

**STATE OF MAINE
DEPARTMENT OF MARINE RESOURCES**

Portland Oyster Company, LLC

Experimental Aquaculture Lease Application
Suspended Culture of American Oysters
Spurwink River, Cape Elizabeth

January 2, 2019

FINDINGS OF FACT AND DECISION

BACKGROUND

On October 16, 2017, Portland Oyster Company LLC, a Maine company, applied to the Department of Marine Resources (DMR) for an experimental aquaculture lease on 1.00 acre located in the Spurwink River, Cape Elizabeth, Cumberland County, Maine, for the suspended culture of American oysters (*Crassostrea virginica*). DMR accepted the application as complete on January 11, 2018. On October 25, 2017, Matthew Hassler and Robert Willette (Hassler/Willette) also applied to DMR for a 2.89-acre experimental lease for the suspended culture of American oysters in the Spurwink River. The Hassler/Willette application was deemed complete on December 4, 2017.

DMR staff determined that portions of the proposed areas requested by each of the applicants overlapped. Figure 1 provides a visual representation of the overlap. These overlapping applications qualified as “competing lease applications” in accordance with Chapter 2.41 of DMR regulations, because both applications were accepted by DMR prior to the first public notice of a hearing to consider either of the applications. DMR processed the applications in accordance with Chapter 2.41 and determined that the applications would be considered sequentially by the date each application was deemed complete in accordance with Chapter 2.10(2)(A)(1).

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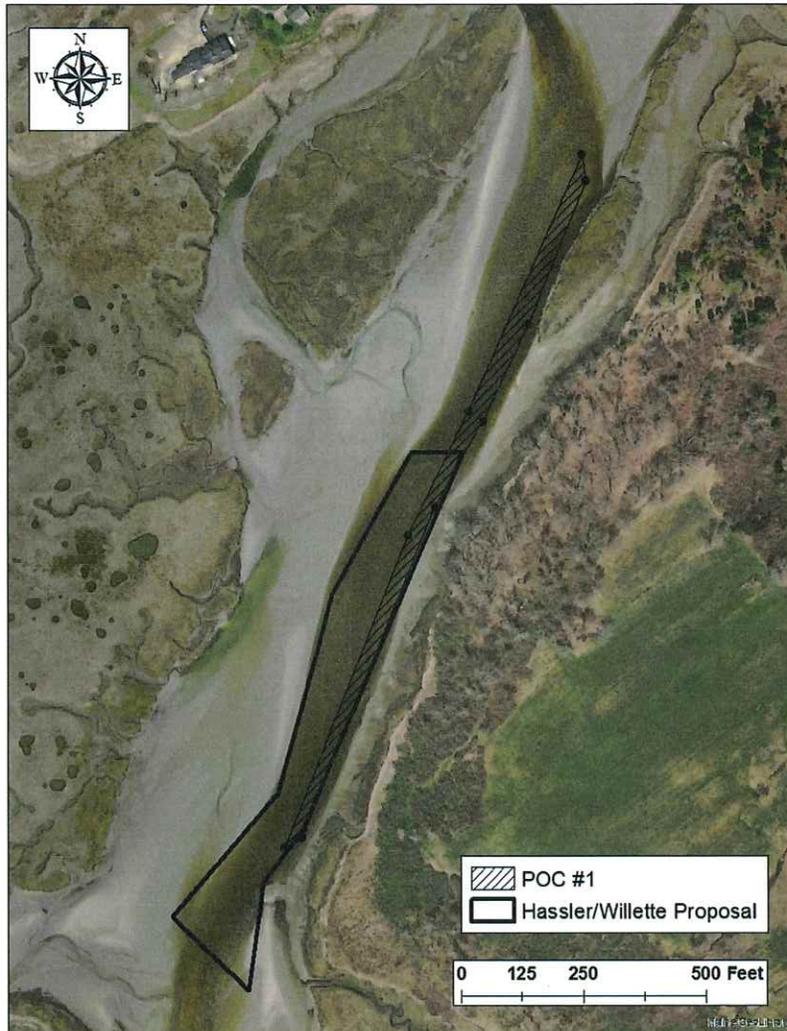


Figure 1: The proposed lease area requested by Portland Oyster Company (POC#1) and Hassler/Willette.

Because the Hassler/Willette application was deemed complete before the application submitted by Portland Oyster Company, LLC, it was processed first in accordance with applicable laws and regulations. Based on his review of the evidence in the record, including the report of the Department’s site evaluation, the Commissioner found that Hassler/Willette’s proposed aquaculture activities did not satisfy all the requirements for granting an experimental lease set forth in 12 M.R.S.A §6072-A. Specifically, the proposal would have unreasonably interfered with navigation, the ability of the lease site and surrounding area to support existing ecologically significant flora and fauna, and fishing and other water related uses of the area. Therefore, the Hassler/Willette application was denied and no lease was issued.

After issuing a decision on the Hassler/Willette application, the Commissioner considered the application of Portland Oyster Company, LLC.¹ The Portland Oyster Company proposal includes suspended culture techniques in an area that overlaps with the denied Hassler/Willette application. Because of the overlap between the respective proposed lease sites and the similarity of the aquaculture activities that would take place on them, the Commissioner took official notice of the Hassler/Willette, Site Report, and Findings of Fact, Conclusions of Law and Decision on that application dated October 1, 2018.²

Copies of the Hassler/Willette site report and decision are attached hereto as Exhibit A and Exhibit B, respectively. Based on the information in the site report and the findings of fact and conclusions of law contained in those documents, the Commissioner finds that Portland Oyster Company, LLC's application would not satisfy all the requirements for granting an experimental lease under 12 M.R.S.A. §6072-A. The reasons for this determination are explained in more detail below.³

EXHIBITS⁴

- A. Hassler/Willette Site Report dated July 13, 2018
- B. Hassler/Willette Lease Decision dated October 1, 2018

PROPOSED OPERATIONS

Portland Oyster Company LLC applied to deploy two longlines measuring 1,500 feet in length (App 19). Each longline would hold 500 floating oyster bags (App 19). At full production, 1,000 floating bags would be deployed in two parallel rows (App 26).

FINDINGS OF FACT

¹ References to Portland Oyster Company's application are cited, with page numbers, as App (application).

² Even though the review of this application did not involve an adjudicatory hearing, the applicants were provided notice of the Commissioner's intent to take official notice of these matters by the provision of a draft decision and were provided an opportunity to contest the substance or materiality of the facts so noticed by the submission of comments and exceptions.

³ Pursuant to 12 M.R.S.A §6072-A(5) and Chapter 2.10(4)(A)(2) of the Department's Aquaculture Lease Regulations, If the Commissioner or his designee determines that the application could not be granted the applicant shall be notified in writing of that determination and no further Department action on the application is required.

⁴ References to these sources, are cited, with page numbers, as H/W, SR (Hassler/Willette, Site Report) and H/W, LD (Hassler/Willette, Lease Decision).

A. Flora and Fauna

Based on data maintained by the Maine Department of Inland Fisheries and Wildlife (MDIFW), the proposed lease site is located within an area categorized as “Essential Habitat” for least terns and piping plovers, which are listed as endangered under the Maine Endangered Species Act (H/W, SR 18, LD 6). Essential Habitats are areas, established through rule-making, that have physical or biological features that are essential to the conservation of an endangered or threatened species (H/W, LD 7). In addition, the proposed site is in an area classified as Tidal Wading Bird and Waterfowl Habitat (TWWH), which is defined under Maine’s Natural Resources Protection Act (NRPA) as Significant Wildlife Habitat (H/W, SR 17). Figure 2 depicts the location of the proposed lease site and respective habitat designations.

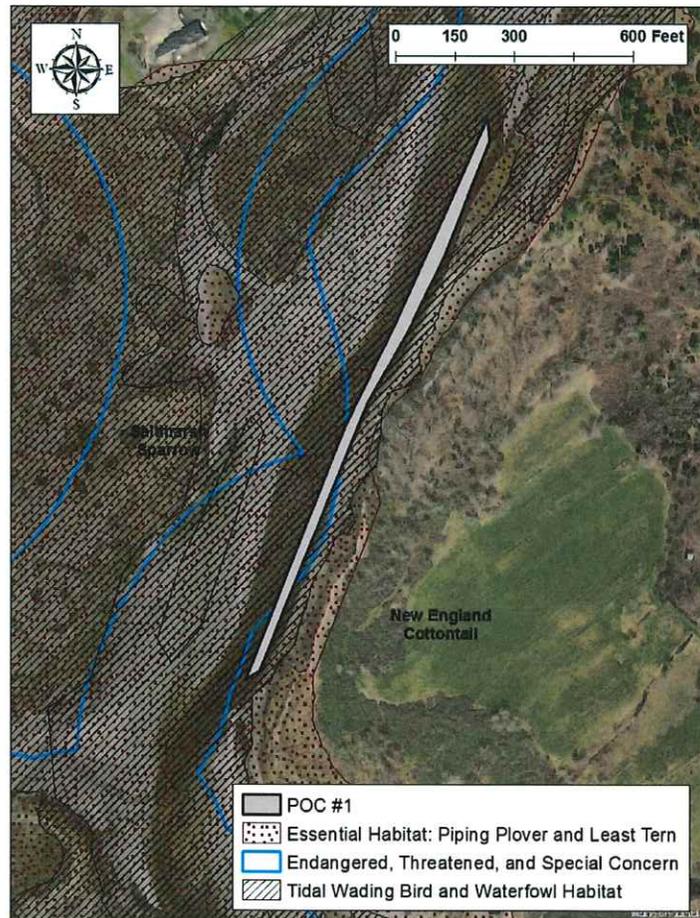


Figure 2: Proposed POC lease site and MDIFW habitat designations. Image created by DMR science staff.

On May 22, 2018, DMR scientists visited the Hassler/Willette proposed lease site and assessed it and the surrounding area in consideration of the criteria for granting an experimental aquaculture lease (H/W, LD 2). During the site visit, staff observed approximately four least terns (*Sternula antillarum*) and ten common terns (*Sterna hirundo*) actively foraging in the shallow subtidal water throughout the lease area proposed by Hassler/Willette (H/W, SR 16). Least terns are listed as endangered under the Maine Endangered Species Act (H/W, SR 18, LD 6). DMR sent a copy of the Hassler/Willette proposal to the MDIFW for their review and comment. On August 22, 2018, MDIFW submitted the following comment: “additional leases for oyster culture in the Spurwink River may significantly alter and unreasonably harm foraging opportunities for the state endangered least tern.”⁵

Discussion:

The state endangered least tern has been documented within the vicinity of the Portland Oyster Company lease proposal. In their review, MDIFW noted that any additional leases for oyster aquaculture, in the Spurwink River, may cause unreasonable harm to the least tern. At full production, 1,000 floating bags would be deployed on the proposed site. The site would also be serviced on a regular basis, as the applicants tend to gear and harvest product. The gear and associated activities may displace and disturb the state endangered least tern. Considering the nature of the proposed aquaculture activities and the facts officially noticed including: the location of the proposed site within an Essential Habitat; the documented presence of the state endangered least tern near the vicinity of the proposed site; and the concerns raised by MDIFW over a similar proposal, I find that the lease activities proposed by Portland Oyster Company would unreasonably interfere with the ability of the lease site and the surrounding areas to support existing ecologically significant flora and fauna.

DECISION

For the reasons described above, and in accordance with 12 M.R.S.A §6072-A(5) and Chapter 2.10(4)(A)(2), I find that the experimental lease application submitted by Portland Oyster Company LLC could not be granted as it would not satisfy all the requirements for

⁵ CF: Hassler/Willette, email from J. Perry to A. Ellis and F. Drury dated August 22, 2018. The comment is also referenced on page 6 of the Hassler/Willette lease decision.

granting an experimental lease set forth in 12 M.R.S.A §6072-A. Therefore, no further processing will occur and the application is denied.⁶

Dated: Jan 2, 2019 
Patrick C. Keliher, Commissioner,
Department of Marine Resources

⁶ Because the lease application would ultimately be denied, there is no public purpose that would be served by furthering the application process and doing so would be an inefficient use of DMR's agency resources.

Dept. of Marine Resources
Site Review #2017-19-E

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207-730-2892

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3 Track View Dr.
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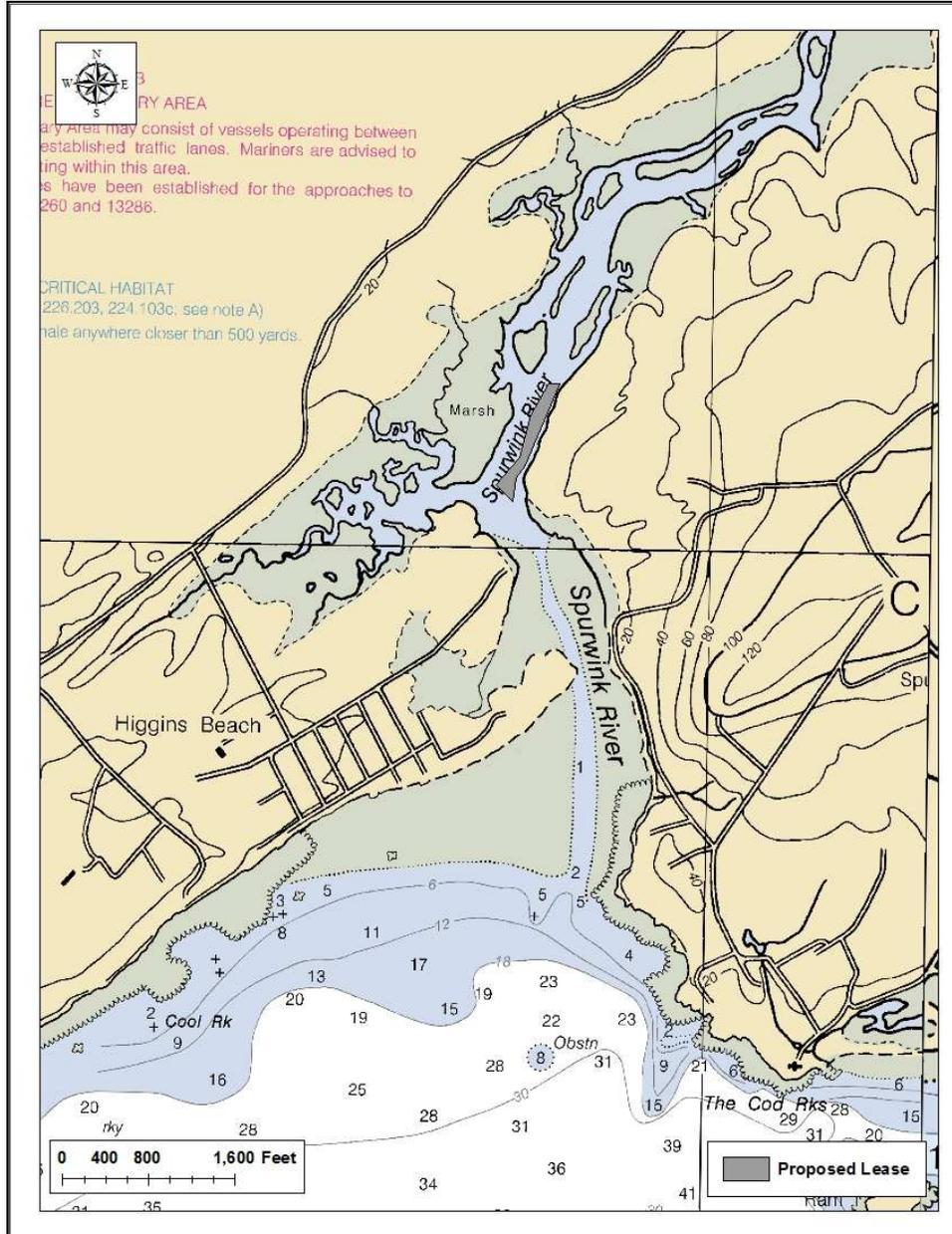


Figure 1: Vicinity map¹

Site Review by: Jon Lewis, Marcy Nelson and Flora Drury

Report Preparation by: Marcy Nelson, Flora Drury, and Jon Lewis

July 13, 2018

¹All figures in this report were created in ArcMap version 10.4 using digitized NOAA Nautical Charts or geo-referenced aerial photographs provided by The Maine Office of GIS or Google Earth.

Location: Spurwink River, Scarborough and Cape Elizabeth, Cumberland County, Maine

Purpose: Experimental lease for the suspended culture of American/eastern oysters (*Crassostrea virginica*)

General Characteristics

Maine Department of Marine Resources (MDMR) staff Jon Lewis, Marcy Nelson, and Flora Drury visited the proposed lease site on May 22, 2018, gaining access to the area via the property of Philip and Joan Jewett (Figure 2a). Staff arrived at 9:17 am and proceeded to make observations throughout the late ebb stage to slack low water, leaving the area at approximately 1:00 pm.

The proposed lease occupies subtidal and intertidal waters in the Spurwink River. According to the application, it appears the applicant's intent was to locate the proposed lease in subtidal waters only. However, at the time of the site assessment on May 22, 2018, MDMR staff noted areas of the proposed lease that were exposed prior to and at low water (see below, "Depth"). A tidally exposed sandbar, leading to salt marsh and the Rachel Carson National Wildlife Refuge, dominates the immediate uplands to the west of the proposed lease site. Residential properties are located beyond the National Wildlife Refuge and to the south. Mixed forest, exposed ledge leading to grass, and a tidally exposed sand beach characterize the neighboring eastern shore of the Spurwink River (Images 1-10).



Image 1: Western shore with corner 5 marker buoy in foreground (May 22, 2018 at 10:15 am).



Image 2: Eastern shore and corner 6 marker buoy (May 22, 2018 at 10:17 am).



Image 3: Eastern shore, looking southeast towards corners 7 and 8 (May 22, 2018 at 10:36 am).



Image 4: Facing south with corner markers 3, 7, and 8 visible (May 22, 2018 at 10:36 am).



Image 5: Eastern shore between corner markers 7 and 8 (May 22, 2018 at 10:45 am).



Image 6: Facing northeast from corner 1 (May 22, 2018 at 10:49 am).



Image 7: Facing southwest from corner 1 (May 22, 2018 at 10:49 am).



Image 8: Facing west with corner 2 in the foreground (May 22, 2018 at 10:52 am).



Image 9: Facing north towards corner 3 from corner 2 (May 22, 2018 at 10:53 am).



Image 10: MDMR staff walking the edge of the western intertidal shoreline. Corner 4 marker buoy can be seen in the intertidal (May 22, 2018 at 12:11 pm).

Depth

MDMR staff arrived at 9:17 am and observed the proposed lease through the remainder of the ebb tide. On May 22, 2018, the predicted time of low water at Richmond Island, the nearest station and located more than 2.3 miles (straight-line distance) to the southeast of the proposed lease, was 11:48 am.

Richmond Island, Maine²

(43.5450° N, 70.2383° W)

Date	Time	Height (ft.)
05/22/18	05:22 AM	9.85 H
05/22/18	11:48 AM	-0.20 L
05/22/18	06:13 PM	9.33 H

Slack low water within the proposed area of the Spurwink River, however, occurred at ~12:38 pm, a 50-minute delay. Tidal stations are used only as estimates of tidal height and cannot account for the physical characteristics of distant areas that may affect water flow. Due to limitations in the accuracy of tidal predictions and depth calculations for the Spurwink River, MDMR staff observed the proposed lease area through the falling tide, walking the boundaries and collecting depth

² <http://tbone.biol.sc.edu/tide/tideshow.cgi>

measurements (Table 1). During the ~40 minutes prior to observed slack low water, MDMR staff also mapped the edge of the intertidal zone along the western shoreline (Figure 2b).

Water depths throughout the duration of the Department’s site assessment (mid- to low tide) were less than 3.5 feet. The area of the proposed lease bounded by corners 3-8 remained subtidal throughout the falling tide. Approximately 2 hours prior to observed slack low water, corner 1 occupied the sandy intertidal (Table 1, Figure 2b, Images 6 and 7). The area of the proposed lease bounded by corners 2 and 3 crossed tidally exposed sandbars more than 1 hour and 30 minutes prior to low water (Table 1, Images 8 and 9).

Table 1: Water depths collected throughout the proposed lease on May 22, 2018

Corner/Location	Time of Collection	Depth (inches)
Corners 7 - 8	10:40 – 10:45 am	16-36
Corner 1	10:49 am	0
Corner 2	10:53 am	3
Corner 2	11:55 am	0
Center South	11:55 am	16
Corners 2 - 3	11:59 am -12:03 pm	0-5
Corner 3	12:04 pm	1.5
Just North of Corner 4	12:12 pm	18
Corner 5 Buoy	12:15 pm	3

The applicants are proposing to cultivate American oysters in a combination of floating plastic mesh bags (each measuring 27” W X 36” L X 4”H) and OysterGro® cages (each measuring 3’W X 4.5’L X 2’H). A maximum of 4,000 cages and/or bags would be strung together in up to 7 parallel rows.³ At mid to low tidal stages, western and southern portions of the proposed lease site do not have the water depth to support the flotation of OysterGro® cages.

Bottom Characteristics

MDMR staff members observed the bottom characteristics of the proposed lease site by walking and kayaking. 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; no sediment samples were taken or grain size analysis performed. Sand, with occasional sections of exposed rock, gravel, and/or shell hash compose the bottom of the proposed lease (Images 12-14).

Table 2: Bottom characteristics of proposed site

Substrate Origin	Substrate Class	Substrate Subclass	Substrate Group	CMECS Code	Co-Occurring Element
Geologic Substrate	Unconsolidated Mineral Substrate	Fine Unconsolidated Substrate	Sand	S1.2.2.2	Shell Hash (S2.5.3)

³ Figure 4 of application, page 18

Current

The tide was receding during the MDMR's site assessment. A strong southwesterly current of several knots, turning southeast around the bend near proposed corner 1, was noted. The applicants propose moorings with a 2:1 scope which may prove to be inadequate for maintaining gear in straight lines with clear and consistent spacing, considering the surface area of gear proposed and the observed tidally driven currents in the area.

Position and Distances to Shore

On May 22, 2018, floating buoys inscribed with the words "SEA FARM" marked the corners of the proposed lease. MDMR staff used the application coordinates and a hand-held GPS unit (Garmin GPSMAP 78SC) to navigate to each corner of the proposed lease area and verify the placement of corner markers. POSAID Positioning Software was used to verify the distances and bearings between proposed lease corners. Distances to shore were determined using the measuring tool in ArcMap 10.4, georeferenced digital orthophotography provided by Google Earth, the application coordinates, and GPS points collected around low water on May 22, 2018.

Application Coordinates – 2.89⁴ Acres (Figure 2a)

<u>Corner</u>	<u>Latitude</u>	<u>Longitude</u>	
1	43.5679°N	70.2736°W	then 215.75 feet at 312.52° True to
2	43.5683°N	70.2742°W	then 331.76 feet at 39.73° True to
3	43.5690°N	70.2734°W	then 414.74 feet at 14.81° True to
4	43.5701°N	70.2730°W	then 332.15 feet at 28.60° True to
5	43.5709°N	70.2724°W	then 106.01 feet at 90.00° True to
6	43.5709°N	70.2720°W	then 828.92 feet at 202.56° True to
7	43.5688°N	70.2732°W	then 135.21 feet at 216.02° True to
8	43.5685°N	70.2735°W	then 220.31 feet at 186.91° True to Corner 1.

⁴ Applicant originally requested 2.77 acres. DMR calculations, based on the provided coordinates, indicate the area is 2.89 acres.

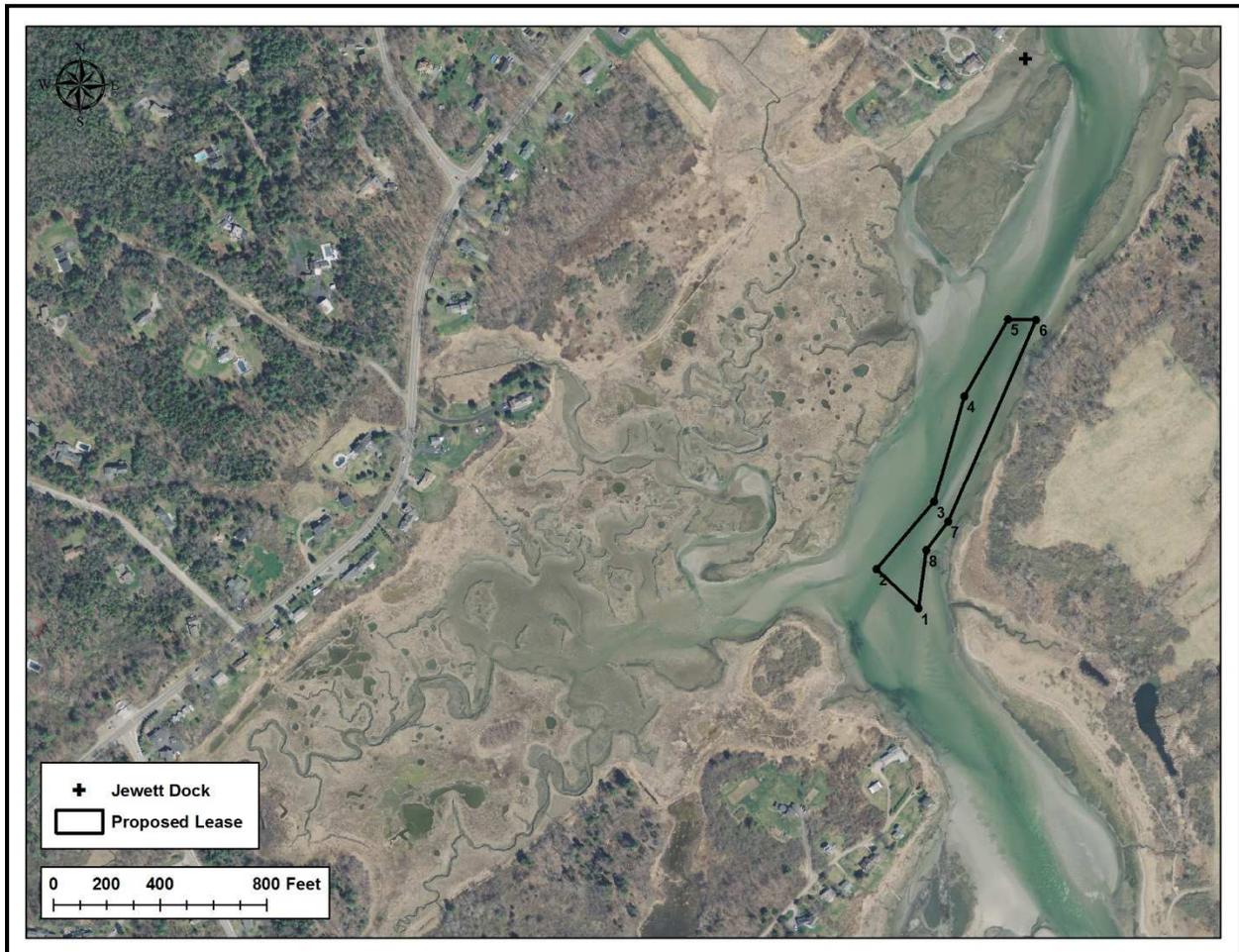


Figure 2a: Proposed lease area using geo-referenced aerial photographs provided by The Maine Office of GIS (GeoLibrary_6in_2012).

Several of the applicant’s marker buoys were misplaced in relation to the application coordinates (Table 3, Figure 2b).

Table 3: Location of corner marker buoys in relation to corners described in the application

Corner Buoy	Latitude	Longitude	Offset (ft.)	Bearing (°T) to Actual Corner
1	43.5681560°N	70.27376597°W	103.17	154.76
4	43.57017498°N	70.27308997°W	36.28	138.90
5	43.57094896°N	70.272463°W	24.45	136.93
6	43.57094502°N	70.27208003°W	26.81	127.73

Approximate Distances to Shore (Figure 2b)

Western Boundary to Intertidal, West Shore of Spurwink River	~ -35 to +40 feet
Eastern Boundary to Intertidal, East Shore of Spurwink River	~0-30 feet
Corner 1 to East Shore of Spurwink River (MLW)	Located in the intertidal zone
Corner 2 to West Shore of Spurwink River (MLW)	Located in the intertidal zone

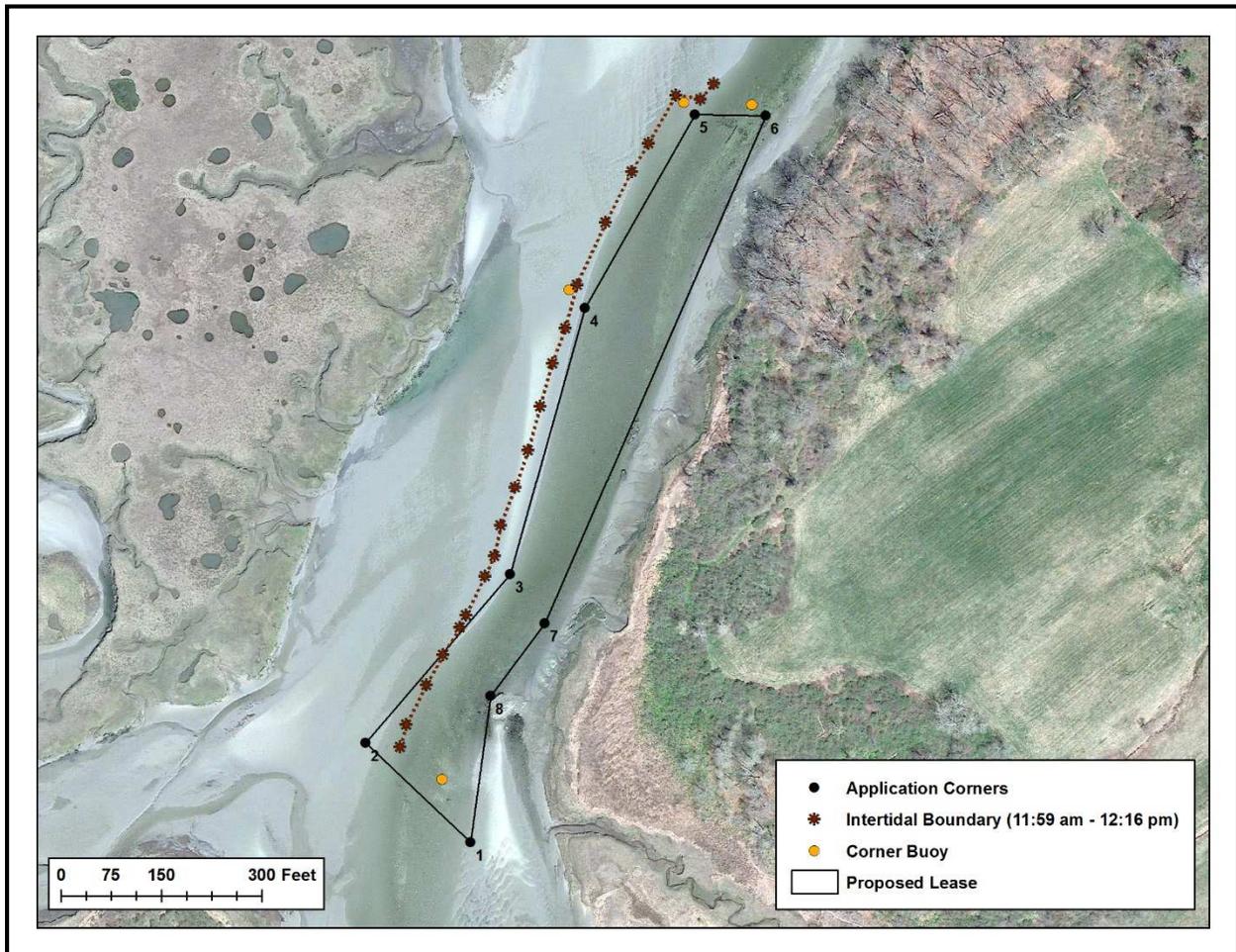


Figure 2b: Proposed lease area in relation to intertidal mapping conducted on May 22, 2018. Geo-referenced aerial photograph provided by Google Earth Pro (May 9, 2016) and imported into ArcMap 10.4.

The criteria MDMR uses to determine the suitability of an experimental aquaculture operation to an area (MDMR Regulations Chapter 2.64(7)) are discussed, with respect to the proposal, below:

(1) Riparian Ingress and Egress

The surrounding salt marsh and intertidal to the west of the proposed lease are predominantly owned by the Rachel Carson National Wildlife Refuge and therefore, are largely uninhabited (Figure 4). The eastern shoreline immediately adjacent to the proposed lease is undeveloped. Residential buildings are visible to the south, west, and north. Northerly and westerly properties are separated from the proposed lease area by salt marsh. On May 22, 2018, the nearest observed dock was more than 800 feet to the north of the proposed lease (straight-line distance, Image 11).



Image 11: Facing south from Jewett property (Figure 2a). Intertidal flats and salt marsh lie between the proposed lease area, to the south, and the two nearest docks (May 22, 2018, 9:22 am).

The nearest dock to the south was a pier, with ramp haul-out, located on the eastern shoreline and approximately 1,700 feet from the proposed lease. Several more residential properties, without apparent docks, were observed on the point to the southwest of the proposed lease (Figure 2a, Image 7).

MDMR staff observed moorings to the south, but none with which the proposed lease might interfere. The location of the proposed lease does not directly obstruct riparian access to docks and moorings.

(2) Navigation

On May 22, 2018, around the time of predicted low tide, MDMR staff witnessed two kayakers traveling south through the proposed lease area. The kayakers navigated the deeper channel waters closer to the eastern shore of the river. Kayaks, canoes, and small outboard-powered boats were also observed at several properties along the shoreline, indicating regular recreational boating activity throughout the Spurwink River (Image 11). The Rachel Carson National Wildlife Refuge maintains a hand-carry boat launch approximately 1 mile to the north of the proposal.

The proposed lease encompasses all navigable waters in that section of the Spurwink River for at least 2 hours on either side of low water (Table 1, Figure 2b). Kayaks and other human powered vessels with shallow paddle angles that can skim through less than 5 inches of water may be able to travel to the west of the proposed lease at low water. Such vessels would have to be pulled or carried over the tidally exposed sand bar between corners 2 and 3 (Image 9). Stand-up paddle boards and canoes will encounter more difficulty due to the depth and angle of paddle placement. Navigation to the east of the proposed lease, if granted, would be restricted at all tidal stages due to hazards posed by exposed ledges near corner 8 (Figure 2b, Image 5). Taking into consideration MDMR staff observations of 2 kayakers on May 22, 2018 and measured water depths within the general area of the proposed lease, the preferred navigation route for boaters is likely the deeper water along the eastern side of the channel.

The applicants propose to maintain a 10-foot navigation corridor through the site, if granted. According to the application, the location of this navigation path would vary. Canoes, kayaks, and paddle boards commonly exceed 10 feet in length. A 10-foot wide navigation corridor between lines of bags and/or cages, coupled with strong tidally driven currents, will likely yield scenarios in which vessel operators have inadequate maneuverability.

(3) Fishing and Other Uses

No commercial or recreational fishing was observed near the proposed lease at the time of MDMR's site visit on May 22, 2018. Shellfish harvesting is, however, likely to occur in the intertidal area surrounding the proposed lease. Soft-shell clam (*Mya arenaria*) and blue mussel (*Mytilus edulis*) shells were prevalent throughout the proposed lease and surrounding intertidal. Live European oysters (*Ostrea edulis*) and soft-shell clams were observed in the intertidal to the east of corner 1. No other commercially fished species were observed in exploitable quantities (Refer to Section 5: Existing System Support).

According to MDMR's Biological Monitoring and Assessment Division, Recreational Fisheries Program, recreational shoreline angling is known to occur from Higgins Beach through the mouth of the Spurwink River (Figure 1). Average daytime activity ratings, from May through October, range from 1-4 anglers at either end of the fishing season to 5-8 anglers at the peak of the season. Other sites in the Marine Recreational Information Program (MRIP) – a NOAA Fisheries program – register include nearby private/rental boat and charter boat activity.⁵

In a letter submitted to MDMR on January 19, 2018, Kate O'Brien, Acting Refuge Manager at the Rachel Carson National Wildlife Refuge wrote,

"...The Refuge also manages hunting and fishing programs in select areas in the Spurwink Division. Waterfowl, turkey and deer are all hunted according to State and federal guidelines. The river is well known as a fantastic place to fish. Given the possible intensity of this operation during the hunt season, we are concerned over possible disturbance to our hunting and fishing public. The area is heavily used by sportsman, fisherman and recreational boaters..."

On May 22, 2018, MDMR staff witnessed spent cartridges along the western shoreline, providing evidence of hunting in this area of the Spurwink River.

⁵ Email from Clarisse Brown, MDMR Recreational Saltwater Fisheries Program, to Marcy Nelson (June 14, 2018)

Recreational angling from shore and by boat will remain unhindered to the north and south of the proposed lease. Traveling through or fishing within the boundaries of the proposed lease, however, will be constrained to the proposed 10-foot wide navigation path or outside the boundaries of the proposed lease at high tidal stages.

(4) Other Aquaculture Uses

There are currently no active aquaculture operations within the Spurwink River. The nearest aquaculture lease or license to the proposal is located near Richmond Island in Cape Elizabeth, more than 1.82 miles to the southeast (straight-line distance).⁶

(5) Existing System Support

On May 22, 2018, a handheld digital video camera contained within an underwater housing was used to document the epibenthic ecology of the surrounding area. MDMR staff walked and kayaked, in a meandering pattern, most of the proposed lease and surrounding area. The bottom comprises primarily sand, with varying abundances of shell hash (Image 12). Gravel, shell hash, and exposed rock are more prevalent along the eastern boundary, between proposed corners 7 and 8 (Images 13 and 14). Soft-shell clams (*Mya arenaria*) and blue mussels (*Mytilus edulis*) compose much of the observed shell hash.

The relative abundances of epibenthic macro flora and fauna observed throughout the video transect are described below.

Species and Relative Abundances

Periwinkle (<i>Littorina sp.</i>) – common to abundant, particularly between corners 7 and 8
Sand Shrimp (<i>Crangon septemspinosa</i>) – common
Barnacles (<i>Balanus sp.</i>) – abundant on rocks along eastern shore
Blue mussels (<i>Mytilus edulis</i>) – common to abundant between corners 7 and 8
Green crab (<i>Carcinus maenas</i>) - occasional
Hermit crab (<i>Pagurus sp.</i>) - occasional
European oysters (<i>Ostrea edulis</i>) – common in tidepool to east of corner 1/8 boundary
Soft-shell clams (<i>Mya arenaria</i>) – observed in intertidal flats, abundance unknown
Hollow green weed (<i>Enteromorpha sp.</i>) – common on rocks
Sea lettuce (<i>Ulva sp.</i>) – common on rocks
Filamentous green algae (<i>Chlorophyta</i>) – common on rocks
Irish Moss (<i>Chondrus crispus</i>) – common to abundant, near corner 8
Variable tube weed (<i>Devaleraea ramentacea</i>) – common to abundant, near corner 8
Crustose algae – abundant on rocks along eastern shore
Knotted wrack (<i>Ascophyllum nodosum</i>) – occasional, near corner 8
Rockweed (<i>Fucus sp.</i>) – occasional, near corner 8

⁶ <https://www.maine.gov/dmr/aquaculture/leases/aquaculturemap.html> - LPA License MODL217



Image 12: Predominant sediment composition with proposed lease area (May 22, 2018).



Image 13: Screen capture of epibenthic habitat near corner 8 (May 22, 2018).



Image 14: Screen capture of blue mussel shell near corner 8 (May 22, 2018).

Eelgrass (*Zostera marina*)

Historic records of eelgrass distribution and abundance, collected by the Maine Department of Marine Resources between 2001 and 2010, do not indicate the presence of eelgrass in the Spurwink River. No eelgrass was observed near the proposed lease during the Department's underwater site assessment on May 22, 2018.

Wildlife

During MDMR's site review on May 22, 2018 Canada geese (*Branta canadensis*), gulls (*Larus sp.*), peeps (*Calidris sp.*), sandpiper (*Tringa sp.*), sparrows (*Ammodramus caudacutus?*), and one snowy egret (*Egretta thula*) were observed throughout the surrounding saltmarsh and along the intertidal shoreline. Roughly four least terns (*Sternula antillarum*) and ten common terns (*Sterna hirundo*) were actively foraging in the shallow subtidal water throughout the proposed lease area (Image 15), particularly to the south of corners 3 and 7. They appeared to be diving for sand shrimp (*Crangon septemspinosa*) that were commonly observed.



Image 15: Common Tern on corner 1 marker buoy (May 22, 2018 at 11:32 am).

According to GIS (Geographic Information System) data maintained by MDIF&W and available through the Maine Office of GIS, the proposed lease site is located within an area categorized as “Essential Habitat” for least terns and piping plovers; species that are listed as endangered in the State of Maine (Figure 3). Furthermore, the proposed lease is almost entirely within saltmarsh sparrow (*Ammodramus caudacutus*) habitat; a species of special concern in the State of Maine. The proposed lease and surrounding shallow subtidal and saltmarsh are also classified as Tidal Wading Bird and Waterfowl Habitat (TWWH). TWWH is defined under Maine's Natural Resources Protection Act (NRPA) as Significant Wildlife Habitat.

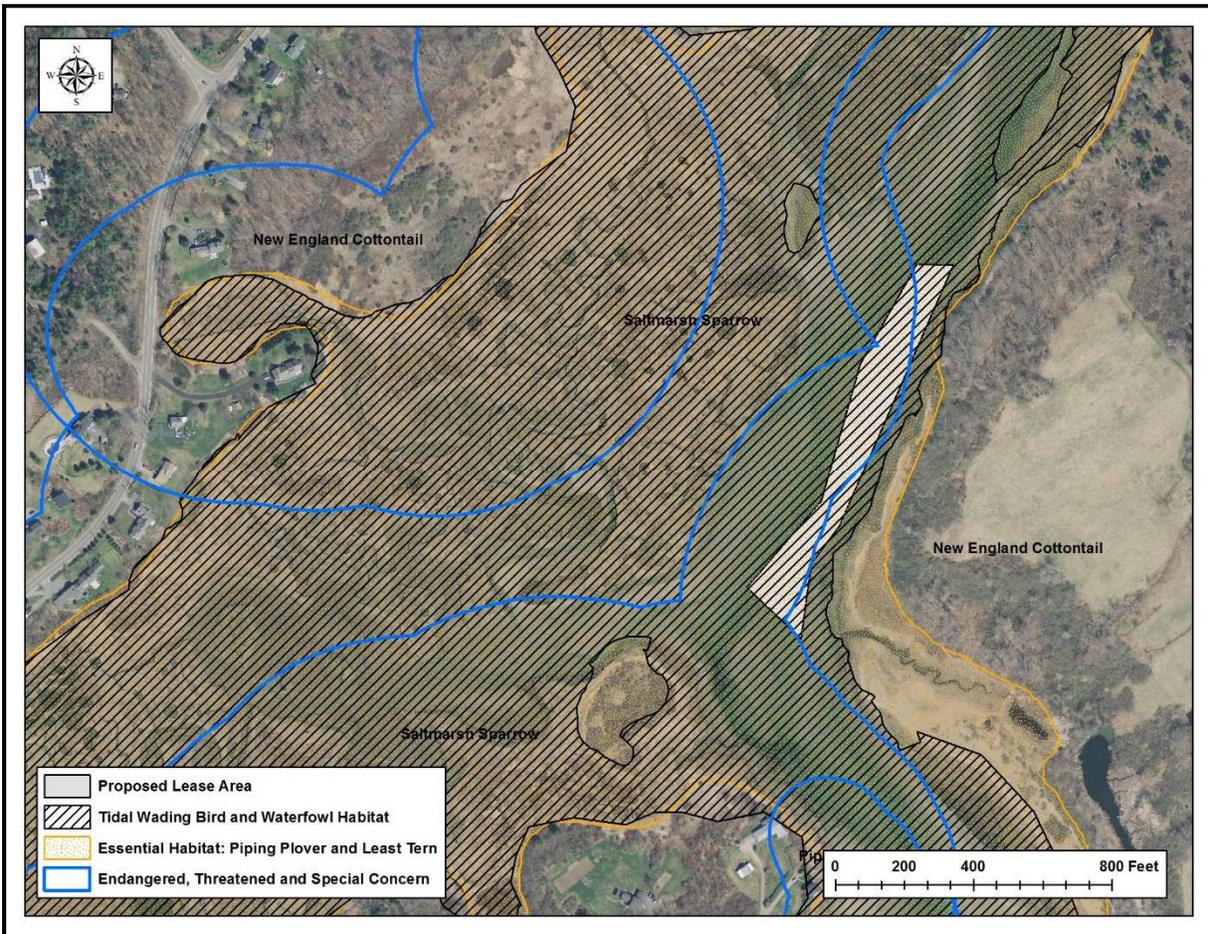


Figure 3: Endangered, Threatened, and Species of Special Concern Habitat⁷, Essential Habitat⁸, and Tidal Wading Bird and Waterfowl Habitat⁹ in and around the proposed lease.

On December 12, 2017, a “Request for Review and Comment” was sent to the Maine Department of Inland Fisheries and Wildlife (MDIFW).

MDIFW Wildlife Biologist Brad Zitske visited the proposed lease site with MDMR Scientist Flora Drury on June 26, 2018. MDMR and MDIFW staff arrived on site at 4:15 pm and observed the proposed lease site by walking along the western shoreline of the Spurwink River. Low tide at Richmond Island was predicted to occur at 4:53 pm on June 26, 2018.

At the time of this report no official written comments had been received. Should MDIFW decide to submit formal comments, they will become part of the administrative record on this application.

(6) Interference with Public Facilities

The saltmarsh to the west of the proposed lease is part of the Rachel Carson National Wildlife Refuge (RCNWR), which is managed by the U.S Fish and Wildlife Service (Figure 4). The

⁷ Data obtained from MDIWF maintained SDE Feature Class “GISVIEW.MEIFW.ETSC”

⁸ Data obtained from MDIWF maintained SDE Feature Class “GISVIEW.MEIFW.EhplvtrmPoly”

⁹ Data obtained from MDIWF maintained SDE Feature Class “GISVIEW.MEIFW.Twwh”

National Wildlife Refuge was established to “protect valuable salt marshes and estuaries for migratory birds”.

According to data available through the Maine Office of GIS, the municipality of Scarborough maintains fee access to Harmons Island (Figure 4). The proposed lease will not interfere with the use of this parcel. The proposed lease is not within 1,000 feet of any other beach, park, docking facility, or conserved lands owned by federal, state, or municipal government. There is a hand-carry boat launch, maintained by the RCNWR, located approximately 1 mile to the north of the proposal, at the Rte. 77 bridge.

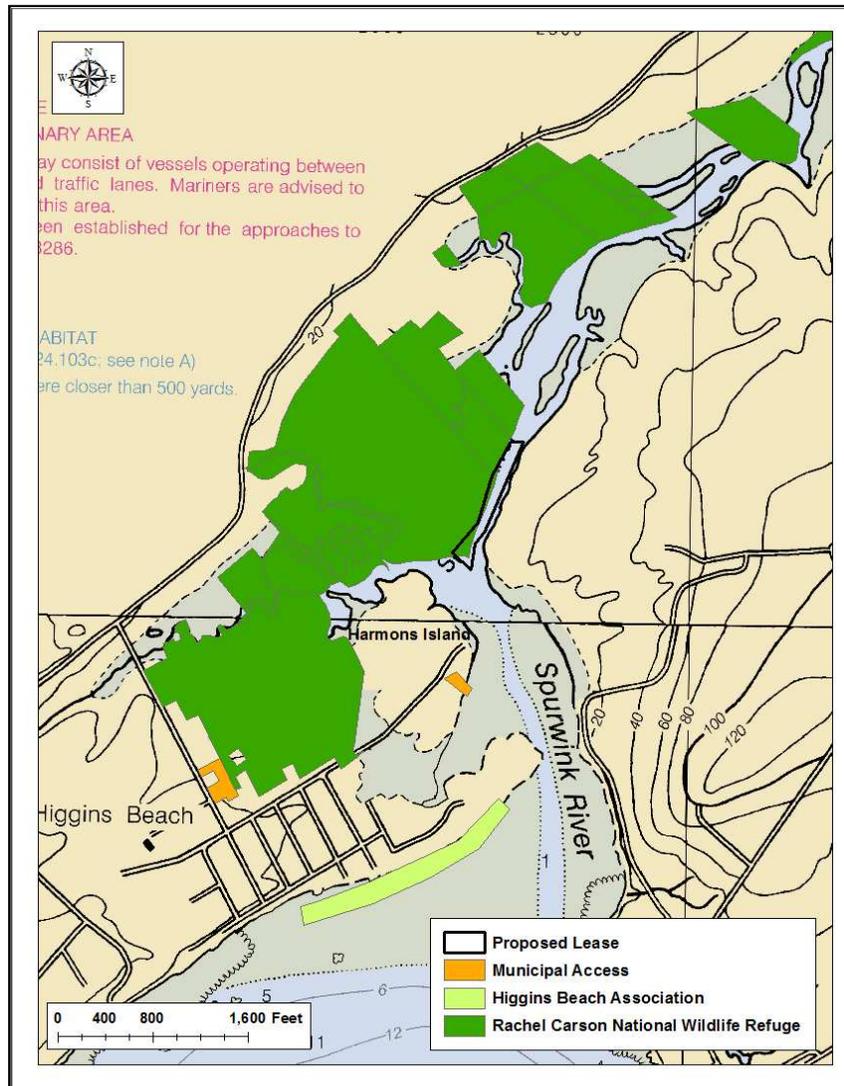


Figure 4: Conserved lands near the proposed lease¹⁰

(7) Water Quality

The proposed lease is in MDMR Pollution Area 12, in an area currently classified as “Conditionally Approved” for the harvest of shellfish. The area is seasonally closed for the harvest of shellfish from May 1st to November 30th.

¹⁰ Data obtained from SDE Feature Class “GISVIEW.MECONSLANDS.Conserved_Lands”

**STATE OF MAINE
DEPARTMENT OF MARINE RESOURCES**

**Matthew Hassler
and
Robert Willette**

Experimental Aquaculture Lease Application
Suspended culture of American/Eastern oysters
Spurwink River, Scarborough, Maine

October 1, 2018

FINDINGS OF FACT, CONCLUSIONS OF LAW, AND DECISION

Matthew Hassler and Robert Willette applied to the Department of Marine Resources (DMR) for an experimental aquaculture lease comprised of 2.89¹ acres located in the Spurwink River, Scarborough, Cumberland County, Maine, for the cultivation of American/Eastern oysters (*Crassostrea virginica*) using suspended culture techniques. DMR accepted the application as complete on December 4, 2017. Four requests for a public hearing were received during the comment period. No public hearing was held.² For the reasons described below the application is denied and a lease will not be issued.

1. THE PROCEEDINGS

Notice of the application and the 30-day public comment period were provided to state and federal agencies, riparian landowners, the Town of Scarborough, and others on the Department's mailing list. Notice of the application and comment period was published in the *Forecaster* on December 20, 2017. The evidentiary record before the Department regarding this proposal includes the application, the Department's site report dated July 13, 2018, and the case file. The evidence from these sources is summarized below.³

2. DESCRIPTION OF THE PROJECT

A. Proposed Operations

The purpose of the proposed lease is to explore the commercial feasibility of oyster production using suspended culture techniques (App 3). From spring through fall, the applicants propose to cultivate oysters using a combination of floating cages and bags secured to longlines (App 3). The dimensions of the floating plastic mesh bags are 27" W x 36" L x 4"H, and the dimensions of the floating cages are 3'W x 4.5'L x 2'H (App 18). At full production, a

¹ Applicants originally requested 2.77 acres. DMR calculations based on the provided coordinates indicate the site is 2.89 acres.

² For experimental leases, the Department is required to hold a hearing when five or more written requests are received.

³ These sources are cited below, with page references, as CF (case file), App (application), and SR (site report).

combination of 4,000 bags and/or cages would be deployed in seven parallel rows (App 18). During the winter months, the bags and cages would be removed from the site and the oysters would be transferred to a land-based facility for refrigeration (App 3). If the applicants are unable to refrigerate the oysters during the winter, they intend to relocate larger oysters to a different lease site located in the Nonesuch River in Scarborough where they would be submerged (App 3).

The proposed site is in DMR Pollution Area 12, which is classified as “Conditionally Approved” for the harvest of shellfish (SR 19). The harvest of shellfish is prohibited from May 1 through November 30 (SR 19). The applicants intend to harvest during the closed period by selling their product to Moody’s Seafood, which according to the application, has constructed a depuration plant (App 3). Mr. Willette is a “certified depuration plan representative” (App 3).

B. Site Characteristics

On May 22, 2018, DMR scientists visited the proposed lease site and assessed it and the surrounding area in consideration of the criteria for granting an experimental aquaculture lease. The proposed site occupies subtidal and intertidal waters in the Spurwink River. The applicants intended for the entire site to be subtidal (App 2). However, during the site visit there were sections of the proposed lease area that were exposed prior to and during low water (SR 2). The uplands to the west of the proposed site are characterized by a tidally exposed sandbar, which gives way to salt marsh (SR 2). The Rachel Carson National Wildlife Refuge (RCNWR) is located to the west of the proposed site (SR 2). The RCNWR manages a hand-carry boat launch, which is located approximately one mile to the north of the proposed site (SR 12). Staff observed residential properties beyond the RCNWR and to the south of the proposed site (SR 2). Mixed forest, exposed ledge, and a tidally exposed sand beach comprise the eastern shore of the river (SR 2).

Water depths at mid to low tide were less than 3.5 feet (SR 8). Per the site report:

The area of the proposed lease bounded by corners 3-8 remained subtidal throughout the falling tide. Approximately 2 hours prior to observed slack low water, corner 1 occupied the sandy intertidal. The area of the proposed lease bounded by corners 2 and 3 crossed tidally exposed sandbars more than 1 hour and 30 minutes prior to low water (SR 8).⁴

⁴ According to the site report, staff arrived at 9:17 am and proceeded to make observations throughout the late ebb stage to slack low water, leaving the area at approximately 1:00 pm. The site report notes: “Due to limitations in the accuracy of tidal predictions and depth calculations for the Spurwink River, MDMR staff observed the proposed lease area through the falling tide, walking the boundaries and collecting depth measurements” (SR 7-8).

Therefore, at mid to low tidal stages the water will not be deep enough to support the floatation of suspended gear on the western and southern sections of the proposed lease site (SR 8).⁵ The bottom of the proposed lease site is comprised primarily of sand with sections of exposed rock, gravel, and shell hash observed (SR 8).

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 upon determining that the project will not unreasonably interfere with the ingress and egress of riparian owners; with navigation; with fishing or other 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, or docking facilities 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.

A. Navigation

During the site visit, staff observed kayaks, canoes, and small outboard powered vessels at several properties along the shoreline, suggesting that recreational boating is a regular occurrence throughout the area (SR 12). At the time of the site visit, staff observed two kayakers traveling south through the proposed lease area (SR 12). The kayakers were navigating closer to the eastern shore of the channel where the water is deeper (SR 2).

If the lease was granted, it would encompass all navigable waters within the area for at least two hours before and after low water (SR 13). Certain types of hand powered vessels, such as kayaks, capable of traversing through five inches of water or less might be able to travel to the west of the proposed site at low water (SR 13). However, these vessels would need to be pulled or carried over the tidally exposed sandbar between corners 2 and 3 (SR 13). Other vessels like stand-up paddle boards and canoes will have even greater difficulty with navigation given the depth and angle of paddle placement (SR 13). Per the site report, “navigation to the east of the proposed lease would be restricted at all tidal stages due to hazards posed by exposed ledges near corner 8” (SR 13). Given staff observations of kayakers and measured water depths, it is likely the deeper water along the eastern side of the channel is the preferred navigational route (SR 13).

⁵ As previously noted, the floating mesh bags measure: 27” W x 36” L x 4”H; while the cages measure: 3’W x 4.5’L x 2’H.

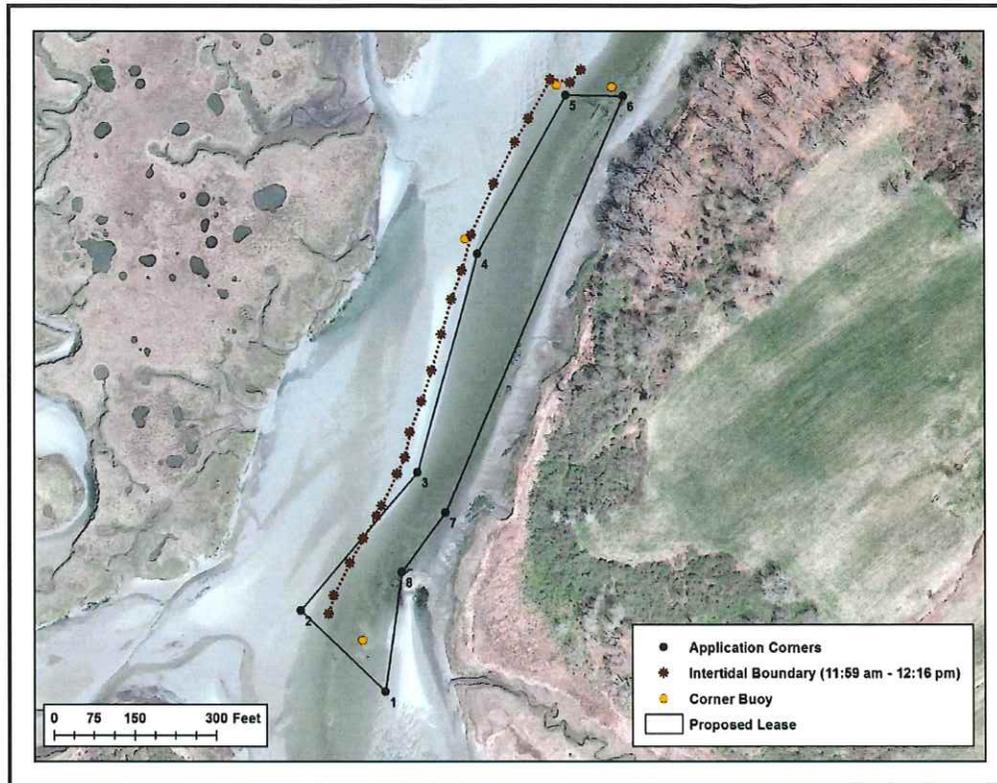


Figure 1: Depicting the proposed lease area in relation to intertidal mapping conducted during the site visit. Based on this image, the proposed lease appears to encompass most of the navigable waters in this section of the Spurwink River.

Prior to submitting their application to the Department, the applicants discussed their proposal with landowners, who were concerned about the effects the proposal would have on navigation (App 4). According to the application, “Several landowners made it clear that they want to be able to use the Spurwink at any point in the tide” (App 4). Based on this feedback, the applicants proposed to maintain an unmarked 10-foot navigational corridor, or “path” through the site to accommodate vessel traffic (App 4).⁶ The location of the corridor would change throughout the year as the applicants add or remove gear from the site (App 4). However, paddle boards, kayaks, and canoes are typically greater than 10 feet in length (SR 13). A comment submitted by the RCNWR indicates that most sea kayaks traversing the area are 15 to 17 feet in length.⁷ Although certain vessels may be able to navigate through the corridor, maneuverability would be hindered as they could not turn around.

⁶ Per the application: “The path will be unmarked, as the path through the site at low tide will be clear. We will mark the navigable path with buoys upon request if anyone feels marking is necessary” (App 4).
⁷ CF: Letter from RCNWF to DMR dated January 19, 2018.

In addition, there is a strong southwesterly current of several knots near proposed corner 1 (SR 9). Given the strong, tidally driven current, the site report indicates that the moorings proposed for the lease may not maintain suspended gear in a straight line with consistent spacing (SR 9). The site report concludes: “A 10-foot wide navigation corridor between lines of bags and/or cages coupled with strong tidally driven currents, will likely yield scenarios in which vessel operators have inadequate maneuverability” (SR 13).

The RCNWR submitted a comment indicating that non-motorized boaters paddle throughout the area, and that the hand carry in boat area they manage is utilized at all tides.⁸ The Department also received several comments from members of the public. In general, most comments noted that the area is heavily utilized by canoes, kayaks, and stand-up paddle boards. Many commenters indicated that the proposal would likely have adverse effects on navigation. One commenter who is a riparian landowner noted: “adding the proposed large lease would be a huge hindrance to the current uses and create an access/egress problem up and down the river and out to the ocean.”⁹ Some commenters felt that the proposed navigational corridor would be insufficient for the size of vessels that commonly utilize the area, including canoes, kayaks, and stand-up paddleboards.

Discussion:

Based on the evidence, the proposed lease is situated in an area that is heavily utilized by recreational vessels at all tidal stages. If the lease was granted, it would encompass the entire navigable area within this section of the Spurwink River for at least two hours before and after low tide. Although certain vessels like kayaks may be able to navigate to the west of the proposed lease at low water, it would be very difficult, and individuals would have to hand carry their vessels over a tidally exposed sand bar. Finally, navigation to the east of the proposed site would be completely restricted at all tidal stages. Based on this evidence, the proposed lease would significantly change how recreational boaters navigate the area.

The applicants attempted to address navigational concerns by proposing to maintain an unmarked 10-foot corridor through the proposed site, which vessels could utilize. However, the navigational corridor is not large enough to provide vessels with adequate maneuverability. Given the tidal currents and limitations of the proposed mooring system, it seems reasonable to conclude that it would be difficult to always maintain a 10-foot corridor, or any size corridor. It would also be difficult, if not impossible for individuals navigating the area to determine the location of the corridor, because it would be unmarked and the location would change

⁸ CF: Letter from RCNWR dated January 19, 2018.

⁹ CF: Email from T. Brown to C. Burke date January 8, 2018.

throughout the year. Based on frequency of use, it also seems unlikely that the proposed corridor could accommodate multiple vessels trying to traverse the lease at the same time, which could create unsafe conditions. It is unlikely given the scale of the project, tidal currents, and water depths that any navigational corridor could ameliorate the adverse effects the proposed site would have on navigation within this section of the river.

Therefore, the aquaculture activities proposed for this site will unreasonably interfere with navigation.

B. Flora & Fauna

Site Observations. During the site visit, Department staff walked and kayaked most of the proposed site and surrounding area (SR 14). Department staff observed a variety of marine flora and fauna including periwinkles (*Littorina sp.*), sand shrimp (*Crangon septemspinosa.*), and barnacles (*Balanus sp.*) (SR 10).¹⁰ Staff also noted Canada geese (*Branta canadensis*), gulls (*Larus sp.*), peeps (*Calidris sp.*), sandpiper (*Tringa sp.*), sparrows (*Ammodramus caudacutus*), and one snowy egret (*Egretta thula*) in the surrounding saltmarsh and along the intertidal shoreline (SR 16). Approximately four least terns (*Sternula antillarum*) and ten common terns (*Sterna hirundo*) were actively foraging in the shallow subtidal water throughout the proposed lease area (SR 16).

Fisheries and Wildlife. Based on data maintained by the Maine Department of Inland Fisheries and Wildlife (MDIFW), the proposed lease site is located within an area categorized as “Essential Habitat” for least terns and piping plovers, which are listed as endangered under the Maine Endangered Species Act (SR 17)¹¹. The proposed lease is almost entirely within saltmarsh sparrow (*Ammodramus caudacutus*) habitat, which is a species of special concern in the State of Maine (SR 17). In addition, the proposed lease and surrounding shallow subtidal and saltmarsh are also classified as Tidal Wading Bird and Waterfowl Habitat (TWWH), which is defined under Maine's Natural Resources Protection Act (NRPA) as Significant Wildlife Habitat (SR 17).

DMR sent a copy of the lease application to MDIFW for their review and comment. On June 26, 2018 MDIFW and DMR staff visited the proposed lease site. On August 22, 2018, MDIFW submitted the following comment regarding the proposal: “additional leases for oyster

¹⁰ For a complete list of observed species and their relative abundance, see page 14 of the site report.

¹¹ Pursuant to 12 M.R.S.A. §12806 state agencies may not permit, license, fund, or carry out projects that will significantly alter an Essential Habitat or violate protection guidelines that have been adopted for the habitat. MDIFW must review and approve pending permits or licenses before issuance. If the Department had granted the proposed lease, the decision would need to be reviewed by MDIFW prior to issuance. In consideration of the evidence, it seems unlikely that MDIFW would issue a permit, even if the Department had granted the lease.

culture in the Spurwink River may significantly alter and unreasonably harm foraging opportunities for the State Endangered least tern.”¹² RCNWR also raised concerns about the proposed operations disturbing a variety of wildlife, including least terns.

Discussion:

Essential Habitats are areas, established through rule-making, that have physical or biological features that are essential to the conservation of an endangered or threatened species.¹³ The proposed site is in an area essential to the nesting, feeding, and brood rearing for least terns and piping plovers, which are designated as state endangered species. During the site visit, staff observed least terns actively foraging within the proposed lease area. At full production, a combination of 4,000 bags and/or cages would be deployed from spring through fall. The site would also be serviced on a regular basis, as the applicants tend to the gear and harvest product. The gear and associated activities may displace and disturb the state endangered least tern. Considering the scale of the proposed operations, the location within an Essential Habitat, the documented presence of state endangered least terns with the boundaries of the proposed lease site, and feedback from MDIFW it is reasonable to conclude that the proposal will interfere with the ecological functioning 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.

C. Fishing & Other Water Related Uses

During the site visit, Department staff did not observe any commercial or recreational fishing near the proposed lease site (SR 13). However, the site report indicates that shellfish harvesting is likely to occur in the intertidal area that surrounds the proposed lease (SR 13).¹⁴ Staff observed soft-shell clam (*Mya arenaria*) and blue mussel shells (*Mytilus edulis*) throughout the proposed lease site and surrounding intertidal (SR 13). In addition, European oysters (*Ostrea edulis*) and soft-shell clams were observed in the intertidal area to the east of corner 1 (SR 13). According to data maintained by DMR’s Recreational Fisheries Program, shoreline angling occurs from the Higgins Beach area through the mouth of the Spurwink River

¹² CF: MDIFW agency comments regarding the proposal, email dated August 22, 2018.

¹³ See: <https://www.maine.gov/ifw/fish-wildlife/wildlife/endangered-threatened-species/essential-wildlife-habitat/pplt-nests.html>

¹⁴ Although the applicants may not have intended for portions of the proposed lease site to be intertidal, measurements and observations during the site visit indicate otherwise. Pursuant to Chapter 2.64(C)(6) the Department requires the written permission of all intertidal landowners. In addition, 12 MRSA §6072(3) specifies that the Commissioner may not lease areas in the intertidal zone without the permission of the municipal officers, provided the municipality has an authorized shellfish conservation program. Based on Department records, the Town of Scarborough has an authorized shellfish conservation program. Because the Department is denying the lease, these permissions do not need to be satisfied prior to any rights accruing.

(SR 13). Average daytime fishing activity in the area from May through October ranges from one to four anglers near the beginning and end of the fishing season to five to eight anglers during peak season (SR 13).

A comment received from the RCNWR noted the following:

The Refuge also manages hunting and fishing programs in select areas in the Spurwink Division. Waterfowl, turkey and deer are all hunted according to State and federal guidelines. The river is well known as a fantastic place to fish. Given the possible intensity of this operation during the hunt season, we are concerned over possible disturbance to our hunting and fishing public. The area is heavily used by sportsman, fisherman and recreational boaters...".¹⁵

During the site visit, staff observed spent cartridges along the western shoreline, which indicates that hunting occurs within this area of the Spurwink River (SR 13). If the lease was granted, fishing would be limited to the applicant's proposed navigational corridor, or outside the boundaries of the proposed site at the appropriate tidal stages (SR 14). In addition to the concerns expressed by RCNWR, the Department received several comments from members of the public indicating that the area is utilized heavily by recreational vessels.

Discussion:

The evidence indicates that recreational fishing and boating occurs frequently in the area. In addition, the RCNWF actively manages a fishing program in the area. If the lease was granted, fishing would be limited to the proposed navigational corridor within the boundaries of the lease or areas outside the lease boundaries. However, the navigational corridor is only 10-foot wide, which is not large enough to accommodate the size of most vessels. It would also be difficult, if not impossible for fishermen to determine the location of the corridor, because it would be unmarked and the location would change throughout the year. Based on multiple water-based uses of the area, including recreational boating and fishing it also seems unlikely that the proposed corridor could accommodate multiple uses at any one time.

It appears that the proposal would displace and significantly alter existing water based uses of the area, including recreational fishing and boating. It may also hinder existing hunting and fishing programs that are actively managed by the RCNWF.

Therefore, the aquaculture activities proposed for this site will unreasonably interfere with fishing and other water related uses of the area.

4. CONCLUSIONS OF LAW

¹⁵ CF: Letter from RCNWR to DMR dated January 19, 2018.

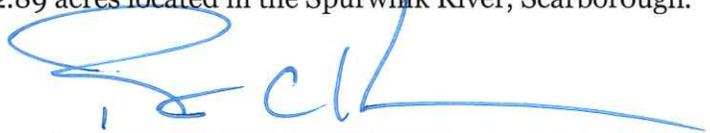
The evidence in the record supports the conclusion that the proposed aquaculture activities do not meet all the requirements for granting an experimental lease set forth in 12 M.R.S.A §6072-A. Since the application fails to satisfy all criteria, it must be denied.

5. DECISION

Based on the foregoing, the Commissioner denies the application of Matthew Hassler and Robert Willette for a lease to cultivate American/Eastern oysters (*Crassostrea virginica*) using suspended culture techniques on 2.89 acres located in the Spurwink River, Scarborough.

Dated: _____

10/1/18



**Patrick C. Keliher, Commissioner,
Department of Marine Resources**