

**STATE OF MAINE
DEPARTMENT OF MARINE
RESOURCES**

Acadia Aqua Farms, LLC

Standard Aquaculture Lease Application

Suspended Culture of Shellfish

Eastern Bay, Bar Harbor

EAST LP

FINDINGS OF FACT, CONCLUSIONS OF LAW, AND DECISION

Acadia Aqua Farms, LLC applied to the Department of Marine Resources (DMR) for a twenty-year standard aquaculture lease on 48.11¹ acres southwest of Googins Ledge in Eastern Bay, Bar Harbor, Hancock County. The proposal is for the suspended culture of blue mussels (*Mytilus edulis*), sea scallops (*Placopecten magellanicus*), softshell clams (*Mya arenaria*), and hard clams (*Mercenaria mercenaria*).

1. THE PROCEEDINGS

This section details the procedural history of this case from the pre-application meeting through a description of the hearing, closing arguments, and party review of the proposed decision. This section is ordered in chronological order by date an initial action or event occurred. The exception is the section specific to administrative subpoenas, which were processed at various points leading up to the hearing.

The pre-application meeting was held on November 7, 2019. The applicant submitted a draft lease application to DMR on November 12, 2019. DMR reviewed the draft application and deemed it ready for a scoping session on December 5, 2019. The applicant held a scoping session for the draft application on January 23, 2020, at Mount Desert Island High School in Bar Harbor.² The applicant submitted a final lease application on February 2, 2020. The final application submission was reviewed by DMR and deemed complete on February 13, 2020. Notice of the complete lease application was provided to the riparian landowner within 1,000' of the proposed

¹ Applicant originally requested 48 acres. DMR calculations in the site report, based on the provided coordinates, indicate the area is 48.11 acres.

² Applicants are responsible for publishing notice of the scoping session in a local newspaper at least 10-days before the meeting. Acadia Aqua Farms, LLC submitted a tear sheet as part of the final application that demonstrates the notice of the scoping session was published in the *Ellsworth American* on January 9, 2020. DMR sent personal notice of the scoping session to the Town of Bar Harbor, the riparian landowner, and other stakeholders as required by law.

site, the Town of Bar Harbor, and sent to other state agencies as required by law. The complete lease application was also posted to DMR's website, and notice was sent to subscribers of DMR's email listserv. After notice of the complete application was processed, DMR received inquiries from several members of the public regarding the process for applying for intervenor status in the proceeding.³

Due to the COVID-19 pandemic, DMR was unable to schedule the hearing until February 9, 2022. The hearing was scheduled in-person at the Bar Harbor Municipal Building. Notice of the February 9, 2022, hearing was initially published in the *Ellsworth American* on December 23, 2021,⁴ and mailed to the applicant, riparian landowner within 1,000' of the proposed site, the Town of Bar Harbor, and other state agencies. The notice was also posted to DMR's website and sent to subscribers of DMR's email listserv. Notice of the hearing was also published in Maine Lobsterman's Association e-weekly newsletter.

The notice included information about the purpose of the hearing, how interested people could participate, and a schedule of proceedings. To help facilitate the proceeding, DMR required that any person wishing to offer testimony or ask questions of the parties register for the hearing. The notice specified that the deadline to register for the hearing and apply for intervenor status was 4:00 p.m. on January 25, 2022. Given the anticipated requests for intervenor status and complexity of issues, DMR also elected to hold a pre-hearing conference. Therefore, the schedule of proceedings stated that a pre-hearing conference would also be held remotely at 1:00p.m. on January 4, 2022.

The pre-hearing conference was held as scheduled and attended by the people listed in the table below.

Name	Affiliation
Amanda Ellis, Marcy Nelson, Cheyenne Adams, and Flora Drury	DMR Staff
Mark Randlett	Assistant Attorney General
Fiona and Alex de Koning	Acadia Aqua Farms LLC, Applicant

³ Most individuals initially contacted DMR about applying for intervenor status in June 2020. DMR explained that applications for intervenor status were not being accepted at that time as the hearing had not been scheduled or noticed.

⁴ In accordance with the Maine Administrative Procedures Act notice was published in the *Ellsworth American*, a second time, on January 20, 2022. The second notice did not include information about the pre-hearing conference as that had occurred on January 4, 2022-prior to the second publication date.

Crystal Canney	Protect Maine’s Fishing Heritage Foundation
David Kallin and Stacey Caulk	Counsel, Drummond Woodsum, Friends of Eastern Bay
Jerilyn Bowers	Friends of Eastern Bay
Alynn Seymour	For Frances Seymour. The Frances W. Seymour Revocable Trust is the riparian landowner whose shorefront property boundaries are within 1,000’ of the proposed site.
Afton Vigue	Maine Aquaculture Association
Cheryl Claiborne and Judith Berger-Gossart	Members of the Public

At the pre-hearing conference, DMR discussed the general administration of the hearing including the pre-filing of issues, exhibits, expert witnesses, and testimony. DMR stated that consolidation of intervenors and filings might be required. If consolidation occurred, DMR noted that individuals and entities consolidated might be required to submit filings as a single intervenor rather than individually. On January 11, 2022, DMR issued a Procedural Order that reflected what was discussed at the pre-hearing conference, including pre-filing deadlines. A copy of the Procedural Order was provided to all persons who attended the pre-hearing conference and posted to DMR’s website.

A. Applications for Intervenor Status⁵

Friends of Eastern Bay (FEB), Protect Maine’s Fishing Heritage Foundation (PMFHF), and Alynn and Frances Seymour (“Seymour Family”) submitted applications to intervene in the proceeding by the January 25, 2022, deadline. The Procedural Order allowed the applicant to file objections to applications for intervenor status. On January 26, 2022, the applicant filed an objection to PMFHF’s application for intervention on the grounds that the application did not specify whether PMFHF members utilized the proposed lease area.⁶ The applicant also stated that the application for intervention lacked details about how specific members would be directly and substantially affected by the proposed lease.⁷ PMFHF responded to the objection by indicating that

⁵ The applicant elected to retain the counsel of Patrick Lyons, Esq. Eaton Peabody, and FEB elected to retain the counsel of David Kallin, Esq. and Stacey Caulk, Esq. Drummond Woodsum.

⁶ CF: Email from the applicant to DMR and PMFHF dated January 26, 2022.

⁷ Ibid.

exhibits demonstrating direct and substantial effects were not due until February 2, 2022, and that DMR would have the names and licenses of lobstermen in its files.⁸

B. Decision on Applications for Intervenor Status

On January 31, 2022, DMR issued decisions on the three intervenor applications, granting the requests of FEB and the Seymour family, but denying PMFHF's request for intervenor status.⁹ The laws and regulations governing DMR's lease proceedings provide that members of the public may offer testimony or submit exhibits as part of the public hearing process. Intervenor status is not required to participate in a lease proceeding. Individuals or entities that apply for intervenor status must demonstrate that they will be substantially and directly affected for the status to be conferred. 5 M.R.S.A. § 9054(1); Chapter 2.20. In instances where an intervenor applicant has not demonstrated that they will be substantially and directly affected, participation may be limited or denied. 5 M.R.S.A. § 9054(3); Chapter 2.20(3). The terms "substantial" and "direct" are not defined in the rules or laws that govern lease proceedings. However, the use of these terms suggest that the injury must be particularized and distinct.¹⁰ In other words, that if the lease were granted, those applying for intervenor status would suffer an injury not held by the public at large.¹¹

DMR denied PMFHF's application for intervenor status. The intervenor application asks how the entity or individuals utilize the proposed lease area. PMFHF did not provide a description of how the entity, or members utilize the proposed lease area as required by DMR's intervenor application form. PMFHF instead provided general details about the organization, noting that it is a statewide coalition that supports lobstermen, recreationalists, and others who use Maine's oceans. PMFHF stated that some lobstermen who reside within areas near Bar Harbor expressed concerns about the site being granted but did not provide any supporting details to indicate how the area is currently utilized.

⁸ CF: Email from PMFHF to DMR and the applicant dated January 26, 2022. Crystal Canney, who represented PMFHF attended the pre-hearing conference. At that meeting, DMR noted that applications to intervene were due by January 25, 2022. The January 11, 2022, Procedural Order specified that the parties to the proceeding needed to pre-file exhibits for the *hearing* by February 2, 2022. The Procedural Order did not provide that this deadline applied to exhibits related to applications to intervene.

⁹ CF: January 31, 2022, email from DMR to D. Kallin and A. Seymour (applicant copied). CF: January 31, 2022, email from DMR to C. Canney (applicant copied).

¹⁰ See *Nelson v. Bayroot, LLC*, 953 A.2d 378, 382 (Me. 2008).

¹¹ See *Ricci v. Superintendent, Bureau of Banking*, 485 A.2d 645, 647 (Me. 1984).

PMFHF's application listed the names of 13 individuals but did not provide additional information to describe how their fishing activity, or other relevant uses of the area, would be impacted by the proposal.¹² The intervenor application asks the applicant to indicate how they may be substantially and directly affected by the proposal. In response to that question, PMFHF stated that the area "is becoming more crowded with aquaculture leases and needs to be looked at in totality instead of isolation as future lease approvals will further impact a loss of bottom."¹³ Apart from being general and indistinct, there was no additional information provided to substantiate that claim. PMFHF did state in its application that if the proposal is granted it may impact navigation within the area but did not explain how those potential navigational impacts would affect PMFHF or its members in particular. The answers PMFHF provided in its application lacked specificity and most were not germane to the criteria DMR must consider when evaluating a standard lease.

If full intervenor status is denied, Chapter 2.20(3)(A) provides that limited intervenor status may be conferred if it would be helpful to the Commissioner in rendering a decision. In this case, 12 of the 13 individuals listed in the intervenor application had also registered to participate in the proceeding as members of the public. Because those persons would be able to present testimony and evidence, DMR determined it was unnecessary to grant limited intervenor status to PMFHF as concerns of its members would be shared through public testimony.¹⁴

DMR granted full intervenor status to FEB and the Seymour Family as they raised the possibility of impacts that would not be held or represented by the public at large. In addition, given the alleged ownership of moorings and shorefront property within the area, some of the

¹² PMFHF's application did not specify who among the listed individuals were fishermen, indicate what species they fish for, or provide other information detailing how the individuals would be impacted by the project. The application only stated that the listed persons would be testifying at the hearing. DMR was able to independently determine that most of the persons listed are fishermen, because they are licensed by DMR. However, because there was no description of their fishing activities within the area, including how the proposal might impact those activities, DMR was unable to ascertain how the lease proposal might impact the individuals' fishing activity within or near the proposed site.

¹³ CF: PMFHF Intervenor Application, pg. 2

¹⁴ Cameron Crawford was the only individual listed on the intervenor application, who did not register for the hearing. DMR required that individuals wishing to offer testimony or ask questions of the parties register to participate in the proceeding by 4:00 p.m. on January 25, 2022. This registration requirement was listed in all hearing notices and reiterated at a prehearing conference held on January 4, 2022. DMR also indicated, at the pre-hearing conference, that anyone applying for intervenor status should also register to participate in the hearing. The Procedural Order included the registration requirement and reiterated that anyone applying for intervenor status also needed to register for the hearing. Representatives of PMFHF attended the pre-hearing conference and were given a copy of the Procedural Order. In addition, for reasons specified further in this decision, registration was reopened for all stakeholders beginning as early as February 2, 2022.

relevant impacts described would be particularized and substantial.¹⁵ Both FEB and the Seymour Family indicated that they own property within the vicinity of the proposal, and they raised similar issues concerning the possible effects the proposal may have on the area. Therefore, in accordance with Chapter 2.20(3)(B), to avoid repetitive testimony or cumulative evidence or questioning, DMR consolidated FEB and the Seymour Family into one intervenor group referred to as “Concerned Citizens of Eastern Bay” (CCEB).

C. Notice of Rescheduled Hearing

The hearing was originally scheduled for February 9, 2022, and was to be conducted in-person at the Bar Harbor Municipal Building. As included in the initial notice of the hearing, anyone wishing to testify or ask questions of the parties was required to register by January 25, 2022. After the close of registration, DMR evaluated the number of submissions and determined that the capacity of the venue would be exceeded.¹⁶ Given capacity limitations and concerns related to COVID-19, DMR postponed the hearing to March 28, 2022, and changed the format for members of the public from in-person to remote. The hearing remained in-person, at the Bar Harbor Municipal Building for the applicant, intervenors, and DMR staff.

On February 2, 2022, notice of the postponement and change in format was sent to the applicant, intervenors, municipality, the riparian landowner within 1,000’ of the proposed site, persons who registered to participate in the hearing, and subscribers of DMR’s aquaculture email listserv. It was also posted on DMR’s website. Notice was published in the *Ellsworth American* on February 10, 2022, and March 10, 2022. Given the change in date and format, DMR required anyone wishing to offer testimony or ask questions of the parties to register by March 14, 2022. All notices included the March 14, 2022, registration deadline and specified that the hearing

¹⁵ In their application to intervene, FEB raised a variety of issues and concerns that are not germane to the lease proceeding. For example, they indicated that Acadia Aqua Farms, LLC needed to conduct an alternatives analysis. FEB stated that the proposed floating dock, which would be within the boundaries of the proposed lease site needed to be permitted by the Maine Department of Environmental Protection (DEP) under the Natural Resources Protection Act (NRPA). In the intervenor decision, DMR noted that there is no requirement to conduct an alternatives analysis and that aquaculture activities are generally exempt from NRPA requirements, but even if a permit were required it would be a determination for DEP to make.

¹⁶ In addition, a variant of the COVID-19 virus, the Omicron variant, was emerging at that time and believed to be more contagious than prevailing variants. Given the size of the venue and number of registrants, it would be difficult to implement the, then in-effect, federal and state protocols designed to limit the spread of COVID-19.

would be held remotely.¹⁷

D. Administrative Subpoena Requests

As part of these proceedings, FEB and CCEB submitted one subpoena request each.¹⁸ The requests are detailed below by date submitted. Both requested subpoenas sought documents from the applicant. DMR lacks independent authority to issue subpoenas, so the agency sought approval from the Attorney General pursuant to 5 M.R.S.A. §9060(1).

1. First Subpoena:

On January 27, 2022, FEB submitted a request, to DMR, for the issuance of a subpoena to compel the applicant to produce certain documents. The filing was made pursuant to 5 M.R.S.A. §9060(1) and included four requests:

1. Any analysis of alternatives to the proposed lease site and any analysis or alternative lease site configuration(s), including all supporting documentation, therefore.
2. Detailed cost estimate of the planned aquaculture activities, including an estimate of the costs associated after the lease area becomes fully utilized and details of insurance coverage to address impacts on other water-based users and adjacent landowners due to extreme weather events, ice formation, or other hazards.
3. All information related to AAF's planning for mitigation of impacts to navigation, other water-based users, and adjacent landowners due to extreme weather events, ice formation, or other hazards.
4. Testing and usage data on mussel pipe farm technology and its impacts to navigation, other water-based users, and adjacent landowners in both typical conditions and during extreme weather events, ice formation, or associated with other hazards, including without limitation all communications with the supplier of this technology and/or other users of this technology.

¹⁷ Persons who had registered for the February 9, 2022, hearing were given express instructions to re-register for the March 28, 2022, hearing by March 14, 2022. Due to the change in date and format, registration was also reopened for all stakeholders regardless of whether they had previously registered.

¹⁸ FEB submitted a subpoena request on January 27, 2022, prior to intervenor status being conferred. FEB was granted intervenor status on January 31, 2022, and their participation was consolidated with the Seymour Family as part of CCEB. The second subpoena requested, submitted on March 3, 2022, was made by CCEB.

DMR reviewed the requests in consideration of 5 M.R.S.A §9060, and provisions governing the evaluation of leases in accordance with 12 M.R.S.A. §6072 et seq. and Chapter 2 of DMR's regulations. Accordingly, DMR decided on each request as follows: ¹⁹

1. 12 M.R.S.A. § 6072(7-A) and Chapter 2.37(1)(A), do not require an alternatives analysis. DMR accordingly found that the first request was not relevant to any issue of fact in the proceeding and the request for documentation was denied in accordance with 5 M.R.S.A § 9057(2) which permits an agency to exclude evidence that will be "irrelevant or unduly repetitious."
2. Neither 12 M.R.S.A. §6072 et seq. nor Chapter 2 of DMR's rules contain lease decision criteria that require factual determinations to be made concerning the costs related to the applicant's operation of the proposed lease, and financial capacity is not an independent statutory or regulatory criterion but is instead reviewed solely in order to determine whether to accept the application as complete for processing. 12 M.R.S.A. § 6072(5); Chapter 2, § 2.08(6). Additionally, DMR's aquaculture laws and regulations do not require lease applicants to submit documentation of insurance coverage. Because of these factors, DMR found that the second request was not relevant and the request for documentation was denied.
3. Because the decision criteria do not require extreme weather, ice formation, or other undefined hazards to be factored into the evaluation of navigation and other water-based uses, DMR found that the third request was not relevant, so the request for documentation was denied.
4. The proposal includes a pipe system, which involves deploying nets under floating pipes to collect mussel seed. Chapter 2.37(1)(A)(1) of DMR's regulations requires the Commissioner to consider the type of structures proposed for the lease, and their potential impacts on navigation, other water-based users, and riparian ingress and egress. Chapter 2.37(1)(A)(2) also includes consideration of impacts from proposed surface and subsurface structures on commercial or recreational navigation. Because request four related to such impacts, DMR granted the request to the extent that it sought documentation with regard

¹⁹ 5 M.R.S.A. §9060(2) permits agencies that conduct adjudicatory proceedings to adopt rules that provide for discovery. DMR has not adopted such rules.

to the potential impacts of the proposed structures on lease decision criteria. However, for reasons articulated in number 3 (above), DMR did not interpret the decision criteria to require extreme weather, ice formation, or other undefined hazards.

DMR accordingly denied requests one through three and granted request four in part in a decision issued on February 22, 2022, which was provided to FEB and the applicant. The modified request for production of documents read as follows:

Testing and usage data on mussel pipe farm technology and its impacts to navigation, riparian ingress and egress and other water related uses of the area both in typical conditions and during ice formation, including without limitation all communications with the supplier of this technology and/or other users of this technology.

On February 25, 2022, the applicant submitted a request to limit the subpoena on the basis that the information requested was not relevant, privileged, priority, or confidential.²⁰

DMR responded to the request on February 25, 2022, and informed the applicant that the petition provided insufficient detail to assess the applicant's arguments. DMR gave the applicant until March 2, 2022, to provide additional information demonstrating why the information requested was not relevant, or was privileged, proprietary, or otherwise confidential. DMR then gave FEB until March 4, 2022, to submit a reply.

On March 1, 2022, the applicant submitted a second petition for modification of the subpoena. The applicant objected to the inclusion of the phrase "without limitation all communications with the supplier of this technology and/or other users of this technology," contending that it sought information that was overly broad, unduly vague, imposes an undue burden in responding to the subpoena, privileged, proprietary, qualifies as a trade secret, or is otherwise confidential. However, the applicant did not provide any further detailing regarding the nature of the information that would improperly be subject to the subpoena. The petition requested that the subpoena be modified accordingly:

Testing and usage data on mussel pipe farm technology and its impacts to navigation, riparian ingress and egress, and other water related uses of the area both

²⁰ CF: Email from F. de Koning to P. Keliher and M. Mendelson dated February 25, 2022. On February 25, 2022, M. Mendelson responded on behalf of DMR and copied all parties, so they were aware of the request and DMR's response including filing deadlines.

in typical conditions and during ice formation, including communications with the supplier of this technology and/or other users of this technology regarding testing and usage data on mussel pipe farm technology and its impacts to navigation, riparian ingress and egress, and other water related uses of the area both in typical conditions and during ice formation. The scope of this subpoena excludes documents, information, and communications that are privileged, propriety, qualify as a trade secret or otherwise confidential.

The applicant suggested modifications that would remove ‘without limitation’ from the first sentence of the initial subpoena, and expressly exclude the production of materials that were privileged, propriety, qualified as a trade secret, or were otherwise confidential. On March 4, 2022, FEB submitted a response to the applicant’s modification request. FEB did not object to the modifications in the first sentence, which would remove ‘without limitation.’ In addition, FEB did not have an objection to Acadia Aqua Farms, LLC redacting company financial information including the Employer Identification Number (EIN), and amounts listed in financial quotes from suppliers when the quotes were submitted under confidential terms. However, FEB did object to the additional language proposed by the applicant that would preclude the production of materials considered privileged, propriety, etc., arguing that the petition did not demonstrate why such a request was necessary, or describe how determinations would be made regarding materials excluded as confidential, privileged, etc. FEB contended that the modification as proposed would give the applicant unilateral authority to make determinations about what documents or materials were considered privileged, irrelevant, confidential, etc.

Title 5 M.R.S.A. §9060(1)(C), specifies in part, that after the agency conducts its own investigation it may:

...grant the petition in whole or in part upon a finding that the testimony or the evidence whose production is required does not relate with reasonable directness to any matter in question, or that a subpoena for the attendance of a witness or the production of evidence is unreasonable or oppressive...

On February 25, 2022, DMR requested that the applicant provide additional information to support their initial objections to the request for documents and other materials. However, the applicant did not include additional information with the March 2, 2022, petition to support any of the objections they raised.

In their March 4, 2022, response, FEB agreed to modify some language in the subpoena request and agreed that dollar amounts could be redacted in certain documents and that other

information such as EIN could also be redacted. In consideration of the respective filings, on March 8, 2022, DMR issued a decision that modified the subpoena as follows:

Testing and usage data on mussel pipe farm technology and its impacts to navigation, riparian ingress and egress, and other water related uses of the area both in typical conditions and during ice formation, including communications with the supplier of this technology and/or other users of this technology regarding testing and usage data on mussel pipe farm technology and its impacts to navigation, riparian ingress and egress, and other water related uses of the area both in typical conditions and during ice formation. The scope of this subpoena excludes financial quotes (and Acadia Aquafarms, LLC financial information, including employer identification numbers) for parts of the installation from suppliers that were provided under confidential terms, which information may be redacted from the documents provided.

On March 16, 2022, FEB submitted an objection to DMR's February 22, 2022, decision to limit the scope of the subpoena and requested that DMR reverse its decision in advance of the hearing. FEB maintained that requests 1, 2, and 3 were directly relevant to DMR's review of the application and should not have been denied. DMR reviewed the objections and on March 21, 2022, denied FEB's request and affirmed its decision to limit the scope of the subpoena.

2. Second Subpoena:

On March 3, 2022, CCEB submitted a request to DMR for the issuance of a subpoena to compel the applicant to produce certain documents. The filing was made pursuant to 5 M.R.S.A. §9060(1) and included three requests:

1. Data and supporting information on the average and maximum decibel level for each piece of motorized equipment used during routine operation at the proposed lease site, the anticipated frequency of use of each piece of motorized equipment, and the combined maximum decibel level of motorized equipment that may be used simultaneously.
2. Information on the combined maximum decibel level at the boundaries of the lease site.
3. Information on how the noise levels from each piece of motorized equipment will be mitigated to reduce the sound level produced to the maximum extent.

On March 8, 2022, DMR granted the subpoena request without modification.

E. Procedural Orders and Pre-filings²¹

The first Procedural Order, issued on January 11, 2022, required that all proposed exhibits be filed with DMR and all other parties no later than 12:00p.m. on February 2, 2022. A list of designation of any expert witnesses was also required to be filed by 5:00p.m. on February 2, 2022. A filing of statement of issues and designation of any supplemental expert witnesses were required to be filed by 5:00p.m. on February 4, 2022. The applicant pre-filed three exhibits and CCEB pre-filed 84 exhibits.²²

The Procedural Order required any party to file objections to proposed exhibits by 5:00p.m. on February 7, 2022. CCEB filed an objection on February 7, 2022, to the applicant's proposed exhibit titled *01_24_2022 Alex de Koning letter for mussel spat aquaculture lease (1)*. CCEB stated this exhibit was a letter from Brian F. Beal, Ph.D. to the applicant providing his opinion to the applicant based on his review of materials shared with him by the applicant. CCEB argued that because the applicant did not designate Brian F. Beal, Ph.D., as an expert witness, nor provide a requisite summary of Dr. Beal's professional and educational credentials, the letter could not serve as expert testimony. In response to this objection, the applicant stated that the letter was not submitted as an expert witness statement but offered as a letter of support.²³ DMR ruled on this objection at the March 28, 2022, hearing, which is addressed later in this decision.

On February 4, 2022, CCEB filed their statement of issues. In the statement, CCEB relied on provisions in the Natural Resource Protection Act (NRPA) to argue that the lease applicant must conduct an analysis of alternative site locations to demonstrate that the proposed lease will not cause an unreasonable interference. The intervenor also argued that the proposal is a 'discharge application,' which requires a Maine Pollutant Discharge Elimination System (MPDES) permit to comply with the Clean Water Act (CWA). The Maine Department of Environmental Protection (DEP) has delegated authority under the CWA to issue MPDES permits. DMR responded to these matters at the March 28, 2022, hearing.

²¹ In this section, the date an issue or objection was addressed is listed at the end of each respective paragraph. The basis for a such a determination is explained in section G (Exhibits).

²² The pre-filings were due at 12:00p.m. on February 2, 2022. CCEB requested an 85-minute extension to the deadline to pre-file as a technical issue precluded them from making a consolidating filing (proposed exhibits were emailed piecemeal to meet the deadline). DMR granted the extension request as CCEB had submitted all pre-filings via email (except one that was too large) and had experienced a technical issue that temporarily precluded a consolidated filing. CCEB later submitted a consolidated filing. The pre-filed exhibits appeared to be numbered sequentially (1-85). However, there was no exhibit #8, so 84 exhibits were pre-filed.

²³ CF: Email from F. de Koning to S. Caulk's objections to applicant's exhibits dated February 7, 2022.

On February 15, 2022, DMR issued a second Procedural Order that dealt with matters related to the postponement and hybrid format of the hearing. For example, DMR required a numbered list of individuals who would be participating in the hearing and their method of participation (remote or in-person). Both parties were also required to submit a final list of pre-filed materials to be screenshared during the hearing. DMR also imposed a sixty-minute testimony time limit for each party, including expert witnesses.

On March 21, 2022, DMR issued a third Procedural Order. In this order, DMR directed CCEB to identify additional materials they wished to use at the hearing in light of the documents provided by the applicant pursuant to the subpoena requests by 12:00 p.m. on March 24, 2022. The Procedural Order also required the applicant to file any objections to the pre-filings by 12:00p.m. on March 25, 2022. Registered public participants for the lease hearing were required to pre-file any proposed exhibits no later than 4:00p.m. on March 23, 2022, and provide copies of the pre-filings to the parties. On March 21, 2022, Joanna Fogg, a registered participant, pre-filed a study by Dr. Bent Vismann regarding environmental impacts of a mussel farm in Denmark.

On March 24, 2022, CCEB pre-filed exhibits based on documents obtained via the subpoenas, labeled exhibits 86 and 87. Proposed exhibit 86 was an email sent from Alex de Koning on February 5, 2022, to a representative of Smart Farm.²⁴ The email asked for decibel measurements of a harvest machine. On February 6, 2022, the representative provided additional information about the noise generated, but did not include a decibel measurement. Proposed exhibit 87 was an email exchange between Alex de Koning and a representative of Murre Technologies. The emails were exchanged in 2018 and appear to concern experimentation with pipe cultivation techniques and an associated mooring system.

On March 25, 2022, the applicant filed objections to exhibits 86 and 87. The applicant asserted exhibit 86 was taken out of context and irrelevant as it described a “power pack,” which the applicant was not using as part of their proposal. The applicant objected to exhibit 87 on the basis that it was describing a technology that is not proposed for the lease. In addition to their objections, the applicant moved to enter two exhibits, labeled, AAF Subpoena Exhibit 1 and AAF Subpoena Exhibit 2. Exhibit 1 appeared to be an email from Alex de Koning to his business email account documenting sound level readings he recorded on February 10, 2022. Exhibit 2 was a study regarding mussel farms previously pre-filed by Joanna Fogg. The applicant argued that these

²⁴ Manufacturing company that produces harvest machines.

exhibits should be admitted as they were produced in response to the subpoenas and obtained after the February 2, 2022, deadline to pre-file exhibits. Specifically, the sound readings were taken on February 10, 2022, and the applicant maintained they were only able to access the study after the February 2, 2022, pre-filing deadline.²⁵

On March 25, 2022, CCEB filed a response to the applicant's objections, and an objection to the proposed pre-filings of AAF Subpoena Exhibit 1 and AAF Subpoena Exhibit 2. CCEB asserted that exhibit 86 was not taken out of context because the exhibit contained the entire email chain they received in response to the subpoena, meaning either no other context existed, or that additional context was improperly withheld by the applicant. CCEB also asserted that exhibit 87 was relevant because it discussed the risk of using tubing or piping of 315mm diameters, the same diameter that the applicant would use.

Additionally, CCEB objected to the inclusion of AAF Subpoena Exhibit 1 and AAF Subpoena Exhibit 2 as untimely. CCEB also noted that AAF Subpoena Exhibit 2 contained the same study that Joanna Fogg filed on March 21, 2022. CCEB alleged, "It appears that Acadia has again skirted the Department's orders and attempted to impermissibly introduce an exhibit it created through a member of the public."²⁶ CCEB requested that Fogg's pre-filing be stricken from the record. DMR ruled on these objections and request at the March 28, 2022, hearing, which is detailed in the following section.

On March 31, 2022, DMR issued a fourth Procedural Order governing the submission of closing arguments and associated rebuttals. The Order required both parties to file closing arguments by 5:00 p.m. on May 5, 2022, and rebuttals by 5:00 p.m. on May 23, 2022.

F. Public Hearing

The public hearing was held at 6:00p.m. on March 28, 2022, and was continued at 6:00p.m. on March 29, 2022.²⁷ It was conducted in-person at the Bar Harbor Municipal Building for the applicant, intervenor (except certain testifying witnesses, who participated remotely), and DMR staff. The hearing was conducted remotely, via Microsoft Teams, for registered participants (i.e., members of the public). The hearings officer was Amanda Ellis.

²⁵ CF: Acadia Aqua Farms, LLC objection and request for admission of supplemental materials dated March 25, 2022.

²⁶ CF: CCEB objection to Acadia Aqua Farms exhibits, LLC March 25, 2022.

²⁷ The continuance date was included in all notices of the rescheduled hearing. It was also communicated to registered participants and the parties that a continuation on March 29, 2022, would likely be necessary.

G. Exhibits²⁸

The parties and members of the public were required by the third procedural order to pre-file exhibits and the parties were given the opportunity to file objections to pre-filings. On March 28, 2022, all pre-filed exhibits, except for one (detailed below), that were filed as part of the first Procedural Order were admitted into the record as evidence. All pre-filings submitted by registered participants were entered into the record as exhibits. DMR also entered the case file, application, site report, and a 2018 letter from the DEP, into the record as evidence. DMR acknowledged that some exhibits may have limited or no relevance to matters the agency must consider when evaluating a lease proposal. However, those exhibits would be afforded such weight as deemed appropriate by the agency. The complete list of exhibits before DMR are listed in section 9 of this decision.

During the March 28 and 29, 2022 hearings, DMR ruled on the following objections and requests specific to pre-filed exhibits:

1. CCEB's objection to the applicant's pre-filed exhibit labeled: *01_24_2022 Alex de Koning letter for mussel spat aquaculture lease*.

On March 28, 2022, DMR granted CCEB's objection. The letter represented Dr. Beal's summation of the proposed operations and his opinions concerning the proposal. Furthermore, letters of general support or opposition to a proposal are not material to DMR's consideration of the relevant lease decision criteria in evaluating a proposal. Therefore, DMR did not enter Dr. Beal's letter into the record as an exhibit.

2. The applicant's objection to CCEB's pre-filed exhibits 86 and 87.

On March 28, 2022, DMR ruled that exhibits 86 and 87 were not relevant and would not be entered into the record. Exhibit 86 was an email between Alex de Koning and Smart Farm discussing a "power pack" which is not proposed for the lease site. Exhibit 87 was an email exchange, from 2018, between Alex de Koning and Murre Technologies about the operation and testing of a technology that differed from the application under consideration. DMR further stated

²⁸ References to DMR stated are remarks made by the Hearings Officer.

that the criteria governing noise does not contemplate decibel levels. It specifies the measures that must be taken to mitigate noise at the boundaries of the proposed site such that there is no unreasonable impact.

3. CCEB's objection to the applicant's pre-filing of 'AAF Subpoena Exhibit 1' and 'AAF Subpoena Exhibit 2.'

On March 28, 2022, DMR denied the request to admit exhibit 2 into the record and reserved a decision on exhibit 1. The third Procedural Order did not provide an opportunity for the applicant to pre-file materials produced as part of the subpoenas. However, exhibit 1 included sound level readings that Alex de Koning made on February 10, 2022, which DMR felt may be helpful in evaluating impacts related to noise. Therefore, DMR held a final decision until the applicant could provide testimony and be cross-examined prior to deciding whether to admit exhibit 1. Exhibit 2 was a document about the environmental impacts of mussel farming that appeared to be published in January 2021, and the applicant did not explain why the document could not have been submitted by the pre-filing deadline of February 2, 2022. The applicant was aware that the pre-filing of exhibits would be required as they attended the January 4, 2022, pre-application meeting. The pre-filing deadlines were specified in the first Procedural Order, which was issued on January 11, 2022. The applicant was sent a copy of that Order.

On March 29, 2022, at the conclusion of the applicant's testimony, DMR determined that there was sufficient information about noise in the record. Therefore, DMR denied the request to enter exhibit 1 into the record.

4. CCEB's request to strike Joanna Fogg's pre-filed exhibit:

On March 28, 2022, DMR denied CCEB's request to strike Joanna Fogg's pre-filed exhibit. Registered participants were required to pre-file any proposed exhibits no later than 4:00p.m. on March 23, 2022. Pre-filings were submitted by Kathleen Rybarz, Joanna Fogg, Duncan Haas, and David Herrick, Jr. The registered participants provided copies of their pre-filings to the parties. On March 21, 2022, Joanna Fogg pre-filed the same document about mussel farming (with images removed to stay within the filing parameters) that the applicant pre-filed as exhibit 2 on March 25, 2022.

CCEB alleged that this may be an attempt by the applicant to impermissibly introduce an exhibit through a member of the public. DMR concluded that because Joanna Fogg submitted her pre-filing before the applicant in her capacity as a member of the public, and there was no evidence that she had done so at the direction of the applicant to circumvent the Procedural Order, the exhibit would be accepted. DMR clarified that all parties would have the opportunity to cross-examine each other and any member of the public providing testimony.

H. DMR's Response to CCEB's Statement of Issues²⁹

On March 28, 2022, DMR clarified its position in response to some of the arguments included in CCEB's statement of issues. CCEB, relying on provisions contained in the Natural Resources Protection Act (NRPA) maintained in its statement of issues that the applicant is responsible for conducting an analysis of alternative site locations. DMR ruled that review criteria for NRPA permit applications administered by the DEP are not applicable to aquaculture lease decisions issued by DMR, and the applicable criteria for review do not require a practicable alternatives analysis.³⁰ The requirement is specific to DEP in its consideration of applications for NRPA permits and would be based on DEP's rules. Aquaculture activities are exempt from NRPA provisions. DMR clarified that even if a NRPA permit were required that would be a determination for DEP to make. There is nothing in law that requires a lease applicant to have a NRPA permit from DEP before DMR considers and renders a final decision on a lease application. In rendering its final decision on this application, DMR makes no determination as to whether the applicant may be required to submit a NRPA application to DEP in connection with any of the structures it proposes to use.

CCEB also maintained that the proposal is a 'discharge application,' which requires an MPDES permit to comply with the CWA. DMR determined that with respect to the NRPA issue, DEP, rather than DMR, has jurisdiction over CWA permitting. DMR provided a completed copy of the application to DEP, who did not submit any comments.

DMR, in accordance with 5 M.R.S.A § 9058, took official notice of a 2018 letter issued by the DEP determining that a discharge permit was not required for a similar aquaculture lease

²⁹ The applicant did not file a statement of issues.

³⁰ On March 31, 2022, the Maine Supreme Judicial Court affirmed that the statutes and regulations governing aquaculture leasing do not compel an alternatives analysis. *See Maquoit Bay, LLC v. Dep't of Marine Res et. al.*, 2022 ME 19, ¶ 16.

application that also included the culture of shellfish and power washing. The letter was admitted as an exhibit, and copies of the letter were made available to the parties. DMR further determined that, to even if an MPDES permit was necessary, there is no requirement that an applicant apply for and receive the permit from the DEP before DMR can render a license decision. In rendering its final decision on this application, DMR makes no determination as to whether the applicant may be required to submit a MPDES application to DEP.

I. Testimony and Cross-Examination

Persons who provided testimony at the public hearing are listed in the table below. The parties were given the opportunity to cross-examine anyone who provided testimony. Members of the public were given the opportunity to cross-examine the parties and DMR staff. In accordance with Chapter 2.31(4), the hearings officer stipulated that members of the public could not cross-examine one another.

Name	Affiliation	Date of Testimony
Theo de Koning, Alex de Koning, and Fiona de Koning	Applicant, Acadia Aqua Farms, LLC	March 28, 2022
Jane Disney, PhD; Jim Coffman, PhD; Hermann Haller, MD; Karlee Markovich; and Jim Strickland	CCEB-Expert Witnesses	March 28, 2022
Annie Bourne, Jeri Bowers, Alma Boylan-Garnett, Mark Hanscome, James Claiborne, and Alynn Seymour	CCEB-Testifying Witnesses	March 28, 2022
Marcy Nelson	DMR, Aquaculture Division Director	March 29, 2022
Susan Turner, Trey Angera, Patricio Silva, Vjera Bakovic Silva, Kathleen Rybarz, Crystal Canney, Duncan Haass, William Haass, Blake Haass, James West, David Herrick, Jr., David Herrick, Sr., Anne Herrick, Karessa Anderson, Jason McMillan, Phoebe Boyer, Leslie Harlow, Judith Sproule, Patricia	Members of the Public	March 29, 2022

Ward-Bailey, James Boyer and Joanna Fogg		
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J. Submission of Closing Arguments

On March 29, 2022, before the close of the hearing, the hearing officer stated that the parties to the proceeding would be permitted to submit written closing arguments. On March 31, 2022, DMR issued a fourth procedural order which specified the format, content and submission of closing arguments and rebuttals. The parties were given until May 5, 2022, to submit written closing arguments and until May 23, 2022, to submit rebuttals. All parties elected to file closing arguments and rebuttals by the respective deadlines.

K. Review of the Proposed Decision

On July 24, 2024, in accordance with Chapter 2.35(1) of DMR's regulations, the parties were sent a copy of the proposed decision and were given until August 6, 2024, to file any responses, exceptions, or requests to correct misstatements of fact. Only FEB elected to submit a response.

2. DESCRIPTION OF THE PROJECT

A. Site Characteristics

On September 18, 2020, DMR staff assessed the proposed lease site and the surrounding area in consideration of the criteria for granting a standard aquaculture lease (SR 2). DMR staff collected depth measurements using a transom-mounted depth sounder (SR 6). Depths ranged from 57' to 90' at the proposed lease corners. Correcting for tidal variation derived water depths at the next high tide to range from 58.8' to 61.8' for the proposed S, W, and N corners and 91.8' for the proposed E corner. Water depths at mean low water (MLW, 0.0') ranged from 46.2' to 49.2' for the proposed S, W, and N corners and 79.2' for the proposed E corner. The proposed lease is currently located within an area classified as "Open/Approved" for the harvest of shellfish by the DMR Bureau of Public Health (SR 15).

On September 1, 2021, DMR staff conducted a second site visit to conduct an underwater assessment within the proposed lease boundaries (SR-A 1). The proposed lease site is situated south of Googins Ledge in Eastern Bay, northwest of Frenchman Bay (SR 2). The shoreline of Mount Desert Island (MDI) is to the east, west, and south of the proposal. The shoreline of MDI

is primarily ledge and hosts a mixed forest upland, with some residential buildings and a few small rocky beaches around Leland Point. On September 1, 2021, DMR staff observed the bottom characteristics via two drop camera transects (SR-A 1). DMR staff categorized the bottom as primarily soft mud sediment with tracks, holes, and burrows.

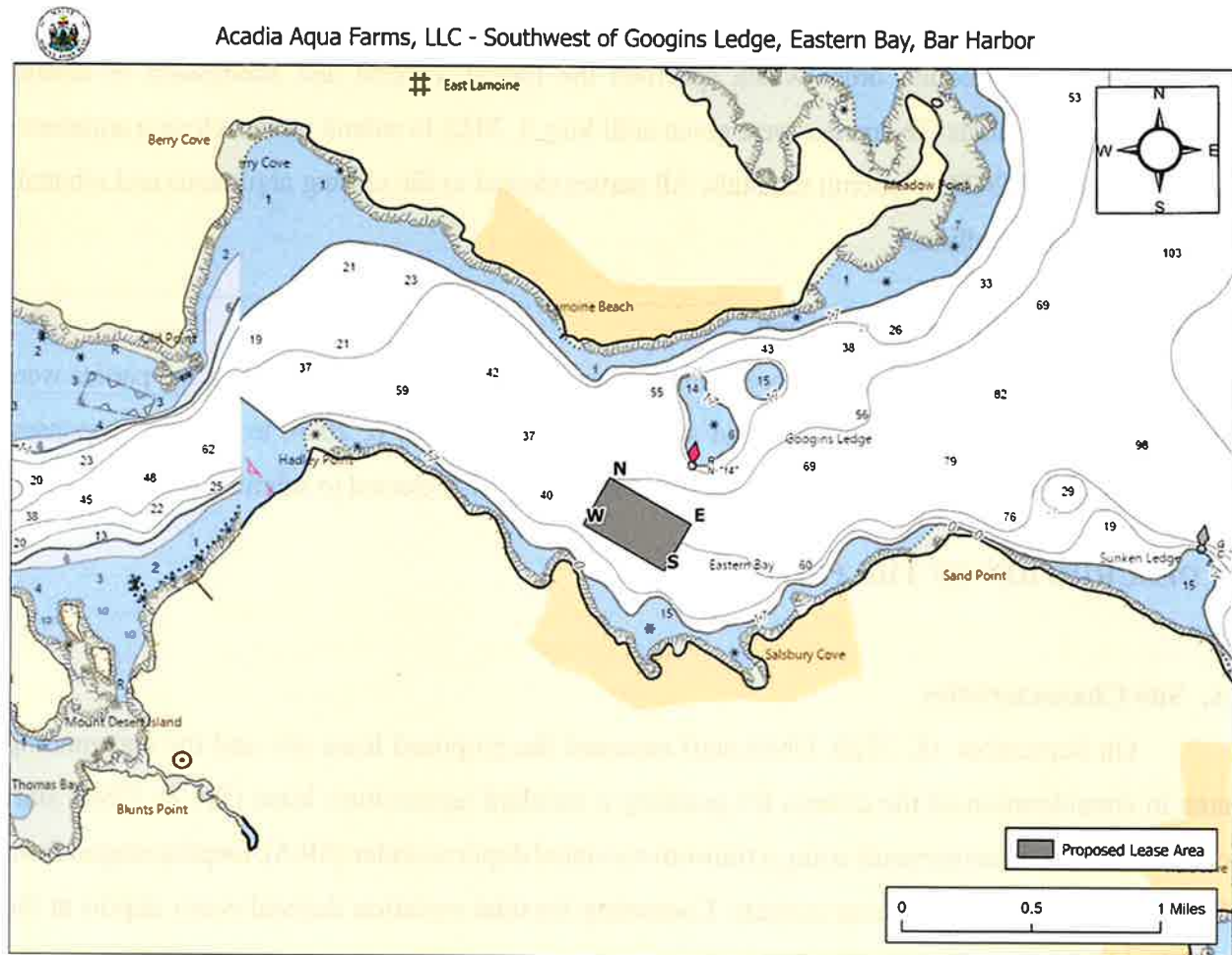


Figure I: Location of the proposed site with labeled corners

B. Proposed Operations

The applicant proposes to culture blue mussels (*Mytilus edulis*), sea scallops (*Placopecten magellanicus*), softshell clams (*Mya arenaria*), and hard clams (*Mercenaria mercenaria*) on the proposed lease site using suspended culture techniques (App 3 and 4).³¹ The primary purpose of the lease is to collect natural mussel seed set to supply the company's bottom culture mussel leases

³¹ The application contains an appendix of schematics. Citations to the "appendix" refer to those schematics and associated page numbers.

(App 9). According to the applicant, a combined maximum of 1,000 tons of shellfish could be cultured on the site at any one time (A. de Koning/Nelson). Seven hundred tons of mussel seed are expected to be collected from the site annually, however, due to the unpredictability of wild seed settlement, more tonnage is possible (A. de Koning/Nelson). Softshell clam and hard clam seed is proposed to be sourced from the Downeast Institute.³² Wild scallop seed would be collected outside the boundaries of the proposed lease with a Spat Collection License (12 M.R.S.A. §6074-A), but from within the same Limited Purpose Aquaculture (LPA) Health Zone as the site.³³ At the hearing, the applicant also referenced the possibility of obtaining scallop seed from an approved hatchery (A. de Koning/Nelson).

To conduct the proposed mussel seed activities, the applicant is proposing to deploy a total of 102 “mussel pipe farm units” on the 48.11-acre proposal.³⁴ These mussel pipe farm units would consist of floating pipes 465.8’ in length³⁵ by 12.4 inches in diameter at the surface of the water. The floating pipes would hold netting for the collection of mussel seed that would hang down in the water column (App 5, Appendix). The proposed pipes would be deployed with a northwest-southeast orientation, and therefore would run roughly parallel to the MDI shoreline. Pipes would be deployed in 34 groups, containing three pipes running NW-SE. The middle pipe in each group of three would be staggered (App 12, Appendix). A minimum of 33’ between each deployed pipe and the buoys at the ends of each pipe would be maintained (App 12-13, Appendix).

The collection netting that would hang from the proposed mussel pipe farm units would be 442.9’ in length, would extend approximately 13’ deep, and would have 6.9” mesh (App 4, Appendix). Predator netting with 3” mesh³⁶ would be deployed over the proposed mussel pipe farm units and would extend 15’ into the water column on either side of the proposed collector

³² The applicant also proposed natural seed set collection from the wild via special license, but this was not discussed at the hearing.

³³ In accordance with Chapter 2.05(1)(J) of DMR’s laws, the agency divides Maine’s territorial waters into five health areas (commonly referred to as zones) for the purpose of sourcing wild stock for LPA license sites. The proposed lease is within zone 3, which encompasses the area from Schoodic Point due south to the boundary of Maine’s territorial waters and the Maine and New Hampshire border. The health areas do not apply to leases.

³⁴ The application indicates that a total of 200 mussel pipe farm units would be deployed, however, during the hearing, the applicant clarified that this was an error (A. de Koning/Nelson).

³⁵ Several different lengths were provided in the application when describing the length of the proposed pipes. During the hearing, the applicant clarified that the proposed pipes would be 142 meters in length (A. de Koning/Nelson). To keep measurements consistent throughout the decision, 142 meters is approximately 465.8.’

³⁶ The applicant plans to use the same predator mesh size as used by other mussel farmers in the area. The applicant believed this was 3-inch mesh.

netting. This predator netting would be 442.9' long, the same length³⁷ as the proposed collection netting. The predator netting and collection nets would both be tensioned (A. de Koning/Nelson). The collector net would be tied to the end of the floating pipe, which would create sideways tension at the top of the netting (A. de Koning/Nelson). A steel core line would run along the bottom of the collector net to keep the bottom of the collector net straight and tight (A. de Koning/Nelson). The predator net would be tied to the collector net, and space between the collector net and predator net would be maintained with spacers (A. de Koning/Nelson). There would be no bottom to the predator net (A. de Koning/Nelson).

In addition to gear for the collection of mussel seed, the applicant is proposing to culture scallops and clams using a longline system.³⁸ Specifically, the applicant is proposing up to 200 longlines, each measuring 2" x 1,600', which would hold lantern nets and dropper lines for scallop ear hanging (A. de Koning/Nelson). Longlines would be deployed in a northwest-southeast orientation, would be spaced 25' apart, and suspended 10' below the surface of the water at all tidal stages (App, 6 and 13, Appendix). Lantern nets, which would hold scallops and clams, would be 6' in length, and 18" in diameter. A maximum of 5,000 lantern nets are proposed. Dropper lines for scallop ear hanging would be deployed so that they would hang 10' from the bottom (App 8-9, Appendix). A maximum of 55,000 dropper lines are proposed.

The applicant would be on the lease site daily to weekly during harvesting periods (App 10). Seed would be harvested with a harvest machine designed specifically for the mussel pipe system. This machine would be lowered over the collection netting and would remove mussel seed from the collection netting using a brushing mechanism; a conveyor and pump system would then pipe the seed into the transport vessel (App 9). Mussel seed would be removed from collector nets in the fall, and again in the early spring, in preparation for that spring's seed set. A small percentage of the mussel seed that settles on the collector nets are expected to fall to the benthos during harvest (A. de Koning/Nelson). This harvest machine is proposed to be stored on a 20' x 20' raft, which would be located on the east side of the lease and secured with a 5,000 lb block (App 15, Appendix). The harvest machine is proposed to be onsite from May through October, but the applicant expects that the machine would only be used for a total of three weeks each year.

³⁷ The applicant clarified this dimension at the hearing.

³⁸ The application indicates that the longline system would be used to culture mussels, but during the hearing applicant clarified that mussels would not be cultured using longlines.

The applicant anticipates being on site daily or weekly for tending and routine maintenance. Routine activities that would occur on the site include thinning seed, removing predators, hanging predator nets, removing biofouling, and adjusting buoyancy (App 9). Some of these tasks would be conducted using the applicant's 74' vessel's hydraulic system, along with power washers and graders. Lantern nets are expected to be cleaned of biofouling two times per year (A. de Koning/Nelson). Other than in emergency situations, the applicant does not expect to work on the site beyond daylight hours (A. de Koning/Nelson).

3. STATUTORY CRITERIA & FINDINGS OF FACT

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

A. Navigation

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 of the navigational channels in the area. 12 M.R.S.A. § 6072(7-A)(B); Chapter 2.37(1)(A)(2). DMR's Chapter 2 regulations require the Commissioner to examine whether any lease activities requiring surface and or subsurface structures would interfere with commercial or recreational navigation around the lease area. In examining navigation, the Commissioner "shall consider the current uses and different degrees of use of the navigational channels in the area in determining the impact of the lease operation." Chapter 2.37(1)(A)(2).

boundary of the navigation channel (SR 9). Most vessels would likely be able to navigate unimpeded through the remaining approximately 990' of the navigation channel on the E-N boundary between the proposed lease site and Red Nun "14" (SR 9). On the S-W boundary, the proposal would leave approximately 670' between the Mount Desert Island shoreline and the proposed site, at the nearest point (SR 9). As proposed, the lease site would likely cause some mariners to alter their original course and may result in some amount of congestion of vessel traffic in the area (SR 9). The Harbormaster Questionnaire dated February 28, 2020, states that if the proposed site is sufficiently marked, then the proposal would not unreasonably impede vessel traffic in Eastern Bay. The applicant indicated their intention to apply for a Private Aids to Navigation (PATON) permit from the United States Coast Guard and DMR also has specific marking requirements in Chapter 2.80 of its regulations.

Alex de Koning testified that the proposed lease site is surrounded by a minimum of 500' of channel, and that the prudent mariner routes from the open bay to either the Narrows or Lamoine State Park and does not cross the proposed lease site. The applicant also testified that the most direct route from Salsbury Cove into the Narrows, or out into the open bay, does not pass through the proposed lease area (A. de Koning Testimony). These destinations account for much of the navigation around this area (AAF Closing Argument). During public testimony, Joanna Fogg, Bar Harbor Oyster Company, testified that there would be ample space to pass through the lease area both on the north and south side of Googins Ledge.

CCEB submitted evidence of recreational boating in the proposed site and evidence of recreational kayaking and paddleboarding in the area (Exhibits 37, 41, 58, 59, 60, 66, and 68). Testimony by intervenors and members of the public stated that the navigation of recreational vessels, especially sailboats, would be impacted by the proposal because an open bay would become a narrow channel. For example, Annie Bourne testified that novice sailors practice in the bay, and the addition of the lease site to existing challenges posed by strong current and varying depths would make navigating the bay especially challenging for these individuals. (Bourne Testimony). Kathleen Rybarz testified that due to wind and tides in the bay, she needs nearly the entire width of the bay to sail from her house in Lamoine to Salsbury Cove or The Ovens (Exhibit 93).

Jerilyn Bowers testified that the proposal would force her to alter course when navigating her 28' power boat, without GPS, to the Mount Desert Island Biological Lab ("MDIBL"). Her

typical course is to navigate straight to the Googins Ledge nun buoy, then south to MDIBL (Exhibit 14). Bowers also estimated that the navigation channel would narrow from 1150' to 230' if the proposal is granted, following the deepest and safest route in the channel (Exhibit 18 and CCEB Closing Argument). James Claiborne testified that the proposal would block 80% of the normal east-west route width between Salsbury Cove and the Red Nun buoy "14," increasing congestion in the channel. He also stated that the proposed site would impede the normal recreational boat route from eastern Frenchman Bay to the Lamoine State Park dock. Claiborne and Hanscome both testified that the aquaculture gear would be a navigational hazard at night and in fog or choppy water. Hanscome stated that the blue and green scallop longlines are especially hard to see.⁴⁰

Several intervenors testified that kayaking also occurs within the area of the proposed lease site. Anne Boyer testified that kayakers will typically traverse through the proposed lease site in Salsbury Cove to access Hadley Point daily and in all types of weather. Alma Garnet also testified that areas around Eastern Bay are a destination spot for boaters and kayakers as the area hosts points of interest along the Frenchmen Bay Saltwater Discovery Trail (Exhibit 17). Testimony also noted that yacht clubs hold various boating events within the area of the proposed lease site during the summer months. For example, Allyn Seymour, an intervenor, testified that his mother had hosted the Eastern Yacht Club "a number of years ago" off Leland Point and was anticipating possibly hosting them [EYC] again "this summer" [2022] if possible. Seymour stated he did not believe it possible to continue to host these events if the proposed lease site were to be granted (Seymour Testimony).

Discussion

When determining whether a proposal will unreasonably interfere with navigation in the area, the Commissioner "shall consider the current uses and different degrees of use of the navigational channels in the area in determining the impact of the lease operation." Chapter 2.37(1)(A)(2).

While some mariners may need to alter their traditional course, and vessel traffic congestion may increase, the Harbormaster Questionnaire, DMR site report, and hearing testimony, demonstrate that the proposed site would not prevent passage through the navigation channel. The approximately 990' of the navigation channel on the E-N boundary between the

⁴⁰ Per the application, these lines would be suspended at least 10' below the surface of the water (App 6, Appendix).

proposed lease site and Red Nun “14” should provide adequate navigation space for the number and type of vessels that may access the area in all weather conditions.

However, several individuals testified that approval of the lease site would result in a currently open bay being narrowed to a channel, and that this would present a navigation challenge to recreational boating, including sail boats, power boats, kayaks, and paddleboards. The testimony provided also suggested that the proposed lease would increase congestion during the summer months when commercial fishing boats, commercial ecotourism boats, and whale watch boats are also on the water. Additionally, it was noted that some commercial vessels use Eastern Bay for storm anchorage (Bowers/Nelson). While the applicant testified that there would still be a 990’ channel on the E-N boundary, a distance recorded in DMR’s site report, testimony was presented that the area available for the deepest, safest, navigation channel would be reduced to approximately 230’ (Bowers Testimony).

To address concerns about the narrowing of the bay, the potential congestion, and to maintain the marked navigation channel, the E-N boundary of the lease will be reduced by 500’ to preserve the deepest portion of the navigation channel (Figure IX). This modification would eliminate the proposed lease area from the deepest portion of the channel and leave 1,490’ of navigational area between the E-N boundary of the proposal and Red Nun “14.” An image of the revised lease boundaries, including updated coordinates and acreage are included in section 8 of this decision. DMR finds that based on the record, the revised proposed lease area will allow for adequate distances for navigation for typical vessels using Eastern Bay and avoid congestion when the bay is busier in the summer months.

While there was testimony about potential navigational impacts related to the S-W boundary (southern boundary) of the proposal, impacts within that area were mostly related to commercial fishing which is contemplated in section 3B of this decision. For reasons specified in that section, the S-W is recommended to be reduced by 150’ to address fishing activity.

Exhibit 17 depicts points of interest along the Frenchman Bay Saltwater Discovery Trail. There are points of interest to the south of the S-W boundary the closest on Leland Point (Exhibit 17). Accounting for the 150’ reduction to the southern boundary of the proposed site, the S-W would be approximately 820’ to the nearest point of land on Leland Point at mean low water. This would provide individuals with adequate area for kayaking and boating between the shoreline and

S-W boundary. The points of interest listed in Exhibit 17 could still safely be accessed by watercraft.

If the application is granted, kayaking and small watercraft would be permitted within the boundaries of the proposed lease site. Whether an individual chooses to traverse within the boundaries of the proposed site is a matter of preference, but it remains an option. While the proposed lease site may cause some individuals to alter their traditional kayaking and boating routes or preferences, given that, with the proposed modifications there would be adequate space to safely navigate through the S-W boundary and to points of interest located nearby, DMR concludes that these changes would not unreasonably interfere with current recreational navigation in the area.

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

B. Fishing & Other Uses

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

Commercial and Recreational Fishing

During both site visits, DMR staff observed lobster buoys within the vicinity of the proposed lease site. During the September 18, 2020, site visit, staff observed five lobster (*Homarus americanus*) trap buoys within the proposed lease boundaries and approximately eighteen lobster trap buoys near the S-W boundary (SR 10). Moderate lobstering activity was observed at a greater distance to the south and west of the proposal, and light lobstering activity was observed to the north and east of the proposal (SR 10). Additionally, one lobster vessel was observed in operation to the east of the proposed lease area (SR 10). During the second site visit on September 1, 2021, staff observed approximately seven buoys within the proposed lease boundary and several more within the vicinity (SR-A, 1).

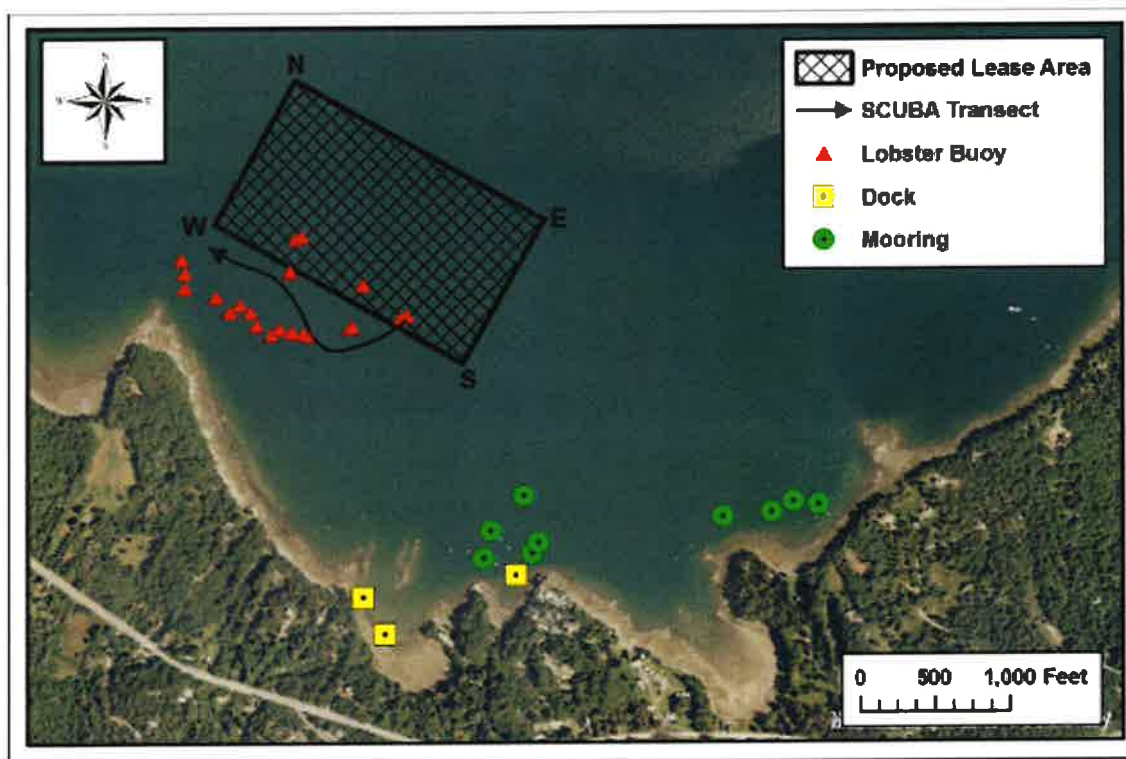


Figure III. Docks, moorings, and lobster trap buoys nearest to the proposal (September 2020).



Figure IV. Proposed lease area and nearest observed lobster buoys (September 2021).

During the SCUBA transect on September 18, 2020, DMR staff observed four lobsters outside of the proposed lease site, within boulder habitat (SR 10). The bottom sediment, within the boundaries of the proposed site, consisted of soft mud with tracks, holes, and burrows (SR-A 1). The lobster fishery in Maine follows the annual migration and molt cycle of lobsters and may be more prevalent in the area during other times of the year than when the site assessment was conducted (SR 10).

The application notes that drag harvest for sea scallop (*Placopecten magellanicus*) and green sea urchin (*Strongylocentrotus droebachiensis*) occurs occasionally near Googins Ledge (App 13). No scallops or urchins were observed during the two DMR site visits (SR 10, SR-A 1). The bottom of the proposed lease site is soft mud and DMR staff typically observe scallops on sand and shell substrate (SR 10).

DMR's Harbormaster Questionnaire requests information about commercial and recreational fishing within the area of the proposed lease site. Specifically, it asks about the extent and type of commercial and recreational fishing that occurs within the area of the proposed lease. In response to that question, the Harbormaster for the Town of Bar Harbor indicated that "the area is fished by fixed gear during the summer lobster season. The area is not heavily fished compared to areas further south" (CF: HM Questionnaire, pg 3).

During the hearing, Alex de Koning testified that the proposed site will be positioned so that there would be a 500' channel between the closest point of the southernmost lease boundary and the 18' contour line along Leland Point to assist with navigation and limit impacts to existing fisheries. Alex de Koning also testified that in 2019, the applicant made twelve visits to the site and observed an average of 5.6 lobster buoys within the boundaries of the proposed lease site on each visit (A. de Koning Testimony). When asked if he could determine if the buoys were from the same or different fishermen, Alex de Koning stated that it appeared that there were various lobstermen setting traps (A. de Koning/Ellis). During an independent dive transect of the site, Alex de Koning observed very little suitable habitat for lobsters. According to the applicant, no dragging or purse seining has been observed at the site (A. de Koning Testimony).

DMR granted full intervenor status to FEB, whose members include Mark Hanscome, a lobster fisherman, and James Claiborne, who identified himself as an avid boater that has spent "hundreds of hours each year on the waters of Frenchman Bay." Claiborne testified that he is not a commercial fisherman, however, as part of his pre-filings, Claiborne submitted an aerial image

he created using satellite imagery of the area that he felt documented the presence of lobster buoys in relationship to the proposed lease boundaries (Figure V) (Claiborne Testimony).

In response to questioning concerning the aerial image, Claiborne testified that he placed a yellow dot on what he believed to be a lobster buoy when reviewing satellite images (Claiborne/Randlett). During questioning, Claiborne stated that he believes that the images, compiled together, represent a typical day during the summer of 2018 or 2019, but he could not be certain (Claiborne/Lyons). During cross-examination, several testifying members of the public stated that Figure V could be an accurate representation of the number of traps, but it is dependent on where the lobsters are as they migrate. Claiborne further testified that the presence of the proposed piping system, used to culture mussels, will cause the area to become more congested with traps as fishermen who typically deploy traps within the boundaries of the lease site are forced to relocate to remaining water in the area.

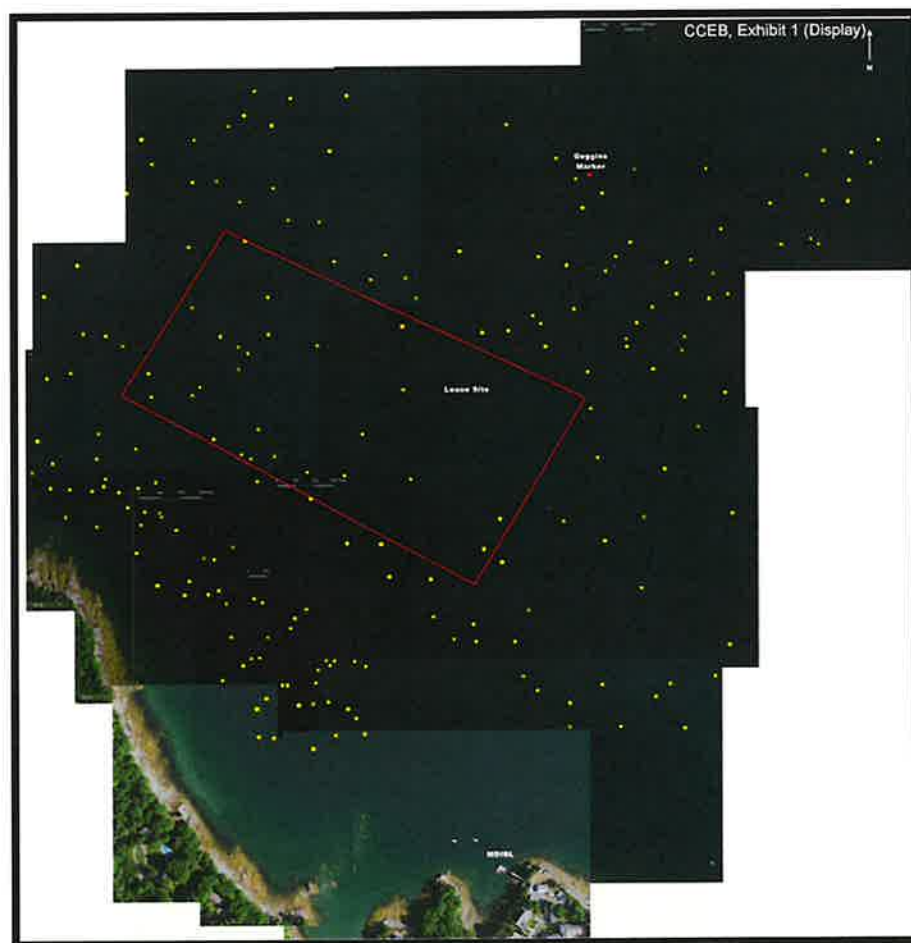


Figure V. Exhibit 7

Mark Hanscome testified that he has fished out of Salsbury Cove for the last 25 years and that he fishes from Bald Rock to the west of Hadley Point. Hanscome fishes within and around the boundaries of the proposed lease site from mid-summer to the end of October. When asked how many traps he has set within the boundaries of the lease site, Hanscome stated that he has about eight pairs that he fishes during certain times of the year from mid-summer to fall (Hanscome/Ellis). Hanscome also testified that he had a string of traps outside the proposed lease boundaries, along the MDI shore. When asked to estimate the number of fisherman that fish within that area, Hanscome testified that he could not provide an estimation (Hanscome/Ellis).

At the public hearing, other lobster fishermen testified about lobster fishing within Salsbury Cove and the proposed lease area. David Herrick Sr, lobsterman and Lamoine Harbormaster, testified that he has fished out of Lamoine State Park, north of the proposed site, but lobstermen need to be able to follow the lobster. David Herrick Jr. provided an image of his chart plotter and testified that each dot on the chart represents a pair of traps that he has deployed (Figure VI, Exhibit 92). D. Herrick Jr. stated that he fishes at the northern and southern boundary of the proposed lease site and stated that at any given time, there could be between 400-700 traps in and around the lease area with a 100-acre space. Duncan Haas also provided an image from a plotter and testified that each red line represents a string of traps that he fishes in the area from May through September (D. Haas/Ellis; Figure VII, Exhibit 91).



Figure VII. Exhibit 91

Other individuals testified that lobster fishing occurs throughout Eastern Bay, including within the vicinity of the proposed lease site. Jason McMillian, testified to deploying traps around Lamoine, and indicated he fishes approximately 40 traps in the surrounding area. Many of the testifying lobstermen stated that lobster fishing activity within the area accounts for a significant portion of their income.

The application states that if the proposal were granted, lobster fishing could occur within the boundaries of the proposed lease site (App 17). During the hearing, the applicant stated commercial fishing would be permitted within the boundaries of the proposed lease, between the rows of piping. When asked how they would harvest their product with the presence of lobster gear in the area, Alex de Koning asserted that prior to the deployment of any traps within the boundaries of the site, he would like to be contacted to facilitate the placement of traps to ensure that harvesting could continue uninterrupted and avoid gear entanglements (A. de Koning/Nelson).

Some lobstermen who testified in opposition to the proposal indicated that they would not be comfortable setting their gear within the proposed lease boundary or near the site boundaries. For example, Hanscome testified that due to the tides in the area, it would be difficult to fish inside of or near the boundaries of the proposed site with the amount of proposed floating and suspended gear. Some fishermen testified that gear would need to be set at least 100 yards away from the proposed lease site to avoid possible entanglement (A. Herrick/Lyons).

Recreational Fishing

The application states that no recreational fishing has been observed in the area (App 13). No testimony was provided at the public hearing concerning impacts on recreational fisheries. If the application is granted, recreational fishing would not be prohibited within the boundaries of the proposed lease site. Whether an individual chooses to fish within the boundaries of the proposed site is a matter of preference, but it remains an option.

Other Uses

Dr. Jane Disney testified that the Mount Desert Island Biological Laboratory (MDIBL) is actively involved in a variety of initiatives and water monitoring programs, specifically DMR's Phytoplankton Monitoring Program, which occurs approximately 950' away from the proposed site. Dr. Disney stated that the area of the proposed lease site is the "epicenter of a *Pseudo-nitzschia*

bloom” and has drawn interest from a multitude of agencies to try to understand the flow dynamics of the bay. During her testimony, Dr. Disney emphasized that the lease site is being proposed in an area that has never had any industry and is currently being used as a living laboratory where “events are playing out that have serious impact for not only fisheries but also human health in the State of Maine, and we [MDI Biological Laboratory] have concerns about the project on our understanding of dynamics and ratios of things because the project will be taking variables out of the bay” (Disney Testimony).

In their response to the proposed decision, FEB stated that 12 M.R.S.A. §6072(7-A)(C) provides that the lease activities “will not unreasonably interfere with fishing or *other uses of the area*” [emphasis added] (Exhibit 1, FEB Response to Proposed Decision, pg. 7). In evaluating 12 M.R.S.A. §6072(7-A)(C), Chapter 2.37(1)(A)(3) states:

Fishing. The Commissioner shall examine whether the lease activities would unreasonably interfere with commercial or recreational fishing or other *water-related* uses of the area [emphasis added]. This examination shall consider such factors as the number of individuals that participate in recreational or commercial fishing, the amount and type of fishing gear utilized, the number of actual fishing days, and the amount of fisheries resources harvested from the area.

FEB alleges that in evaluating other *water related uses* of the area instead of other *uses of the area* DMR “impermissibly and unreasonably” narrowed the criterion (Exhibit 1, FEB Response to Proposed Decision 7). In addition, FEB stated that even if the statute were limited to water-based uses, DMR still should have considered MDIBL’s direct and indirect uses of the water, including soundscape and viewscape even though the facility is located on land (Exhibit 1, FEB Response to Proposed Decision, pg. 7).

Discussion

Commercial and Recreational Fishing

Based on the record, lobster fishing is the primary fishing activity that occurs in the area. Lobster buoys have been observed within and near the proposed lease site. During the initial site assessment on September 18, 2020, DMR observed five lobster trap buoys within the proposed lease boundaries. DMR additionally observed approximately 18 buoys near the S-W boundary, the boundary closest the shore of Leland Point. During the second assessment, which occurred on

September 1, 2021, DMR observed approximately seven buoys within the proposed lease boundary and several more within the general vicinity. Many of the additional buoys were concentrated near the S-W boundary or within areas to the south. Within these general areas (i.e. between the shoreline and near the S-W boundary), DMR staff identified habitat that is favored by lobsters. In the Harbormaster Questionnaire received by DMR, the Harbormaster stated that there is lobster fishing in the area, but the area is not as heavily fished as other areas, particularly those to the south.

Testimony from lobstermen with direct experience fishing in the area revealed that some harvesters may currently deploy traps within the boundaries of the proposed site. However, trap deployment near the lease area appears to be concentrated to the south of the proposed site in areas that were also identified as having more suitable lobster habitat when compared to areas within the proposed site. This is supported by the evidence submitted by individuals who fish in the area. For example, David Herrick, Jr. submitted an image showing the exact locations of where he has set traps. The deployment is mostly concentrated along the shorelines of Leland Point and Salsbury Cove, which are to the south of the proposed lease area. D. Herrick, Jr. also testified that he fishes at the southern boundary of the proposed site.

Testimony and evidence document that lobstering activity is common to the south of the proposed site. During the summer months, there are also a variety of other activities within the area that limit where fishermen can deploy traps, such as an increase in boat traffic. In consideration of the amount of lobstering activity that was documented along the southern boundary of the proposed lease site and areas to the immediate south, if the lease is granted, DMR finds that the southern boundary should be reduced by 150' to avoid undue interference with existing lobstering activity. This would leave 820' between the W corner of the proposed site and Leland Point, and approximately 1,540' between the S corner and MDI shoreline. This 150' reduction would accommodate the observed and documented fishing activity in that area as determined through testimony and review of relevant exhibits.

On September 1, 2021, DMR staff observed several traps along the northern boundary of the proposed site (labeled as E-N) (SR-A, 1). Some fishermen testified that they deploy traps to the north of the proposed site, including along the original E-N boundary. However, for the reasons contemplated in section 3A of this decision, that boundary would be moved 500' from the deepest portion of the navigational channel. The movement of that boundary would result in more open

water available to the north of the site for fishermen to set traps. The reductions, including revised coordinates and acreage, are included in section 8 of this decision.

The applicant conducted a series of site visits in the area in 2019 and testified that there was an average of 5.6 traps within the boundaries of the site. DMR conducted two site assessments in 2020 and 2021 with a maximum of seven buoys observed within the boundaries of the site. Fishermen testified that hundreds of traps may be deployed within Eastern Bay. The fishing activity documented within the boundaries of the proposed site is lower in relation to broader activity in the area, especially along the original boundaries of the site and points north and south.

If the lease is granted, lobster fishing could still occur within the boundaries of the proposed site. Many fishermen testified they would be uncomfortable deploying traps within the boundaries. Whether fishermen decide to deploy traps within the boundaries of the proposed site is a matter of personal preference, which would require some coordination with the lease holder. If the lease is granted, a condition will be added that allows lobster fishing to occur within the boundaries of the site, but it would be incumbent upon the lease holder and fishermen to communicate accordingly. Some fishermen noted that they would also not feel comfortable deploying traps within 100 yards of the proposed lease boundaries. The concern was related to possible entanglement with gear proposed for the site. However, all gear needs to remain within the boundaries of the proposed lease site at all tidal stages. How close someone deploys gear to the boundaries of the proposed site is also a matter of preference.

While fishermen may elect not to deploy traps within the boundaries of the proposed site, evidence demonstrates that the impact from the proposed lease site, as modified, would not be unreasonable. For example, David Herrick, Jr. testified that in the general area of the lease site there are 100 acres available for deployment of traps. The revised lease area would be approximately 19.71 acres, and fishermen would be able to deploy traps within the boundaries of the lease site if they elect to do so. The reduction to the proposed lease boundaries is designed to address the concerns raised related to commercial fishing in the area, by reducing the size of the proposal, and altering the boundary along the southern and northern sides of the lease area where lobster fishing is more heavily concentrated. While the proposed site may cause some lobster fishermen to modify where traps have historically been deployed, DMR finds that those modifications are not unreasonable.

No testimony was provided regarding recreational fishing activity in the area. The feedback provided by the Harbormaster was specific to commercial fishing in the area. There is no evidence or testimony to indicate that recreational fishing would be unreasonably impacted if the proposal were granted, and given the findings related to navigation, DMR concludes that any recreational fishing would not be unreasonably impacted by the proposal.

Other uses

Regarding phytoplankton monitoring and algae blooms, Marcy Nelson testified that DMR's Bureau of Public Health (BPH) monitors phytoplankton statewide.⁴¹ Staff within BPH were consulted about monitoring activities including phytoplankton studies in the bay and harmful algae blooms (Nelson Testimony). According to Nelson, staff within BPH clarified that they have seen no large-scale pattern of increase or decrease in phytoplankton changes related to aquaculture nor have they seen any signs within bodies of water where aquaculture occurs that they are approaching carrying capacity regarding food or phytoplankton (Nelson Testimony). Dr. Disney also testified that the lease site is being proposed in an area that has never had any industry and is currently being used as a living laboratory, and raised concerns that the proposal could interfere with ongoing studies monitoring phytoplankton and attempting to understand flow dynamic within the bay. However, Eastern Bay contains other aquaculture sites (described in the section that follows) that are also culturing mussels and based on testimony there is considerable vessel traffic associated with commercial tours, fishing, and other industrial activities within Eastern Bay.

Because the surrounding area in Eastern Bay already houses other aquaculture sites that culture mussels and vessel traffic already occurs in the area, DMR concludes that the addition of this proposal, as modified, would not unreasonably impact other uses in that area.

In their response to the proposed decision, FEB alleges that DMR impermissibly and unreasonably narrowed the criterion under 12 M.R.S.A. §6072(7-A)(C) such that only other water-

⁴¹ As a matter of clarification, the Maine Department of Marine Resources (DMR) via the Bureau of Public Health (BPH) oversees the application of the National Shellfish Sanitation Program within the State of Maine. The program is implemented internationally by the Interstate Shellfish Sanitation Conference (ISSC) to keep molluscan shellfish safe for human consumption. The BPH achieves these goals and standards through a variety of programs that monitor for water quality, harmful algae blooms, phytoplankton, etc. Volunteers help with monitoring as part of these programs. However, DMR is the only entity that has the legal authority to close areas to shellfish harvesting if testing determines that algae blooms or other factors render shellfish unsafe for consumption. Since the hearing was held, the Aquaculture Division was moved to the Bureau of Public Health, which is now referred to as the Bureau of Public Health and Aquaculture. For ease of reference, the decision uses the name of the Bureau as referenced in testimony.

related uses of the area were considered. FEB contends that under this criterion, regardless of whether it is limited to water-related uses, DMR should have considered potential impacts to MDIBL's soundscape and viewscape.

DMR does not categorically limit its consideration of "other uses of the area" to only water-related uses of the area. However, DMR views the particular use identified by FEB—namely, biomedical research programs that the MDIBL conducts in its land-based facility—to be beyond the scope of "other uses of the area" as that phrase as used in 12 M.R.S.A. §6072(7-A)(C) when read in the context of the rest of the statute.

In addition, FEB's argument about how the MDIBL's "other use of the area" is affected by the proposal rests primarily on concerns about the possible effects that noise and vibration could have on MDIBL's operations. It also refers to the terms "soundscape" and "viewscape." DMR already evaluates noise and visual impact using the criteria contained in Ch. 2.37(9) and (10). DMR adopted the noise and visual impact criteria as major substantive rules, which are subject to legislative review. 12 M.R.S.A. § 6072(7-A). If the Legislature had intended for additional factors related to noise and visual appearance to be considered, such as "soundscape" or "viewscape," the Legislature could have included them either in the statute or required that they be included in the noise and visual impact regulations. DMR applies the existing criteria related to noise and visual impact later in this decision and addresses FEB's arguments more fully there.

Other Aquaculture Related Uses

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

The site report was published on December 18, 2020, and at that time there were no other aquaculture sites within a mile of the proposed lease site (SR 11). However, there are aquaculture sites within Eastern Bay. The closest site to the proposed lease is EAST GL which is a standard lease authorized for the suspended culture of blue mussels and kelp (*Saccharina latissima*). The site is located to the east of Googins Ledge and is held by Pemaquid Mussel Farms, LLC. At the

time the site report was published and when the hearing was held, EAST GL site encompassed 8.03 acres and was approximately 5,674.21' or 1.07 miles, away from the proposed lease.

On April 1, 2021, Pemaquid Mussel Farms, LLC submitted a complete application for a standard lease that would encompass the existing 8.03 acres of EAST GL and include additional acreage-up to 31.66 acres. A public hearing on the EAST GL application was held on May 2, 2023, and a decision was issued on August 31, 2023, which authorized an expansion of 15.99 acres for a ten-year period.⁴² Since the expansion was easterly, EAST GL site is still located approximately 5,674.21' or 1.07 miles from the proposed site. No representatives from Pemaquid Mussel Farms, LLC offered testimony in these proceedings. EAST HP is another aquaculture lease site also located in the area, off Hadley Point, approximately 6,807.30' or 1.29 miles from the proposed site and issued for the bottom culture of mussels. EAST HP encompasses 40.39 acres and is held by the applicant. Based on these distances, the proposed lease site would not interfere with other aquaculture lease sites in the area.

At the time the site report was published Alex and Theo de Koning, who hold an interest in Acadia Aqua Farms, LLC also held Limited Purpose Aquaculture (LPA) licenses within the general area, but they were all relinquished in 2023.⁴³ No testimony or evidence was presented to suggest that this proposed site would interfere with other aquaculture sites within the area nor did anyone testify about other aquaculture sites within the area as it relates to this criterion.

Therefore, DMR concludes that the aquaculture activities proposed for this site, as modified by this decision, will not unreasonably interfere with fishing or other uses of the area including other aquaculture sites.

C. 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(7-A)(A). DMR’s Chapter 2 regulations require the Commissioner to examine whether riparian owners can safely navigate to their shore. In examining riparian owner ingress and egress,

⁴² Jerilyn Bowers and Kathleen Rybarz, who testified in this proceeding, also testified during the EAST GL hearing. Bowers testified that the proposed lease would interfere with a long-term phytoplankton study conducted by MDI Biological Laboratory (MDIBL). DMR found that Bowers’ testimony was speculative. Bowers also testified that the proposed expansion would disrupt the route she takes to commute to the MDIBL lab. Rybarz also testified that the proposed expansion would impact sailing. DMR found that there would be no unreasonable impacts to navigation.

⁴³ In the site report, these LPAs are displayed on page 11 as ADEK219, 319, and 419, and TDEK119, 219, and 319.

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).

At the time of DMR’s site assessment on September 18, 2020, there were three docks, five sets of stairs to the shoreline, and several moorings in the general vicinity of the proposal (SR 8). One dock in the area had multiple out hauls associated with it, while another had several kayaks and a small rowboat stored on and near the dock (SR 8). Vessels observed on the moorings in the area included mostly small recreational motorized vessels and sailboats, with a few small lobster fishing vessels (SR 8). At its closest point, the proposed lease site, as originally proposed, is 670’ from the MDI shoreline as measured from the W corner to Leland Point (SR 8). The site report states:

...there is likely a high amount of activity that occurs on and near the shoreline and therefore, the proposed lease if granted, may alter some amount of vessel flow, particularly vessels traveling to and from the north and west, associated with accessing moorings, docks, or the shoreline (SR 8).

The observed docks and moorings are depicted in Figure III. The docks and moorings are located closer along Emery and Salisbury Cove which are to the east of Leland Point.

In the Harbormaster Questionnaire submitted on February 28, 2020, the Bar Harbor Harbormaster indicated that if the proposal were to be granted, there would be no impediment to riparian owners. At the hearing, the applicant testified that due to the shore to the south being predominantly rocky and “exposed to wave action, only small maneuverable boats and kayaks would be able to land in the first place” (A. de Koning Testimony). No public participants or interveners offered testimony related to their concerns regarding riparian access issues caused by the proposal.

For the reasons described in section B of this decision, the southern boundary of the proposed site was reduced. Therefore, the closest point from the proposed lease boundary to shoreline would now be 820’ increasing the distance by 150.’ While the lack of testimony on this decision criteria would tend to demonstrate that the boundary as proposed would be sufficient to accommodate riparian ingress and egress, the 820’ space between the MDI shoreline and the modified proposal boundary will allow for additional area for watercraft of varying sizes to access the shore. Given that, as described in the finding related to navigation, DMR has concluded that any impacts to navigation in the area are not unreasonable and the modified boundary lines will

allow adequate space for anticipated navigation, DMR concludes that proposal will not unreasonably interfere with the ingress and egress of riparian owners.

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

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(7-A)(D). “Such factors as the degree to which physical displacement of rooted or attached marine vegetation occurs, the amount of alteration of current flow, increased rates of sedimentation or sediment resuspension, and disruption of finfish migration shall be considered by the Commissioner in this determination.” Chapter 2.37(1)(A)(5).

Site observations. On the September 18, 2020, site visit, DMR staff conducted a SCUBA transit to assess the ecology of the area (SR 12). Observed organisms and their relative abundance are listed below:

Species Observed	Abundance
colonial tunicate (<i>Didemnum sp.</i>)	Common
orange-footed sea cucumber (<i>Cucumeria frondosa</i>)	Common
Northern sea star (<i>Asteria rubens</i>)	Occasional – on mud substrate
American lobster (<i>Homarus americanus</i>)	Occasional
cerianthid anemone (<i>Cerianthus borealis</i>)	Occasional – on mud substrate
frilled anemone (<i>Metridium senile</i>)	Rare
crab (<i>Cancer sp.</i>)	Rare
horse mussel (<i>Modiolus modiolus</i>)	Rare

Eelgrass. The most recent historical eelgrass (*Zostera marina*) data, collected by DMR staff in 2008, indicated that the closest eelgrass is a small, low-density bed approximately 2,500’ to the north of the proposal (SR 13). Additionally, eelgrass beds are typically observed in shallower water than the proposed lease site, which allows for adequate light penetration to support photosynthesis (SR 13, Nelson Testimony). Therefore, eelgrass beds are not expected to occur at the proposed lease site (SR 13).

In her pre-filed written testimony, Dr. Disney expressed concerns about the proposal potentially negatively impacting eelgrass beds in the area (J. Disney Prefile Testimony). Specifically, Dr. Disney was concerned with sediment clouding the water caused by the *Stewardship* dragging the ocean bottom while harvesting (J. Disney Prefile Testimony). Dr. Disney testified that this sediment could cloud the water, reducing transparency and transmission of light to the eelgrass beds, and coat the plants, further reducing their ability to photosynthesize.

Wildlife. During the September 18, 2020, site visit, DMR staff observed the following wildlife in the general vicinity of the proposal:

Species Observed	Abundance
osprey (<i>Pandion haliaetus</i>)	One
harbor seal (<i>Phoca vitulina</i>)	One
double-crested cormorant (<i>Phalacrocorax auratus</i>)	One
turkey vulture (<i>Cathartes aura</i>)	Two

According to Geographic Information System data maintained by the Maine Department of Inland Fisheries and Wildlife (“MDIFW”) and available through the Maine Office of GIS, the proposed lease is located near the 660’ buffer associated with a bald eagle (*Haliaeetus leucocephalus*) nest, and greater than 4,000’ from the nearest Tidal Wading Bird and Waterfowl Habitat and Shorebird Habitat (SR 13). On February 28, 2020, MDIFW responded by email to a “Request for Agency Review and Comment,” stating that minimal impacts to wildlife are anticipated for this project (SR 14). MDIFW stated that while bald eagles are no longer listed as a Species of Special Concern in Maine, they are protected by “the federal Bald and Gold Eagle Protection Act (“Eagle Act”) as well as other federal laws,” and that they will defer to any recommendations the United States Fish and Wildlife Service may have.⁴⁴

At the hearing, Karlee Markovich, Animal Facility Manager at MDIBL, and witness for CCEB, testified to the presence of porpoise, harbor seals, grey seals, and the occasional whale in the bay and voiced concerns about entanglement and death to these sea mammals because of the proposal. Other witnesses testified to the presence of dolphins⁴⁵ and osprey.⁴⁶

⁴⁴ Bald eagles are also protected under USFW National Bald Eagle Management Guidelines (SR 14). CF: MDIFW review email.

⁴⁵ (Annie Bourne Testimony)

⁴⁶ (Alma Boylan-Garnett Testimony)



Figure VIII. Various habitat types near the proposed lease. Image from DMR site report

Discussion

When gear is proposed for a lease site, the applicant must also receive a permit from the United States Army Corps of Engineers, which coordinates review of the application with other federal services, including USFWS. During the hearing testimony, multiple participants raised concerns regarding the known eagle nesting site in the area. The original proposal was approximately 400' to the northeast of the outer edge of the USFWS 660' eagle nest buffer (SR 14). As modified by DMR, the proposal would be 550' from the outer edge of the eagle nest buffer. USFWS has jurisdiction over sea birds and eagles and evaluates potential danger of entanglement for those species (Nelson Testimony). DMR did not receive comments from USFWS regarding this proposal.

The National Marine Fisheries Service ("NMFS") also reviews aquaculture lease applications and comments on any activity that might adversely affect marine mammals, turtles, or any endangered and threatened species (Nelson Testimony). Marcy Nelson spoke to representatives of NMFS about this proposed lease, who informed her that there was no information that would lead NMFS to believe entanglement would be a risk (Nelson Testimony).

NMFS also told Nelson that there have been no records of sea mammal entanglement in aquaculture gear in Maine (Nelson Testimony). DMR finds the determinations by the federal agencies responsible for assessing impacts to marine life and bald eagles to be credible, and, based on their determinations that the proposal will not result in negative impacts to that wildlife, concludes that the proposal will not unreasonably interfere with wildlife and marine habitats in the area.

The main concern regarding impacts to eelgrass was how dragging along the bottom of the bay would cause sediment to cloud the water and interfere with eelgrass growth. Data collected by DMR staff in 2008, revealed that the closest eelgrass presence is a small, low-density bed approximately 2,500' to the north of the original proposal (SR 13). This distance would be 2,940' after boundary modifications. The proposal does not include dragging activity. The mussel harvesting machine proposed for use at the lease site would be lowered over the suspended collection netting and would remove mussel seed from the collection netting using a brushing mechanism; a conveyor and pump system would then pipe the seed into the harvest vessel, *Stewardship* (App 9). Dropper lines and lantern nets would be used for the culture of scallops, softshell clams, and hard clams. No dragging occurs with those culture or harvest techniques. No other potential impacts to eelgrass were identified because of the proposal and DMR concludes that based on the design of the site and activities proposed, operation of the proposal would not result in unreasonable impacts to eelgrass.

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

E. Public Use & Enjoyment

When examining interference with public facilities, the Commissioner considers the degree to which the lease interferes with public use or enjoyment within 1,000' of a beach, park, docking facility, or certain conserved lands owned by the Federal Government, the State Government, or a municipal government. 12 M.R.S.A. § 6072(7-A)(F). Conserved lands mean land in which fee ownership has been acquired by the state, federal, or municipal government to protect the important ecological, recreational, scenic, cultural or historic attributions of that property. In determining interference with the public use or enjoyment of conserved lands, the

Commissioner shall consider the purpose(s) for which the land has been acquired. Chapter 2.37(1)(A)(7).

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

Therefore, the aquaculture activities proposed for this site, will not unreasonably interfere with the public use or enjoyment within 1,000' of beaches, parks, docking facilities, or certain conserved lands owned by municipal, state, or federal 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(7-A)(E); Chapter 2.37(1)(A)(6).

The application states that the source of blue mussel seed would be natural seed that settles on the site (App 4). Scallop seed would also be collected from the wild, under the authority of a scallop spat collection license pursuant to 12 M.R.S.A. § 6074-A(2) and Chapter 91 of DMR's regulations. The scallop seed collectors would be deployed within the same LPA health zone as the proposed lease site (App 4).⁴⁷ The seed collected under the license would be considered an approved source of stock for the proposed site.

For softshell clams and hard clams, the applicant states it would either obtain a Special License from DMR to collect organisms from the wild, in Maine, or purchase seed from the Down East Institute (App 4). If a Special License is not approved, the applicant also stated they may purchase seed for softshell clams and hard clams from the Down East Institute, which operates a shellfish hatchery (App 4). Down East Institute is an approved source of seed stock for softshell and hard clams. Any alternate source of stock must comply with DMR's laws and rules.

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

⁴⁷ This is not a requirement of the spat collection license or lease sourcing provisions, but something the applicant proposed as part of their operations.

G. Light

Before granting a lease, the Commissioner must determine that the proposed project will not result in an unreasonable impact from light at the boundaries of the site. 12 M.R.S.A. § 6072(7-A)(G). Rules regarding lighting apply to all exterior lighting used on buildings, equipment, and vessels permanently moored or routinely used at all aquaculture facilities, with the exception of lighting for navigation, emergencies, and construction of a temporary nature. Chapter 2.37(1)(A)(8).⁴⁸

The applicant has stated there will be no lights used in the day-to-day operations of the proposal, “unless required by the Army Corp of Engineers or other agency,” (App 11). The application also states that lights may be used during the winter season when daylight is short, and workers may need to be onsite outside of daylight hours (App 11). Additionally, lights may be used onsite for an emergency or urgent situation, such as a storm, closure, or other “imminent threat to the product or structure that needs to be mitigated,” (App 11). In these cases, the floodlights on the harvest vessel *Stewardship* and flashlights would be used (App 11).

At the hearing, the applicant further clarified that the only time they could foresee using lights beyond daylight hours was in emergency situations in which they would need to make an emergency harvest or repair their gear (A. de Koning Testimony). The applicant also stated they would be applying for a permit from the US Coast Guard to use Private Aid to Navigation buoys, or PATON buoys, on the north and east corners of the lease (A. de Koning Testimony). These buoys would be required to have one nautical mile solar lights (A. de Koning Testimony).

No testimony from intervenors or participating members of the public regarding lighting was given at the hearing.

While the Chapter 2 lighting rules apply to all exterior lighting used on buildings, equipment, and vessels permanently moored or routinely used, there is an exception for lighting used for navigation and emergency purposes. The one nautical mile solar lights attached to the PATON buoys that the applicant intends to apply for are used for navigational safety purposes, making them exempt under Chapter 2. Additionally, the applicant clarified that the only other time they could foresee using lighting after daylight hours is in emergency situations. Under Chapter 2, use of lighting in emergency situations is exempt from Chapter 2 rules governing lighting.

⁴⁸ For full rules regarding use of lighting at an aquaculture lease see Chapter 2, § 2.37(1)(A)(8). Any rule applicable to this decision will be fully stated in the decision.

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

H. Noise

Before granting a lease, the Commission must determine that the proposed project will not result in an unreasonable impact from noise at the boundaries of the site. 12 M.R.S.A. § 6072(7-A)(G). Pursuant to statute, DMR adopted rules to establish noise criteria, which were major substantive rules. 12 M.R.S.A. § 6072(7-A). Rules regarding noise apply to the routine operation of all aquaculture facilities, including harvesting, feeding, and tending equipment at leases authorized by DMR, with the exception of: watercraft, harvest or transport barges, and maintenance equipment while underway; the unamplified human voice or other sounds of natural origin; bells, whistles, or other navigational aids; emergency maintenance and repair of aquaculture equipment; warning signals and alarms; and events not reasonably within control of the leaseholder. Chapter 2.37(1)(A)(9).

Chapter 2.37(1)(A)(9) requires, in part: all motorized equipment used during routine operation at an aquaculture facility must be designed or mitigated to reduce the sound level produced to the maximum extent practical; all fixed noise sources shall be directed away from any residences or areas of routine use on adjacent land; and an applicant shall demonstrate that all reasonable measures will be taken to mitigate noise impacts from the lease activities.

The applicant proposes the following noise generating equipment, which would be subject to applicable regulatory requirements:

Vessels:

- Motorized skiffs to service the site.
- *Stewardship*, 74-foot harvest vessel that includes an engine, hydraulics, and water/air supply to run equipment.

Equipment:

- Harvest machine, which includes a hydraulic system connected to the *Stewardship*.
- Pressure washers and graders.

At the hearing, the applicant testified that several levels of noise mitigation will be employed on the site. At the design level, the applicant has rejected the use of an air-cooled power

pack for the harvest machine as it generally generates considerable noise.⁴⁹ Instead, the applicant intends to upgrade the hydraulic system on the *Stewardship* to utilize a hull-cooled below deck engine with water-cooled hydraulic oil. For mitigation, the applicant stated the upward facing muffler will dissipate noise and the rubber foot mounting of the engine will minimize vibrations. The applicant testified that they would utilize cowl mufflers for the main drive engines to minimize noise output. Generators will be mounted below deck to mitigate noise levels and have rubber footings to reduce vibration. The applicant also stated, in closing arguments, that the engines on the *Stewardship* would be turned off whenever possible.

According to the application, the frequency of use of pressure washers and graders will be dependent on the accumulation rate of biofouling (App 10). The applicant testified that power washers may be used several times per year, however, if power washing is needed more frequently, it would be mounted below deck for noise mitigation (A. de Koning Testimony).

Some members of CCEB were employed by MDIBL at the time of the hearing and provided testimony and exhibits in their capacity as employees. MDIBL is located on the shorefront between Salisbury and Hulls Cove. Given the proposed site reductions, MDIBL is approximately 1,590' at mean low water to the southeast of the proposed lease site. Karlee Markovich, Animal Facility Manager at MDIBL, testified that the lab operates one of the largest aquatic breeding facilities for research organisms on the east coast. Markovich testified that the lab maintains large colonies of zebrafish, and African Turquoise Killfish among other organisms for use in federal research.

James Strickland, Director, MDIBL Bioscience, testified that it was not clear from the proposal precisely what degree and frequency of noise and vibration would be generated from the operations (Strickland Testimony). Markovich testified that the lack of specificity made it difficult to predict how noise and vibrations would impact organisms in the lab. James Coffman, faculty at MDIBL, testified that the animals housed at the laboratory and used for biomedical research "are highly sensitive to their environment, and factors such as noise and vibrations even at low levels not readily detectable by humans can be a source of stress that affects their behavior" (Coffman Testimony). Strickland testified that changes in behavior or stress levels can have negative implications for biomedical research. Strickland also testified that, for some research, it would be impossible to know whether a change in

⁴⁹ This is consistent with the objection the applicant raised about CCEB's pre-filing of exhibit 86, which was an email between A. de Koning and Smart Farm discussing a "power pack." The applicant objected to the exhibit being entered as evidence as they are not proposing to use a power pack as part of the application. DMR ruled not include exhibit 86 because a power pack was not proposed, so it was not relevant.

animal behavior was due to background noise and vibration or a pharmaceutical compound (Strickland Testimony). Hermann Heller, President of MDIBL, testified that the noise and vibration produced by the proposed lease site would risk ongoing and future federally funded biomedical research at the lab (Hermann Testimony).

Coffman testified that MDIBL has invested millions of dollars in physical infrastructure to maintain animals in controlled environmental conditions. Markovich testified that MDIBL takes extensive precautions to minimize noise and vibration in the research facility. This includes careful planning of maintenance and construction, and use of sophisticated water filtration systems to avoid vibrations loosening soils allowing minerals to seep into the water supply. Strickland testified that the placement of every piece of equipment is carefully thought through to minimize noise and vibration during dosing procedures.

Strickland and Markovich also testified that the Halsey building was being renovated at the time of the hearing. This building houses the research laboratory where zebrafish and other organisms are kept. Strickland testified that there is little distance between the north facing wall of the building and the highwater line. Markovich estimated the building is approximately 30' from the high tide mark (Markovich Testimony). Strickland testified that the purpose of the renovations is to meet the stringent standards of the pharmaceutical industry to minimize the possibility of experimental errors.

On cross-examination, DMR inquired about the renovations to the Halsey building and if any measures were incorporated into the building design and construction to mitigate sound or vibration, either internal or external. Strickland responded that measures have been taken for equipment placement and operation (Strickland/Ellis). However, while the building was designed "to be as quiet as possible," no specific decibel level was addressed in the building design (Strickland/Ellis). MDIBL staff were also unaware of any routine sound level measurements having been taken within the laboratory.

DMR staff also asked a representative from MDIBL if they had noticed changes in behavior of the animals due to existing water uses in the cove or near the laboratory such as lobster boats, cruise ships, whale watching tours, etc. In response Markovich testified effects from these activities resulted in "nothing that we have measured specifically" (Markovich/Nelson). Markovich went on to state that some behavioral changes may be observed if a large vessel transited the area, but it was less of a concern since it was a transient noise source (Markovich/Nelson). Cross-examination also revealed that lawn mowing routinely occurs at MDIBL, near the research facility (Haller/Lyons). Markovich testified that

activities like lawn mowing are part of a regular routine and tolerated by the animals as it is not unexpected or on an uncontrolled basis.

During the public hearing, several individuals testified about lobster fishing activity in the area. One estimate was approximately 200 boats fished in or near the project site (W. Haas Testimony). The site report notes that there were three docks, five sets of stairs to the shoreline, and several moorings within the general vicinity of the proposal (SR 8). In addition, there are two boat ramps in the area, one is affiliated with Lamoine State Park and the other is near the Morris Yachts production facility (SR 9). This site report indicates that whale watching vessels, larger vessels with barges, and mussel harvesting vessels transit the area with some frequency (SR 9).

CCEB also filed many photographs depicting a variety of activities that would also generate noise near the MDIBL facility. For example, exhibit 35 is an aerial image of the MDIBL facility with a dock deployed from the shoreline. Several moorings are near the dock with some occupied by motorized vessels. Exhibit 16 is a news article documenting how Jerilyn Bowers, an employee of MDIBL, sometimes commutes to the lab in 28' Wellcraft power boat. The article notes that Bowers ties up to the MDIBL dock or utilizes a mooring in the vicinity (Exhibit 16). The article indicates that commuting by boat is variable as Bowers also drives to work via car (Exhibit 16). Exhibits 58-60 depict groups of students affiliated with MDIBL kayaking in the area. Exhibit 54 is an image of a recreational yacht traversing through Eastern Bay (Exhibit 54). MDIBL staff testified that they operate outdoor classrooms. Many other exhibits include references to lobster fishing, sailing regattas, and other activities within the area.

As discussed at the public hearing and reiterated in closing arguments, CCEB disputed some of the information provided by the applicant regarding equipment specifications. For example, CCEB noted that the application states "according to the manufacturer the noise of the running harvest machine is very mild, less than a 4-stroke outboard engine" (CF: CCEB closing arguments, pg. 5). CCEB stated that the applicant provided no evidence to support the statement. CCEB also noted that the harvest machine has not been built, so the applicant cannot identify noise levels associated with its use. CCEB alleges that the applicant has not provided sufficient evidence regarding the intensity, frequency, duration, and quality of noise associated with the proposed activities.

Discussion

Lease applications are intended to request information as required by law in consideration of

respective decision criteria. Current DMR regulations interpreting the statutory requirement regarding noise impacts do not require the disclosure of the intensity, frequency, duration and quality of noise from equipment. Chapter 2.10(1)(I), specifies the information that an applicant must disclose for equipment, stating:

Equipment. The applicant shall submit detailed specifications on all gear, including nets, pens, and feeding equipment to be used on the site. Documentation shall include both plan and cross-sectional views of the generalized layout of the equipment. Vessels that service a site are not subject to this provision.

In addition, the decision criterion respective to noise does not require a consideration of intensity, frequency, and duration of sound generated from each piece of equipment. The rule imposes a requirement that an applicant implement general mitigation measures and take “all reasonable measures” to reduce the sound level to the “maximum extent practicable,” but does not impose specific decibel levels.

The law also does not require applicants to submit manufacturer specifications or that the equipment must be built at the time an application is submitted. Chapter 2.10(I) requires that an application provide details and specification regarding equipment to be deployed but does not mandate specific requirements regarding the level of detail required, only that plan and cross-sectional views of the “generalized layout” be included. In this case, the harvest machine proposed to be utilized at the site exists and is a technology deployed on similar mussel farms, but if the lease is approved the applicant would use a modified version without a “power pack” to mitigate noise. The application includes a written description and renderings of the harvest machine. DMR concludes that the information provided by the applicant regarding equipment specification was sufficient to satisfy the requirements imposed by Chapter 2.10(I).

Except for the harvest machine, the equipment and vessels proposed for the site are commonly used on other aquaculture sites in Maine’s coastal waters. EAST GL is a standard lease, authorized for the culture of mussels, within the vicinity of this application and MDIBL. Operations on EAST GL include regular use of pressure washers and graders. In addition, a 60-foot harvest vessel is used to service EAST GL. Although the harvest machine is not commonly used on mussel farms in Maine, it is deployed in other countries or regions. In addition, as described in other sections of this decision, the applicant has modified the harvest machine to reduce noise to the maximum extent practical.

Mitigation measures are intended to reduce noise at the boundaries of the proposed site, and the burden is on the applicant to demonstrate that it will take all reasonable measures to mitigate noise

impacts from the lease activities. In this case, MDIBL staff as part of CCEB raised a variety of concerns related to noise impacts.

Accounting for the modifications to the proposed site as discussed herein, MDIBL is more than 1,590' from the southwest boundary of the modified proposed lease site. MDIBL's concerns about the noise from the proposal are not supported by the evidence in the record considering other testimony provided and evidence submitted. For example, the testimony of MDIBL staff suggests that the animals in their care are extremely sensitive to any noise or vibration, and MDIBL asserted that they have taken extensive measures to control their environment. However, the research facility is approximately 30' from the high tide line in an area that is regularly trafficked by tour vessels, mussel harvest vessels, power boats, and lobster fishing vessels. MDIBL has its own dock, which is utilized by employees with motorized watercraft, and there is also a mooring field along the shorefront. MDIBL also operates outdoor classrooms and maintains their grounds with motorized equipment. MDIBL also testified that the facility was undergoing significant renovations at the time of the hearing, but no provisions were made to soundproof the space to a certain sound level, nor had the facility conducted its own sound readings to determine at what levels the animals in their care would react adversely to noise or vibrations or at what duration.⁵⁰

In addition, when asked how animals responded to other noises/vibrations near the facility including lawn mowers, or watercraft operating near the lab, MDIBL indicated that the noises/vibrations that are part of a regular routine or are expected or controlled are tolerated by the animals. However, this suggests that the animals MDIBL uses in its experiments, such as zebrafish, can readily distinguish between different types of noises (i.e. vessels, building construction, lawnmowers or any other noise discussed at the hearing that occurs at or near the lab), then determine whether that noise is expected, routine, or controlled and respond accordingly. The exhibits submitted by CCEB do not suggest these organisms can make such distinctions (Exhibit 20). In addition, some of the noises, like those specific to lawn mowing, would not occur year-round or have consistent start or end times within a given year. Assuming that this testimony is accurate, and the animals can accommodate to these noises as part of a routine, it suggests that they could also accommodate the routine maintenance and harvesting noises that are likely to be caused by the proposal.

⁵⁰ MDIBL did not enter into the record materials documenting how fish or animals under their care react to noises encountered around the lab.

MDIBL staff testified that the proposal lacked the precise degree and frequency of noise and vibration that would be generated from the aquaculture operations. MDIBL noted that this lack of specificity makes it difficult to predict how noise and vibrations would impact organisms in the lab. However, the lab has never conducted its own sound level readings or mitigated for a certain sound level in the research facility. Based on testimony, MDIBL does not know what noise levels would disturb zebrafish or other animals in their care. While some evidence in the record suggests that wild fish populations may be sensitive to sounds generated from high intensity sonar, pile driving, oil and gas drilling, and seismic air guns, none of those activities are proposed for the lease (Exhibit 25). Other studies entered into the record by CCEB also suggest that noises generated in closed aquaculture systems are unlikely to affect long term growth and survival rate of the organism cultured in that intensive system (Exhibit 29).

The applicant likened the level of noise likely to be generated on the proposed lease site to that of lobster fishing vessels (A. de Koning/Caulk). Based on the testimony provided, there is considerable lobster fishing activity in areas near and around MDIBL. There are also whale watching tours and other motorized vessel traffic that utilize the area. MDIBL noted that vessel noise or lawn mowing noise is transitory and routine. However, the same would be true with regard to noise activity caused by the proposal because noise generating activities will only occur in response to harvest periods or times when the site needs to be tended. These noises would be transitory and routine to the same extent that vessel traffic, lawn mowing, or construction activity noise are, that is variable depending on the time of year, seasons, and conditions. The testimony regarding potential noise impacts did not adequately explain how the expected noise activity generated by the proposal would be different either in kind or degree from that which already occurs in the area with no apparent negative effects on MDIBL's operations. Testimony at the hearing related to noise impacts were largely speculative and based on assertions that the applicant was required to supply precise studies and estimates of noise decibels not required by the applicable law. Moreover, the testimony related to the effects of noise impact on MDIBL was not consistent with evidence regarding MDIBL's operations and approach to noise control and impacts from current noise level already present in the area.

DMR considers whether the applicant demonstrated that *all reasonable measures will be taken to mitigate noise impacts* at the boundary of the proposed lease site, so that the proposal does not cause unreasonable noise impacts *at the boundaries of the site*. This is most often achieved by describing the design of equipment, or explaining how equipment will be utilized or retrofitted to reduce sound levels

if it is not contemplated within the design of the equipment itself. For example, DMR is generally aware that some manufacturers design equipment to meet certain sound specifications so further mitigation measures may not be required.

In their closing arguments, the applicant reiterated the following mitigation measures, which they presented as part of the application or during the hearing (CF: Closing Argument, Rebuttal, pgs. 3-4):

- a. All non-portable combustion engines will be housed in secondary containment.
- b. When possible, the main engines of the harvest vessel, *Stewardship*, will be turned off within the boundaries of the proposed lease.
- c. Hospital grade cowl mufflers have been installed on the engines of the *Stewardship*, which means the engines are no longer audible from a modest distance.
- d. The hydraulic drive system on the *Stewardship* will be upgraded, so that it can handle the larger capacity of the harvest machine (specific to mussel harvesting). The current hydraulic system is muffled below deck with an upward facing exhaust that dissipates noise. It is also mounted on rubber footings to mitigate vibration within the hull.
- e. Generators are mounted below deck on the *Stewardship* and have rubber footings to mitigate vibration.

For the first time, in their rebuttal to closing arguments, the applicant also stipulated the following additional measures (CF: Closing Argument, Rebuttal, pgs. 3-4):

- f. Generators used on the lease site will be outfitted with hospital grade cowl mufflers.
- g. The applicant will muffle the John Deer hydraulic drive system with a hospital grade cowl muffler or similar if the installation cannot be accommodated safely.
- h. All portable engines used on site regularly will be outfitted with higher than standard muffling whenever possible, with the explicit exception of outboard engines since increasing the muffling for those is not practically feasible.
- i. Barring a threat to the installation, product or the environment on the lease, the applicant will not work the lease outside of daylight hours or at all on Sundays.

Letters a through i represent the mitigation measures the applicant proposed to take to reduce sound to the extent practical from the noise generating equipment proposed for the site. All the mitigation measures are consistent with approaches incorporated on other standard lease sites. Many of these measures exceed mitigation approaches on other standard lease sites. For example, most

operations do not include outfitting noise generating equipment with hospital grade cowl mufflers or extensive upgrades to hydraulic systems. Based on the record, the applicant has demonstrated that it has taken all reasonable measures to mitigate noise at the boundary of the proposed lease site, and that the noise generated by the proposed activities will not result in an unreasonable impact at the boundaries of the lease site. However, some of the measures have not been implemented yet. For example, the upgrades described in letters d and g are contingent upon the lease being granted as it would authorize the use of the modified harvest machine, which would necessitate the upgrades.

In accordance with 12 M.R.S.A. §6072(7-B) and Chapter 2.37(B), DMR has the authority to establish conditions governing the use of the leased area including limitations on the aquaculture activities. This includes imposing any reasonable requirements to mitigate interference related to the deployment and placement of gear, timing of operations, etc. If the lease is granted, DMR will include the following conditions in the lease:

- Require proof that the upgrades described in d and g have been made prior to the equipment being deployed on the site. This means the applicant will need to submit a sworn statement and photographs demonstrating that number d and g, if necessary, have been satisfied. The gear or vessels listed in d, and g cannot be deployed until the documentation is reviewed and authorization is granted, in writing, by DMR.
- Letter e is specific to the use of generators on the lease site. The applicant also testified that power washing would occur several times per year, however, if power washing is needed more frequently, it would be mounted below deck for noise mitigation. Functionally, there would be no way to know when the threshold had been met to necessitate moving power washers below deck.

All the other measures described would become part of the operational plan associated with the site. The operational plan specifies how a lease holder will utilize the authorized site and associated structures (see Chapter 2.05(1)(M)). The completed lease application, final lease decision, and executed lease agreement are part of the operational plan. If a site is granted, the lease holder is required to follow the operations detailed in their completed application as authorized by the lease decision and codified in the lease agreement (see Chapter 2.75(7)). Conditions are not typically used to codify what would otherwise be part of the operational plan as the lease holder is already required to follow that pursuant to regulation (see Chapter 2.75(7)). For example, if an application states that a power washer would be used Monday-Friday, that does not need to be included as a separate condition of the lease.

On March 31, 2022, DMR issued a fourth procedural order that governed the submission of closing arguments and rebuttals. The order specified, in part, that a portion of the closing arguments must address: “If the lease were granted, what noise mitigation measures would the intervenor and applicant offer for consideration to the Department?” (Exhibit 1, Fourth Procedural Order, pg. 1). DMR did not state that the measures would be incorporated as lease conditions or otherwise responded to.

CCEB submitted closing arguments that included two noise mitigation conditions. CCEB also stated that “...there are no conditions that DMR can apply to this lease that would allow DMR to conclude that AAF’s proposal will not result in unreasonable impacts from noise at the boundaries of the lease site...” (Exhibit 1, CCEB Closing Arguments, pg. 39). CCEB stated that the conditions were presented solely as an alternative argument. The proposed conditions were:

- AAF cannot operate the harvest machine and any other mechanized equipment for more than two, two-week periods each year. This proposed condition also stipulated the time of year operations could occur and required that AAF notify MDIBL at least ninety (90) days in advance of each two-week operating windows.
- AAF [Acadia Aqua Farms, LLC] shall provide a surety bound to the sole benefit of MDIBL and any affiliates. This proposed condition also stipulated the amount of the bond (no less than \$30 million), use, term, updates, and other considerations.

In their rebuttal to CCEB’s closing arguments, Acadia Aqua Farms, LLC characterized these two proposed conditions as unreasonable and an attempt to make the proposal non-viable.

In response to the proposed decision, FEB argued that DMR’s obligation to find that all reasonable measures will be taken should include an assessment of CCEB’s two proposed mitigation measures. FEB then proposed four more measures for the first time. DMR did not allow for rebuttal submissions to comments filed in response to the proposed decision. Therefore, FEB’s response to the proposed decision was the first time the applicant would have seen the four new conditions, which are numbered 3-6 below,⁵¹ and they did not have the opportunity to comment on whether those proposed

⁵¹ As a matter of clarity, the mitigation measures listed on page 55 and lettered a-i were presented by the applicant either in the application, during the hearing, or closing arguments. The bullet points on page 56 are conditions that DMR would impose on the lease if it is granted. The two bulleted points on page 57 reflect the conditions proposed by CCEB in their closing arguments (CCEB is the consolidated intervenor group, which FEB is part of). The numbered points (1-6) on pages 58-59 are the conditions FEB included in their response to the proposed decision.

conditions are reasonable. Each of FEB's proposed conditions are listed as follows, in the order they were presented in FEB's response to the proposed decision:⁵²

1. AAF is prohibited from operating its harvest machine, its power washer, and any other mechanized equipment other than normal operation of its vessel, for more than two two-week periods per year.

Timing: These two two-week periods may only be permitted between January 1 and May 15 and between October 15 and December 31 of each calendar year to avoid disruption or cancellation of MDIBL's robust education programs, which utilize multiple outdoor classrooms between May 15 and October 15. Notice: For each two-week operating window, AAF must provide _____ days advanced notice to MDIBL before operation.

2. AAF shall provide a surety bond to the sole benefit of MDIBL and its affiliates (which shall always include its successors or assigns) in an amount sufficient over the course of the lease term to fully fund the cost of any cancelled contracts, any losses due to MDIBL's facility failing a pharmaceutical or biomedical research audit, any expenses necessary to delay or repeat experiments, any losses due to disruption or cancellation of educational programs, any losses or damages for which MDIBL is indemnifying a lessee or other third party, and any damage to reputation and future loss of revenue, in each case when due to noise or vibrations from the lease site and lease site activities.

3. AAF shall house all non-portable combustion engines in secondary containment.

4. AAF shall limit work in the lease site to daylight hours from Monday through Saturday except when there is a threat to the installation.

5. AAF shall house all portable engines used regularly on the site with higher than standard muffling, with the exception of outboard engines.

⁵² Conditions 1 and 2 were included in CCEB's closing arguments and contain additional text governing their terms. The version included here is what FEB submitted in their response to the proposed decision.

6. AAF shall outfit generators used on the lease site with hospital grade cowl mufflers.

FEB's proposed condition 1 would limit operations on the lease site to two, two-week periods at times most conducive to MDIBL. This condition would limit most aspects of the proposed operations to four weeks a year, which would frustrate the purpose of the lease and functionally render it inoperable. Therefore, it is unreasonable. Proposed condition 2 would require the lease holder to obtain a \$30 million surety bond to the sole benefit of MDIBL. The cost, terms, and liability associated with this proposed condition are unreasonable. Proposed conditions 3-6 will either be addressed through incorporation into the operational plan or through a DMR-imposed condition.

Therefore, in consideration of the afore-mentioned conditions, imposed by DMR, the aquaculture activities proposed for this site will not result in an unreasonable impact from noise at the boundaries of the lease site.

I. Visual Impact

An application must comply with rules regarding visual criteria as adopted by the Commissioner. 12 M.R.S.A. § 6072(7-A)(H). Rules regarding visual impact apply to all equipment, buildings, and watercraft used at an aquaculture facility, excluding watercraft not permanently moored or routinely used at a lease location such as harvest or feed delivery vessels. Other equipment or vessels not moored within the boundaries of a lease, but routinely used or owned by the leaseholder are subject to these requirements. Chapter 2.37(1)(A)(10).⁵³ The rules specify building profiles, height limitations, construction materials, and colors that are acceptable for aquaculture facilities. Therefore, DMR evaluates the proposed equipment, buildings, and watercraft to which the rule applies against the specifications contained in regulation to ensure compliance.

Marine organisms would be cultured using gear that is primarily deployed below the surface of the water and regularly permitted on other standard aquaculture lease sites across Maine. The gear deployed below the surface of the water would include dark hued predator netting, longlines, lantern nets, and ear hanging droppers. This equipment complies with DMR's visual impact criteria. The mussel pipes would be visible from the surface of the water, but the application

⁵³ For full rules regarding visual impact of an aquaculture lease see Chapter 2.37(1)(A)(10). Any rule applicable to this decision will be fully stated in the decision.

notes that the pipes will be black or grey high-density polyethylene. Below is an image of the mussel pipe system taken from the application:



Image I. Deployed farm using the mussel pipe system (App 16 Appendix)

All gear used to culture marine organisms in the lease application complies with DMR's visual impact requirements.

For mussel harvest, the applicant intends to use a purpose-built hydraulic machine. This harvest machine would be secured to a 20' x 20' raft within the boundaries of the proposed site (App 7, 11 Appendix). The height of the raft used to store the harvest machine would be approximately 1.5' from the waterline (App 15 Appendix). The height of the harvest machine while submerged would be approximately 5' (App 14 Appendix). When not submerged, the harvesting machine will be stored on its side on the raft for a total height above the waterline of approximately 13.5' (App 15, 16 Appendix). The height of the raft (with and without the harvest machine stored on top), and the harvest machine comply with DMR's height requirements. The application states that the harvesting machine would be on site year-round (App 7, 14 and 15 Appendix). At the hearing, the applicant suggested the harvesting machine would only be on site

for six months, from May to October (A. de Koning Testimony). Whether or not the applicant decides to move the harvesting machine during time when it is not in active use would not impact this analysis, as under either operation, the machine complies with the visual impact rules.

The application requested the applicant to list the color of equipment and structures. The application states “all metal will be stainless steel, treated aluminum or steel painted in non-obtrusive colors” (App 8). The harvest machine is metal (App 14 Appendix). The application did not specify if the raft would be constructed of metal (App 7). In accordance with regulation and noted in the application, any colors would need to be flat, not reflective and must be gray, black, brown, blue, or green in hue. They would need to have sufficiently low value, or darkness, to blend in with the surrounding area. Given some ambiguity regarding the construction materials of the raft, if the lease is granted, DMR will condition the lease to require any structure moored within the boundaries of the proposed site be flat in color and must be gray, black, brown, blue or green in hue.

The application indicates that a harvest vessel, the *Stewardship*, may occasionally be on the lease site when the mussel harvest machine is being utilized or when the harvest of other organisms is occurring (App 7 and 21 Appendix). Certain watercraft, such as harvest vessels, not permanently moored or routinely used at a lease are generally exempted from DMR’s visual impact regulations. Chapter 2.37(1)(A)(10). Because the harvest vessel would not be permanently moored and the use of the vessel described in the application would be occasional, and not routine, it is exempted from the visual impact criteria. Other vessels such as skiffs may also occasionally be used to tend the site and are not permanently moored at the site (App 7). Given these considerations, the skiffs are also exempted from the visual impact regulations.

The application deemed complete on February 13, 2020, states that marker buoys will be yellow, green, red, or blue (App 8). After the application was deemed complete, DMR updated regulations governing marker buoys for lease sites. The updated regulations took effect on January 1, 2023, and specified that marking devices must be yellow in color and readily distinguishable from interior buoys and gear. If the lease is granted, the holder would have to comply with this updated regulation, so the marker buoys would be yellow. Interior buoys would need to be readily distinguishable from the marking devices and would have to be gray, black, brown, or blue in hue to comply with visual impact regulations.

Therefore, in consideration of the afore-mentioned condition, the equipment proposed for the lease site will comply with the visual impact criteria contained in Chapter 2.37(1)(A)(10).

4. CONCLUSIONS OF LAW

Based on the above findings, it is concluded that:

- a. The aquaculture activities proposed for this site will not unreasonably interfere with the ingress and egress of any riparian owner.
- b. Given the boundary reductions, the aquaculture activities proposed for this site will not unreasonably interfere with navigation.
- c. Given the boundary reductions, the aquaculture activities proposed for this site will not unreasonably interfere with fishing or other water-related uses of the area, taking into consideration other aquaculture uses in the area.
- d. The aquaculture activities proposed for this site will not unreasonably interfere with the ability of the lease site and surrounding areas to support existing ecologically significant flora and fauna.
- e. The aquaculture activities proposed for this site will not unreasonably interfere with the public use or enjoyment within 1,000' of beaches, parks, docking facilities, or certain conserved lands owned by municipal, state, or federal governments.
- f. The applicant has demonstrated that there is an available source of stock to be cultured for the lease site.
- g. The aquaculture activities proposed for this site will not result in an unreasonable impact from light at the boundaries of the lease site.
- h. Given the conditions governing equipment, the aquaculture activities proposed for this site will not result in an unreasonable impact from noise at the boundaries of the lease site.
- i. Given the condition governing the raft, the aquaculture activities proposed for this site will comply with the visual impact criteria contained in DMR Regulation 2.37(1)(A)(10).

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

5. DECISION

Based on the foregoing, the Commissioner grants a lease in the amount of 19.71 acres, reduced from the original application as discussed above, to Acadia Aqua Farms, LLC for 20 years for the cultivation of blue mussels (*Mytilus edulis*), sea scallops (*Placopecten magellanicus*), softshell clams (*Mya arenaria*), and hard clams (*Mercenaria mercenaria*) using suspended culture techniques. The lessee shall pay the State of Maine rent in the amount of \$100.00 per acre per year. The lessee shall post a bond or establish an escrow account pursuant to Chapter 2.40(2)(A) in the amount of \$5,000.00 conditioned upon performance of the obligations contained in the aquaculture lease documents and all applicable laws and rules.

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 M.R.S.A §6072 (7-B).⁵⁴ 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 following conditions have been imposed on the proposed lease.

1. The lease holder is required to submit a sworn statement and photographs demonstrating that the hydraulic drive system on the *Stewardship* has been upgraded. Such documentation needs to also indicate whether the installation was accommodated safely and if not, demonstrate that the John Deer hydraulic drive system has been muffled with a hospital grade cowl muffler. Written authorization must be granted by DMR prior to the vessel being used within the boundaries of the proposed site to verify the upgrades have been made.
2. All power washing equipment must be located within the hull of the *Stewardship*.

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

3. Any structure moored within the boundaries of the proposed site must be flat in color and must be gray, black, brown, blue or green in hue.
4. Conditions 2 and 3 may be re-evaluated via the lease amendment process.
5. Lobster fishing is permitted within the boundaries of the lease site.

7. REVOCATION OF LEASE

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

Dated: October 2nd 2024


Patrick C. Keliher, Commissioner
Department of Marine Resources

8. Revised Site Boundaries, Coordinates, and Acreage

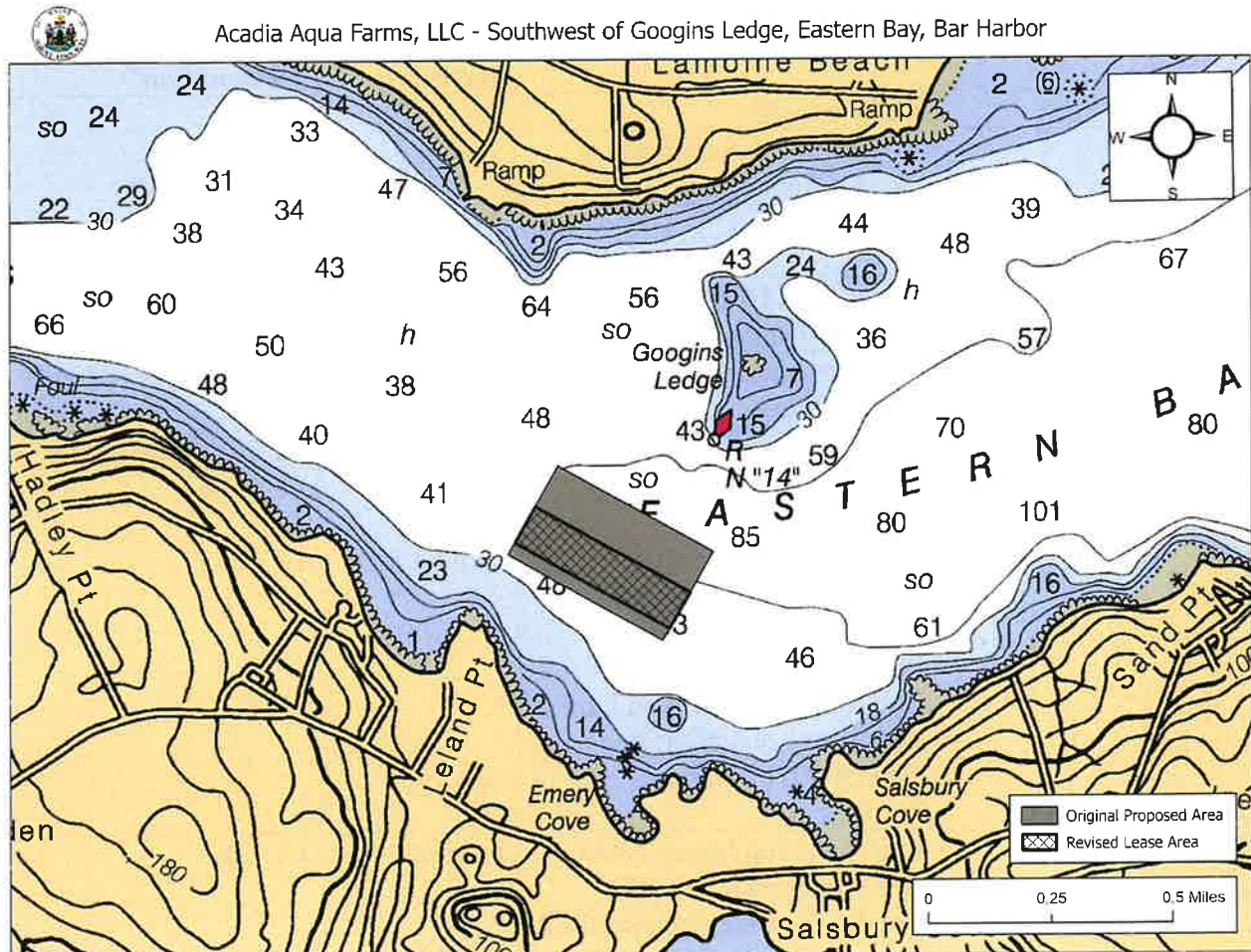


Figure IX. Original lease area and the site reductions

Revised Coordinates (WGS84) – 19.71 Acres

<u>Corner</u>	<u>Latitude</u>	<u>Longitude</u>	
N	44.441546°	-68.296848°	then 1,905.1 feet at 120° True to
E	44.438940°	-68.290526°	then 450.7 feet at 210° True to
S	44.437869°	-68.291390°	then 1,905.1 feet at 300° True to
W	44.440475°	-68.297712°	then 450.7 feet at 30° True to N

9. List of Exhibits

Exhibit Number:	Description:	Cited in Decision:	Prefiling Designation ⁵⁵
1	DMR case file	CF	DMR (Pre-filing designation not applicable)
2	Complete lease application, Acadia Aqua Farms, LLC	App	
3	Site Report	SR	
4	Letter from DEP to DMR dated November 15, 2018	Exhibit 4	
5	MZI Presentation (PowerPoint)	Exhibit 5	Acadia Aqua Farms 1
6	Channel Comparison	Exhibit 6	Acadia Aqua Farms
7	Image of lobster pots at proposed lease site	Exhibit 7	CCEB-1
8	Rafael Lara and Raquel Vasconcelos. "Impact of Noise on Development, Physiological Stress and Behavioural Patterns in Larval Zebrafish." <i>Scientific Reports</i> . (March 2021). Nature Portfolio.	Exhibit 8	CCEB-2
9	Jon Lewis and Marcy Nelson. "Investigation of Benthic Conditions Under Mussel-Raft Farms." (2008). 1-20. Maine Department of Marine Resources.	Exhibit 9	CCEB-3
10	Suzanna Clark et al. "Investigating <i>Pseudo-nitzschia australis</i> introduction to the Gulf of Maine with Observations and Models." <i>Continental Shelf Research</i> . 228. (July 2021). 1-17. Science Direct.	Exhibit 10	CCEB-4
11	Marita Sundstein Carlsson et al. "Effects of Mussel Farms on the Benthic Nitrogen Cycle on the Swedish West Coast."	Exhibit 11	CCEB-5

⁵⁵ This column references how the exhibits were numbered/referenced when they were pre-filed. CCEB did not include a pre-filed exhibit numbered 8. This appears to have been a function of a numbering mistake when materials were pre-filed.

	<i>Aquaculture Environmental Interactions</i> . 2. (March 2012). 177-191.		
12	Suzanna Clark et al. “ <i>Pseudo-nitzschia</i> Bloom Dynamics in the Gulf of Maine: 2012-2016.” <i>Harmful Algae</i> . 88. (August 2019). 1-14. Science Direct.	Exhibit 12	CCEB-6
13	Vera Trainer et al. “Pelagic Harmful Algal Blooms and Climate Change: Lessons from Nature’s Experiments with Extremes.” <i>Harmful Algae</i> . 91. (May 2019). 1-14. Science Direct.	Exhibit 13	CCEB-7
14	Jeri Bowers’ Route, Frenchman Bay and Mount Desert Island	Exhibit 14	CCEB-9
15	Image of Eagle Nest-Leland Point	Exhibit 15	CCEB-10
16	Liz Graves. “Commute by Boat all in a Day’s Work for Bowers.” <i>Ellsworth American</i> . August 25, 2014.	Exhibit 16	CCEB-11
17	Frenchman Bay Saltwater Discovery Trail	Exhibit 17	CCEB-12
18	Proposed Lease Boundary with 1150 ft and 200 ft wide Channel	Exhibit 18	CCEB-13
19	Letitia Baldwin. “Salmon Farm’s Discharge Plan is Challenged.” <i>Ellsworth American</i> . February 1, 2022	Exhibit 19	CCEB-14
20	Izuru Miyawaki. “Application of Zebrafish to Safety Evaluation in Drug Discovery.” <i>Journal of Toxicologic Pathology</i> . 33(4). (October 2020). 197-210.	Exhibit 20	CCEB-15
21	Takuma Sugi et al. “Nanoscale Mechanical Stimulation Method for Quantifying <i>C. elegans</i> Mechanosensory Behavior and Memory.” <i>Analytical</i>	Exhibit 21	CCEB-16

	<i>Sciences</i> . 32. (November 2016). 1159-1164		
22	“The Ultimate 5hp Outboard Engine Group Test.” <i>Motor Boat & Yachting</i> . (January 14, 2016).	Exhibit 22	CCEB-17
23	Maine State Planning Office et al. “Noise.” <i>Technical Assistance Bulletins</i> . 4. (May 2000).	Exhibit 23	CCEB-18
24	Brianna Healey et al. “Aquaculture and it’s Impacts on the Environment.” <i>Debating Science-Course Blog UMASS Amherst</i> . (April 20, 2016).	Exhibit 24	CCEB-19
25	Mary Bates. “Noise Pollution also Threatens Fish.” <i>American Association for the Advancement of Science</i> . (October 2012). 1/7-4/7.	Exhibit 25	CCEB-20
26	Lindy Weilgart. “The Impact of Ocean Noise Pollution on Fish and Invertebrates.” <i>Oceancare & Dalhousie University</i> . (May 2018). 5-21.	Exhibit 26	CCEB-21
27	Katie Rowley. “Aquaculture Interactions with Endangered Species: Bibliography.” <i>NOAA Central Library</i> . (May 2020). 1-38.	Exhibit 27	CCEB-22
28	Catherine Kemper et al. “Chapter 11: Aquaculture and Marine Mammals: Co-Existence or Conflict?” <i>ResearchGate</i> . (January 2003). 208-225	Exhibit 28	CCEB-23
29	John Davidson et al. “The Effects of Aquaculture Production Noise on the Growth, Condition Factor, Feed Conversion and Survival of Rainbow Trout <i>Oncorhynchus mykiss</i> .” <i>Aquaculture</i> . 288. (2009). 337-343.	Exhibit 29	CCEB-24

30	Paul Greenberg. “Environmental Problems of Aquaculture.” <i>Earth Journalism Network</i> . (April 18, 2014).	Exhibit 30	CCEB-25
31	NOAA Fisheries. “Entanglement of Marine Life: Risks and Response.” 1-4.	Exhibit 31	CCEB-26
32	Arthur Popper et al. “Examining the Hearing Abilities of Fishes.” <i>Forum-Acoustical Society of America</i> . 146. (August 6, 2019). 948-955.	Exhibit 32	CCEB-27
33	Image. Hanscome Lobster Boat Mooring.	Exhibit 33	CCEB-28
34	PPTX File. Current Flow, Frenchman Bay.	Exhibit 34	CCEB-29
35	Image. MDIBL Mooring Field.	Exhibit 35	CCEB-30
36	Frenchman Bay Saltwater Discovery Trail. <i>Note: Appears to be a duplicate of Exhibit 17.</i>	Exhibit 36	CCEB-31
37	Image. Kayakers in Front of Boyers, East of Sand Point.	Exhibit 37	CCEB-32
38	Image. Views from Common Lot Beach.	Exhibit 38	CCEB-33
39	Image. Sunset View	Exhibit 39	CCEB-34
40	Image. View from Boyer House	Exhibit 40	CCEB-35
41	Image. Salsbury Cove in Fog with Paddlers	Exhibit 41	CCEB-36
42	Image. View from Salsbury Cove at site.	Exhibit 42	CCEB-37
43	Demi Brett Rabeneck. “Molecular and Immunohistochemical Identification of a Sodium Hydrogen Exchanger-2C Paralog in the Gills of Marine Long Sculpin (<i>Myoxocephalus Octodecemspinosus</i>).”	Exhibit 43	CCEB-38

	<i>Electronic Theses and Dissertations</i> . 752. (2011). 66-69.		
44	Hanna Mogensen. “Investigating Complex Phytoplankton Dynamics: Pseudo-nitzschia spp. Diversity and Toxicity in the Nearshore Gulf of Maine.” <i>Smith College</i> . (April 4, 2014). 2-79.	Exhibit 44	CCEB-39
45	P.J. Cranford et al. “Benthic Organic Enrichment from Suspended Mussel (<i>Mytilus edulis</i>) Culture in Prince Edward Island, Canada.” <i>Aquaculture</i> . 292. (2009). 189-196.	Exhibit 45	CCEB-40
46	Stephen Bates et al. “Pseudo-nitzschia, Nitzschia, and Domoic Acid: New Research Since 2011.” <i>Harmful Algae</i> . 79. (2018). 3-43.	Exhibit 46	CCEB-41
47	Hollander and de Koning, Social Media Post.	Exhibit 47	CCEB-42
48	“The Lost Sea Garden.” <i>Community Lab-MDIBL</i> . (September 13, 2021). 1-20.	Exhibit 48	CCEB-43
49	Peter Cranford et al. “Phytoplankton Depletion by Mussel Aquaculture: High Resolution Mapping, Ecosystem Modeling and Potential Indicators of Ecological Carrying Capacity.” <i>International Council for the Exploration of the Seas</i> . (2008). 1-5.	Exhibit 49	CCEB-44
50	Jon Grant et al. “A Spatially Explicit Ecosystem Model of Seston Depletion in Dense Mussel Culture.” <i>Journal of Marine Systems</i> . (September 2008). 73. 155-168.	Exhibit 50	CCEB-45
51	Sophie Nedelec et al. “Impacts of Regular and	Exhibit 51	CCEB-46

	Random Noise on the Behavior, Growth and Development of Larval Atlantic Cod (<i>Gadus morhua</i>).” <i>Royal Society Publishing</i> . (2015). 282. 1-7.		
52	Xiuyun Liu et al. “Sound Shock Response in Larval Zebrafish: A Convenient and High Throughput Assessment of Auditory Function. <i>Neurotoxicology and Teratology</i> . (2018). 66. 1-7.	Exhibit 52	CCEB-47
53	Image. Juvenile Eagle in Front of Proposed Installation.	Exhibit 53	CCEB-48
54	Image. Recreational Yacht through Eastern Bay.	Exhibit 54	CCEB-49
55	Image. Kidney Shed MDIBL 1930s.	Exhibit 55	CCEB-50
56	Image. MDIBL 1927.	Exhibit 56	CCEB-51
57	Image. MDIBL Scientists. 1921.	Exhibit 57	CCEB-52
58	Image. MDIBL Student Kayaking.	Exhibit 58	CCEB-53
59	Image. MDIBL Students Kayaking	Exhibit 59	CCEB-54
60	Image. MDIBL Students Kayaking.	Exhibit 60	CCEB-55
61	David Evans. “Marine Physiology Down East: The Story of the Mt. Desert Island Biological Laboratory.” <i>Perspectives in Physiology</i> . 44-46.	Exhibit 61	CCEB-56
62	Jane Disney et al. “Engagement in Marine Conservation through Citizen Science: A Community-Based Approach to Eelgrass Restoration in Frenchman Bay, Maine, USA.” 153-177.	Exhibit 62	CCEB-57
63	Baban Thawkar et al. “Zebrafish as a Promising Tool for Modeling Neurotoxin-Induced Alzheimer’s Disease.	Exhibit 63	CCEB-58

	<i>Neurotoxicity Research</i> . (2021). 39. 949-965.		
64	Yue Tao et al. "Effects of Common Environmental Endocrine-Disrupting Chemicals on Zebrafish Behavior." <i>Water Research</i> . (2022). 208. 1-15.	Exhibit 64	CCEB-59
65	Carol Best et al. "Cortisol Elevation Post-Hatch Affects Behavioural Performance in Zebrafish Larvae." <i>General and Comparative Endocrinology</i> . (2018). 257. 220-226.	Exhibit 65	CCEB-60
66	Image. Star Point Launched from Hadley Point.	Exhibit 66	CCEB-61
67	Image. NOAA Chart with Aquaculture Sites Depicted.	Exhibit 67	CCEB-62
68	Image. Sailboats in Proposed Lease Area.	Exhibit 68	CCEB-63
69	Image. Pemaquid and Buoys from LP.	Exhibit 69	CCEB-64
70	Image. Other sites.	Exhibit 70	CCEB-65
71	Image. Harper's Bazaar, Bar Harbor, 1887.	Exhibit 71	CCEB-66
72	Image. Lobstering off GL.	Exhibit 72	CCEB-67
73	Image. Lobster Boat and Kayak.	Exhibit 73	CCEB-68
74	Image. Sailboat	Exhibit 74	CCEB-69
75	Image. Juvenile Eagle.	Exhibit 75	CCEB-70
76	Image. Buoys	Exhibit 76	CCEB-71
77	Chart. Alternative Sites-Narrows	Exhibit 77	CCEB-72
78	Chart. Alternative Sites-South Gouldsboro	Exhibit 78	CCEB-73
79	Chart. Alternative Sites-Flanders	Exhibit 79	CCEB-74
80	Maine Department of Marine Resources-Final Decision-FLAN WN Species Change-Signed October 28, 2021.	Exhibit 80	CCEB-75
81	Maine Department of Marine Resources-Final Decision-PEN SN3-Lease Renewal-Signed May 28, 2015.	Exhibit 81	CCEB-76

82	Maine Department of Marine Resources-Final Decision-EAST HP-Lease Renewal-Signed February 2, 2016.	Exhibit 82	CCEB-77
83	Maine Department of Marine Resources-Final Decision-EAST OP2-Lease Renewal-Signed October 26, 2014.	Exhibit 83	CCEB-78
84	Maine Department of Marine Resources-Final Decision-FREN BI-Lease Renewal-Signed June 16, 2020.	Exhibit 84	CCEB-79
85	Image. David Dunton-Frozen Bay.	Exhibit 85	CCEB-80
86	Image. Star Point.	Exhibit 86	CCEB-81
87	Video. Lobstering Activity	Exhibit 87	CCEB-82
88	Video. Lobstering Activity-Eastern Bay	Exhibit 88	CCEB-83
89	Tufts University-Center for the Study of Drug Development. "Cost to Develop and Win Marketing Approval for a New Drug is \$2.6 Billion." (November 18, 2014).	Exhibit 89	CCEB-84
90	Market Analysis Report. "Preclinical CRO Market Size, Share & Trends Analysis Report by Service, by End Use, and Segment Forecasts, 2021-2028." (September 2021).	Exhibit 90	CCEB-85
91	Image. Plotter, Googins Ledge, Eastern Bay	Exhibit 91	Duncan Haas #1
92	Image. Plotter, Googins Ledge, Eastern Bay	Exhibit 92	David Herrick #1
93	Five Images of Sailing and Boating Activities (included image from DMR site report)	Exhibit 93	Kathleen Rybarz #1-5
94	Five-page document regarding "Inprofeed" a study from the University of Copenhagen.	Exhibit 94	Joanna Fogg

