

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 sugar kelp (*Saccharina latissima*) and skinny kelp (*Saccharina angustissima*).

Site Review: Geoffrey Shook and Katie Von Hohenleiten

Report Preparation: Geoffrey Shook and Meryl Grady

<sup>1</sup> 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 The Maine Office of GIS.



# Maine Department of Marine Resources Site Report

Regenerative Maine (Application 2)  
Turkey Cove, St. George River  
St. George

## Application Overview

The applicant, Regenerative Maine, is requesting a 3.90<sup>2</sup>-acre experimental lease in Turkey Cove, in the St. George River, for the suspended culture of marine algae. The applicant intends for the site to be active seasonally from October 15-May 31. Between June 1 – October 14, all gear (excluding moorings, mooring lines, and mooring balls) would be removed from the site. State-required lease markers would remain on site year-round.<sup>3</sup>

## General Characteristics

On September 11, 2024, Maine Department of Marine Resources (MDMR) scientists visited the proposed lease site. MDMR scientists arrived on site at approximately 12:15 PM. The proposal is located in subtidal waters in Turkey Cove approximately 1,525 feet north of the Turkey Cove shoreline at mean low water (MLW) (Figure 1). The Turkey Cove shoreline in the vicinity of the proposal was observed to consist of rock ledges leading to residential lawns with mixed forests uplands. The western shoreline of the river in the vicinity of the proposal was observed to consist of a mix of boulders, ledges, and beaches, along with residential houses and lawns.

## Depth

On September 11, 2024, MDMR scientists began collecting depths at the proposed site at approximately 12:16 PM. The tide was flooding with the next high tide predicted at 5:13 PM (Table 1). Depths were determined to be between 37.0-51.1 feet. Correcting for tidal variations derives depths at mean low water (MLW, 0.0 feet) to be between 34.4-48.5 feet.

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

Date	Time	Height (ft)
2024/09/11	5:02 AM	7.5 H
2024/09/11	10:59 AM	2.0 L
2024/09/11	5:13 PM	8.7 H
2024/09/11	11:48 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 with a sheet algal bed.

<sup>2</sup> Applicant originally requested 4.0 acres. MDMR calculations indicate the area is 3.90 acres.

<sup>3</sup> Application pages 6,16

<sup>4</sup> <https://www.usharbors.com/harbor/maine/port-clyde-me/tides/?tide=2024-09#monthly-tide-chart>



# **Maine Department of Marine Resources** **Site Report**

Regenerative Maine (Application 2)  
 Turkey Cove, St. George River  
 St. George

**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
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 3, Figures 2 and 3).

## **Application Coordinates (WGS84) – 3.90 Acres**

<u>Corner</u>	<u>Latitude</u>	<u>Longitude</u>	
NW	43.962113°	-69.273429°	then 500 feet at 114° True to
NE	43.961558°	-69.271693°	then 340 feet at 205° True to
SE	43.960706°	-69.272218°	then 500 feet at 295° True to
SW	43.961261°	-69.273955°	then 340 feet at 024° True to NW

**Table 3.** Approximate distances from proposal corners to surrounding features (Figures 2&3).

Feature	Distance
NE corner to Turkey Point at MLW	~2,067' to the northeast
SE corner to Turkey Point at MLW	~2,336' to the northeast
NW corner to Stones Point at MLW	~2,840' to the northwest
SW corner to Stones Point at MLW	~3,088' to the northwest
NW corner to Pleasant Point at MLW	~2,675' to the southwest
SW corner to Pleasant Point at MLW	~2,467' to the southwest
NW corner to green navigation buoy "7"	~3,986' to the north
SW corner to green navigation buoy "5"	~3,620' to the southwest
SW corner to red navigation buoy "4"	~4,908' to the south-southwest

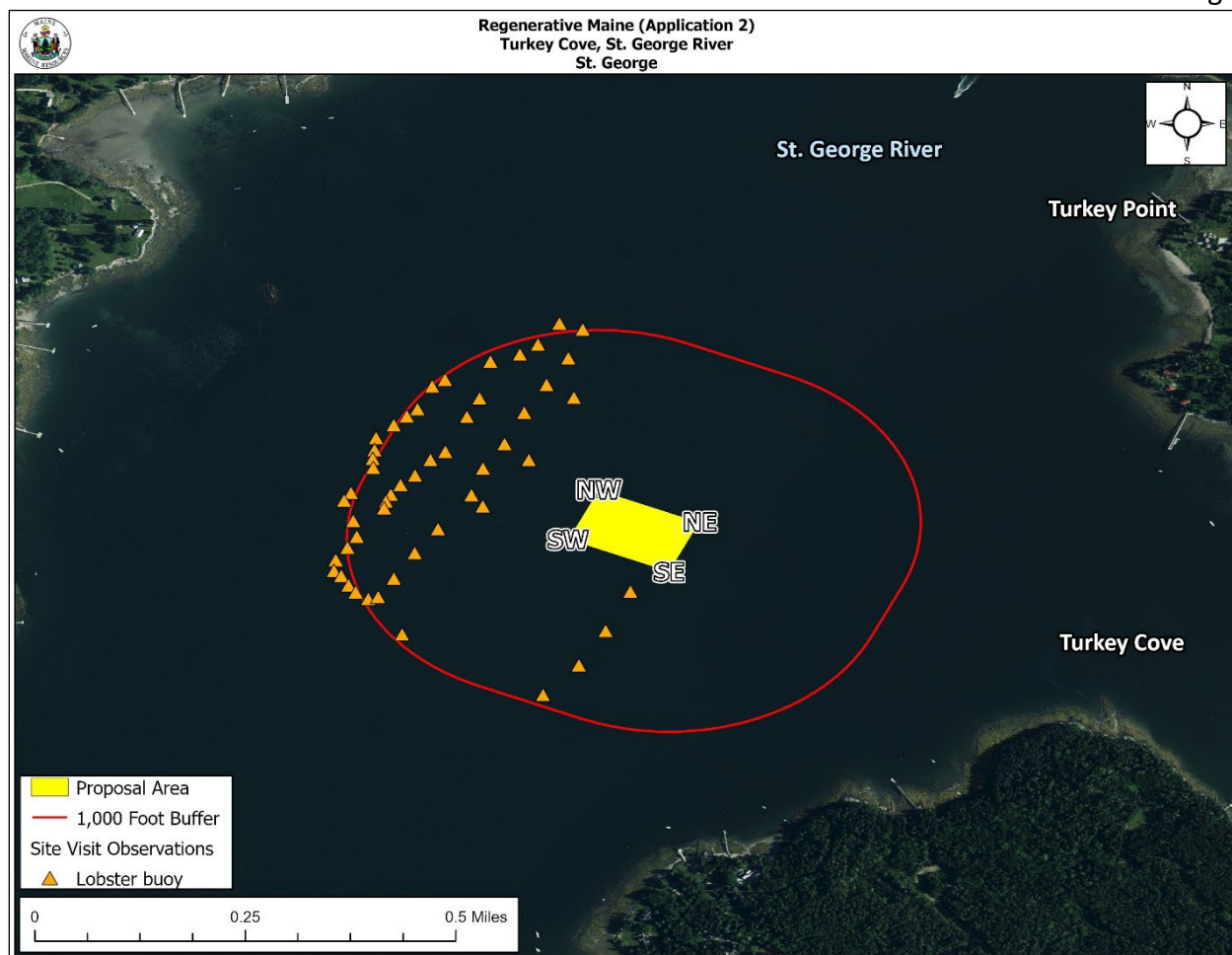


Figure 2. Proposed lease area with site visit observations.

***Pursuant to statute and regulation, aquaculture leases are evaluated in consideration of applicable decision criteria. The site report documents 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 did not observe any docks, houses, or moorings within the vicinity of the proposal. Aerial imagery<sup>5</sup> indicates the nearest residential pier and dock is located in the southwestern portion of Turkey Cove approximately 1,637 feet to the south-southeast. There are three additional piers and docks in this same general area located approximately 1,640 feet, 1,639 feet, and 1,737 feet south of the proposal. There are approximately six moorings in the vicinity of these piers with the closest located approximately 1,522 feet south of the proposal.

A Harbormaster Questionnaire was sent to the Town of St. George. MDMR did not receive a response.

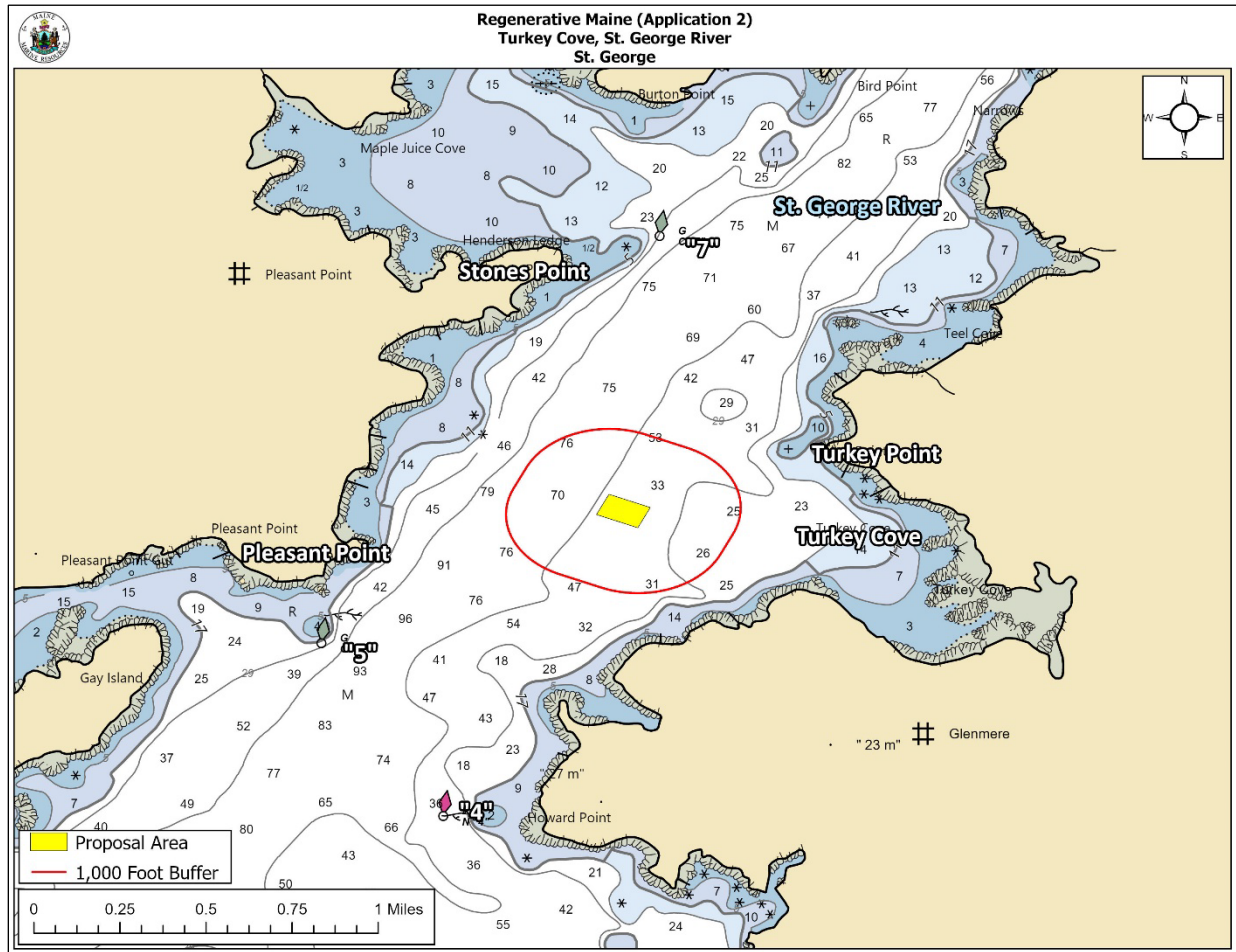
<sup>5</sup> Maine Orthoimagery Coastal Midcoast 2023



## (2) Navigation

The proposal is located in subtidal, navigable waters approximately 2,067 feet southwest of Turkey Point at MLW. There is approximately 2,411 feet of water between the proposal and the western shore of the St. George River at MLW. There is, however, a charted navigation hazard along the western shore of the river in this area that reduces the navigable waterway to approximately 1,670 feet. Based on charted hazards and navigational buoys, the proposal lies entirely within the river's main navigable channel (Figure 3).

During MDMR's site visit, scientists observed one powerboat to the east of the proposal transiting southerly and one sailboat under sail to the south of the proposal.



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





### (3) Fishing and Other Uses

During MDMR's site visit, scientists observed 52 lobster buoys within the vicinity of the proposal, with the nearest buoy located approximately 177 feet to the south. No lobster buoys were observed within the boundaries of the proposal (Figure 2). During the site visit, MDMR observed a lobster boat actively working along the western shore of the river.

### (4) Other Aquaculture Uses

There are not any licensed aquaculture leases or limited purpose aquaculture (LPA) sites within 1,000 feet of the proposed lease site (Figure 4).

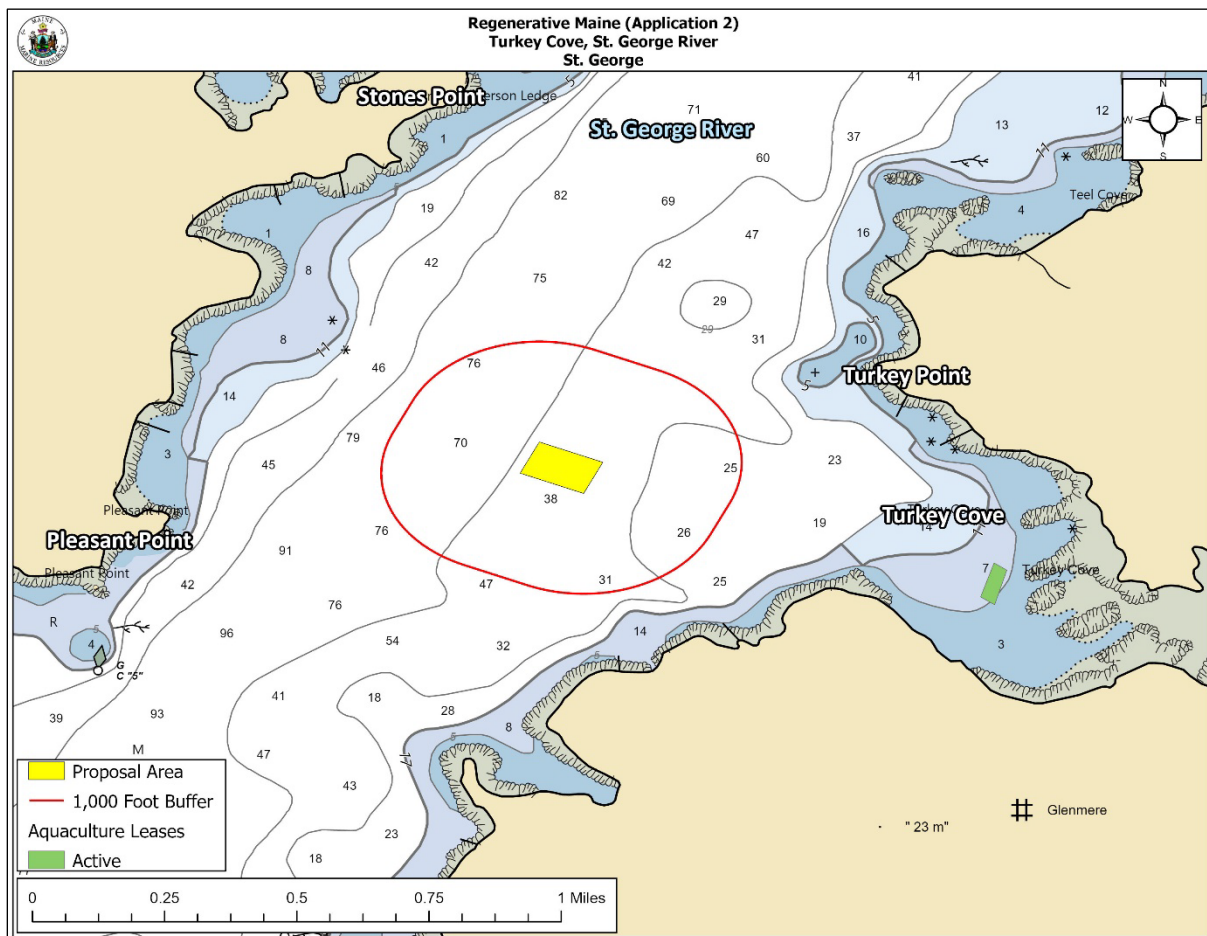


Figure 4. Aquaculture leases and LPA licenses in the vicinity of the proposed lease area.

### (5) Existing System Support

#### Epibenthic Flora and Fauna

MDMR 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.

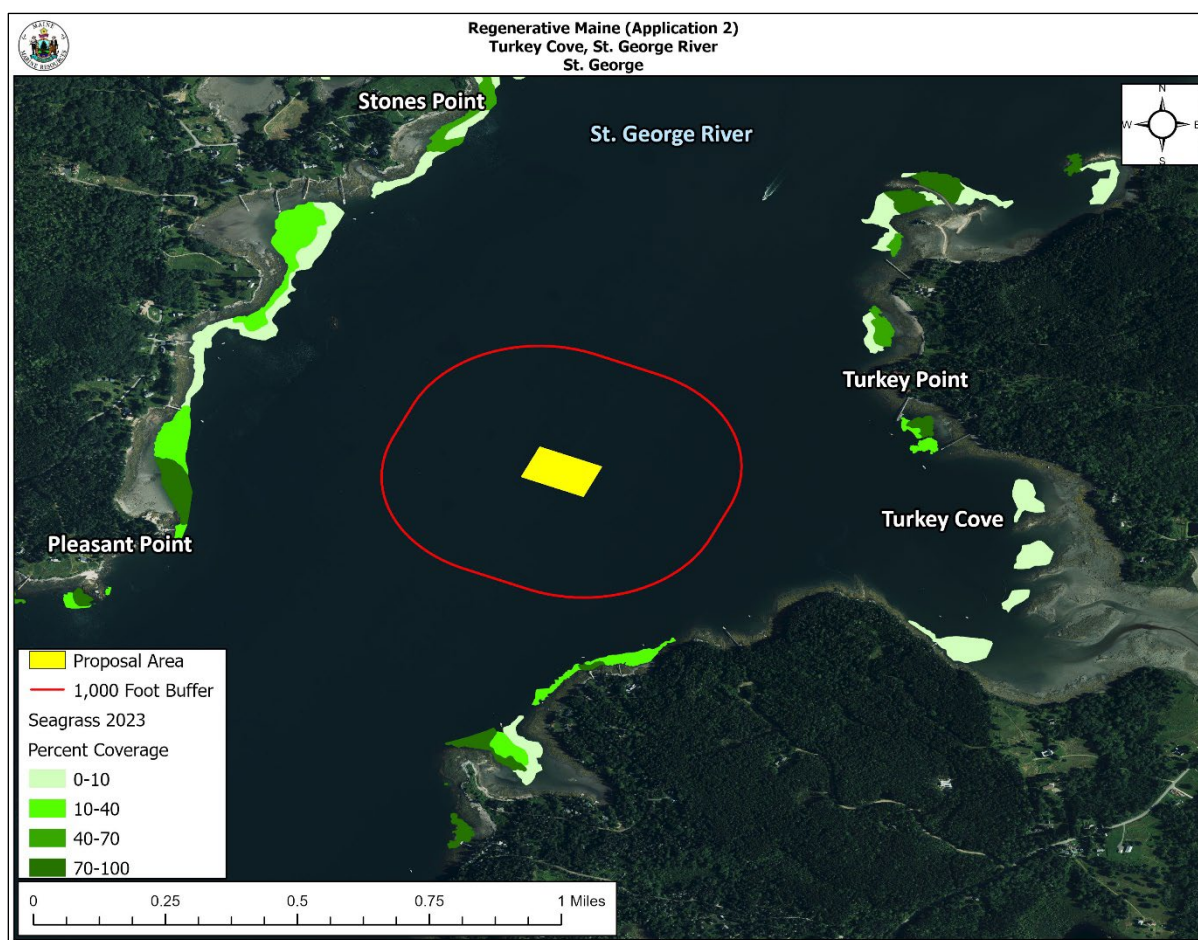


**Table 4.** Species observed on underwater video footage.

Species Observed	Abundance
Mysid shrimp ( <i>Mysis</i> spp.)	Abundant
Sand shrimp ( <i>Crangon septemspinosa</i> )	Occasional

### Eelgrass (*Zostera marina*)

Records of seagrass collected by the Maine Department of Environmental Protection (MDEP) in 2023<sup>6</sup> indicate there is no mapped eelgrass within 1,000 feet of the proposal. The nearest mapped eelgrass is approximately 1,572 feet south of the proposal (Figure 5). No eelgrass was observed on underwater video footage within the proposal boundaries during MDMR's site visit.



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

<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.



## Maine Department of Marine Resources Site Report

Regenerative Maine (Application 2)  
Turkey Cove, St. George River  
St. George

### Wildlife

During the site visit, MDMR scientists observed herring gull (*Larus argentatus*), black guillemot (*Cephus grylle*), common tern (*Sterna hirundo*), a loon (*Gavia immer*), and a bald eagle (*Haliaeetus leucocephalus*) in the general vicinity of the proposal.

The Maine Department of Inland Fisheries and Wildlife (MDIFW) has jurisdiction over inland fisheries and wildlife resources of the state. MDIFW also has the authority to conserve wildlife populations and their ecosystems through applicable state laws and rules. MDMR provides MDIFW with notice and the opportunity to comment on all complete lease applications. In addition, the site report also includes MDIFW 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 MDIFW 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 1,000 feet of the proposal (Figure 6).

MDIFW was provided with the opportunity to comment on this proposal. On May 30, 2024, a Resource Biologist with MDIFW responded by email to a "Request for Agency Review and Comment" stating that minimal impacts to wildlife are anticipated for this project.<sup>7</sup>

---

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



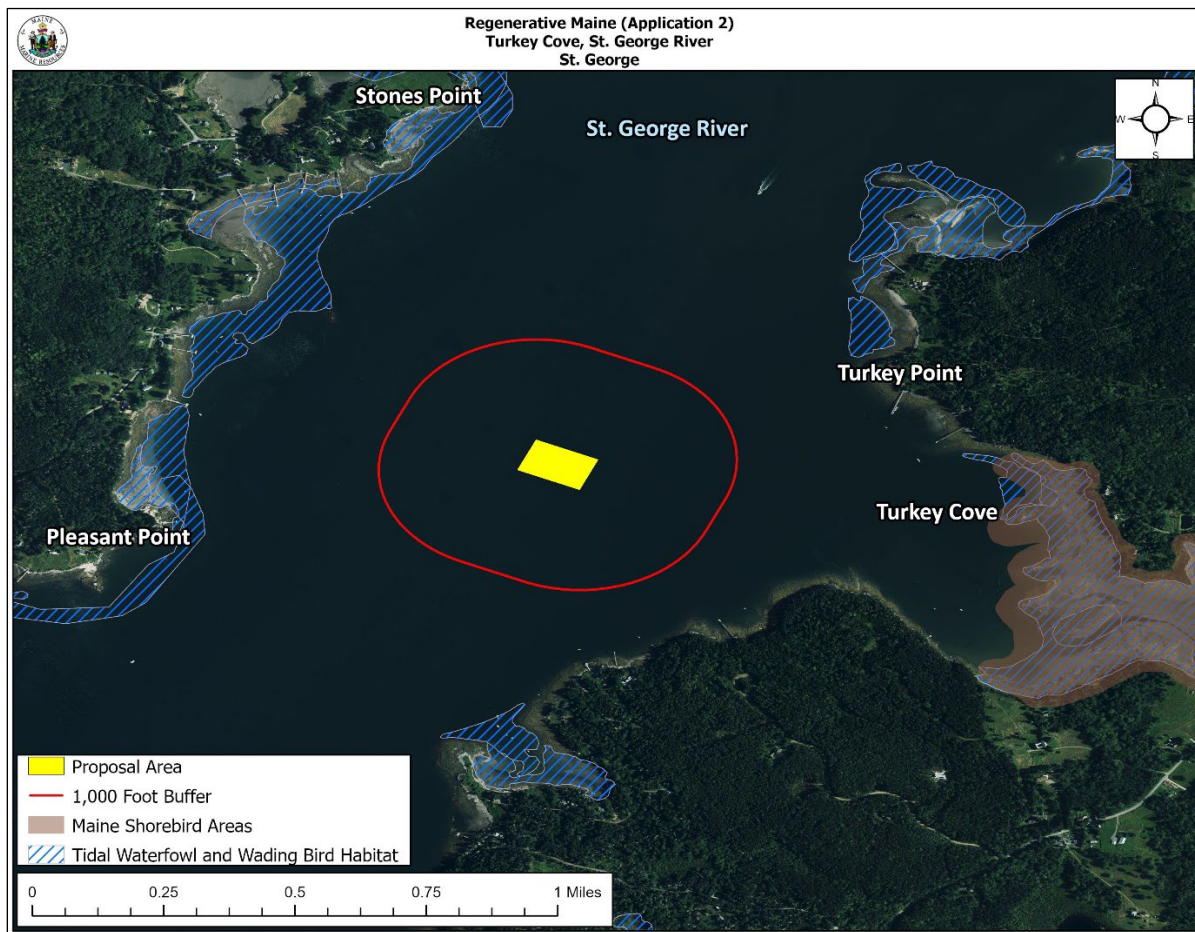


Figure 6. Mapped habitats in the vicinity of the proposed lease area.<sup>8</sup>

**(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.

**(7) Water Quality**

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

<sup>8</sup> Data obtained from USFWS “Bald\_Eagle\_Nests\_-\_Maine\_2023” and MDIFW “EHRTERN”, “EHPLVTRN”, “GISVIEW.MEIFW.Twwh”, “ShorebirdAreas”, and “SNI”.