

**STATE OF MAINE
DEPARTMENT OF MARINE RESOURCES**

**Southern Maine Sustainable Shellfish LLC
YOR YRx**

Experimental Aquaculture Lease Application
Suspended Culture of American Oysters and European Green Crabs
York River, York, Maine

FINDINGS OF FACT, CONCLUSIONS OF LAW, AND DECISION

Southern Maine Sustainable Shellfish LLC (“SMSS”) applied to the Department of Marine Resources (DMR) for a three-year experimental aquaculture lease located west of Sewall’s Bridge, in the York River, York, York County. The proposed lease is 0.97-acres and is for the suspended cultivation of American oysters (*Crassostrea virginica*) and European green crabs (*Carcinus maenas*). DMR accepted the application as complete on March 4, 2022.

1. THE PROCEEDINGS

DMR deemed the application for this proposal complete on March 4, 2022. Notice of the application and the 30-day public comment period was provided to state agencies, riparian landowners, the Town of York and its Harbormaster, and others on DMR’s mailing list, and was published in the March 24, 2022, edition of the *Portland Press Herald*. 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. Nine requests for a public hearing were received during the comment period; therefore, a public hearing was held on April 22, 2024. Public notice of the hearing and instructions on how to register to participate was published in the March 22, 2024, and April 5, 2024, editions of *York County Coast Star*. Seventeen individuals registered to participate in the hearing, including fourteen that indicated an intention to provide testimony.

Sworn testimony was given at the April 22, 2024 hearing by the following witnesses:

Name	Affiliation
Michael Masi, Sam Sewall	Southern Maine Sustainable Shellfish LLC
J. White, J. Breneman, M. Sinclair, T. Chong, M. Chambers, J. Smith, S. De Neef, K. McGann	Members of Public

Additional DMR staff and members of the public attended the hearing but did not offer testimony. The hearing was recorded by DMR. The Hearing Officer was Joshua Rozov.

The evidentiary record before DMR regarding this lease application includes four exhibits introduced at the hearing and the record of testimony at the hearing. The evidence from these sources is summarized below.^{1,2,3}

LIST OF EXHIBITS

1. Case file
2. Application
3. DMR site report, issued on February 23, 2024
4. Applicant Hearing Presentation Slideshow

2. DESCRIPTION OF THE PROJECT

A. Proposed Operations

The purpose of the proposed experimental lease site is to perform commercial research on both American oysters and European green crabs (App 4, 7). The applicant proposes to separate the lease site into thirds: an eastern third, a middle third, and a western third (App 29). Each third would be separated by a 20-foot space containing no oyster or crab gear (App 30). The western third would be approximately 100 feet by 125 feet (Exhibit 4, page 11). The center and eastern third would each be approximately 125 feet by 125 feet (Exhibit 4, page 11). The western third would be used completely for bottom planting or grow bags placed on the sea floor (Exhibit 4, page 11). There would be a maximum of 140 bags in this western third (Exhibit 4, page 11). The middle and eastern third would then be split into three smaller sections, from top to bottom (App 30). Each top section would be approximately 125 feet by 55 feet, the middle section approximately 125 feet by 40 feet, and the bottom section approximately 125 feet by 30 feet (Exhibit 4, page 11). The top and bottom section of each third would be used for bottom cages, the top section housing 8-bag oyster cages and the bottom section housing 6-bag oyster cages (App 30). The middle section of each third would be used for floating cages (App 30). Each section of floating cages would have three long lines, each 100 feet long (Exhibit 4, page 11). The long line would have either floating oyster cages or floating crab condos every 7 feet (App 30).

¹ Exhibits 1, 2, and 3 are cited below as: Case file – “CF”, Application – “App”, site report – “SR”

² In references to testimony, “Smith/Jones” means testimony of Smith, questioned by Jones.

³ Page numbers are cited using the PDF page number, and not the page number written on the application.

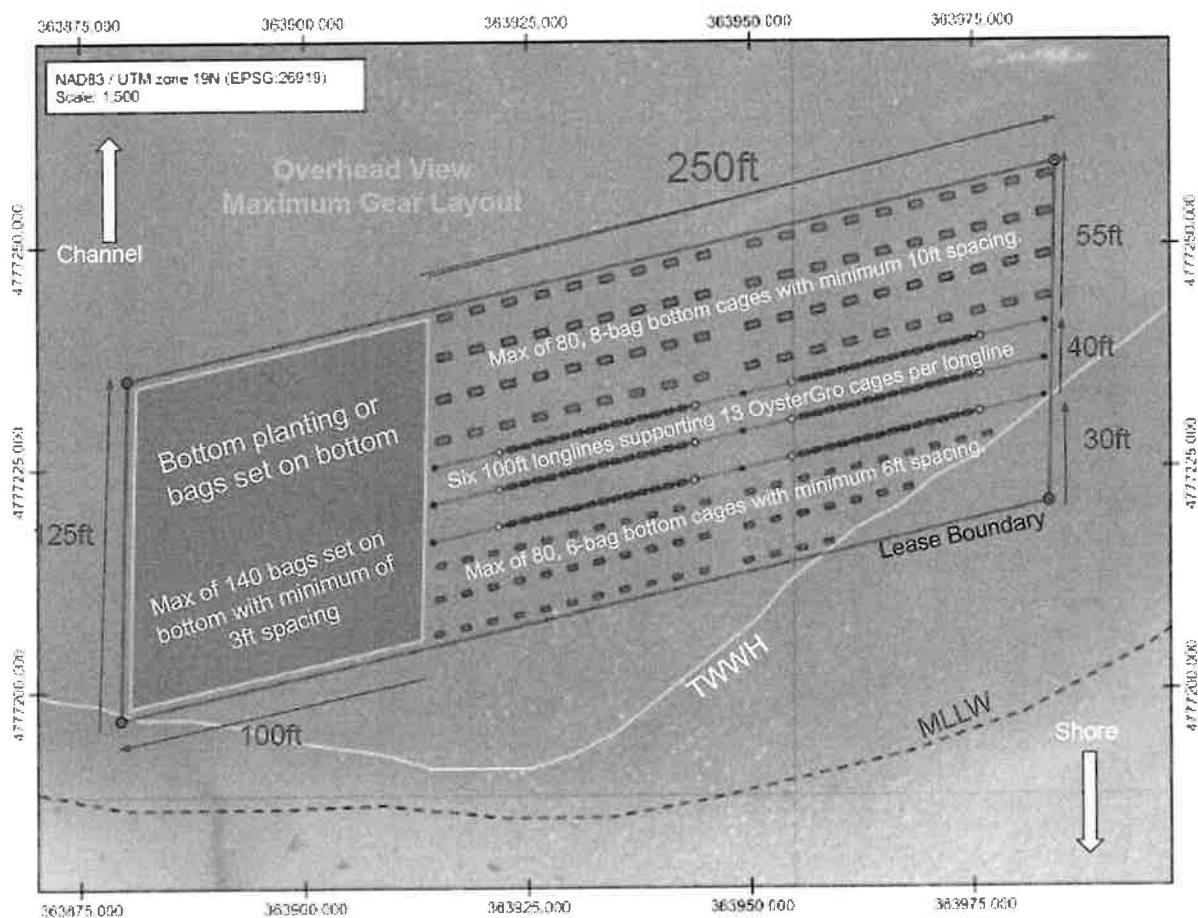


Figure 1. Proposed layout of gear.⁴

The purpose of the American oyster research is to determine “which cultivation practices yield the fastest growth and most desirable American oyster at [the applicant’s] proposed location in the York River” (App 4). This research will utilize various grow-out gear and methods (App 4). Oyster seeds would be placed in mesh bags, with the grade of mesh depending on the size of the oyster seed (App 4). The applicant would monitor “growth, shape, and taste” of oysters grown using different gear and methods, including floating cages and bottom cages (App 4). The American oysters will be cultivated year-round (App 4). Seeding would occur from June to July and the seeds would be tended to from April through December (App 4). Floating gear would either be removed from the proposal or sunk in December (App 4). Market sized oysters would be harvested from bottom cages throughout the year (App 4). The applicant would be on site at least twice a week during the growing season, from April to December, and once every couple of weeks during the harvesting season, from December to April (App

⁴ (Exhibit 4, page 11)

5). The applicant would also be on site a minimum of twice a week for routine maintenance associated with oyster cultivation and would flip the oyster cages and defoul the gear once every three weeks (App 5). The applicant would sink any floating oyster cages during the winter and would remove any cages not currently in use (App 6).

The purpose of the European green crab research is to “take data on temperature, salinity, and light levels via [electronic] loggers to identify the specific conditions that are most like to result in molting” of the green crabs (App 8).⁵ The goal of the green crab operation is to sell freshly molted green crabs as soft-shell crabs to the consumer market (Masi Testimony). The green crabs would be harvested from the York River and Braveboat Harbor and stored in lobster crates (App 8). The green crabs would then be sorted and any pre-molt crabs would be placed in “specifically designed crab trays or ‘condos’” which would then be stored in lobster crates (App 8). The applicant would check on the molting status of the green crabs at least once a day (App 9). A green crab that has molted would be removed from the proposal and moved into cold storage, and the empty crab condo would then be filled with another pre-molt green crab (App 9). All green crab gear activity would occur from April to July (Masi Testimony). All female crabs would be sorted out and sold into the bait market, which would prevent the reproduction of the green crabs being housed within the lease (Masi/Rozov).

DMR is aware that European green crabs have historically not been a crab consumed by humans and there is little research available on potential toxicity when consumed. The primary concern is the hepatopancreas of the green crabs, as there is research to indicate crustaceans accumulate biotoxins in the hepatopancreas. The green crabs will be served as soft-shelled product, which are consumed whole, so the consumer would be eating the hepatopancreas. Therefore, if the lease is granted, the applicant will be required to enter a Memorandum of Understanding (MOU) with DMR’s Bureau of Public Health for biotoxin testing of their green crab product to ensure it is safe for human consumption.

At the hearing, the applicant also presented an operational modification to the footprint of the proposal. The applicant testified that they no longer plan to culture any organisms in a portion of the proposal designated as Tidal Waterfowl and Wading Bird Habitat (TWWH), by the Maine Department of Inland Fisheries and Wildlife (MDIFW) due to the shallow depth in that area. (Masi Testimony). DMR has authority to grant leases only for the purposes of conducting scientific research or aquaculture of marine organisms. Because there would be no scientific research or aquaculture conducted in this section of the lease, if the lease is granted it will not include this area. Therefore, if the lease is granted, the lease will be reduced to 0.93 acres to reflect reduction of the proposal in order to exclude the portion within TWWH habitat. The modified lease boundary and coordinates can be found in Appendix A.

⁵ HOBO date loggers were used in collecting this data.

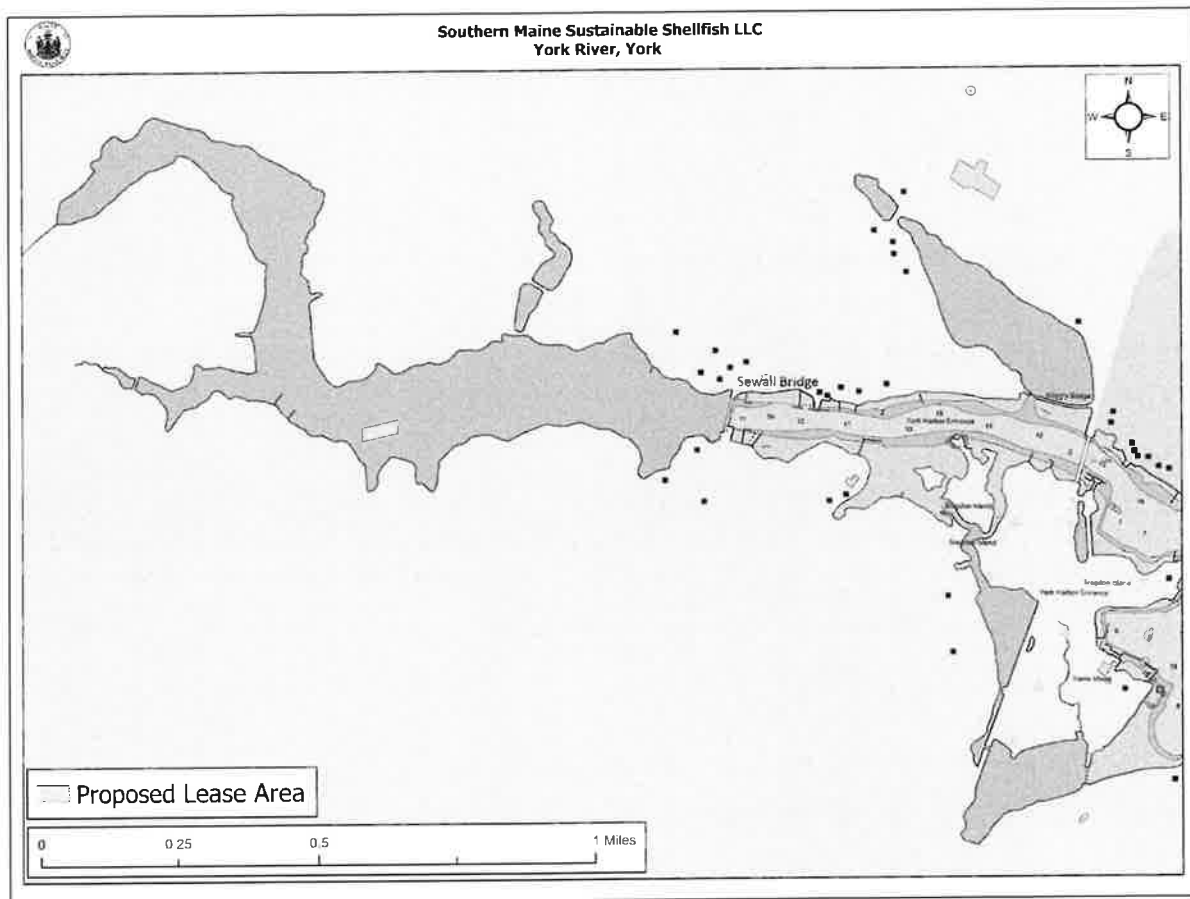


Figure 2. Proposed lease site and surrounding area. Image taken from DMR's site report.

B. Site Characteristics

On October 13, 2022, DMR scientists assessed the proposed lease area (SR 2). DMR scientists arrived on site at approximately 12:00 PM (SR 2). The proposed lease area is located approximately 123 feet, at mean high water (MHW), from the southern shore of the York River (SR 2). The surrounding area is comprised of marsh and muddy sand shorelines with rocky outcroppings (SR 2). The southern shoreline is mixed forested and grass uplands with a residential neighborhood to west, and a golf course located along the northern shore (SR 2). The bottom of the proposed lease area is a mixture of muddy sand and shell rubble made up of clams and oysters (SR 3).

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 2.37(1)(A)(1).⁶ The proposed lease area is located approximately 0.6 miles west of Sewall’s Bridge, in the York River, York (App 1). During the site visit on October 13, 2022, DMR observed three piers within 1,000 feet of the proposal (SR 4). All three piers were located west of the proposal along a sharp bend in the river, with the closest pier located approximately 474 feet to the west (SR 4). Two of the piers had catwalks and floating docks attached to them, with a small powerboat tied to each dock (SR 4). One pier also had 15-20 lobster traps and associated gear, as well as a small inflatable boat, tied to the dock (4 SR). DMR observed a set of stairs leading to the shoreline between the two piers closest to the proposal. DMR also observed a mooring with a small powerboat attached to it approximately 1,047 feet northwest of the proposal, and a dock with a small powerboat approximately 1,044 feet northwest of the proposal (SR 5).

A Harbormaster Questionnaire was sent to the York Harbormaster, but DMR did not receive a response. At the hearing, one riparian landowner provided testimony, but did not voice concerns that this proposal would interfere with their ingress or egress (McGann Testimony).

The nearest pier to the proposal is 474 feet to the west of the proposal boundaries, which allows for plenty of movement within the area to access the pier and not risk entanglement with gear in the proposal. The nearest single mooring is approximately 1,047 feet away. This distance would allow for access to the mooring with boats of a variety of sizes without interference caused by the proposal.

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 the lease activities would interfere with commercial or recreational navigation around the lease area and considers the current uses

⁶ 13-188 C.M.R. ch. 2. The Commissioner considers the applicable criteria contained in Chapter 2.37 pursuant to Chapter 2.64(11)(A).

of the navigational channels in the area. 12 M.R.S.A. § 6072-A(13)(B); Chapter 2.37(1)(A)(2). The proposal is located approximately 123 feet from the southern shoreline of the York River at MHW (SR 6). Using aerial imagery, DMR determined there is approximately 260 feet of navigable water to the north of the proposal (SR 6). Available navigational charts for the York River do not show depth soundings or the mean low water line upriver of Sewall's Bridge, where the proposal is located (SR 6). There is a small area of submerged intertidal ledge approximately 90 feet to the northwest of the proposal, near the southern edge of the navigable waterway in this area of the York River (SR 6). This submerged intertidal ledge is referred to as "Ram Head Rock" (Masi Testimony).

During the October 13, 2022, site visit, DMR staff observed two canoes operating near the shoreline inside of the proposal area (SR 6). DMR staff also observed a mooring field to the north of the proposal that had approximately 16 moorings (SR 6). Several of the moorings were occupied by small powerboats (SR 6). DMR staff also observed numerous docks and powerboats further upriver (SR 6).

A Harbormaster Questionnaire was sent to the York Harbormaster, but DMR did not receive a response.

At the hearing, the applicant testified that from May through September, there are about five to six boats in the area every hour (Sewall/Rozov). These boats rarely come closer than 100 feet to the proposal (Sewall/Rozov). They also stated paddle crafts would be welcome to enter the lease and navigate among the gear (Masi Testimony).

A member of the public testified that the nearest mooring field to the proposal is approximately 1,500 feet upriver (Sinclair/Rozov). Additionally, another member of the public testified that there will be about five to ten boats navigating the area per day on a weekday and twenty to thirty boats navigating the area per day on the weekend (Sinclair/Rozov). While Rams Head Rock is approximately 90 feet from the proposal, testimony was given that this would be adequate space for navigation and fishing (Sinclair/Ellis).

If the proposal were granted, there would still be approximately 260 feet of navigable water to the north of the proposal for watercrafts to use. In addition to the 260 feet of navigable waters still available if the lease were granted, testimony was provided that on average, boats usually stay about 100 feet away from the area in which the proposal is located. While testimony was provided that the amount of boats in the area per day can reach around 30, the 260 feet of remaining navigable waters will be sufficient for boats in the area to navigate with multiple boats in the area at a time. No person who testified raised concerns about the proposal interfering with navigation in the area.

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

C. Fishing & Other Uses

Fishing. When examining fishing and other uses, the Commissioner considers whether the lease activities would unreasonably interfere with commercial or recreational fishing or other water-related uses of the area (12 M.R.S.A. § 6072-A(13)(C); Chapter 2.37(1)(A)(3)). Additionally, the Commissioner considers any evidence concerning other aquaculture uses of the area (Chapter 2.37(1)(A)(4)).

During the site visit conducted on October 13, 2022, DMR did not observe any lobster fishing occurring within 1,000 feet of the proposed lease site (SR 7). One pier, located approximately 850 feet to the northwest, had 15-20 lobster traps and associated gear stored on it (SR 7).

The application states that commercial fishing boats tie up on Sewall's Bridge approximately 0.6 miles east of the proposed site, but that there is no commercial fishing within the York River (App 11). Recreational fishing occurs in the York River from May to October but is infrequent on the proposed site (App 12). At the hearing, the applicant testified that they observe approximately one to two fishing boats a day in the area on weekdays and five to six fishing boats a day in the area on weekends (Sewall/Rozov). The applicant has not observed any lobster fishing in the area (Sewall/Rozov).

A Harbormaster Questionnaire was sent to the York Harbormaster, but DMR did not receive a response.

At the hearing, members of the public testified that this proposal would not interfere with fishing within this area of the river (Smith Testimony, McGann Testimony). Additionally, a member of the public testified that the 90 feet between the proposal and Ram Head Rock would be sufficient to allow fishing around Ram Head Rock without the proposal interfering with the activity (Smith/Ellis).

While fishing does occur, it is infrequent in the area, with the most boats observed in a day being around six boats. Common fishing areas in this portion of the river, such as around Ram Head Rock, will still be accessible and the proposal will not interfere with access and use of the area.

Therefore, DMR concludes that the evidence shows the proposed lease will not unreasonably interfere with commercial and recreational fishing activities in the area.

Other aquaculture uses. There are no existing Limited Purpose Aquaculture (LPA) sites or aquaculture leases within 1,000 feet of the proposal (SR 7).

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. 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); Chapter 2.37(1)(A)(5)).

On October 13, 2022, DMR conducted a transect using a drop camera to assess the epibenthic ecology of the proposed lease (SR 8). The species observed using underwater camera footage were:⁷

Species Observed	Abundance
Hermit Crab (<i>Paguroidea</i> spp.)	Occasional
Rockweed (<i>Ascophyllum nodosum</i>)	Occasional
Sea Lettuce (<i>Ulva lactuca</i>)	Occasional
Filamentous red algae, possibly <i>Dasysiphonia japonica</i>	Rare
European oyster (<i>Ostrea edulis</i>)	Common
Green crab (<i>Carcinus maenas</i>)	Common
Tunicates (<i>Didemnum</i> spp.)	Common

During DMR's site assessment, staff did not observe any eelgrass (*Zostera marina*) (SR 8). Historical records of seagrass collected in 2021 indicate that there is no mapped eelgrass within 1,000 feet of the proposal (SR 8).

During the site visit, DMR staff observed two Kingfishers (*Alcedinidae* sp.) (SR 10). There are no documented bald eagle nests within 1,000 feet of the proposed lease area (SR 9). 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 within 1,000 feet of TWWH, with the southeastern and southwestern corners of the proposal being located within mapped TWWH habitat (SR 9). On April 22, 2022, a Wildlife Biologist with MDIFW responded by email to a "Request for Agency Review and Comment", stating that "MDIFW staff discussed minimization options with the applicant, and the applicant agreed during installation to the extent practicable to shorten spacing between cages on the western stretch of the lease, resulting in the gear being in deeper water and further from the TWWH. We also recommend minimizing activities in the intertidal area to the extent practicable during July 15th – Sept 15th".⁸ As discussed in Section 2(A), if the lease were granted, the portion of the lease proposal that was located within TWWH would be removed from the lease, meaning the comment from MDIFW regarding minimization of the area of the proposal within the TWWH would be addressed.

Based on the evidence above, the proposed aquaculture activities for this lease site, as modified as stated in this decision, will not interfere with the ecological function 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.

⁷ SR 8

⁸ Email correspondence between MDIFW and DMR

E. Public Use & Enjoyment

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

F. 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, § 2.37(1)(A)(6).

The applicant proposes to obtain stock of American oyster seed from Muscongus Bay Aquaculture, Mook Seafarm, and Spinney Creek Shellfish lease site PISC SC. Muscongus Bay Aquaculture and Mook Seafarm are currently listed as approved sources for the proposed stock. Spinney Creek Shellfish currently holds an active lease for site PISC SC and is authorized to culture American Oysters. The applicant may source stock from lease PISC SC, but collection must comply with applicable law. If the applicant is unable to obtain stock from these sources, then it must come from another DMR-approved source.

Green crabs will be collected using a green crab fishing license. It will be the applicant's responsibility to make sure they have a valid green crab fishing license while harvesting green crabs.

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, DMR 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, as modified as stated in this decision, will not unreasonably interfere with the ability of the lease site and surrounding areas to support existing ecologically significant flora and fauna.

5. 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.

6. 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 activities, as modified as stated in this decision, 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 grants the requested experimental lease of 0.93 acres to Southern Maine Sustainable Shellfish LLC, modified as stated in this decision and according to the revised coordinates and reduction images provided in Appendix A to this decision, for three years, the term of the lease to begin within twelve months of the date of this decision, on a date chosen by the lessee⁹; however, no aquaculture rights shall accrue in the lease area until the lease is fully executed.

This lease is granted to the lessee for the suspended cultivation of American Oysters (*Crassostrea virginica*) and European green crabs (*Carcinus maenas*). The lessee shall pay the State of Maine rent in the amount of \$100.00 per acre per year. Since this is an experimental lease with more than 400 square feet of structures and no discharge, a bond or escrow account is required. The lessee shall post a bond or establish an escrow account pursuant to DMR Rule 2.64(12)(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

⁹ DMR Rule 2.64 (14) provides:

“The term of the lease shall begin within 12 months of the Commissioner’s decision, on a date chosen by the applicant. No aquaculture rights shall accrue in the lease area until the lease term begins and the lease is signed.”

The Commissioner may establish conditions that govern the use of the lease area and impose limitations on aquaculture activities, pursuant to 12 M.R.S.A §6072-A (15). Conditions are designed to encourage the greatest multiple compatible uses of the lease area, while preserving the exclusive rights of the lessee to the extent necessary to carry out the purposes of the lease. The condition imposed in this lease shall be:

1. The applicant shall enter into a Memorandum of Understanding (MOU) with DMR's Bureau of Public Health and Aquaculture for biotoxin testing of their green crab product.

7. REVOCATION OF EXPERIMENTAL LEASE

The Commissioner may commence revocation procedures upon determining pursuant to 12 MRSA §6072-A (22) that no substantial aquaculture or research has been conducted on the site over the course of the lease, that aquaculture has been conducted in a manner substantially injurious to marine organisms, or that any conditions of the lease or any applicable laws or regulations have been violated.

Dated: _____

9/19/24



Patrick C. Keliher, Commissioner
Department of Marine Resources

APPENDIX A



Southern Maine Sustainable Shellfish LLC
York River, York

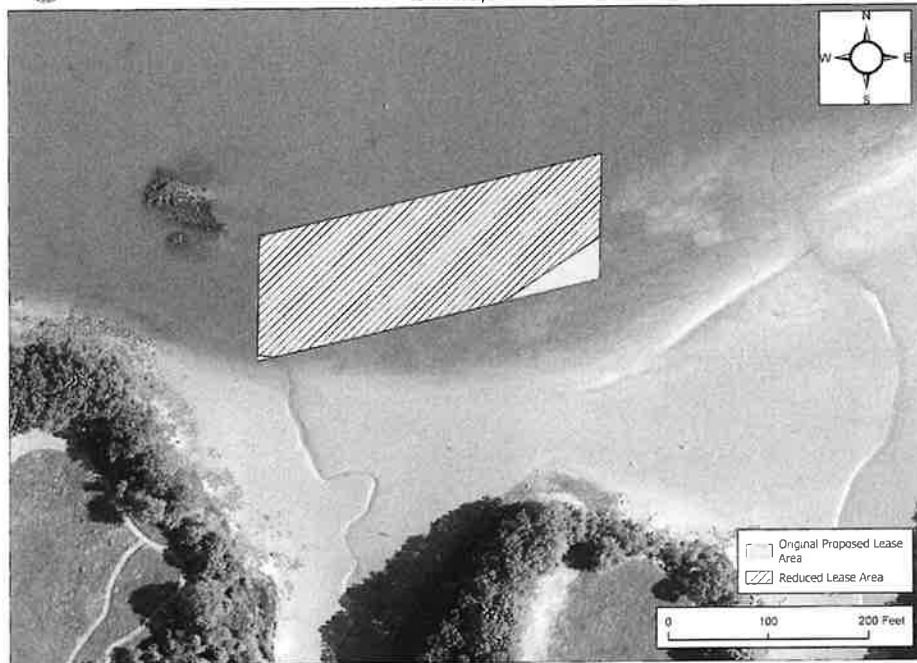


Figure 3. Proposed boundary overlayed with new boundary.



Southern Maine Sustainable Shellfish LLC
York River, York

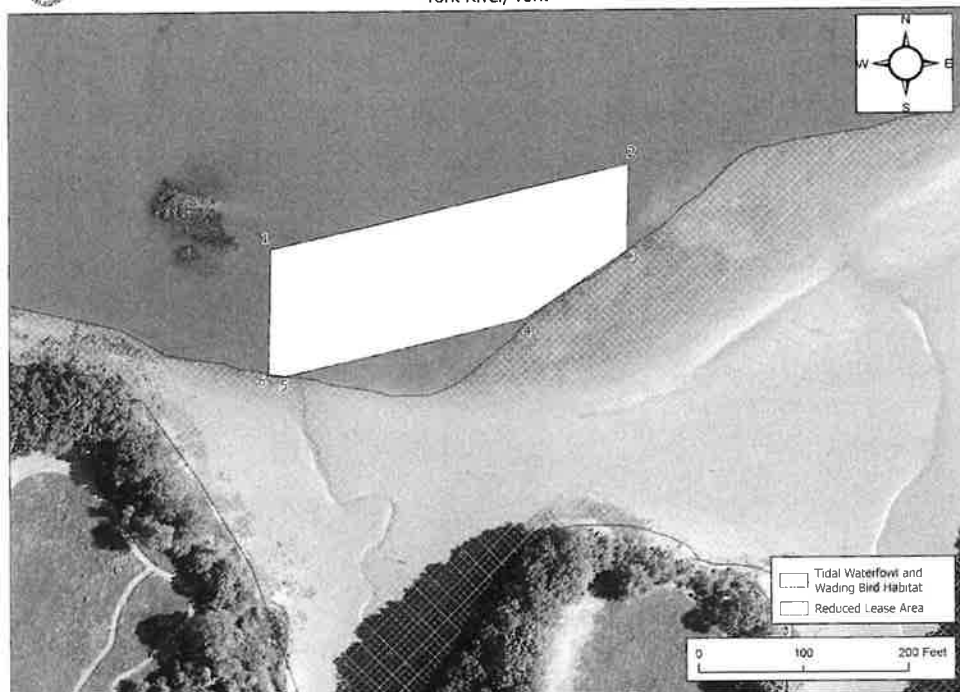


Figure 4. New boundary in relation to TWWH.

Southern Maine Sustainable Shellfish LLC – York River, York
Reduced Lease Coordinates

<u>Application Coordinates (WGS84) – 0.93 Acres</u>			
<u>Corner</u>	<u>Latitude</u>	<u>Longitude</u>	
1	43.135621°	-70.673679°	then 350.1 feet at 75° True to
2	43.135858°	-70.672408°	then 82.8 feet at 180° True to
3	43.135622°	-70.672408°	then 116.3 feet at 236° True to
4	43.135440°	-70.672765°	then 235.4 feet at 256° True to
5	43.135280°	-70.673619°	then 15.9 feet at 277° True to
6	43.135285°	-70.673679°	then 119.3 feet at 0° True to 1