STATE OF MAINE
DEPARTMENT OF MARINE RESOURCES
Docket # 2007-17
Lease MACH-CW2
June 12, 2008

Phoenix Salmon US Inc.
Standard aquaculture lease application
Net pen culture of Atlantic salmon
Machias Bay, west of Cutler Peninsula
Cutler, Hancock County, Maine

FINDINGS OF FACT, CONCLUSIONS OF LAW, AND DECISION

On December 4, 2007, the Department of Marine Resources ("DMR") received an application from Phoenix Salmon US Inc., of Eastport, Maine, for a standard aquaculture lease for 35 acres of coastal waters of the State of Maine, located in the Town of Cutler in Washington County, for the purpose of cultivating Atlantic Salmon (*Salmo salar*) using net pen culture techniques. The application was revised and accepted as complete on February 8, 2008. A public hearing on this application was held on May 12, 2008, in Cutler, Maine.

1. THE PROCEEDINGS

Notices of the hearing and copies of the application and DMR site report were sent to numerous state and federal agencies for their review, as well as to a number of educational institutions, aquaculture and environmental organizations, the Town of Cutler and the Cutler and Machiasport Harbormasters, members of the Legislature, representatives of the press, riparian landowners, and other private individuals. Notice of the hearing was published in the *Downeast Coastal Press* on April 8 and April 29, 2008, and in the *Commercial Fisheries News* April 2008 edition.

Sworn testimony was given at the hearing by several witnesses for the applicant: David Miller, Edward Hukki, Jennifer Robinson, and Chris Heinig. The applicant was represented by Andrew Hamilton, Esq. Jay Clement represented the U. S. Army Corps of Engineers. No members of the public attended the hearing. The hearing was recorded by DMR. The Hearings Officer was Diantha Robinson.

The evidentiary record before the Department regarding this lease application includes ten exhibits introduced at the hearing (see exhibit list below), the record of testimony at the hearing itself, and one written comment from Philip Rose, Chairman of the Machiasport Board of Selectmen, opposing the application, which was submitted by fax before the record closed. The evidence from all of these sources is summarized below.[1]

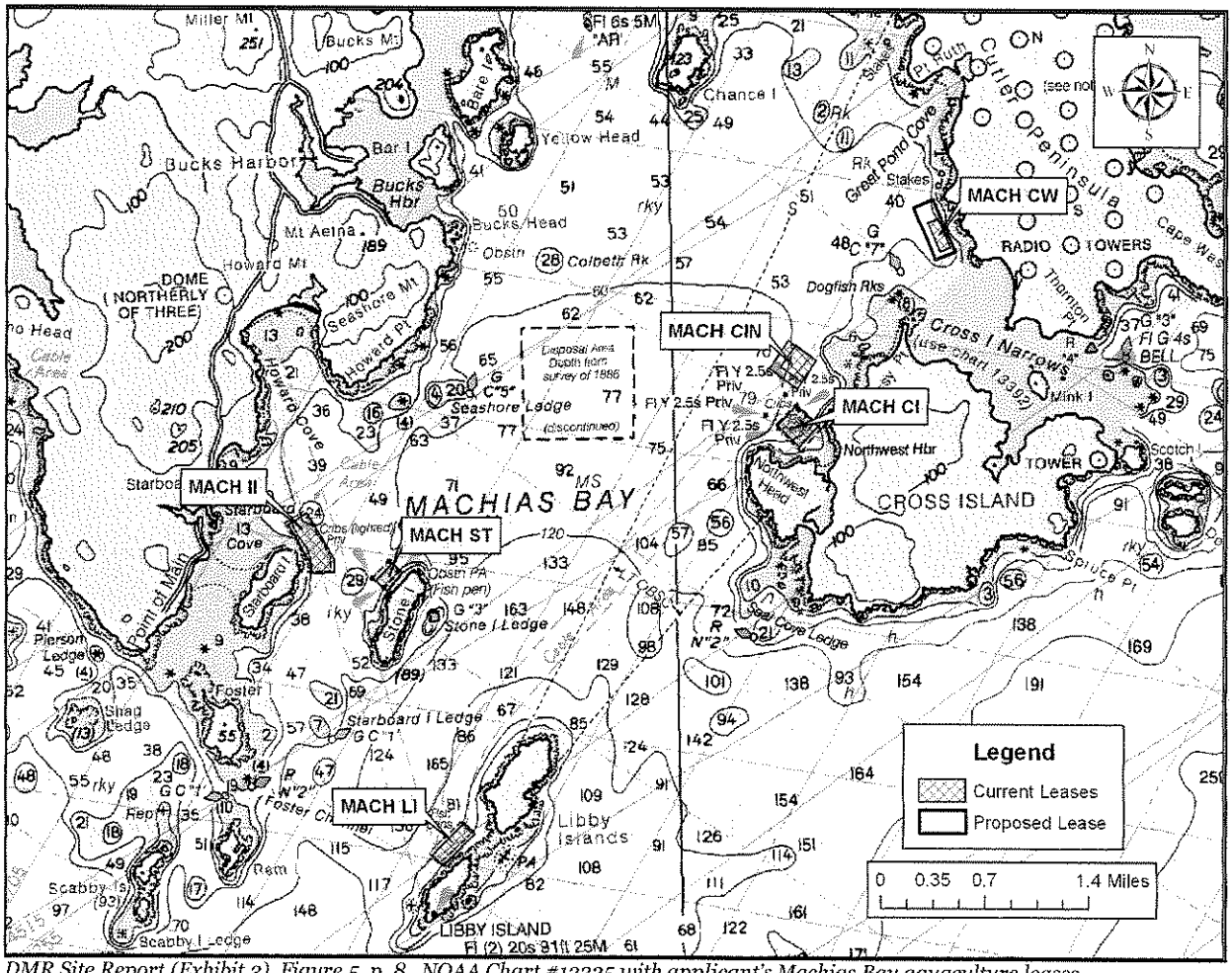
[1] NOTE: The reference (Smith/Jones) means testimony of Smith, being questioned by Jones. (Smith, direct) means the direct testimony of Smith, not given in response to questions.

Counsel for the applicant expressed procedural concerns about allowing the fax into the record, given that the letter with notice of the public hearing sent by DMR to persons on its general mailing list specified that any comment letters needed to be submitted by U. S. Mail, but he did not pursue an objection. DMR has required letters to be submitted by mail, rather than by fax or e-mail, in order to ensure that they are signed by the person submitting them. In this case, Mr. Rose called DMR before sending the fax to say that he was unable to attend the hearing but wished to submit his comments in writing. Under the circumstances, this is sufficient authentication to regard the faxed letter as genuine. Therefore, it will be included in the record and accorded appropriate weight, given its status as an unsworn statement not subject to questioning.

LIST OF EXHIBITS

1. Case file, #2007-17.
2. Application signed and dated January 24, 2008 (revised application).
3. DMR site report dated March 27, 2008.
4. Paper copy of Power Point presentation, entitled "Cooke Aquaculture – Cutler West Extension", dated May 12, 2008.
5. DMR notes on Cutler West Preapplication meeting, dated Oct. 4, 2007.
6. Superior Court decision, *Town of Machiasport vs. Atlantic Salmon of Maine LLC*, Docket No. CV 05-19, dated April 14, 2008.
7. Meeting notes by Atlantic Salmon of Maine from their follow-up meeting to scoping session, dated February 8, 2008.
8. Christopher S. Heinig, Résumé.
9. Excerpts from transcript of DMR lease hearing on original Cutler West application, dated Dec. 17, 1991, prepared by Phoenix Salmon.
10. Complete transcript of DMR lease hearing on original Cutler West application, dated Dec. 17, 1991, prepared by Phoenix Salmon.

2. DESCRIPTION OF THE PROJECT



DMR Site Report (Exhibit 3), Figure 5, p. 8. NOAA Chart #13325 with applicant's Machias Bay aquaculture leases shown; soundings in feet at mean lower low water. The current lease, MACH CW, is shown inside the outline of the proposed expanded lease.

A. Site History

The proposed lease site lies on the west side of the Cutler peninsula, at the eastern edge of Machias Bay, northwest of the Cross Island Narrows. Maine Coast Nordic, a subsidiary of Phoenix Salmon, currently holds a 10-acre net-pen lease for the culture of Atlantic salmon, MACH CW, at this location, which was originally granted in 1992. The proposed lease would expand the site by an additional 24.4 acres, for a total lease of 34.4 acres (Exhibit 3, p. 2).

While the existing lease is held by Maine Coast Nordic, the proposed lease would be held by Phoenix Salmon US Inc. Phoenix Salmon US Inc., Maine Coast Nordic, Atlantic Salmon of Maine, and four other companies are all subsidiaries of True North Salmon US Inc., the U.S. affiliate of Cooke Aquaculture of Canada (Exhibit 4, pp. 5, 6).

Mr. Miller testified that Phoenix Salmon needs additional growing area in order to provide a continuing supply of salmon sufficient to support the re-opening of its fish processing plant in Machiasport, which has been closed since 2004. Phoenix plans to stock 3 million fish per

year in each of its three growing regions: Cobscook Bay, Machias Bay, and other lease areas which they call "Points South". While the company's sites in Cobscook Bay are sufficient now to hold 3 million fish, the other two areas lack adequate capacity, according to Mr. Miller. Consequently, Phoenix is planning to expand some existing sites and to seek new lease sites in those areas. The existing Cutler West site is also too small to be operated efficiently, hence this application to expand it (Miller, direct; Exhibit 4, p. 20).

B. Proposed Operations

The applicant proposes to continue to raise Atlantic salmon on the expanded lease site, increasing the number of pens from 8 to 20. Fish would be stocked as a single year class and raised from smolts to market size over a period of 18 to 36 months (Exhibit 2, p.4). Mr. Miller testified that Phoenix plans to raise a maximum of approximately 500,000 6 kg harvest-sized fish, with a target maximum density of 25 kg/m3 (Exhibit 4, p. 15). The pens will be 105-ft. diameter plastic circles, arranged in two rows of ten pens each in a grid system approximately 1500 ft. x 300 ft., covering approximately 10.4 acres (Exhibit 4, p. 11). Predator nets will surround the primary cage nets and bird nets will cover the tops of the pens (Exhibit 2, pp. 4, 5).

The DMR site report notes that given the water depth at the site and the depth of the nets proposed to be used, it is possible that the nets may drag on the bottom (Exhibit 3, p. 3). Mr. Miller testified that nets would be custom-made for the pens at this site to allow for adequate clearance above the bottom (Miller, direct; Exhibit 4, p. 14).

According to the application and Mr. Miller's testimony, the work crew will travel daily to the site from the pier in Machiasport which is used by Phoenix and its related companies as a base of operations for their Machias Bay leases. Vessels serving the site include a 40-ft. lobster-style dive boat, a 50-ft. barge-style feeding boat, and a 60-ft. barge-style feed delivery boat. Market-size fish will be harvested by boat at the site and taken to shore for processing. Harvest operations will take 60 days to complete, with harvest operations occurring daily during that time (Miller, direct; Exhibit 4, pp. 18-19).

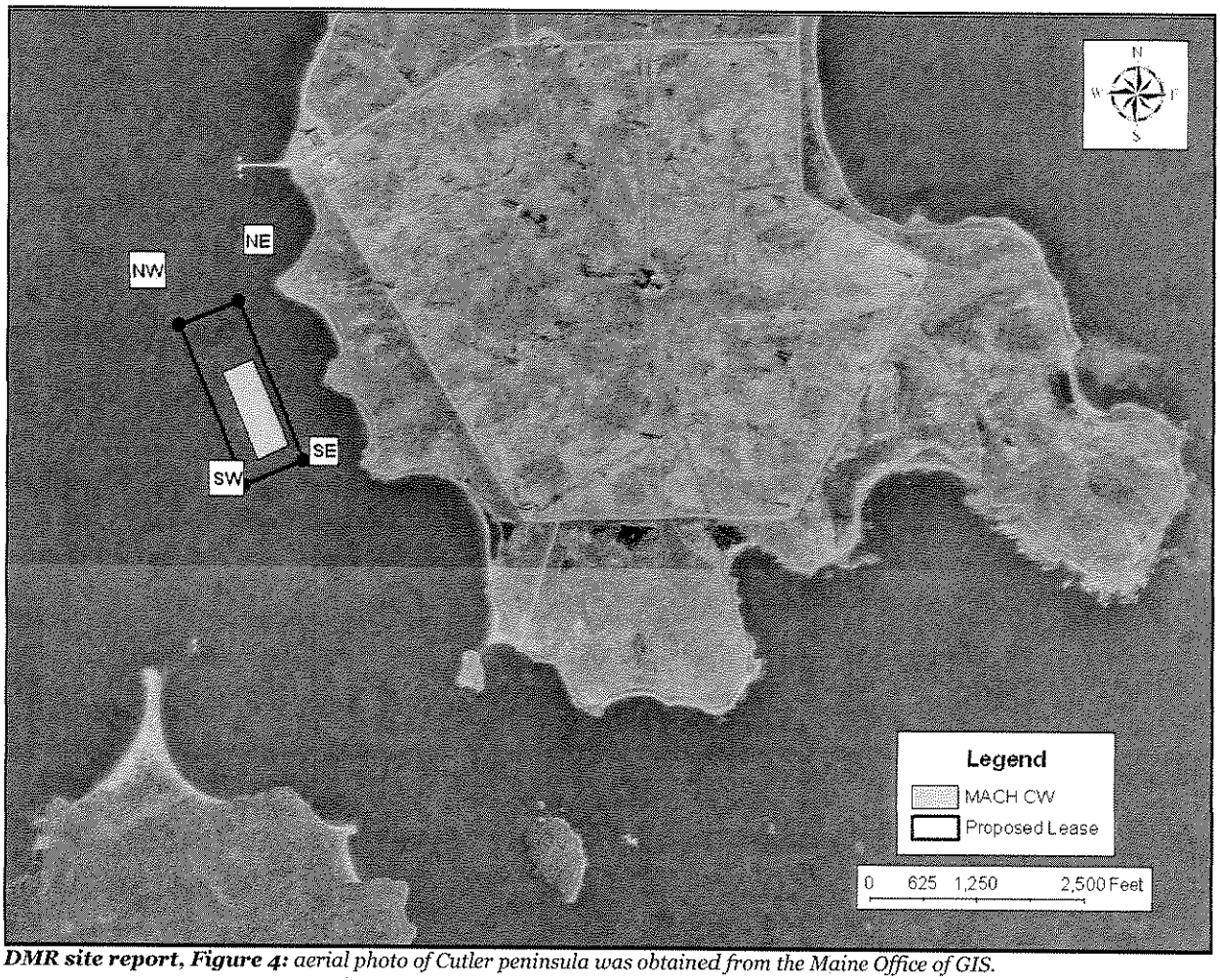
The fish will be fed two to three times per day as weather permits, using automatic feeders with monitor cameras to prevent overfeeding. Divers will maintain the lease area, collecting mortalities, repairing gear, and monitoring the site. The site holds a waste discharge (MEPDES) permit from the Maine Dept. of Environmental Protection which outlines the schedule for environmental monitoring at the site (Exhibit 4, p. 17). Phoenix is seeking a permit for the expanded site from the U. S. Army Corps of Engineers.

Further details of the operation are contained in the application (Exhibit 2).

C. Site Characteristics

The proposed lease site is located on the eastern side of Machias Bay, parallel to the western shore of the Cutler peninsula. Distances from the site to the shore are: from the

northeast corner, 275 ft.; from southeast corner, 528 feet. The entire Cutler peninsula is occupied by a U.S. Navy base consisting of tree-less land studded with numerous very tall radio towers. There are no residences within 1,000 feet of the proposed lease site (Exhibit 3, p. 7). As shown in the aerial photograph reproduced below from the site report, the proposed lease tract surrounds the existing lease site on all sides, extending it mainly to the northwest and southwest.



DMR site report, Figure 4: *aerial photo of Cutler peninsula was obtained from the Maine Office of GIS.*

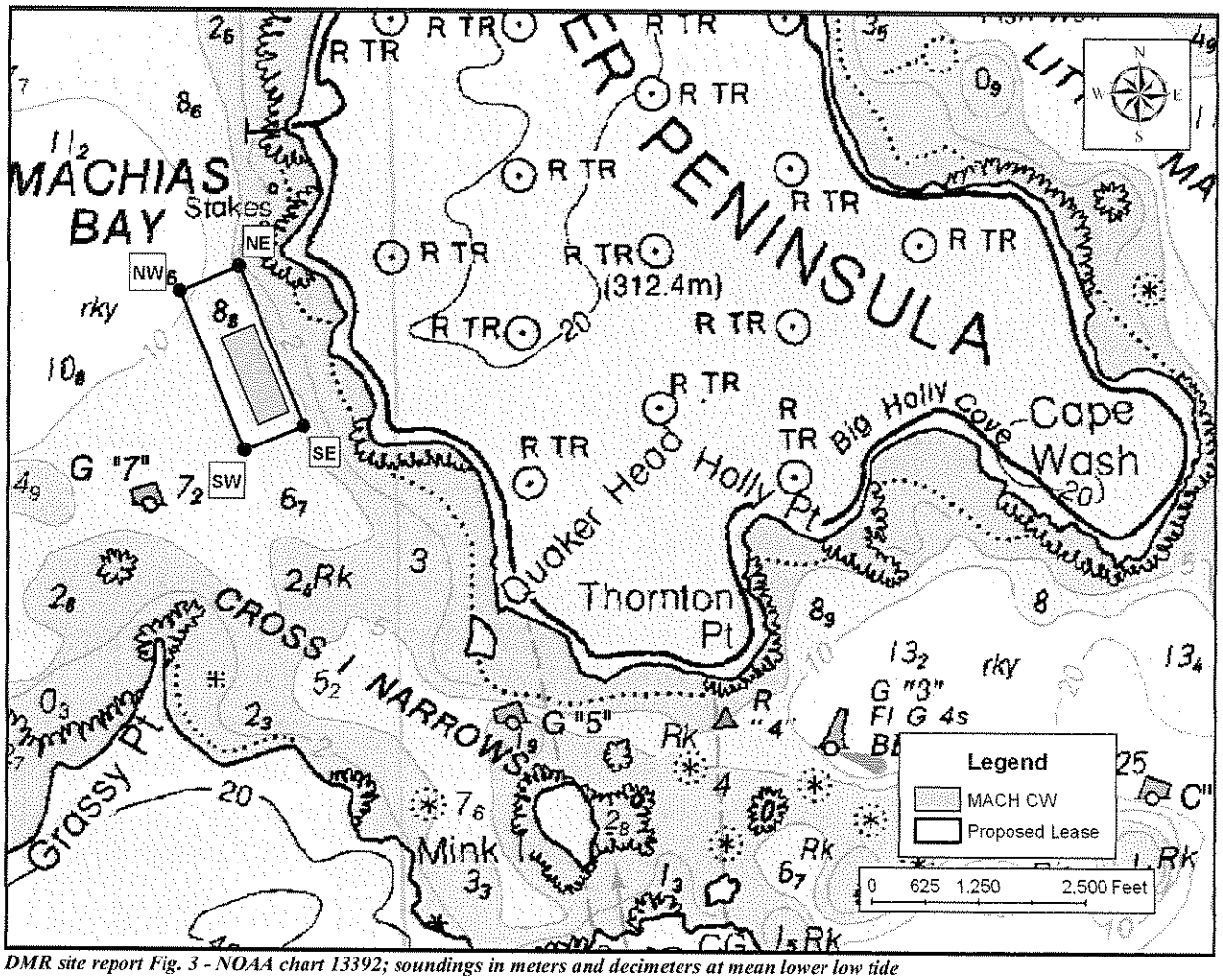
According to the site report, the sea bottom at the site is composed of hard sand beneath firm, shallow mud to the north, grading to hard cobble with occasional rocky outcrops to the south; the topography is "mostly flat, with a gradual slope to the northwest and deeper water." (Exhibit 3, p. 3) Water depths at mean low water range from 19.3 to 28.3 feet. Currents are unusual in that the northward current through the proposed site is much stronger than the southward current on an outgoing tide, with the result that any organic loading at the present site is deposited primarily at the north end of the site, rather than being spread evenly across the entire tract (Exhibit 3, p. 3).

Water quality monitoring at the site over the years has shown acceptable levels of dissolved oxygen. The site is not expected to ice over in the winter, though pan ice from farther north in bay may pass through on the currents (Exhibit 3, p. 7).

Because the Cutler Harbormaster stated at the pre-application meeting that the majority of fishermen in Machias Bay operate out of Machiasport, not Cutler, DMR sent a Harbormaster Questionnaire to Mr. Wade C. Day, the Harbormaster for the Town of Machiasport, which Mr. Day completed and returned. No Questionnaire was returned by the Cutler Harbormaster. Mr. Day did not attend the hearing, so he did not testify in support of his statements on the Questionnaire, nor were his statements subject to questioning. Only his statements about fishing in the lease area were challenged, however, as described more fully in part 3 (C), below. Mr. Day indicated that the mooring gear specified in the application is adequate and appropriate (Exhibit 1, Harbormaster Questionnaire).

3. STATUTORY CRITERIA & FINDINGS OF FACT

Approval of standard aquaculture leases is governed by 12 M.R.S.A. §6072. This statute provides that a lease may be granted by the Commissioner of DMR if s/he determines 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 and number and density of aquaculture leases in an area; with the ability of the lease site and surrounding areas to support existing ecologically significant flora and fauna; or with the public use or enjoyment within 1,000 feet of beaches, parks, or docking facilities owned by municipal, state, or federal governments. The Commissioner must also determine that the applicant has demonstrated that there is an available source of organisms to be cultured for the lease site; 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 be in compliance with visual impact criteria adopted by the Commissioner relating to color, height, shape and mass.



DMR site report Fig. 3 - NOAA chart 13392; soundings in meters and decimeters at mean lower low tide

A. Riparian Access

The sole riparian owner, the U.S. Navy, owns all the shoreline to the east of the site, including a pier approximately 1400 feet to the north of the proposed site. No moorings were noted within the boundaries at the time of the DMR site visit, and the Machiasport Harbormaster verified that no moorings exist within the lease boundary and stated that the lease would not interfere with riparian access (Exhibit 3, p.5; Exhibit 1, Harbormaster Questionnaire). According to the site report, the activities proposed for the expanded lease site "will not interfere with the ingress and egress of any riparian owner" (Exhibit 3, p. 5).

Mr. Miller testified that there have been no problems with the Navy's riparian access during the term of the existing lease (Miller, direct). In answer to questions posed by Mr. Clement, Mr. Miller stated that Phoenix does not need access to the Navy's shoreline, other than in an emergency or to clean up errant gear or debris (as the company is required to do by DMR Rule 2.75). Mr. Miller stated that a condition to that effect in the Army Corps permit and/or the DMR lease would pose no problem for the company (Miller/Clement).

The Navy, as a riparian owner, was notified of this application and of the hearing, but it did not comment on the matter. Given this evidence, it is reasonable to conclude that the riparian's ingress and egress will not be affected by this expanded lease.

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

B. Navigation

The proposed site expands the boundaries of the existing lease site in all directions, though mainly to the northwest and southwest, away from the shore and farther into the open waters of Machias Bay. As noted above, distances from the proposed lease northeast and southeast corners to shore measure 275 ft. and 528 ft., respectively. The site report notes that vessels transiting Cross Island Narrows past the western side of the site would have approximately 1,000 feet of navigable water between the nearest hazard (marked by Can #7) and the southwest corner of the proposed site. At the time of the site visit, DMR staff observed a commercial dragger navigating between the site and the Cutler peninsula approximately 1.5 hours before high tide (Exhibit 3, p. 6). Mr. Miller characterized the additional encroachment by the expanded site on the waters between the site and the main navigational channel as "minimal" (Miller/Clement).

The Machiasport Harbormaster indicated that the proposed lease site would not interfere with navigation in designated channels or with traditional storm anchorages (Exhibit 1, Harbormaster Questionnaire). The lease site must be marked in accordance with U. S. Coast Guard requirements for navigation.

The evidence thus shows that there is ample room for boats to navigate on all sides of the expanded lease site, whether for passage or for fishing.

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

C. Fishing & Other Uses

1. Lobstering. The main issue that has arisen with respect to this lease application is the extent to which the expansion of the site will displace lobster fishermen from sea bottom that they traditionally fish and whether this constitutes unreasonable interference with fishing. Jennifer Robinson testified that at the pre-hearing conference on October 4, 2007, the Cutler Harbormaster stated that while he did not think displacement of lobster fishing would be a problem, the fishermen who used the area were based in Machiasport, not Cutler, and so he

advised DMR to seek the opinion of the Machiasport Harbormaster, which DMR subsequently did, as described above (J. Robinson, direct; Exhibit 5).

At the scoping session on November 26, 2007, a number of lobstermen expressed concern about loss of fishing ground to the lease (J. Robinson, direct). Ms Robinson stated that the attendees at the session were told that they could participate in the hearing or submit comments (J. Robinson, direct). She testified that after Phoenix submitted the expansion application to DMR, Atlantic Salmon of Maine (ASM), another Phoenix subsidiary, invited the lobstermen who attended the scoping session to a meeting at ASM's Machiasport plant, sending the invitations by certified mail to seven people. ASM received the return receipts for all the mailed invitations, according to Ms Robinson. Only one lobsterman attended the meeting on February 8, 2008. Jennifer Robinson testified that he expressed concern about loss of bottom to leases and loss of trap gear to boat traffic, but that he said the latter issue had been largely resolved (J. Robinson, direct; Exhibit 7). Ms Robinson noted the absence of any lobstermen (indeed, the absence of <u>any</u> members of the public) at the hearing (J. Robinson, direct).

Notes prepared by Phoenix personnel after the meeting state: "George (George Flynn, the one fisherman who attended) did mention that if the expansion took place, he would like it to occur early so we could get our gear in place before a lot of fishing gear gets placed" (Exhibit 7).

In answer to the question in the Harbormaster Questionnaire about the extent and type of fishing within the lease area, the Machiasport Harbormaster, Wade Day, wrote:

> Lobster fishing around 50 boats displacing around 20 traps per boat/ Scallop Dragger's [*sic*]/ Urchin Dragger's [*sic*]/ It would displace about 50 boats at times of the year/ more in the month's [*sic*] of May thur[*sic*] October than lesser boats in other months of the year, this is in Cutler water's [*sic*] but fished by Machiasport fisherman [*sic*]. (Exhibit 1, Harbormaster Questionnaire, question 5)

The Harbormaster then added the following comment:

> The town of Machiasport has gave alot [*sic*] of fishing bottom up to aquaculuture [*sic*] lease's [*sic*], the site involved now, Cross Island, Stone's Island, Starboard Island and Libby Island add all of these up and we have lost alot [*sic*] of fishing bottom. I think it's about time to draw the line. The processing plant is still closed so they [*sic*] is very limited employment from this company. (Exhibit 1, Harbormaster Questionnaire, last page)

Mr. Hamilton stated that he wished to question the Machiasport Harbormaster regarding his assertion that as many as 1,000 traps would be displaced, but Mr. Day was not present at the hearing.

Mr. Rose's letter states that he objects to "granting further leasing in this area" and that although the lease site is located in Cutler, it is fished by Machiasport fishermen,

> so it is our community that stands to lose quite a large area of good lobstering and scalloping ground. With the price of fuel skyrocketing, and the

> regulations on deep-water fishing requiring more expensive gear, any crowding of the near-shore area becomes very seriously detrimental. We already have three large areas taken up in our town waters (Starboard Island, Stone Island, and Libby Island) and feel that more – especially in light of what it does to the bottom – would be very harmful in both the short and long run. (Exhibit 1, letter from Philip C. Rose dated May 12, 2008)

The statements in Mr. Rose's letter clearly express the difficulties currently facing many Maine lobstermen. Mr. Day's statements reflect similar concerns. Neither man's assertions were supported by sworn testimony at the hearing or tested by questioning. Without the ability to test their assertions, the applicant was left to present its own evidence as to the extent of lobster fishing on the site.

The DMR site visit, which would normally have been undertaken during the lobster fishing season in order to assess the local lobstering effort, was instead conducted in March in response to the applicant's desire to resolve the case quickly, given the company's plan to stock the site this summer, if the lease is granted. The site report notes:

> ... fishing in this area is likely to be a seasonal occurrence – heaviest during the summer and fall months. Lobster fishing has been observed by DMR staff in the area surrounding the operational farm during past years. Given the required timing of the site visit, Department Staff are unable to address the frequency and intensity of lobster fishing in the area. Please see Section B.6 for a summary of comments provided by Mr. Wade Day, Harbormaster for the town of Machiasport. (Exhibit 3, p. 4)

The site report also noted that:

> Two lobster buoys were observed within the boundaries of the proposed lease site at the time of the Department's visit . . . No lobsters or crabs were observed during our survey although we acknowledge that March 24th is a suboptimal time to observe these species in this area. No sea stars, urchins, or mussels were observed at this site. (Ibid)

Thus, because of the timing of the site visit, DMR was unable to provide independent, first-hand evidence regarding the extent of lobster fishing in the vicinity of the expanded lease.

Mr. Miller testified that "limited" lobstering exists at the site, on both the existing site and the proposed extension. He stated that, because the company allows lobstering within the lease boundaries, provided it stays outside the mooring grid, the net loss of lobster fishing area from the expanded site would be 6.2 acres, not the entire 24.4-acre additional lease area (Miller, direct). He characterized this additional loss of bottom as being 0.025% of the total area of Machias Bay (Miller, direct).

Edward Hukki testified that he took an aerial photograph of the lease site on May 6 or 7 of this year, at the beginning of the lobstering season, and that it shows no lobster buoys within the proposed additional lease area (Hukki, direct; see photo in Exhibit 4, p. 28). Mr. Miller

concurred with Mr. Hukki, noting that the buoys showing at the lower center and lower left of the photo mark the boundary of the expanded portion of the site, while the buoy that appears just to the lower left of the center line of buoys in the grid is a tag line buoy which is the same size as a lobster buoy, so that it is clear that if lobster buoys were there, they would show in the photo (Miller, direct).

Chris Heinig, President of MER Assessment Corp., an environmental monitoring and consulting company that performs environmental site monitoring for the applicant on a contract basis, testified that he has monitored the site since 1988 and that he testified at the original hearing on the Cutler West lease in 1991. He has done baseline sampling and six surveys of the site over the years. He reviewed the videotapes he made during these surveys, which include "pan" views of the surface area at the site, checking his observations of lobsters, scallops, and buoys. In all his observations of the site, Mr. Heinig said, he has seen a maximum of ten to twenty lobster buoys on the site. He has never seen lobster traps on the bottom in any of his videos, and he has never seen more than one or two sea urchins, although he has seen scallops. He did not see any lobster traps on the bottom of the expansion area in the baseline survey video (Exhibit 4, p. 32). In 1991, he testified at the original Cutler West lease hearing that

> "With respect to fishing activities, according to fishermen of the area, lobster fishing in the area is limited to six to twelve traps fished during shedder season in August and September. Scallops are extensively fished in the general vicinity of Cross Island, but only limited dragging takes place over the proposed site" (Exhibit 10, pp. 7-8).

Mr. Heinig presented a table summarizing his observations of lobsters, lobster buoys, and scallops from site videos taken on his six surveys: in June and November, 1996; May and October, 1997; October, 2006; and September, 2007 (the site was vacant and without any equipment from 1997 until May, 2006 (Exhibit 4, p. 31). In those six videos, he observed four lobsters, three lobster buoys, and 110 scallops. He also stated that in his experience aquaculture sites do not displace lobsters (Heinig, direct).

Taken as a whole, the testimony of these witnesses indicates that while some lobstering appears to have been conducted from time to time within the boundaries of the proposed expansion area, it has been of limited extent, certainly never approaching the level described in the Harbormaster's Questionnaire. While both the Harbormaster and Selectman Rose raised the issue that the additional loss of lobstering ground caused by the expanded lease would be difficult for the local fishermen to bear, no one appeared at the hearing to testify to this. Although Mr. Miller stated that lobstering could continue on the lease as long as it is conducted outside of the mooring grid, it is questionable whether lobstermen would wish to risk entangling their traps and lines with the mooring gear at the outer edges of the lease.

Given Mr. Heinig's evidence, it appears reasonable to conclude that as many as twenty traps might be displaced if the lease expansion is granted. Is the loss of twenty traps an

unreasonable burden for the Machiasport lobstermen? The evidence is not adequate to support a finding that this is the case. The weight of the evidence in the record thus supports the conclusion that the interference with lobstering that this additional lease area would cause is not unreasonable.

Lobstering will, as Mr. Miller indicated, continue to be allowed on the lease site, outside of the mooring grid itself. Dragging is prohibited within 300 feet of suspended aquaculture gear, pursuant to 12 MRSA §6957.[2]

2. Sea scallops & sea urchins. Mr. Day in his Harbormaster Questionnaire said that scallop and urchin dragging would also be displaced by the expanded lease, and Mr. Rose in his letter also referred to loss of scalloping ground. DMR biologists did observe dragging activities near the site in the course of their March site visit:

> On March 24, 2008 two commercial drag harvesters were noted fishing to the southeast of the proposed lease area – between the proposed expansion and Quaker Head (Figure 3). It appears that urchins and/or scallops were the targeted species. A third drag harvester was observed transiting between the proposed lease area and Cutler Peninsula. A fourth dragger was seen fishing near Chance Island to the northwest (Figure 1). Given the firm, gravel substrate within the southern portion of the extension it is likely that drag harvesting occurs there. No commercially exploitable levels of scallops or urchins, however, were observed within the proposed lease expansion. (Exhibit 3, p. 4)

To supplement their on-site observations, DMR staff reviewed bottom video of the site from the past two years of monitoring at the salmon farm and confirmed their conclusion that scallops do not exist at the site in commercially harvestable quantities. No sea urchins were observed at the site at the time of the site visit. (Exhibit 3, p. 4)

Thus, it appears from the evidence that scallops and urchins do not exist on the proposed lease site in commercially significant amounts. Therefore, expanding the lease site will not interfere unreasonably with scallop or urchin dragging.

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[2] **§6957. Fishing near floating equipment**

1. Prohibition. A person may not operate a vessel using drags, otter trawls, pair trawls, beam trawls, scottish seines or midwater trawls to fish for or take finfish, shellfish, sea urchins or any other marine organisms within 300 feet of any suspended culture floating cages, tray racks or other floating equipment authorized in a lease issued by the commissioner under section 6072, if the equipment is marked in accordance with subsection 1-A. [1995, c. 169, §2 (amd).]

1-A. Markings. The owner of a suspended culture floating cage, tray rack or other floating equipment shall mark the area in which a vessel is prohibited under subsection 1 with at least 4 anchors, each marked by a yellow buoy at least 2 feet in diameter. [1995, c. 169, §2 (new).]

2. Penalty. A violation of subsection 1 is a Class D crime, except that, notwithstanding Title 17-A, section 1301, the court shall impose a minimum fine of $1,000 that may not be suspended.

3. Other aquaculture leases. All Maine's finfish aquaculture sites lie in the waters off Hancock and Washington counties, from Swan's Island east to Cobscook Bay. Machias Bay is second only to Cobscook Bay in the number of finfish leases located there, all of which are owned by the applicant and its related companies. Mr. Miller testified that, besides the existing Cutler West site, Phoenix has four other active sites in Machias Bay: two at Cross Island, and one each at Starboard Island and Stone Island; an additional site at Libby Island is inactive at present (Miller, direct). The site report lists the distances between these sites and the proposed site; they range from 1.03 miles to 4.92 miles (Exhibit 3, p. 8).

Given that all of these sites are owned by the applicant or its affiliates, and that they are all a mile or more distant from the proposed lease site, it does not appear that the expanded site would interfere with other aquaculture operations in the vicinity.

The lease site must be marked in accordance with DMR Rule 2.80 to show its location and extent.[3]

Therefore, considering the number and density of aquaculture leases in the area, I find that the aquaculture activities proposed for this site will not unreasonably interfere with fishing or other uses of the area.

D. Flora & Fauna – Existing System Support

Of the flora and fauna observed at the lease site during the site visit, only mud or sand shrimp were observed in significant numbers. No lobsters, crabs, sea urchins, sea stars, or mussels were observed, although the March date of the visit was "suboptimal" for observing the crustaceans. The report indicates that harbor seals and grey seals use the surrounding areas of the Bay and notes that "a single harbor seal was observed swimming among the pens on the existing lease MACH CW", where a single net-pen contained salmon broodstock. While there is no indication that the expanded lease would interfere with the seals, the report notes that the

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[3] **2.80 Marking Procedures for Aquaculture Leases**

1. When required by the Commissioner in the lease, aquaculture leases shall be marked with a floating device, such as a buoy, which displays the lease identifier assigned by the Department and the words SEA FARM in letters of at least 2 inches in height in colors contrasting to the background color of the device. The marked floating device shall be readily distinguishable from interior buoys and aquaculture gear.

2. The marked floating devices shall be displayed at each corner of the lease area that is occupied or at the outermost corners. In cases where the boundary line exceeds 100 yards, additional devices shall be displayed so as to clearly show the boundary line of the lease. In situations where the topography or distance of the lease boundary interrupts the line of sight from one marker to the next, additional marked floating devices shall be displayed so as to maintain a continuous line of sight.

3. When such marking requirements are unnecessary or impractical in certain lease locations, such as upwellers located within marina slips, the Commissioner may set forth alternative marking requirements in an individual lease.

4. Lease sites must be marked in accordance with the United State's Coast Guard's Aids to Private Navigation standards and requirements.

reverse could be true and that husbandry and predator control will be particularly important measures in this lease location (Exhibit 3, p.p. 3-4).

No Essential or Significant Wildlife Habitats would be affected by the project, according to the Maine Department of Inland Fisheries and Wildlife. No eel grass or submerged aquatic vegetation was noted during the DMR site visit (Exhibit 3, pp. 7, 9).

Mr. Heinig testified that he has rarely seen any serious environmental impact from fish farming at the Cutler West site. He noted that in a well-oxygenated situation the additional carbon from fish feed and feces allows a diverse biota to thrive on the bottom below the pens. He said that the area of the proposed expansion is a reasonable site for finfish aquaculture, given the coarser bottom and the speed of the currents there (Heinig/Hamilton; Exhibit 4, pp. 35-37).

The Maine Department of Environmental Protection has granted a General Permit for Waste Discharge for the expanded site, according to Mr. Miller; this permit specifies the ongoing environmental monitoring requirements for the site (Miller, direct; Exhibit 4, p. 17).

Nothing in the evidence suggests that expanding the lease area would interfere unreasonably with the ecology of the site or with the plant and animal life that exists there.

Therefore, I find that 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

According to the report of the Machiasport Harbormaster, there are no government-owned beaches, parks, or docking facilities located within 1,000 ft. of the proposed lease site (Exhibit 1, Harbormaster's Questionnaire). He did note that the federal government, i.e., the U.S. Navy, owns a pier to the north of the site; as noted above (section 3A), that pier is 1400 ft. from the site. The Navy owns the shoreline adjacent to the lease site on the east, within 1,000 ft., but this land is not open to the public.

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

F. Source of Organisms

The application indicates that the sources of Atlantic salmon as stock for this proposed lease site are company-owned hatcheries in East Machias, Bingham, and Oquossoc.

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

G. Light

The application indicates that 100 submerged lights of 400 watts each might be used at the proposed lease site to control maturation of the fish (Exhibit 2, p. 6). The site report explains:

> The applicant has proposed the possible use of husbandry lighting to extend the photoperiod during winter months. The lights are submerged underwater and projected into the cages to prevent grilsing (early maturation) of salmon. These lights would not be projected above the surface and therefore visibility from surrounding areas would be minimal.

The application notes that a generator would provide power to the husbandry lights, if they are used, from November through May. Phoenix does not propose to work beyond daylight hours at the site, so only emergency work lighting would be required at the site (Exhibit 2, p.6). The site report notes that the U.S. Coast Guard may require navigational lighting on the site, but these would be aids to navigation, not illuminating devices (Exhibit 3, p. 6). Mr. Miller testified that the lease operations "will not result in undue adverse lighting, noise or visual impacts" (Exhibit 4, p. 40).

DMR Rule 2.37 (1) (A) (8) requires that beyond daylight hours, when work is necessary, "spotlights or floodlights may be used to ensure safe working conditions and safe vessel operation. Such lighting shall be directed only at the work area to be illuminated, and must be the minimum needed for safe operations." Husbandry lighting "shall be... operated at all times below the waterline, except during examination for maintenance and repair." Applicants are required to "demonstrate that all reasonable measures will be taken to mitigate light impacts from lease activities".

It appears from the evidence that the applicant's use of lighting at the site will comply with the restrictions contained in the rule. Under these circumstances, this constitutes "all reasonable measures" to mitigate light, and such light as is generated by operations on the site is unlikely to have a significant effect at the boundaries of the lease.

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

H. Noise

The application indicates that powered equipment in use at the site will include the feed barge, with a 4-cylinder diesel engine, and the work barge, which will both run daily for 8 hours in winter and up to 14 hours in summer. The net roller barge will run for a month each in late fall and spring. An outboard/inboard boat will run daily from April through November and as weather permits from December through March. A portable welder/generator will be used for welding for approximately 14 days each year, and the generator will power any husbandry lights

from November through May. A pressure washer will also be used. All equipment is equipped with mufflers, according to the application (Exhibit 2, p, 6).

The site report states that "noise levels would be comparable to other commercial fishing activities in the area" and would resemble those of the previous years of finfish operations at the existing site (Exhibit 3, p. 6). Mr. Miller testified that the operations would not create an adverse impact from noise (Exhibit 4, p. 40).

DMR Rule 2.37 (1) (A) (9) requires applicants to "demonstrate that all reasonable measures will be taken to mitigate noise impacts from the lease activities." The equipment will be muffled, and there are no "residences or areas of routine use on adjacent land", in the words of the rule. Under these circumstances, this constitutes "all reasonable measures" to mitigate noise, and such noise as is generated by operations on the site is unlikely to have a significant effect at the boundaries of the lease.

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

I. Visual Impact

Structures on the proposed lease site would be the same as those currently in place on the existing site, except that twelve more net pens would be added to the present eight pens. Twenty pens and a feed barge with less than 20 ft. of structure above the waterline when empty constitute the gear that would be visible on the site (Exhibit 2, p. 3). Cages will be black, nets will be red, bird netting is black, and the feed barge is "almond or gray" (Exhibit 2, p. 4). Mr. Miller testified that the operations would not create an adverse visual impact (Exhibit 4, p. 40). Several photographs appear in Exhibit 4 that depict the site, its present structures, and the area around it.

DMR Rule 2.37 (1) (A) (10) requires that structures on the lease site "be constructed so as to minimize the visual impact as viewed from the water" and that colors and materials "blend in with the surrounding area".

The only change from what now exists at the site is the additional pens. The barge meets the height limitations of the visual impact rule, and the colors of the equipment will blend in with the surrounding area as much as possible.

Therefore, I find that the proposed lease will comply with the visual impact criteria contained in DMR Regulation 2.37 (1) (A) (10).

4. CONCLUSIONS OF LAW

Based on the above findings, I conclude that:

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

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

3. The aquaculture activities proposed for this site will not unreasonably interfere with fishing or other uses of the area, taking into consideration the number and density of aquaculture leases in the area. The lease boundaries must be marked in accordance with the requirements of DMR Rule 2.80. Lobstering will be allowed on the lease site, outside of the mooring grid. Dragging is prohibited within 300 feet of suspended aquaculture gear, pursuant to 12 MRSA §6957.

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

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

6. The applicant has demonstrated that there is an available source of Atlantic salmon (*Salmo salar*) to be cultured for the lease site.

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

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

9. 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-A.

5. DECISION

Based on the foregoing, the Commissioner grants the requested lease of 35 acres to Phoenix Salmon US Inc. for ten years for the purpose of cultivating Atlantic salmon (*Salmo salar*) using net pen culture techniques. The applicant shall pay the State of Maine rent in the amount of $100.00 per acre per year. The applicant shall post a bond or establish an escrow account pursuant to DMR Rule 2.40 (2) (A) in the amount of $ 25,000.00, conditioned upon its performance of the obligations contained in the aquaculture lease documents and all applicable statutes and regulations. Once the new lease is executed, Maine Coast Nordic will apply to DMR to terminate their existing 10-acre lease.

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 MRSA §6072-A (15)[4]. 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 shall be incorporated into the lease:

1. The lease site must be marked in accordance with both U.S. Coast Guard requirements and DMR Rule 2.80.

2. The lessee is not to use the adjacent U.S. Navy shoreline, except if necessary in an emergency or to clean up errant gear or debris, as required by DMR Rule 2.75.

3. Lobstering will be allowed on the lease site, outside of the mooring grid itself. Dragging is prohibited within 300 feet of suspended aquaculture gear, pursuant to 12 MRSA §6957.

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[4] 12 MRSA §6072-A (15) provides that:

> "The commissioner may establish conditions that govern the use of the leased area and limitations on the aquaculture activities. These conditions must encourage the greatest multiple, compatible uses of the leased area, but must also address the ability of the lease site and surrounding area to support ecologically significant flora and fauna and preserve the exclusive rights of the lessee to the extent necessary to carry out the lease purpose. The commissioner may grant the lease on a conditional basis until the lessee has acquired all the necessary federal, state and local permits."

7. REVOCATION OF LEASE

The Commissioner may commence revocation procedures if s/he determines that substantial aquaculture has not been conducted within the preceding year or that the lease activities are substantially injurious to marine organisms. If any of the conditions or requirements imposed in this decision, in the lease, or in the law is not being observed, the Commissioner may revoke the aquaculture lease.

Dated: 12 June 2008

George D. Lapointe (Commissioner)
Department of Marine Resources