.9 feet to the northwest of the Norton Island Ledges. A navigational channel provides access into Wheeler Bay from an offshore channel in between Seavey and Norton Island ledges. Approximately 407.4 feet of the southern portion of the proposal area is within the Wheeler Bay navigational channel. There is approximately 945.9 feet of navigable water between the proposal boundary and a charted hazard on the western side of the channel (Figure 3).

During MDMR's site assessment, scientists observed two lobster boats transiting to the west of the site, as well as two sailboats under sail in the offshore navigational channel to the south of the site.

The Harbormaster Questionnaire indicated that navigation would not be affected.



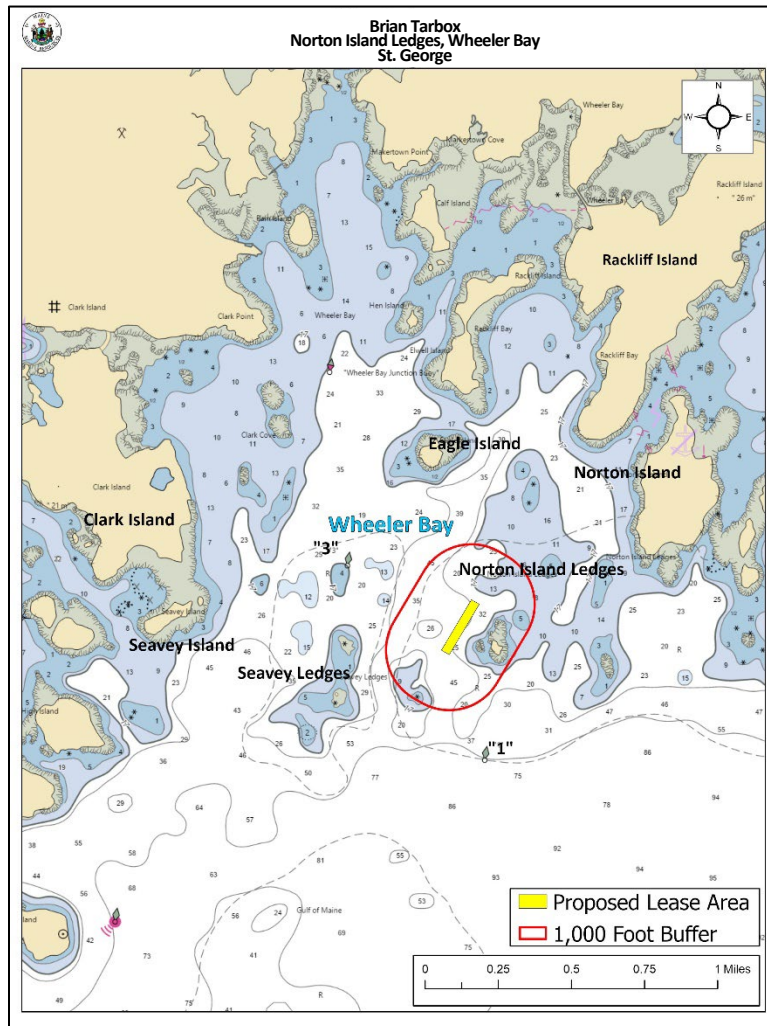


Figure 3. Charted navigational channels in the vicinity of the proposed lease area.

### (3) Fishing and Other Uses

During MDMR's site assessment, scientists observed heavy lobstering activity in the vicinity of the proposal. MDMR scientists mapped 45 lobster buoys within 1,000 feet of the proposal, but there were more buoys observed than are accounted for in the waypoints. Three of the forty-five mapped buoys were located within the boundaries of the proposal. Additional significant lobstering activity was observed further than 1,000 feet from the proposal as well. MDMR scientists also observed two other buoys that did not appear to be related to lobster fishing. One of these buoys was located within the boundaries of the proposal and the other was located approximately 476.1 feet to the west. The two buoys observed were likely associated with nearby aquaculture operations.

The Harbormaster Questionnaire indicated that fishing in this area is seasonal.



**(4) Other Aquaculture Uses**

There is one active aquaculture lease and four LPAs within 1,000 feet of the proposal. Experimental lease PEN SLx is a marine algae lease located approximately 507.1 feet to the northwest of the proposal. PEN SLx is operated by Mark Miller. There are four LPAs within the boundaries of the proposal area, BTAR120, BTAR220, BTAR320, BTAR420 (Figure 4). All four sites are licensed to the applicant, Brian Tarbox, and would be relinquished if the proposal is granted.

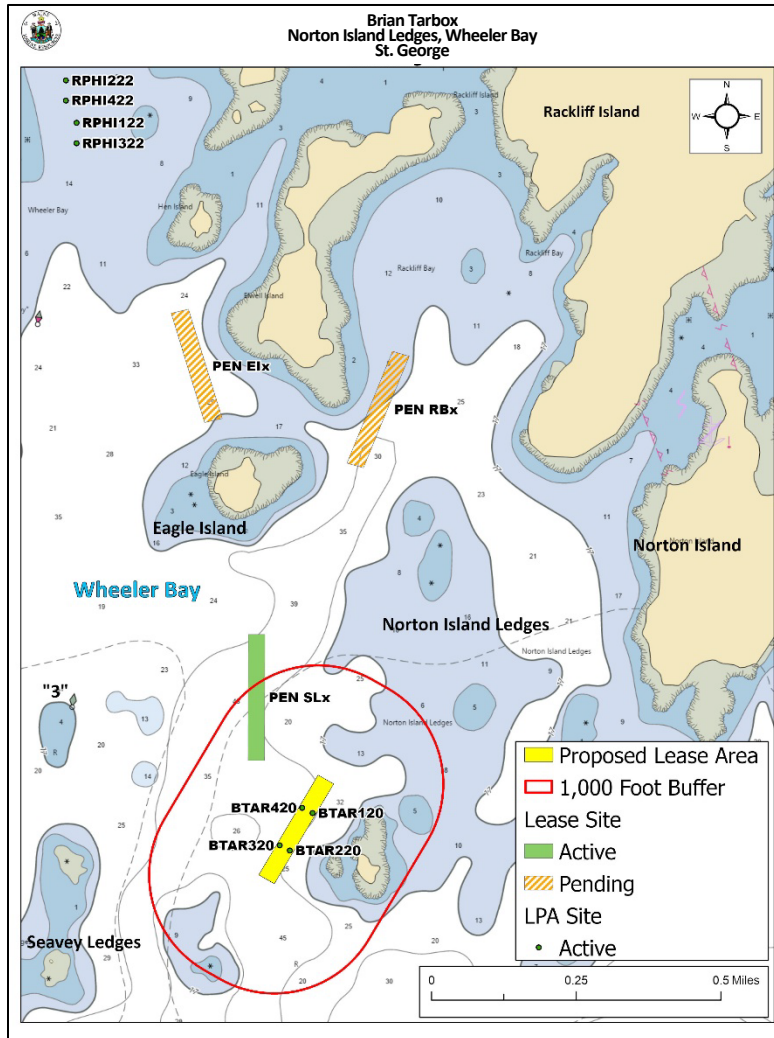


Figure 4. Aquaculture leases and LPA licenses in the vicinity of the proposed lease area.



**(5) Existing System Support**

**Epibenthic Flora and Fauna**

MDMR scientists utilized SCUBA to assess the epibenthic ecology of the proposed lease. The relative abundance of epibenthic flora and fauna observed is described below in Table 4.

**Table 4.** Species observed on underwater video footage.

Species Observed	Abundance
American lobster ( <i>Homarus americanus</i> )	Abundant
Rock crab ( <i>Cancer irroratus</i> )	Occasional
Red filamentous algae ( <i>Dasysiphonia japonica</i> )	Occasional
Sugar kelp ( <i>Saccharina latissima</i> )	Rare

**Eelgrass (*Zostera marina*)**

Records of eelgrass collected in 2010<sup>8</sup> indicate there is not mapped eelgrass within 1,000 feet of the proposal. The nearest mapped eelgrass is located approximately 0.7 miles northeast of the proposal (Figure 5). During MDMR’s site assessment, scientists observed unattached eelgrass floating in the vicinity of the proposal, as well as a blade tangled in a nearby lobster buoy. No eelgrass was observed during the SCUBA transect attached to the seafloor within the proposal boundaries.

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<sup>8</sup> Data obtained from The Maine Office of GIS “GISVIEW.MEDMR.Eelgrass”. Data from 2010 was the most current record of mapped eelgrass within the vicinity of the proposal at the time the site report was written.



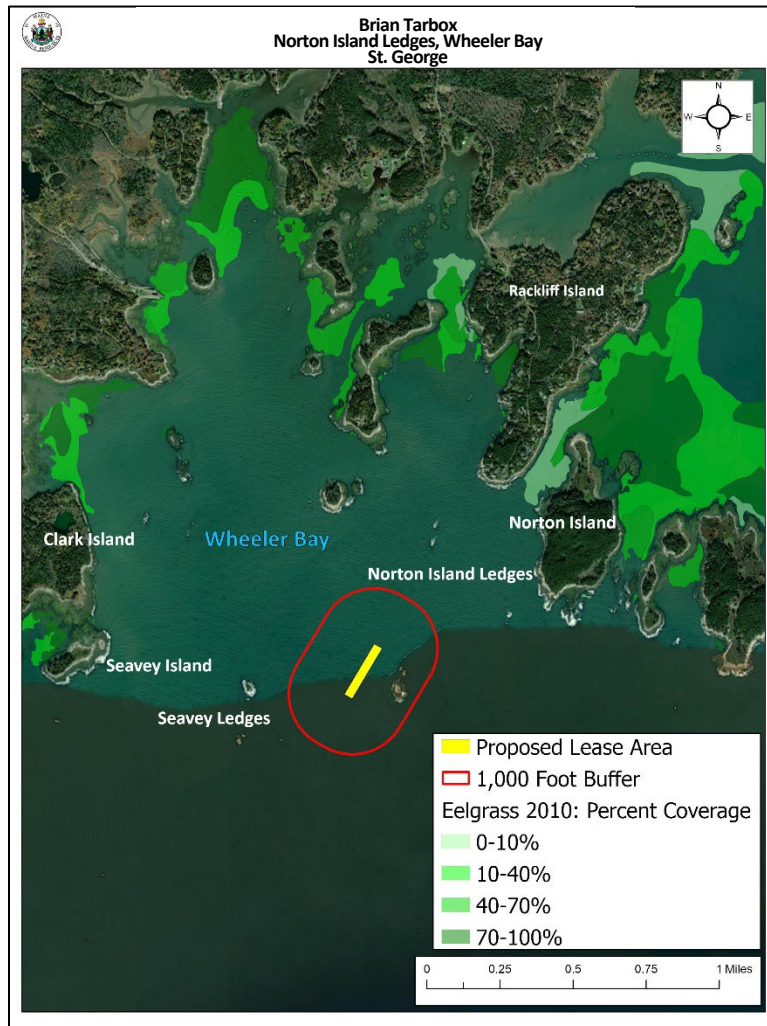


Figure 5. Mapped eelgrass in the vicinity of the proposed lease area.

### 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 not within 1,000 feet of Tidal Waterfowl and Wading Bird Habitat (TWWH) (Figure 6). The nearest bald eagle (*Haliaeetus leucocephalus*) nest is mapped approximately 2.1 miles to the northwest of the proposal.

On August 3, 2023, a Resource Biologist with MDIFW responded by email to a “Request for Agency Review and Comment”, stating that minimal impacts are anticipated.

During MDMR’s site assessment, scientists observed harbor seals (*Phoca vitulina*), common eiders (*Somateria mollissima*), laughing gulls (*Leucophaeus atricilla*), and double-crested cormorants (*Nannopterum auritum*) in the vicinity of the proposal.

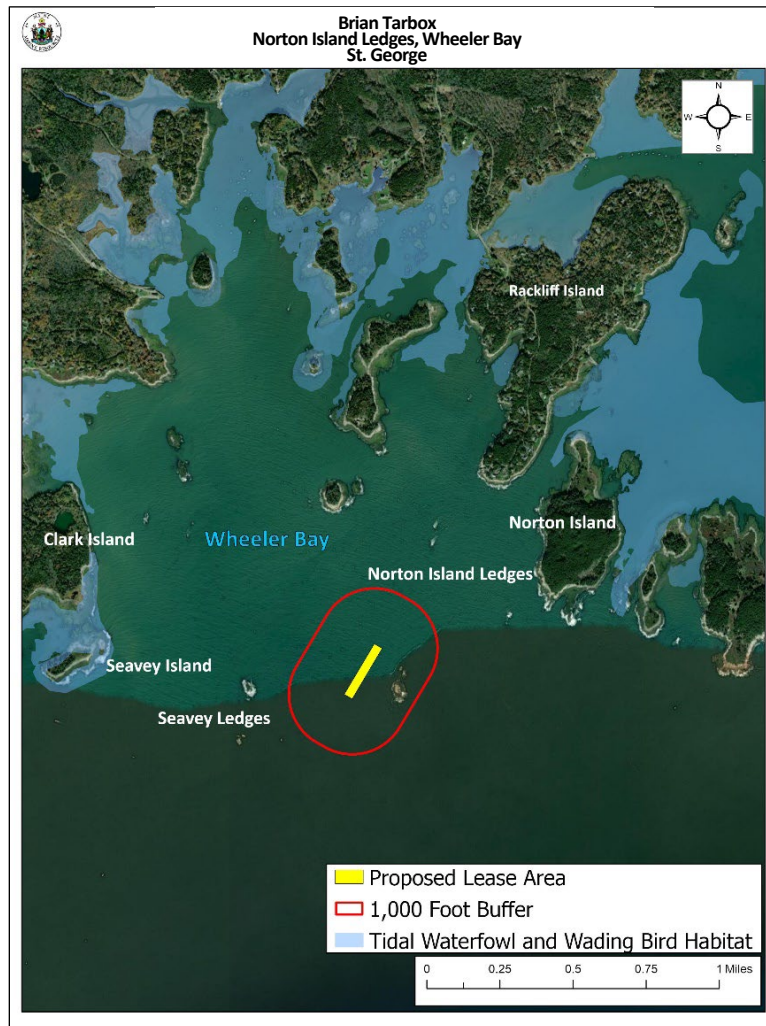


Figure 6. Mapped TWWH in the vicinity of the proposed lease area.<sup>9</sup>

**(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 located within an area that is currently classified as Open/Approved by the MDMR Bureau of Public Health and Aquaculture.

<sup>9</sup> Data obtained from USFWS "Bald\_Eagle\_Nests\_-\_Maine\_2023" and MDIFW maintained SDE Feature Class "GISVIEW.MEIFW.Twwh"