

**STATE OF MAINE
DEPARTMENT OF MARINE RESOURCES**

Jeffrey Schroeder

Experimental Aquaculture Lease Application
Bottom Culture of American Oysters
St. George River, St. George, Maine

FINDINGS OF FACT, CONCLUSIONS OF LAW, AND DECISION

Jeffrey Schroeder applied to the Department of Marine Resources (DMR) for a three-year experimental aquaculture lease located in Turkey Cove, St. George River, St. George, Knox County. The proposed lease is 2 acres and is for the bottom cultivation of American oysters (*Crassostrea Virginica*) for commercial aquaculture research and development. DMR accepted the application as complete on May 17, 2023.

1. THE PROCEEDINGS

Notice of the application and the 30-day public comment period was provided to state agencies, riparian landowners within 1,000 feet of the proposed site, the Town of St. George and its Harbormaster, and others on DMR's mailing list. Notice of the complete application and comment period was published in the June 1, 2023, edition of *The Courier-Gazette*. Title 12 M.R.S.A. §6072-A (6) provides that the Commissioner shall hold a public hearing if five or more persons request a public hearing within the 30-day comment period. No requests for a public hearing were received during the comment period, and DMR elected not to hold a hearing. The evidentiary record regarding this lease application includes the application, DMR's site report dated May 9, 2024, and the case file. The evidence from each of these sources is summarized below.¹

LIST OF EXHIBITS

1. Case file
2. Application
3. DMR site report, issued on May 9, 2024

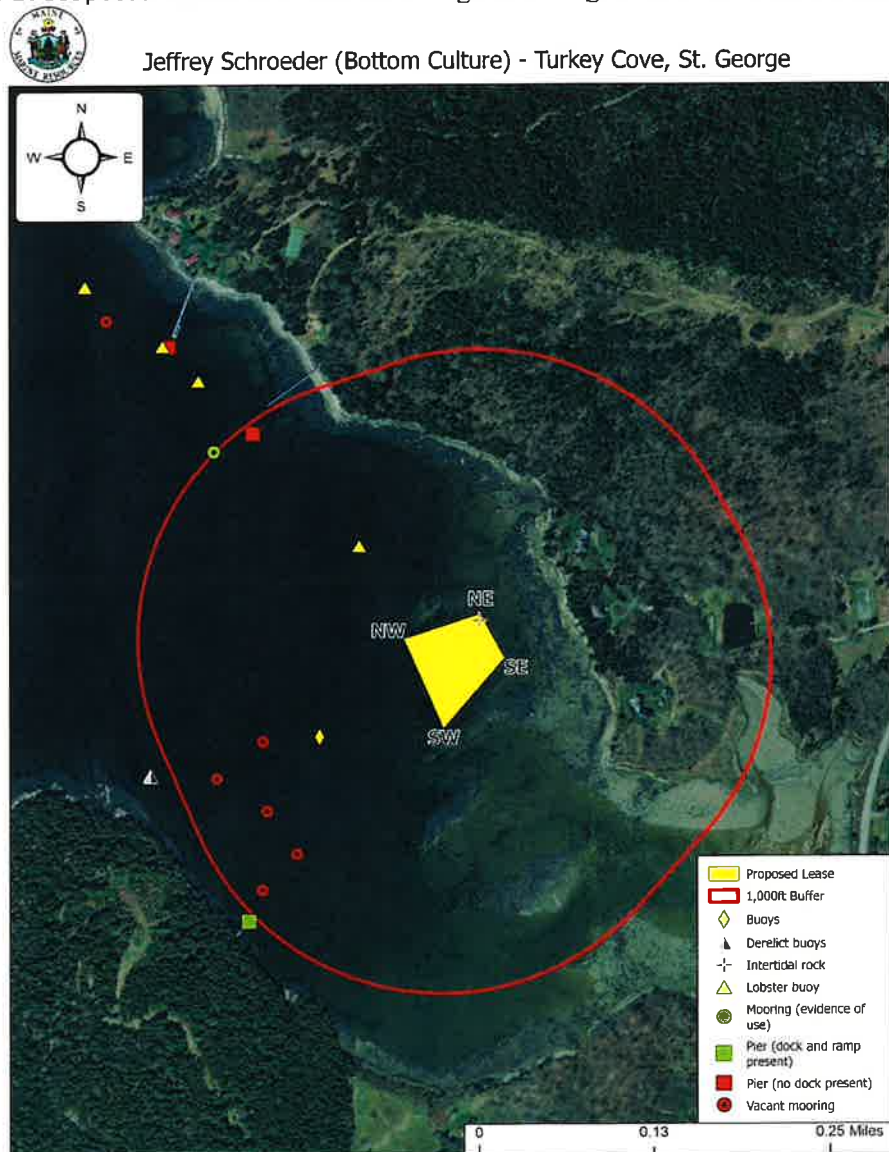
2. DESCRIPTION OF THE PROJECT

A. Proposed Operations

¹ These sources are cited, with page references, as App (Application), CF (case file), and SR (site report).

The purpose of the proposed experimental lease site is to determine if the lease is suitable for long-term oyster cultivation (App 4). The applicant is proposing to culture shellfish using bottom planting techniques (App 4). No gear would be present within the boundaries of the proposal (App 14). The applicant would use a 16-foot Carolina skiff to access the proposed lease site (App 6). Seeding would occur from April through December (App 4). Seeding would occur four times from April through December (App 5). Harvesting would occur from April through December (App 4). The applicant would be on site two to three times a week during the harvesting season (App 5). Harvesting would be done with a 6-foot clam rake (App 5). The lease site would be inactive from January through March (App 4).

Figure 1: Proposed lease site and surrounding area. Image taken from DMR's site report.



B. Site Characteristics

On October 18, 2023, DMR scientists assessed the proposed lease area. DMR scientists arrived on site at approximately 7:40 a.m. (SR 2). The surrounding area is comprised of rocky, seaweed covered coastline with patches of gravelly mud and forested uplands (SR 2). The bottom of the proposed lease area is mud with clam, oyster, and mussel rubble (SR 3). Water depths at the corners of the proposal at mean low water (MLW) range from 0.9 to 4.8 feet (SR 2). During the site visit, DMR staff observed an intertidal rock approximately three feet across in the northeast corner of the proposal (SR 2).

3. STATUTORY CRITERIA & FINDINGS OF FACT

Approval of experimental aquaculture leases is governed by 12 M.R.S.A. §6072-A. This statute provides that a lease may be granted by the Commissioner of DMR upon determining that the project will not unreasonably interfere with the ingress and egress of riparian owners; with navigation; with fishing or other water related uses of the area, taking into consideration other aquaculture uses in the area; with the ability of the lease site and surrounding areas to support existing ecologically significant flora and fauna; or with the public use or enjoyment within 1,000 feet of beaches, parks, or docking facilities owned by municipal, state, or federal governments. The Commissioner must also determine that the applicants have demonstrated that there is available source of organisms to be cultured on the lease site.

A. Riparian Access

Before granting a lease, the Commissioner must determine that the proposed project “will not unreasonably interfere with the ingress and egress of riparian owners[.]” 12 M.R.S.A. § 6072-A(13)(A). In examining riparian owner ingress and egress, the Commissioner “shall consider the type of structures proposed for the lease site and their potential impact on the vessels which would need to maneuver around those structures.” Chapter 2, § 2.37(1)(A)(1).

The proposed lease area is located in Turkey Cove, in the St. George River, St. George. During the site visit, DMR observed five vacant moorings within 1,000 feet of the proposed lease (SR 5). The nearest mooring was approximately 637.3 feet to the southwest of the proposal (SR 5). DMR staff observed one pier with a dock and ramp present approximately 1,028.8 feet to the southwest of the proposed site (SR 5). DMR staff also observed two piers on Turkey Point to the northwest of the proposal, one approximately 959.9 feet and the other over 1,000 feet to the northwest of the proposal, but there was no associated dock or ramp observed connected to the piers (SR 5). Based on the time of year of the site visit, it is likely the docks associated with the piers on Turkey Point were removed for overwintering and are in use seasonally (SR 5).

A Harbormaster Questionnaire was received from the St. George Harbormaster, dated June 1, 2023. The Harbormaster indicated this proposal would not affect the ability of riparian landowners to get to and from their property (CF – Harbormaster Questionnaire).

No comments concerning riparian ingress and egress were received by DMR.

The nearest mooring to the proposal was observed approximately 637.3 feet to the southwest of the proposal. A navigable area of 673.3 feet would be adequate for vessels of various sizes to access the mooring without interference caused by the proposal. All other observed moorings and piers are at a greater distance from the proposed site. In consideration of the distance between the proposal and the moorings, and the comment received from the St. George Harbormaster, the proposal would not unreasonably interfere with ingress and egress of any riparian owner.

Therefore, the aquaculture activities proposed for this site will not unreasonably interfere with the ingress and egress of any riparian owner.

B. Navigation

When examining navigation, the Commissioner considers whether any lease activities requiring surface and or subsurface structures would interfere with commercial or recreational navigation around the lease area. 12 M.R.S.A. § 6072-A(13)(B). In examining navigation, the Commissioner “shall consider the current uses and different degrees of use of the navigational channels in the area in determining the impact of the lease operation.” Chapter 2, § 2.37(1)(A)(2).

The proposal is located within Turkey Cove, approximately 2,760 feet to the east of the navigational channel (SR 5). If the proposal is granted, there would be approximately 1,085.15 feet of navigable water to the west of the site at MLW (SR 5). At the time of the site visit, DMR staff did not observe recreational or commercial vessel traffic (SR 5).

A Harbormaster Questionnaire was received from the St. George Harbormaster, dated June 1, 2023. The Harbormaster stated this proposal would not affect navigation within the area (CF – Harbormaster Questionnaire).

No comments concerning navigation were received by DMR.

The nearest navigational channel in the area is approximately 2,760 feet to the west of the proposed lease site. While riparian owners may navigate through Turkey Cove when traveling to and from the navigational channel, if the proposal were granted, there would be approximately 1,085 feet of navigable waters to the west of the proposal at MLW. This navigable area would be adequate for vessels of various sizes to travel through Turkey Cove.

Therefore, the aquaculture activities proposed for this site will not unreasonably interfere with navigation.

C. Fishing & Other Uses

When examining fishing and other uses, the Commissioner considers whether the lease activities would unreasonably interfere with commercial or recreational fishing or other uses of the area. 12 M.R.S.A. § 6072-A(13)(C); Chapter 2.37(1)(A)(3). In examining fishing and other uses, the Commissioner “shall consider such factors as the number of individuals that participate in recreational or commercial fishing, the amount and type of fishing gear utilized, the number of actual fishing days, and the amount of fisheries resources harvested from the area.” Chapter 2.37(1)(A)(3).

Fishing. During the site visit, DMR observed one lobster buoy approximately 395.5 feet to the north of the proposal (SR 6). Three additional lobster buoys were observed within Turkey Cove, greater than 1,000 feet from the proposal (SR 6; Figure 1). Lobster fishing was observed to the west of the proposed site (SR 6).

DMR staff observed a group of black buoys, but no aquaculture gear was observed to be associated with the buoys (SR 6). It is possible these buoys were associated with one of the Limited Purposed Aquaculture (LPA) licenses in the general area.

The application states that lobstering does occur in Turkey Cove, approximately 600 feet from the proposal (App 7). Atlantic Menhaden fishing occurs in Turkey Cove in mid-summer, approximately 600 feet from the proposal (App 7). Clam digging occurs in the innermost portion of the cove, in the intertidal area approximately 500 feet from the proposal (SR 7). The applicant has not observed recreational fishing in Turkey Cove (App 7).

A Harbormaster Questionnaire was received from the St. George Harbormaster, dated June 1, 2023. The Harbormaster stated that there is very little commercial and recreational fishing within Turkey Cove (CF – Harbormaster Questionnaire).

No comments concerning fishing were received by DMR.

The lobster buoy nearest to the proposal was observed approximately 395 feet to the north of the proposal. All other lobster buoys were over 1,000 feet from the proposal. While lobstering does occur in Turkey Cove, the observed distance that it occurs from the proposal would allow it to continue to occur without interference. The distance of the buoys to the proposal would allow lobster boats to access the buoys without risking interference from the proposal.

While clam digging also occurs in Turkey Cove, clam digging occurs in the intertidal area of the cove. The proposal is not located on any intertidal areas.

Therefore, it is reasonable to conclude that there are no concerns regarding the potential effect of the proposed lease on commercial and recreational fishing activities in the area.

Other uses. The applicant states that kayaking, paddle boarding, and swimming occurs within the cove (App 7).

If the proposal is granted, there would be approximately 1,085.15 feet of navigable water to the west of the site at MLW. Additionally, all area in the cove to the east and south of the proposal would still

be accessible from both the shorelines of the cove and from entering the cove from the west. This would allow for ample area for recreational uses of Turkey Cove.

Therefore, considering the other aquaculture uses of the area, the activities proposed for this site will not unreasonably interfere with fishing or other water related uses of the area.

D. Other Aquaculture Uses

DMR's Chapter 2 regulations require the Commissioner to consider any evidence submitted concerning other aquaculture uses of the area. "The intensity and frequency of such uses as well as the degree of exclusivity required for each use shall be a factor in the Commissioner's determination of whether any interference is unreasonable. The number, size, location, and type of other aquaculture leases shall be considered by the Commissioner." Chapter 2, § 2.37(1)(A)(4).

There are no active aquaculture leases within 1,000 feet of the proposal (SR 7). The applicant, Jeffrey Schroeder, has an additional pending experimental lease application approximately 593 feet southwest of this proposal (SR 7). There are four existing Limited Purpose Aquaculture (LPA) sites, JSCH922, JSCH1022, JSCH1122, and TSCH522, within 1,000 feet of this proposal (SR 7). Three of the LPAs, JSCH922, JSCH1022, and JSCH1122, are held by the applicant (SR 7). The fourth LPA, TSCH522, is licensed to the applicant's wife (SR 7).

All four LPAs are within the footprint of the applicants other pending lease proposal (SR 7). The applicant has stated that all four LPAs would be relinquished if the other proposal is granted (SR 7).

Therefore, the activities proposed for this site will not unreasonably interfere with other aquaculture uses of the area.

E. Flora & Fauna

When examining existing system support, the Commissioner considers the degree to which the use of the lease site will interfere with significant wildlife habitat and marine habitat or with the ability of the lease site and marine and upland areas to support ecologically significant flora and fauna. 12 M.R.S.A. § 6072-A(13)(D). "Such factors as the degree to which physical displacement of rooted or attached marine vegetation occurs, the amount of alteration of current flow, increased rates of sedimentation or sediment resuspension, and disruption of finfish migration shall be considered by the Commissioner in this determination." Chapter 2, § 2.37(1)(A)(5).

Flora and Fauna. During the site visit, DMR staff assessed the epibenthic ecology of the proposal lease area (SR 8). DMR staff observed a common abundance of rock crab (*Cancer irroratus*), green crab (*Carcinus maenas*), rockweed (*Ascophyllum nodosum*), periwinkle (*Littorina spp.*), rough barnacle (*Balanus balanus*), and hermit crab (*Pagurus spp.*) (SR 8). DMR staff observed an occasional abundance of pancake batter tunicate (*Didemnum vexillum*) and slipper snail (*Crepidula spp.*) (SR 8).

DMR staff observed a rare abundance of blue mussel (*Mytilus edulis*), bladder wrack (*Fucus vesiculosus*), Jonah crab (*Cancer borealis*), sponge (*Halichondria sp.*), and flounder (Order, *Pleuronectiformes*) (SR 8).

During the site visit, DMR staff also 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 (SR 10).

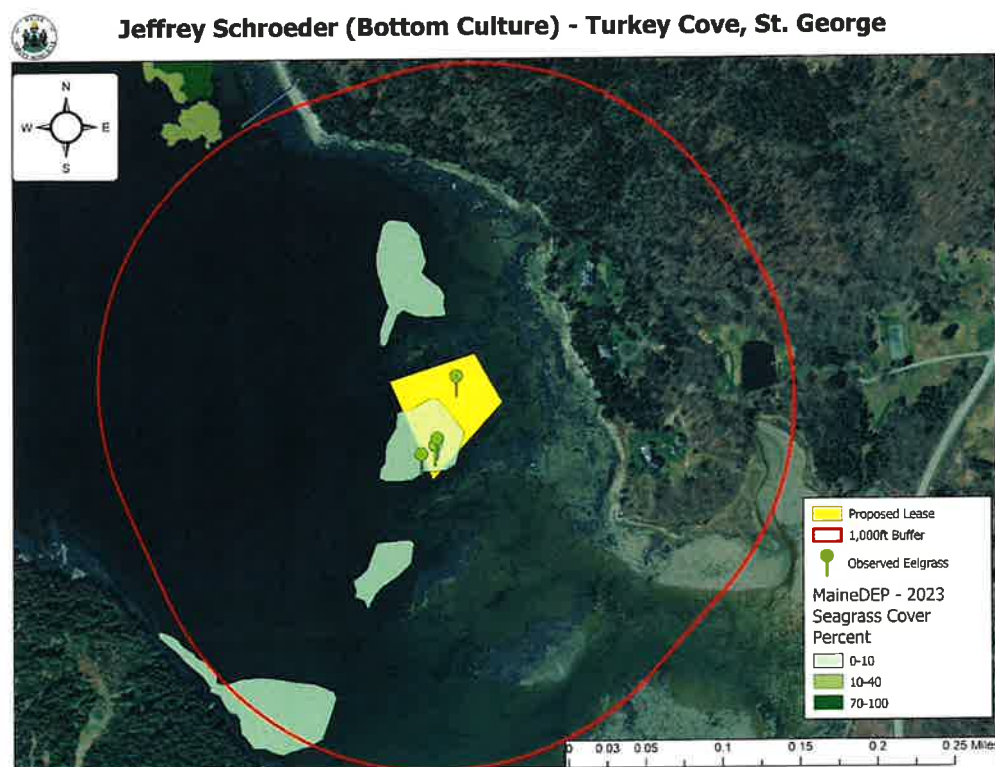


Figure 2. Mapped and observed eelgrass in the vicinity of the proposal.

Eelgrass. Records of eelgrass (*Zostera marina*) collected by the Maine Department of Environmental Protection in 2023 indicated mapped eelgrass presence within and in the vicinity of the proposal (SR 8). The proposed lease encompasses approximately 0.635 acres of a mapped eelgrass patch (SR 8). There are additional mapped eelgrass patches located in the vicinity of the proposal (SR 8).

During DMR's site assessment on October 18, 2023, rooted eelgrass was observed within the proposal boundaries (SR 8). Rooted eelgrass was observed near the southwest corner and center of the proposal (SR 8). The eelgrass observed in the southwest corner of the proposal was dense, rooted to the seafloor, and measured approximately 10x10 feet in area (SR 8). The eelgrass observed near the center of

the proposal was sparse to moderate in density and rooted to the seafloor (SR 8). DMR staff noted that the observed eelgrass had begun its seasonal senescence (SR 8).

Eelgrass beds form an important marine and estuarine coastal aquatic habitat. Eelgrass provides shelter for juvenile fish and for invertebrates, is a site for primary settlement of the larvae of some bivalve mollusks and invertebrates, and in certain locations helps to stabilize unconsolidated sediments and shorelines. During the site visit, DMR staff observed eelgrass beds growing outside the mapped eelgrass area provided by Maine Department of Environmental Protection. This shows that the area in which the proposal is located both currently has eelgrass beds present and is viable for the continued support and growth of eelgrass beds.

The applicant proposes bottom culture of oysters which would be harvested with 6-foot clam rakes. It is agency knowledge that the use of clam rakes to rake the seafloor disrupts sediments and vegetation that is located on the seafloor where it is raked. This method of culture and harvest would disrupt the seafloor within the proposal, damaging the observed eelgrass beds through physical uprooting and secondary impacts caused by turbidity. This would cause a potential loss of the observed eelgrass beds.

Therefore, the aquaculture activities proposed for this site will unreasonably interfere with the ability of the lease site and surrounding areas to support existing ecologically significant flora.

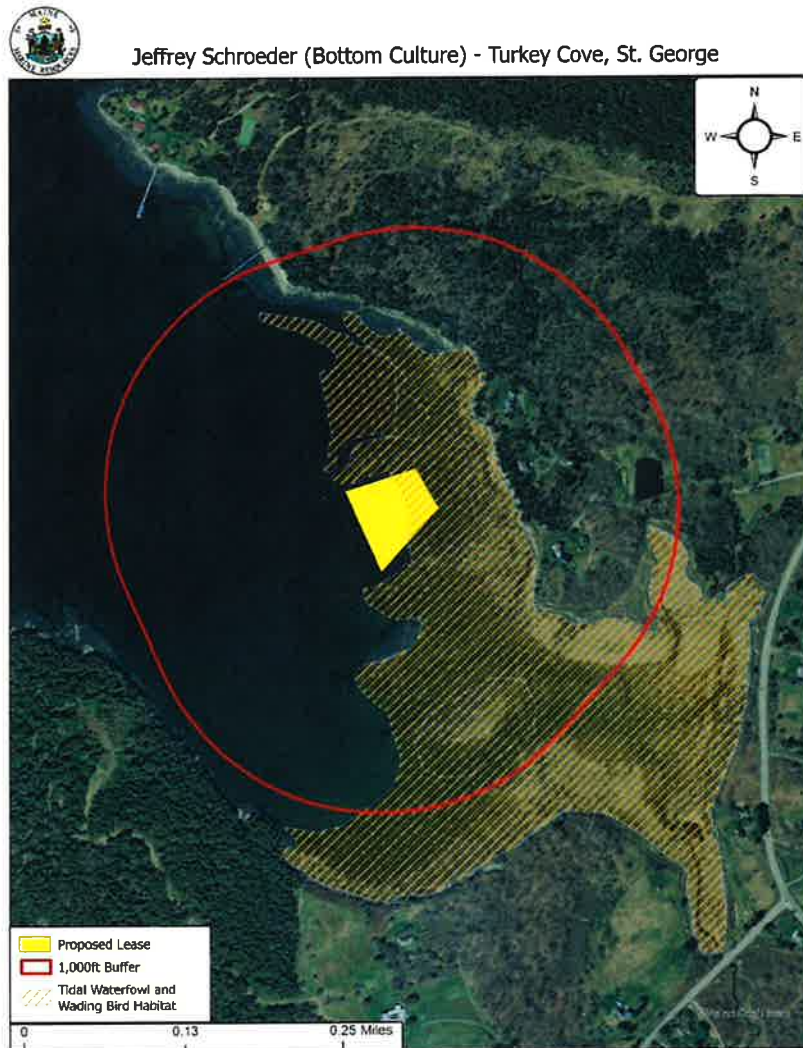


Figure 3. Mapped Tidal Waterfowl and Wading Bird Habitat in the area.

Tidal Waterfowl and Wading Bird Habitat. 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 148.5 feet within Tidal Waterfowl and Wading Bird Habitat (TWWH) (SR 10). On July 17, 2023, a Wildlife Biologist with MDIFW responded by email to a “Request for Agency Review and Comment”, stating that “this experimental lease appears to be located within both a Tidal Waterfowl and Wading Bird Habitat and a Shorebird Area,” and recommended that this lease proposal not be located within these resources (CF – IFW Email).²

² Email correspondence between MDIFW and DMR

The unique location of this proposal places it within the area of observed eelgrass beds and TWWH. If the proposal was reduced to exclude the areas in which there is observed eelgrass beds, the proposal would be entirely in TWWH. If the proposal was reduced to exclude the area which is in TWWH, a majority of the proposal would be located within observed eelgrass beds.

Based on the evidence that the proposal for bottom culture of oysters is located in the area of mapped and observed eelgrass beds, in combination with mapped TWWH within the proposal, and within a Shorebird Area, the proposed aquaculture activities for this lease site will interfere with the ecological function of the area.

Therefore, the aquaculture activities proposed for this site will unreasonably interfere with the ability of the lease site and surrounding areas to support existing ecologically significant flora and fauna.

F. Public Use & Enjoyment

When examining interference with public facilities, the Commissioner considers the degree to which the lease interferes with public use or enjoyment within 1,000 feet of beach, park, or docking facility owned by the Federal Government, the State Government, or a municipal government. 12 M.R.S.A. § 6072-A(13)(F); Chapter 2, § 2.37(1)(A)(7); Chapter 2, § 2.64(11)(A).

There are no beaches, parks, or docking facilities owned by federal, state, or municipal government within 1,000 feet of the proposed lease site.

Therefore, the aquaculture activities proposed for this site will not unreasonably interfere with public use or enjoyment within 1,000 feet of beaches, parks, or docking facilities owned by federal, state, or municipal governments.

G. Source of Organisms

When examining the source of organisms, the Commissioner shall include but not be limited to, consideration of the source's biosecurity, sanitation, and applicable fish health practices. 12 M.R.S.A. § 6072-A(13)(E); Chapter 2.37(1)(A)(6).

The applicant proposes to obtain stock of American oysters from Muscongus Bay Aquaculture. This hatchery is currently listed as an approved source for the proposed stock. If the applicant is unable to obtain stock from this hatchery, then it must come from another DMR approved source.

Therefore, the applicant has demonstrated that there is available source of stock to be cultured for the lease site.

4. CONCLUSIONS OF LAW

Based on the above findings, the Department concludes that:

1. The aquaculture activities proposed for this site will not unreasonably interfere with the ingress and egress of any riparian owner.

2. The aquaculture activities proposed for this site will not unreasonably interfere with navigation.

3. The aquaculture activities proposed for this site will not unreasonably interfere with fishing or other uses of the area.

4. The aquaculture activities proposed for this site will not unreasonably interfere with other aquaculture uses of the area.

5. The aquaculture activities proposed for this site will unreasonably interfere with the ability of the lease site and surrounding areas to support existing ecologically significant flora and fauna.

6. The aquaculture activities proposed for this site will not unreasonably interfere with the public use or enjoyment within 1,000 feet of beaches, parks, or docking facilities owned by municipal, state, or federal governments.

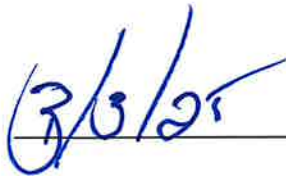
7. The applicant has demonstrated that there is an available source of stock to be cultured for the lease site.

Accordingly, the evidence in the record supports the conclusion that the proposed aquaculture do not meet the requirements for the granting of an aquaculture lease set forth in 12 M.R.S.A. §6072-A.

5. DECISION

Based on the foregoing, the Commissioner denies the requested experimental lease of 2.0 acres for three years to Jeffrey Schroeder.

Dated: _____



Patrick C. Keliher, Commissioner
Department of Marine Resources