

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

**Location:** Turkey Cove, St. George River, St. George, Knox County, Maine

**Purpose:** Experimental lease for suspended culture of American/Eastern Oyster (*Crassostrea virginica*).

Site Review: Geoffrey Shook, Chloe Kilborn

Report Preparation: Katie von Hohenleiten, Geoffrey Shook, Meryl Grady, 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, Jeffrey Schroeder, is requesting 0.91<sup>2</sup> acres in Turkey Cove in the St. George River for the suspended culture of American oysters (*Crassostrea virginica*). For the winter months, the applicant intends to remove suspended bags from the site and use 4-bag Oystergro cages to sink product to the bottom from December through April.<sup>3</sup>

**General Characteristics**

On October 18, 2023, Maine Department of Marine Resources (MDMR) scientists assessed the proposed lease site. MDMR scientists arrived on site at approximately 8:00 AM. Turkey Cove, which surrounds the proposed site, consists of a rocky seaweed covered coastline with patches of gravelly mud that leads into forested uplands.

**Depth**

MDMR staff began collecting depths at the proposed site shortly after low tide at approximately 8:00 AM. Measured depths at corners of the proposed lease site ranged from 7.5 to 9.4 feet. Correcting for tidal variation derives water depths at the corners of the proposal at mean low water (MLW, 0.0 feet) to be from 6.5 to 8.4 feet (Table 1).

**Table 1.** Predicted tidal heights in Port Clyde, Maine.<sup>4</sup>

Date	Time	Height (ft)
2023/10/18	1:37 AM	8.7 H
2023/10/18	7:36 AM	0.9 L
2023/10/18	1:41 PM	9.8 H
2023/10/18	8:10 PM	0.1 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 composed of mud and shell substrate.

**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 Rubble Oyster Rubble Mussel Rubble

<sup>2</sup> Applicant originally requested 0.90 acres. MDMR calculations indicate the area is 0.91 acres.

<sup>3</sup> Application page 5

<sup>4</sup> <https://www.ussharbor.com/harbor/maine/port-clyde-me/tides/?tide=2023-10#monthly-tide-chart>



**Maine Department of Marine Resources  
Site Report**

Jeffrey Schroeder  
Turkey Cove, St. George River  
St. George

**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) – 0.91 Acres**

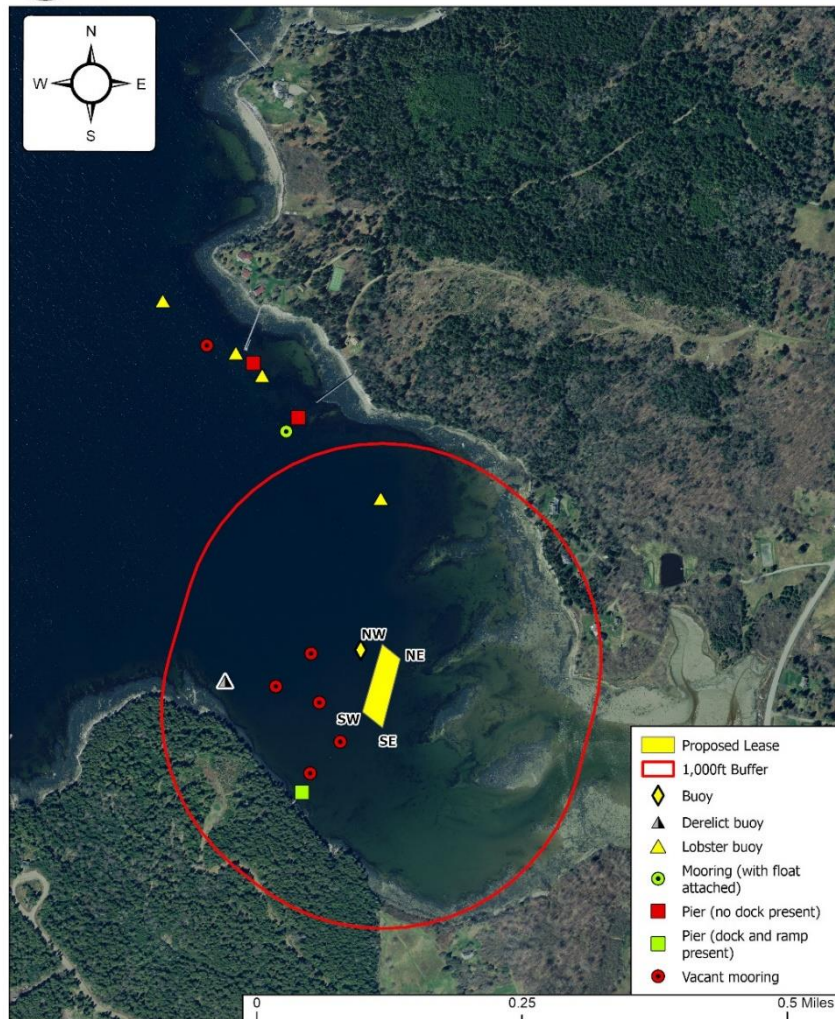
<u>Corner</u>	<u>Latitude</u>	<u>Longitude</u>	
NW	43.958798°	-69.260993°	then 116.1 feet at 128° True to
NE	43.958599°	-69.260649°	then 355.1 feet at 194° True to
SE	43.957655°	-69.260981°	then 127.8 feet at 308° True to
SW	43.957872°	-69.261362°	then 351.3 feet at 016° True to NW

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

Feature	Distance
NE corner to nearest shoreline MLW	~128.3' to the east
SE corner to nearest shoreline at MLW	~229.8' to the east
SW corner to nearest shoreline at MLW	~554.0' to the south
NW corner to Turkey Point at MLW	~2,147.8' to the northwest



Jeffrey Schroeder - Turkey Cove, St. George



**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**

During the site visit, MDMR scientists observed five vacant moorings within 1,000 feet of the proposed lease. The mooring nearest to the proposed lease site was located approximately 185 feet to the southwest. MDMR scientists observed one pier with a dock and ramp present indicating it was in use, located 500 feet to the southwest of the proposed site. MDMR scientists also observed two piers on Turkey Point over 1,000 feet northwest of the proposed site; however, there was no associated dock or ramp observed to indicate that they were currently in use. Based on the time of



year the site visit occurred (late fall), it is likely these docks were removed for overwintering and are in use seasonally.

## (2) Navigation

The proposal is located within Turkey Cove approximately 935.2 feet to the east of the navigational channel at MLW (Figure 3). While Turkey Cove is not part of the main navigational channel, there are riparian landowners within the cove who may navigate to and from their property. If the proposal were granted there would be approximately 824.4 feet of navigable water to the west of the site and 156.6 feet to the east of the site at MLW. During MDMR's site visit, no recreational traffic was observed.

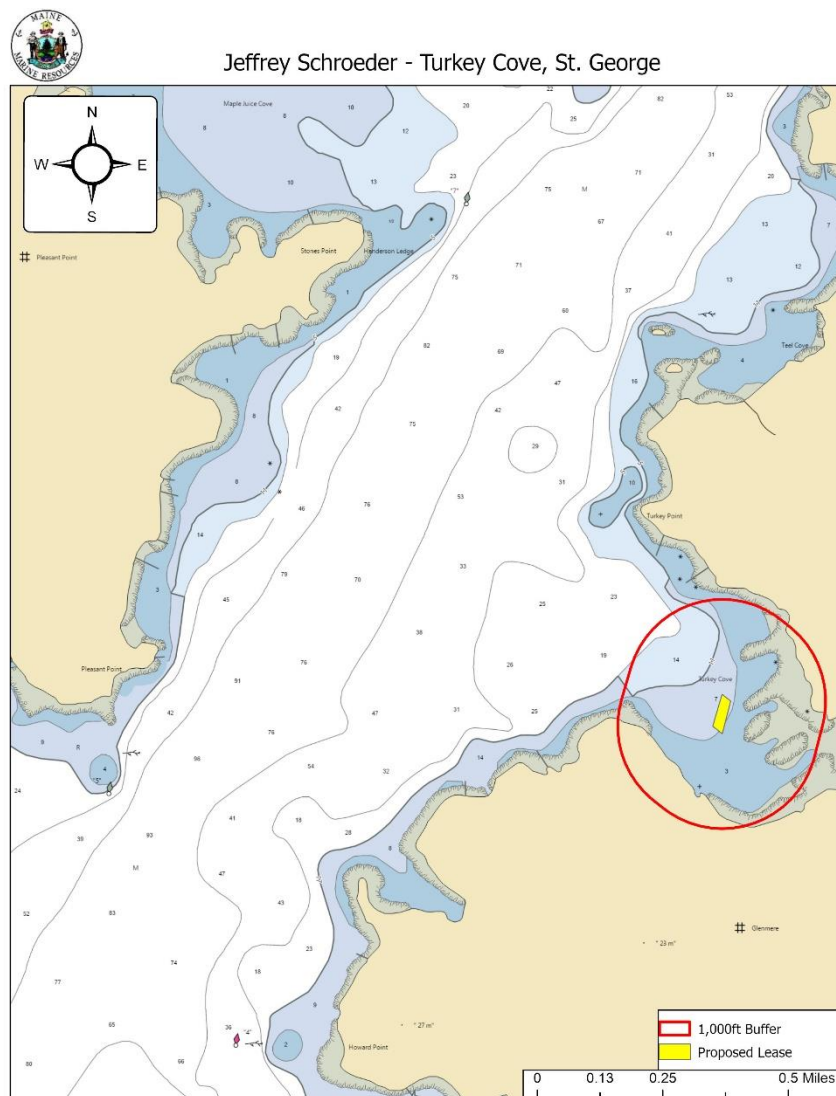


Figure 3. Navigational channels in the vicinity of the proposed lease area.

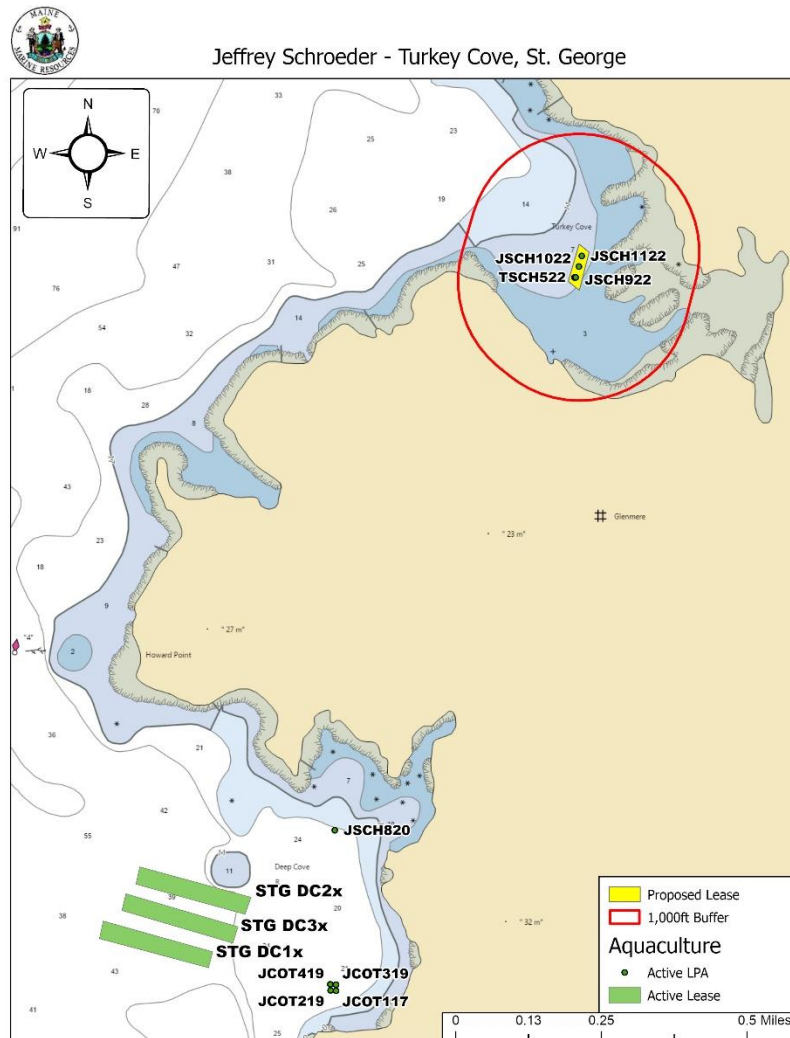


**(3) Fishing and Other Uses**

During the site visit, MDMR scientists observed one lobster buoy within 1,000 feet of the proposal approximately 729.9 feet to the north. Three additional lobster buoys were observed within Turkey Cove (Figure 2). During MDMR’s site visit, moderate lobster fishing was observed to the west of the proposed site.

**(4) Other Aquaculture Uses**

There are currently four LPAs (Limited Purpose Aquaculture licenses) within the boundaries of the proposed lease (Figure 4). The applicant holds three of the licenses JSCH922, JSCH1022, and JSCH1122 and will relinquish the LPAs if the proposed lease is approved. The fourth LPA, TSCH522, will also be relinquished if the lease is granted.<sup>5</sup> There are no aquaculture leases within 1,000’ of the proposal.



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

<sup>5</sup> Application page 28



**(5) Existing System Support**

**Epibenthic Flora and Fauna**

On October 18, 2023, MDMR scientists conducted a ROV transect to assess the epibenthic ecology of the proposed lease. The relative abundance of epibenthic flora and fauna observed in the video transect is described below in Table 4.

**Table 4.** Species observed using underwater camera footage.

Species Observed	Abundance
Blue Mussel ( <i>Mytilus edulis</i> )	Rare
Rock Crab ( <i>Cancer irroratus</i> )	Common
Bladder Wrack ( <i>Fucus vesiculosus</i> )	Rare

**Eelgrass (*Zostera marina*)**

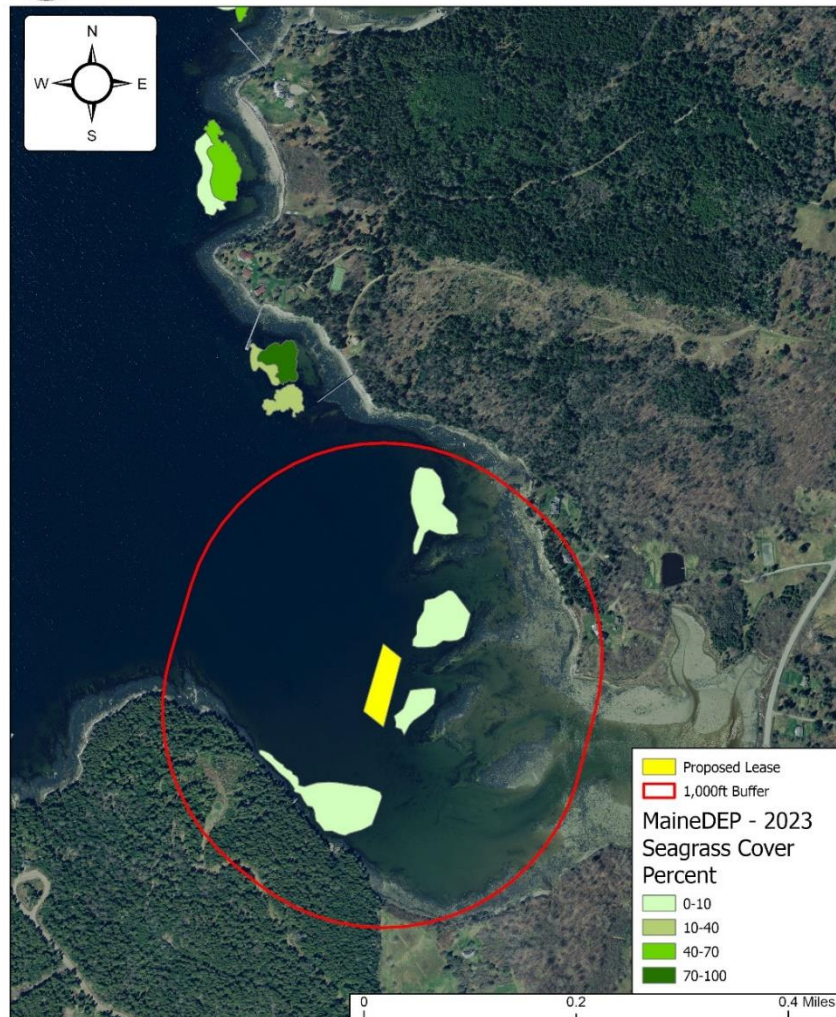
Records of eelgrass collected by the Maine Department of Environmental Protection (MDEP) in 2023 indicate mapped eelgrass presence in the vicinity of the proposal. The nearest mapped eelgrass is approximately 36.8 feet east of the proposal. In total, there are approximately four patches of eelgrass within 1,000 feet of the proposed lease (Figure 5).<sup>6</sup> No eelgrass was observed within the boundaries of the proposal during MDMR’s site visit.

---

<sup>6</sup> Data obtained from The Maine Office of GIS “GISVIEW.MEDEP.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.



Jeffrey Schroeder - Turkey Cove, St. George



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

### Wildlife

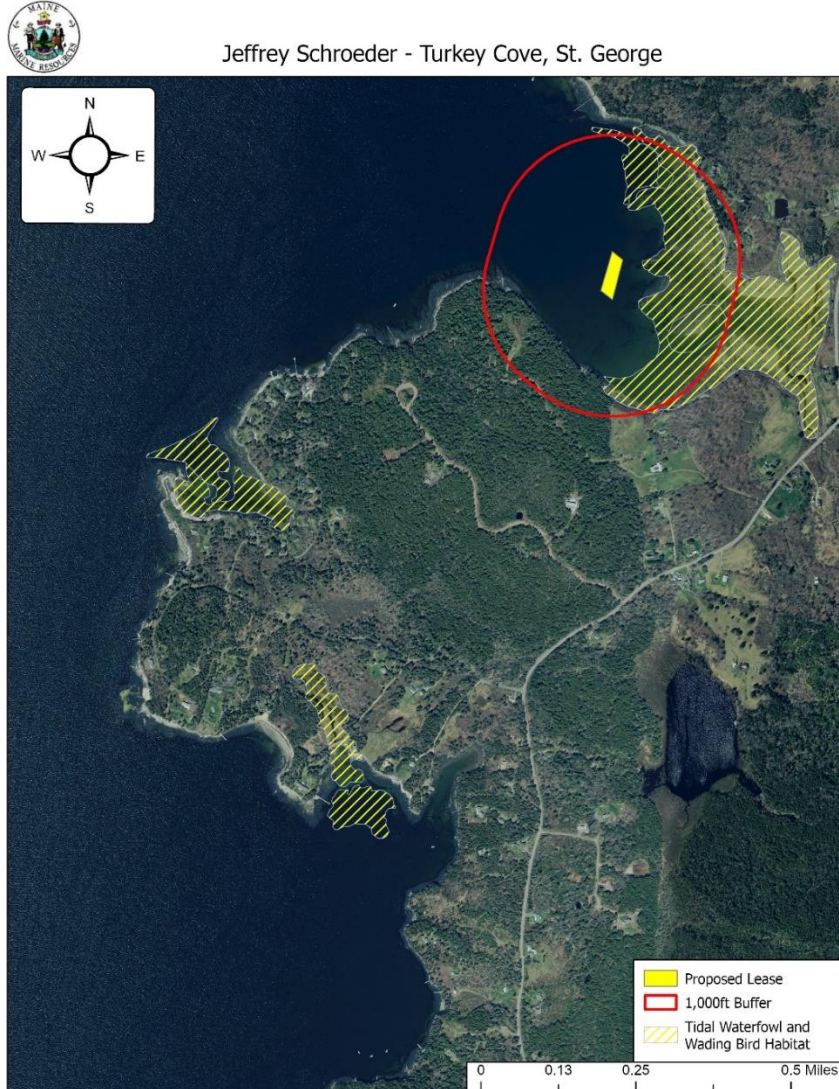
According to Geographic Information System (GIS) data maintained by the Maine Department of Inland Fisheries and Wildlife (MDIFW) and available through the Maine Office of GIS (MEGIS), the proposed lease is located approximately 177 feet to the west of mapped Tidal Waterfowl and Wading Bird Habitat (Figure 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 2.05 miles southwest of the proposal.

During MDMR's site visit, scientists observed double-crested cormorants (*Nannopterum auritum*), herring gulls, (*Larus argentatus*), osprey (*Pandion haliaetus*), Canadian goose (*Branta canadensis*), common loon (*Gavia immer*) and scoter (*Melanitta sp.*) in the general vicinity of the proposal.





On February 28<sup>th</sup>, 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>



**Figure 6.** Tidal Waterfowl and Wading Bird Habitat.<sup>8</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.

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

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



**Maine Department of Marine Resources  
Site Report**

Jeffrey Schroeder  
Turkey Cove, St. George River  
St. George

**(7) Water Quality**

The proposed lease is currently located within an area classified as “Approved” by the MDMR Bureau of Public Health.