

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
COASTAL RESOURCES MANAGEMENT COUNCIL
Oliver Stedman Government Center
4808 Tower Hill Road, Wakefield, RI 02879

PUBLIC NOTICE

File Number: 2011-12-048 Date: December 23, 2011

This office has under consideration the application of:

William and Amanda Garrahan
2840 Hartford Avenue
Unit A
Johnston, RI 02919

for a State of Rhode Island Assent to construct and maintain: a 0.5 acre aquaculture farm to grow oysters in cage culture and littlenecks in the bottom. Please see attachments.

Project Location:	Ninigret Pond
City/Town:	Charlestown
Waterway:	Ninigret Pond

Plans of the proposed work may be seen at the CRMC office in Wakefield.

In accordance with the Administrative Procedures Act (Chapter 42-35 of the Rhode Island General Laws) you may request a hearing on this matter.

You are advised that if you have good reason to enter protests against the proposed work it is your privilege to do so. It is expected that objectors will review the application and plans thoroughly, visit site of proposed work if necessary, to familiarize themselves with the conditions and cite what law or laws, if any, would in their opinion be violated by the work proposed.

If you desire to protest, you must attend the scheduled hearing and give sworn testimony. A notice of the time and place of such hearing will be furnished you as soon as possible after receipt of your request for hearing. If you desire to request a hearing, to receive consideration, it should be in writing (**with your correct mailing address, e-mail address and valid contact number**) and be received at this office on or before January 23, 2012.

**Application for Aquaculture Lease
Ninigret Pond, Charlestown, RI**

Operation Plan & RICRMP §300.11 Responses

Eastern oysters (*Crassostrea virginica*) and quahaugs (*Mercenaria mercenaria*) are native to Charlestown's Ninigret Pond (NP), and small-scale culture of these species is demonstrably commercially viable in Rhode Island. Likewise, responsible shellfish aquaculture has been shown to have net positive effects on the environment: grow-out cages create micro-sanctuaries for juvenile fish, crabs, and other marine organisms, and the filtration provided by the growing oysters benefits water quality and clarity.

Beginning in 2010, we conducted a commercial viability trial in Ninigret Pond. We conclude that the selected site is viable as a small-scale aquaculture enterprise and produces minimal scenic impairment and no irreversible environmental harm to the lease area, consistent with the policies and laws of the State of Rhode Island.

As a result of the positive commercial viability trials, in 2011, we organized a Rhode Island limited liability company, Pawaget Oyster Company (POC), to carry on business as a grower and packer of live molluscan shellfish.

Accordingly, then, this is an application to proceed forward to a "full" lease for oyster and quahaug aquaculture of approximately 0.5 (1/2) acres to encompass our current commercial viability lease (pursuant to R.I. Gen. Laws Ann. §20-10-6 (West 1956) and R.I. Coastal Res. Mgmt. Program ("RICRMP") §§ 300.1 and 300.11(F)).

As part of this application process, a preliminary determination (PD) meeting was held on November 7, 2011 in conjunction with the Charlestown Coastal Ponds Management Commission (the findings of which are memorialized in Report of Findings – Preliminary Determination, dated November 8, 2011 by David Beutel).

The following information is provided pursuant to the CRMC Application Check-list (at pp. 19-20 of "Guide to Aquaculture Lease Application"), RICRMP §300.11(D) ("Additional Category B requirements"), and in response to concerns raised at the PD meeting.

§ A. Location and size of the area proposed:

The lease occupies a 100' x 200' (20,000 sq. ft., approx. 0.5 acres) square grid at the following coordinates (see Exhibits A(1) and A(2)):

A: 41°21'22.31"N, 71°39'5.07"W
B: 41°21'22.77"N, 71°39'3.91"W
C: 41°21'24.17"N, 71°39'6.36"W
D: 41°21'24.50"N, 71°39'5.16"W

The lease size complies with the standard set forth in RICRMP §300.11(F)(1)(k)(1)). The attached map details the boundaries of the lease (see Exhibit A(2)).

The lease is situated in a "Type 2 Low-intensity use" area defined in RICRMP §200.2.

Average water depth across the lease is 31" at high tide and 26" at low tide. However, neap low tide produces very shallow depths (approximately 8") on the very western-most edge of the lease (see Exhibit C(1)). This should not pose a problem because obtrusive gear will not be deployed on that part of the lease. See § C below.

The lease bottom is hard sand with scattered broken shell and stones. There is no eel grass on the lease site (complying with RICRMP §300.18 "Submerged aquatic vegetation and aquatic habitats of particular concern"). A shellfish site evaluation was conducted by CRMC on November 4, 2011 that found a quahaug density of 0.2/meter squared.

§ B. Species to be cultivated and over which POC will have exclusive rights:

Eastern oysters

To the greatest extent possible only MSX/dermo-resistant natural triploid Eastern oysters (*Crassostrea virginica*) will be used in order to minimize genetic release and reduce the risk of potential introduction or spread of shellfish disease. Oysters will be grown out from natural triploid seed sourced only from certified, disease-free hatcheries and nurseries. Because seasonal availability of seed varies from year to year, we identified a number of certified, disease-free hatcheries from which to obtain seed. These include:

Salt Pond Oyster Company
Attn: Dave Roebuck
54 Perrywinkle Road
Snug Harbor, RI 02879

Aeros Cultured Oyster Company
Attn: Kate Blacker
100 Main Street
Noank, CT 06340

Mook Sea Farm*
Attn: Bill Mook
321 State Route 129
Walpole, ME 04573

Oyster Seed Holdings LLC
Attn: Michael Cosgrove
PO Box 397
Grimstead, VA 23064

Rutgers University Shellfish Research Laboratory*
Attn: Dr. Greg DeBrosse
3920 Bayshore Road
North Cape May, NJ 08204

* Denotes principal seed source.

POC requests exclusive rights to the Eastern oysters it grows within the boundaries of the proposed lease.

Quahaugs

Only quahaug seed that is demonstrably *dermo*/QPX free will be planted. We have not been able to identify a hatchery producing disease-resistant or triploid quahaug seed, but we will continue to look out for this development. We will source quahaug seed principally from:

Bill Avery
Quality Bay Clams
741 East Great Creek Road
Galloway, NJ 08205

Mathis Clam Farm/Nautical Nuggets Hatchery
Attn: Robert Clema/George Mathis
PO Box 314
Port Republic, NJ 08241

Oyster and quahaug seed will be laboratory tested for disease before importation. Appropriate laboratory certification will be obtained from seed sellers. Records of these will be maintained.

All seed will be visually inspected to minimize accidental importation of nuisance species. Large oyster seed will also be dipped in a very high-salinity, saturated brine solution to kill hitch-hiking nuisance species.

Oyster seed will be planted-out twice annually, once in late April or early May and again in late September or early October. Quahaug seed will be planted every two years (clam seed will take two years to reach market size).

Pursuant to RI DEM Division of Fish and Wildlife regulations ("Aquaculture of Marine Species in RI Waters," §8.9 Harvest of Shellfish Transferred from Other Than Approved Waters as Seed), we will not harvest shellfish until they have spent at least twelve (12) months in approved waters. We will maintain accurate and complete records including, but not limited to, seed source, number of seed transferred, size, times and dates of transfer, and records of harvest and sale. We will maintain these records for two years for each group of seed brought onto our lease. See attached Exhibit F for our 2012 seed purchase plan.

Furthermore, each group (or "class") of oyster seed will be marked and segregated using a color code system to facilitate accurate tracking. We will accomplish this by using colored Ny-ties to tag each bag and cage according to the year, size, and source of seed. See Exhibit G for an example of our procedure.

§ C. Method of cultivation:

Traditional bag-and-cage cultivation will be principally used to culture oysters. The custom-made wire cages are 58"(L)x36"(W)x13"(Deep) with 6" legs (or 3" legs). When sitting on the bottom, each cage stands 19" high in the water. Up to 80 of these cages may be deployed. When appropriate, cages will be removed from the lease if winter conditions indicate pond freezing. The grow-out bags will be placed directly on the bottom and pinned there with rebar, secured with robust anchorage.

In addition, shallow-single level custom-made "Aqua-stacks" will be used in the shallower area of the lease during the growing months (May-September). These are 36"x36"x6" with 6" legs (or 3" legs). Up to 120 of these may be deployed. They will not be kept on the lease over winter because of the possibility of ice damage.

Quahaugs will be directly bottom-planted on the western half of the lease. We will use clam predator netting to cover our crop during the first year while they are vulnerable.

This gear is mobile: nothing is permanently fixed or added to the lease area footprint. See attached gear description (Exhibit B) and gear layout (Exhibit C(1) and (C(2))).

Access to the lease area will be from either Lavin's Landing marina on Sportsman Road, or from the kayak launch in Ninigret Park. In rare situations, we may also put in at the Charlestown town dock on Town Dock Road.

We will use a small, 9' Watertender 9.4 dinghy for transportation to and work on the lease. The dinghy is powered by a Tohatsu 4-stroke 2 hp ultra-low emissions motor. The dinghy is "walked" for much of the trip out to the site at low tide (i.e., the motor is not in use). Both before and after putting in, the launch area will be patrolled for litter.

All work will be done onboard or standing in the water using the dinghy as a platform. Sorting and culling will be done manually. No motor or mechanized devices will be used. Fouled gear will be removed or changed out: no power washing will be done on the lease.

Market-size oysters (3"+) will be harvested beginning in September and ending when/if winter conditions prohibit access to the lease site. Quahaugs will be harvested as either little-, middle-, or top-necks. All shellfish will be packed live and sold to American Mussel Harvesters, Inc., a local wholesaler, through an exclusivity agreement.

We will monitor and comply with regulatory closings and shellfish harvest prohibitions.

An operational timetable is presented in Exhibit E, attached.

§ D. Other necessary information:

(1) Compatibility with existing and potential uses:

The proposed lease area is situated in a small cove on the southeast shore of Ninigret Pond, just south of the piece of land identified as "Governor's Island" on the attached Google Earth map (see Exhibit A). It is located between the Ninigret National Wildlife Refuge and the South Shore Management Area along Ninigret Pond's southeast shore. The shoreline of the wildlife preserves is located 140' south of the southern edge of the lease.

Per Federal and state laws, the preserves are not accessible to the public. Kayakers and canoers, however, can, and have been observed to, easily pass through the lease area, indicating that the lease footprint readily accommodates shared use. We have encountered kayakers and canoers while working on the commercial viability lease and have communicated to them that they are free to pass through the lease area. Interaction with recreational users has been very friendly.

Some concern was raised at the November 7, 2011 PD meeting regarding blue crabbing on the lease area. We have seen blue crab on the lease but we do not think that our culture method

would negatively affect crabbing. Furthermore, we would welcome individuals to set pots on the lease if they desired.

The shallow depth of the proposed lease area makes it inaccessible to motor boat traffic.

(2) Degree of exclusivity for proposed activities

We request only the right to grow and harvest Eastern oysters and quahaugs in the lease area, pursuant to RICRMP §300.11(F)(1)(g). We do not seek to restrict appropriate recreational access through or onto the lease area.

(3) Safety and security of equipment (including markings)

The lease area will be marked either with 8" (or smaller) yellow or black buoys or other appropriate markings, subject to regulatory approval. Grow-out gear will be scrupulously maintained and contained within the lease area. Damaged or heavily-fouled gear will be removed promptly. We will circulate and provide contact information to local stakeholders to facilitate communication concerning its operation.

(4) Projected yield per unit

We seek to produce 1500 market-size (3"+) oysters per bag-and-cage unit and 300 market-size oysters per "Aqua-stack."

We seek to produce 500,000 market-size quahaugs every other year.

(5) Cumulative impact and existing operations

The lease is located near other oyster aquaculture leases, but farther away than other recent expansions of existing commercial operations. To our knowledge, there are no quahaug growers currently in NP.

During our commercial viability trial, we experienced severe mortality caused by the protozoan parasite *dermo* (*Perkinsus marinus*). Immediately upon detecting unusual mortalities, we sent samples for testing at Roger Williams University. The tests confirmed *dermo* infection. We culled all of the infected animals and promptly removed the gear that contained them. The gear was sanitized completely.

Dermo occurs naturally in NP: a RI DEM report from the mid-1990s evidences its presence long before we began our operations. Disease pressure is a constant threat to aquaculture. We have adopted protocols designed to minimize the chances of the potential for the spread or importation of disease.

We have addressed disease issues in §B above. Our seed purchasing protocol bears repeating: to the greatest extent possible we are committed to importing ONLY MSX-*dermo* resistant triploid oyster seed into Ninigret Pond.

Succinctly put the proposed aquaculture activity will have limited cumulative impact on the area because: (1) only triploid oyster seed will be planted, strictly limiting genetic release; (2) gear is mobile so that it can easily be moved or removed from the lease area; (3) the lease occupies an area that is too shallow for motor boats to pass through and does not interfere with boat traffic; and (4) we welcome swimmers, kayakers and canoers to pass through the lease area.

Furthermore, we do not seek to produce oysters and quahaugs on an "industrial scale" in NP: we produce so-called "boutique shellfish" using labor-intense, small-scale technology.

(6) Capability to carry on operations

We currently operate a 1000 sq. ft. commercial viability lease in NP. We have demonstrated responsibility and compatibility with existing uses.

Furthermore, we have adopted and rigorously adhere to the East Coast Shellfish Growers Association's Shellfish Growers Code of Conduct and Best Management Practices. We own and will maintain sufficient redundant equipment so that fouled gear will be removed from the lease area and replaced with clean gear. See attached BMPs (Exhibit D).

Moreover, we participate in continuing education in aquaculture and attend conferences and seminars to keep abreast of current policies, practices, and regulations effecting shellfish aquaculture.

Finally, we seek to actively participate in community and local events, such as coastal clean-up days. We have also committed to planned giving as part of its business model.

We have reviewed RICRMP §§160 ("Fees") and 300.11 ("Aquaculture").

(7) Limited impact on scenic qualities

The proposed lease is situated in water which completely covers the selected grow-out method at high, mean, and low tides. At neap low tide, approx. 2" of some cage tops may be occasionally be exposed to air. Accordingly, the impact on scenic qualities is principally limited to the marking buoys and the periodic sight of two people standing in the water tending gear and caring for their oysters.

We do not and will not power wash its gear or shellstock on site.

About the applicants:

Mandy Garrahan holds a B.S. in Chemical Engineering from Cornell University and an M.Eng. in Civil and Environmental Engineering from M.I.T. She has six years experience in environmental engineering consulting, especially regulatory and compliance management.

Will Garrahan holds an A.B. *cum laude* in history from Cornell University and an A.M. in East Asian Languages and Civilizations from Harvard University. He is currently a second-year law student at Roger Williams School of Law.

