STATE OF MAINE
DEPARTMENT OF MARINE RESOURCES
Standard Aquaculture Lease Application
June 11, 2008

Glidden Point Oyster Co., Inc.
Docket # 2006-30
DAM-JP2

FINDINGS OF FACT, CONCLUSIONS OF LAW, AND DECISION

On December 29, 2006, the Department of Marine Resources ("DMR") received an application from Glidden Point Oyster Company, Inc., of Edgecomb, Maine, for a standard aquaculture lease on 7.75 acres located in the coastal waters of the State of Maine, in the Damariscotta River in the Town of Newcastle in Lincoln County, for the purpose of cultivating European/Belon oysters (*Ostrea edulis*), American/Eastern oysters (*Crassostrea virginica*), hard clams (*Mercenaria mercenaria*), and soft-shell clams (*Mya arenaria*) using bottom culture techniques. The application was accepted as complete on December 29, 2006. Five people intervened in this case: Sidney Geyer, David Gilbert, Donald Holmes, William House, and William Mook. After the application was held in abeyance for several months at the applicant's request, a public hearing on this application was held on March 18, 2008, in Damariscotta, 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 Newcastle and the Newcastle Harbormaster, members of the Legislature, representatives of the press, riparian landowners, and other private individuals. Notice of the hearing was published in the *Lincoln County News* on February 14, 2008 and March 6, 2008 and in the *Commercial Fisheries News* March 2008 edition.

Sworn testimony was given at the hearing by: the applicant, represented by Barbara Scully, its founder and owner; DMR's Aquaculture Environmental Coordinator, Jon Lewis; Paul Bryant, Harbormaster of Newcastle; and intervenors David Gilbert and William Mook. Ms Scully described the proposed project. Mr. Lewis presented his site report, including a video presentation showing the sea bottom on the site. Mr. Bryant testified to his observations concerning the site, and Messrs. Gilbert and Mook described their concerns about the project. Each witness was subject to questioning by the Department, the applicant, the intervenors, and members of the public. The hearing was recorded by DMR. The Hearings Officer was Diantha Robinson.

The evidentiary record before the Department regarding this lease application includes eight exhibits introduced at the hearing (see exhibit list below), the record of testimony at the hearing itself, and three written comments submitted by mail before the record closed, which are included in the record and accorded appropriate weight, given their status as unsworn statements not subject to questioning. The evidence from all of these sources is summarized below.[1]

LIST OF EXHIBITS

1. Case file, #2006-30.
2. Application signed and dated December 28, 2006.
3. DMR site report dated February 5, 2008.
4. Poster-size aerial photograph of lease site and vicinity, with the proposed lease and nearby existing leases marked.
5. Written testimony of Barbara Scully, 5 pages.
6. Copy of U.S. Army Corps of Engineers Permit #200212088 to Damariscotta & Newcastle Shellfish Committee.
7. Copy of cover sheet of DMR site report dated June 23, 2000, for experimental lease #2000-13E, application of Glidden Point Oyster Co., Inc.
8. Copy of DMR *proposed* (not final) aquaculture lease decision on application of Mook Sea Farm, Inc. for a 35-acre lease on the east side of the Damariscotta River opposite Perkins Point, unsigned, undated, with transmittal letter dated November 20, 1997. [*NOTE: this lease was never executed.*]

2. DESCRIPTION OF THE PROJECT

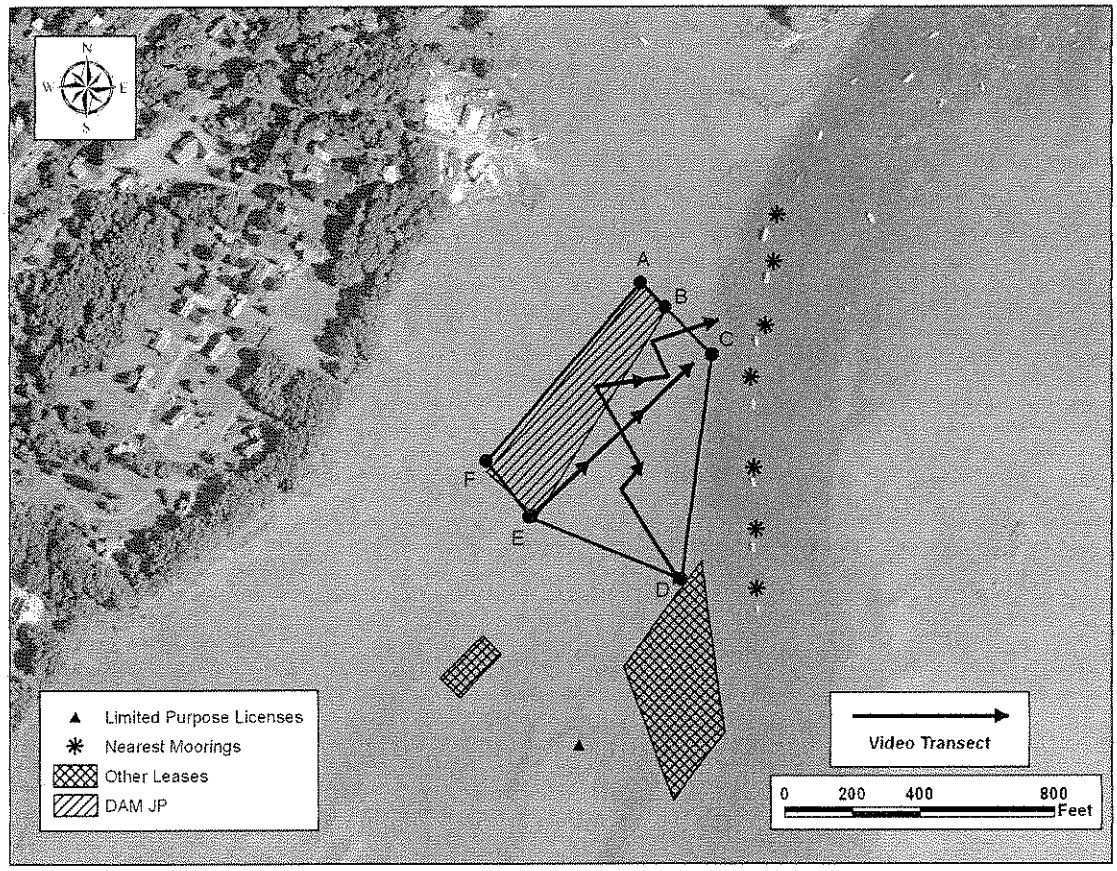
A. Site History

The proposed lease site lies on the bottom of the upper Damariscotta River, between the main channel and the western shore. The applicant currently holds a 2.29-acre suspended lease, DAM JP, originally granted in 1993, which lies above the western one-third of the proposed bottom lease. Barbara Scully testified that at the time she applied for the suspended lease, this area of the river was closed to shellfish harvesting, so she did not initially apply for a bottom lease in the same location (Scully testimony).

The DAM JP suspended lease has been operated since 1993 as a nursery site; the oysters are later planted on the bottom on Glidden Point Oyster Company's other lease sites downriver. According to DMR records, the suspended lease was originally operated in a nearby location closer to the main channel of the Damariscotta River from 1993 until 2003, when it was moved to

[1] [NOTE: The reference (Smith/Jones) means testimony of Smith, being questioned by Jones.]

its present location nearer to the western shore, corresponding more precisely with the location applied for and granted in the 1993 decision.



DMR Site Report, #2006-30, Figure 2- Proposed lease site off Jack's Point, Newcastle

B. Seeding of Oysters on the Proposed Lease Site

At some point in the later 1990s, after DAM JP was in operation, the western part of the upper Damariscotta River was opened to shellfish harvesting. Since Glidden Point moved the suspended lease to its present location, tiny seed oysters have at times fallen from the floating mesh bags onto the bottom and begun to grow there. As described by Ms Scully in her testimony,

> "Seed oysters fall through gear frequently, regularly, and sometimes due to storms, in large quantities. The reality of the situation is that it is operationally inefficient, and practically impossible, to recover oysters of a commercial scale until they have reached a size that can be harvested using traditional methods. Once oysters fall out of gear, you need to wait for them to grow to harvestable size to recover them effectively, hence the need for a bottom lease under my existing nursery lease" (Exhibit 5, p. 1).

Ms Scully explained that, once she realized that seed oysters had fallen onto the bottom below her suspended lease, given that the area is now open to shellfish harvesting, she planted additional seed oysters there, in order to produce a sufficiently large crop to make a harvest operation efficient (Scully testimony). It is legal in Maine to plant oysters on the bottom without

a lease, although such oysters are in the public domain and available for harvest by anyone with the appropriate licenses and other paperwork. As Jon Lewis testified, seeding a bottom area without a lease "is like putting dollar bills on the sidewalk" (Lewis testimony); nevertheless, that is what the applicant did.

In addition to the oysters now growing beneath the suspended lease, Ms Scully testified that a storm in 2006 with strong westerly winds caused gear at the eastern side of the suspended lease to break open, scattering more seed oysters on the bottom in what is now the middle one-third of the proposed bottom lease site. The eastern one-third of the proposed bottom lease site has not been seeded with oysters (Scully/Robinson). Thus, of the bottom area the applicant proposes to lease, the western one-third lies beneath DAM JP and is seeded with oysters, the middle one-third is also seeded with oysters, and the eastern one-third, nearest to the main channel, is not presently seeded.

C. Proposed Operations

The applicant proposes to continue to grow seed oysters on the DAM JP suspended lease, using the proposed bottom lease (and possibly other lease sites the applicant holds) to grow out the young oysters to market size. Ms Scully testified that she included soft-shell clams and hard clams in her application, because, as a shellfish dealer, she has been buying hard clams from wild harvesters and knows there is a market for them. She has seeded portions of the proposed site with hard clams, as well as oysters, and they do well there. If the bottom application is approved, she would add the two clam species to her suspended lease to start them from seed and then grow them out on the bottom lease. She has applied to grow European oysters, as well as American oysters, because she has grown them in the past, although seed for the Europeans is not presently available (Scully/Robinson).

According to the application, activities at the site will include one or two vessels of 13 ft. to 28 ft. in length operating on the site up to three days per week for durations of one to five hours during daylight. The lease will be monitored frequently, from one to seven days per week. No predator control methods are planned. Harvesting will take place up to three days per week, depending on weather. Harvesting will be done by dragging, snorkeling, diving, raking, and hand picking. Some sorting of oysters may be done at the site after harvest. After harvest, the oysters (and presumably clams, if any are grown) will be transported by boat to a permitted wet storage site.

D. Site Characteristics

The proposed lease site is located in the Damariscotta River, south of Jack's Point in Newcastle and approximately 2,000 ft. downriver from the Damariscotta-Newcastle bridge. As shown in the aerial photograph reproduced above from the site report, the proposed lease tract is an irregular polygon; its western side runs parallel with the western shore of the river, some 500

or more feet away, and its eastern side lies along the western edge of the main channel, which is about 51 feet away at its closest point (Exhibit 3, pp. 3, 5). The area around the site is open to the harvest of shellfish, although the area across the channel to the east is closed.

The site is subtidal, that is, it lies below the mean low water mark, as Mr. Lewis testified (Lewis, direct). The site is "uniformly flat and shallow", according to the site report. The bottom is firm mud littered with shell hash and occasional rocks; it is a continuation of the broad band of mudflats that lies between the channel and the western shore of the river, although the site itself is submerged at all but the very lowest tides. Currents are tidally-driven in a north-south direction, depending on the stage of the tide (Exhibit 3, p. 3). Depths on the site at mean low water range from 0.5 to 1.5 feet (Exhibit 3, pp. 5-6). The site report notes that "during drain or spring tides the tidal range can reach upwards of 11 feet, exposing the majority of the proposed area at low water" (Exhibit 3, p. 3).

According to the site report, the Damariscotta River is "relatively clean" with respect to red tide organisms (Paralytic Shellfish Poisoning), although toxic levels have rarely been found several miles downriver (Exhibit 3, p. 7). According to maps issued by the Maine Department of Inland Fisheries and Wildlife, there are no essential habitats for endangered and threatened species or islands considered significant habitats for seabird nesting within one-quarter mile of the site. The area of the proposed lease is classified as significant wildlife habitat for tidal waterfowl and wading birds by the Maine Department of Environmental Protection, but that department did not comment on the application, although it was sent a copy for review, as was the Maine Department of Inland Fisheries and Wildlife, which also did not comment.

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 the number and density of aquaculture leases in an area; with the ability of the lease site and surrounding areas to support existing ecologically significant flora and fauna; or with the public use or enjoyment within 1,000 feet of beaches, parks, or docking facilities owned by municipal, state, or federal governments. The Commissioner must also determine that the applicant has demonstrated that there is an available source of organisms to be cultured for the lease site; 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.

A. Riparian Access

According to the site report, no moorings were noted within the proposed lease boundaries. Numerous moorings lie to the north and east of the site. The Newcastle Harbormaster noted in his report that because the proposed lease is a bottom lease, it would not interfere with navigation, storm anchorages, or access by riparian owners. The nearest dock is over 500 ft. west of the site. There is ample room for navigation around the lease site when tide levels permit. Of the nine riparian owners who were notified of this application, two provided comments on other issues (one of these being the Harbormaster), but none asserted that his or her access would be hampered by this bottom lease. Riparian access to and from the water will not be affected by this 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

According to the site report, the majority of vessels using the upper Damariscotta River travel in the main navigational channel, particularly at low tide, as the extensive mud flats on both sides of the channel are either exposed or covered only by very shallow water when tide is low. The portion of the channel nearest the proposed lease site is a minimum of 375 ft. wide, so there is adequate room for vessels to navigate the channel in the vicinity of the lease at all tides.

As to navigating across the lease site itself, small boats, clammers travelling to the mudflats, kayaks, and similar craft are those most likely to traverse the lease site when tide permits, according to the site report (Exhibit 3, p. 6). Since the proposed lease is a bottom lease, the only gear associated with it will be the marking buoys, so it will not impede navigation by such vessels. The Harbormaster noted that the lease would not interfere with navigation.

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

C. Fishing & Other Uses

The main issue in this case is whether the proposed aquaculture activities would unreasonably interfere with fishing or other uses of the area. Four of the five intervenors assert that the project would interfere with commercial harvesting of clams and other shellfish by making the proposed lease area unavailable for harvest except by the applicant. The fifth intervenor asserts that dragging on the proposed bottom lease could have adverse effects on his aquaculture leases to the south of the site and that dragging should therefore be prohibited.

1. Shellfish harvesting. At the time of the site visit on Sept. 14, 2007, DMR biologists did not observe any fishing activity within the proposed lease area. No lobster buoys were located there, and the majority of trap fisheries takes place farther down river (Exhibit 3, p. 4). According to the site report, recreational fishing for striped bass is known to occur in the lease area, but since this is a bottom lease with no gear except marking buoys, there would be no significant effect on striper fishing from the proposed lease. (Gear will remain on the existing suspended lease site, DAM JP, however.) Recreational fishermen would need to avoid the area when diving or dragging is occurring on the proposed lease site, but the site report concludes that this would be only an "infrequent and temporary hindrance" (Exhibit 3, p. 4).

The proposed lease site is subtidal, as noted above. At mean low water, it is separated from the nearest exposed flats to the west by approximately 300 feet (horizontal distance) of seawater (Lewis testimony). These tidal flats to the west of the site are regularly used for the commercial harvest of soft-shell clams (Exhibit 3, p. 4). The site report notes that "Although considered subtidal, based on MLW depths, the proposed [lease] area is exposed during "spring" [or "minus"] tides and available for clam harvest roughly 1 week per month."

The extent to which the proposed site produces and is actually harvested for soft-shell clams on the limited occasions when it is exposed is at the heart of the dispute in this case. The conflict appears to stem from an incident described in the site report:

> In March of 2006 the Department was notified of an incident in which clam diggers were harvesting, during a minus tide, within the boundaries of the applicant's existing 2.29-acre suspended aquaculture lease (DAM JP). Because the lease was for suspended culture only, the commercial shellfish harvesters were found to be within their legal rights to harvest from the area providing the applicant's gear and product contained within was not disturbed (Exhibit 3, p. 4).

The applicant was apparently concerned that, in walking over the area to search for clams, the diggers might harm the oysters that had been seeded, accidentally and on purpose, on the site underneath her suspended lease. This incident led her to apply for the bottom lease which is the subject of this case. Glidden Point Oyster Co. now seeks the exclusive right to harvest shellfish from this site; as the site report notes:

> If [the proposed lease is] granted, oysters will be scattered directly on the bottom sediments and harvested once they reach market size. To protect farm product from being smothered by individuals walking on the tidal flats, the use of the area for commercial harvest of wild shellfish would likely be prohibited (Exhibit 3, p. 4).

In her testimony, Ms Scully stated that "Subtidal areas of the Newcastle shores are not now, nor have they ever been, productive areas for clam resource. The area of my proposed lease application has never had any commercially significant number of clams, even when the resource

was at its best" (Exhibit 5, p. 1; Scully, direct). She noted that when the area around the proposed lease was opened to shellfish harvesting after a long period of closure,

> The clam distribution [was]...the same that it is now, with greater abundance because it hadn't been dug, but basically Mother Nature had several years of opportunity to seed in clams where clams would grow if given the opportunity. The clam distribution was in greatest abundance in the high intertidal areas (closest to shore), tapering off extending into the mid-intertidal, and reducing in abundance approaching the lower intertidal.... [I]f clams would do well within the proposed lease boundaries, they would have been there in commercially significant numbers at the time when the area was 'untouched' and first available for harvest. They were not. (Exhibit 5, pp. 1-2)

Ms Scully testified that she chose the location for this bottom lease because (1) the area had not had a commercially significant number of soft-shell clams, (2) the clams that were there were too large to be readily marketable, (3) the site is subtidal and rarely exposed for harvest of clams, (4) it has not been seeded with clams by the Newcastle Municipal Shellfish Committee, and (5) whatever clam "broodstock" exists there would continue to produce seed that could grow on the intertidal flats where most clam harvesting occurs (Scully testimony). She noted that it would make no sense for the shellfish committee to seed the subtidal area with clams, as it is so rarely available to harvest.

Ms Scully also stated that in 2000, DMR approved an experimental suspended lease for her for an adjacent subtidal site, also along the edge of the more exposed flats (see also Exhibit 7). In granting this lease (which has since expired), and the suspended lease DAM JP, which was approved in 1992 and renewed in 2002, she noted that DMR "did not identify any conflict with existing commercially significant uses of the area" (Exhibit 5, p. 2).

The DMR site report notes that DMR biologists assessed the site in terms of clams and other shellfish present:

> During the Departmental SCUBA/video survey staff randomly ran their hands through the sediments searching for bivalve species. Hard shell clams (*Mercenaria mercenaria*) were commonly found throughout the proposed area. Soft-shell clams were only occasionally found; shell hash, however, was common. It is possible that divers did not find many clams due to burial depths greater than could be reached by hand. (Exhibit 3, p. 4)

Given the testimony of Ms Scully that she has seeded hard-shell clams on the site, as well as oysters, that may well be the source of the hard-shell clams found by the DMR divers.

The Newcastle Harbormaster, Paul Bryant, operates a boatyard on the western shore opposite the proposed lease site. He testified that he has seen only one clammer digging on the proposed lease site during minus tides, and that this clammer does not harvest "commercially significant" quantities of clams there. Most clamming, he said, takes place nearer shore,

especially along the shore near his property and to the south in the rocky cove northeast of Little Point, which was seeded by the Shellfish Committee and is clammed heavily; he described the proposed site, in terms of clamming, as "small potatoes" (Bryant testimony). In response to questions about the extent of his observation of activity on the proposed lease site, he explained that he is outdoors at his boatyard overlooking the site all the time from April into late fall, from 6:15 am to 7 pm, and when he is inside his boatshop in winter, he frequently observes the site through the windows (Bryant/Scully, Gilbert). Clammers digging in the area park on his driveway, he said, and walk across his land to reach the shore (Bryant/Geyer).

In his Harbormaster's Report, Mr. Bryant observed that "wild" oysters are now appearing along the shoreline above mean low water and expressed the opinion that these oysters are available for harvesters and are very "saleable". He has witnessed clam harvesters bringing ashore numerous sacks of these "wild" oysters per tide.

Mr. Gilbert, one of the intervenors, testified that he had dug clams on the site in the past, before there were oysters on the bottom, but he was not able to be specific about how often or when he has dug there, saying that he "has no concept of time", and that he has "been there every year – I don't know where I've been, I've been everywhere" (Gilbert/Robinson). In addition, there was some confusion about the location of his past digging in relation to the DAM JP suspended lease, since it has occupied two different locations in the same vicinity since 1992. Mr. Gilbert also stated that clammers generally dig closer to shore, along the bank, and that there was "a belt" of razor clams somewhere in the area of the proposed lease.

Ms Scully requested, as a gesture of good faith toward the clamming community, that if the lease were granted, DMR place a condition on it requiring her to pay the Newcastle Municipal Shellfish Committee a "lease fee" of $50 per acre per year to be used to enhance their shellfish management program (Scully testimony; Exhibit 5, p. 5).

Considering all of the evidence presented on the question of the soft-shell clam resource within the boundaries of the proposed bottom lease site, it appears that, while one digger frequently uses the site when it is accessible on minus tides, and it is possible that others may dig there occasionally, the site is not a significant soft-shell clam resource. It is subtidal and not often exposed for digging, except for brief periods at the lowest point of occasional minus tides. The majority of clams grow in the intertidal zones west of the site, closer to shore, where most clamming takes place. There was no evidence of regular, significant use of the site by other harvesters, and the Newcastle Shellfish Committee has apparently not included the area in its clam management activities. The evidence shows that the site produces few soft-shell clams and those that are there are larger than the clams normally harvested for commercial purposes.

While granting a bottom lease on this site will exclude shellfish harvesters from this 7.75-acre area, there are ample subtidal areas stretching along the western side of the river to the north and south of this site that are open to harvest whenever they are exposed at minus tides, and there

are at least 300 feet of accessible (and more productive) intertidal flats between the western boundary of the site and the western shore of the river.

As to Ms Scully's request for a condition requiring her to pay "rent" to the Newcastle Shellfish Committee, there is no authority in law for DMR to place such a condition on the lease, and the Shellfish Committee has no legal authority to require or receive "rent" payments on aquaculture leases. Ms Scully is free to make a voluntary contribution to the work of the Committee, outside of the realm of this proceeding.

2. Other aquaculture leases. According to the site report, there are currently 23 leases (123 acres) approved for the culture of shellfish within the Damariscotta River. Of this total, 50 acres are approved for the use of gear (suspended culture), i.e., floating oyster bags and other gear. The remaining 73 acres are designated for the free planting of oysters directly on the bottom; no gear, other than marking buoys, is permitted. Fifteen aquaculture sites (excluding lease DAM JP) are located north of Perkins Point and within two miles of Glidden Point's proposed bottom lease (Exhibit 3, p. 7). The presence of other aquaculture leases in the river downstream from the proposed bottom lease is relevant to the concerns about dragging raised by one of the intervenors, which are discussed below.

3. Dragging. The site report notes that the harvest methods proposed by Glidden Point, which include raking, hand picking, and dragging, have the potential "to result in the resuspension of sediments which may then be carried downstream to adjacent lease sites" (Exhibit 3, p. 7). Mr. Lewis testified at the hearing that oysters are "great purifiers", removing both food and sediment from the water, allowing more sunlight to enter the water column to enhance the production of algae, the food of oysters and of many other marine species. Oysters also reduce the levels of suspended sediments in the water, making the water clearer.

Many activities cause sediments to become suspended in the water, according to Mr. Lewis, including tidal flushing, wave action during storms, clam digging, walking on the flats, and dragging for shellfish, which occurs both on bottom lease sites and as a method of harvesting wild shellfish, particularly mussels, elsewhere in the river. He stated that oyster aquaculturists do "a lot of dragging", the sedimentation from which would harm their own shellfish farms before harming other aquaculture sites; he has never heard an oyster grower express concern about dragging his or her own sites. He explained that the depth that the drag penetrates the mud is important: "how neatly you can drag is the question"; and he noted that aquaculturists need to be conscious of the need for care in any dragging activities (Lewis testimony).

In answer to questions regarding the effect of the proposed lease on other species in the river (see section 3 D, below), Mr. Lewis testified that he has measured the amount of algae in the Damariscotta River and found it to be "huge". The Damariscotta is the most productive river in Maine, he said, and food, in the form of algae, is so abundant there that it is not a limiting factor

in this river, regardless of the number of oysters that would be added to the ecosystem on this proposed lease. Mr. Lewis testified that the river will reach its "social limits" before it will reach its "biological limits" (Lewis/Gilbert).

Ms. Scully testified that the firm mud on the bottom of the proposed lease will produce less sedimentation than would occur on a site with softer mud. She also noted the ability of oysters to filter sediments out of water, improving its clarity and reducing turbidity. She, like Mr. Lewis, said that many other forces at work in the Damariscotta River create higher rates of sedimentation than dragging does. In her experience raising oysters, she testified that they "are extremely tolerant of siltation", being "well adapted to live in shallow, high energy areas of ecosystems that often have high levels of suspended particulate matter due to frequent wind and wave action. Their place and role in the ecosystem is to filter feed, grow, and thrive in shallow, active, turbid waters. It's what they do best." (Exhibit 5, p. 4)

Ms Scully testified that she has seen no adverse effect on either her seed or market oysters from dragging on her own sites, where her oysters would be closer to any suspended sediments than would oysters on other leases elsewhere in the river. She has been present on the proposed lease site when Mr. Mook, an intervenor with leases 800 to 1,000 ft. downriver, has dragged his sites on an incoming tide, and she has not seen any sediment carried to her proposed site, nor has she experienced problems related to dragging on her other sites in the river. She requested that a condition be placed on the lease, if one is granted, limiting dragging on the site to 3 days per week (Exhibit 5, p. 4).

William Mook, an intervenor who operates several lease sites in the Damariscotta River, agreed with Ms Scully that oysters can process the silt from dragging activities without being harmed. He argued, however, that the turbidity created in the water column by dragging may block some of the sunlight necessary for algae growth and thus reduce the food supply for all creatures in the river. He testified that the shellfish industry is now conducting a study to see if this actually occurs, and he argued that no new dragging should be allowed in the Damariscotta River until the study is completed (Mook testimony).

Mr. Mook stated that although he drags his own leases often, it would be unfair for DMR to allow dragging on a new lease in the area, because it could harm existing leases. He stated that he would not limit his own dragging at this time, as he believes that if the state grants a lease, it has the responsibility to allow the lease to operate as effectively as possible and not allow new activities that harm existing ones (Mook/Cheney). He stated that he does not view dragging by wild harvesters as a problem; he believes that the harm arises from leaseholders on softer bottom who repeatedly drag on their sites (Mook/Scully). He questioned how a 3-day-a-week limit could be enforced (Mook/Robinson).

Mr. Mook was the only leaseholder in the river besides the applicant to testify at the hearing. Another leaseholder, Timothy Greene, did not testify but submitted a letter stating that his lease is surrounded by other leases that are routinely dragged. He states "I have seen no

negative effect on either my seed oysters (we grow over 1 million seed annually), or my market sized oysters, even though my site is surrounded by dragging areas of much softer mud than that of the proposed lease." (Exhibit 1, T. Greene letter dated March 12, 2008)

Taking all this evidence into account, and considering the number and density of aquaculture leases in the Damariscotta River, it does not appear that the effects of dragging in the Damariscotta River at this time are such that it should be prohibited on the proposed lease site in order to protect other leases in the river. There is no evidence that any oysters are being directly harmed by dragging, and three knowledgeable witnesses testified that oysters are well-adapted to deal with the effects of sedimentation and, indeed, to mitigate it.

According to Mr. Lewis, the Damariscotta has food in abundance, and Mr. Mook produced no evidence to show that dragging is having any impact upon the production of algae in the river. The study he referred to is not yet complete, and no evidence about it was presented, other than a statement that it is being conducted. Mr. Mook's theory about the effects of turbidity on light and algae production remains a theory; there is no evidence that oysters in the river are suffering from a lack of food (or from anything else), and so there is no evidence of harm to oysters on lease sites on which a restriction on dragging could be based. Ms Scully having requested a condition limiting her dragging activities to three days per week, however, that limitation will be included as a condition on the lease.

The lease must be marked in accordance with DMR Rule 2.80.[2]

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.

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[2] **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.

D. Flora & Fauna

As noted above (Section 2 D, Site Characteristics), the proposed lease area does not infringe on protected habitats regulated by the state. Various plant and animal species were observed on the site, according to the site report (Exhibit 3, p. 4), but the report did not note any potential harm to any of them from the proposed lease activities.

At the hearing, Mr. Gilbert questioned Ms Scully and Mr. Lewis about the effect of dragging on horseshoe crabs (which the site report noted as being common on the site). Ms Scully testified that she has not seen any horseshoe crabs in her drag, there are not significant numbers of crabs on the site, and that when the drag does go over one, it survives (Scully/Gilbert). In response to questions from Mr. House, she testified that soft-shell clams are not harmed by dragging, because the drag does not dig deeply enough into the mud to harm them (Scully/House).

Mr. Lewis testified that, although oysters could filter and consume clam larvae, the larvae at that stage are free-floating and wash out and move with the tide, so they are not a major portion of the oysters' food supply and hence are not threatened by them. While dragging could theoretically hamper clam reseeding, he said, as a whole, it is not detrimental to the clam population in the Damariscotta River (Lewis/Gilbert). As noted above in Section 3 C, Mr. Lewis testified that food is abundant in the Damariscotta River for all the shellfish that exist there. Dragging would harm eelgrass, he stated, but none is present on the site (Lewis/Gilbert).

Mr. Gilbert testified that he believed that aquaculture leases cause a decline in the number of horseshoe crabs, and that dragging kills eel grass, razor clams, and crabs. He advocated eliminating dragging in favor of other harvesting techniques, such as diving and raking (Gilbert/Robinson, Scully).

As discussed above in Section 3 C, the evidence in this case does not support a limit on dragging on this lease site in order to protect other leases in the river. Likewise, the evidence does not support a finding that dragging would "unreasonably interfere with the ability of the lease site and surrounding areas to support existing ecologically significant flora and fauna", which is one of several legal criteria that DMR is charged to consider in determining whether to grant this lease. As noted above, however, the applicant has requested that a condition be placed in the lease limiting dragging to three days per week, and that will be done.

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 Newcastle Harbormaster, there are no government-owned beaches, parks, or docking facilities located within 1,000 ft. of the proposed lease site (Exhibit 1).

The Damariscotta Public Landing is located approximately 0.4 mile (more than 2,000 ft.) to the northeast of the proposed site (Exhibit 3, p. 5).

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 seed stock for this proposed lease site are Sandy Cove Hatchery in Harrington, Maine, and Pemaquid Oyster Co., of Waldoboro, Maine. Ms Scully testified, however, that seed stock of European/Belon oysters (*Ostrea edulis*) is not currently available. Consequently, this species will not be approved for this lease, but the applicant can apply for a species amendment to add it if seed does become available.

Therefore, I find that the applicant has demonstrated that there is an available source of American/Eastern oysters (*Crassostrea virginica*), hard clams (*Mercenaria mercenaria*), and soft-shell clams (*Mya arenaria*) to be cultured for the lease site.

G. Light

The application indicates that no lights will be used at the proposed lease site (Exhibit 2, section 2 (b)). The applicant can thus be considered to have taken all reasonable measures to mitigate light impacts from the lease activities.

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 boats and a small salt water pump for cleaning will be the only powered equipment in use at the site. The pump is a smaller, quieter one than was previously used by the applicant, and "efforts will be made to reduce noise impact". The equipment will be used only during harvesting, and vessels will only remain at the site beyond daylight hours in the event of a breakdown or emergency (Exhibit 2, sec. 2 (b)).

By using a quieter pump and minimizing the use of sound-generating equipment at the site, the applicant has taken all reasonable measures to mitigate noise caused by activities on the lease site. Any noise 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

Since this is a bottom lease, there will be no permanent gear visible on the site, other than marker buoys, and navigational aids will not be required.

Therefore, I find that the proposed lease will comply with the visual impact criteria contained in DMR Regulation 3.37 (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. Dragging and shellfish harvesting by anyone other than the leaseholder are prohibited on the site. Dragging by the leaseholder is limited to 3 days per week, Sunday through Saturday. Fishing for finfish with hand lines and rods and reels is permitted, provided it does not interfere with harvesting activities on the site. The lease boundaries must be marked in accordance with the requirements of DMR Rule 2.80.

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 American/Eastern oysters (*Crassostrea virginica*), hard clams (*Mercenaria mercenaria*), and soft-shell clams (*Mya*

arenaria) to be cultured for the lease site. The applicant has not demonstrated that there is an available source of European/Belon oysters (*Ostrea edulis*), and therefore this species will not be authorized to be cultured on the 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 7.75 acres to Glidden Point Oyster Company, Inc. for ten years for the purpose of cultivating American/Eastern oysters (*Crassostrea virginica*), hard clams (*Mercenaria mercenaria*), and soft-shell clams (*Mya arenaria*) using bottom 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 $ 500.00, conditioned upon its performance of the obligations contained in the aquaculture lease documents and all applicable statutes and regulations.

6. CONDITIONS TO BE IMPOSED ON LEASE

The Commissioner may establish conditions that govern the use of the lease area and impose limitations on aquaculture activities, pursuant to 12 MRSA §6072-A (15)[3]. Conditions are

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[3] 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 neceszary federal, state and local permits."

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. Dragging and shellfish harvesting by anyone other than the leaseholder are prohibited on the site.

3. Dragging by the leaseholder is limited to 3 days per week, Sunday through Saturday.

4. Fishing for finfish with hand lines and rods and reels is permitted, provided it does not interfere with harvesting activities on the site.

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 Jun 2008

George D. Lapointe (Commissioner)
Department of Marine Resources