

Figure 1. Vicinity map.¹

Location: Tidal Impoundment, Port Clyde Harbor, Port Clyde (St. George), Knox County, Maine

Purpose: Experimental lease for suspended culture of American/eastern oyster (*Crassostrea virginica*), Atlantic sea scallop (*Placopecten magellanicus*), bay scallop (*Argopecten irradians*), green sea urchin (*Strongylocentrotus droebachiensis*), sugar kelp (*Saccharina latissima*), skinny kelp (*Saccharina angustissima*), winged kelp (*Alaria esculenta*), horsetail/fingered kelp (*Laminaria digitata*), shotgun kelp (*Agarum clathratum*)², dulse (*Palmaria palmata*), Irish moss (*Chondrus crispus*), Laver (*Porphyra* sp.), and sea lettuce (*Ulva lactuca*).

Site Review: Geoff Shook and Katie von Hohenleiten

Report Preparation: Katie von Hohenleiten, Geoff 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 georeferenced aerial photographs provided by The Maine Office of GIS.

² Application lists the scientific name for shotgun kelp as *Agarum cribosum*. The current accepted scientific name is *Agarum clathratum*.



Application Overview

The applicant, Ice House Seafood LLC, is requesting a 2.87-acre experimental lease in a tidal impoundment in Port Clyde Harbor for the suspended culture of shellfish, urchins, and marine algae. The applicant has permission from the owner of the tidal impoundment to access and use the property for aquaculture activities. Gear is intended to remain on site year-round.³ The applicant currently operates three Limited Purpose Aquaculture (LPA) sites within the boundaries of the proposal: ASMA221, ASMA321, and ASMA421 (Figure 6).

General Characteristics

On October 11, 2024, Department of Marine Resources (DMR) scientists assessed the proposed lease site. DMR scientists arrived on site at approximately 1:58 PM. Port Clyde is a populated village with residential homes. The shoreline in the vicinity of the proposal consists of a rocky shoreline with residential homes and lawns that lead to forested uplands.

Depth

The proposal is located entirely within a tidal impoundment. Water depth within the pound is partially a function of the man-made impoundment, as well as tidal stage. If the man-made impoundment was not present, portions of the proposed lease would be located above mean low water (MLW). Water depth within the pound is approximately 3.0 feet at MLW and approximately 12.0 feet at mean high water (MHW).⁴ The tide was flooding at the time of DMR’s site visit (Table 1).

Table 1. Predicted tidal heights in Port Clyde, Maine.⁵

Date	Time	Height (ft)
2024/10/11	5:33 AM	7.6 H
2024/10/11	11:29 AM	1.9 L
2024/10/11	5:43 PM	8.9 H
2024/10/11	--	--

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 2). Sediment information was determined based on visual analysis of the video. The bottom of the proposed lease site is composed of mud with shell rubble.

³ Application pages 24, 28

⁴ Application page 16

⁵ <https://www.usharbors.com/harbor/maine/port-clyde-me/tides/?tide=2024-10#monthly-tide-chart>



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	N/A

Position and Distances to Shore

The 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, a nautical chart provided by the National Oceanic and Atmospheric Administration (NOAA), and the application coordinates (Table 3, Figures 2-5).

Application Coordinates (WGS84) – 2.87 Acres

<u>Corner</u>	<u>Latitude</u>	<u>Longitude</u>	
1	43.9330978	-69.2641241	37 feet at 0018° True to
2	43.933194	-69.2640839	37 feet at 317° True to
3	43.9332477	-69.2641523	33 feet at 048° True to
4	43.9333094	-69.2640617	180 feet at 069° True to
5	43.9334869	-69.2634261	117 feet at 002° True to
6	43.9338063	-69.2634112	129 feet at 026° True to
7	43.9341215	-69.2631869	99 feet at 098° True to
8	43.9340733	-69.2628183	98 feet at 066° True to
9	43.9341781	-69.2624757	86 feet at 135° True to
10	43.9340185	-69.2622368	49 feet at 189° True to
11	43.9338878	-69.2622707	82 feet at 149° True to
12	43.9336947	-69.2621139	68 feet at 172° True to
13	43.9335097	-69.2620819	72 feet at 222° True to
14	43.9333612	-69.2622592	79 feet at 269° True to
15	43.9333603	-69.2625599	92 feet at 305° True to
16	43.9334982	-69.2628544	66 feet at 211° True to
17	43.9333434	-69.2629824	58 feet at 233° True to
18	43.9332423	-69.2631504	82 feet at 212° True to



<u>Corner</u>	<u>Latitude</u>	<u>Longitude</u>	
19	43.9330542	-69.2633232	101 feet at 200° True to
20	43.9327923	-69.2634488	96 feet at 280° True to
21	43.9328459	-69.2638037	then 125 feet at 318° True to 1

Table 3. Approximate distances from proposal corners to surrounding features (Figures 2-5).

Feature	Distance
Corner 1 to Hupper Island shoreline at MLW	~1,504' to the south
Corner 21 to red navigational buoy "4"	~939' to the south
Corner 20 to unnamed island between Port Clyde and Hupper Island at MLW	~667' to the south

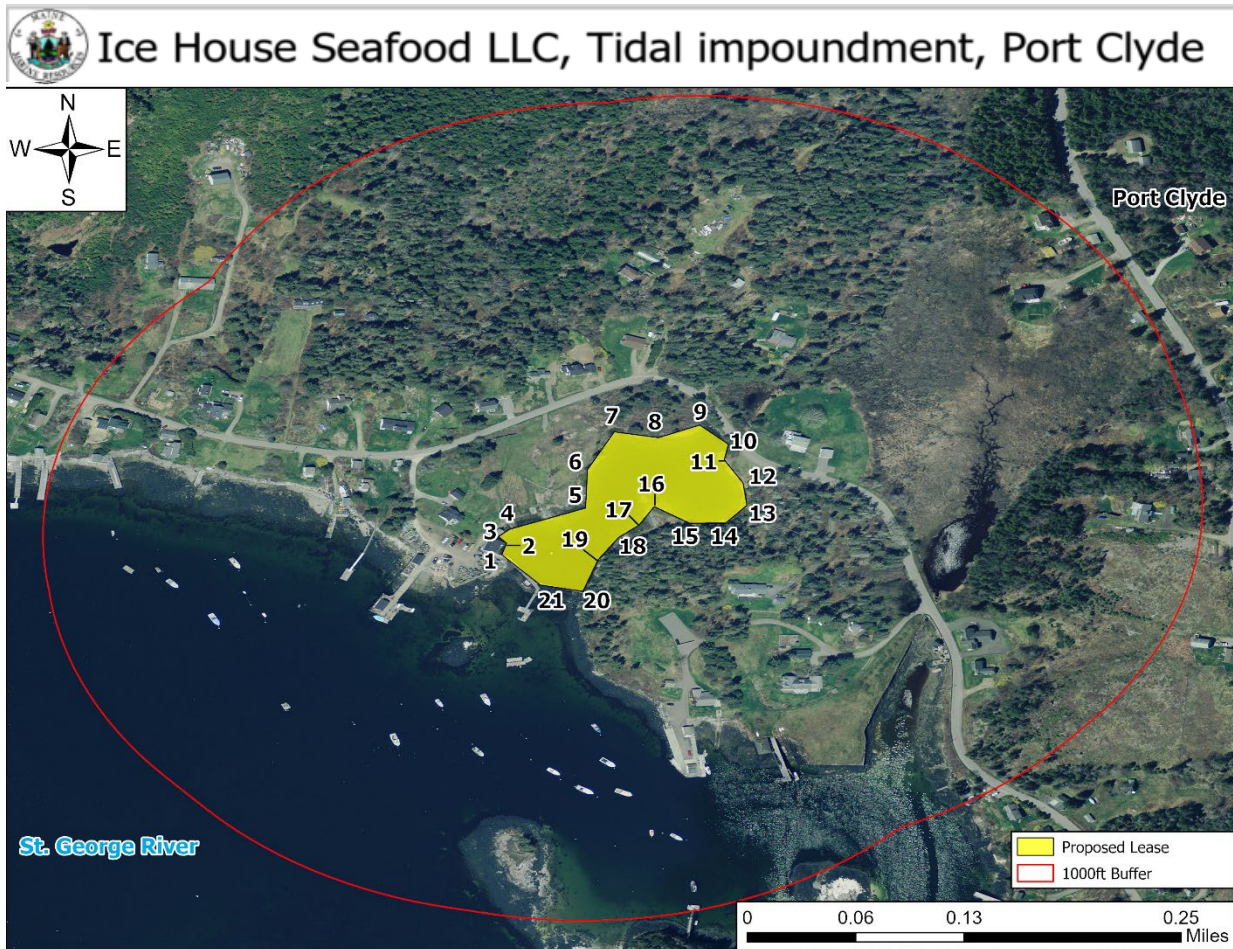


Figure 2. Proposed lease area with site visit observations.



Ice House Seafood LLC, Tidal Impoundment, Port Clyde

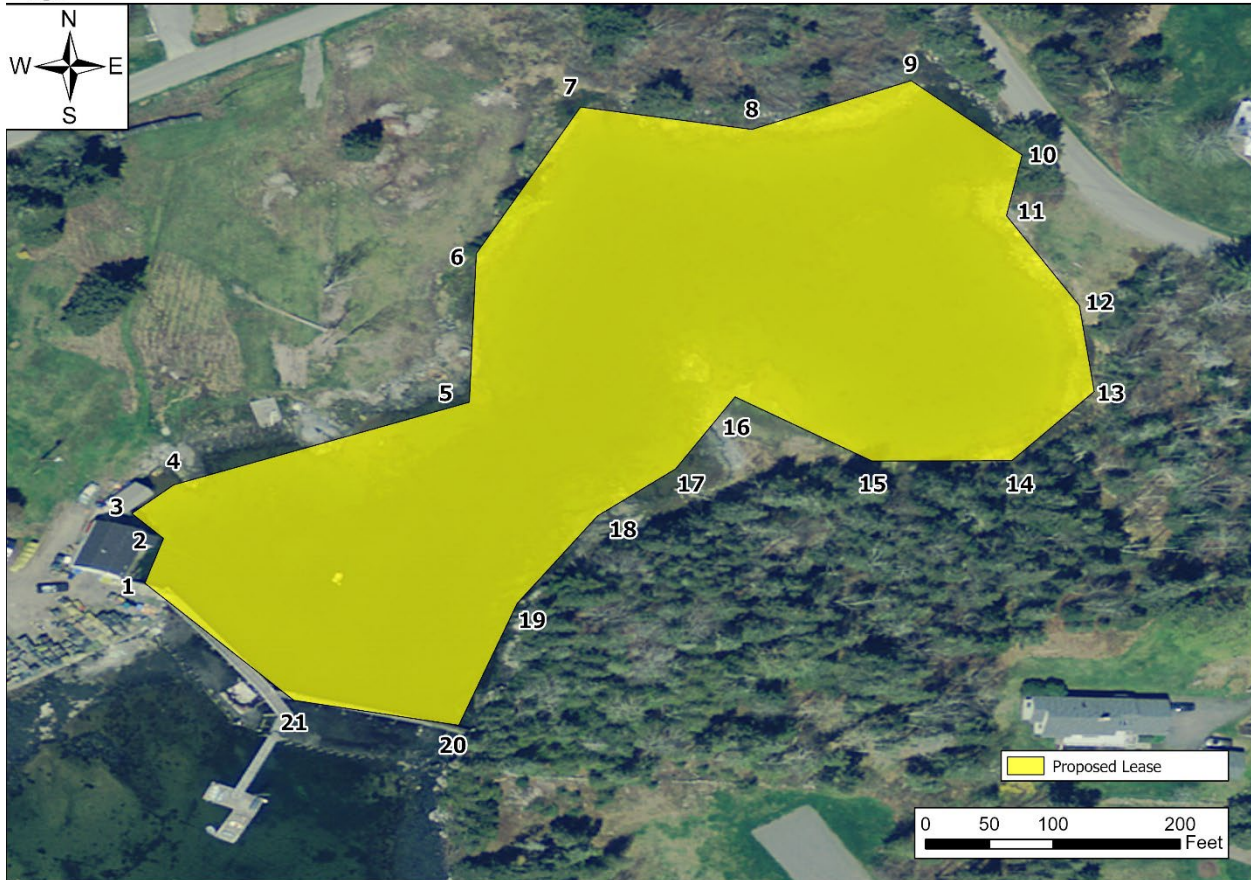


Figure 3. The proposed lease area and corner labels.

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 proposed lease is located entirely within a privately owned tidal impoundment that is leased by the applicant. DMR observed a dock approximately 75 feet south of the proposal that is accessed by walking across the tidal impoundment structure. DMR also observed a commercial fishing wharf approximately 200 feet southwest of the proposal. Both docks are located outside of the tidal impoundment. The applicant intends to access the proposed lease from a private wharf (Figures 2 and 3).⁶

⁶ Application page 28



A Harbormaster Questionnaire was completed by the local Harbormaster and submitted to DMR on May 28, 2024. The Harbormaster indicated that the proposal would not impact riparian ingress and egress.

Due to the intertidal location of the proposal, the applicant is required to obtain written consent for use of the intertidal land from the owner of the intertidal land. The applicant provided this permission with the application. The proposal is located on parcel 103-002 and the applicant received necessary permission from the owner of the parcel (Figure 4).



Ice House Seafood LLC, Tidal Impoundment, Port Clyde

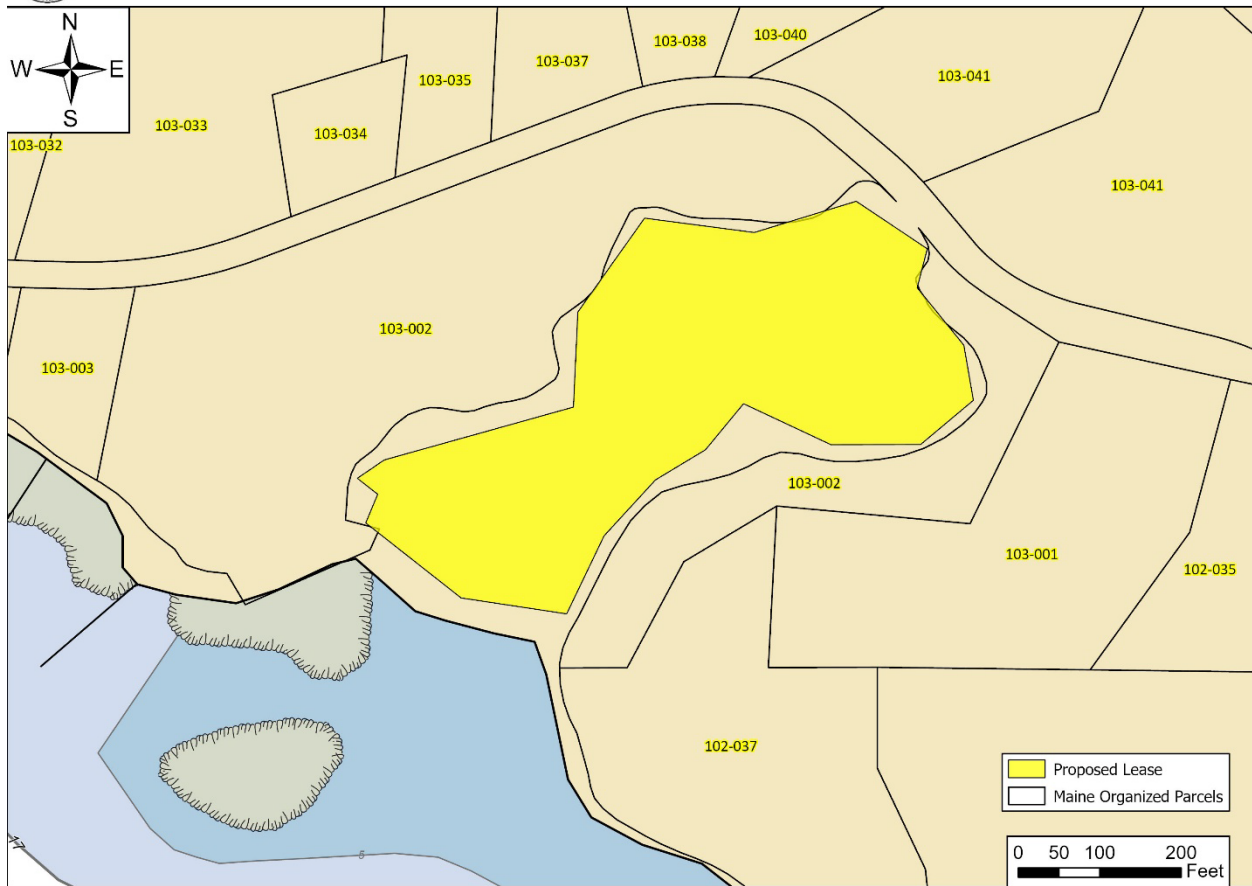


Figure 4. Parcels in the vicinity of the proposed lease area.⁷

⁷ Data obtained from 'Maine Organized Parcels'



(2) Navigation

The proposal is located within a privately owned tidal impoundment that is leased by the applicant. The impoundment is not publicly accessible. Corner 21 of the proposed lease is approximately 31 feet to the north of the nearest navigable water at MLW. However, there is a man-made impoundment structure located between the proposal and the nearest navigational channel (Figure 5).

The Harbormaster indicated in the Harbormaster Questionnaire that the proposal would not impact navigation.

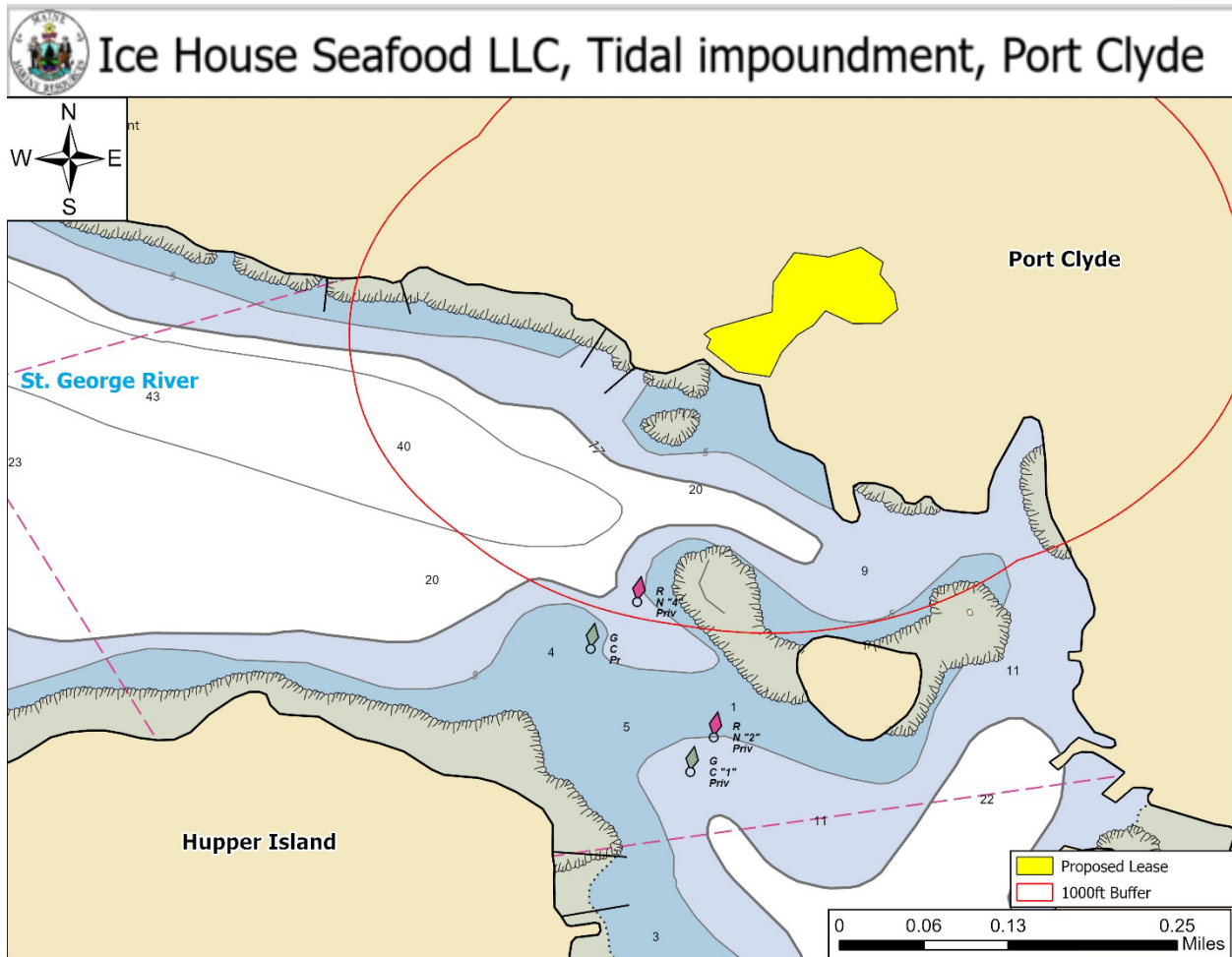


Figure 5. Navigational channels in the vicinity of the proposed lease area.

(3) Fishing and Other Uses

The proposal is located within a privately owned tidal impoundment that is leased by the applicant. The impoundment is not publicly accessible. During the site visit, DMR did not observe any commercial or recreational fishing within the proposal boundaries.



The Harbormaster indicated in the Harbormaster Questionnaire that there is no commercial or recreational fishing within the area of the proposed lease.

The Town of St. George has a shellfish conservation program in accordance with 12 M.R.S.A. § 6671 and because the site is located within the intertidal, the applicant is required to obtain consent from the municipality. The applicant provided this permission with the application.⁸

(4) Other Aquaculture Uses

There are no licensed aquaculture leases within 1,000 feet of the proposal. There are three Limited Purpose Aquaculture (LPA) sites within the boundaries of the proposal: ASMA221, ASMA321, and ASMA421. All three LPAs are held by the applicant and will be relinquished if the proposal is granted (Figure 6).⁹

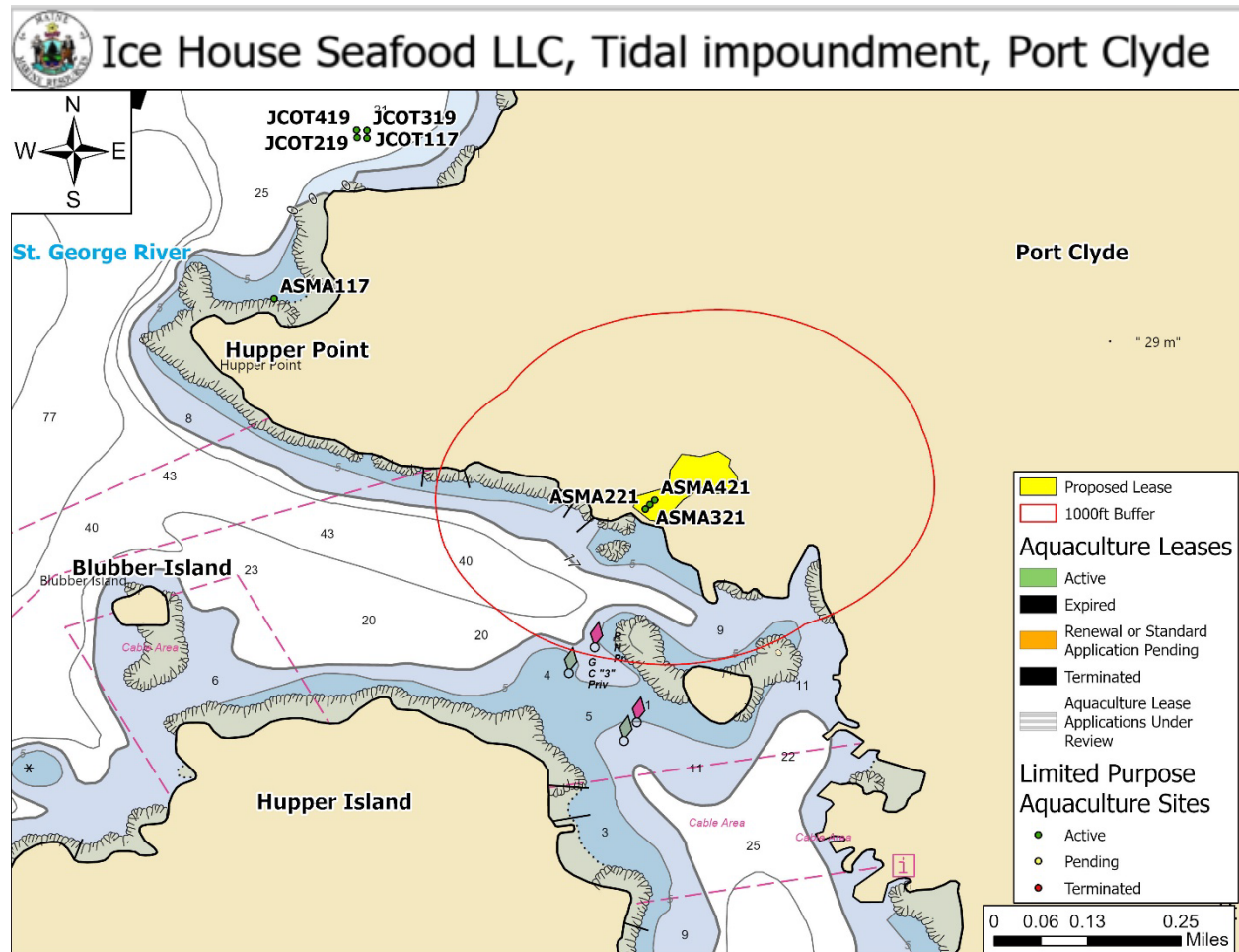


Figure 6. Aquaculture leases and LPA licenses in the vicinity of the proposed lease.

⁸ Application page 35

⁹ Application page 16



(5) Existing System Support

Epibenthic Flora and Fauna

On October 11, 2024, 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 4.

Table 4. Species observed on underwater video footage.

Species Observed	Abundance
Mysid Shrimp (<i>mysis sp.</i>)	Abundant
Pancake batter tunicate (<i>Didemnum vexillum</i>)	Abundant
Green Crab (<i>Carcinus maenas</i>)	Common
Sea snail (<i>Littorina spp.</i>)	Common
Rockweed (<i>Ascophyllum nodosum</i>)	Common
Eelgrass (<i>Zostera marina</i>)	Occasional
Striped Bass (<i>Morone saxatilis</i>)	Rare

Eelgrass (*Zostera marina*)

Records of seagrass collected by the Department of Environmental Protection (DEP) in 2023¹⁰ indicates no mapped eelgrass presence in the vicinity of the proposal. The nearest mapped eelgrass is approximately 207 feet southwest of the proposal (Figure 7).

During DMR’s site visit, eelgrass was observed attached to the seafloor within the boundaries of the proposal. The observed eelgrass was located in the southern portion of the proposal, approximately 100-200 feet northeast from corner 1 (Figure 3). The observed eelgrass was sparse to very sparse in density and appeared to be unhealthy (Image 1). Depths at MLW are reported to be approximately 3 feet. Water depth at the time of the site visit was approximately 5 feet.

¹⁰ Data obtained from The Maine Office of GIS “GISVIEW.ME/DEP.Seagrass2023”. Widgeon grass was observed only in a tributary to the Great Salt Bay, upstream of a culvert that likely restricts tidal flow. 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.

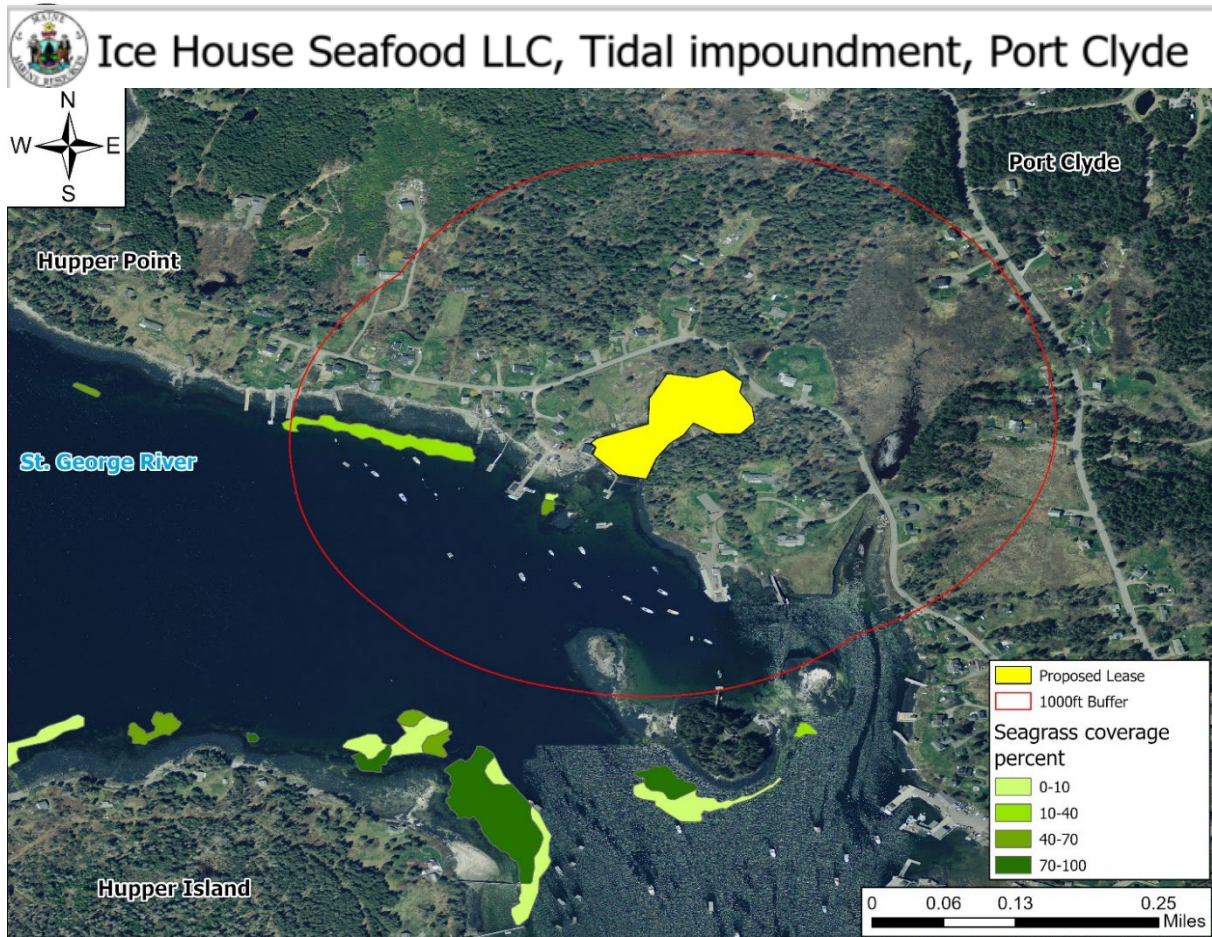


Figure 7. Mapped eelgrass (*Z. marina*) in the vicinity of the proposed lease area.



Image 1. Observed eelgrass (*Z. marina*) in the boundaries of the proposed lease area.



Department of Marine Resources Site Report

Ice House Seafood LLC
Tidal Impoundment, Port Clyde Harbor
St. George

Wildlife

During DMR's site visit, scientists did not observe any species other than what is listed in Table 4 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 8).

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 in the vicinity of the proposal (Figure 8).

IFW was provided with the opportunity to comment on this proposal. On June 13, 2024, a Resource Biologist with IFW responded by email to a "Request for Agency Review and Comment" stating that minimal impacts to wildlife are anticipated for this project.¹¹

¹¹ Email correspondence between IFW and DMR



 Ice House Seafood LLC, Tidal impoundment, Port Clyde

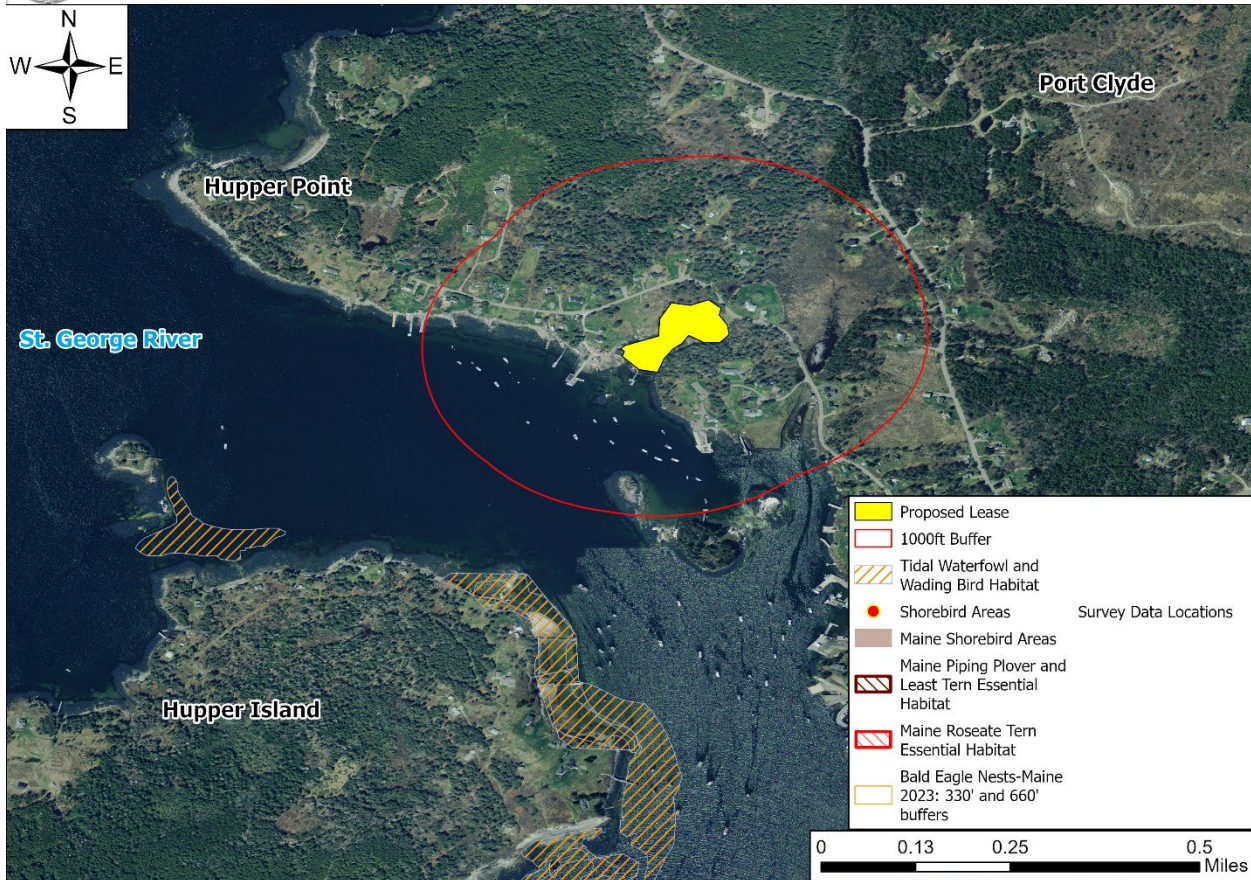


Figure 8. Mapped habitats in the vicinity of the proposed lease area. ¹²

(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) Growing Area Classification

The proposed lease is currently located within an area classified as Approved by the DMR Bureau of Public Health and Aquaculture (BPHA).

¹² Data obtained from USFWS “Bald_Eagle_Nests_-_Maine_2023” and IFW “EHRTERN”, “EHPLVTRN”, “GISVIEW.MEIFW.Twwh”, “ShorebirdAreas”, and “SNI”.