

Standard Aquaculture Lease Application
Suspended and Bottom Culture of Shellfish
Middle Bay, Harpswell

July 27, 2020

FINDINGS OF FACT, CONCLUSIONS OF LAW, AND DECISION

Timothy Johnson applied to the Department of Marine Resources (DMR) for a 20-year standard aquaculture lease on 2.81 acres.¹ The proposed site is located southeast of Crow Island, in Middle Bay, Harpswell, Cumberland County, Maine, for the cultivation of American/eastern oysters (*Crassostrea virginica*) and northern quahogs (*Mercenaria mercenaria*) using suspended and bottom culture techniques.

1. THE PROCEEDINGS

The pre-application meeting for this proposal was held on September 25, 2018 and the scoping session was held on February 5, 2019. Mr. Johnson submitted his application to DMR on April 3, 2019, which was subsequently deemed complete on June 13, 2019. Notice of Mr. Johnson's completed application was provided to riparian landowners within 1,000 feet of the proposed site, the Town of Harpswell, including the Harbormaster, and other state and federal agencies. DMR's site report was issued on January 9, 2020. DMR also made copies of the completed application and site report available on its' website.

The public hearing on the application was scheduled for February 11, 2020. Personal notice of the public hearing, copies of the application and DMR site report were provided to state and federal agencies for their review, the Town of Harpswell, and riparian landowners within 1,000 feet of the proposed site. Public notice of the hearing was published in the *Times Record* on January 9 and 31, 2020, and in the February 2020 edition of the *Fishermen's Voice*. Public notice of the hearing was also provided to subscribers of DMR's aquaculture email list-serve. The public hearing on Mr. Johnson's application was held as scheduled on February 11, 2020 at Cundy's Harbor Community Hall. Sworn testimony was given at the hearing by the following witnesses:

¹ Applicant originally requested 2.67 acres. Based on the provided coordinates, DMR calculated the area at 2.81 acres.

Name	Affiliation
Timothy Johnson	Applicant
Marcy Nelson	Marine Scientist, DMR Aquaculture Division
Dan Devereaux	Member of the Public

Mr. Johnson described aspects of the lease application and answered questions about the proposal. Ms. Nelson testified about DMR’s site visit and answered questions related to Maine’s aquaculture program. Dan Devereaux testified in support of the proposal. The hearing was recorded by DMR. The Hearing Officer was Amanda Ellis.

Exhibits

The evidentiary record before DMR regarding this lease application includes the following:

1. Case file (CF)
2. Application (App)
3. Site Report (SR)

2. DESCRIPTION OF THE PROJECT

A.) Site History

The proposed site is located southeast of Crow Island, in Middle Bay, Harpswell. The applicant currently operates a two-tract, 4-acre experimental lease site,² for the suspended culture of oysters, within the area of the proposed standard lease site (SR 2). The experimental lease was issued for a three-year term beginning on April 15, 2016 and ending on April 14, 2019. The experimental lease is held for commercial purposes, which makes it non-renewable. However, in accordance with 12 M.R.S.A. §6072-A(20), if a commercial experimental lease holder submits a standard lease application for an area encompassing a portion of the experimental lease before the lease expires, they may continue to operate their site while DMR processes their standard lease proposal.

The applicant submitted his standard lease proposal on April 3, 2019 before the experimental lease expired. One tract of the experimental lease site is within the boundaries of the applicant’s current standard lease proposal (SR 8). Therefore, the applicant has been allowed to operate the experimental lease site beyond April 14, 2019. DMR has not received any complaints concerning the operation of the

² DMR assigns all granted aquaculture sites a unique acronym. MIDD Clx is the acronym assigned to the applicant’s current experimental lease site.

experimental lease. If the standard lease proposal is granted, it will replace the existing experimental lease and reduce the overall area of aquaculture activity from 4 acres to 2.81 acres (SR 8).

B. Proposed Operations:

During the public hearing, the applicant testified that this site would primarily be a nursery area for oysters and quahogs. The oysters and quahogs would be grown out on the site for approximately two years and then they would be moved to other aquaculture sites for further development and eventual harvest for market. Two floating upwellers that measure 20' L X 6' W X 3' D would be utilized to cultivate oyster seed from June through August (App 7). Oysters would also be cultivated using a maximum of 1,600 floating bags that measure 28" L X 20" W X 8" H (App 7). The bags would be secured to a total of 16 longlines measuring 400 feet in length.

Quahog seed would be placed in up to 200 sediment trays kept within four wire baskets constructed from repurposed lobster traps, which measure 8' L X 6' W (App 7). The four lobster wire baskets would be deployed from May through October and would be suspended underneath two wooden rafts that measure 20' L X 20' W (App 7, SR 2). Quahogs would also be free planted on the bottom of the site each fall. When quahogs reach the desired size, they would be harvested by hand via bull rake or tongs (App 20).³

The applicant would visit the site one to three days per week for routine maintenance of oysters and quahogs (App 20). Maintenance activities would consist of flipping the oyster bags, checking the quahog trays, monitoring the growth of product, and sorting product as necessary (App 20). The oysters would be sorted using a tumbler. The wooden rafts (described above) would contain solar panels and batteries, which would be used to power the sorter and upweller (App 22). A Honda EU 7000 generator would be used as a back-up source of power (App 22). A 5 horse-power (hp) water pump would be used two to three times each year to clean oyster bags (App 22). The applicant would access and service the site using powered vessels that are 18 to 22 feet in length (App 20).

During the winter months the rafts, upwellers, floating bags, and corner markers would be removed from the site. The rafts would be moved to Limited Purpose Aquaculture (LPA) license sites held by the applicant⁴ (App 21). Oysters would either be kept in cold storage or stored under the raft on

³ Chapter 10.02 of DMR's regulations limit the take of quahogs, in Middle Bay, to hand methods (i.e. clam hoe, rake, or tong). Aquaculture sites are not exempted from this provision.

⁴ LPA license JOHN715 located in Duck Cove on the south end of Birch Island (App 23). According to DMR records, this site is permitted for a raft. Note: One raft is 400 sq ft, so it is unlikely that two rafts would fit within the boundaries of one LPA. It is the applicant's responsibility to make sure his plans for any LPA sites comply with applicable laws.

the LPA sites (App 21). As previously noted, all quahogs would be free planted on the bottom of the site during the fall and the baskets and sediment trays removed from the site by November of each year.

During the public hearing, the applicant proposed the use of a bird deterrents. Based on his experience operating the experimental lease, the applicant indicated that birds like to roost on the solar panels that are secured to the top off the rafts, which limits the functionality of the solar panels. The applicant proposed to deploy up to five small rotor-like devices on the top of each raft that would deter the birds from roosting on top of the solar panels for extended periods of time (Image 1).

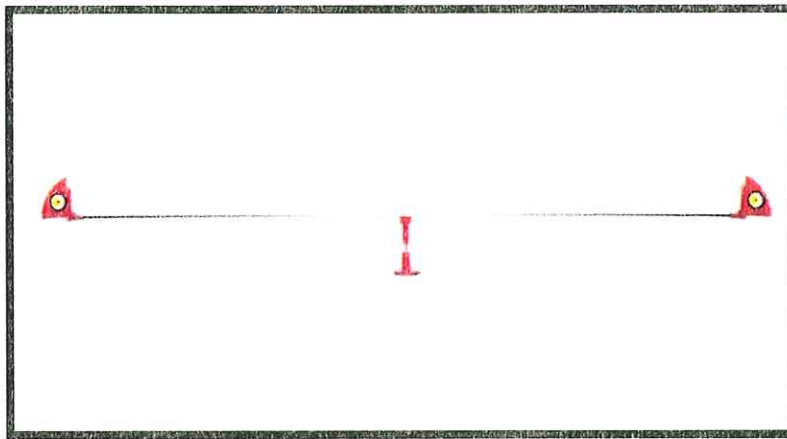


Image 1: Schematic of the bird deterrent provided by the applicant.

The bird deterrents would be no more than six inches in height and 48 inches in length. They would be comprised of a metal shaft with at least two rotating cups attached. They would rotate when the wind blows and would not be powered by any equipment. One deterrent would be affixed at each of the four corners of the top of the raft and one would be affixed in the middle. No one at the hearing, including DMR staff, raised any concerns about the use of this type of deterrent.

B. Site Characteristics

On September 12, 2019, DMR scientists visited the proposed lease site and assessed it and the surrounding area in consideration of the criteria for granting a standard aquaculture lease. The proposed site is located southeast of Crow Island, in Middle Bay, Harpswell (SR 2). The proposed site is separated from the neighboring uplands to the north, west, and south by extensive tidally-exposed mudflats and shoal water (SR 2). DMR staff observed houses and docks along the distant shorelines (SR 2).

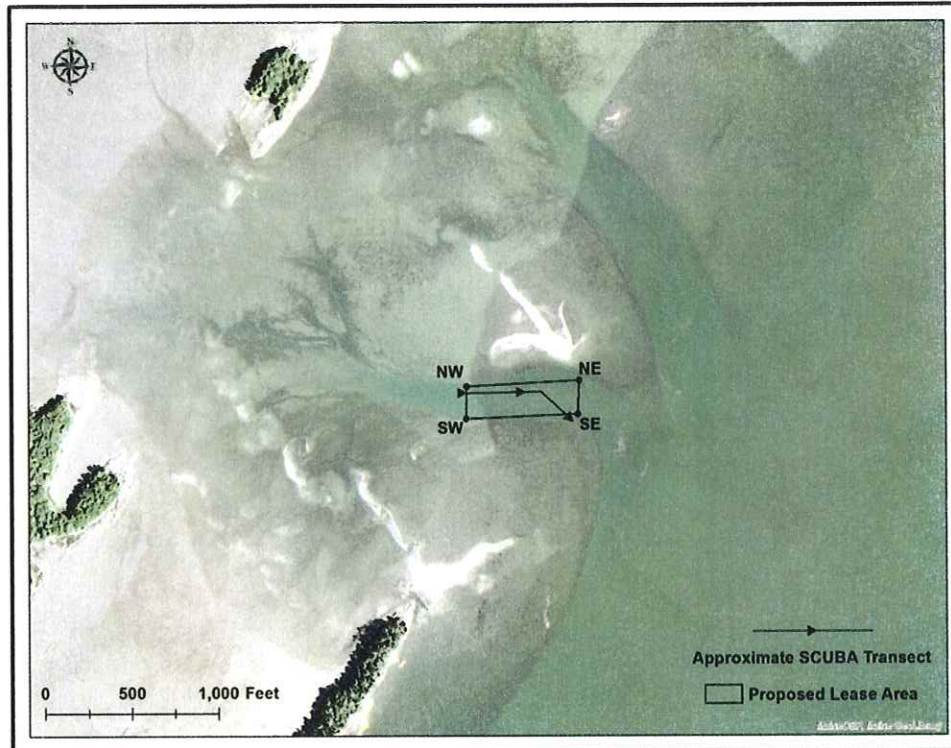


Image 2: Boundaries of the proposed lease site with corners labeled. Image also depicts the approximate SCUBA transect. Image from site report.

Correcting for mean low water, depths at the corners of the proposed site ranged from 8.6 feet at the NW and SW corners to 12.6 feet at the NE corner (SR 6). At mean low water, the SW corner of the proposed lease site is ~1,080 feet from the nearest shoreline on Scrag Island (SR 7).

3. STATUTORY CRITERIA & FINDINGS OF FACT

Approval of standard aquaculture leases is governed by 12 M.R.S.A. §6072. 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 the number and density of aquaculture leases in an 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, docking facilities, or conserved lands owned by municipal, state, or federal governments. The Commissioner must also determine that the applicant has demonstrated that there is an available source of organisms to be cultured for the lease site; that the lease will not result in an unreasonable impact from noise or lights at the boundaries of the lease site; and that the lease will comply with visual impact criteria adopted by the Commissioner.

A. Navigation

According to the application, there is some occasional boating that occurs in the area during the summer months at high tide (App 28). The site report indicates that the proposed lease is in a secondary channel that gives way to shoal water and tidally exposed mudflats to the north, west, and south (SR 8). Most navigation in the immediate vicinity of the proposal is likely limited to mid to high tidal stages when water depths are greater and are more conducive to shorefront access (SR 8). During these tidal stages, boaters would have a minimum of 1,080 feet of navigable area around the proposal, if granted (SR 8). DMR did not receive any comments or testimony to suggest that the proposed site would interfere with navigation.

Therefore, aquaculture activities proposed for this site will not unreasonably interfere with navigation. The lease site must be marked in accordance with U.S. Coast Guard requirements.

B. Riparian Access

According to the site report, the closest infrastructure to the proposed site is Simpson's Point Landing, which is more than 2,500 feet to the north of the proposal (SR 7). Shoal water that leads to tidally-exposed mudflats separates the proposed site from upland properties to the north, west, and south (SR 8). Access to these properties "would be hindered more by tidal stage and shallow water depths than the proposed lease activities" (SR 8). If the site is granted, more than 3,200 feet of navigable area would remain between the eastern boundary of the proposal and the eastern shore of Middle Bay (SR 8).

Personal notice of the completed application and public hearing were sent to the riparian landowner listed in the application. DMR did not receive any comments from the riparian owner concerning this proposal and they did not attend the public hearing or send a representative. Furthermore, the applicant has operated an experimental lease in this area for over three years. In that time, DMR has not received any complaints or concerns from the riparian landowner listed in the application or any other surrounding property owners. This lease, if granted, would be smaller in size than the current experimental lease.

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

C. Fishing & Other Water Related Uses

During the site visit conducted on September 12, 2019, DMR did not observe any commercial or recreational fishing within or near the proposed lease area (SR 8). In previous visits to this area, DMR

staff have seen evidence of limited lobster and crab fishing in the general vicinity (SR 8). DMR conducted the site visit near high tide, so staff were unable to observe the extent of shellfish and worm harvesting that may occur in the mudflats to the west of the proposed site (SR 8). However, if the proposed site is granted it will not preclude access to the surrounding flats (SR 8).

The application indicates that recreational striped bass fishing occasionally occurs within and near the proposed lease site (App 28). The applicant testified that at least one fisherman seines for menhaden (*Brevoortia tyrannus*) within the general area. The applicant testified that he talked to the fisherman about his lease site and communicated to them that he was pursuing a smaller standard lease, compared to the existing experimental, so that more area would be available for menhaden fishing. The applicant has operated an experimental lease in this area for over three years. During this time, DMR has not received any comments or complaints from commercial or recreational fishermen. In addition, DMR did not receive any comments or testimony from anyone who fishes within or near the proposed lease area. For the reasons described above, it is unlikely that the proposal will unreasonably interfere with commercial or recreational fishing in the area.

The application indicates that kayakers frequent the area during the summer months and often paddle near the proposed lease (App 28). For two days, every other August, the Naval Air Station conducts an "Air Show," which draws a lot of vessels to the area (App 28). The application indicates that swimming occurs at Simpson's Point, which is ~2,000 feet from the proposed lease site (App 28). DMR did not receive any complaints about the operation of the existing experimental lease with regard to these existing uses, nor did DMR receive any comments or testimony about these uses specific to the standard lease proposal.

Other aquaculture uses. If this proposal is granted it will replace the applicant's existing experimental lease, reducing the footprint from 4 acres to 2.81 acres (SR 8). The closest aquaculture site to the proposal, not held by the applicant, is an LPA located ~3,460 feet to the northwest of the proposed site (SR 8). Given this distance, it seems unlikely that the proposed lease would interfere with other aquaculture sites in the area.

Exclusivity. The application requests that lobster fishing and seining be prohibited within the boundaries of the proposed site (App 6). Boating, fishing, and swimming would be allowed in areas of the site without floating gear (App 6). The Commissioner may establish conditions that govern the use of the lease area and establish limitations on the aquaculture activities to mitigate interference. The current experimental lease is conditioned to prohibit commercial and recreational fishing within the boundaries of the site, and navigation is prohibited in areas that contain suspended gear. Given the similarities

between the existing experimental site and this lease application, similar conditions will apply to the standard lease, if it is granted.

Considering the existing aquaculture activities, the proposed site will not unreasonably interfere with fishing or other water-related uses of the area.

D. Flora & Fauna

DMR Site Observations. An eelgrass (*Zostera marina*) survey conducted in 2013, indicates that eelgrass was located near the proposed site at a cover density of up to 10% (SR 12). An eelgrass survey conducted in 2018 indicates that the closest eelgrass bed was located less than 10 feet to the north of the proposed area at a cover density of up to 40% (SR 11 & 12).⁵ The images below depict the mapped distribution and cover densities of eelgrass in 2013 and 2018. During the underwater site assessment, which occurred on September 12, 2019, staff observed dead and decaying eelgrass in abundance throughout the site and washed up on the applicant’s floating bags (SR 11). However, live eelgrass was rarely observed (SR 11).

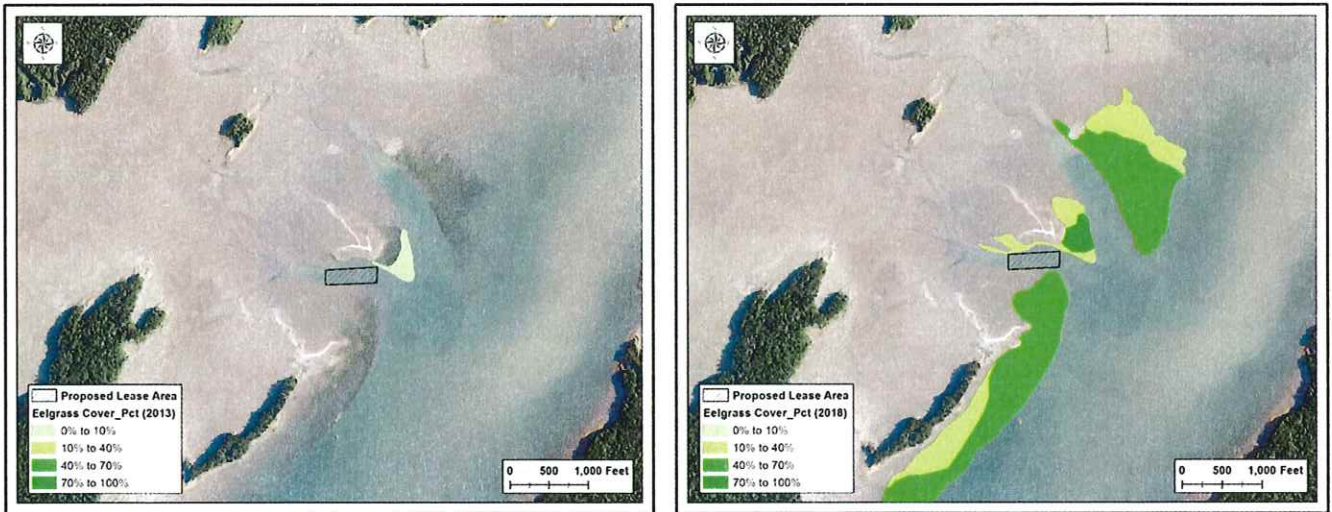


Image 3: Eelgrass distribution and percent cover around the proposed lease site in 2013 (at left) and in 2018 (at right). Images from site report.

Based on eelgrass surveys, during the time the applicant has operated the experimental lease, the distribution and cover density of eelgrass in the area has increased (SR 11). To mitigate the possibility of the proposed site interfering with mapped eelgrass beds and to comply with the U.S. Army Corps Engineers (ACOE) recommended set-back of 25 feet, DMR science staff recommend shifting the proposed NW corner a minimum of 15 feet to the south, and the NE corner a minimum of 5 feet to the

⁵ 2013 and 2018 data collected by the Maine Department of Environmental Protection (DEP) in cooperation with the Casco Bay Estuary Partnership (SR 11).

south (SR 11). If the lease is granted, this recommendation will apply to the site. The revised acreage reflecting this change is depicted below (Image 4).

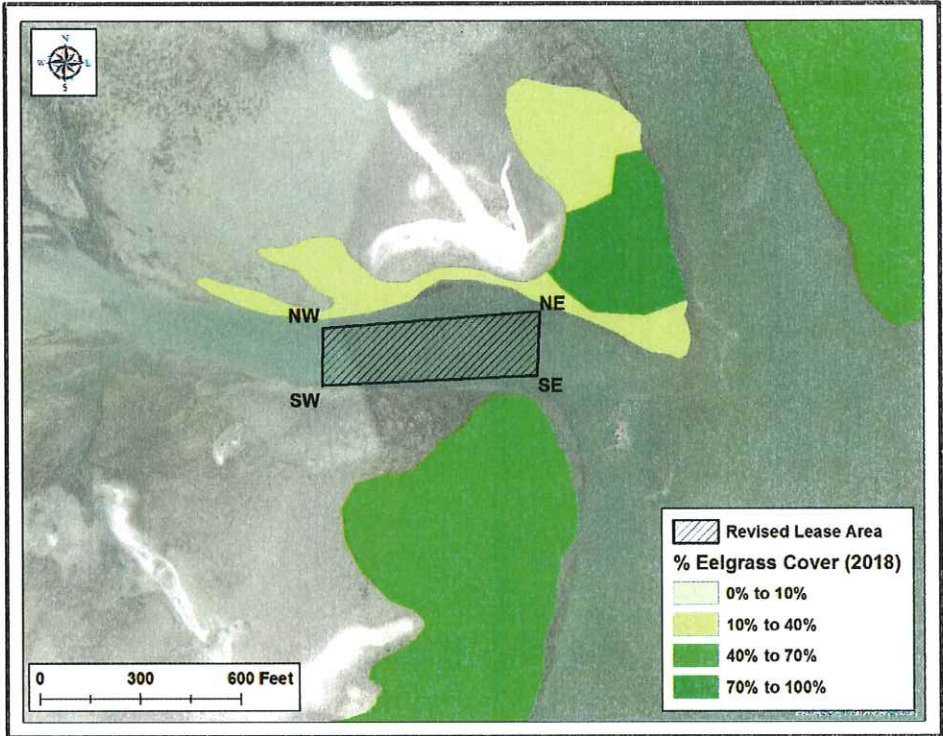


Image 4. Revised lease area reduced to 2.64 acres by DMR to comply with the Army Corps of Engineers’ recommended set-back of 25 feet from an existing eelgrass bed.

Revised Coordinates – 2.64- Acres

<u>Corner</u>	<u>Latitude</u>	<u>Longitude</u>
NW	43.843551° N	69.97799°W then 651.22 feet at 85.02° True to
NE	43.843706° N	69.975531°W then 188.17 feet at 181.53° True to
SE	43.84319° N	69.97555° W then 644.79 feet at 266.76° True to
SW	43.84309° N	69.97799° W then 168.05 feet at 0.00° True to NW.

DMR staff observed one harbor seal (*Phoca vitulina*) swimming in the general area. Herring gulls (*Larus argentatus*) and sandpipers (*Calidris sp.*) were also seen roosting and feeding on the floating mesh bags on the existing experimental lease site and within the boundaries of the proposed standard lease (SR 13).

Fisheries and Wildlife. Based on data maintained by the Maine Department of Inland Fisheries and Wildlife (MDIFW), the proposed lease area abuts Tidal Wading Bird and Waterfowl Habitat (SR 13).

DMR sent a copy of the lease application to MDIFW for their review and comment. MDIFW did not offer any comments on the standard lease proposal.

Based on the evidence and the reduction of the proposed site, it appears that the aquaculture activities proposed for this lease site will not interfere with the ecological functioning of the area.

Therefore, the aquaculture activities proposed for this site will not unreasonably interfere with the ability of the lease site and surrounding areas to support existing ecologically significant flora and fauna.

E. Public Use & Enjoyment

There are no publicly-owned beaches, parks, docking facilities, or conserved lands owned by municipal, state, or federal government within 1,000 feet of the proposed lease site (SR 14).

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

F. Source of Organisms

The applicant intends to obtain stock from the following approved source:

Source	Location	Species
Muscongus Bay Aquaculture	Bremen, Maine	eastern/American oysters; and northern quahogs

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

G. Light

According to the application, except for navigation or marking purposes, lights will not be used at the proposed lease site (App 22). DMR's lighting regulations provide an exception for these purposes.

Therefore, the aquaculture activities proposed for these sites will not result in an unreasonable impact from light at the boundaries of the lease site.

H. Noise

The proposed lease would be serviced by vessels powered by 15-90 hp 4-stroke outboard motors, or a 50 hp 2-stroke outboard motor. Per the site report, the motors proposed are consistent with the size and type routinely used for commercial and recreational purposes along the Maine coast (SR 15). Two

vessels would access the site during daylight hours up to three days each week (App 21). A Honda EU 7000 generator would be used infrequently and only as a backup for the solar powered batteries that would power the oyster sorter and upweller. The applicant would also utilize a 5 hp water pump, two to three times a year, to remove fouling from the floating bags.

Noise generating equipment would be used on an infrequent basis. The applicant would limit operations to daylight hours and would access and service the site on a limited basis throughout the week. The generator would only be used as backup power source for solar power. DMR did not receive any comments or testimony about noise. Based on this evidence and the operational plans, the applicant has taken reasonable measures to mitigate noise impacts at the boundary of the proposed site.

Therefore, the aquaculture activities proposed for this site will not result in an unreasonable impact from noise at the boundaries of the lease.

I. Visual Impact

The applicant intends to deploy black floating cages to cultivate oysters (App 17). The buoys would be white, green, or blue and the vessels would be green or white (App 17). The rafts would be made of unpainted wood (App 17). An aluminum frame would be secured to the top of each raft and would support ~12 solar panels (App 15). As calculated from the above the water line, the height of the raft, including all aluminum framing, solar panels, and the bird deterrents, would be nine feet (App 15).⁶ Based on a review of the proposed operations, the aquaculture activities comply with DMR's height and visual impact criteria.

Therefore, equipment and structures proposed for the lease site will comply with the visual impact criteria contained in DMR Regulation 2.37 (1) (A) (10).

4. CONCLUSIONS OF LAW

Based on the above findings, I conclude that:

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

⁶ Pg. 15 of the application indicates that the height of the raft above the waterline (including the framing and solar panels is 8.5 feet). During the hearing, the applicant testified that the bird deterrents would be 6 inches in height. Therefore, total height is 9 feet, which is below the 20-foot maximum provided in law.

- c. The aquaculture activities proposed for this site will not unreasonably interfere with fishing or other uses of the area, taking into consideration the number and density of aquaculture leases in the area.
- d. The aquaculture activities proposed for this site will not unreasonably interfere with the ability of the lease site and surrounding areas to support existing ecologically significant flora and fauna.
- e. 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.
- f. The applicant has demonstrated that there is an available source of American/eastern oysters (*Crassostrea virginica*) and northern quahogs (*Mercenaria mercenaria*) to be cultured on the lease site.
- g. The aquaculture activities proposed for this site will not result in an unreasonable impact from light at the boundaries of the lease site.
- h. The aquaculture activities proposed for this site will not result in an unreasonable impact from noise at the boundaries of the lease site.
- i. The aquaculture activities proposed for this site will comply with the visual impact criteria contained in DMR Regulation 2.37(1)(A)(10).

Accordingly, the evidence in the record supports the conclusion that the proposed aquaculture activities meet the requirements for the granting of an aquaculture lease set forth in 12 M.R.S.A. §6072.

5. DECISION

Based on the foregoing, the Commissioner grants the proposed lease in the amount of 2.64 acres to Timothy Johnson for 20 years for the cultivation of American/eastern oysters (*Crassostrea virginica*) and northern quahogs (*Mercenaria mercenaria*) using suspended and bottom culture techniques. The lessee shall pay the State of Maine rent in the amount of \$100.00 per acre per year. The lessee shall post a bond or establish an escrow account pursuant to DMR Rule 2.40 (2)(A) in the amount of \$5,000.00, conditioned upon performance of the obligations contained in the aquaculture lease documents and all applicable statutes and regulations.

6. CONDITIONS TO BE IMPOSED ON LEASE

The Commissioner may establish conditions that govern the use of the lease area and impose limitationsn

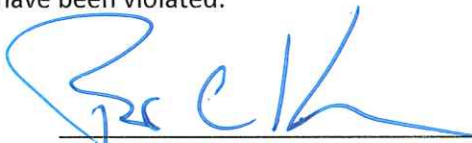
aquaculture activities, pursuant to 12 M.R.S.A §6072(7-B).⁷ The following conditions are imposed on this lease:

- 1) Lobster fishing and seining are prohibited within the boundaries of the lease site.
- 2) Except with authorization from the lessee, boating, fishing, and swimming is prohibited in areas of the lease site occupied by surface gear.

7. REVOCAION OF LEASE

The Commissioner may commence revocation procedures upon determining pursuant to 12 M.R.S.A §6072(11) that no substantial aquaculture has been conducted within the preceding year, that the lease activities are substantially injurious to marine organisms, or that any of the conditions of the lease or any applicable laws or regulations have been violated.

Dated: 7/27/2020



Patrick C. Keliher, Commissioner
Department of Marine Resources

⁷ 12 MRSA §6072 (7-B) states: "The commissioner may establish conditions that govern the use of the leased area and limitations on the aquaculture activities. These conditions must encourage the greatest multiple, compatible uses of the leased area, but must also address the ability of the lease site and surrounding area to support ecologically significant flora and fauna and preserve the exclusive rights of the lessee to the extent necessary to carry out the lease purpose."