

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

**Location:** West of Little French Island, Casco Bay, Freeport, Cumberland County, Maine

**Purpose:** Experimental lease for suspended culture of sugar kelp (*Saccharina latissima*)

Site Review: Geoffrey Shook and Molly Waters

Report Preparation: Chloe Kilborn, Meryl Grady, and Amanda Ellis

<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 geo-referenced aerial photographs provided by The Maine Office of GIS.



**Application Overview**

The applicant, Levi DiMauro, is requesting 3.97<sup>2</sup> acres for an experimental lease west of Little French Island for the suspended culture of sugar kelp. The applicant intends to remove all gear except lease boundary corner markers from May 31 to October 1.<sup>3</sup>

**General Characteristics**

On July 19, 2023, Maine Department of Marine Resources (MDMR) scientists assessed the proposed lease site. The shoreline of Little French Island consists of a rocky shoreline leading to forested uplands in the vicinity of the proposal. Nearby French Island, Little Bustins Island, and Bustins Island consist of residential uplands.

**Depth**

MDMR scientists began collecting depths at 12:09 PM at the proposed site. Measured depths at corners of the proposed lease site ranged from 30.5 to 50.2 feet. Correcting for tidal variation derives water depths at mean low water (MLW, 0.0 feet) to be from 23.0 to 42.7 feet and from 31.5 to 51.2 feet at the next high tide (Table 1).

**Table 1.** Predicted tidal heights in South Freeport, Maine.<sup>4</sup>

Date	Time	Height (ft)
2023/07/19	12:53 AM	9.7 H
2023/07/19	7:18 AM	0.2 L
2023/07/19	1:32 PM	8.5 H
2023/07/19	7:16 PM	1.4 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 primarily composed of 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	Mud

<sup>2</sup> Applicant originally requested 3.92 acres. MDMR calculations indicate the area is 3.97 acres.

<sup>3</sup> Application page 16

<sup>4</sup><https://www.us harbors.com/harbor/maine/south-freeport-me/tides/?tide=2023-07#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) – 3.97 Acres**

<u>Corner</u>	<u>Latitude</u>	<u>Longitude</u>	
NW	43.789303°	-70.078396°	then 175.2 feet at 127° True to
NE	43.789021°	-70.077859°	then 975.9 feet at 216° True to
SE	43.786844°	-70.080011°	then 181.0 feet at 310° True to
SW	43.787154°	-70.080547°	then 967.6 feet at 37° True to NW

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

Feature	Distance
NW corner to Little Bustins Island at MLW	~1,300' to the northwest
NE corner to Little French Island at MLW	~1,780' to the east
SE corner to French Island at MLW	~2,000' to the southeast
SW corner to Moshier Island at MLW	~2,700' to the southwest



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West of Little French Island, Casco Bay, Freeport

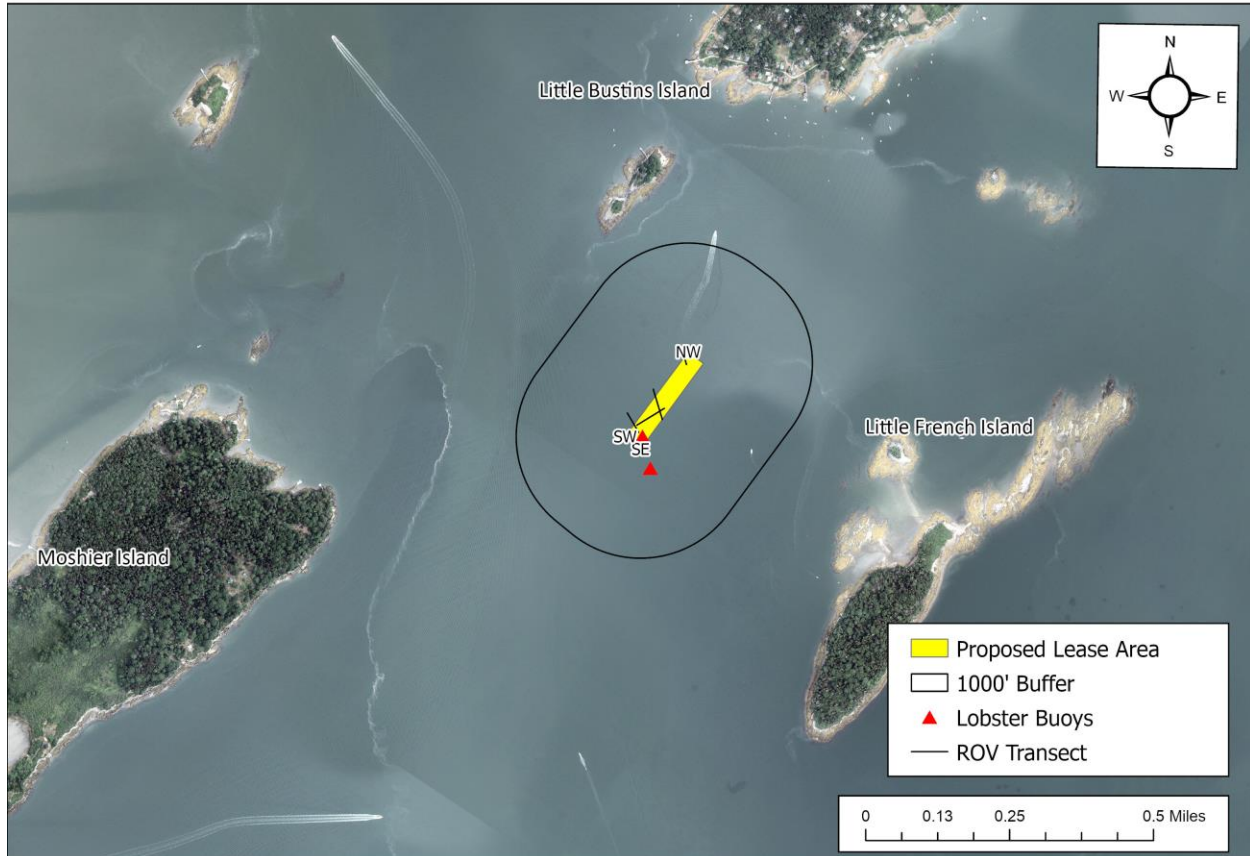


Figure 2. Proposed lease area with site visit observations.

***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 proposed lease area is located approximately 1,780 feet west of Little French Island at MLW, 1,300 feet south of Little Bustins Island, and 2,700 feet east of Moshier Island. During the site assessment, MDMR scientists did not observe any moorings or docks within 1,000 feet of the proposal.



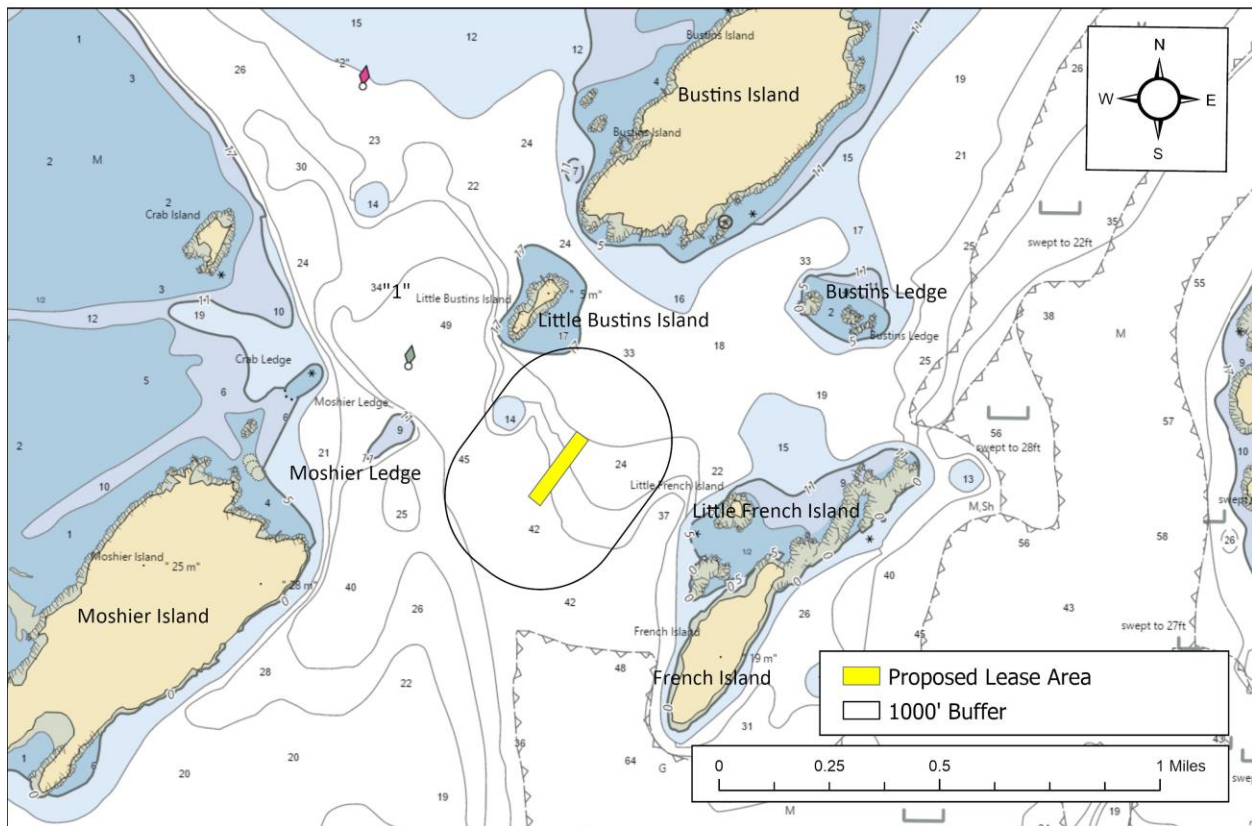
**(2) Navigation**

The proposal is situated within the navigational channel between Little Bustins Island and Little French Island. The proposal is approximately 2,125 feet southeast of the green navigational buoy marking the navigational channel between Moshier Island and Little Bustins Island (Figure 3). During MDMR’s site visit, there was one sailboat approximately 1,000 feet north of the proposal traveling east. MDMR scientists observed one sailboat sailing within and around the proposal boundaries. Two additional recreational power boats were observed operating in the vicinity of the proposal.

The Harbormaster for the Town of Freeport stated that the area surrounding the proposal sees a significant amount of boating traffic during the summer months, and recommended all gear be removed from the lease site by April 30.<sup>5</sup>



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**Figure 3.** Proposed lease area with nearby navigational channels.

<sup>5</sup> Email communication between MDMR and the Town of Freeport Harbormaster on February 13, 2023.



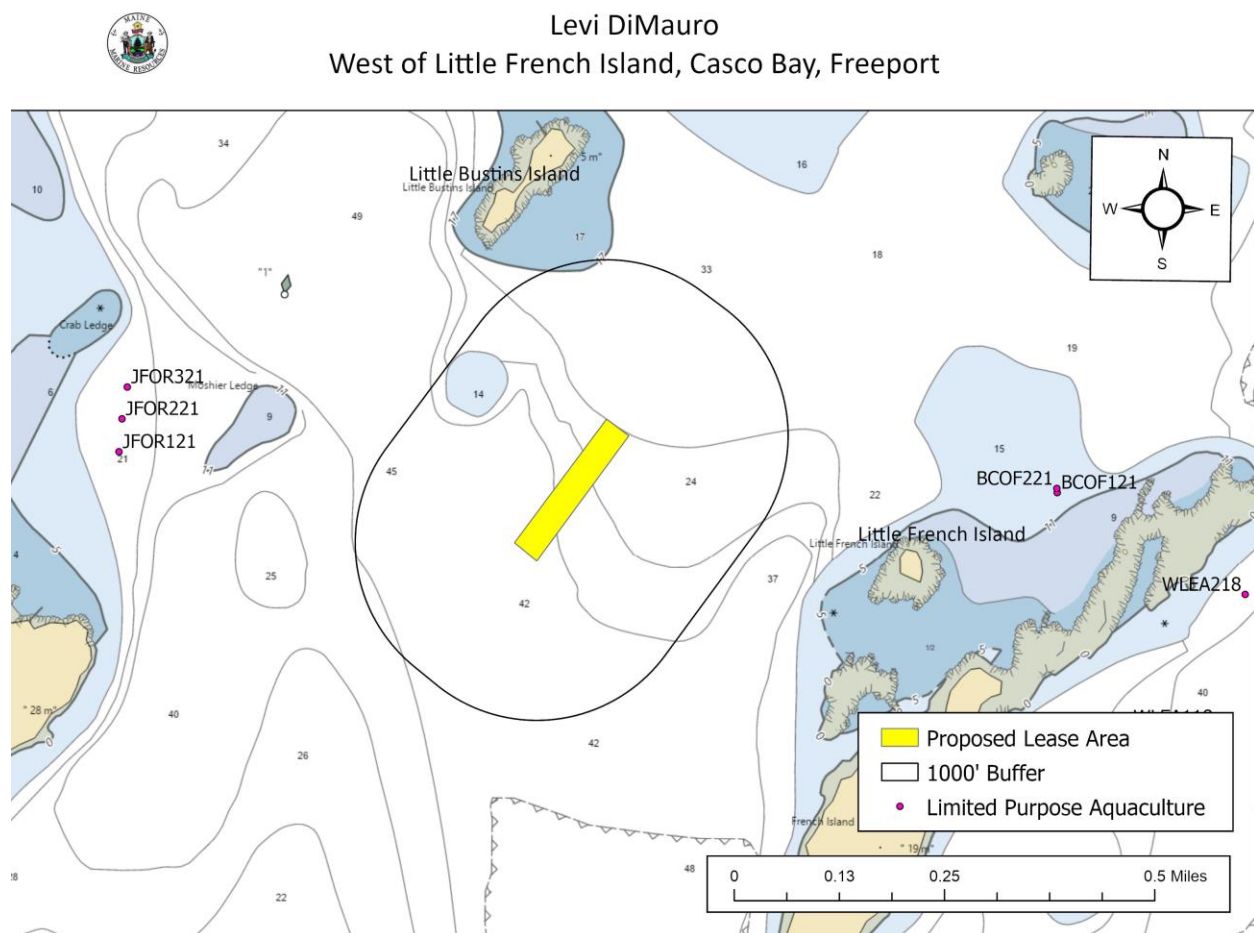


**(3) Fishing and Other Uses**

During the site visit, MDMR observed three lobster buoys in the vicinity of the proposal. One lobster buoy was within the proposal boundaries. The next nearest buoy was approximately 188 feet south of the proposal (Figure 2). MDMR observed light lobstering activity to the east of the proposal, located closer to Little French Island.

**(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.



**(5) Existing System Support**

**Epibenthic Flora and Fauna**

On July 19, 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.

**Table 4.** Species observed during site assessment.

Species Observed	Abundance
Northern Shrimp ( <i>Pandalus borealis</i> )	Occasional
Crab ( <i>Cancer sp.</i> )	Occasional
Juvenile fish (sp. Unclassified)	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).<sup>6</sup> No eelgrass was observed during MDMR’s site assessment.

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<sup>6</sup> 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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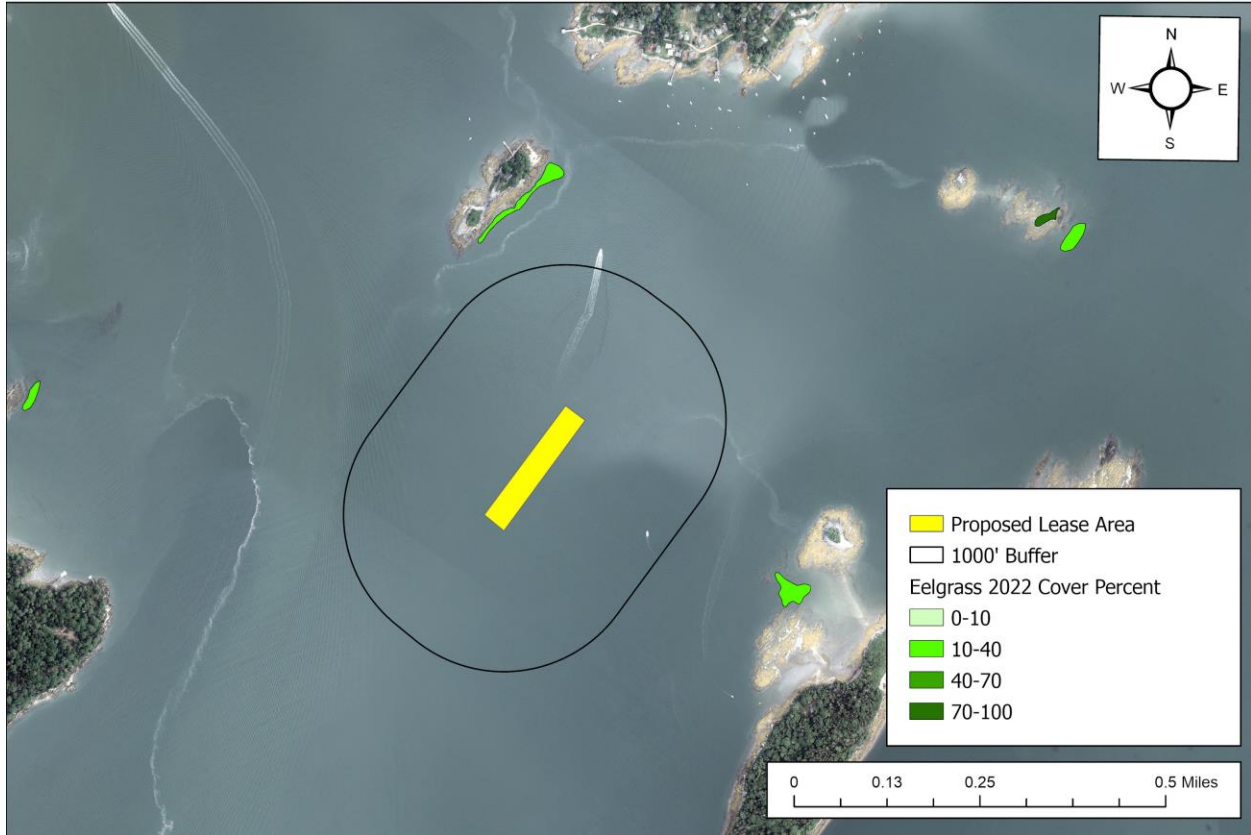


Figure 5. Mapped eelgrass (*Z. marina*) near the proposed lease utilizing 2022 data.

**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), there is no mapped tidal waterfowl and wading bird habitat within 1,000 feet of the proposed lease (Figure 6). Data collected by the United States Fish and Wildlife Service in 2023 by aerial nest survey shows the closest mapped bald eagle nesting site to be approximately 1.43 miles northeast of the proposal.

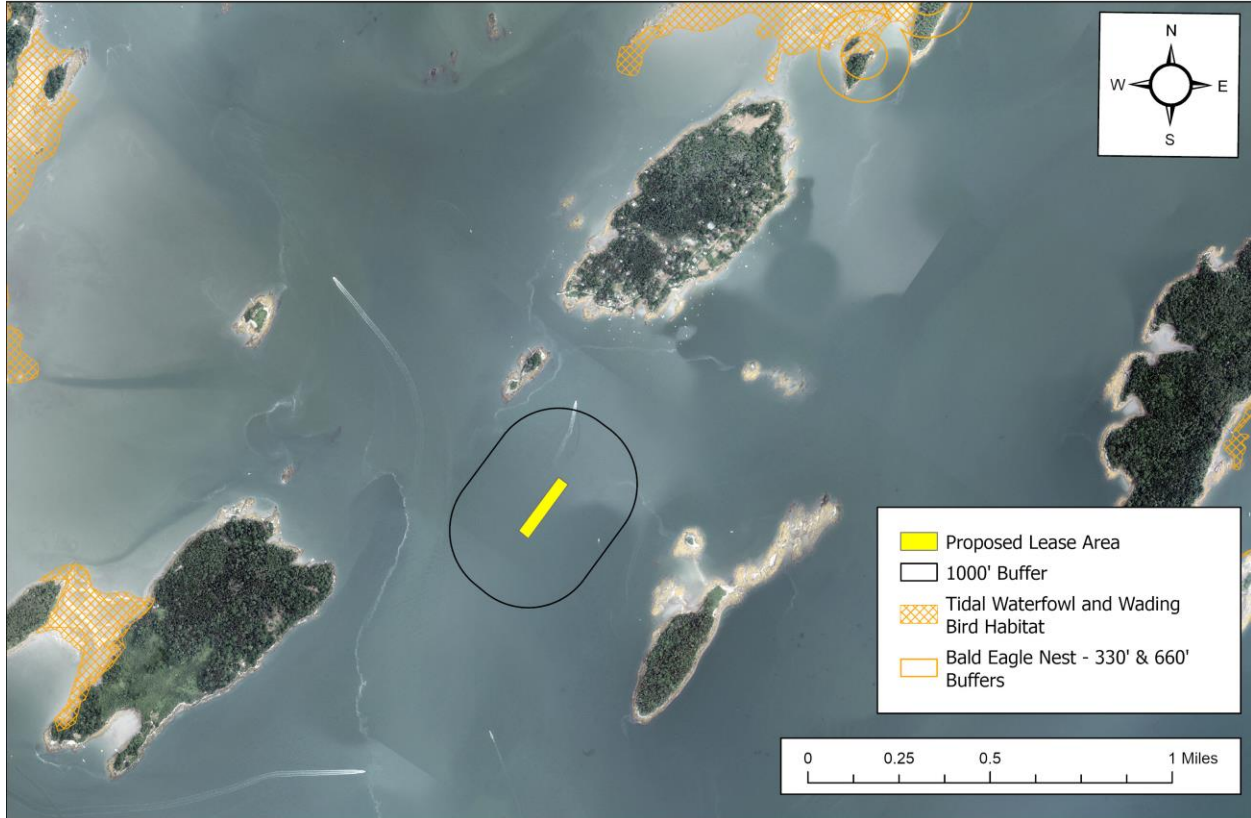
On January 13, 2023, a Wildlife Biologist with MDIFW responded by email to a “Request for Agency Review and Comment” stating minimal impacts to wildlife are anticipated for this project.<sup>7</sup>

<sup>7</sup> Email correspondence between MDIFW and MDMR.





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**Figure 6.** Mapped Bald Eagle Nests and Tidal Wading Bird and Waterfowl Habitat<sup>8</sup>.

**(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.

<sup>8</sup> Data obtained from USFWS “Bald\_Eagle\_Nests\_-\_Maine\_2023 and MDIWF maintained SDE Feature Class “GISVIEW.MEIFW.Twwh”.