

**STATE OF MAINE
DEPARTMENT OF MARINE RESOURCES**

Keith Butterfield

CAS ELMx

Application for Change in Gear and Species Authorization
East of Little Moshier Island, Yarmouth

01/27/2022

FINDINGS OF FACT, CONCLUSIONS OF LAW, AND DECISION

Keith Butterfield applied to the Department of Marine Resources (DMR) to change the gear authorization for his existing experimental lease CAS ELMx, located east of Little Moshier Island in the Town of Yarmouth, Cumberland County, Maine. The leaseholder is seeking authorization to change both species and gear authorization on experimental lease CAS ELMx.

1. THE PROCEEDINGS

The application was submitted to DMR on October 18, 2021. The application was deemed complete by DMR on November 23, 2021. Notice of the application and the 14-day public comment period were provided to other state and federal agencies, riparian landowners, the Town of Yarmouth and its Harbormaster, and others on DMR's mailing list. No public comments were received. The evidentiary record before DMR regarding this lease amendment application includes five exhibits (see exhibit list below).

LIST OF EXHIBITS^{1,2}

1. Application for a change of species and gear authorization, deemed complete November 23, 2021
2. Lease amendment decision, signed April 22, 2021
3. Executed lease document for CAS ELMx signed April 13, 2020
4. Original lease decision signed February 14, 2020
5. Original lease application, deemed complete May 15, 2019
6. Case file

2. STATUTORY CRITERIA & FINDINGS OF FACT

Approval of experimental aquaculture lease amendments is governed by 12 M.R.S.A. § 6072-A (8) and Chapter 2.44 of DMR regulations. The statute and regulations provide that the Commissioner may grant amendments for the use of specific gear, species, and/or operational modifications on an existing lease site provided the proposed changes are consistent with the findings on the underlying lease application, do not materially alter the findings of the original decision, and would not result in a change to the original lease conditions.

¹ Exhibits 1-5 are cited below as: Amendment Application – “App”, Lease Amendment Decision for CAS ELMx “Exhibit 2”, Executed lease for CAS ELMx – “Exhibit 3”, DMR Decision on Lease CAS ELMx - “Exhibit 4”, Original Experimental Lease Application for CAS ELMx – “Exhibit 5” and Case File – “CF”.

² Page numbers are cited using the PDF page number, and not the page number written on the application.

A. Original Lease Decision

On February 14, 2020 DMR granted lease CAS ELMx to Keith Butterfield (Exhibit 4, page 9). DMR's Findings of Fact, Conclusions of Law, and Decision, henceforth referred to as "the original decision", found that the evidence in the record supported the conclusion that the aquaculture activities proposed by Mr. Butterfield met the requirements for granting an experimental aquaculture lease as set forth in 12 M.R.S.A. § 6072-A (Exhibit 4, page 9).

The original decision provided authorization to cultivate American oysters (*Crassostrea virginica*), using suspended culture (Exhibit 4, pages 8-9). Floating nursery boxes, mesh bags, and/or floating cages comprised the gear authorized for the suspended culture of shellfish on CAS ELMx (Exhibit 4, pages 2 & 9). The decision authorized cages to be deployed in parallel longlines measuring 150 feet in length (Exhibit 4, page 2). A maximum of (29) 150' longlines running northeast-southwest, with a maximum of 18 cages per line were authorized for deployment (Exhibit 5, page 24). The original application for CAS ELMx did not state the spacing between longlines, but dividing the length of the lease (578') by the number of longlines (29) without considering any buffer between the longlines and the boundaries of the lease, results in ~19 feet between longlines (Exhibit 3, page 1). During the winter months, cages are sunk to the bottom of the proposed lease (Exhibit 4, 3).

In the original decision, the Commissioner did not establish conditions governing the use of CAS ELMx, as is allowed pursuant to 12 M.R.S.A § 6072-A (15). In the executed lease document, the lease term for CAS ELMx was set for three years, beginning on May 1, 2020 and ending on April 30, 2023 (Exhibit 3, page 1).

On April 22, 2021 the Commissioner signed a gear amendment decision for CAS ELMx which permitted the leaseholder to replace the originally-permitted gear with floating Hexcyl baskets® (29" x 10 5/8" x 5 7/16"), deployed in up to (10) 480-foot longlines running northwest-southeast (Exhibit 2, pages 2-5). A single condition was imposed on the lease by the April 22, 2021 amendment decision, and is as follows:

1. A maximum of 10 longlines may be deployed on the lease site to ensure that longlines for the suspended culture of shellfish are spaced no closer than 25 feet apart, as proposed in the application.

B. Proposed Changes to Gear Layout and Findings

The leaseholder is requesting to deploy (20) 480-foot longlines, each holding up to 420 floating Hexcyl baskets® and running northwest-southeast, on CAS ELMx (App, page 11). Longlines would be deployed in pairs of two, each of which would be moored with (2) 1" x 8" x 66" helix or pyramid anchors³ (App, page 11). A buoy would mark either end of each longline (App, page 11). According to the amendment application, the longlines comprising each pair would be 5' apart, and pairs of longlines would be 20' apart (App, page 11).

³ Mr. Butterfield clarified the number of anchors and buoys proposed for each longline in a call with F. Drury (DMR) on 1/4/2022.

Originally, up to (29) 150' longlines, holding a combination of floating nursery boxes, mesh bags, and floating cages, and running in a northeast-southwest direction were authorized for deployment on CAS ELMs (Exhibit 4 , pages 2 & 9 and Exhibit 5, pages 11 & 24). In the lease amendment decision signed on April 22, 2021, Mr. Butterfield was given the authorization to deploy up to (10) 480' longlines running northwest-southeast, each holding 420 floating Hexcyl baskets® (29" x 10 5/8" x 5 7/16") on CAS ELMx (Exhibit 2, page 5). As DMR Rule Chapter 2.44 (1) states that "the Commissioner shall not amend a lease in such a way that it materially alters the findings of the **original** decision, or would result in a change to the **original** lease conditions (emphasis added)", this amendment proposal will be considered in light of the original decision and lease conditions; the amendment will not be compared to what was granted in the April 22, 2021 amendment. However, the findings from the April 22, 2021 amendment decision will be considered. Specifically, in the April 22, 2021 amendment decision, permission to alter the gear type and orientation was granted because "the original lease proceedings focused on the entirety of the lease area proposed for use, as opposed to the exact orientation and spacing of gear proposed", because "the change in gear layout [was found to be] unlikely to alter the behavior of other users of the area, beyond the impact already imposed by CAS ELMx" and because Hexcyl baskets® were found to be similar in size and design to the gear originally permitted (Exhibit 2, page 4).

The current application proposes to add a second, identical longline of Hexcyl baskets® to each longline permitted in the April 22, 2021 amendment decision, resulting in 10 pairs of longlines deployed on the lease, if granted (App, page 11). The longest axis of the proposed Hexcyl baskets® (29" x 10 5/8" x 5 7/16") would be deployed perpendicularly along the lines, and given the proposed line spacing described above, approximately 2.5 feet would remain between gear deployed on tandem lines, and approximately 17.5 feet would remain between the gear deployed on pairs of lines. This spacing is similar to the ~19 feet between longlines proposed in the original proceedings. Furthermore, the gear plan proposed in this amendment decision would easily fit within the bounds of CAS ELMx.⁴ Lastly, although when compared to the original decision, the proposed gear layout change would result in almost sixteen times as many floating cages on site, the proposal would result in roughly the same volume of gear available for shellfish culture.⁵

The April 22, 2021 amendment decision found evidence that the deployment of Hexcyl baskets® and the gear layout alteration to a maximum of (10) 480' longlines, running northwest-southeast was permissible via amendment. Given this, and because both the gear spacing proposed in this amendment application, which would result in (20) 480' longlines deployed in pairs, and the volume of gear available for shellfish culture, are similar to that in the original decision, and because no public comments concerning the proposal were received by the Department, the proposed change is consistent with the findings on the underlying lease application and would not materially alter the findings of the original decision.

⁴ In Exhibit 2, a condition was placed on the amount of gear that could be deployed on CAS ELMx due to the fact that what was being proposed in the amendment application would not fit within the existing lease boundaries.

⁵ At a maximum, CAS ELMx is permitted to deploy up to 522 cages measuring 36" x 40" x 24", resulting in a volume of ~10,440 cubic feet of cage deployed on the lease. When considering each cage could contain a maximum of 9 mesh bags (40" x 20" x 4"), the volume available for shellfish culture drops to ~8,700 cubic feet. The proposal of a maximum of 8,400 Hexcyl baskets® measuring 29" x 10 5/8" x 5 7/16" results in a volume of ~8,144 cubic feet available for shellfish culture.

C. Proposed Species Changes and Findings

The leaseholder is seeking authorization to cultivate Atlantic surf clams (*Spisula solidissima*) on CAS ELMx. This species would be cultured using the gear discussed in section 2.B of this decision (App, page 3). Atlantic surf clams (*S. solidissima*) would be sourced from Downeast Institute, located in Beals, Maine, which is an approved source of stock by MDMR.

As the proposed sources of stock are all approved by MDMR, and because the gear proposed to culture this species has been found to be permissible via section 2.B of this decision, the proposal is consistent with the findings of the underlying lease application, would not materially alter the findings of the original decision, and would not result in a change to the original lease conditions. However, biotoxin testing under a Memorandum of Understanding (MOU) at the discretion of MDMR, and at the leaseholder's expense, will be required for the harvest of surf clams (*S. solidissima*).


3. CONDITIONS

Based on the amendments discussed above, the condition specific to gear deployment that was imposed on lease CAS ELMx in the April 22, 2021 amendment is no longer relevant and will be removed from the lease.

4. DECISION

Based on the foregoing, the Commissioner grants the request from Keith Butterfield for the authorization to cultivate Atlantic surf clams (*Spisula solidissima*) on CAS ELMx, using Hexcyl baskets®, deployed in the manner described in section 2.B, which alters the gear layout to a maximum of (20) 480' longlines, deployed in pairs of two, and running northwest-southeast.

Dated: 1/27/2022



Patrick C. Keliher, Commissioner
Department of Marine Resources

**STATE OF MAINE
DEPARTMENT OF MARINE RESOURCES**

Application for Change in Gear Authorization
East of Little Moshier Island, Yarmouth

Keith Butterfield

CAS ELMx

April 22, 2021

FINDINGS OF FACT, CONCLUSIONS OF LAW, AND DECISION

Keith Butterfield applied to the Department of Marine Resources (DMR) to change the gear authorization for his existing experimental lease CAS ELMx, located east of Little Moshier Island in the Town of Yarmouth, Cumberland County, Maine. The leaseholder is seeking authorization to change both the gear type and layout on experimental lease CAS ELMx.

1. THE PROCEEDINGS

The application was submitted to DMR on September 2, 2020. The application was deemed complete by DMR on October 8, 2020. Notice of the application and the 14-day public comment period were provided to other state and federal agencies, riparian landowners, the Town of Yarmouth and its Harbormaster, and others on DMR's mailing list. The evidentiary record before DMR regarding this lease amendment application includes five exhibits (see exhibit list below).

LIST OF EXHIBITS^{1,2}

1. Application for a change of gear authorization
2. Executed lease document for CAS ELMx signed April 13, 2020
3. Original lease decision signed February 14, 2020
4. Original lease application, deemed complete May 15, 2019
5. Case file

2. STATUTORY CRITERIA & FINDINGS OF FACT

Approval of experimental aquaculture lease amendments is governed by 12 M.R.S.A. § 6072-A(8) and Chapter 2.44 of DMR regulations. The statute and regulations provide that the Commissioner may grant amendments for the use of specific gear, species, and/or operational modifications on an existing lease site provided the proposed changes are consistent with the findings on the underlying lease application, do not materially alter the findings of the original decision, and would not result in a change to the original lease conditions.

¹ Exhibits 1-5 are cited below as: Amendment Application – “App”, Executed lease for CAS ELMx – “Exhibit 2”, DMR Decision on Lease CAS ELMx - “Exhibit 3”, Original Experimental Lease Application for CAS ELMx – “Exhibit 4” and Case File – “CF”.

² Page numbers are cited using the PDF page number, and not the page number written on the application.

A. Original Lease Decision

On February 14, 2020 DMR granted lease CAS ELMx to Keith Butterfield (Exhibit 3, page 9). DMR's Findings of Fact, Conclusions of Law, and Decision, henceforth referred to as "the decision", found that the evidence in the record supported the conclusion that the aquaculture activities proposed by Mr. Butterfield met the requirements for granting an experimental aquaculture lease as set forth in 12 M.R.S.A. § 6072-A (Exhibit 3, page 9).

The decision provided authorization to cultivate American oysters (*Crassostrea virginica*), using suspended culture (Exhibit 3, pages 8-9). Floating nursery boxes, mesh bags, and/or floating cages comprise the gear authorized for the suspended culture of shellfish on CAS ELMx (Exhibit 3, pages 2 & 9). The decision authorized cages to be deployed in parallel longlines measuring 150 feet in length (Exhibit 3, 2). A maximum of 29 longlines running northeast-southwest, with a maximum of 18 cages per line are authorized for deployment (Exhibit 4, page 24). The original application for CAS ELMx did not state the spacing between longlines, but dividing the length of the lease (578') by the number of longlines (29) without considering any buffer between the longlines and the boundaries of the lease, results in ~19 feet between longlines (Exhibit 2, page 1). During the winter months, cages are sunk to the bottom of the proposed lease (Exhibit 3, 3).

In the decision, the Commissioner did not establish conditions governing the use of CAS ELMx, as is allowed pursuant to 12 M.R.S.A § 6072-A (15). In the executed lease document, the lease term for CAS ELMx was set for three years, beginning on May 1, 2020 and ending on April 30, 2023 (Exhibit 2, page 1).³

B. Proposed Changes to Gear Type and Findings

Keith Butterfield is requesting the authorization to replace the currently permitted shellfish cultivation gear with floating Hexcyl baskets[®] which are made of black plastic and measure 29" x 10 ⁵/₈" x 5 ⁷/₁₆" (App, 4). These baskets would be strung with the longest dimension perpendicular to the longline.

CAS ELMx is currently authorized to cultivate shellfish using wire mesh OysterGro™ floating cages (36" x 40" x 24"), plastic mesh bags (40" x 20"), and nursery boxes made of wood and screen (36" x 48" x 4) (Exhibit 4, page 11). As the proposed Hexcel baskets[®] are similar in size and design to the gear currently permitted, and because the proposed gear would be deployed on the lease site along longlines, as is currently permitted, the proposed gear change would not cause a material deviation from the currently permitted operations. Therefore, the proposed gear change is consistent with the findings on the underlying lease application and would not materially alter the findings of the original decision.

C. Proposed Changes to Gear Layout and Findings

The leaseholder is also requesting to modify the gear layout on CAS ELMx by deploying the longlines that would hold the Hexcyl baskets[®] perpendicular to the original gear orientation (App, 13). Currently, CAS ELMx is authorized to hold up to (29) 150' longlines, each containing up to 18 pieces of gear, and running in a northeast-southwest direction (Exhibit 4, page 24). Mr. Butterfield is requesting

³ In the fall of 2020, Mr. Butterfield was issued a summons by Maine Marine Patrol for unauthorized gear deployment on CAS ELMx.

authorization to deploy up to (12) 480' longlines, running northwest-southeast, on the lease (App, 13). The application requests that each 480' longline would contain up to 420 Hexcyl baskets®, with no spacing between the baskets (App, 14). If granted, this request would result in a total of 5,040 baskets on the lease at maximum capacity. The original application for CAS ELMx did not state the spacing between longlines, but dividing the length of the lease (578') by the number of spaces between the 29 longlines without considering any buffer between the longlines and the boundaries of the lease, results in ~21 feet between longlines (Exhibit 2, page 1). According to the amendment application considered here, the new gear layout would result in 25' between longlines. It should be noted that dividing the width of CAS ELMx (268') by 11, the number of 25' spaces between the 12 longlines proposed results in spacing of ~24 feet. Taking into account buffer space the leaseholder will need between his longlines and the boundaries of his lease would result in a further decrease in the distance between longlines. Factoring the length of each Hexcyl basket® (29"), which would be deployed perpendicularly along the longline, also decreases the space that would be available between longlines, if 12 were to be deployed. Although the proposed gear layout change would result in almost ten times as many floating cages on site (which were found in Section 2.A to be similar in size and design to the gear currently permitted), the proposal would decrease the amount of cubic feet of gear deployed.⁴ Given this, the proposed gear layout change would result in similar operations to those considered in the original application. However, it should be noted that the proposed gear layout changes could not result in the spacing declared in the amendment application without extending beyond the lease area. If this gear amendment is granted, a condition will be placed on the lease to ensure that the proposed spacing is adhered to, and to ensure the gear layout does not extend beyond the boundaries of experimental lease CAS ELMx.⁵

In the decision, the finding of fact and discussion of the original application's impact on riparian access, navigation, fishing, and other uses of the area considered the lease area as a whole and did not discuss gear orientation. For example, when discussing how the proposal might impact riparian access, page 4 of the decision states "The proposed site is located ~170 feet to the southeast of Little Moshier Island (SR 2). Per the site report, vessels would be able to land on the shoreline adjacent to the proposal, if the lease is granted (SR 7)". When discussing navigation within the cove in which CAS ELMx is located, page 4 of the decision states:

The site report suggests that if the proposal is granted it could impact how vessels have traditionally operated within the cove, but maneuverability around the proposed lease site would still be possible. However, the proposal spans ~1/3 of the opening of the cove; at mean low water the proposal is ~170 feet from Little Moshier Island and ~670 feet from Moshier Island (SR 8). Two LPAs are also located at the cove's entrance and an aquaculture lease is located within the cove.

⁴ At a maximum, CAS ELMx is permitted to deploy up to 522 cages measuring 36" x 40" x 24", resulting in a volume of ~10,440 cubic feet of cage deployed on the lease. When considering each cage could contain a maximum of 9 mesh bags (40"x20"x~4"), the volume available for shellfish culture drops to ~8,700 cubic feet. The proposal of a maximum of 5,040 Hexcyl baskets™ measuring 29" x 10^{5/8"} x 5^{7/16"} results in a volume of ~4,883 cubic feet available for shellfish culture.

These excerpts from the original lease decision are representative of the rest of the document in that they show that the finding of fact in the original decision focus on how other users of the area would be impacted by the occupation of the lease area as a whole, as opposed to discussing how deployment of the gear within the lease could accommodate other uses within the lease area.

When considering the impact of proposed gear change on other users of the area, the main difference between the two proposals is the change in direction of the gear-free spaces between deployed longlines. The gear layout permitted by the original lease provided for spaces between lines of gear to run parallel to the direction of travel into the tidally-created cove in which they are located. In theory, this orientation allows for vessels to navigate between the strings of cages into and out of the tidally-created cove between the Moshier Islands. The proposed gear layout would result in gear deployed perpendicular to the direction of travel into the tidally-created cove, and would therefore require other users of the area to navigate around the proposal when entering and exiting the waters between the Moshier Islands. However, given the increased risk a boater assumes when navigating between longlines of gear, and given that adequate room is available on either side of the lease through which users could enter and exit the tidally-created cove between the Moshier Islands, in practice it is unlikely that the change in gear layout would alter the behavior of other users of the area, beyond the impact currently imposed by CAS ELMx. Furthermore, according to a Marine Patrol Officer familiar with the area, boaters in the area would be unlikely to travel between the longlines of gear, regardless of their orientation (CF).

During the public comment period, DMR received five letters of support for this application, including one from a riparian landowner (CF). Additionally, in an email sent on November 23, 2020, the Yarmouth Harbormaster indicated that he had met with Mr. Butterfield to discuss the marking of the lease; the Harbormaster did not express concerns regarding the amendment proposal (CF).

The original lease proceedings focused on the entirety of the lease area proposed for use, as opposed to the exact orientation and spacing of gear proposed. Furthermore, it appears that the change in gear layout is unlikely to alter the behavior of other users of the area, beyond the impact already imposed by CAS ELMx. Given this, and because section 2.A of this decision finds that the proposed Hexcyl baskets® are similar in size and design to the gear currently permitted, the proposed change in gear layout is consistent with the findings on the underlying lease application and would not materially alter the findings of the original decision.

3. CONDITIONS

Based on the above, the gear amendment is approved with the inclusion of the following condition specific to gear deployment:

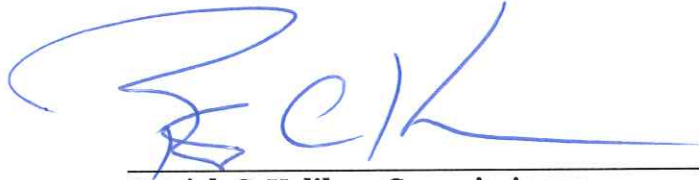
- A. A maximum of 10 longlines may be deployed on the lease site to ensure that longlines for the suspended culture of shellfish are spaced no closer than 25 feet apart, as proposed in the application.

4. DECISION

Based on the foregoing, the Commissioner grants the request from Keith Butterfield for the authorization to change the gear type deployed on lease CAS ELMx to Hexcyl baskets® and to alter the gear number and layout to a maximum of (10) 480' longlines, running northwest-southeast.

Dated: _____

4/22/21



Patrick C. Keliher, Commissioner
Department of Marine Resources

**STATE OF MAINE
DEPARTMENT OF MARINE RESOURCES**

Application for Change in Gear Authorization
East of Little Moshier Island, Yarmouth

Keith Butterfield

CAS ELMx

February 23, 2021

FINDINGS OF FACT, CONCLUSIONS OF LAW, AND DECISION

Keith Butterfield applied to the Department of Marine Resources (DMR) to change the gear authorization for his existing experimental lease CAS ELMx, located east of Little Moshier Island in the Town of Yarmouth, Cumberland County, Maine. The leaseholder is seeking authorization to change both the gear type and layout on experimental lease CAS ELMx.

1. THE PROCEEDINGS

The application was submitted to DMR on September 2, 2020. The application was deemed complete by DMR on October 8, 2020. Notice of the application and the 14-day public comment period were provided to other state and federal agencies, riparian landowners, the Town of Yarmouth and its Harbormaster, and others on DMR's mailing list. The evidentiary record before DMR regarding this lease amendment application includes five exhibits (see exhibit list below).

LIST OF EXHIBITS^{1,2}

1. Application for a change of gear authorization
2. Executed lease document for CAS ELMx signed April 13, 2020
3. Original lease decision signed February 14, 2020
4. Original lease application, deemed complete May 15, 2019
5. Case file

2. STATUTORY CRITERIA & FINDINGS OF FACT

Approval of standard aquaculture lease amendments is governed by 12 M.R.S.A. § 6072 (13)(G) and Chapter 2.44 of DMR regulations. The statute and regulations provide that the Commissioner may grant amendments for the use of specific gear, species, and/or operational modifications on an existing lease site provided the proposed changes are consistent with the findings on the underlying lease application, do not materially alter the findings of the original decision, and would not result in a change to the original lease conditions.

¹ Exhibits 1-5 are cited below as: Amendment Application – “App”, Executed lease for CAS ELMx – “Exhibit 2”, DMR Decision on Lease CAS ELMx - “Exhibit 3”, Original Experimental Lease Application for CAS ELMx – “Exhibit 4” and Case File – “CF”.

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A. Original Lease Decision

On February 14, 2020 DMR granted lease CAS ELMx to Keith Butterfield (Exhibit 3, page 9). DMR's Findings of Fact, Conclusions of Law, and Decision, henceforth referred to as "the decision", found that the evidence in the record supported the conclusion that the aquaculture activities proposed by Mr. Butterfield met the requirements for granting an experimental aquaculture lease as set forth in 12 M.R.S.A. § 6072-A (Exhibit 3, page 9).

The decision provided authorization to cultivate American oysters (*Crassostrea virginica*), using suspended culture (Exhibit 3, pages 8-9). Floating nursery boxes, mesh bags, and/or floating cages comprise the gear authorized for the suspended culture of shellfish on CAS ELMx (Exhibit 3, pages 2 & 9). The decision authorized cages to be deployed in parallel longlines measuring 150 feet in length (Exhibit 3, 2). A maximum of 29 longlines running northeast-southwest, with a maximum of 18 cages per line are authorized for deployment (Exhibit 4, page 24). The original application for CAS ELMx did not state the spacing between longlines, but dividing the length of the lease (578') by the number of longlines (29) without considering any buffer between the longlines and the boundaries of the lease, results in ~19 feet between longlines (Exhibit 2, page 1). During the winter months, cages are sunk to the bottom of the proposed lease (Exhibit 3, 3).

In the decision, the Commissioner did not establish conditions governing the use of CAS ELMx, as is allowed pursuant to 12 M.R.S.A § 6072-A (15). In the executed lease document, the lease term for CAS ELMx was set for three years, beginning on May 1, 2020 and ending on April 30, 2023 (Exhibit 2, page 1).³

B. Proposed Changes to Gear Type and Findings

Keith Butterfield is requesting the authorization to replace the currently permitted shellfish cultivation gear with floating Hexcyl baskets[®] which are made of black plastic and measure 29" x 10^{5/8}" x 5^{7/16}" (App, 4). These baskets would be strung with the longest dimension perpendicular to the longline.

CAS ELMx is currently authorized to cultivate shellfish using wire mesh OysterGro[™] floating cages (36" x 40" x 24"), plastic mesh bags (40" x 20"), and nursery boxes made of wood and screen (36" x 48" x 4) (Exhibit 4, page 11). As the proposed Hexcel baskets[®] are similar in size and design to the gear currently permitted, and because the proposed gear would be deployed on the lease site along longlines, as is currently permitted, the proposed gear change would not cause a material deviation from the currently permitted operations. Therefore, the proposed gear change is consistent with the findings on the underlying lease application and would not materially alter the findings of the original decision.

C. Proposed Changes to Gear Layout and Findings

The leaseholder is also requesting to modify the gear layout on CAS ELMx by deploying the longlines that would hold the Hexcyl baskets[®] perpendicular to the original gear orientation (App, 13). Currently, CAS ELMx is authorized to hold up to (29) 150' longlines, each containing up to 18 pieces of gear, and running in a northeast-southwest direction (Exhibit 4, page 24). Mr. Butterfield is requesting

³ In the fall of 2020, Mr. Butterfield was issued a summons by Maine Marine Patrol for unauthorized gear deployment on CAS ELMx.

authorization to deploy up to (12) 480' longlines, running northwest-southeast, on the lease (App, 13). The application requests that each 480' longline would contain up to 120 Hexcyl baskets®, with no spacing between the baskets (App, 14). If granted, this request would result in a total of 1,420 baskets on the lease at maximum capacity. The original application for CAS ELMx did not state the spacing between longlines, but dividing the length of the lease (578') by the number of longlines (29) without considering any buffer between the longlines and the boundaries of the lease, results in ~19 feet between longlines (Exhibit 2, page 1). According to the amendment application considered here, the new gear layout would result in 25' between longlines. It should be noted that dividing the width of CAS ELMx (268') by the number of longlines proposed (12) results in spacing of ~22 feet. Taking into account buffer space the leaseholder may want between his gear and the boundaries of his lease would result in a further decrease in the distance between longlines. Factoring the length of each Hexcyl basket® (29"), which would be deployed perpendicularly along the longline, also decreases the space that would be available between longlines, if 12 were to be deployed. Although the proposed gear layout change would result in almost three times as many individual pieces of gear on site (which were found in Section 2.A to be similar in size and design to the gear currently permitted), the proposal would decrease the amount of cubic feet of gear deployed.⁴ Given this, the proposed gear layout change would result in similar operations to those considered in the original application. However, it should be noted that the proposed gear layout changes could not result in the spacing declared in the amendment application without extending beyond the lease area. If this gear amendment is granted, a condition will be placed on the lease to ensure that the proposed spacing is adhered to, and to ensure the gear layout does not extend beyond the boundaries of experimental lease CAS ELMx.⁵

In the decision, the finding of fact and discussion of the original application's impact on riparian access, navigation, fishing, and other uses of the area considered the lease area as a whole and did not discuss gear orientation. For example, when discussing how the proposal might impact riparian access, page 4 of the decision states "The proposed site is located ~170 feet to the southeast of Little Moshier Island (SR 2). Per the site report, vessels would be able to land on the shoreline adjacent to the proposal, if the lease is granted (SR 7)". When discussing navigation within the cove in which CAS ELMx is located, page 4 of the decision states:

The site report suggests that if the proposal is granted it could impact how vessels have traditionally operated within the cove, but maneuverability around the proposed lease site would still be possible. However, the proposal spans ~1/3 of the opening of the cove; at mean low water the proposal is ~170 feet from Little Moshier Island and ~670 feet from Moshier Island (SR 8). Two LPAs are also located at the cove's entrance and an aquaculture lease is located within the cove.

⁴ At a maximum, CAS ELMx is permitted to deploy up to 522 cages measuring 36" x 40" x 24", resulting in a volume of ~10,440 cubic feet of cage deployed on the lease. When considering each cage could contain a maximum of 9 mesh bags (40"x20"x4"), the volume available for shellfish culture drops to ~8,700 cubic feet. The proposal of a maximum of 1,420 Hexcyl baskets™ measuring 29" x 10^{5/8}" x 5^{7/16}" results in a maximum of 1,389 cubic feet available for shellfish culture.

⁵ Dividing the width of CAS ELMx (268') by 10 longlines results in spacing of 26.8 feet.

These excerpts from the original lease decision are representative of the rest of the document in that they show that the finding of fact in the original decision focus on how other users of the area would be impacted by the occupation of the lease area as a whole, as opposed to discussing how deployment of the gear within the lease could accommodate other uses within the lease area.

When considering the impact of proposed gear change on other users of the area, the main difference between the two proposals is the change in direction of the gear-free spaces between deployed longlines. The gear layout permitted by the original lease provided for spaces between lines of gear to run parallel to the direction of travel into the tidally-created cove in which they are located. In theory, this orientation allows for vessels to navigate between the strings of cages into and out of the tidally-created cove between the Moshier Islands. The proposed gear layout would result in gear deployed perpendicular to the direction of travel into the tidally-created cove, and would therefore require other users of the area to navigate around the proposal when entering and exiting the waters between the Moshier Islands. However, given the increased risk a boater assumes when navigating between longlines of gear, and given that adequate room is available on either side of the lease through which users could enter and exit the tidally-created cove between the Moshier Islands, in practice it is unlikely that the change in gear layout would alter the behavior of other users of the area, beyond the impact currently imposed by CAS ELMx. Furthermore, according to a Marine Patrol Officer familiar with the area, boaters in the area would be unlikely to travel between the longlines of gear, regardless of their orientation (CF).

During the public comment period, DMR received five letters of support for this application, including one from a riparian landowner (CF). Additionally, in an email sent on November 23, 2020, the Yarmouth Harbormaster indicated that he had met with Mr. Butterfield to discuss the marking of the lease; the Harbormaster did not express concerns regarding the amendment proposal (CF).

The original lease proceedings focused on the entirety of the lease area proposed for use, as opposed to the exact orientation and spacing of gear proposed. Furthermore, it appears that the change in gear layout is unlikely to alter the behavior of other users of the area, beyond the impact already imposed by CAS ELMx. Given this, and because section 2.A of this decision finds that the proposed Hexcyl baskets[®] are similar in size and design to the gear currently permitted, the proposed change in gear layout is consistent with the findings on the underlying lease application and would not materially alter the findings of the original decision.

3. CONDITIONS

Based on the above, the gear amendment is approved with the inclusion of the following condition specific to gear deployment:

- A. A maximum of 10 longlines may be deployed on the lease site to ensure that longlines for the suspended culture of shellfish are spaced no closer than 25 feet apart, as proposed in the application.

4. DECISION

Based on the foregoing, the Commissioner grants the request from Keith Butterfield for the authorization to change the gear type deployed on lease CAS ELMx to Hexcyl baskets® and to alter the gear number and layout to a maximum of (10) 480' longlines, running northwest-southeast.

Dated: _____

2/23/21



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

STATE OF MAINE
DEPARTMENT OF MARINE RESOURCES

Experimental Aquaculture Lease Application
Suspended Culture of American Oysters
Casco Bay, East of Little Moshier Island

Keith Butterfield
CAS ELMx

February 14, 2020

FINDINGS OF FACT, CONCLUSIONS OF LAW, AND DECISION

Keith Butterfield applied to the Department of Marine Resources (DMR) for a three-year experimental aquaculture lease located east of Little Moshier Island, Casco Bay, in Yarmouth, Cumberland County, Maine. The proposed lease is 3.55 acres¹ and is for the suspended cultivation of American oysters (*Crassostrea virginica*).

1. THE PROCEEDINGS

DMR accepted the application as complete on May 15, 2019. Notice of the application and the 30-day public comment period were provided to state and federal agencies, riparian landowners, the Town of Yarmouth and its Harbormaster, and others on DMR's mailing list. Notice of the application and comment period was published in the May 30, 2019 edition of the *Northern Forecaster*. During the comment period, DMR did not receive any requests for a public hearing and no hearing was held. The site report was issued on October 29, 2019. The evidentiary record regarding this lease application includes the application, DMR's site report, and the case file. The evidence from each of these sources is summarized below.²

2. DESCRIPTION OF THE PROJECT

A. Site Characteristics

The proposed lease occupies subtidal waters between Moshier and Little Moshier Islands in Casco Bay (SR 2). To the northeast of the proposed site is a tidally-exposed sandbar that connects the two islands (SR 2). The shorelines of Moshier and Little Moshier Islands are rocky with uplands characterized by mixed

¹ The applicant originally requested 4 acres, but DMR calculations based on the provided coordinates indicates that the proposed site is 3.55 acres.

² These sources are cited, with page references, as CF (case file), App (application), SR (site report).

forest (SR 2). Residential buildings were observed on both islands, with one house on Little Moshier Island immediately adjacent to the proposed site (SR 2). Correcting for mean low water, depths at the proposed lease site ranged from ~6.2-15.2 feet (SR 5). At mean low water, the western boundary of the proposed site is ~170 feet to the nearest point of land on Little Moshier Island (SR 6). Figure 1 shows the location of the proposed lease and the surrounding area.

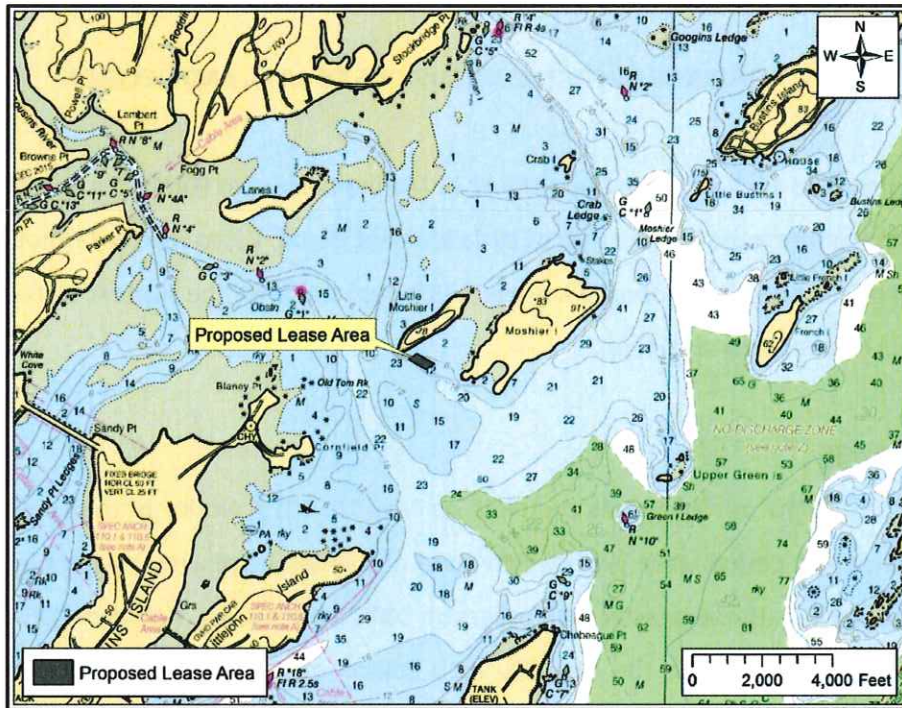


Figure 1: Vicinity Map. Image taken from site report.

B. Proposed Operations

The applicant is proposing to cultivate American oysters (*C. virginica*) using a combination of floating nursery boxes, mesh bags, and floating cages (App 4). The gear would be arranged on 29 parallel floating longlines, which would be 150 feet in length (App 22). At maximum capacity, 522 floating cages would be deployed on the proposed site (App 22, SR 2).³ Initially, the cages would be manually flipped

³ In the application, the written description of the proposed operations indicates that 800 cages would be deployed at maximum capacity (see page 6). The site report references page 22 of the application, which also contained conflicting information regarding the maximum number of cages on the proposed site. The site report utilized the larger of the two estimates contained on page 22 of the application, which was less than what was contained in the written description of the proposal. This decision utilizes the maximum number of cages referenced in the site report.

and sorted for harvesting (App 6). The application indicates that a tumbler/sorter may be purchased and would be used to process harvested product once per week (App 6). The tumbler/sorter would be deployed on an existing work raft, which is moored outside the boundaries of the proposed site. During the winter months, the gear would be submerged on the bottom of the proposed lease site (App 6).

According to DMR's records, the applicant currently holds experimental lease CAS Mix, which is comprised of two tracts. Tract 1 is 2.72 acres and is located off the eastern shoreline of Little Moshier Island, to the north of the current lease proposal. Tract 2 is 0.83 acres and is adjacent to the southeastern shoreline of Moshier Island. Both tracts are authorized for the cultivation of American oysters (*C. virginica*) and sea scallops (*Placopecten magellanicus*) using suspended culture techniques. The applicant also holds Limited Purpose Aquaculture (LPA) licenses within the vicinity of the proposed lease site.

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 applicant has demonstrated that there is available source of organisms to be cultured on the lease site.

A. Riparian Access

The proposed lease occupies subtidal waters, in a cove, between Moshier and Little Moshier Islands (SR 2, 7). During the July 9, 2019, site visit no docks or other riparian access points were observed in the cove (SR 7). Based on aerial photographs taken in 2018, the nearest dock is 500 feet from the proposed site on the northwest shore of Little Moshier Island (SR 7). The proposed site is located ~170 feet to the southeast of Little Moshier Island (SR 2). Per the site report, vessels would be able to land on the shoreline adjacent to the proposal, if the lease is granted (SR 7). DMR staff observed two orange poly balls near the proposed site, but given their proximity to one another, it is unlikely they designated moorings (SR 7).

During the review period, DMR did not receive any comments from riparian landowners, the municipality, or other stakeholders concerning riparian ingress and egress. Based on the lack of public

comments, and the information contained in the site report, it is reasonable to conclude that riparian ingress and egress will not be unduly affected by the proposed application.

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

B. Navigation

The proposed lease is in a low-tide cove between Moshier and Little Moshier Islands (SR 8). A tidally exposed sandbar, connecting Moshier and Little Moshier Islands, is to the north of the proposal (SR 2). At higher tidal stages, depth appropriate vessels can navigate between the islands (SR 8). At lower tidal stages, navigation between the islands is precluded by the tidally exposed sandbar (SR 8). The proposed lease site is located to the north of the marked channel leading to the Royal and Cousins Rivers (SR 8). It is likely that vessel traffic within the channel is heavy during certain times of year when recreational and commercial boating are prevalent (SR 8). However, the proposal is located between Moshier and Little Moshier Islands, so vessels traveling to and from the Royal and Cousins River are unlikely to be impacted by the proposal (SR 8). In addition, at all tidal stages, there would be more than 1,800 feet of navigable area between the southern boundary of the proposed lease site and the 12-foot depth contour to the eastern side of Cousins Island (SR 8).

However, navigation within the cove could potentially be impacted by the proposal, because it spans $\sim 1/3$ of the opening of the cove; and at mean low water it is ~ 170 feet from Little Moshier Island and ~ 670 feet from Moshier Island (SR 8). It is likely that vessels navigating in the area would be able to maneuver on either side of proposed lease, but it could impact how vessels traverse within the area (SR 8). The cove also contains existing aquaculture sites, so it is possible that multiple sites could have cumulative impacts on navigation within the cove (SR 8).

There is one aquaculture lease and eighteen LPAs located within a mile of the proposed site (SR 9). The closest aquaculture lease is CAS Mlx, which is an experimental lease comprised of two tracts, held by the applicant (SR 9). As noted above, Tract 1 is 2.72 acres and is located within the cove off the eastern shoreline of Little Moshier Island, to the north of the proposed lease. Two LPAs, BUTT114 and BUTT314, are also located near the mouth of the cove as depicted in the figure below. If the proposal is granted, the applicant would relinquish BUTT114 and BUTT314 (App 6).

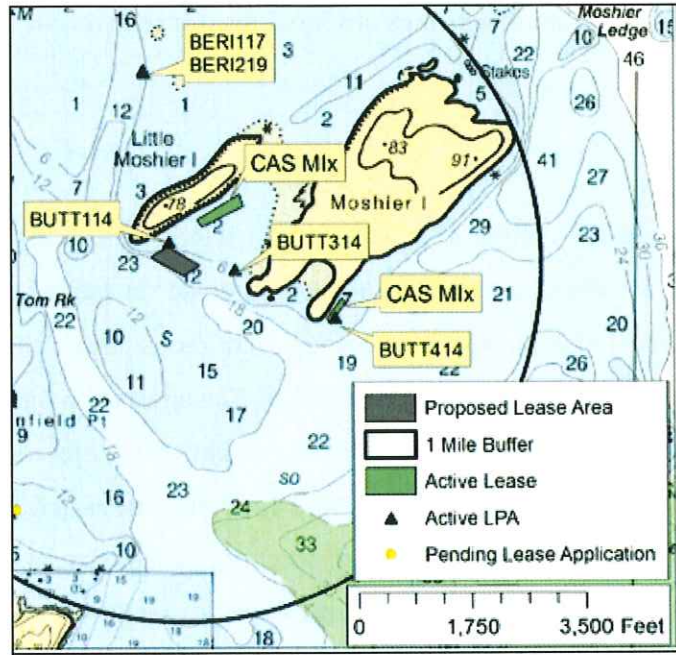


Figure 2: Proposed lease site in relationship to other aquaculture sites. Figure modified from site report.

Discussion:

Copies of the completed application and opportunity to provide written comments, including requests for a public hearing were sent to riparian landowners, the municipality, and other stakeholders. DMR did not receive any comments about how this proposal may impact navigation. The site report suggests that if the proposal is granted it could impact how vessels have traditionally operated within the cove, but maneuverability around the proposed lease site would still be possible. However, the proposal spans ~1/3 of the opening of the cove; at mean low water the proposal is ~170 feet from Little Moshier Island and ~670 feet from Moshier Island (SR 8). Two LPAs are also located at the cove’s entrance and an aquaculture lease is located within the cove.

If the proposed lease site is granted, the existing aquaculture sites within the area may exacerbate some of the concerns, related to navigation, identified in the site report. Therefore, if the proposal is granted, the LPAs BUTT114 and BUTT314 will not be renewed, by DMR, for 2021.⁴ Not renewing these LPAs will provide for greater navigable area at the mouth of the cove and helps to alleviate the possible impacts multiple aquaculture sites could have on navigation within the vicinity of the proposed lease.

Based on the evidence, lack of public comment, and non-renewal of the LPAs BUTT114 and BUTT314, it appears that navigation will not be unduly affected by the proposed application.

⁴ LPAs expire December 31st each year and applicants must apply to renew any existing LPAs issued to them. The applicant indicated that BUTT114 and BUTT314 would not be renewed if the proposal was granted.

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

C. Fishing & Other Uses

Fishing. During DMR’s site visit on July 9, 2019 some “light” lobstering activity was observed within the boundaries of the proposed site (SR 9). Staff observed ~20 lobster buoys within the cove where the proposed site is located (SR 9). No other commercial or recreational fishing activities were observed by DMR during their visit to the site in July 2019 (SR 9). The application indicates that shoreline fishing occurs along the southern point of Little Moshier Island, but that “striper fisherman do not fish in the middle of the bay where this lease is proposed” (App 6). During the review period, DMR did not receive any comments from the municipality, lobstermen, or other stakeholders concerning this proposal.

Exclusivity. The applicant is not requesting exclusive use of the proposed lease site (SR 7).

Other aquaculture uses. One aquaculture lease and eighteen LPAs are located within a mile of the proposed site (SR 9). The closest aquaculture lease is CAS Mlx, which is an experimental lease held by the applicant (SR 9). The applicant also holds three LPAs near the proposed site (SR 9).⁵ The application indicates that if the proposal is granted, two of the LPAs (BUTT114 and BUTT314) will be relinquished (APP 6).⁶ For the reasons described above, BUTT114 and BUTT314 will not be renewed. DMR did not receive any comments from other aquaculture lease or license holders concerning this proposed site.

Other water-related uses. During the review period, DMR did not receive any comments detailing other water-related uses that are not already contemplated in other sections of this decision. Based on the absence of public comments, it is reasonable to conclude that there are no concerns regarding the effects the proposed lease may have on other water-related uses of the area.

Therefore, considering 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

Historical eelgrass data collected in 2018 indicate that the NE corner of the proposed lease site overlaps with an observed eelgrass bed (SR 11).⁷ On October 8, 2019, DMR scientists returned to the site and deployed an underwater camera to visually assess the abundance of eelgrass near the proposal (SR

⁵ LPA acronym: BUTT114,314, and 414.

⁶ LPA acronym: BUTT114 and 314 would be relinquished if the proposal is granted.

⁷ Data was collected by the Maine Department of Environmental Protection in partnership with the Casco Bay Estuary Partnership (see pg. 11 of Site Report).

11). Staff observed eelgrass within 25 feet of the proposed NE corner and sporadically along the northern boundary (SR 11). The site report recommends that the proposed northern boundary be shifted 25-feet to the south to avoid possible interference with the existing eelgrass bed and to comply with the Army Corps of Engineers recommended set-back of 25-feet (SR 11).⁸ In consideration of the evidence and recommendation contained in the site report, if the proposal is granted, DMR will shift the northern boundary 25-feet to the south. Based on the boundary shift, the lease site would be 3.19 acres in size and would have the following revised coordinates:

<u>Corner</u>	<u>Latitude</u>	<u>Longitude</u>	
SE	43.779147° N	70.109756° W	<i>then 579.94 feet at 299.40° True to</i>
SW	43.779928° N	70.111669° W	<i>then 268.83 feet at 56.32° True to</i>
NW	43.780337° N	70.110822° W	<i>then 578.62 feet at 119.31° True to</i>
NE	43.77956° N	70.108912° W	<i>then 268.99 feet at 235.97° True to SE.</i>

Data maintained by the Maine Department of Inland Fisheries and Wildlife (MDIFW) indicate that the proposed lease is located ~410 feet to the southeast of Tidal Wading Bird and Waterfowl Habitat, which is defined under Maine’s Natural Resource Protection Act as Significant Wildlife Habitat (SR 10). DMR sent a copy of the application to MDIFW for their review and comment. MDIFW indicated that “minimal impacts to wildlife are anticipated for this project.”⁹

Given the reduction to the northern boundary of the proposed lease site, it is reasonable to conclude that the proposed lease will not have an unreasonable impact on 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 ecological significant flora and fauna.

E. Public Use & Enjoyment

Per the site report, “there are no beaches, parks, or docking facilities owned by federal, state, or municipal government within 1,000 feet of the proposed lease site” (SR 12).

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.

⁸ See Figure 6 of the site report for an image of the revised boundaries.

⁹ CF: Email from R. Settele to C. Burke on June 3, 2019

F. Source of Organisms

The applicant intends to source stock from Mook Sea Farm in Walpole, Maine. This source is approved by DMR (SR 12).

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, I conclude that:

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

2. Based on the non-renewal of the LPAs BUTT114 and BUTT314, 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, taking into consideration the number and density of aquaculture leases in the area.

4. Given the modification to the northern boundary of the site, 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.

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 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 an experimental lease of 3.19 acres to Keith Butterfield, 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 lessee¹⁰; however, no aquaculture rights shall accrue in the lease area until the lease is fully executed.

¹⁰ DMR Rule 2.64 (14) provides:

This lease is granted to the lessee for the cultivation of American oysters (*C. virginica*) using suspended culture techniques. 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 sq. ft. 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 (10) (s) 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 limitations on aquaculture activities, pursuant to 12 MSRA §6072-A (15).¹¹ 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 purpose of the lease. No conditions have been incorporated into the lease.

7. REVOCAION OF EXPERIMENTAL LEASE

The Commissioner may commence revocation procedures upon determining pursuant to 12 MRSA §6072-A (22) and DMR Rule Chapter 2.64 (13) that no substantial research has been conducted on the site within the preceding year, that research has been conducted in a manner injurious to the environment or to marine organisms, or that any conditions of the lease or any applicable laws or regulations have been violated.

Dated: _____

2/14/2020



Patrick C. Keliher, Commissioner
Department of Marine Resources

“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.”

¹¹ 12 MRSA §6072-A (15) provides that:

“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. The commissioner may grant the lease on a conditional basis until the lessee has acquired all the necessary federal, state and local permits.”