



Maine Department of Marine Resources Site Report

George Stover
Southwest of Seal Ledge, Casco Bay
Chebeague Island

Application Overview

The applicant, George Stover, is requesting a 3.82³ acre experimental lease southwest of Seal Ledge in Casco Bay for the suspended culture of marine algae. Moorings, mooring chains, and required lease boundary markers are intended to remain on site year-round. All longlines, mooring buoys (except marker buoys), and depth control buoys will be removed from the site from May 31 – October 19.⁴

General Characteristics

On September 5, 2024, Maine Department of Marine Resources (MDMR) scientists assessed the proposed lease site. MDMR scientists arrived on site at approximately 10:09 AM. Chebeague Island, in the vicinity of the proposal, consist of rocky coastline spotted with sandy beaches leading to mixed forested uplands.

Depth

MDMR scientists began collecting depths at the proposed site during a flooding tide at approximately 10:10 AM. Measured depths at corners of the proposed lease site ranged from 34.0 to 35.1 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 29.5 to 30.6 feet (Table 1).

Table 1. Predicted tidal heights in Falmouth foreshore, Maine.⁵

| Date | Time | Height (ft) |
|------------|---------|-------------|
| 2024/09/05 | 1:04 AM | 9.5 H |
| 2024/09/05 | 7:13 AM | 0.5 L |
| 2024/09/05 | 1:24 PM | 9.3 H |
| 2024/09/05 | 7:28 PM | 0.7 L |

Bottom Characteristics

MDMR scientists observed the bottom characteristics of the proposed lease site via SCUBA. 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 an overlay of sheet algal beds.

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 |

³ Applicant originally requested 4.0 acres. MDMR calculations indicate the area is 3.82 acres.

⁴ Application page 18

⁵ <https://www.usharbors.com/harbor/maine/falmouth-foreshore-me/tides/?tide=2024-09#monthly-tide-chart>



Maine Department of Marine Resources Site Report

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Chebeague Island

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

Application Coordinates (WGS84) – 3.82 Acres

| <u>Corner</u> | <u>Latitude</u> | <u>Longitude</u> | |
|---------------|-----------------|------------------|------------------------------------|
| NW | 43.730783° | - 70.143675° | then 170 feet at 113° True to |
| NE | 43.730589° | - 70.143092° | then 1,027 feet at 215° True to |
| SE | 43.728308° | - 70.145375° | then 161 feet at 298° True to |
| SW | 43.728481° | - 70.145936° | then 1,030 feet at 035° True to NW |

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

| Feature | Distance |
|--|--------------------------|
| NE corner to Great Chebeague Island shoreline at MLW | ~780' to the east |
| NE corner to Seal Ledge at MLW | ~700' to the northeast |
| SE corner to Great Chebeague Island shoreline at MLW | ~1,478 to the northeast |
| SE corner to Sunset Landing | ~1,650 to the southeast |
| SW corner to red navigation buoy "14" | ~2,955' to the southwest |
| SW corner to Lower Basket Ledge Daybeacon "15" | ~2,912' to the west |
| NW corner to Cousins Island shoreline at MLW | ~6,054' to the northwest |
| NW corner to red navigation buoy "16" | ~987' to the north |



George Stover - Southwest of Seal Ledge, Chebeague Island

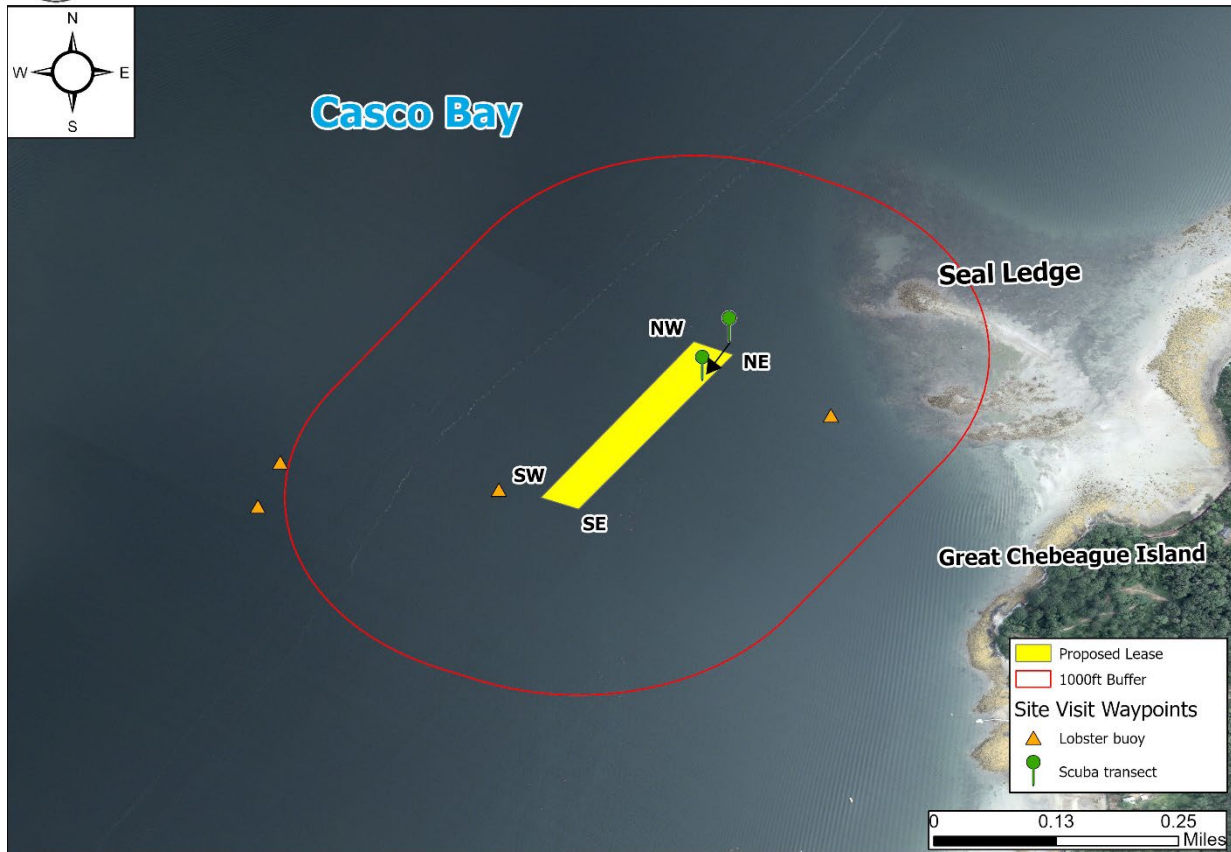


Figure 2. Proposed lease area with site visit observations.

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

The land nearest to the proposal is Great Chebeague Island approximately 780 feet east at MLW. During the site visit, MDMR did not observe any moorings or docks in the vicinity of the proposal (Figure 2). The nearest dock seen on aerial imagery⁶ is approximately 1,984 feet southeast of the proposal on Chebeague Island.

A Harbormaster Questionnaire was received by MDMR from the local Harbormaster on June 27, 2024. The Harbormaster stated there are no permitted moorings within the boundaries of the proposal, but with the density of existing aquaculture leases in the area, riparian landowners could be adversely affected when navigating around an additional lease in the area.

⁶ Maine Orthoimagery Coastal Casco Bay 2022



(2) Navigation

The proposal is located approximately 780 feet west of Great Chebeague Island at MLW. There is approximately 2,912 feet of navigable water between the proposal and the green Daybeacon "15" on Lower Basket Ledge. The eastern edge of the main navigational channel is located approximately 199 feet to the west of the proposal. Additionally, there is approximately 700 feet of navigable water between the proposal and Seal Ledge to the northeast (Figure 3).

During MDMR's site visit, four recreational powerboats were observed transiting in the main navigational channel west of the proposal.

The Harbormaster indicated in the Harbormaster Questionnaire that the proposal would be situated in an area that provides water-based access to Sunset Landing and the shoreline in the area. Sunset Landing is town owned property located approximately 1,650 feet southeast of the proposal. The Harbormaster also indicated that the proposed lease would be a hazard to navigation and that the proposal could impact available storm anchorages and access to the shore in case of an emergency.



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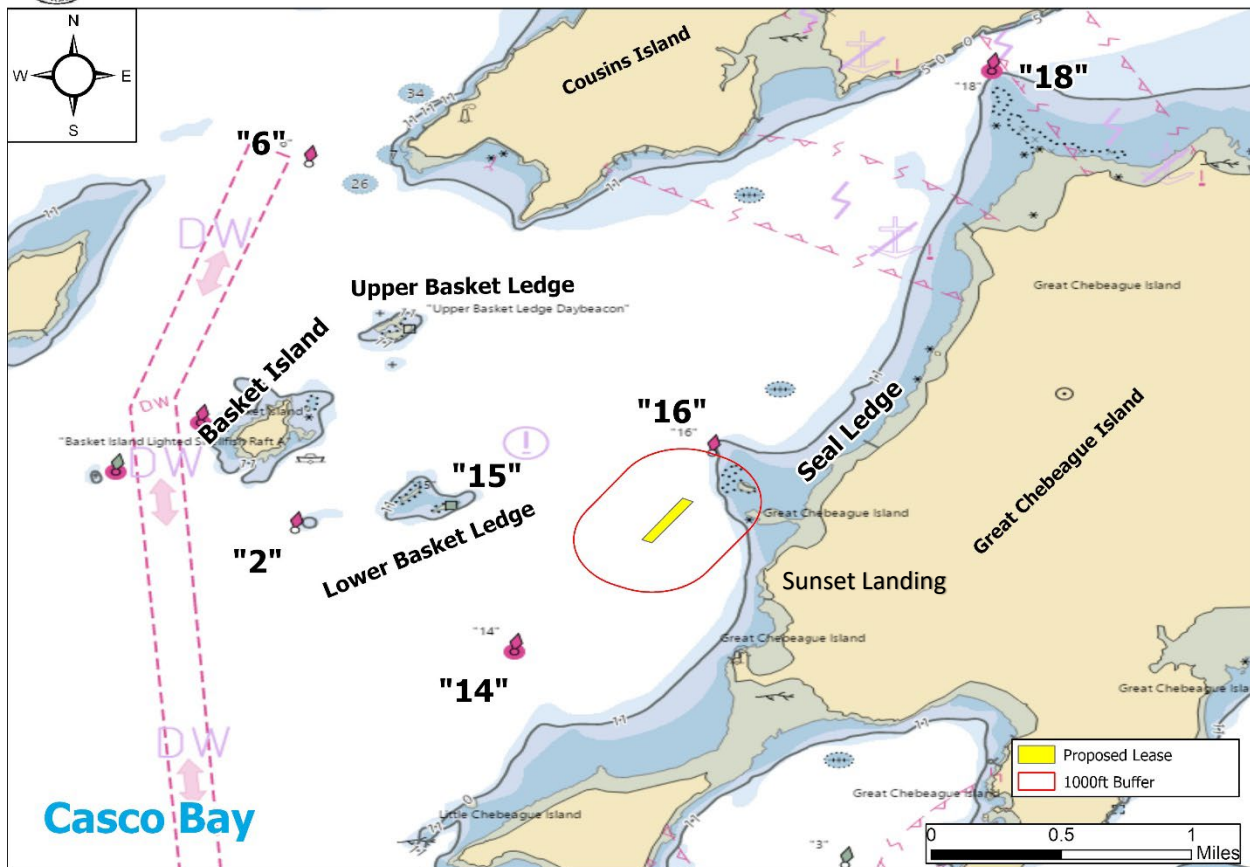


Figure 3. Navigational channels in the vicinity of the proposed lease area.



(3) Fishing and Other Uses

During the site visit, MDMR observed four lobster buoys in the general vicinity of the proposal. The closest buoy was located approximately 168 feet southwest of the proposal (Figure 2).

The Harbormaster indicated in the Harbormaster Questionnaire that the water around Great Chebeague Island is used for recreational fishing, as well as commercial lobstering, herring, and scallop fishing.

(4) Other Aquaculture Uses

There are no licensed aquaculture leases or limited purpose aquaculture (LPA) sites within 1,000 feet of the proposal. There is one experimental application under review by MDMR approximately 684 feet south of the proposal (Figure 4). The application was submitted by John Jordan Jr. and was deemed complete prior to this application.



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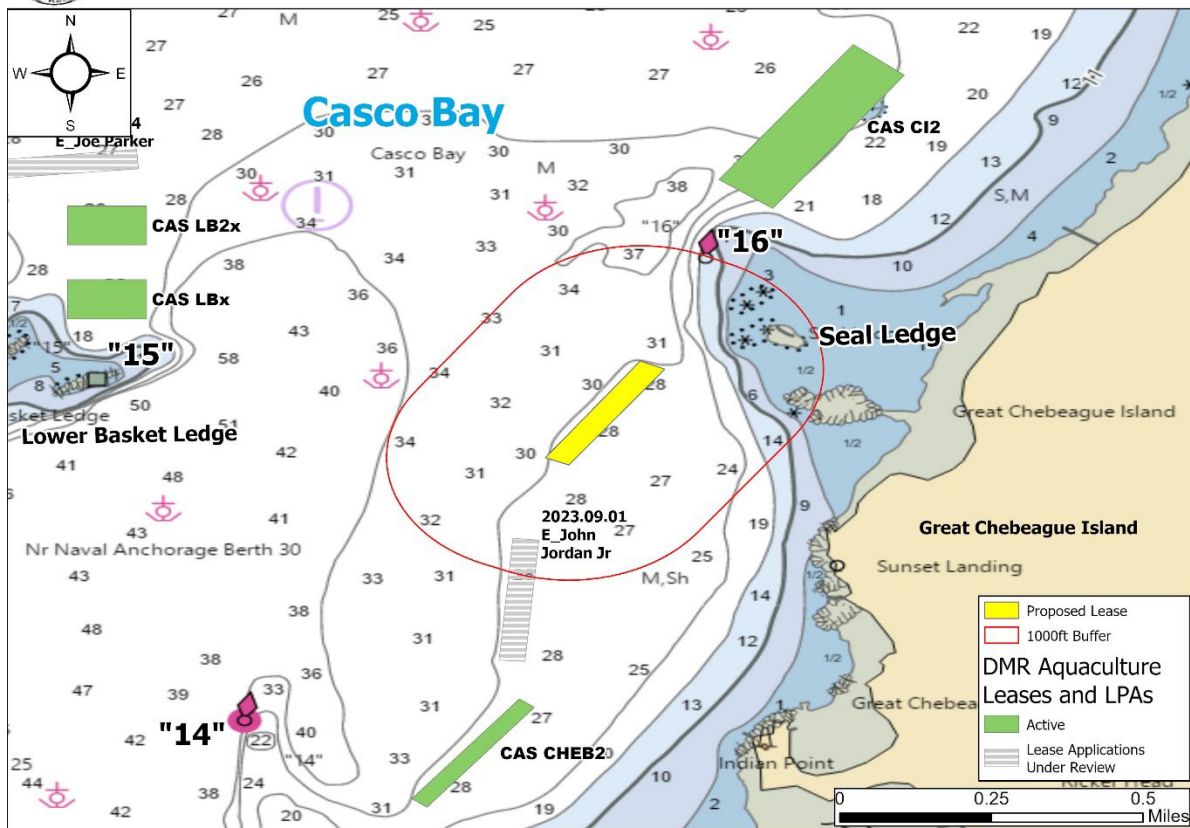


Figure 4. Aquaculture leases and LPA licenses in the vicinity of the proposed lease area.



Maine Department of Marine Resources Site Report

George Stover
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Chebeague Island

(5) Existing System Support

Epibenthic Flora and Fauna

On September 5, 2024, MDMR scientists utilized SCUBA 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 |
| Green crab (<i>Carcinus maenas</i>) | Common |
| Crab (<i>Cancer spp.</i>) | Occasional |

Eelgrass (*Zostera marina*)

Records of seagrass collected by the Maine Department of Environmental Protection (MDEP) in 2022⁷ indicate mapped eelgrass presence in the vicinity of the proposal. The nearest mapped eelgrass is approximately 484 feet northeast of the proposal (Figure 5). No eelgrass was observed on underwater camera footage within the proposal boundaries during MDMR's site visit. Eelgrass was observed floating on the surface of the water in the vicinity of the proposal during the site visit.

⁷ Data obtained from The Maine Office of GIS "GISVIEW.MEDEP.Seagrass2022". Widgeon grass was observed only in the New Meadows River area off Old Brunswick Road near shore. 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.



George Stover - Southwest of Seal Ledge, Chebeague Island

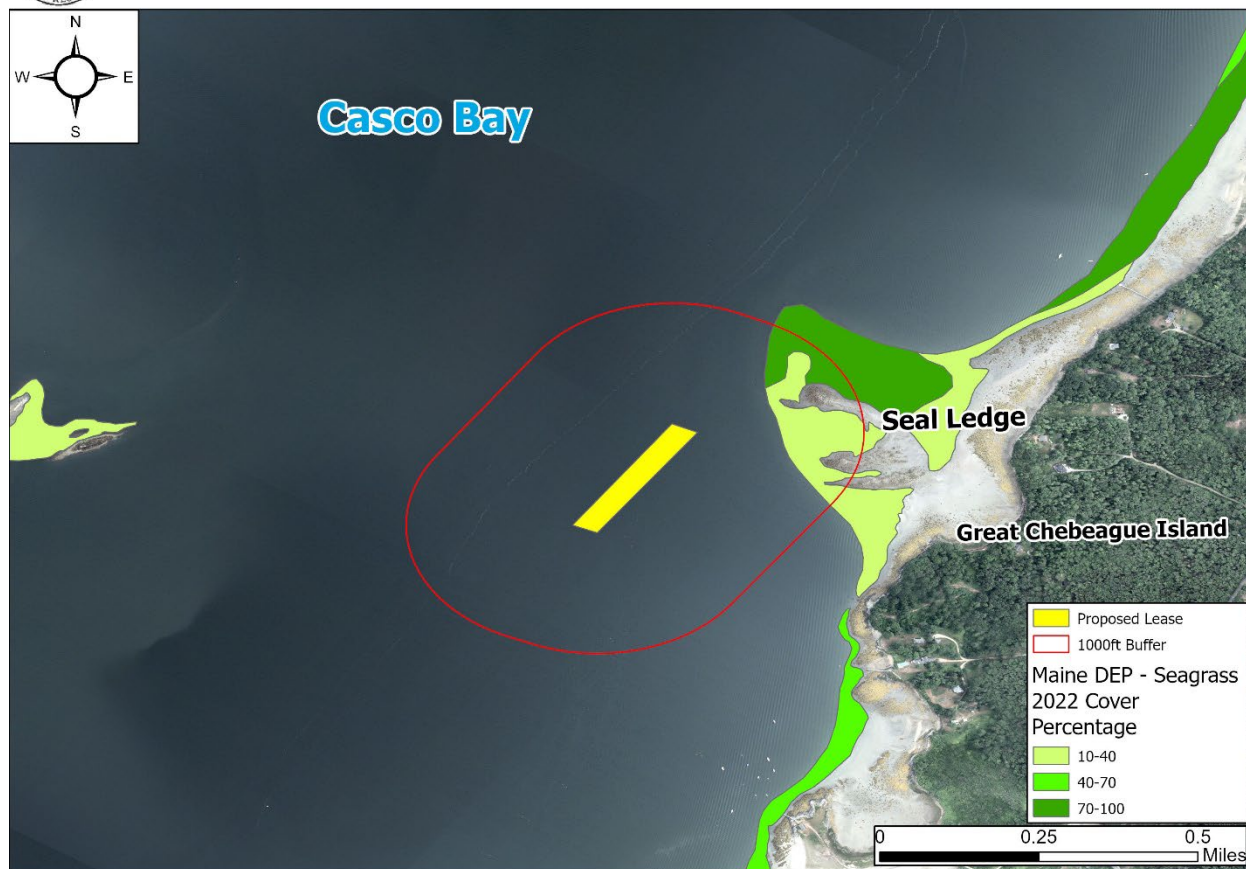


Figure 5. Mapped eelgrass (*Z. marina*) in the vicinity of the proposed lease area.

Wildlife

During the site visit, MDMR scientists observed herring gulls (*Larus argentatus*) and an osprey (*Pandion haliaetus*) 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.

According to Geographic Information System (GIS) data maintained by MDIFW and available through the Maine Office of GIS (MEGIS), there is one mapped habitat type within 1,000 feet of the proposal. The proposal is near Tidal Waterfowl and Wading Bird Habitat (TWWH), which is one type of Significant Wildlife Habitat designated and regulated by MDIFW.⁸ Based on data maintained by MDIFW, as

⁸ <https://www.maine.gov/ifw/programs-resources/environmental-review/significant.html>



Maine Department of Marine Resources Site Report

George Stover
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Chebeague Island

measured from the NE corner of the proposal, it is approximately 442 feet from the proposal to mapped TWWH (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 the nearest bald eagle nesting site to be approximately 2 miles southeast of the proposal on Hope Island.

MDIFW was provided with the opportunity to comment on this proposal. On June 27, 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.⁹



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Figure 6. Mapped Significant Wildlife Habitats in the vicinity of the proposed lease area.¹⁰

⁹ Email correspondence between MDIFW and MDMR

¹⁰ Data obtained from USFWS "Bald_Eagle_Nests_-_Maine_2023" and MDIFW "GISVIEW.MEIFW.Twwh", "ShorebirdAreas", and "SNI".



Maine Department of Marine Resources Site Report

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(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.