

**STATE OF MAINE**  
**DEPARTMENT OF MARINE RESOURCES**  
Experimental Aquaculture Lease Application  
Bottom & Suspended Culture of Shellfish  
Goose Marsh Pond, Mt Desert

**Joseph Porada d/b/a**  
**Egypt Bay Seafarms**  
Docket # 2009-06E  
GMP MDI  
December 1, 2009

### **FINDINGS OF FACT, CONCLUSIONS OF LAW, AND DECISION**

On February 12, 2009, the Department of Marine Resources (“DMR”) received an application from Joseph Porada, d/b/a/ Egypt Bay Seafarms, for a three-year experimental aquaculture lease on 1.62 acres located in the coastal waters of the State of Maine in Goose Marsh Pond in the Town of Mt. Desert in Hancock County, for the purpose of cultivating hard clams (*Mercenaria mercenaria*), soft-shell clams (*Mya Arenaria*), American oysters (*Crassostrea virginica*), and European oysters (*Ostrea edulis*), using suspended and bottom culture techniques. In the course of the proceeding, all species except *Mercenaria mercenaria* were eliminated from the lease proposal. The application was accepted as complete on May 1, 2009. No one intervened in this case. A 30-day public comment period was advertised, and because five or more requests for a hearing on this experimental lease were received, a public hearing on this application was held on September 30, 2009, in Northeast Harbor in Mt. Desert.

#### **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 various educational institutions, aquaculture and environmental organizations, the Town of Mt. Desert and the Mt. Desert Harbormaster, members of the Legislature, representatives of the press, and private individuals, including all riparian landowners within 1,000 feet of the proposed site. Notice of the 30-day comment period was published in the *Village Soup* newspaper on May 28, 2009, and notice of the public hearing was published in the *Village Soup* on August 27 and September 17, 2009, as well as in the *Commercial Fisheries News* for September, 2009.

The evidentiary record before the Department regarding this lease application includes five exhibits introduced at the hearing (see exhibit list below), many written comments submitted by mail and by e-mail, and the record of testimony at the hearing itself. Testimony was given at the hearing by: the applicant, Joseph Porada; DMR’s Aquaculture Environmental Coordinator, Jon Lewis; DMR’s Supervisor of Municipal Shellfish Management, Denis-Marc Nault; Dr. Brian Beal of the Downeast Institute and the University of Maine at Machias; and John Stanley, a

fisherman and riparian landowner on Goose Marsh Pond. Each witness was sworn and subject to questioning by the Department, the applicant, and members of the public. Questions were asked by John Stanley, Jock Crothers, Michael Pancoe, George Gray, Ellie Pancoe, and Peter Grace. The hearing was recorded by DMR. The Hearings Officer was Diantha Robinson. The evidence from all of these sources is summarized below.<sup>1</sup>

## **LIST OF EXHIBITS**

1. Case file, # 2009-06E
2. Application, signed and dated February 2, 2009
3. DMR site report, dated July 15, 2009
4. Site plan by Joseph Porada showing revised gear layout (8.5 in. x 11 in.). [*A copy is reproduced below on page 4.*]
5. Site plan and revised gear layout (24 in. x 30 in.) drawn by Joseph Porada.

## **2. DESCRIPTION OF THE PROJECT**

The goal of the experiment is to examine the relationship between stocking density, size, transplant date, survival, growth, biomass, and predator exclusion for *Mercenaria mercenaria* (hard clams or quahogs), and also to evaluate the potential of the site for culturing these shellfish on a commercial scale (Application, pp. 1-4). Mr. Porada currently holds three experimental leases on six acres nearby in Goose Cove, Trenton, where he conducts similar research with *Mercenaria mercenaria*. Dr. Brian Beal of the Downeast Institute for Applied Marine Research and Education and the University of Maine at Machias is an advisor to Mr. Porada on his projects but is not a party to the leases or lease applications.

As initially proposed, Mr. Porada's project involved four species of shellfish (hard clams, soft clams, American oysters, and European oysters) and several types of gear (nets, soft bags, growing cages, plant pots, tray racks, and plastic buckets) to be deployed on the site at different times and in various configurations over the course of the lease term (Application, pp. 2-5). During the Department's review of his application, Mr. Porada responded to the concerns of the riparian landowners at Goose Marsh Pond by revising his project. The result was described in a statement distributed with the hearing notices sent by the Department as described above.<sup>2</sup> The revised project, as described below and which was explained and discussed at the public hearing, is the focus of this decision.

### **A. Proposed Operations**

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

<sup>2</sup> The statement was drafted by the Hearings Officer and agreed to by Mr. Porada; see his 8-14-09 e-mail in the case file, Exhibit 1.

Mr. Porada testified that the only shellfish species to be cultured on this site will be hard clams or quahogs, *Mercenaria mercenaria*. Tray racks will not be used. The gear to be used will consist of nets approximately 10 feet by 14 feet, framed in rebar, with a height of approximately two to three inches, and mesh shellfish bags measuring 36 inches long by 18 inches wide by 4 inches high.

The research method will be to divide the site into four quarters, running east-west, as shown on Exhibit 4 (reproduced on page 4 below). Quarter "B" will be bottom-planted with quahogs in the spring of the first year of the lease, and the quahogs will be left to grow on this quarter for the duration of the lease term (three years), with no gear or other intervention.

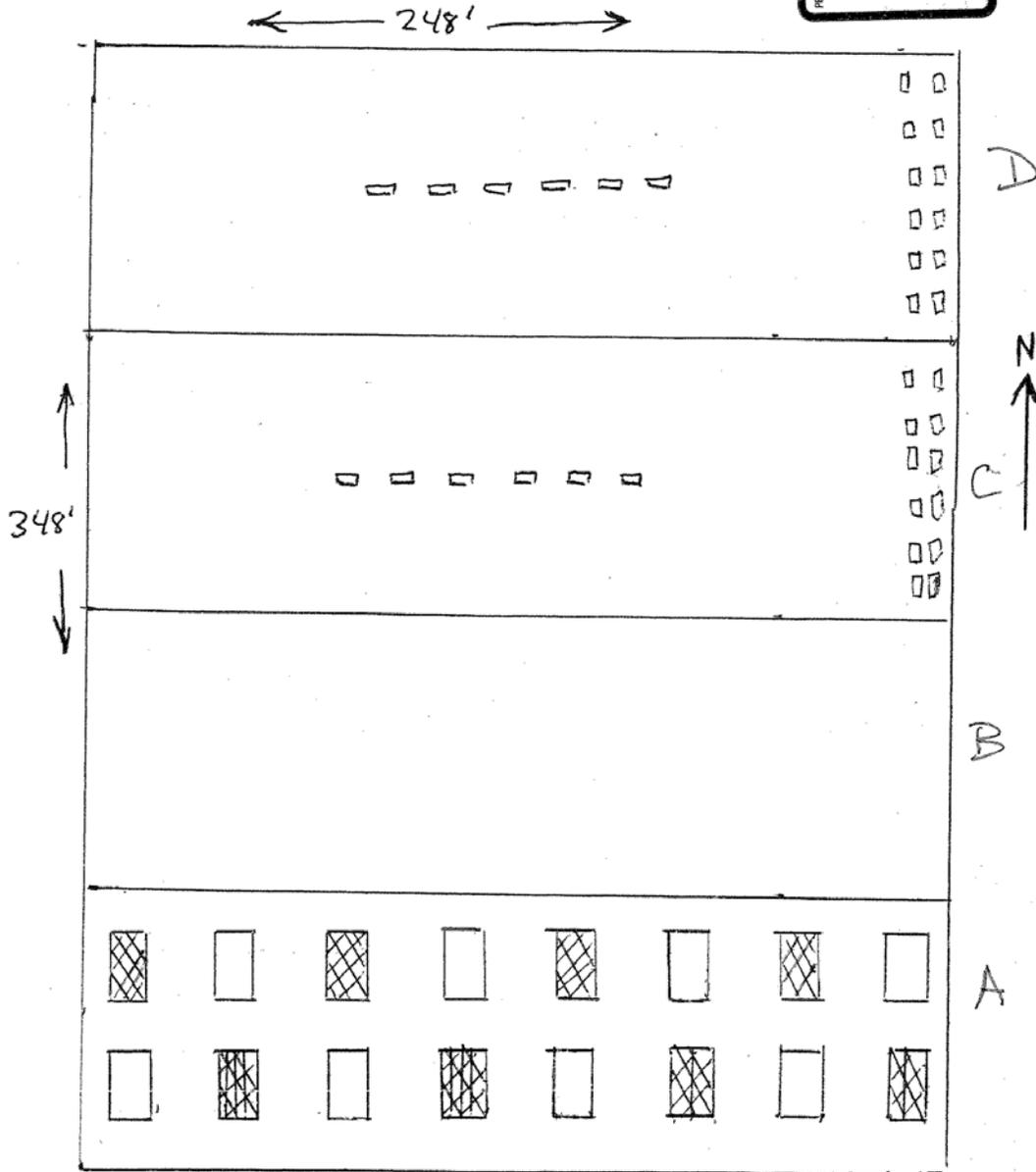
The remaining three quarters of the site will be planted with quahogs, one quarter in each year of the lease term. The quahogs will be set out in 16 plots, each measuring 14 feet by 20 feet. Eight of these plots will be covered with two nets each during the year of planting; these are shown on Exhibit 4 as cross-hatched rectangles on Quarter "A". The other eight plots of quahogs will not be netted; these are shown on Exhibit 4 as blank rectangles on Quarter "A".

The corners of the un-netted plots will be marked with strips of wooden lath eight to ten inches long, with 1.5 - 2 inches of each strip projecting above the surface. The rebar framing will hold the nets in place, and small corks or pieces of plastic foam will be attached to the netting to keep it afloat (Porada, testimony).

The combination of netted and un-netted plots will be used on only one quarter of the site each year. As shown on Exhibit 4, Quarter "A" will be planted and netted in this manner in year 1, Quarter "C" in Year 2, and quarter "D" in year 3 (Exhibit 4). The other plots will be left to grow, if they have previously been planted, or they will remain unplanted. All gear, including bags, nets, and markers, will be removed each November. Maximum height above the bottom of any gear on the site will be approximately four inches (Porada, testimony).

A maximum of 36 plastic mesh shellfish bags will be used on the site as nursery cages and/or holding pens for very small quahogs during the first year of the project. These bags will not float on the surface; they will be lashed to the bottom on Quarters "C" and "D" in the configuration shown on Exhibit 4, i.e., in the center of the quarters where the water is shallower and along the east sides in deeper water, to test the growth of the shellfish under conditions of greater and lesser water flow. The bags are represented on Exhibit 4 by the small blank rectangles on those two quarters (Porada, testimony).

EXHIBIT  
1-30-09  
4  
# 2009-06E



$\frac{1}{2}'' = 19'$

Seed will be planted at a density of approximately 15 *Mercenaria* per square foot or 150,000 clams per quarter of the lease site, which Mr. Porada, Mr. Lewis, and Mr. Nault all testified is a low density for aquaculture (Porada/Ellie Pancoe; Lewis/Ellie Pancoe; Nault/Ellie Pancoe). Harvesting will be done on foot, by hand or with a bull rake (Porada/ Gray).

Mr. Porada will gain access to the cove by boat, departing from private property elsewhere on Mt. Desert Island which he has written permission to use.<sup>3</sup> He will use his small motorboat to reach the waters of Squid Cove, north of the mouth of Goose Marsh Pond, where he will leave his boat and enter the pond by foot, canoe, or rowboat. He will, however, use his motorboat to bring the rebar-framed nets to the site at high tide, because at 50-60 lbs. each, they are too heavy to carry in by hand or small boat (Porada, testimony).

Other details of the proposed operation are described in the sections below.

## **B. Site Characteristics**

The proposed experimental lease is located in Goose Marsh Pond, in the Pretty Marsh area of the Town of Mt. Desert. The DMR site report describes the pond as:

“a semi-isolated body of water of approximately 30 acres in size. Water flow in and out of the ‘pond’ occurs over a bar at the extreme north end of the ‘pond’ and low water is generally 2 to 2.5 hours later than the open tidal waters of northeastern Blue Hill Bay” (Site Report, p. 2).

The lease site occupies 1.62 acres on the west side of the pond, approximately half-way between the north and south ends. Mr. Lewis testified that the site is subtidal, as he visited it at low tide on a mean low tide (a height of 0 ft. 0 in.) and observed three inches of water covering the site. The western portion of the site contains fairly shallow water, while on the east portion the depths increase, bordering the deepest area of the pond. The application states that depth at high water is less than ten feet (Application, p. 7). Mr. Lewis noted that the pond has “a tremendous flush”; that is, it empties out almost completely twice a day, bringing in new water, with new algae and new oxygen (Lewis, testimony).

The pond is almost completely enclosed by wooded land, with some areas of open field. Houses ring the pond, and it is clear from the many comments submitted by riparian landowners that the pond is used for boating and swimming and is appreciated by the riparians for its beauty, its seclusion, and its wildlife. The water quality in the pond is rated by the Department’s Water Quality Classification Program as “open for the harvest of shellfish” (Site Report, p. 5).

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<sup>3</sup> See permission form dated July 22, 2009 from Matthew Gerald in the case file, Exhibit 1.

### **3. STATUTORY CRITERIA & FINDINGS OF FACT**

Approval of experimental aquaculture leases is governed by 12 M.R.S.A. §6072-A. This statute provides that a lease may be granted by the Commissioner of DMR 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.

#### **A. Riparian Access**

As noted above, Goose Marsh Pond is a small, enclosed, shallow tidal water body with a small area of deeper water approximately in the center. The site report notes that “the deepest part of the pond is located between the proposed lease site and the two docks” located some 500 feet to the east of the site (Site Report, p. 3). Six Grand Banks herring dories belonging to Mr. Stanley were on moorings in this deeper area approximately 200 feet east of the site at the time of the site visit, and Mr. Stanley noted that he also owns a larger boat which he moors and uses in the pond.

The site report notes that the shallowness of the pond limits its use at low tide:

Use of the pond at low water by other than hand-carried vessels would be extremely limited outside of the deep water to the east. At low water (0.0'), approximately 3 inches of water remains over the proposed lease site. Most, if not all, riparian landowners would transit through the deep water to the east of the proposed site or would be accessing their properties during high tidal stages.... Ingress and egress by riparian property owners would either not be affected, or would be minimally affected, by this proposal (Site Report, p. 3).

As the site report makes clear, there is ample room between the site and the nearest docks and moorings for riparians to gain access to their facilities, and the project does not block access between the neighboring shore and the pond. No contrary evidence was presented at the hearing.

**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**

Before the hearing, landowners around the pond expressed concern that Mr. Porada's gear would hinder their boating and swimming activities (see comment letters and e-mails in the case file, Exhibit 1). Mr. Porada led a number of them on a visit to his lease sites in nearby Goose Cove, where the height of the nets in the water column apparently caused additional concerns. Working with the riparians, Mr. Porada modified his proposed project significantly, removing

most of the proposed gear and devising the rebar framing system to keep the nets taut and lower in the water column. As a result, Mr. Lewis noted that with all of the gear reduced to less than five inches above the bottom, he saw no likelihood that the project would interfere with navigation (Lewis, testimony). Mr. Stanley testified that his boat, with a four-foot draft, would not snag Mr. Porada's nets on its propeller, given that the nets will project less than five inches above the bottom (Stanley/Porada).

Mr. Porada testified that the netting used on his lease sites in Goose Cove, which projects farther into the water column, is installed using a different system, not the rebar framing that he plans to use at the Goose Marsh Pond site (Porada, testimony). The highest-profile gear on the site will be the 36 4-inch-high shellfish bags used only during the first year of the project. All gear will be removed from the site by November 1 of each year and reinstalled in the spring, so the site will be clear of all gear for at least half the year. The maximum amount of netting on the site at any one time will be that covering eight 14-ft. by 20-ft. plots in one-quarter of the site (Porada, testimony).

No evidence was presented at the hearing to suggest that the gear, as modified, poses an unreasonable risk to navigation. Navigation across the site at low tide is practically impossible, and when water levels are deep enough for boats to safely cross the site, the gear is of such a low profile that it is not likely to present a hazard.

**Therefore, I find** that the aquaculture activities proposed for this site will not unreasonably interfere with navigation. The lease site must be marked in accordance with any requirements of the U.S. Coast Guard.

### **C. Fishing & Other Uses**

According to the site report and to comments at the hearing, little fishing activity now occurs in Goose Marsh Pond. Worm diggers work in the southern part of the pond, but Mr. Nault advised that wormers dig only in the intertidal zone.<sup>4</sup> The Town of Mt. Desert does not allow commercial soft-shell clam harvesting and only allows recreational soft-shell clam harvesting in the winter, according to Mr. Nault. According to the site report, harvesting of quahogs and soft-shell clams in the pond is "reportedly greatly diminished from historical levels"; hence Mr. Porada's efforts to learn if quahogs can be re-established there (Site Report, p. 4). Mr. Stanley and Mr. Porada testified to having occasionally observed an urchin dragger in the pond.

**1. Exclusive Use.** Mr. Porada stated that he does not plan to mark the site to prohibit dragging within 300 ft., as provided in 12 M.R.S.A. §6957. He requests, however, that dragging be prohibited on the lease site, as well as shellfish harvesting by anyone other than himself or his authorized agents (Porada/Robinson).

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<sup>4</sup> E-mail dated November 18, 2009 to Diantha Robinson, et al.; copy in case file, Exhibit 1.

Clearly, Mr. Porada's quahog-planting experiment will not displace any established fishing activity in the pond. Because dragging and shellfish harvesting by others could destroy his experiment, they will be prohibited. The lease must be marked in accordance with DMR Rule 2.80.<sup>5</sup> Mr. Porada testified that he will use the smallest possible lobster buoys, consistent with DMR requirements, to mark the site in order to minimize the visual impact of his project (Porada, testimony).

**2. Other aquaculture leases.** No other aquaculture activity takes place in Goose Marsh Pond. The nearest leases lie three miles to the south of the site, on the east side of Hardwood Island in Blue Hill Bay; they are for the suspended culture of blue mussels (BHB HI1 and HI2). Two other suspended mussel leases lie approximately four miles to the west of the site, on the east side of Long Island in Blue Hill Bay (BHB LI2 and LI3). Mr. Porada's three experimental lease sites for culture of quahogs (BHB GC1, GC2, and GC3), similar to the proposed lease, lie approximately five miles to the north. The activities proposed for the Goose Marsh Pond site would have no effect upon any of these sites (Site Report, p. 4).

**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**

According to the site report, the bottom of Goose Marsh Pond contains very little flora and fauna "and none in commercially exploitable quantities". There are no Essential Habitats within one-quarter mile of the proposed lease site. The pond is designated as a Significant Habitat for Tidal Waterfowl and Wading Birds (Site Report, p. 5).

One riparian, Ellie Pancoe, asked whether the proposed project could harm the environment of the pond. Mr. Lewis responded by stating that the benefit of adding the quahogs

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#### <sup>5</sup>**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.

to the environment of Goose Marsh Pond far outweighs any risk from disturbing the mud to harvest them. While in theory smaller birds could become entangled in the nets, he said he had never seen this occur. He observed that any problems arising from this project in Goose Marsh Pond are of a social, not a biological nature (Lewis/Ellie Pancoe). Mr. Porada stated that he has never seen birds tangled in the nets at Goose Cove, which are looser than those planned for the pond site (Porada/Ellie Pancoe).

Dr. Beal testified that planting hard clams on the proposed lease site will not interfere with the growth of any soft-shell clams in the area, as the two species do not compete with one another (Beal/Crothers). He noted that nets are commonly placed on the mud flats for soft-shell clam re-seeding projects in the intertidal zone, and those nets must be loose enough to billow, as they do on Mr. Porada's Goose Cove site, so that they project into the water column far more than will the nets proposed for this site. He said he has never seen birds tangled in such netting and agreed with Mr. Lewis that this project will not cause any harm to the environment in the pond (Beal, testimony).

Mr. Nault testified that there are few soft-shell clams on the proposed lease site because they live primarily in the intertidal zone, not the subtidal area, particularly in the down east region of the Maine coast. Hard clams or quahogs (*Mercenaria*) dwell in the subtidal zone, according to Mr. Nault. He stated that the addition of the hard clams to the pond will increase biological diversity there, help to stabilize the environment, and clean the water. He noted that the entire pond could be planted with quahogs at a density of 25 per square foot, far more than the 15 per square foot Mr. Porada has proposed, with no problems.

It is clear from this evidence that not only will the quahog project not harm any existing flora or fauna in the pond, it is quite likely to improve the ecosystem of the pond by increasing its diversity and improving the water quality.

**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 Mt. Desert Harbormaster, there are no government-owned beaches, parks, or docking facilities located within 1,000 ft. of the proposed lease site (the Harbormaster's Report is contained in case file, Exhibit 1).

**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**

According to the application, the source of stock will be the Downeast Institute in Beals, Maine, and other certified Maine growers and hatcheries.

**Therefore, I find** that the applicant has demonstrated that there is an available source of quahogs/hard clams (*Mercenaria mercenaria*) to be cultured for the lease site.

#### **4. CONCLUSIONS OF LAW**

Based on the above findings, I conclude that:

1. The aquaculture activities proposed for this site will not unreasonably interfere with the ingress and egress of any riparian owner.
2. The aquaculture activities proposed for this site will not unreasonably interfere with navigation. The lease site must 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 or his authorized agents, will be prohibited on the lease 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 quahogs/hard clams (*Mercenaria mercenaria*) to be cultured for the lease site.

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

#### **5. DECISION**

Based on the foregoing, the Commissioner grants the requested limited-purpose (experimental) lease of 1.62 acres to Joseph Porada, d/b/a Egypt Bay Seafarms, for three years, the term of the lease to begin within twelve months of the date of this decision, on a date chosen by the applicant;<sup>6</sup> however, no aquaculture rights shall accrue in the lease area until the lease is

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<sup>6</sup> DMR Rule 2.64 (14) provides:

fully executed. This lease is granted to the applicant for the purpose of cultivating quahogs/hard clams (*Mercenaria mercenaria*) using suspended and 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), conditioned upon his 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)<sup>7</sup>. 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. Dragging, and shellfish harvesting by anyone other than the leaseholder or his authorized agents, are prohibited on the lease site.

**7. REVOCATION OF LEASE**

The Commissioner may revoke this aquaculture lease if s/he determines that there has been no substantial research conducted on the site within the preceding year; or if research has been conducted in a manner injurious to the environment or marine organisms; or if any other lease condition or terms of DMR regulations or any applicable law has been violated (DMR Rule C. 2.64 (13)).

**Dated:** 12/03/09

/s/ George D. Lapointe  
**George D. Lapointe (Commissioner)**  
**Department of Marine Resources**

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

<sup>7</sup> 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.”