Department of Marine Resources
Site Review

Hermit Island Oyster Company, LLC
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207-389-9009

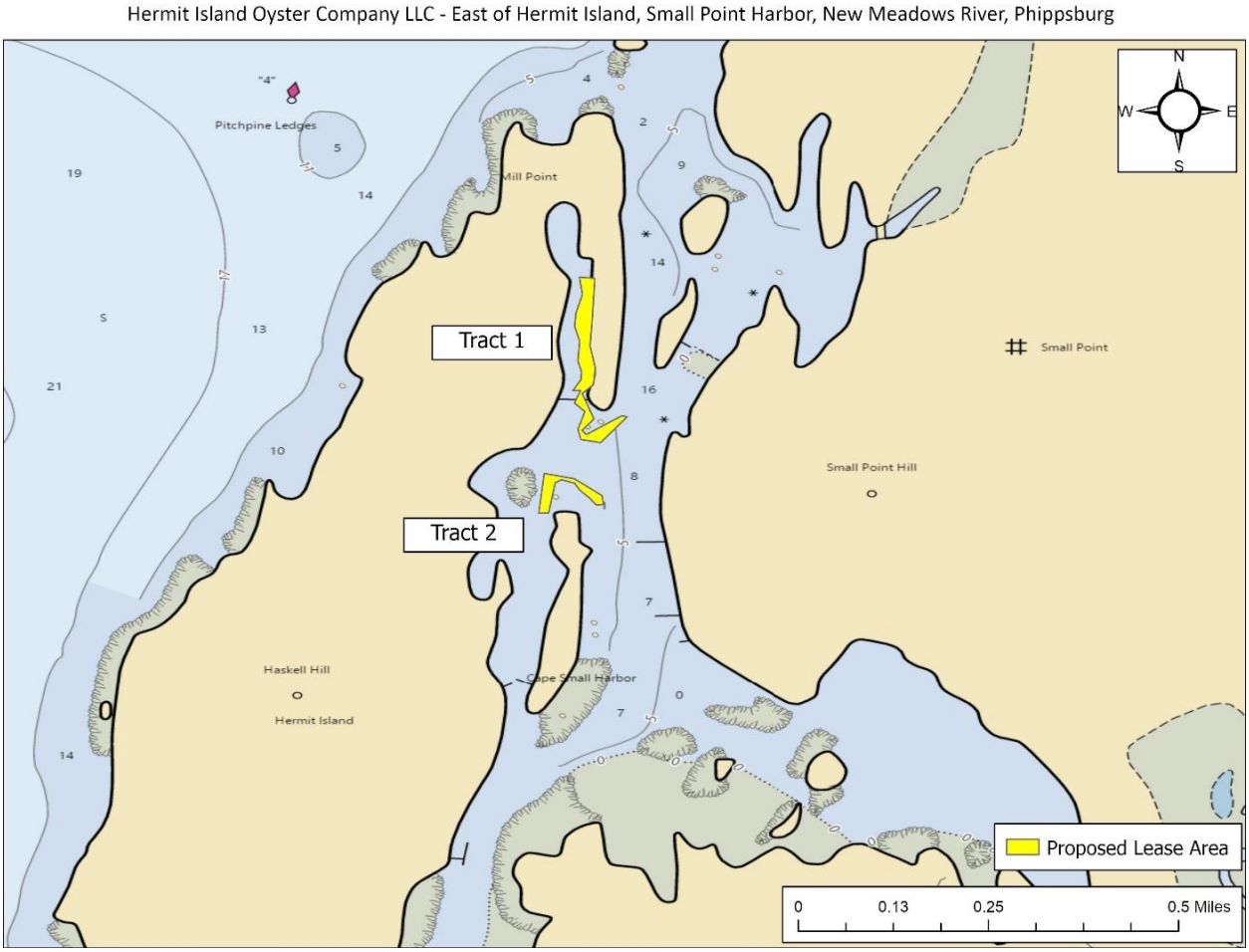

Figure 1. Vicinity map[1]

Location: East of Hermit Island, Small Point Harbor, New Meadows River, Phippsburg, Sagadahoc County, Maine

Purpose: Standard lease for suspended and bottom culture of American/eastern oysters (*Crassostrea virginica*) and European oysters (*Ostrea edulis*)

Site Review: Flora Drury, Cheyenne Adams, and James Becker
Report Preparation: Meryl Grady and Amanda Ellis

[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.

Application Overview

The applicant, Hermit Island Oyster Company LLC, is requesting 2.51[2] acres east of Hermit Island in the New Meadows River for both bottom and suspended culture of American/eastern oysters (*Crassostrea virginica*) and European oysters (*Ostrea edulis*) (Figure 1). The proposed lease area is comprised of two tracts approximately 275 feet apart separated by an intertidal sand/mud bar[3]. Tract 1 includes a former lobster pound and the adjoining salt creek which drains to the main harbor channel. A portion of this proposed tract is above mean low water but is located exclusively inside the former lobster pound[4]. Tract 2, south of Tract 1, includes a shallow salt pond and adjoining drainage on the northern end of Tenants Island[5]. Shellfish are intended to be cultivated in a combination of surface and seafloor cages, bottom planted on both Tract 1 and Tract 2, as well as the use of an upweller and work float within Tract 1. Gear is intended to be deployed year-round on both tracts[6].

General Characteristics

On August 25, 2021, Maine Department of Marine Resources (MDMR) scientists assessed the proposed lease site. MDMR scientists arrived on site at approximately 1:25 PM. The northern end of Tract 1 is predominantly mixed forest while the southern end of Tract 1 is adjacent to a lobster wharf and its associated docks. At the time of the site visit, a mooring field was located between Tract 1 and Tract 2 that contained lobster boats, recreational power boats, and sailboats. Tenants Island, south of Tract 2, is comprised of mixed forest shorelines, ledge, and marsh grass. This island appeared to be uninhabited and was used for storing lobster traps at the time of the site visit.

Depth

MDMR staff began collecting depths at the proposed site at approximately 1:30 PM on August 25, 2021. The tide was in the late flood stage. Depths at the proposed lease site ranged from 8 to 10 feet. Correcting for tidal variation derives water depths at the next high tide to be a range from 8.1 to 10.1 feet. Water depths at mean low water (MLW, 0.0 feet) range from 0.0 to 0.4 feet (Table 1).

Table 1. Tide observations at Portland Station 8418150, Casco Bay, Maine (43° 39.5 N, 70° 14.7 W).[7]

Date	Time	Height (ft)
2021/08/25	01:32 AM	10.30 H
2021/08/25	07:46 AM	-0.24 L
2021/08/25	02:00 PM	9.69 H
2021/08/25	08:03 PM	0.27 L

[2] Applicant originally requested 2.56 acres. DMR calculations indicate Tract 1 is 1.89 acres and Tract 2 is 0.62 acres, totaling 2.51 acres.
[3] Application page 14
[4] Application page 13
[5] Application page 14
[6] Application page 24
[7] https://tidesandcurrents.noaa.gov/stationhome.html?id=8418150

Bottom Characteristics

MDMR staff observed the bottom characteristics of the proposed lease site via two SCUBA transects on August 25, 2021 (Figure 2). 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; no sediment samples were taken or grain size analysis performed. The bottom of the proposed lease site is composed of mud and shell rubble (Images 1 and 2).

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
Biogenic Substrate	Shell Substrate	Shell Rubble	Clam/Oyster/Mussel Rubble

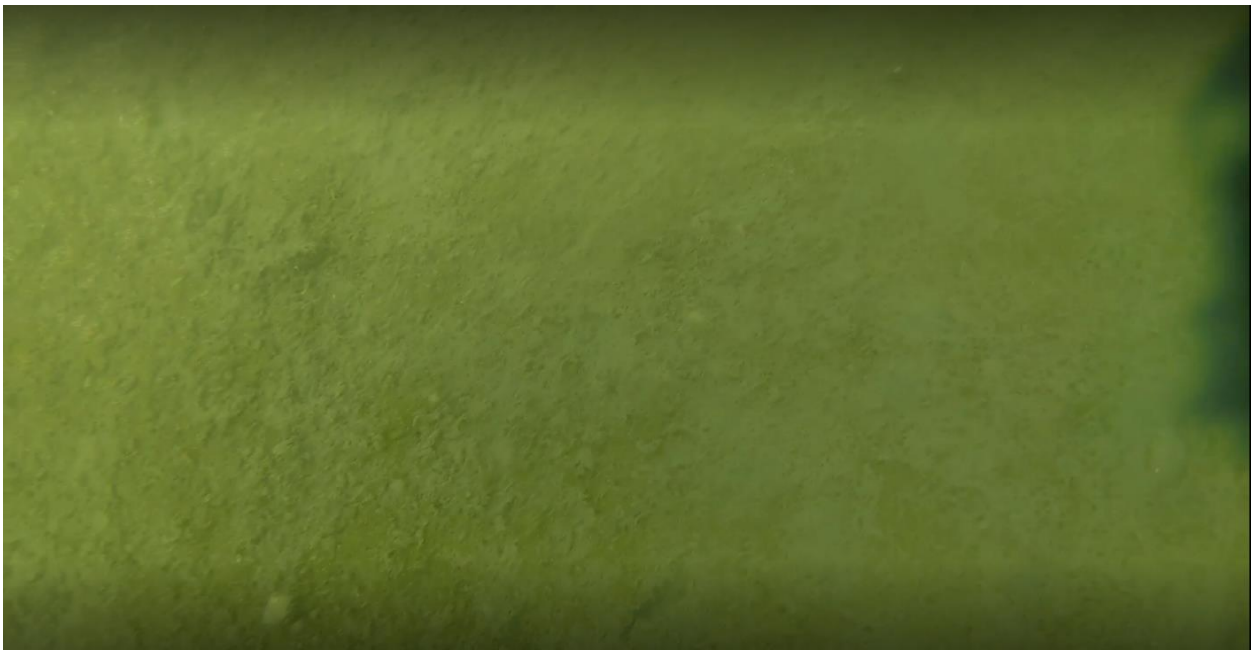

Image 1. Mud substrate within the proposed lease site as seen by SCUBA transect.

Image 2. Shell rubble within the proposed lease site as seen by SCUBA transect.

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) – 2.51 Acres

Tract 1 – 1.89 acres

Corner	Latitude	Longitude	
1	43.739113° N	-69.847225° W	then 78.19 feet at 96° True to
2	43.739089° N	-69.846931° W	then 312.01 feet at 183° True to
3	43.738234° N	-69.846986° W	then 155.94 feet at 184° True to
4	43.737807° N	-69.847022° W	then 153.12 feet at 170° True to
5	43.737393° N	-69.846924° W	then 118.1 feet at 185° True to
6	43.737070° N	-69.846959° W	then 83.45 feet at 222° True to
7	43.736901° N	-69.847172° W	then 184.72 feet at 161° True to
8	43.736421° N	-69.846948° W	then 100.15 feet at 217° True to

Corner	Latitude	Longitude	
9	43.736201° N	-69.847175° W	then 35.67 feet at 141° True to
10	43.736125° N	-69.847090° W	then 221.47 feet at 54° True to
11	43.736482° N	-69.846412° W	then 26.36 feet at 109° True to
12	43.736460° N	-69.846317° W	then 222.98 feet at 217° True to
13	43.735970° N	-69.846822° W	then 101.5 feet at 284° True to
14	43.736030° N	-69.847197° W	then 72.61 feet at 348° True to
15	43.736225° N	-69.847253° W	then 127.07 feet at 16° True to
16	43.736560° N	-69.847120° W	then 79.08 feet at 318° True to
17	43.736722° N	-69.847319° W	then 91.5 feet at 19° True to
18	43.736959° N	-69.847205° W	then 37.8 feet at 269° True to
19	43.736957° N	-69.847348° W	then 87.99 feet at 27° True to
20	43.737171° N	-69.847194° W	then 54.73 feet at 2° True to
21	43.737321° N	-69.847185° W	then 73.74 feet at 346° True to
22	43.737517° N	-69.847254° W	then 136.63 feet at 4° True to
23	43.737891° N	-69.847220° W	then 108.01 feet at 346° True to
24	43.738179° N	-69.847316° W	then 94.68 feet at 4° True to
25	43.738438° N	-69.847289° W	then 129.48 feet at 14° True to
26	43.738782° N	-69.847167° W	then 121.63 feet at 353° True to 1

Tract 2 – 0.62 acres

Corner	Latitude	Longitude	
1	43.735385° N	-69.847893° W	then 155.09 feet at 105° True to
2	43.735284° N	-69.847323° W	then 181.65 feet at 130° True to
3	43.734965° N	-69.846795° W	then 61.72 feet at 173° True to
4	43.734797° N	-69.846766° W	then 36.74 feet at 263° True to
5	43.734785° N	-69.846904° W	then 55.67 feet at 325° True to
6	43.734911° N	-69.847023° W	then 79.08 feet at 319° True to
7	43.735073° N	-69.847222° W	then 50.96 feet at 332° True to
8	43.735197° N	-69.847311° W	then 70.95 feet at 291° True to
9	43.735266° N	-69.847562° W	then 37.97 feet at 239° True to
10	43.735211° N	-69.847684° W	then 212.23 feet at 189° True to
11	43.734636° N	-69.847810° W	then 49.74 feet at 268° True to
12	43.734630° N	-69.847998° W	then 276.61 feet at 6° True to 1

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

Feature	Distance
Tract 1, Corner 1 to head of cove	~400 feet to the north
Tract 1, Corner 12 to nearest point at MLW	~150 feet to the east
Tract 1, Corner 14 to Tract 2, Corner 2	~270 feet to the southeast
Tract 2, Corner 4 to eastern shore at MLW	~275 feet to the east
Tract 2, Corner 12 to nearest Hermit Island shoreline at MHW	~150 feet to the west

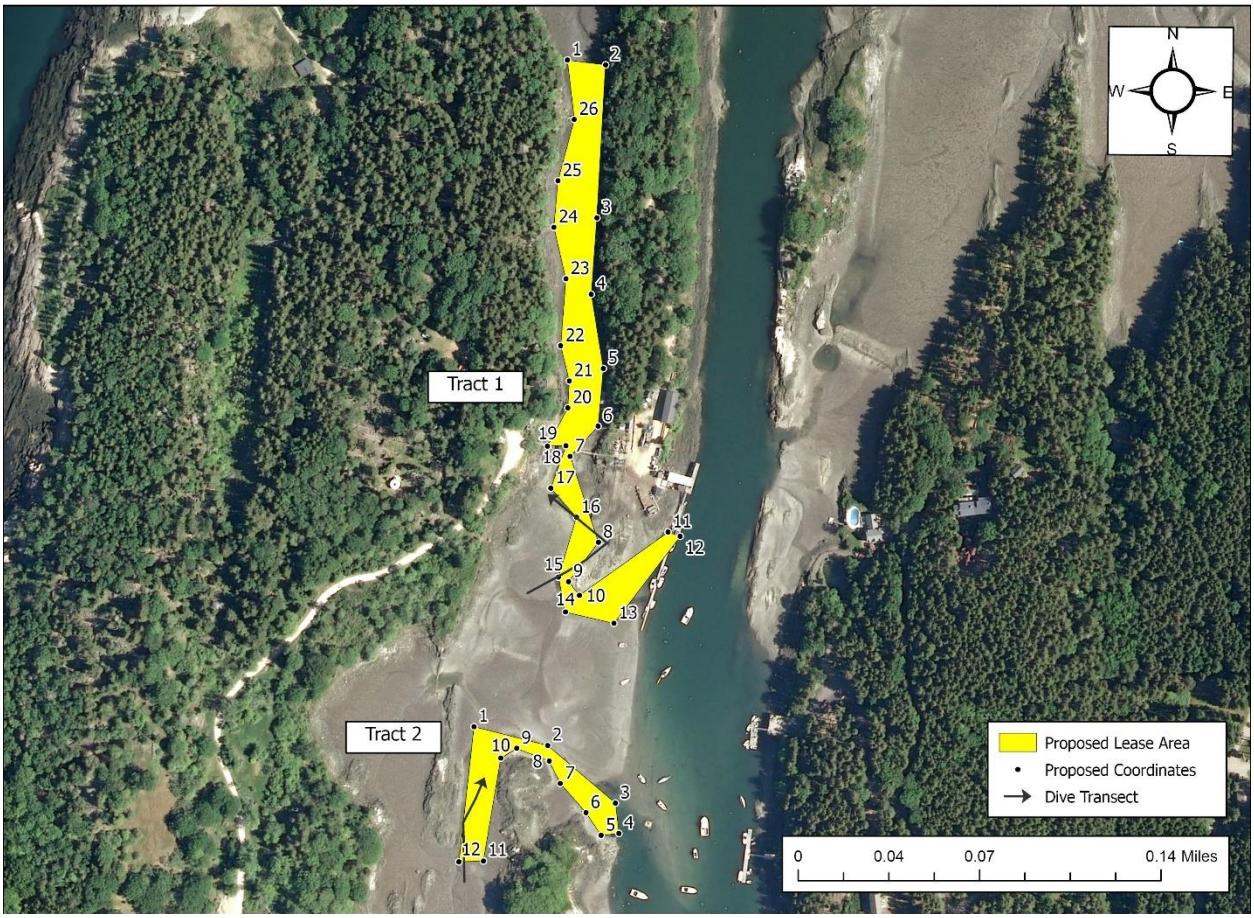

Figure 2. Proposed lease area with application coordinates and dive transects.

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

Tract 1 of the proposed lease site is located primarily within a former lobster pound. Proposed corners 7, 18, and 19 denote the dam to the intertidal pound. Within Tract 1, the applicant is proposing to use gear only within the bounds of the former lobster pound. There is no gear proposed for use, except the required boundary markers, within the southern portion of Tract 1, from proposed corners 7, 18, 19 south and east to proposed corner 12. This area of the proposal is intended to be bottom planted only. At the time of MDMR's site visit on August 25, 2021, it was observed that the eastern boundary of Tract 1, proposed corners 11 and 12, is adjacent to a float that is associated with a lobster wharf. MDMR observed vessels transiting to and from this

float during the site visit. As stated in the application, the applicant is partial owner of both Hermit Island and Tenants Island, including the lobster wharf and docks and slips.[8]

Similarly, gear is proposed for use only within the western portion of Tract 2 between proposed corner 1 and proposed corners 11 and 12. Shellfish are intended to be bottom seeded only east of proposed corner 10 to proposed corner 4, the easterly boundary of Tract 2. During the site visit, MDMR staff observed a mooring approximately 15 feet to the east of corner 3, Tract 2. This mooring was in use by a powerboat with an outboard motor.

During the site visit on August 25, 2021, MDMR observed three docks along the eastern shoreline of Small Point Harbor within the general vicinity of the proposed lease site. The dock nearest to the proposed site was located approximately 260 feet east of corner 4, Tract 2.

(2) Navigation

Tracts 1 and 2 are located to the west of the navigable channel within Small Point Harbor. There is approximately 100-200' of navigable water at MLW between the easterly most corners (corner 12, Tract 1 and corner 4, Tract 2) and the easterly shore. The proposed lease occupies shallow water within Small Point Harbor and does not extend into the deeper, navigable channel. MDMR observed a variety of vessels operating within Small Point Harbor, including commercial lobster boats, powerboats, and sailboats, during the August 25, 2021 site visit. These vessels were observed operating within the deeper channel.

(3) Fishing and Other Uses

During the site visit on August 25, 2021, MDMR staff observed European Oysters *(Ostrea edulis)*, Hard Clams (*Mercenaria mercenaria*), Blue Mussels (*Mytilus edulis*), and Atlantic Razor Clams (*Ensis directus*) via SCUBA transect and underwater camera footage but did not observe any shellfish harvesting within the proposed lease site. MDMR also observed kayakers in Small Point Harbor, though not within the proposed lease site.

(4) Other Aquaculture Uses

There are two Limited Purpose Aquaculture (LPA) licenses within 1,000 feet of the proposed lease site (Figure 3). Both LPA sites, SEW210 and SEW313, are held by the applicant. If this proposal is granted, the applicant plans to relinquish LPAs SEW210 and SEW313.[9]

[8] Application page 28
[9] Application page 26

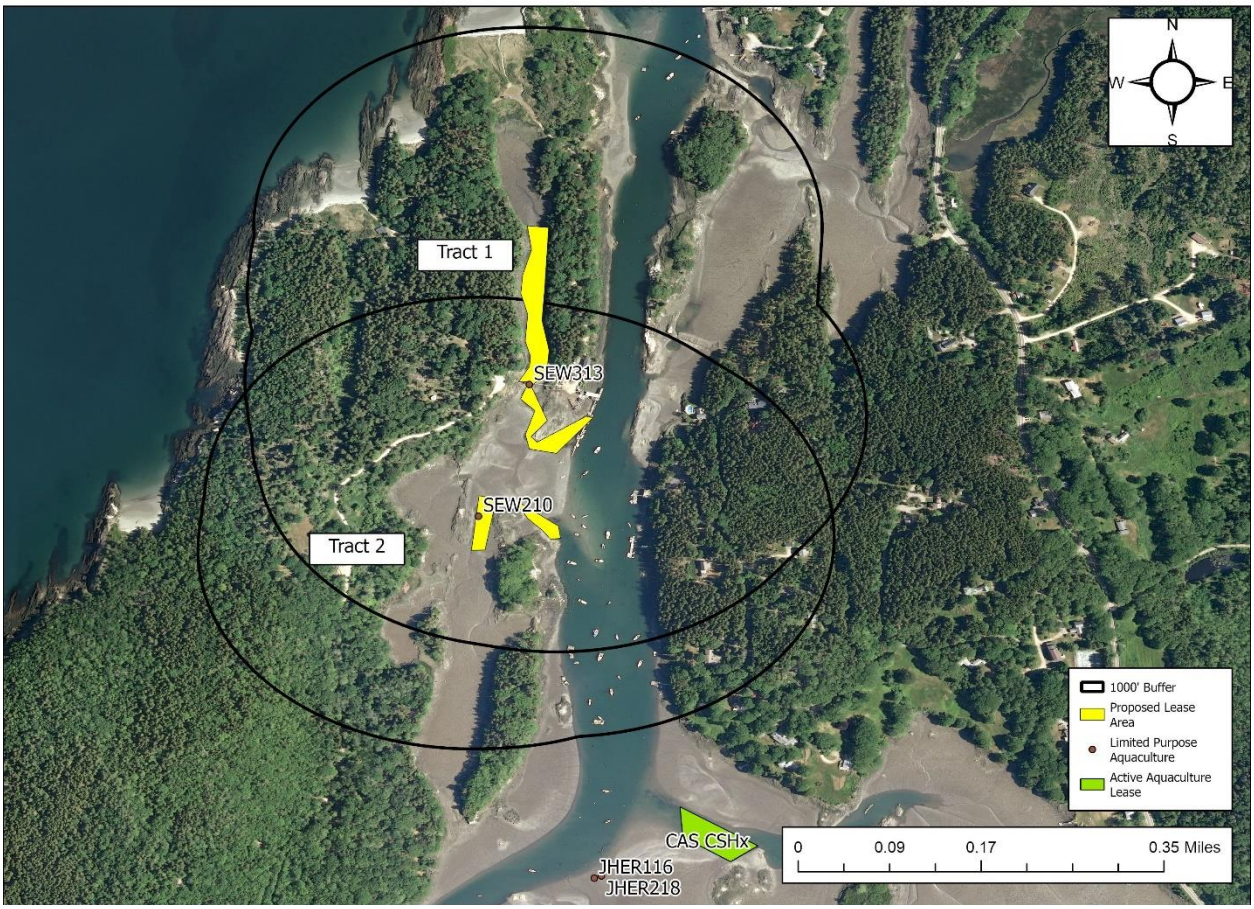

Figure 3. Aquaculture leases and Limited Purpose Aquaculture (LPA) licenses in the general area of the proposal.

(5) Existing System Support

Epibenthic Flora and Fauna

On August 25, 2021, MDMR staff conducted two SCUBA transects utilizing an underwater camera to assess the epibenthic ecology of the proposed lease. The observed bottom was both mud and shell rubble. The relative abundance of epibenthic flora and fauna observed in the video transects is described below in Table 4.

Table 4. Species observed using underwater camera footage.

Species Observed	Abundance
Rockweed (*Ascophyllum nodosum*)	Common
European Oyster *(Ostrea edulis)*	Common
Periwinkle (*Littorina* spp)	Common
Hard Clam (*Mercenaria mercenaria*)	Rare

Species Observed	Abundance
Green Crab (*Carcinus maenas*)	Common
Blue Mussel (*Mytilus edulis*)	Rare
Hermit Crab (*Paguroidea* spp)	Common
Tunicate species (not classified)	Common
Atlantic Razor Clam (*Ensis directus*)	Rare

Eelgrass (*Zostera marina*)

Historical records of eelgrass beds, collected by The Maine Department of Environmental Protection and Casco Bay Estuary Partnership in 2022 and MDMR in 1997, indicate eelgrass presence northeast of the proposed lease approximately 1,000 feet (Figure 4). In addition, no eelgrass was observed during the MDMR's underwater site assessment on August 25, 2021.

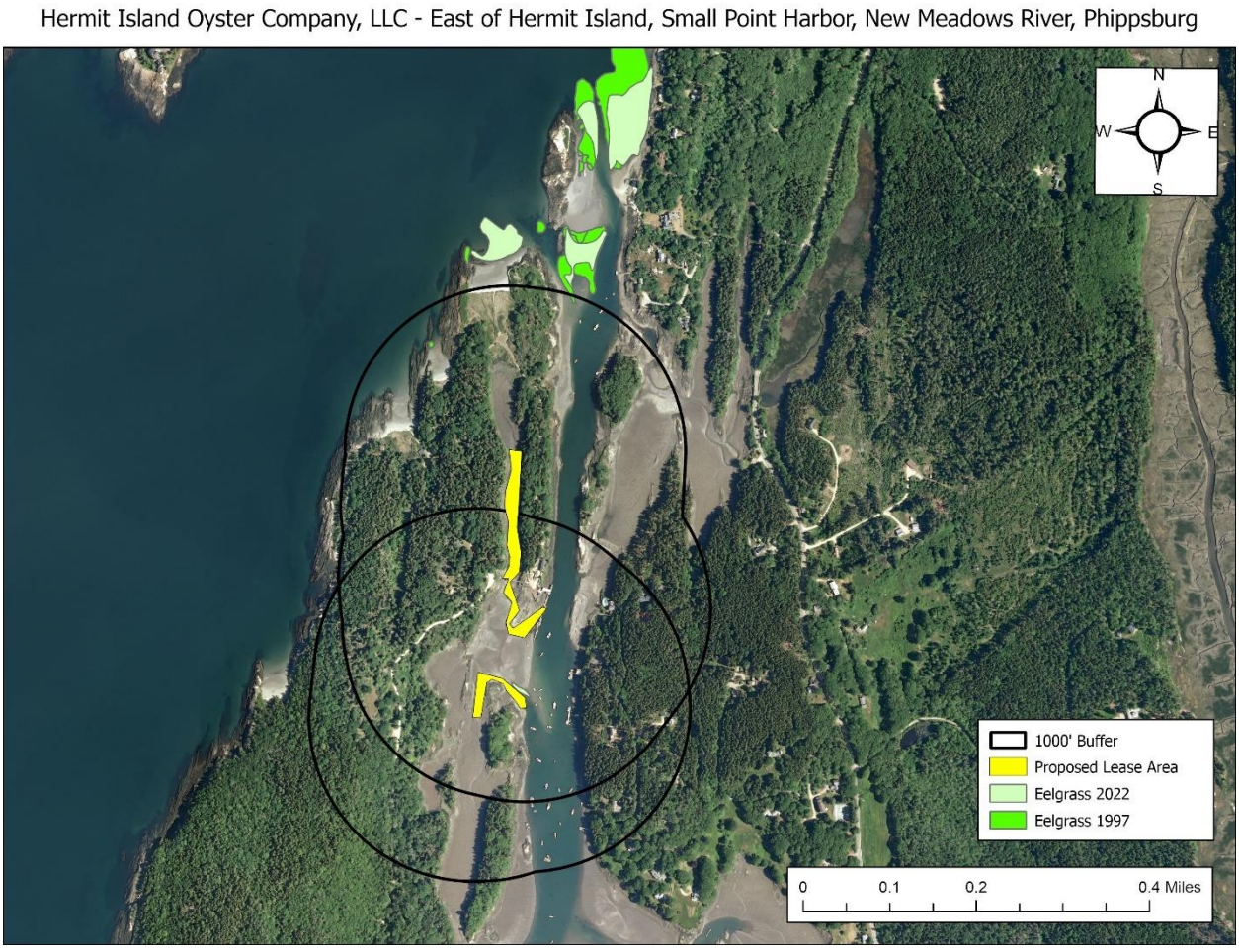

Figure 4. Historical records of eelgrass (*Z. marina*) near the proposed lease area utilizing 1997 and 2022 data.[10]

[10] Data obtained from The Maine Office of GIS "GISVIEW.MEDEP.Seagrass2022" and "GISVIEW.MEDMR.Eelgrass".

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 located within tidal waterfowl and wading bird habitat (Figure 5). Data collected by the United States Fish and Wildlife Service in 2022 by aerial nest survey shows the closest Bald Eagle nesting site to be over two miles away to the northwest (Figure 5). MDIFW did not submit any comments on the proposal.

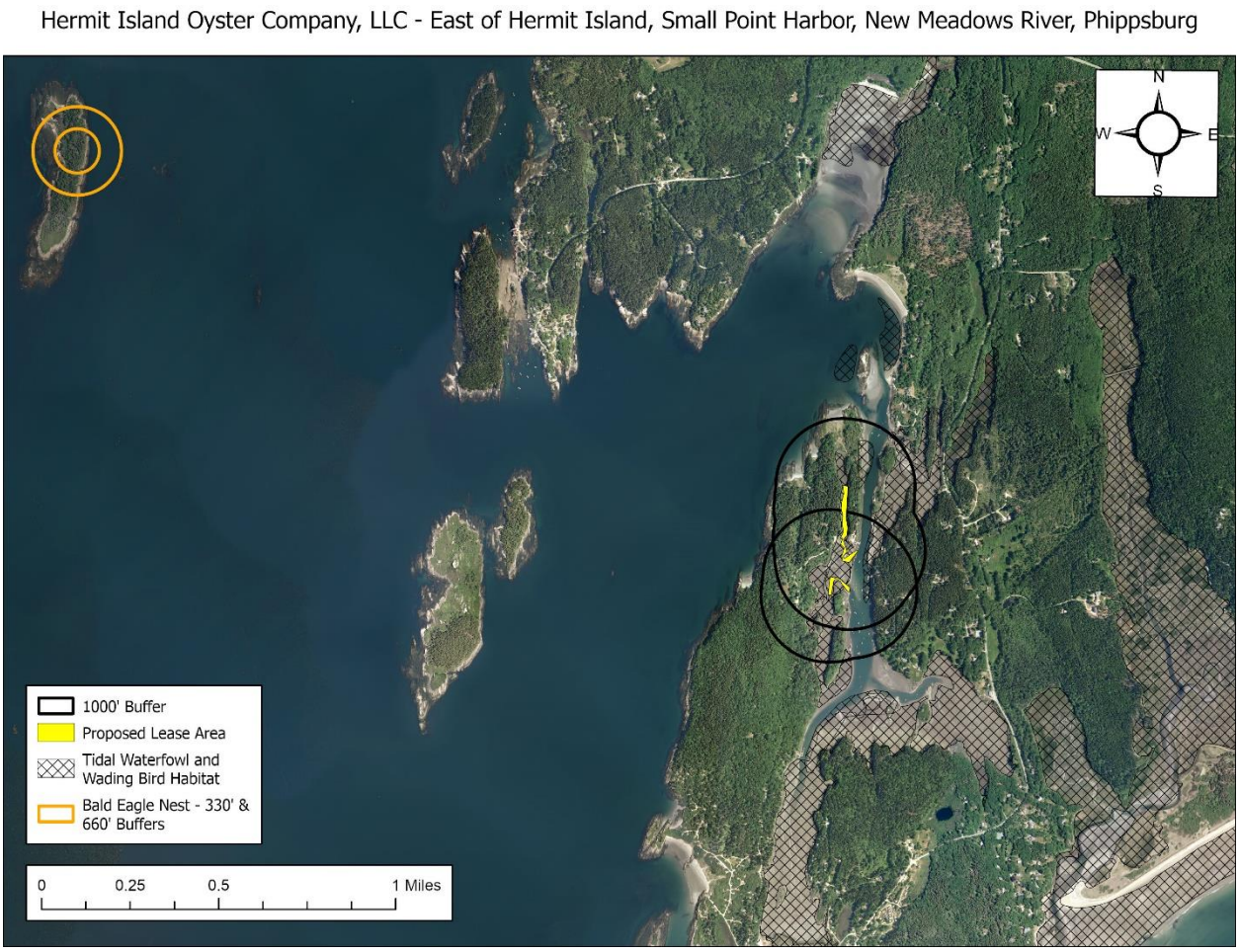

Figure 5. Mapped Bald Eagle nests with a 330' and 660' buffer[11] and Tidal Wading Bird and Waterfowl Habitat[12] in the vicinity of the proposed lease site.

(6) Interference with Public Facilities

The proposed lease is not within 1,000 feet of any beach, park, docking facility, or conserved lands owned by federal, state, or municipal governments (Figure 6).

[11] Data obtained from USFWS "Bald_Eagle_Nests_-_Maine_2023"
[12] Data obtained from MDIWF maintained SDE Feature Class "GISVIEW.MEIFW.Twwh"

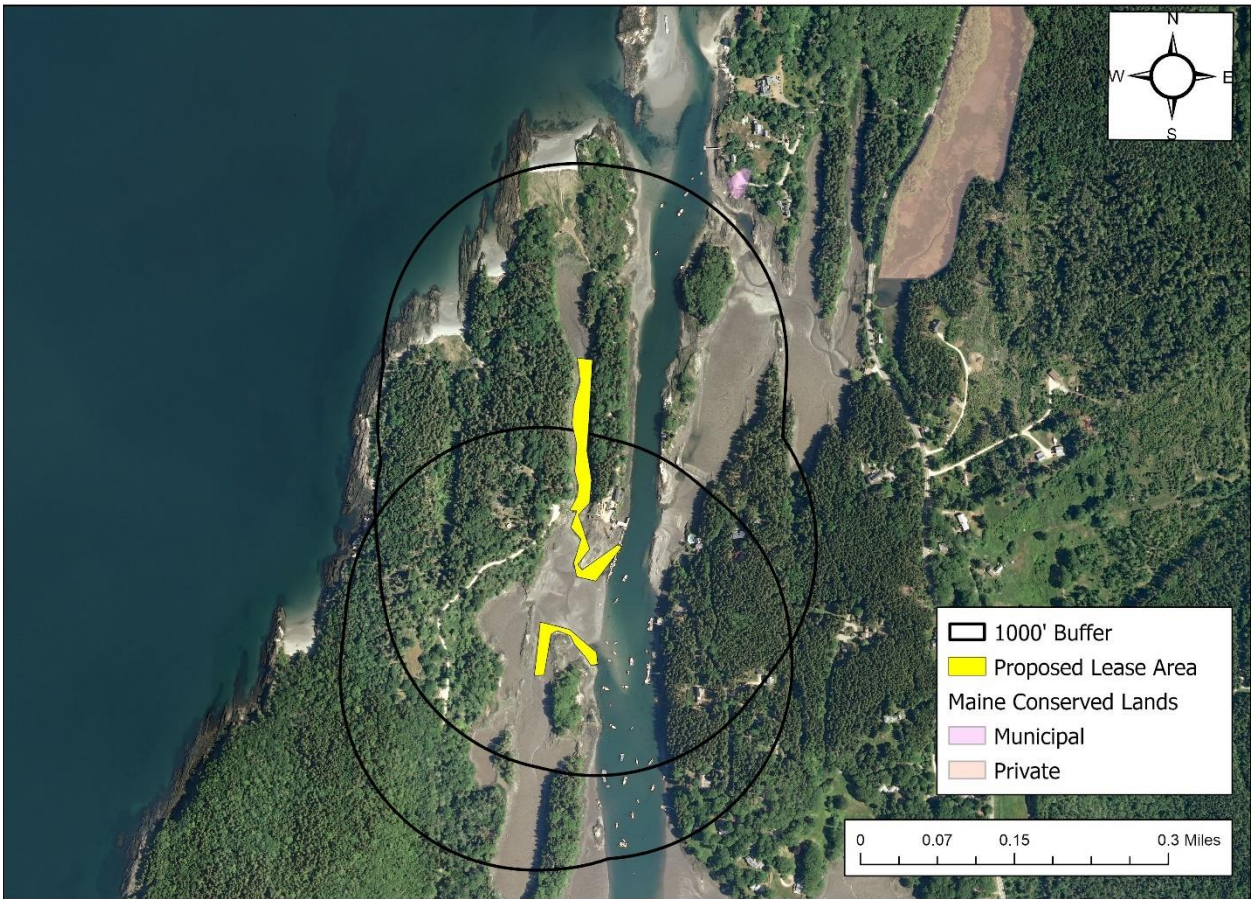

Figure 6. Public facilities near the proposed lease site.[13]

(7) Water Quality

The proposed lease area is currently classified as "Open/Approved" for the harvest of shellfish by the MDMR Bureau of Public Health.

(8) Lighting

The applicant may work beyond daylight hours at low tide during the fall, winter, and spring months, or in case of an emergency. If work occurs beyond daylight hours, up to two 12-volt LED headlamps, 350 lumens, will be used. [14]

[13] Data obtained from The Maine Office of GIS "GISVIEW.MECONSLANDS.Conserved_Lands"
[14] Application page 25

(9) Noise

The applicant plans to use an 18' wooden scow barge with a 5 hp outboard motor to tend to all aquaculture activities within Small Point Harbor. This boat is docked at the Hermit Island Marina, which is located adjacent to the proposed lease site. The applicant also plans to use a 12-volt oyster tumbler/grader from April through November for up to a total of 14 days per year and up to 8 hours per day. A ¾ HP electric motor is proposed to power the upweller; it may run up to 24 hours per day from June through September. No generator, power washer, or other powered equipment will be used on site. The applicant states that all equipment is substantially below ambient noise levels in the working harbor. [15]

(10) Visual Impact

The applicant plans to use a variety of black soft mesh bags and wire cages on the proposed lease site. The applicant currently owns a float with a covered yurt that is attached to land by a 33' aluminum gangway. This work float is located within the lobster pound in Tract 1 and would become part of the proposed lease site. In addition, the applicant is proposing to use an upweller, which would be attached to the work float, on site from May through October. All the proposed gear and structures comply with the MDMR's height limitations.

[15] Application pages 24-25