

Figure 1. Vicinity map.¹

Location: Northeast of Gull Bar, East Penobscot Bay, Vinalhaven, Knox County, Maine

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

Site Review: Geoffrey Shook and Meryl Grady

Report Preparation: Geoffrey Shook and Meryl Grady

¹ Unless otherwise noted, all figures in this report were created in ArcGIS Pro version 3.3 using digitized NOAA Nautical Charts or geo-referenced aerial photographs provided by Esri (Firefly).



Application Overview

The applicant, Salt of The Earth Sea Farm LLC, is requesting a 3.95-acre experimental lease northeast of Gull Bar in East Penobscot Bay for the suspended culture of marine algae. The applicant intends for the site to be active from October 15-May 31. From June 1-October 14, all gear, other than granite moorings and required marker buoys, would be removed and stored on land.²

General Characteristics

On August 13, 2025, Department of Marine Resources (DMR) scientists visited the proposed lease site. DMR scientists arrived on site at approximately 10:55 AM. The proposal is located in subtidal waters in East Penobscot Bay approximately 987 feet northeast of Gull Bar on Calderwood Neck, Vinalhaven Island at mean low water (MLW). The area surrounding the proposal consists of several small, forested islands to the south and Calderwood Neck, part of Vinalhaven Island, to the northwest (Figure 1). The shoreline on Calderwood Neck was observed to be rocky with scattered sand and gravel beaches leading to mixed forest uplands and residential properties.

Depth

On August 13, 2025, DMR scientists began collecting depths at the proposed site at approximately 10:55 AM. The tide was flooding with the next high tide predicted at 2:31 PM (Table 1). Depths were determined to be between 44.3-50.7 feet at the proposal corners. Correcting for tidal variations derives depths at mean low water (MLW, 0.0 feet) to be between 41.1-47.5 feet at the proposal corners. Approximate depths at mean high water (MHW, 9.9 feet³) are between 51.0-57.4 feet at the proposal corners (Table 2). The proposal is located in the subtidal. Water current was flowing to the north-northwest at the time of the site visit.

Table 1. Predicted tidal heights in the Pulpit Harbor, Maine.⁴

Date	Time	Height (ft)
2025/08/13	02:04 AM	10.7 H
2025/08/13	08:21 AM	-0.8 L
2025/08/13	02:31 PM	10.7 H
2025/08/13	08:47 PM	-0.6 L

Table 2. Collected and derived depths at corners of the proposed lease area.

Corner	Measured Depth (ft)	MLW Depth (ft)	MHW Depth (ft)
NW	45.7	42.5	52.4
NE	50.7	47.5	57.4
SE	48.9	45.7	55.6
SW	44.3	41.1	51.0

² Application page 7, 15

³ MHW in Pulpit Harbor, ME is 9.9 feet, NOAA Tide Station 8414888

⁴ <https://tidesandcurrents.noaa.gov/stationhome.html?id=8414888>



Bottom Characteristics

DMR 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 3). Sediment information was determined based on visual analysis of the video. The bottom of the proposed lease site is primarily composed of mud with areas of sheet algal bed.

Table 3. 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

Position and Distances to Shore

The geodesic measuring tool in ArcGIS Pro 3.3 was used to verify the distances and bearings between proposed lease corners. Distances to shore were determined using the measuring tool in ArcGIS Pro 3.3, a nautical chart provided by the National Oceanic and Atmospheric Administration (NOAA), and the application coordinates (Table 4, Figure 2,3).

Application Coordinates (WGS84) – 3.95 Acres

<u>Corner</u>	<u>Latitude</u>	<u>Longitude</u>					
NW	44.10943°	-68.80186°	then	609	feet at	089°	True to
NE	44.10942°	-68.79953°	then	278	feet at	179°	True to
SE	44.10866°	-68.79953°	then	616	feet at	270°	True to
SW	44.10865°	-68.80187°	then	284	feet at	001°	True to NW

Table 4. Approximate distances from proposal corners to surrounding features (Figure 2,3).

Feature	Distance
NW corner to Calderwood Neck at MLW	~1,015' to the west
NW corner to red navigation aid "2"	~7,790' to the north
NE corner to red navigation aid "2"	~7,817' to the north-northwest
NE corner to red navigation aid "2A"	~9,936' to the northeast
SE corner to Bluff Head at MLW	~2,590' to the southeast
SE corner to Big Hen Island at MLW	~2,419' to the south
SW corner to Big Hen Island at MLW	~2,336' to the south
SW corner to Gull Bar at MLW	~987' to the southwest

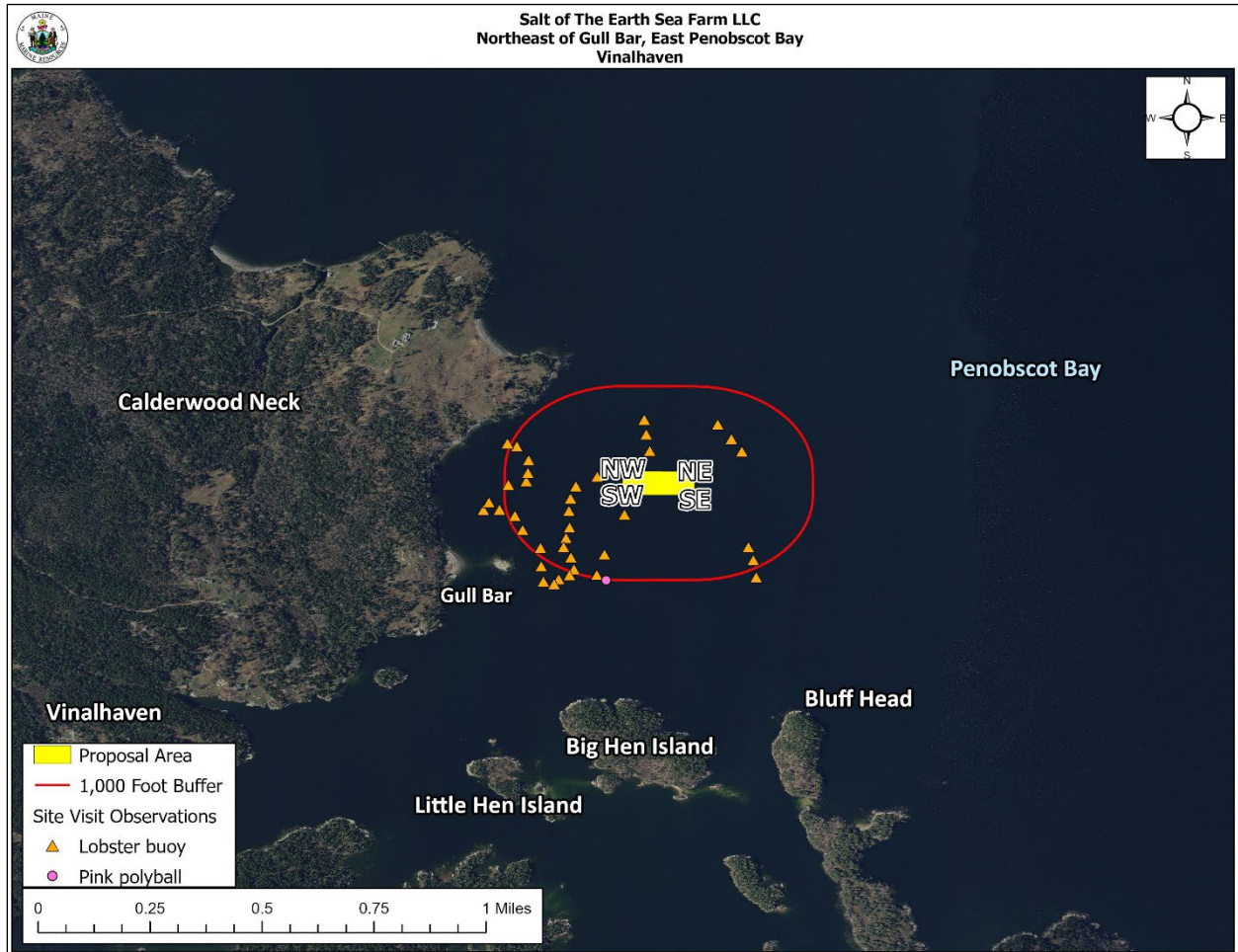


Figure 2. Proposed lease area with site visit observations.

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

(1) Riparian Ingress and Egress

During the site visit, DMR scientists did not observe any docks, moorings, or stairs to shoreline within the vicinity of the proposal. There was one house and an observation tower to the northwest that was visible from the proposal. Based on aerial imagery⁵ the house is approximately 2,392 feet to the northwest of the proposal. Aerial imagery also indicates that there is a house or small structure approximately 1,834 feet southwest of the proposal (Figure 2).

A Harbormaster Questionnaire was received by DMR from the Town of Vinalhaven on October 31, 2024. The response indicated that riparian landowner access should not be affected.

⁵ Maine Orthoimagery Regional 2019



(2) Navigation

The proposal is located in East Penobscot Bay approximately 1,015 feet to the southeast of Calderwood Neck at MLW. The proposal is south of the eastern entrance to the Fox Islands Thorofare, a marked navigational channel between Vinalhaven and Northhaven Islands. The southern boundary of the Thorofare is not marked in this area but the proposal is outside of a typical approach to the Fox Islands Thorofare based on the structure and layout of the coast in the area (Figure 3).

During the site visit, DMR scientists observed 11 sailboats under power and one sailboat under sail transiting to the east from Winter Harbor, located approximately 800 feet south of the proposal. Four sailboats under power were observed transiting to the west in the same navigational way as the 12 boats transiting east. DMR scientists also observed one sailboat under power transiting to the north through the proposal, as well as one powerboat transiting to the southwest through the proposal.

The Harbormaster Questionnaire indicated that navigation in the area should not be affected.

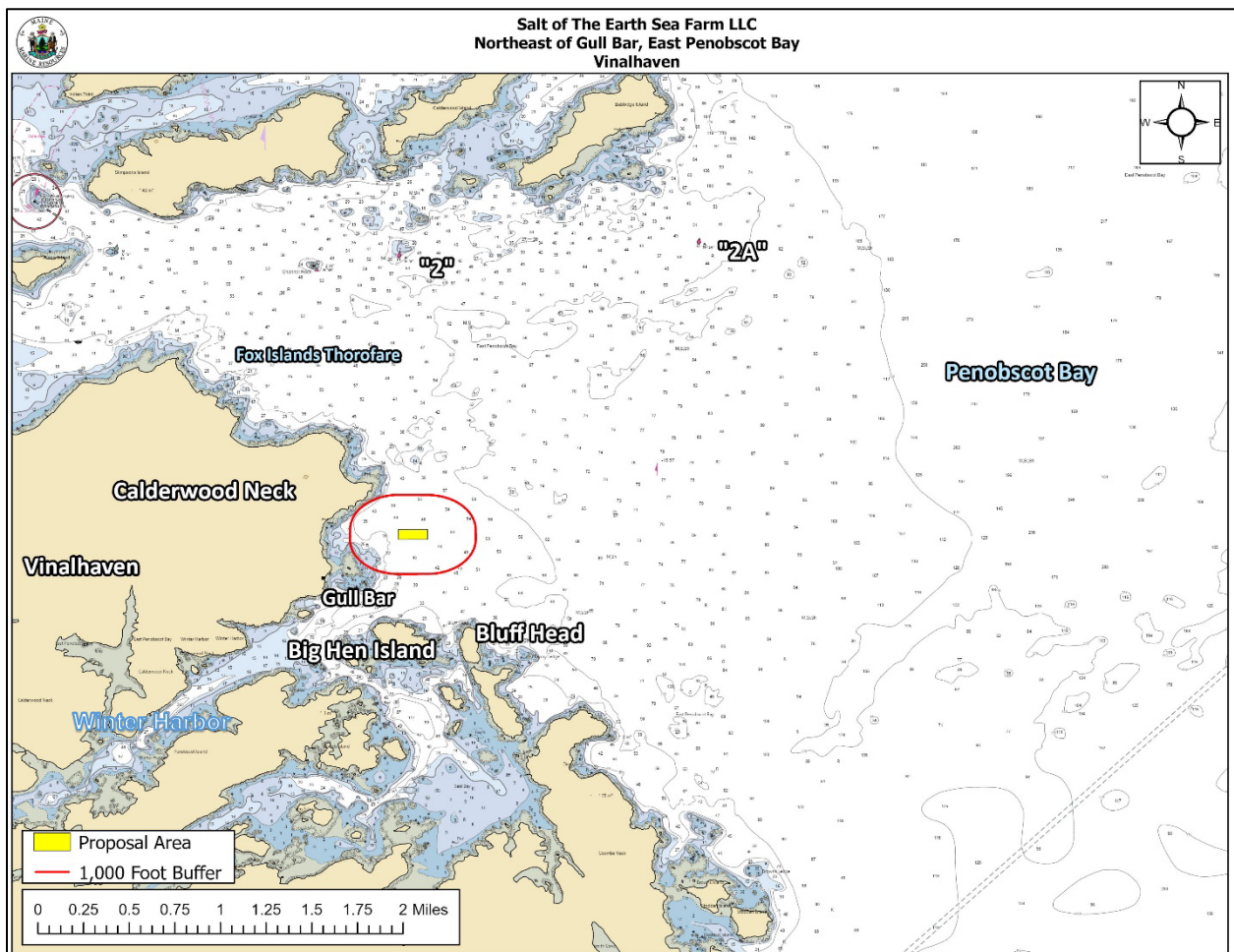


Figure 3. Navigational channels in the vicinity of the proposed lease area.



(3) Fishing and Other Uses

During DMR's site visit, scientists observed 40 lobster buoys within the vicinity of the proposal, with the closest located approximately 133 feet northwest of the proposal (Figure 2). A lobster boat was observed actively hauling traps in the vicinity of the proposal to the west. Scientists also observed a pink ball buoy approximately 1,011 feet to the south of the proposal (Image 1). DMR scientists did not determine the purpose or use of the buoy.

The Harbormaster Questionnaire stated that lobster fishing as well as SCUBA diving and dredging for scallops occurs within the area of the proposal. It was also indicated that the area is a historical lobster fishing ground.



Image 1. Unknown pink buoy within vicinity of proposal

(4) Other Aquaculture Uses

There are not any active aquaculture leases or limited purpose aquaculture (LPA) sites located within the vicinity of the proposal (Figure 4).

During the site visit, DMR scientists did not observe any buoys or gear related to aquaculture within the boundaries of the proposal.



The Harbormaster Questionnaire indicated that there are permitted moorings from a former [aquaculture] lease site within the boundary of the proposed site. DMR records indicate there are no terminated or expired aquaculture leases in the vicinity of the proposal.

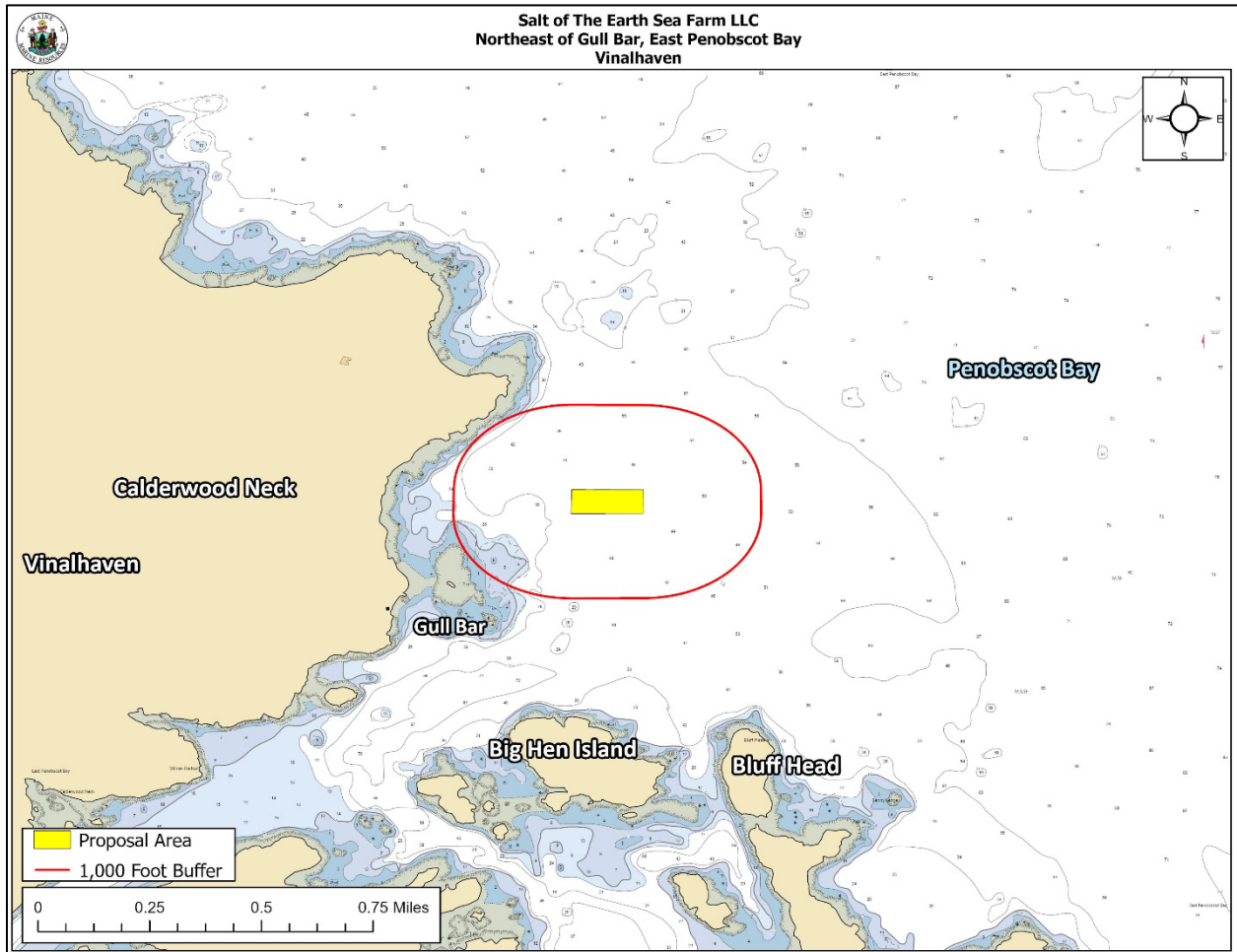


Figure 4. Aquaculture leases and LPA licenses in the vicinity of the proposed lease area.

(5) Existing System Support

Epibenthic Flora and Fauna

DMR 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 5.

Table 5. Species observed on underwater video footage.

Species Observed	Abundance
Rock crab (<i>Cancer irroratus</i>)	Rare
American lobster (<i>Homarus americanus</i>)	Rare



Eelgrass (*Zostera marina*)

Records of seagrass collected by the Department of Environmental Protection (DEP) in 2024⁶ indicate there is no eelgrass mapped within 1,000 feet of the proposal. The nearest mapped eelgrass is approximately 1,033 feet southwest of the proposal (Figure 5).

During DMR’s site visit, scientists did not observe any eelgrass within the vicinity of the proposal.

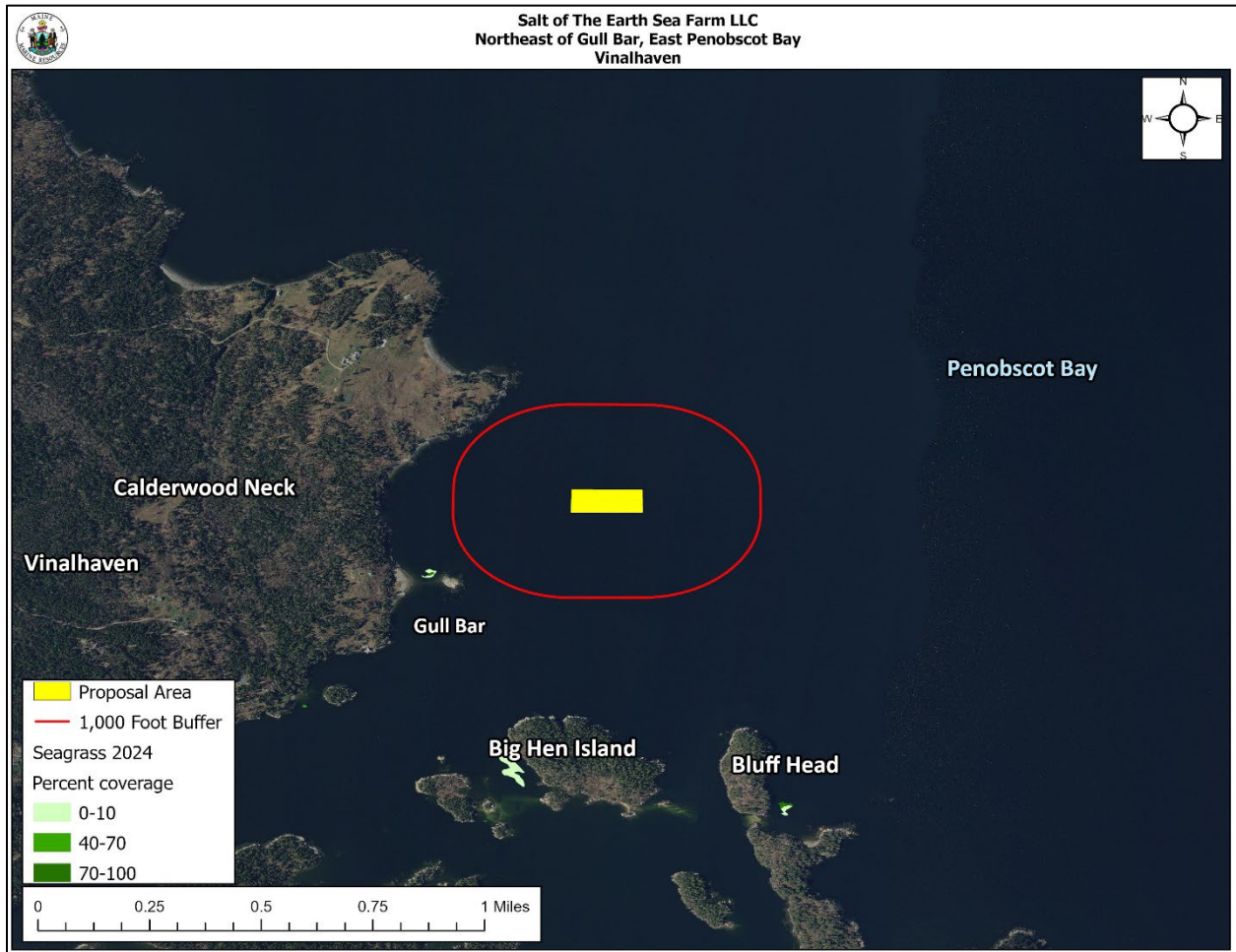


Figure 5. Mapped eelgrass (*Z. marina*) in the vicinity of the proposed lease area.

⁶Data obtained from The Maine Office of GIS “GISVIEW.MEDEP.Seagrass2024”. Widgeon grass was observed only in tidally restricted water bodies on North Haven and in the upper reaches of the Bagaduce River. 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.



Department of Marine Resources Site Report

Salt of The Earth Sea Farm LLC
Northeast of Gull Bar, East Penobscot Bay
Vinalhaven

Wildlife

During the site visit, DMR scientists observed herring gulls (*Larus argentatus*) and great cormorants (*Phalacrocorax carbo*) in the general vicinity of the proposal.

The Department of Inland Fisheries and Wildlife (IFW) has jurisdiction over inland fisheries and wildlife resources of the State. IFW also has the authority to conserve wildlife populations and their ecosystems through applicable state laws and rules. DMR provides IFW with notice and the opportunity to comment on all complete lease applications. In addition, the Site Report also includes IFW 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 IFW 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).

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 there is no mapped bald eagle nesting site within the vicinity of the proposal. The nearest bald eagle nest is mapped approximately 1.2 miles to the southwest of the proposal.

IFW was provided with the opportunity to comment on this proposal. On November 6, 2024, a Resource Biologist with IFW responded by email to a "Request for Agency Review and Comment" stating that IFW has no jurisdictional resources in this location so minimal impacts are anticipated.⁷

⁷ Email correspondence between IFW and DMR

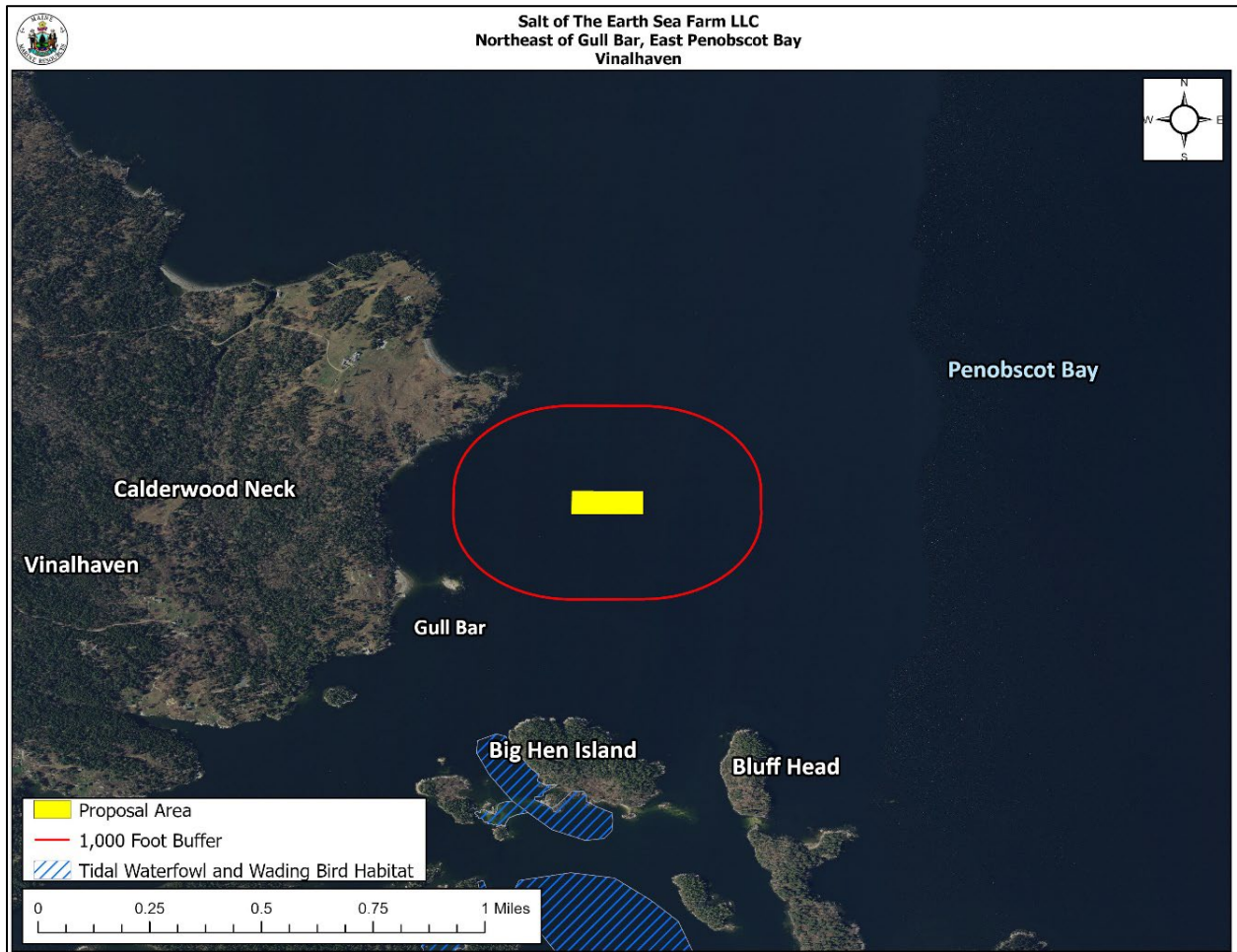


Figure 6. Mapped habitats in the vicinity of the proposed lease area. ⁸

(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 DMR Bureau of Public Health and Aquaculture.

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