

**COASTAL RESOURCES
MANAGEMENT COUNCIL**

**SEMI-MONTHLY
MEETING**

TUESDAY, MAY 28, 2019

6:00 P.M.

AGENDA



State of Rhode Island and Providence Plantations
Coastal Resources Management Council
Oliver H. Stedman Government Center
4808 Tower Hill Road, Suite 116
Wakefield, RI 02879-1900

(401) 783-3370
Fax (401) 783-2069

AGENDA

Semi-Monthly Meeting – Full Council
Tuesday, May 28, 2019; 6:00 p.m.
Administration Building; Conference Room A
One Capitol Hill, Providence, RI 02908

Approval of the minutes of the previous meeting – May 14, 2019
Subcommittee Reports
Staff Reports

APPLICATIONS WHICH HAVE BEEN OUT-TO-NOTICE AND ARE BEFORE THE FULL COUNCIL FOR DECISION:

- 2019-01-002** **RIDEM/DIVISION OF MARINE FISHERIES & THE NATURE CONSERVANCY** -- To create an artificial reef to enhance habitat and fishing opportunities in the Providence River. Please see attached map of Sabin Point. Located in the Providence River south of Sabin Point, East Providence, RI.
- 2018-09-033** **DANIEL TORRE & MAX DAVISON** -- Establish and maintain a three acre oyster farm in the Sakonnet River using floating gear (2 foot by 3 foot floating bags). Located in the Sakonnet River of Portsmouth, RI.
- 2018-08-071** **MATTHEW GRIFFIN** – Establish and maintain a 4.2 acre aquaculture farm for oysters, bay scallops, and kelp using floating, suspended and bottom techniques located in the West Passage of Narragansett Bay, North Kingstown, RI.

PROPOSED RULEMAKING BEFORE THE FULL COUNCIL FOR DECISION:

Amendment to § 3.4.12 of the Salt Pond Region SAMP to extend the date by five years to October 7, 2024 for experimental coastal erosion control methods.

2019-01-002

RIDEM/DIVISION OF MARINE FISHERIES & THE NATURE
CONSERVANCY

CRMC DECISION WORKSHEET

2019-01-002

Department of Environmental Management

Hearing Date:			
Approved as Recommended			
Approved w/additional Stipulations			
Approved but Modified			
Denied		Vote	

APPLICATION INFORMATION						
File Number	Town	Project Location		Category	Special Exception	Variance
2019-01-002	Providence	Providence River		B	☐	☐
		Plat	Lot			
		Owner Name and Address				
Date Accepted	1-24-2019	Department of Environmental Management		Work at or Below MHW	☒	
Date Completed	4-22-2019	Division of Marine Fisheries 3 Fort Wetherill Road Jamestown, RI 02835		Lease Required	☐	

PROJECT DESCRIPTION

Sabin Point Artificial Reef Pilot Project: Enhancing Habitat and Fishing Opportunities.

KEY PROGRAMMATIC ISSUES

Coastal Feature: Submerged land

Water Type: Type 2, Low Intensity Use

CRMP: §§ 1.2.1(E); 1.3.1(A); and 1.3.1(J)

Variances and/or Special Exception Details:

Additional Comments and/or Council Requirements:

Specific Staff Stipulations (beyond Standard stipulations):

STAFF RECOMMENDATION(S)

Engineer	_____	Recommendation:	<u>N/A</u>
Biologist	_____	Recommendation:	<u>N/A</u>
Aquaculture	<u>DEA</u>	Recommendation:	<u>Approval</u>

Executive Director Sign-off
date 4/23/2019

Aquaculture Coordinator Sign-off
date 4-23-19

Staff Sign off on Hearing Packet (Aqua)
date 5-21-19



STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
COASTAL RESOURCES MANAGEMENT COUNCIL
INTER-OFFICE MEMORANDUM

DATE: April 22, 2019
TO: Grover J. Fugate, Executive Director
FROM: David Beutel
SUBJECT: CRMC File No. 2019-01-002

Applicant's Name: Department of Environmental Management
Project: artificial reef

Location: Providence River, Providence,
Water Type/Name: Type 2, Low Intensity Use,
Coastal Feature: submerged land

STAFF REPORT

In January 2019 Rhode Island Department of Environmental Management (DEM) and The Nature Conservancy (TNC) submitted an application to create a small artificial reef just south of Sabin point in the Providence River. The area proposed is 0.91 acres with the goal of enhancing recreational fishing at the reef. The application provides the science and logic for using the proposed reef balls at this location. The reef balls proposed were of two sizes (4'x3' and 3'x2') in a symmetrical array. The location is away from navigation channels and is in a little used area of the Providence River.

During the thirty day public notice period CRMC received one letter of support from the RI Saltwater Anglers Association. Staff received verbal support from individual recreational fishermen while attending other fisheries meetings. CRMC has received no objections and no negative comments about this application.

Agency correspondence received:

- RIDEM Office of Water Resources-water quality certificate not needed-Feb. 4, 2019
- RI Historical Preservation and Heritage Commission-no significant impact-Feb. 14, 2019

Name: Department of Environmental Management
CRMC File No.: 2019-01-002
Staff Report

This application was reviewed at the March 7, 2019 General Permit meeting with the Army Corps of Engineers. The applicants proposed changes to the proposal at that time. Staff requested written documentation of the proposed changes but all meeting attendees agreed that the changes would likely not require a new public notice. Staff met with the applicants on March 27, to discuss the changes in more detail and received the written changes on April 2, 2019.

The proposed changes use only once size reef ball (4'x3'), reduces the number of reef balls from 91 to 80, while all still in the original 0.91 acre area. The reason behind the change is that the applicants attended a conference on artificial reef building and received new information from successful reef construction projects. The actual reef area will be four sections of 36' x 24' reef balls in the 0.91 acre site. Staff agrees that the changes are not significant. The Army Corps of Engineers will issue a permit if the CRMC issues a permit to build this artificial reef. This project has potential for public benefit and little impact to the environment if it does not accomplish the goal of fish attraction. Staff review marginally fits under the RI Coastal Resources Management program Section 1.3.1(J) Filling in Tidal Waters. Because of the small size of the project, lack of negative impacts, receiving no objections, receiving support from the recreational fishing industry, the potential to enhance fishing, and that the applicant is DEM, staff recommends this application for approval.



Aquaculture Coordinator

SUMMARY OF PROPOSED DESIGN UPDATE

The applicants are proposing an update to their design and monitoring plan for the Sabin Point artificial reef project. The goal of this modification is to maximize the benefits that this project will have and ultimately increase the fishing opportunity at the Sabin Point Fishing pier. After receiving feedback from members of the Atlantic and Gulf State Marine Fisheries Commissions (ASMFC and GSMFC) Artificial Reef Programs on our original design (Figure 11a), we believe that our design could be enhanced by allowing for additional spacing between the reef modules. In our design update, we would be decreasing the total number of modules from 91 to 80, as well as the bottom surface area that these modules occupy. These modules will be divided into four, 4 X 5 patch reefs that are spaced 25-30 meters apart within the original 200' x 200' footprint (Figure 11b). This allows for more space between the modules resulting in a decrease predation intensity on prey resources adjacent to the reefs and a reduction in competition amongst finfish that colonize the reefs. These modifications should have less direct impact on the benthic habitat community, produce a more viable habitat for reef fish to colonize, and allow for more robust statistical analyses by increasing replication. Changes to the AR monitoring plan include four 10-meter transects instead of one 40-meter transect, and the updated fish survey work will now include additional eel pot sampling to account for juvenile finfish that may not be captured in the fish pot survey work.

5. REEF DESIGN AND CONSTRUCTION

We have selected Reef Balls™ for our fish habitat enhancement work at Sabin Point because of their documented success in estuarine environments in the Southeastern Atlantic and West Coast of the United States. Studies show that artificial reefs balls promote aggregations of demersal finfish (Bohnsack 1990, Bohnsack 1991, Ambrose 1989), which is one of the primary objectives of our project. Several AR experiments have shown that habitat enhancement with Reef Balls™ can increase abundance, diversity, and production when compared to natural reefs and sandy substrate controls (Folpp 2013, Hackradt 2011, Powers 2003). Upon review of these publications, we have decided to deploy the reef balls in four distinct "patch" reefs that optimize the max benefit to the benthic habitat by allowing for inter patch refuge for prey species, while still close enough to aggregate target reef associating species to these reefs and the fishing pier. ARs have also shown greater attraction of planktivores (i.e., menhaden, herring, and juvenile grunts) as well as benthic feeding fish compared to natural reefs and sand bottom (Bohnsack 1994). In addition to the biological benefits observed, a new research project in Maryland is attempting to utilize Reef Balls™ to alleviate hypoxic zones in the Severn River in an effort to restore this habitat for oyster and associated reef fish colonization (Wheeler 2018).

A contracted professional (Reef Innovations) will oversee the fabrication and deployment of the reef modules to maintain quality assurance and control. The contractor has over 15 years of experience in reef construction and is licensed to construct and deploy Reef Balls™. We will use Reef Balls™ made from a mixture of cement (limestone), silica and water. Cement types II or greater will be used, as these cement grades are resistant to sulfates and other chemicals in sea water which can break down lower grade concrete. Pozzolan materials such as micro-silica, and/or crushed shell will be used to help neutralize the pH of the cement to that of seawater (pH of 8.3). An adequate water to cement ratio will be used in the manufacturing process to ensure structural integrity and durability. Reef Balls™ are chemically engineered to be long-lasting (500-yr lifespan) in seawater and enhance epifaunal growth. Reef Balls™ are physically designed to resist being overturned by waves in shallow subtidal and subtidal locations. A



certified pre-cast company will be hired to fabricate reef modules and ship them to Rhode Island. We intend to use larger of the two commonly used estuarine Reef Balls™ to maximize the number of crevices available for finfish to utilize (Table 1).

Table 1. Type and number of Reef Balls™ that will be used per location based on the current array. Data was provided by Reef Innovations Inc.

Unit Type	#	Width (ft.)	Height (ft.)	Surface Area (ft ²)	Volume (ft ³)	Weight (lbs)
Pallet Ball	80	4	2'9"	75	28.47	1,300

Prior to construction, the boundaries of project sites will be georeferenced using d-GPS and marked with surface floats. Boundary markers will be maintained throughout the duration of our study. We are applying for a 200'x 200' permit area, within which we will be constructing the artificial reef array. To maximize the benefit of this AR project, we are planning on making four distinct reef patches that are spaced 25-30 meters apart in a square pattern (Figure 11). Our current reef design is currently scoped to four, 28' by 36' reef patches (0.023 acres) that will not exceed the 200' by 200' permit area. In each patch, 20 Pallet Reef Balls™ will be evenly distributed 8' from center. The two nearshore reef patches will also be 30 meters away from the middle of the fishing pier.

Our patch reef array will increase the amount of adjacent, undisturbed, sandy habitat next to our reefs. Finfish abundance is generally greatest on, or just off the edge of reef (e.g., black sea bass; Rosemond 2018, dos Santos 2010). We expect to see an increase in the number of prey species such as crustaceans and mollusks to increase with distance from the patch reefs (e.g. stone crabs; Frazer 1994). In order to maximize the aggregation of recreational species that prefer artificial reef structure, while minimally impacting available prey biomass in the area, we have chosen a 30 meter distance (15 m buffer) between patches which we expect will have the greatest effect on the fishing opportunity at the Sabin Point fishing pier. We decided to make the arrays with Pallet Ball modules, as opposed to Bay Balls, because they are only slightly larger (1' wider, 0.75' taller) but provide 3-10 more holes (Reef Innovations). As we increase the number of holes we anticipate that the complexity of the habitat will increase and allow for a greater holding capacity of finfish species. This will also increase the number of larger reef fish that can reside there at the same time. Since the goal of our project is to increase fishing opportunity at the pier, if we increase the size and complexity of the habitat that is available for structure limited fish, we can anticipate more fish colonizing the reef (Caddy, 2011, Hackrad, 2011).

Our proposed updated artificial reef array consists of 80 Pallet Balls. Reef modules will be transported to the project site by barge and lowered to the seafloor by crane. A single reef module will be lowered to the seafloor using a spray bar and a crane. Once in contact with the bottom, tension hooks (Pelican Hook) will release the reef modules from its strap in a fixed position. Divers may be used to ensure proper placement. This methodology will ensure accuracy and proper placement of the reef modules. We anticipate reef construction to take no more than one week and will begin after October 15th. We expect the construction window will have little to no impact on commercial and recreational use of the surrounding waters as well as the temporal winter flounder essential fish habitat (EFH) window.

5B. CONTINGENCY PLAN

Discussions with coordinators of other state AR Programs (FL, NC, LA, etc.) have verified they have deployed Reef Balls™ in areas with similar depths and they have not moved from their original deployment locations during major storm events (e.g, Hurricane Michael, Hurricane Florence) For example, the Reef Balls at the Bell Shoal artificial reef near Mexico Beach, Florida were shown to be superior to other concrete pyramid module designs in terms of stability during the hurricane. Side Scan taken before and after Hurricane Michael determined that Reef Balls™ did not move, and in some cases actually provided anchorage for other materials that were toppled and dragged by the hurricane force swells (Bell Shoals Hurricane Assessment Viewer <http://myfwc.maps.arcgis.com>)(Mille, 2019).

Based on these previous experiences, all of which show no movement of Reef Balls™ post-deployment, we are confident that the AR we are proposing will not move under normal or storm conditions. In the event the proposed Reef Balls™ are moved out of the permitted area during the lifespan of the project, DEM and TNC have financial ability to rectify the Reef Balls™ positioning.

6. REEF MONITORING

The applicants will monitor the reef sites with video observations following the deployment of the Reef Balls™. Survey data will provide a baseline to evaluate potential movement or burial of reef materials.

The applicants will monitor changes in fish and macroinvertebrate communities due to the AR habitat. Prior to installing AR modules, the applicants will finalize an appropriate monitoring design using techniques such as underwater video, fish traps, eel pots, and dive surveys to monitor fish populations. Baseline beach seine and fish trap survey data have been collected monthly (May-October) at Sabin Point over the last two years (2017 and 2018) and will continue after installation of the ARs, assisting with the evaluation of differences in fish abundance before and after reef construction, including trap surveys that target both adult and juvenile size classes (i.e., fish pots (>1+), eel pots (0-1)). The Sabin Point Pier site will be compared to a sandy control site (Sabin Point) and an additional "natural rocky habitat" to evaluate how the artificial reef balls compare to a natural rocky habitat in the Upper Narragansett Bay (most likely Rock Island to the SW or Pomham Rocks Lighthouse to the North). These sites will be evaluated during the pre-enhancement baseline survey during the Summer of 2019. These four sites are all greater than 120m to establish appropriate buffers to ensure habitat footprints do not overlap (KEEN protocol is >100m). Rosemond et al 2018 found that 97% of the fish species observed were within the first 120 of an artificial reef.

To determine the relative habitat value produced by creating an AR at Sabin Point, the applicants intend to utilize a modified version of the Kelp Ecosystem Ecology Network (KEEN) monitoring protocol. We will treat each patch reef as its own distinct unit. We will conduct four transects through the middle of each patch (~10 meters). In total this will give us 40 meters of artificial habitat that is available to survey at Sabin Point, which is equivalent to the area sampled for each KEEN replicate. This approach will allow the applicants to compare AR habitat to those such as kelp, eelgrass, and oyster reefs. The applicants expect to conduct monitoring up to three years post-construction, and at least once a year in the late summer/early fall. KEEN monitoring techniques include: quadrat (4-6, 1m², quadrats per transect), uniform point count of substrate type (two, 50 cm inshore and offshore of the transect every meter), swath (finfish/mobile invert



counts within a meter to each side of the transect), and cube volume finfish counts (2m x 2m x 10m), all of which will be completed on SCUBA conducted along transects parallel to shore through the middle of each patch reef. These surveys are designed to sample common algae, invertebrates, and fish species associated with the target habitat. Additionally, temperature, salinity, and dissolved oxygen measurements will be collected at the site. The applicants will also monitor the location of Reef Balls™ units, to ensure that they have not moved beyond the permitted area. During dive transects, the position of the modules will be documented in addition to any material degradation or scouring.

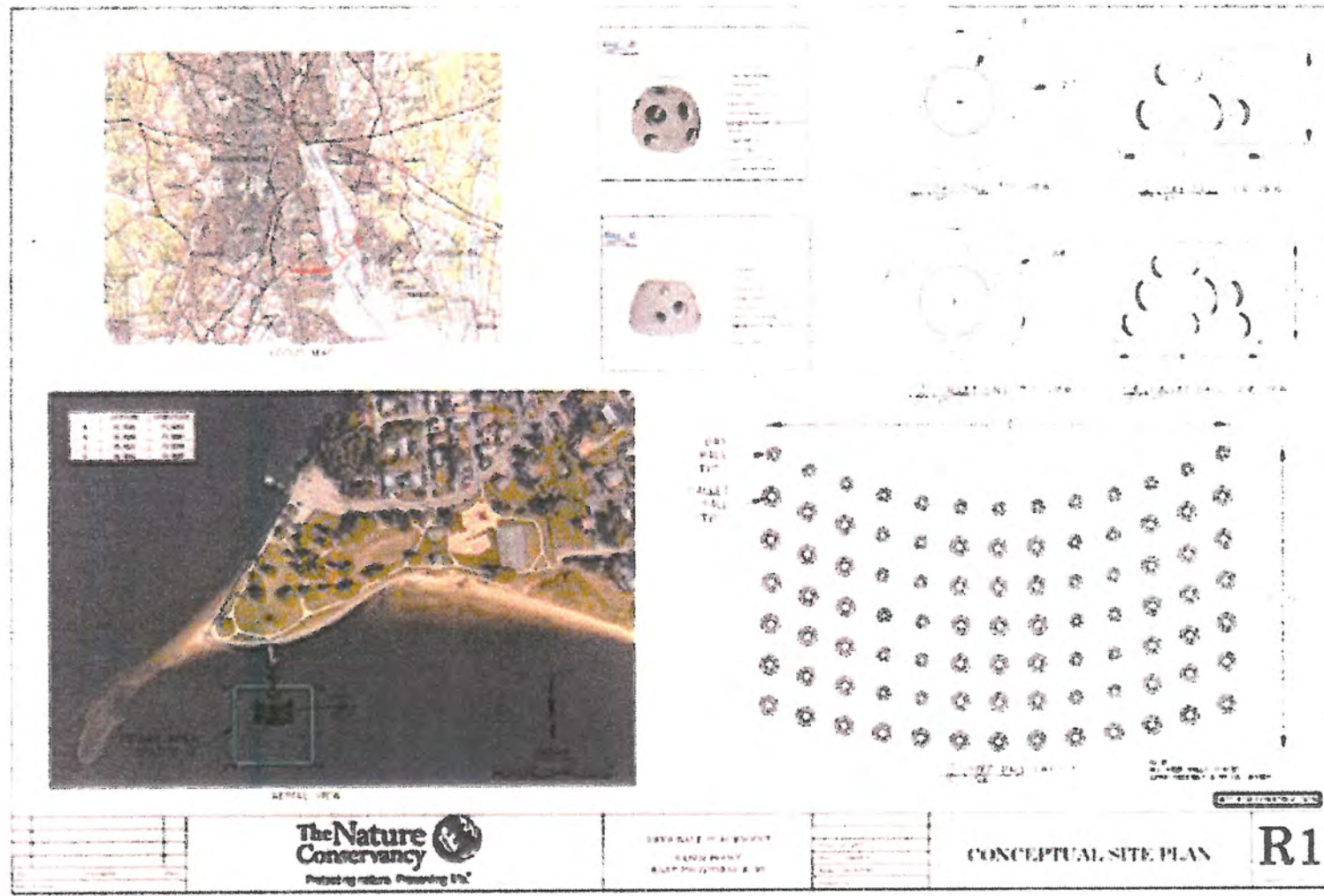


Figure 11a Original Reef Array.

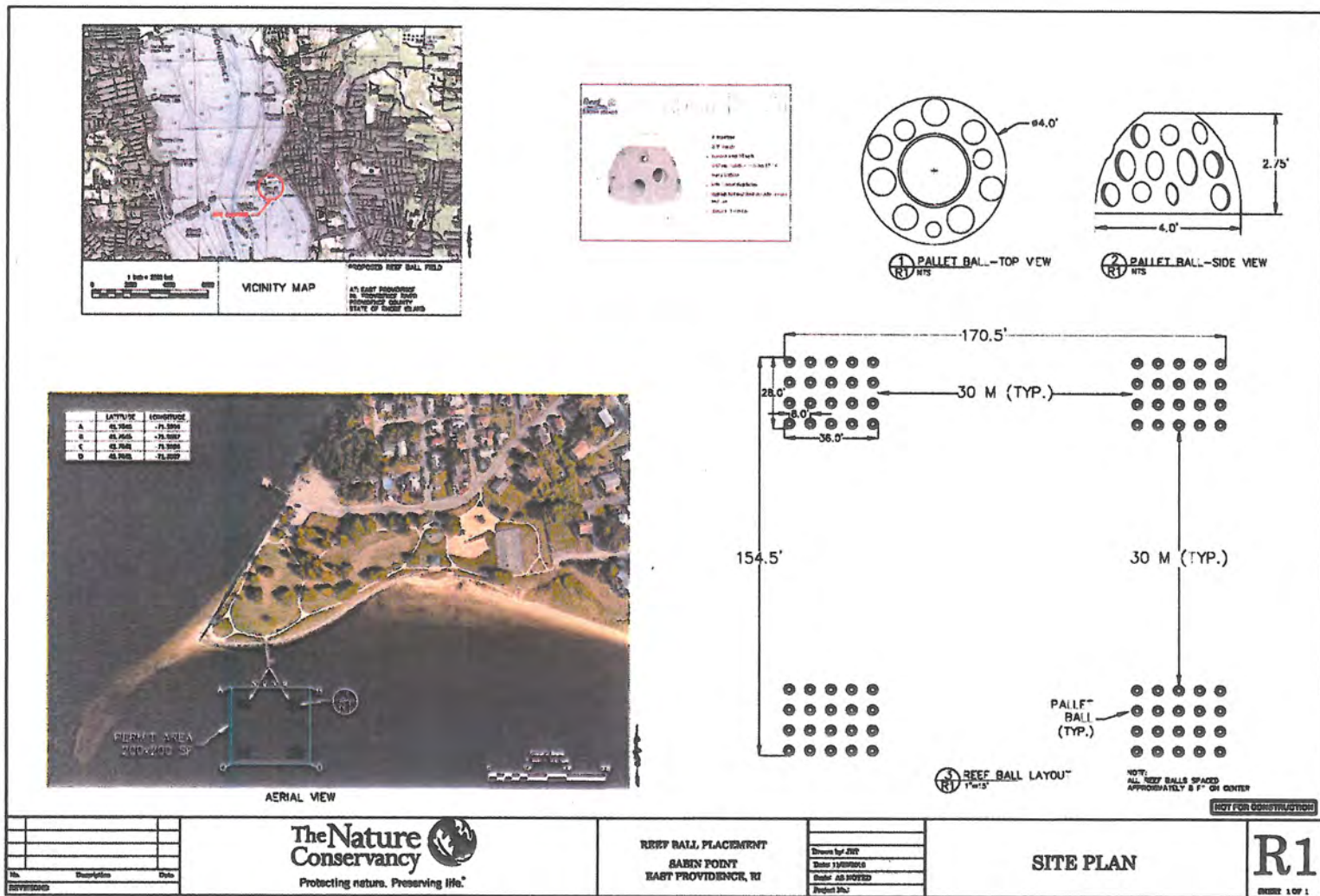


Figure 11b Updated Artificial Reef Array. Four patch reefs spaced 30 meters apart each with 20 Pallet Ball modules per patch, arranged in a 4x5 rectangle. Each module is 8' off center from one another.

Additional Works Cited

Rosemond, R.C., Paxton, A.B., Lemoine, H.R., Fegley, S.R., Peterson, C.H. (2018) Fish use of reef structures and adjacent sand flats: implications for selecting minimum buffer zones between new artificial reefs and existing reefs. *MARINE ECOLOGY PROGRESS SERIES Mar Ecol Prog Ser Vol. 587: 187–199.*

Frazer, T.K., Lindberg, W.J. (1994). Refuge Spacing Similarity Affects Reef-Associated Species from Three Phyla. *Bulletin of Marine Science*, 55(2-3): 388-400.

dos Santos, L.N., Brotto, D.S., Zalmon, I.R. (2010). Fish responses to Increasing distance from artificial reefs on the Southeastern Brazilian Coast. *Journal of Experimental Marine Biology and Ecology* 386 54-60.

Hackradt, C.W., Félix-Hackradt, F.C., García-Charton, J.A. 2011. Influence of Habitat Structure on Fish Assemblage of an Artificial Reef in Southern Brazil. *Marine Environmental Research* 72: 235-247.

Caddy, John F. "How Artificial Reefs Could Reduce the Impacts of Bottlenecks in Reef Fish Productivity within Natural Fractal Habitats." *Artificial Reefs in Fisheries Management*, by Stephen A. Bortone, CRC Press, 2011, pp. 45–64.

Mille, K. (2019) Assessment of Artificial Reefs Impacted by Hurricane Michael. *Joint ASMFC and GSMFC Artificial Reef Committees Meeting. Presented February 27, 2019.*

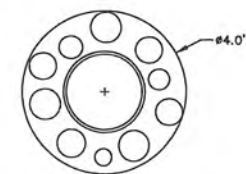
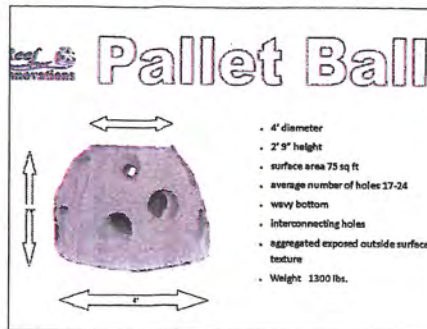




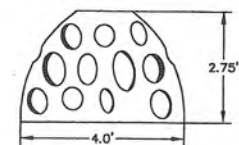
VICINITY MAP

PROPOSED REEF BALL FIELD

AT: EAST PROVIDENCE
IN: PROVIDENCE RIVER
PROVIDENCE COUNTY
STATE OF RHODE ISLAND



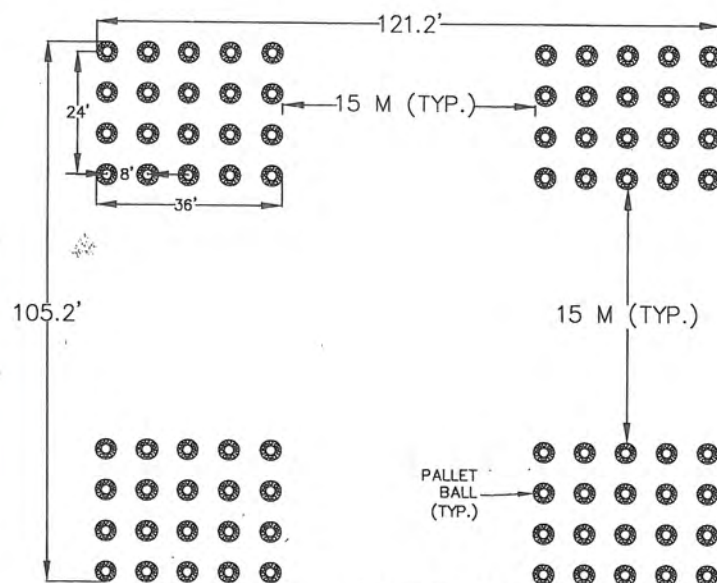
1 PALLET BALL-TOP VIEW
NTS



2 PALLET BALL-SIDE VIEW
NTS



AERIAL VIEW



3 REEF BALL LAYOUT
1"=10'

NOTE:
ALL REEF BALLS SPACED
APPROXIMATELY 8 FT ON CENTER

NOT FOR CONSTRUCTION

No.	Description	Date

The Nature Conservancy
Protecting nature. Preserving life.

REEF BALL PLACEMENT
SABIN POINT
EAST PROVIDENCE, RI

Drawn by: JRT
Date: 11/29/2018
Scale: AS NOTED
Project No.:

SITE PLAN

R1
SHEET 1 OF 1

	LATITUDE	LONGITUDE
A	41.7646	-71.3694
B	41.7646	-71.3687
C	41.7641	-71.3694
D	41.7641	-71.3687



AERIAL VIEW

	LATITUDE	LONGITUDE
A	41.7646	-71.3694
B	41.7646	-71.3687
C	41.7641	-71.3694
D	41.7641	-71.3687



AERIAL VIEW

2019-01-002



RHODE ISLAND
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

235 Promenade Street, Providence, RI 02908-5767 TDD 401-222-4462

January 31, 2019
Dave Beutel Aquaculture Coordinator
Coastal Resources Management Council
Wakefield, RI 02879-1900

Dear Mr. Beutel,

I am writing in reference to the Permit Application request by the Nature Conservancy and RIDEM DMF for the Sabin Point Artificial Reef Pilot Project (File number DEM-TNC 2019). The proposed location for this site is in waters classified as Prohibited for shellfish harvesting located in the Providence River GA -16 in the city of East Providence .

Since this reef pilot project as proposed is not intended for the aquaculture of shellfish this office has no comment as to the suitability of these waters as they relate to shellfish water quality and the application of the NSSP Model Ordinance.

Neither a RIPDES permit nor a Water Quality Certificate is required for the proposed facility. Please call me at 222-4700, Ext. 7241 if you have any questions.

Sincerely,

Lucinda M. Hannus

Lucinda M. Hannus, Principal Environmental Scientist
RI DEM
Office of Water Resources – Shellfish Program

cc Angelo Liberti
Conor McManus
Dennis Erkan
Julia Livermore





STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

HISTORICAL PRESERVATION & HERITAGE COMMISSION

Old State House • 150 Benefit Street • Providence, R.I. 02903-1209

TEL (401) 222-2678

FAX (401) 222-2968

TTY / Relay 711

Website www.preservation.ri.gov

Jennifer R. Cervenka, Chair
Coastal Resources Management Council
Stedman Government Center, 4808 Tower Hill Road
Wakefield, RI 02879

CRMC File Number: 2019-01-002
Applicant: Nature Conservancy / DEM
Town: Sabin Pt Arch-Trail Reef
Response Date: 2/4/19

Dear Ms. Cervenka,

The Rhode Island Historical Preservation & Heritage Commission has reviewed the above- referenced project. It is our conclusion that this project will have no effect on any significant cultural resources (those listed on or eligible for listing on the National Register of Historic Places).

These comments are provided in accordance with Section 220 of the Coastal Resources Management Plan. If you have any questions, please contact Jeff Emidy, Project Review Coordinator, or Charlotte Taylor, Senior Archaeologist, at this office.

Very truly yours,

J. Paul Loether
Executive Director, RIHPHC
State Historic Preservation Officer





RHODE ISLAND
SALTWATER
ANGLERS
Association



P.O. Box 1465, Coventry, Rhode Island 02816

401-826-2121 FAX: 401-826-3546

www.RISAA.org

January 31, 2019



Coastal Resources Management Council
Attn: David Beutel
Stedman Government Center, Suite 3
4808 Tower Hill Road
Wakefield, RI 02879-1900

Re: CRMC # 2019-01-002

Dear Mr. Beutel,

The Board of Directors of the Rhode Island Saltwater Anglers Association (RISAA) supports the TNC and DEM joint application to create an artificial reef near the Sabin Point Park Fishing Pier in East Providence, RI (CRMC File Number 2019-01-002, public noticed on January 28, 2019).

RISAA supports the main objective of the DEM-TNC proposed work, "to determine how artificial reefs can be used as a fish habitat enhancement tool in degraded areas of the upper Narragansett Bay and Providence River estuary", and RISAA is specifically interested in how this work will enhance the recreational fishing opportunities at the proposed enhancement site.

RISAA agrees with the applicant that this location is currently underutilized by the recreational fishing community, most likely due to the lack of quality fish habitat. The below -average habitat quality and adjacent public access fishing pier provides an unique opportunity to enhance the habitat and increase the abundance of recreationally important finfish (e.g., scup, tautog, and black sea bass) likely to colonize this location post enhancement, in a location where recreational fishers can easily access. RISAA is also interested in understanding how recreational users of the Sabin Point Fishing Pier view the change in their fishing experience once the reef is created.

In closing, we support the proposed project and look forward to seeing the expected benefits. We anticipate that the creation of the artificial reef at Sabin Point will improve the fishing experience at the park and should help validate the use of artificial reefs as one of several targeted habitat enhancement practices for Rhode Island and surrounding area waters.

Sincerely,

Stephen J. Medeiros
Executive Director



PERMIT APPLICATION REQUEST 2019

Project Title: Sabin Point Artificial Reef Pilot Project: Enhancing Habitat and Fishing Opportunities in the Providence River

Project Category: Research

Lat/Lon of Site: Site 1 41.76435, -71.36905
**corner points provided in Figure 1*

Permit Area: <1 acre (~0.91 acres)

Reef Area: <0.25 acres (~0.14 acres)

Applicant(s): Will Helt *WSKH*
The Nature Conservancy, Rhode Island Chapter
159 Waterman Street
Providence, RI 02906
Email: william.helt@tnc.org
Phone: 401-214-4528

Patrick Barrett
Rhode Island Department of Environmental Management
Division of Marine Fisheries
Fort Wetherill Marine Laboratory, 3 Fort Wetherill Road
Jamestown, Rhode Island 02835
Email: patrick.barrett@dem.ri.gov
Phone: 401-423-1947

Date Submitted: 1/2/2019



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PERMIT APPLICATION REQUEST 2019

1. PERMIT REQUEST

The Nature Conservancy (TNC), in partnership with the Rhode Island Department of Environmental Management (RI DEM) Division of Marine Fisheries (DMF), is requesting an Army Corps of Engineers (ACOE) Individual Permit, Rhode Island Department of Environmental Management (DEM) Water Quality Certificate, and a Rhode Island Coastal Resources Management Council (CRMC) Category B Assent for habitat restoration projects undertaken by public entities. This project seeks to enhance habitat and fishing opportunities in the Providence River. Pre- and post-enhancement monitoring will allow us to evaluate the effectiveness of artificial reefs as an enhancement tool in Rhode Island waters. We expect this project will serve as a model for artificial reef projects in Rhode Island state waters by improving habitat, increasing local abundance of fish, and providing societal benefits through increased fishing opportunities.

2. PROJECT NEED

The main *objective* of our study is to determine how artificial reefs can be used as a fisheries resource and fish habitat enhancement tool in degraded areas of the upper Narragansett Bay and Providence River estuary. Since 2016, TNC and DMF (hereafter the applicants) have conducted benthic video monitoring and finfish surveys at selected sites to assess their suitability for various enhancement techniques. These assessments have provided the applicants insight into the current habitat condition and fish assemblage in these areas, and the ability to prioritize locations of where such fish habitat enhancement work would be most successful.

Through this assessment, artificial reefs (ARs) set at Sabin Point were identified as the best viable option for fish habitat in the Providence River estuary. Alternate sites were evaluated, including upland alternatives as required by the ACOE Individual Permit. Constructing an AR using a three-dimensional Reef Ball™ module array at Sabin Point Park will help enhance fish habitat by providing structure for fish – a habitat that is currently not present at this site. In addition to the actual structures, the resulting epifaunal colonization (e.g., algae, barnacles, bivalves, sponges, and anemone species) on the AR will provide food and enhanced habitat for fish species. The increase in fish abundance created by the reef system will help improve the recreational fishing experience at the park's pier. Finally, this array will help advance research on the impact of ARs in Rhode Island waters and provide the first AR Reef Ball™ research station in Narragansett Bay, which may serve as a model in future AR initiatives.

Using a variety of research techniques, we will seek to answer the following questions:

- 1) How do reef balls affect the area's fish assemblage and abundance?
- 2) What colonizing organisms will inhabit the reef over time?
- 3) How do fishes utilize the added structure?

4) How has recreational use of the pier changed post reef installation? (Pending Funding)

We propose the construction of a **0.14-acre artificial reef** using up to 100 pre-fabricated reef modules, with a maximum combined fill volume of ~2,847 ft³. The AR footprint will be a 200 ft² area beginning 50 feet away from the end of the pier (Figure 1). Our current design includes 91 reef modules consisting of 58 Pallet Balls and 33 Bay Balls at a combined fill volume of ~2,016 ft³ and will begin 75-100 feet from the end of the pier (Figure 9).

The Artificial Reef Team consists of individuals with backgrounds in fisheries management, restoration science, and GIS:

- William Helt (Co-Principal Investigator, Coastal Restoration Scientist - TNC)
- Patrick Barrett (Co-Principal Investigator, Fisheries Specialist – DEM)
- Eric Schneider (Collaborator, Principal Biologist- DEM)
- Conor McManus (Collaborator, Deputy Chief - DEM)
- Heather Kinney (Collaborator, Coastal Restoration Science Tech – TNC)
- Kevin Ruddock (Collaborator, GIS Manager- TNC)
- John O'Brien (Collaborator, Partner Specialist – TNC)

3. SITE SELECTION

Our intended goal is to enhance a site that currently provides fishing access but supports low fish abundance due to the unproductive benthic habitat. The project site has been carefully chosen to balance the goals and objectives of the project while taking into consideration the environmental constraints, logistics of implementation, and competing uses.

We used geospatial, benthic video monitoring, and scientific fisheries data to ensure that our enhancement work was conducted in a suitable location. Data collected and evaluated for the assessment included bathymetry, slope, marine shipping channel use, sediment type, dissolved oxygen, benthic habitat, seagrass distribution, and demersal fish abundance. Data sources and maps can be provided upon request.

Based on our pre-enhancement monitoring and site assessment of 12 locations in the upper Narragansett Bay and Providence River estuary, we identified Sabin Point as an ideal location for AR fish habitat enhancement. This area was selected based on the following attributes:

- (1) Available infrastructure near project site for fishing access
- (2) Relatively low quantity and quality of fish habitat structure currently in the surrounding subtidal
- (3) Suitable physical and biological attributes to support fish abundance
- (4) Background knowledge on recreational and commercial uses of the site

(1) Available infrastructure for fishing access

On the southwest end of Sabin Point Park, a public access fishing pier was constructed to improve the recreational fishing opportunity (Figure 1). Of the eleven alternative sites that are



suitable for AR enhancement work, Sabin Point is the only location that has a fishing pier in place at this time.



Figure 1. Sabin Point Park Fishing Pier, Sabin Point artificial reef area (teal line).

(2) *Presence of structure in surrounding subtidal*

Benthic habitat condition from 2016 to 2018 at all sites was evaluated with an underwater video sled, along with water quality parameters including salinity (ppt), temperature (°C), dissolved oxygen (mg/L), and chlorophyll a (µg/L). A quantitative analysis using the Coastal and Marine Ecological Classification Standard (CMECS) was used to analyze the data. During the analysis, two of the four CMECS components (substrate and biota) were used to describe the benthic habitat.

In 2017, a 0.5km video transect was taken in the Sabin Point cove area. During the analysis, eight of the ten randomly selected video snapshots were defined as unconsolidated mineral substrate and had a predominantly dense composition (70-<90%) of muddy sand with sparse amounts (10-<30%) of shell hash/rubble (Figure 2). One of the snapshots was classified as unidentifiable due to poor video quality, and another was defined as shell substrate and composed of a moderately high density (50-<70%) of *Crepidula fornicata* and moderately low amounts (30-<50%) of shell hash/rubble. Areas closer to the shoreline and sandspit tend to have a higher density of shell rubble (mostly clam and slippershell) mixed with the muddy sand. This can be seen in the snapshots taken within the proposed site from the 2018 video transect (Figures 3 and 4, in Appendix). The video also shows that area is devoid of complex structure for fish (aside from the fishing pier).

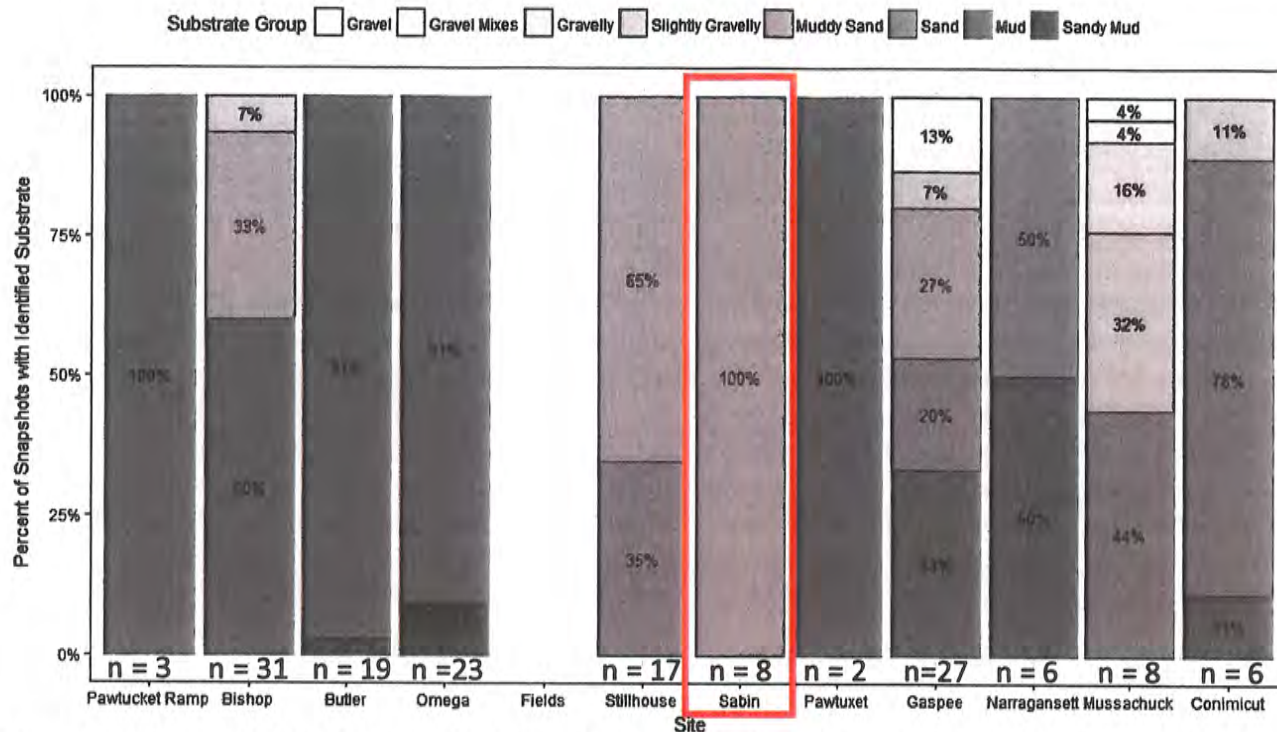


Figure 2. Unconsolidated Mineral Substrate broken down into Substrate Group for samples with sufficient video quality at the 12 potential locations in the upper Narragansett Bay and Providence River estuary analyzed in 2017. Percent values indicate the proportion of snapshots identified as the dominant substrate. Sites contain varying numbers of total snapshots analyzed and are indicated by the number within the column. Sites are listed by latitude starting from the northernmost to the southernmost site.

An extensive survey of the project location was completed on October 24, 2018. A Ponar grab (0.06 m²) was used to sample sediments and benthic macrofauna to ground truth the results from the CMECS video analysis. Upon retrieval, grab samples were sieved, and individual organisms were identified to the lowest possible taxonomic level. Sediment grain size was analyzed in the field using texturing techniques to determine general soil description and relative grain size proportions. A YSI Pro-Plus® probe was suspended about one meter above the sediment surface at each sample location to measure water temperature, salinity, and dissolved oxygen. Water depth and location were recorded using on-ship navigational tools (Garmin GPSMAP® 7607xsv).

Results from the grain size analysis indicated that sediments are composed almost entirely of coarse to fine sands, with only minor percentages of silt. The samples taken from within the proposed permit area have coarse sand contents indicating that the material is well-sorted and located in a medium-high energy environment. Low benthic habitat quality was evident from video as well as benthic grab samples. Bottom habitat features included shell hash of *Mya arenaria* and *Crepidula* spp. The video and Ponar grab data suggest that the area has the appropriate bottom type to support the proposed reef and that this location could benefit from this type of structural enhancement.

(3) Physical and Biological Attributes

Onset HOBO data loggers (Dissolved Oxygen-U26-001 and Conductivity-U24-002-C) were deployed at each of the 12 potential locations in the upper Narragansett Bay and Providence River estuary monitored during pre-enhancement finfish seine and fish trap surveys conducted by the applicants. Temperature, salinity, and dissolved oxygen (DO) data were collected to determine how sites differed and if any differences in catch per unit effort covaried with any of these parameters. As expected, several locations in the Providence River estuary experienced temporary periods of hypoxic conditions (< 2.0 mg/l) in the late summer and early fall. In 2017, Sabin Point experienced temporary hypoxia from mid-September to the beginning of October (Figure 5). Mats of *Ulva* spp. get blown into the cove formed behind the sandspit and settle in the shallows south of Sabin Point park, contributing to the observed hypoxic days. We do not anticipate these events having a significant impact on the success of the artificial reef in this location and provides additional reasoning why we believe that Sabin Point could benefit from habitat enhancement. Added structure and improved rugosity to benthic habitats have been shown to improve turbulent flow of an area, which could help alleviate the severity and length at which these events occur as well as provide important water column mixing for active suspension feeders that will colonize the reef (Lenihan 1996, Lenihan 1998, Lenihan 1999, Lenihan 2001). Turbulent flow also increases shear stress that thins the diffusive boundary layer that regulates mass transfer, allowing for greater mass flux of molecules, such as oxygen, across the sediment-water interface (Patterson 1991a, 1991b, Reidenbach 2010). These physical processes are especially important for sessile organisms (e.g., corals, oysters) during times of stress as they can increase the transfer of oxygen molecules (Finelli et al. 2006). Despite these periodic low DO events, this location still possesses a dense quahog population according to DEM's dredge survey data, and the Providence River surveys record that demersal finfish utilize this location both before and after events, suggesting that the low DO conditions should not negatively impact the potential benefits of the artificial reef and should improve once the reef is constructed.

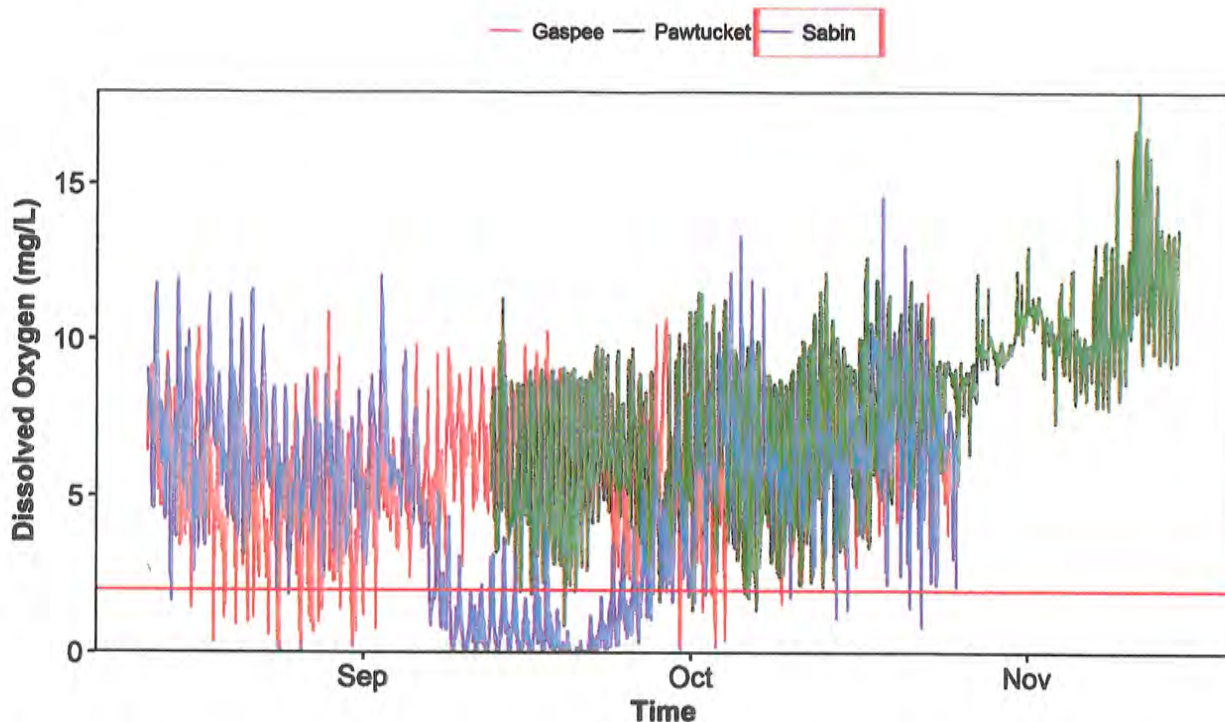


Figure 5. Timeseries displaying Dissolved Oxygen (DO) values at Sabin Point from 9/12/17 – 10/25/17. Red horizontal line represents hypoxia threshold ($DO \leq 2$ mg/L)

During the October 2018 survey, the Ponar grabs suggested that benthic infaunal diversity and abundance was low and comprised mostly of small crustacea and amphipods. Hard clam density ranged from 0 to 1 individuals per grab. In addition, the DMF dredge survey at the station most representative of the proposed site has an average quahog density of ~ 11.49 (ind./m²). Prior to deploying the reef modules, we will survey the shellfish density of the proposed area. If deemed necessary by the RI DEM DMF, shellfish from the reef footprint area will be relocated prior to construction in accordance with process described in the RI DEM DMF “Guidance for Conducting Shellfish Surveys for Dredging Projects” document, updated August 2018.

Video analysis of the biotic components showed three of the five video snapshots defined as aquatic vegetation bed, one as reef biota, and one as faunal bed. Snapshots defined as aquatic vegetation had a sparse composition (10–<30%) of sheet algal species (mainly *Ulva* sp.) with trace amounts (<10%) of mud snails and sparse amounts of small surface burrowing fauna (2–<5mm burrow width). The snapshot defined as reef biota had a moderately low density of *Crepidula* with trace amounts of filamentous algae (*Aghardiella* sp.) and mud snails, and sparse amounts of sheet algae. Examples of benthic substrate snapshots from the benthic monitoring tows at Sabin Point, with GPS tacks, are included in the Appendix (Figures 2 and 4).

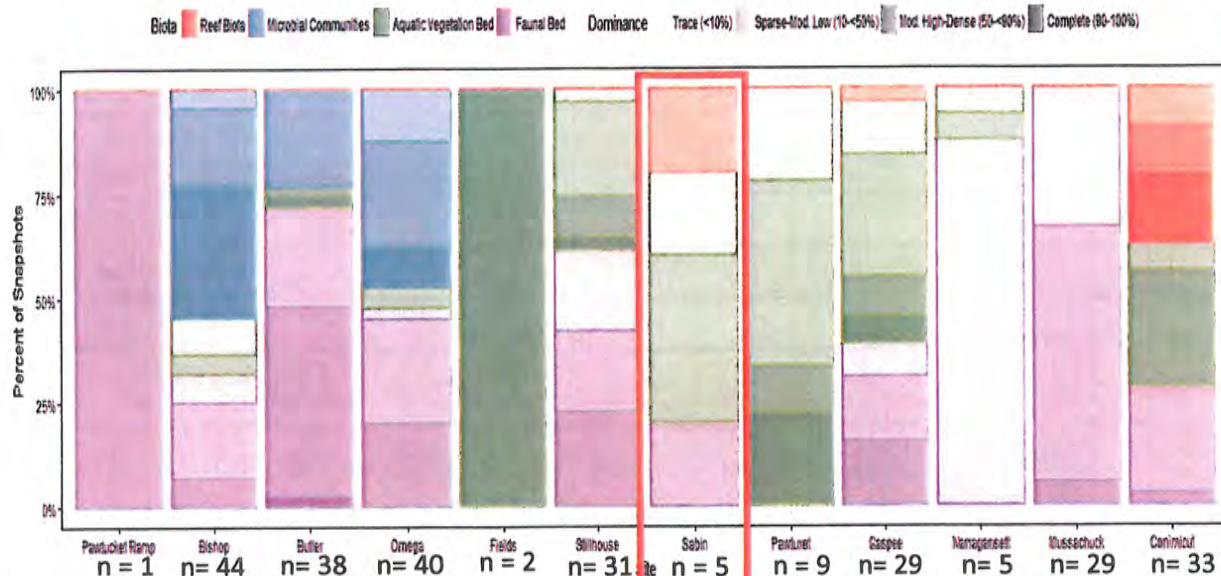


Figure 6. Biotic components broken down into Biotic Class with video quality ≥ 3 across the 12 potential locations in the upper Narragansett Bay and Providence River estuary analyzed in 2017. Percent values indicate the number of snapshots identified as the dominant substrate with levels of dominance depicted by increasing color saturation. Sites contain varying numbers of total snapshots analyzed and are indicated by the number within the column. Sites are listed by latitude starting from the northernmost to the southernmost site.

Baseline seine and fish trap data from 2016 to 2017 show that Sabin Point supports has the highest number of juvenile winter flounder of the 12 sites (Figure 7). However, the beach seine conducted at Sabin Point is approximately 250 meters away from the proposed AR on a sand substrate, which is more suitable for winter flounder settlement (Pereira, 1999). Given the small scale, non-preferential sediment type for settlement, and time of the year we plan to build (October 15th, pre-spawning), the artificial reef at Sabin Point should not impact the Winter Flounder spawning potential of the nearby sandy locations. The fish trap data also suggest that the area supports recreationally important finfish such as scup, tautog and black sea bass (Figure 8). Analyzing the length frequencies of fish caught shows that although there is a low abundance of fish per haul, at Sabin Point, legal recreationally-sized scup are present, along with tautog that are within one inch of the legal possession limit (Figure 9).

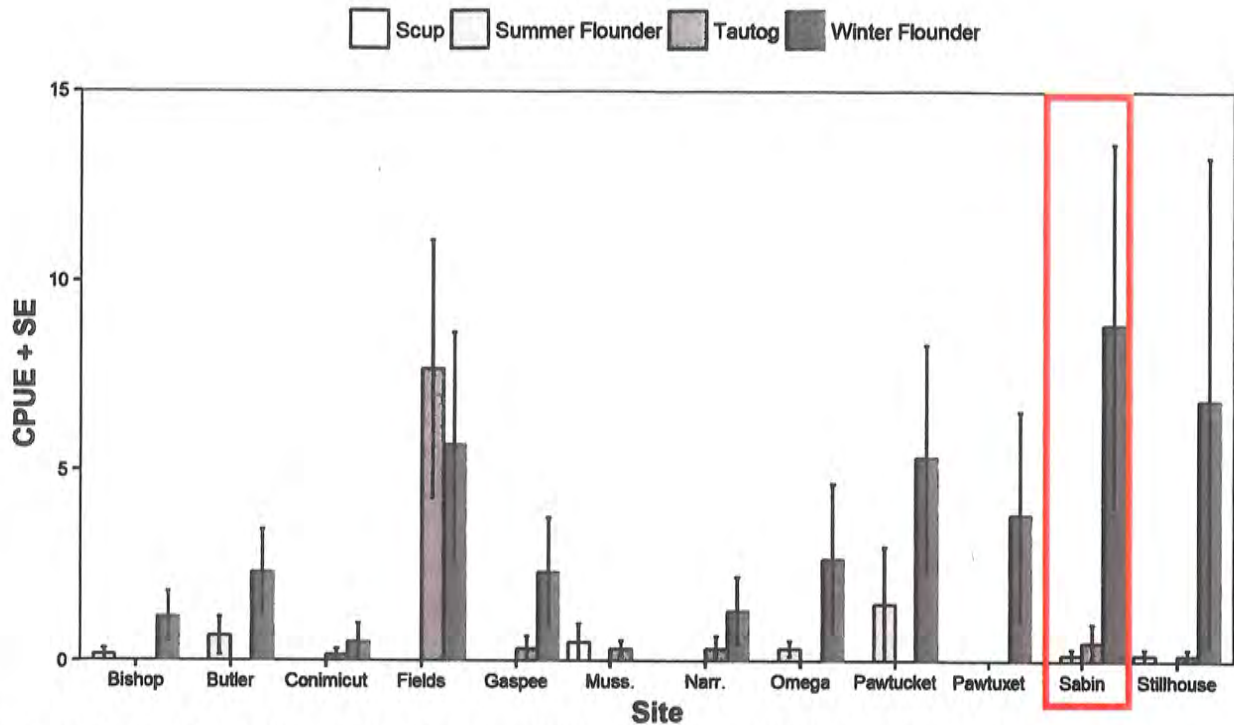


Figure 7. Catch per unit effort of scup, summer flounder, tautog, and winter flounder during seine sampling (2016-2018) at the 12 study sites.

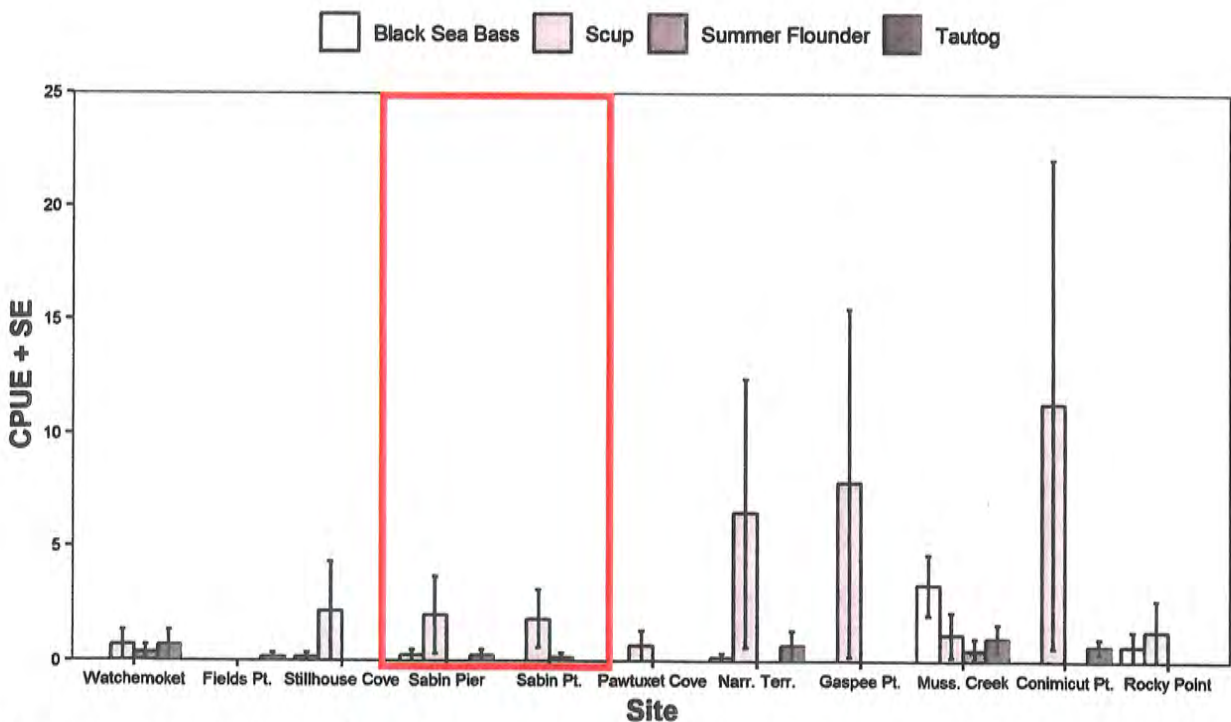


Figure 8. Catch per unit effort of black sea bass, scup, summer flounder, and tautog during fish trap sampling (2017-2018) at the 12 study sites.

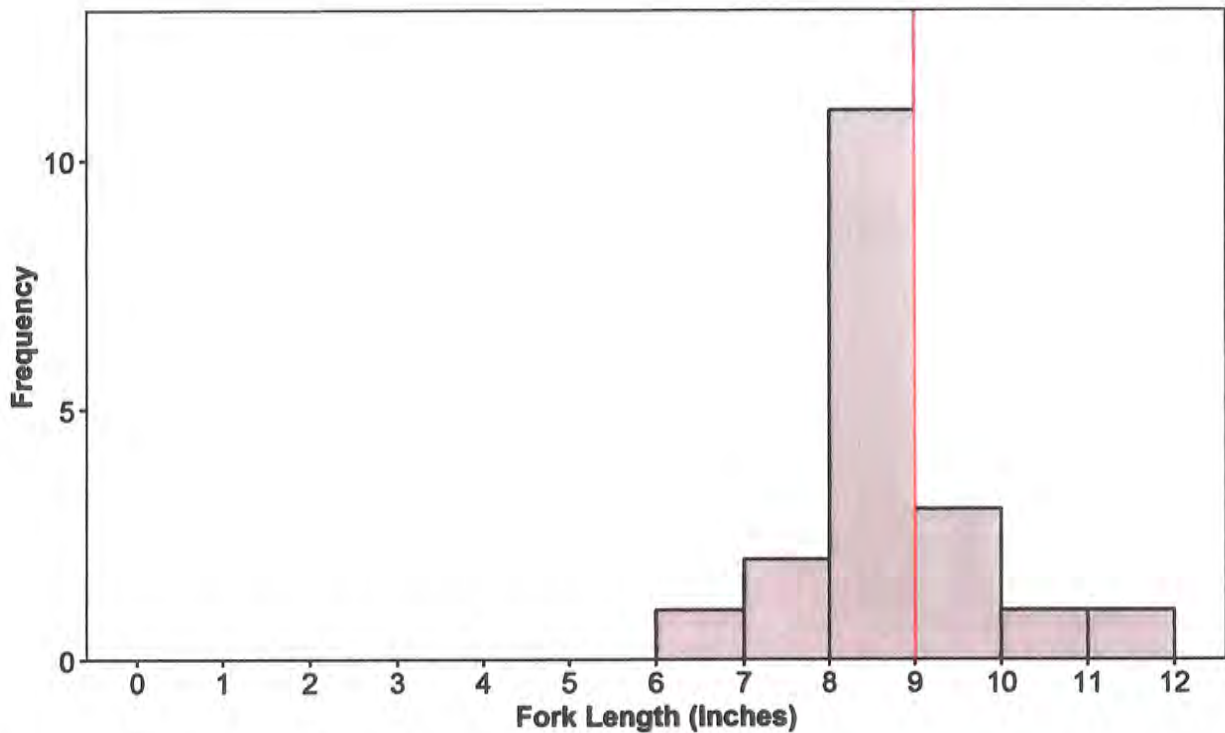


Figure 9. Histogram of scup caught in the Sabin Point fish traps. Scup were measured by fork length. The red line represents the recreational legal limit (9 inches by Total Length).

(4) Background Knowledge: Recreational and Commercial Use

Historically, Sabin Point was a significant winter flounder fishing spot (pers. comm. Michael Bucko, DMF Lead APAIS Biologist). However, the decline of the winter flounder population has reduced the popularity of the park and fishing pier for recreational anglers. Angler survey data gathered from the APAIS MRIP program, as well as communications with the Rhode Island Saltwater Anglers Association (RISAA), have confirmed that Sabin Point is an unpopular recreational fishing spot for demersal finfish, with occasional recreational fishing for pelagic or multi-habitat associated fish (NOAA, MRIP Rhode Island Public Access Fishing Site Register). This information supports the low abundance of demersal finfish observed in our surveys at this location. Since this area is not heavily utilized, the applicants believe additional structure provided by reef balls can help enhance scup, tautog, and black sea bass fishing opportunities at this location, increasing utilization of the park and enhancing fishing opportunities in the upper bay.

The 0.91-acre project site (Figure 1) is highly suitable for artificial reef construction based on data collected during our field survey and information collected from meetings and communications with stakeholders (City of East Providence, RISAA, Commercial Whelk and Quahog Fisheries, DEM Enforcement, USACE, and CRMC; see Section 8: Public Support and Communications). Through this assessment, artificial reefs (ARs) were highlighted as the best viable option for fish habitat enhancement work at Sabin Point.

In summary, Sabin Point was selected because of the available infrastructure near project site for fishing access, the relatively low quantity and quality of fish habitat structure in the surrounding subtidal, the suitable physical and biological attributes for supporting fish, the low impact to competing uses of the selected area.

4. ALTERNATIVE SITES

Alternative sites for fish habitat enhancement are located within the same geographic area as the chosen Sabin Point Park location (Figure 10). The purpose of this project is to improve fish habitat and increase fishing opportunities in the Providence River estuary. This project is water-dependent and an upland alternative would not be applicable given the goals of this project.

The four northern sites (Pawtucket State Pier, Bishop Point, Butler, and Omega Pond) are not deep enough (1ft MLW) to support this type of AR work. In addition, instances of hypoxia and fish kills in these areas make them less suitable locations for fish habitat enhancement. The remaining sites generally maintain more suitable water quality conditions for finfish than those in the Seekonk River. Fields Point was not selected because it is relatively shallow (3ft MLW) and already has a large amount of underwater structure from the riprap along the shore. Enhancement from additional structure in this area would not have as much added benefit than at other sites. The remaining sites were either too shallow (Stillhouse, Pawtuxet Cove, Gaspee), too close to the shipping channel, had more competing uses than Sabin (Conimicut, and Mussachuck), were more heavily trafficked by boaters (Mussachuck, Conimicut, Narragansett Terrace, and Pawtuxet Cove), were closer to surrounding residential waterfront property (Narragansett Terrace, Conimicut, Pawtuxet Cove) among other logistical reasons relating to ease of reef construction. Ultimately, Sabin Point was determined to be the most ideal location for AR fish habitat enhancement work at this time.



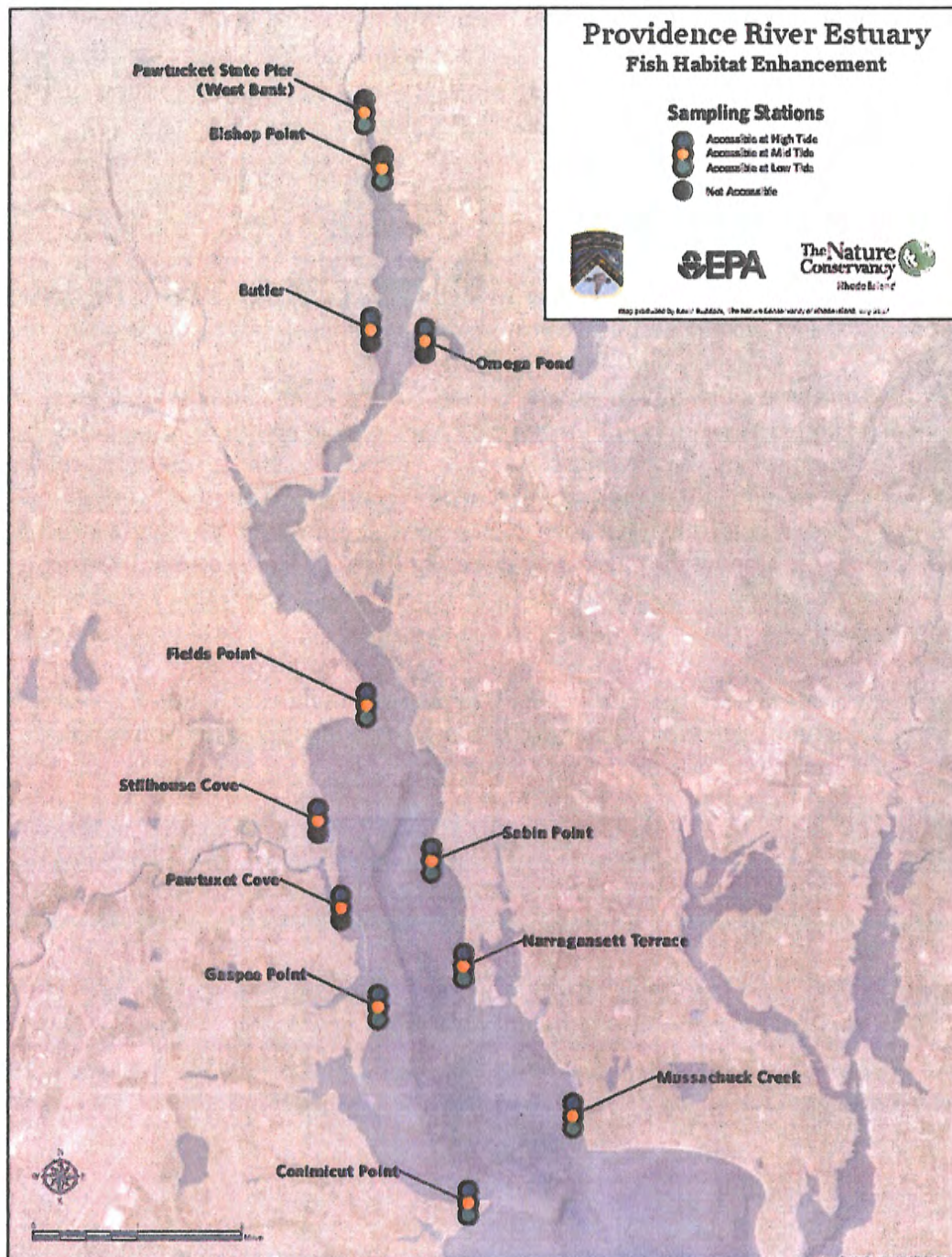


Figure 10. Station map and for habit assessment conducted in the Providence River and upper Narragansett Bay tidal estuaries.

5. REEF DESIGN AND CONSTRUCTION

We chose Reef BallsTM to design our fish habitat enhancement work at Sabin Point because of their documented success in estuarine environments in the Southeastern Atlantic and West Coast of the United States. Studies show that artificial reefs balls promote aggregations of

demersal finfish (Bohnsack 1990, Bohnsack 1991, Ambrose 1989), which is one of the primary objectives of our project. Several AR experiments have shown that habitat enhancement with Reef Balls™ can increase abundance, diversity, and production when compared to natural reefs and sandy substrate controls (Folpp 2013, Hackradt 2011, Powers 2003). Upon review of these publications, we have decided to maximize the number and limit the spacing between modules in order to increase the potential benefit of the Sabin Point Artificial Reef Project (Bohnsack 1994, Sherman 2002). ARs have also shown greater attraction of planktivores (i.e., menhaden, herring, and juvenile grunts) as well as benthic feeding fish compared to natural reefs and sand bottom (Bohnsack 1994). In addition to the biological benefits observed, a new research project in Maryland is attempts to utilize Reef Balls™ to alleviate hypoxic zones in the Severn River in an effort to restore this habitat for oyster and associated reef fish colonization (Wheeler 2018).

A contracted professional (Reef Innovations) will oversee the fabrication and deployment of the reef modules to maintain quality assurance and control. The contractor has over 15 years of experience in reef construction and is licensed to construct and deploy Reef Balls™. We will use Reef Balls™ made from a mixture of cement (limestone), silica and water. Cement types II or greater will be used, as these cement grades are resistant to sulfates and other chemicals in sea water which can break down lower grade concrete. Pozzalanic materials such as micro-silica, and/or crushed shell will be used to help neutralize the pH of the cement to that of seawater (pH of 8.3). An adequate water to cement ratio will be used in the manufacturing process to ensure structural integrity and durability. Reef Balls™ are chemically engineered to be long-lasting (500-yr lifespan) in seawater and enhance epifaunal growth. Reef Balls™ are physically designed to resist being overturned by waves in shallow subtidal and subtidal locations. A certified pre-cast company will be hired to fabricate reef modules and ship them to Rhode Island. We intend to use two sizes of Reef Balls™ to maximize topographic heterogeneity and mimic natural reefs, while keeping logistics simple for this pilot project (Table 1).

Table 1. Type and number of Reef Balls™ that will be used per location based on the current array. Data was provided by Reef Innovations Inc. The ratio or Pallet to Bay bays may change based on logistics but the number will not exceed a total of 100 Reef Balls™.

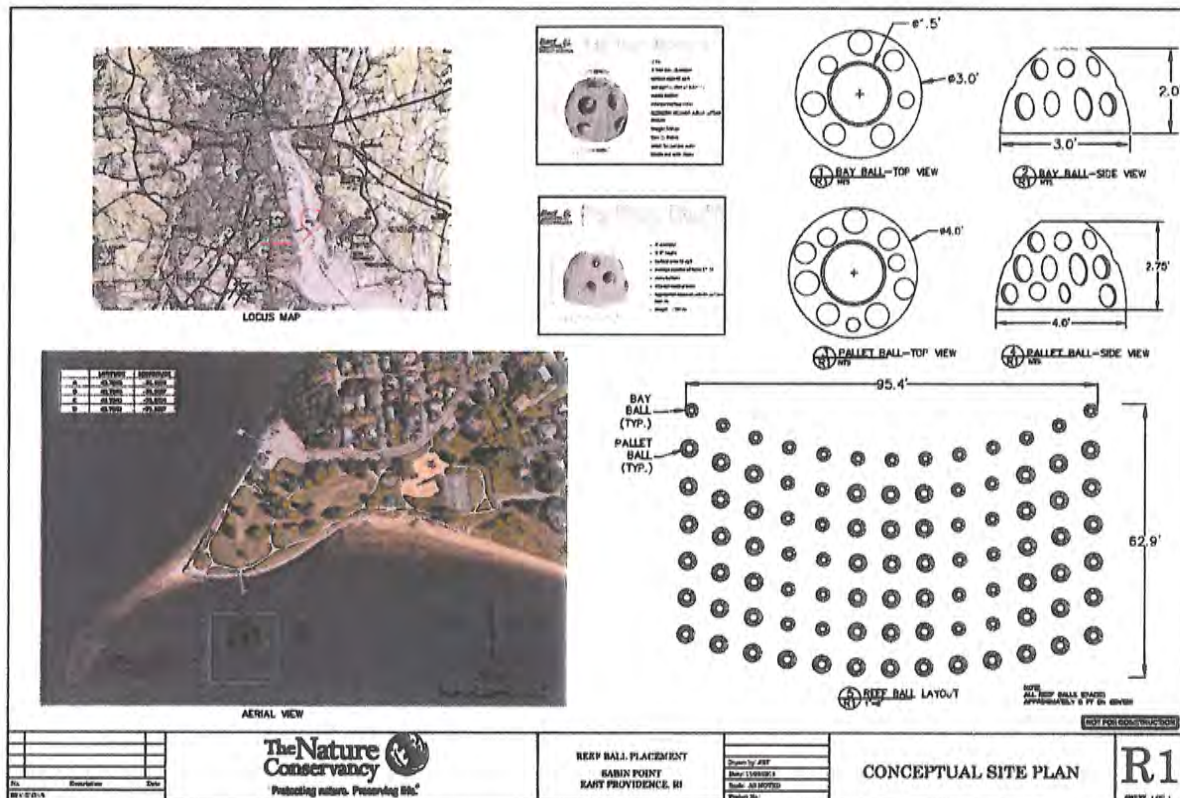
Unit Type	#	Width (ft.)	Height (ft.)	Surface Area (ft ²)	Volume (ft ³)	Weight (lbs)
Pallet Ball	58	4	2.9	75	28.47	1,300
Bay Ball	33	3	2	40	11.043	500

Prior to construction, the boundaries of project sites will be georeferenced using d-GPS and marked with surface floats. Boundary markers will be maintained throughout the duration of our study. We are applying for a 200'x 200' permit area, within which we will be constructing the artificial reef array. Our current reef design is currently scoped to have a 95.4 by 62.9 foot reef area (0.14 acres), but will not exceed the 200 by 200 permit area if spacing between, or the number of, Reef Balls™ needs to be adjusted. 91 Reef Balls™ will be evenly distributed in a 7x13 grid parallel to shore. Each row will curve, starting ~75 to 100 feet from the end of the pier, so that within each row the modules are the same distance from the pier. (Figure 11).

Our proposed artificial reef array currently consists of 58 Pallet Balls and 33 Bay Balls (91 total modules). Reef modules will be transported to the project site by barge and lowered to



the seafloor by crane. A single reef module will be lowered to the seafloor using a spray bar and a crane. Once in contact with the bottom, tension hooks (Pelican Hook) will release the reef modules from its strap in a fixed position. Divers may be used to ensure proper placement. This methodology will ensure accuracy and proper placement of the reef modules. We anticipate reef construction to take no more than one week and will begin after October 15th. We expect the construction window will have little to no impact on commercial and recreational use of the surrounding waters as well as the temporal winter flounder essential fish habitat (EFH) window.



6. REEF MONITORING

The applicants will monitor the reef sites with video observations following the deployment of the Reef Balls™. Survey data will provide a baseline to evaluate potential movement or burial of reef materials.

The applicants will monitor changes in fish and macroinvertebrate communities due to the artificial reef habitat. Prior to installing AR modules, the applicants will finalize an appropriate monitoring design using techniques such as underwater video, fish traps, and dive surveys to monitor fish populations. Baseline beach seine and fish trap survey data have been collected monthly (May-October) at Sabin Point over the last two years (2017 and 2018) and will continue after installation of the artificial reefs, assisting with the evaluation of differences in fish abundance before and after reef construction.

To determine the relative habitat value produced by creating an AR at Sabin Point, the applicants intend to utilize a modified version of the Kelp Ecosystem Ecology Network (KEEN) monitoring protocol. This approach will allow the applicants to compare AR habitat to those such as kelp, eelgrass, and oyster reefs. The applicants expect to conduct monitoring up to three years after construction. Examples of KEEN monitoring techniques include: quadrat, uniform point count, swath, cube, and hand core surveys. These surveys are designed to sample common algae, invertebrates, and fish species associated with artificial reefs. Additionally, temperature, salinity, and dissolved oxygen measurements will be collected at the site.

7. TIMELINE OF ACTIVITIES

Table 2 provides an expected timeline of project activities. We do not anticipate any changes in proposed timeline, but notifications will be provided to partners if changes occur. Reef construction will be between 10/15/19 and 11/30/19. Post-construction monitoring will begin following reef construction. Biological monitoring of fish populations will start in Spring 2019.

Table 2: Timeline of project activities and completion dates.

Project Component	Activity	Projected Date
I. Location, design & permits	Identify project sites and control sites	Aug 2018
	Facilitate partner and stakeholder meetings	Fall 2018
	Baseline survey of sites (use intensity, bottom video, sediments)	May 2017-Oct 2018
	Submit permit applications	Dec 2018
	Public Hearing	Spring 2019
II. Reef Construction	Secure contracts for modules	April/May 2019
	Delineate and survey reef sites	May 2019
	Deploy modules and monitor	On or after Oct 15th, 2019
III. Post-Construction Monitoring	Bottom survey of reefs (side-scan, video transects)	2019-22
	Evaluate reef habitat succession	2019-22
	Evaluate habitat use by juvenile finfish	2019-22



8. PUBLIC SUPPORT AND COMMUNICATIONS

Over the last six months, the project team has facilitated meetings and provided background on the project to foster awareness and gain feedback from user groups. Before the project was presented at the Rhode Island Marine Fisheries Council public hearing, several in-person and phone meetings were held with prospective stakeholders including: RISAA, the City of East Providence Planning department and Harbor Master, ACOE, CRMC, RIDEM Enforcement, and fishermen that represent whelk and quahog industries in the vicinity of our project area. Quahogging is prohibited at Sabin Point, as it is north of the shellfishing closure line. Our reef design was created by Jillian Thompson (TNC Conservation Engineer) and was reviewed by the contacted stakeholder groups to ensure they were well briefed on the scope and goals of the proposed work. Expert advice and support on earlier drafts of the project proposal, particularly on reef construction and design, experimental design, and sampling methodology presented in our permit application (Personal Communication, Mark Russo (MA Division of Marine Fisheries Climate and Artificial Reef Specialist) and Jordan Byrum (NC Department of Environmental Quality Artificial Reef Coordinator).

On November 14th, Steve Medieros (RISAA President), was contacted and briefed on the goals and scope of the Artificial Reef Project at Sabin Point. Site plans and aerial maps of the project location were reviewed by the board of directors on two separate occasions, November 20th and December 11th. Overall, RISAA supports our study and will provide a letter of support during the public notice period.

On December 3rd, 2018, TNC and DEM met with the city of East Providence planning department to provide background and details regarding the Sabin Point Artificial Reef Project. We have received positive feedback from the department who do not foresee any negative impacts to the existing infrastructure or navigable waterways.

On December 6th, 2018, DEM met with ACOE and CRMC for a pre-application meeting to discuss the project, permitting, and any concerns they have with the proposal. Artificial reefs are considered fill by the ACOE and require an Individual Permit in which we have compared alternative locations as well as upland alternatives, to our chosen work site. Comments regarding the distance from the pier and the depth at mean low tide (~5 ft) were discussed and helped improve the siting for our artificial reef for maximum benefit to those fishing off the pier.

We have reached out to Katie Eagan, who in turn reach out to other members of the commercial whelk and quahog community regarding the suitability of the proposed project site. We have identified that the area south of Sabin Point maintains little commercial whelk activity, but given the limited footprint of our Artificial Reef, those who fish that area were not concerned that the project would not interfere with their whelk fishing efforts. Sabin Point is located north of the shellfish closure line, and thus should not interfere with the commercial Quahog community.

On December 20th we met with Chief Dean Hoxie from RIDEM Law Enforcement as well as some members of the RIDEM Public Access Committee to brief them on the project. The project was received well, and they did not foresee any issues providing the reef footprint is clearly marked. There is no dockage on the fishing pier and the shoal to the west prevents major boating traffic lowering the reefs risk as navigational hazard. Given the prevailing SW wind

during the summer, it was suggested to move the landward edge of the array as close as 75 feet from the pier so that fishers will have the opportunity to reach the reef from the pier.

While developing our permit application we have taken into consideration the thoughts and comments made by the different stakeholder groups we've met with and have adjusted the project site and construction window accordingly in order to minimize potential user-conflicts, provide maximum benefit to existing resources and users, and to avoid areas and timeframes associated with Essential Fish Habitat designations for Winter Flounder (Pereira, 1999). To our knowledge and based on response to with stakeholder groups, the proposed project will not displace or impact current users or biological communities.

9. POTENTIAL ADVERSE IMPACTS

We do not anticipate negative ecological or social impacts resulting from the proposed research project. Reef locations were surveyed using underwater video and Ponar grabs on October 24, 2018. In addition to our review of existing literature and spatial data, we do not expect displacement or loss of existing bottom habitat features. The project site is in an area of sandy sediment and shell hash. Social impacts may include the displacement of commercial fishing; however, we have consulted with representatives of fishing industry to identify potential user conflicts and concerns. Due to the small footprint and shellfish harvest closure in the Providence River, there will be negligible to no impact to these stakeholder groups. Additionally, this artificial reef will be open to both recreational and commercial fishing industries. The proposed reef construction plan will impact boat navigation in the specific 0.25-acre reef footprint but is not located in a frequented boating location and is greater than 1,000 feet from the navigation lane, thus does not pose a significant navigation hazard. The corners of the artificial reef will be marked for the duration of the study to provide awareness of potential boating hazards. At no time will reef modules extend greater than 3-feet from the sea floor. Boats will be able to navigate around and inside at their own risk and may anchor within and around project sites. Notifications of work and work dates will be provided to local Harbor Masters, RI DEM, RI CRMC, USCG, and ACOE. Annual progress reports will be provided to RI CRMC, RI DEM, and ACOE in January of each year. TNC staff will monitor reef sites over a minimum of 3-years for reef movement, subsidence, and scouring, in addition to the biological surveys planned for the project. Given the small footprint, the artificial reef will not significantly impact the viable winter flounder habitat (flat, sandy silt environment).

10. LIMITATIONS ON SUCCESS

The performance of our artificial reefs may vary based on site-dependent attributes such as localized water circulation patterns, sediment firmness and grain size, water quality and nutrient loads, and fish and invertebrate larval supply. We anticipate minor sediment burial and scouring of reefs. The water depth at Sabin Point is on the shallower end of the depth range than other fish habitat enhancement work. This may limit the amount of legal size fish that could be attracted to the area even after the reef is created. The speed of colonization of sessile organisms on the reefs could also alter the impact the added structure has on fish abundance.



11. BENEFITS AND EXPECTED RESULTS

Constructing an AR using a three-dimensional Reef Ball™ module array at Sabin Point Park will help enhance fish habitat by providing structure for fish in an area devoid of such habitat. Added structure will increase rugosity and provide a surface area for colonization that will result in a more complex benthic environment. Added structure is expected to increase turbulent flow experienced on the sea floor (Reidenbach 2010), increasing mixing of the water column and sediment transport, which will help alleviate the stress of periodic hypoxic events allowing the colonization of a more robust benthic invert and epifaunal communities, further promoting the quality of the habitat near the Sabin Point Pier. Our assessment will allow us to determine how Artificial Reefs can enhance fishing opportunities in Rhode Island. In addition, the resulting colonization of epifauna on the reef will provide food and enhanced habitat for fish species. We expect the artificial Reef Ball™ array will increase the aggregation demersal finfish that associate with bottom structure (i.e., Scup, Tautog, and Black Seabass) (Folpp 2013, Sherman 2002, Powers 2003, Lenihan 1998, Hackradt 2011). Ultimately, we anticipate that the creation of the artificial reef at Sabin Point will improve the quality of the fishing experience at the park as a result of improved habitat, and aggregations of finfish likely to follow.

By working with resource management agencies, environmental non-profits, academics, recreational sport fishing organizations, and commercial fisheries, we will facilitate a dialog on establishing scientifically and socially-sound fish habitat enhancement practices in the Bay. Limited information exists on the benefits of artificial reef enhancement in Rhode Island let alone New England. This array will help advance research on the impact of ARs in Rhode Island and provide the first long-term AR Reef Ball™ research station in Narragansett Bay. As a pilot project, this work will help guide future fish habitat enhancement work in Narragansett Bay.

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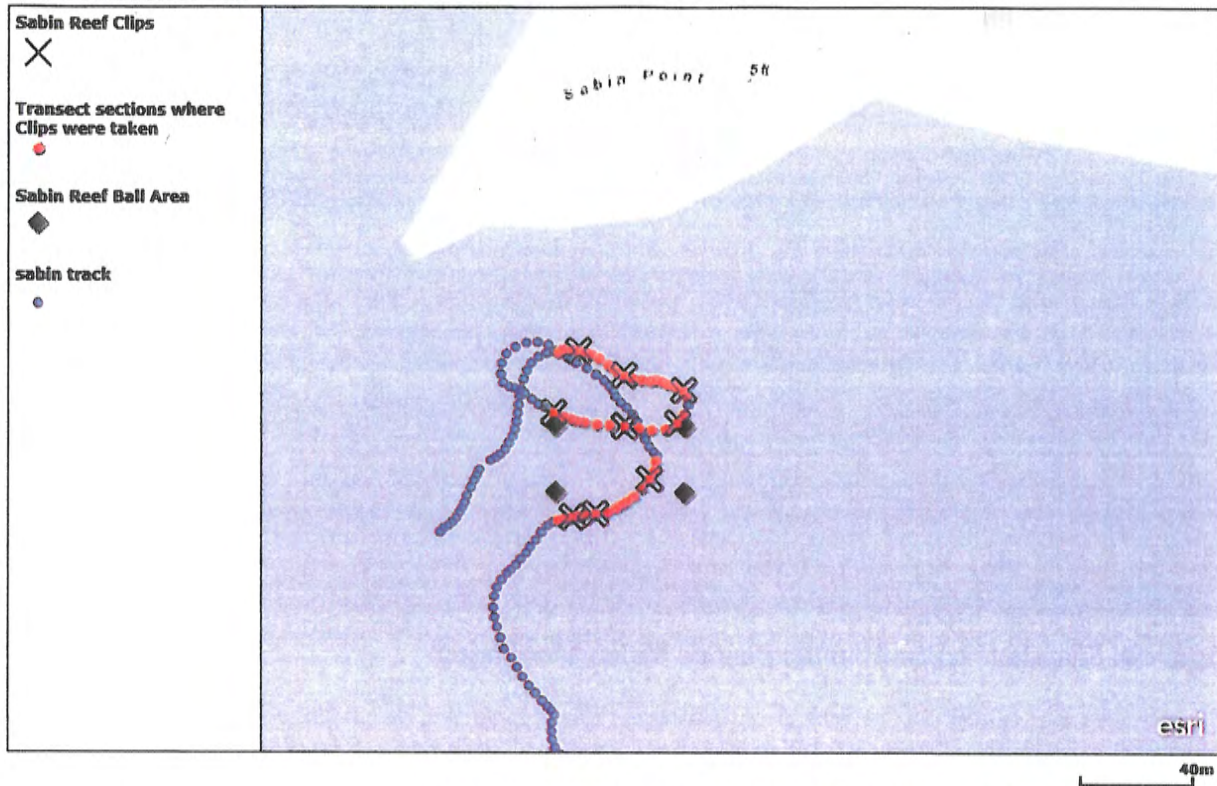
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APPENDIX

Sabin Point Reef Ball



City of East Providence, MassGIS, Esri Canada, Esri, HERE, Garmin, INCREMENT P, USGS, EPA, USDA

Figure 3. Benthic Monitoring Tows at Sabin Point, with Photo Snapshot location (X's) and GPS tracks.



Figure 4. Snapshots taken from the Benthic Video Monitoring.

The requirements herein for a Category B Assent are necessary data and information for the purposes of federal consistency reviews. In accordance with Rhode Island Coastal Resources Management Program application requirements defined by Section 1.3.1(A) (formerly § 300.1) for a Category B Permit we are providing the following information.

a. Demonstrate the need for the proposed activity or alteration:

- The main **objective** of our study is to determine how artificial reefs can be used as a fisheries resource and fish habitat enhancement tool in degraded areas of the upper Narragansett Bay and Providence River estuary. Since 2016, TNC and DMF (hereafter the applicants) have conducted benthic video monitoring and finfish surveys at selected sites to assess their suitability for various enhancement techniques. These assessments have provided the applicants insight into the current habitat condition and fish assemblage in these areas, and the ability to prioritize locations of where such fish habitat enhancement work would be most successful.
- Studies show that artificial reefs balls promote aggregations of demersal finfish (Bohnsack 1990, Bohnsack 1991, Ambrose 1989), which is one of the primary objectives of our project. Several AR experiments have shown that habitat enhancement with Reef Balls™ can increase abundance, diversity, and production when compared to natural reefs and sandy substrate controls (Folpp 2013, Hackradt 2011, Powers 2003). Upon review of these publications, we have decided to maximize the number and limit the spacing between modules in order to increase the potential benefit of the Sabin Point Artificial Reef Project (Bohnsack 1994, Sherman 2002). ARs have also shown greater attraction of planktivores (i.e., menhaden, herring, and juvenile grunts) as well as benthic feeding fish compared to natural reefs and sand bottom (Bohnsack 1994). In addition to the biological benefits observed, a new research project in Maryland is attempts to utilize Reef Balls™ to alleviate hypoxic zones in the Severn River in an effort to restore this habitat for oyster and associated reef fish colonization (Wheeler 2018).
- Results from the grain size analysis indicated that sediments are composed almost entirely of coarse to fine sands, with only minor percentages of silt. The samples taken from within the proposed permit area have coarse sand contents indicating that the material is well-sorted and located in a medium-high energy environment. Low benthic habitat quality was evident from video as well as benthic grab samples. Bottom habitat features included shell hash of *Mya arenaria* and *Crepidula* spp. The video and Ponar grab data suggest that the area has the appropriate bottom type to

support the proposed reef and that this location could benefit from this type of structural enhancement.

- In 2017, Sabin Point experienced temporary hypoxia from mid-September to the beginning of October. Mats of *Ulva* spp. get blown into the cove formed behind the sandspit and settle in the shallows south of Sabin Point park, contributing to the observed hypoxic days. Added structure and improved rugosity to benthic habitats have been shown to improve turbulent flow of an area, which could help alleviate the severity and length at which these events occur as well as provide important water column mixing for active suspension feeders that will colonize the reef (Lenihan 1996, Lenihan 1998, Lenihan 1999, Lenihan 2001). Turbulent flow also increases shear stress that thins the diffusive boundary layer that regulates mass transfer, allowing for greater mass flux of molecules, such as oxygen, across the sediment-water interface (Patterson 1991a, 1991b, Reidenbach 2010). These physical processes are especially important for sessile organisms (e.g., corals, oysters) during times of stress as they can increase the transfer of oxygen molecules (Finelli et al. 2006). We do not anticipate these events having a significant impact on the success of the artificial reef in this location and provides additional reasoning why we believe that Sabin Point could benefit from habitat enhancement.
- Angler survey data gathered from the APAIS MRIP program, as well as communications with the Rhode Island Saltwater Anglers Association (RISAA), have confirmed that Sabin Point is an unpopular recreational fishing spot for demersal finfish, with occasional recreational fishing for pelagic or multi-habitat associated fish (NOAA, MRIP Rhode Island Public Access Fishing Site Register). This information supports the low abundance of demersal finfish observed in our surveys at this location. Since this area is not heavily utilized, the applicants believe additional structure provided by reef balls can help enhance scup, tautog, and black sea bass fishing opportunities at this location, increasing utilization of the park and enhancing fishing opportunities in the providence river estuary.

b. Demonstrate that all applicable local zoning ordinances, building codes, flood hazard standards, and all safety codes, fire codes, and environmental requirements have or will be met; local approvals are required for activities as specifically prescribed for nontidal portions of a project in §§ 1.3.1(B), (C), (F), (H), (I), (K), (M), (O) and (Q) of this Part; for projects on state land, the state building official, for the purposes of this section, is the building official:

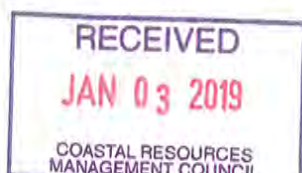
- This is in-water work and all RI DEM and CRMC requirements were addressed in the application materials. The Nature Conservancy (TNC), in partnership with the Rhode Island Department of

Environmental Management (RI DEM) Division of Marine Fisheries (DMF), is requesting an Army Corps of Engineers (ACOE) Individual Permit, Rhode Island Department of Environmental Management (DEM) Water Quality Certificate, and a Rhode Island Coastal Resources Management Council (CRMC) Category B Assent for habitat restoration projects undertaken by public entities. This project seeks to enhance habitat and fishing opportunities in the Providence River. Pre- and post-enhancement monitoring will allow us to evaluate the effectiveness of artificial reefs as an enhancement tool in Rhode Island waters. We expect this project will serve as a model for artificial reef projects in Rhode Island state waters by improving habitat, increasing local abundance of fish, and providing societal benefits through increased fishing opportunities.

- We emphasize that this work is proposed within the area of the Providence River Estuary where shellfishing is prohibited (RI DEM Marine Fisheries Regulations, Shellfish, [4.12.2.S.1](#), and RI DEM Office of Water Resources: <http://www.dem.ri.gov/maps/mapfile/shellfish.pdf>). The river-wide prohibition of shellfish harvest will protect the artificial reefs from harvest if they receive a set of oyster, blue mussels, etc.
- We also emphasize that this research is conducted by a public entity and serves a compelling public purpose by providing benefits to public trust resources (e.g. the Providence River ecosystem and local fish stocks). Since this work consists of small footprint and we are enhancing the substrate to promote benefits to the aforementioned public trust resources, we expect the impacts will be beneficial, with no negative effects.

c. Describe the boundaries of the coastal waters and land area that is anticipated to be affected:

- This work is proposed in subtidal waters and will not result in any impacts along the shore and on land. Furthermore, the reef array is scoped to be around 75-100 feet from the Sabin Point fishing pier (50 feet minimum, 175 feet maximum).
- The figure below depicts the side profile of the reef modules, the artificial reef array, and an aerial map of the proposed artificial reef location. Our proposed artificial reef array currently consists of 58 Pallet Balls and 33 Bay Balls (91 total modules). Boundary markers will be maintained throughout the duration of our study. We are applying for a 200'x 200' permit area, within which we will be



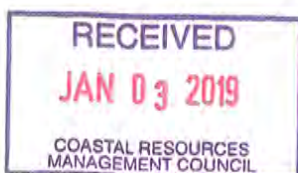
[illegible]

- d. Demonstrate that the alteration or activity will not result in significant impacts on erosion and/or deposition processes along the shore and in tidal waters:**

- This work is proposed in subtidal waters and will not result in any significant impacts on erosion and/or deposition processes along the shore and in tidal waters. We anticipate minor sediment burial and scouring of reef modules but the results from the grain size analysis indicated that sediments are composed almost entirely of coarse to fine sands, with only minor percentages of silt. The samples taken from within the proposed permit area have coarse sand contents indicating that the material is well-sorted and located in a medium-high energy environment. Low benthic habitat quality was evident from video as well as benthic grab samples. The video and Ponar grab data suggest that the area has the appropriate bottom type to support the proposed reef and that this location could benefit from this type of structural enhancement.

e. Demonstrate that the alteration or activity will not result in significant impacts on the abundance and diversity of plant and animal life:

- We do not anticipate any negative impacts from the proposed restoration work. As part of the site selection process and baseline monitoring we plan to survey the site using underwater video, snorkel, and SCUBA to evaluate anticipated benefits to the benthic habitat and finfish assemblage because of this work.
- The applicants will monitor changes in fish and macroinvertebrate communities due to the artificial reef habitat. Prior to installing AR modules, the applicants will finalize an appropriate monitoring design using techniques such as underwater video, fish traps, and dive surveys to monitor fish populations. Baseline beach seine and fish trap survey data have been collected monthly (May-October) at Sabin Point over the last two years (2017 and 2018) and will continue after installation of the artificial reefs, assisting with the evaluation of differences in fish abundance before and after reef construction. To determine the relative habitat value produced by creating an AR at Sabin Point, the applicants intend to utilize a modified version of the Kelp Ecosystem Ecology Network (KEEN) monitoring protocol. This approach will allow the applicants to compare AR habitat to those such as kelp, eelgrass, and oyster reefs. The applicants expect to conduct monitoring up to three years after construction. Examples of KEEN monitoring techniques include: quadrat, uniform point count, swath, cube, and hand core surveys. These surveys are designed to sample common algae, invertebrates, and fish species associated with artificial reefs. Additionally, temperature, salinity, and dissolved oxygen measurements will be collected at the site.



- Studies show that artificial reefs balls promote aggregations of demersal finfish (Bohnsack 1990, Bohnsack 1991, Ambrose 1989), which is one of the primary objectives of our project. Several AR experiments have shown that habitat enhancement with Reef Balls™ can increase abundance, diversity, and production when compared to natural reefs and sandy substrate controls (Folpp 2013, Hackradt 2011, Powers 2003). Upon review of these publications, we have decided to maximize the number and limit the spacing between modules in order to increase the potential benefit of the Sabin Point Artificial Reef Project (Bohnsack 1994, Sherman 2002). ARs have also shown greater attraction of planktivores (i.e., menhaden, herring, and juvenile grunts) as well as benthic feeding fish compared to natural reefs and sand bottom (Bohnsack 1994). In addition to the biological benefits observed, a new research project in Maryland is attempts to utilize Reef Balls™ to alleviate hypoxic zones in the Severn River in an effort to restore this habitat for oyster and associated reef fish colonization (Wheeler 2018).
- We also emphasize that this research is conducted by a public entity and serves a compelling public purpose by providing benefits to public trust resources (e.g. the Providence River ecosystem and local fish stocks). Since this work consists of small footprint and we are enhancing the substrate to promote benefits to the aforementioned public trust resources, we expect the impacts will be beneficial, with no negative effects.

f. Demonstrate that the alteration will not unreasonably interfere with, impair, or significantly impact existing public access to, or use of, tidal waters and/or the shore:

- We do not anticipate any negative impacts from the proposed restoration work and no interference or impacts to existing public access to or use of tidal waters or the shore as we intend to enhance the public access fishing pier experience by creating artificial reef within casting distance.
- We do not anticipate negative ecological or social impacts resulting from the proposed research project. In addition to our review of existing literature and spatial data, we do not expect displacement or loss of existing bottom habitat features as this project site is in an area of sandy sediment and shell hash. We have consulted with representatives of fishing industry to identify potential user conflicts and concerns and due to the small footprint and shellfish harvest closure in the Providence River, there will be negligible to no impact to these stakeholder groups. Additionally,

this artificial reef will be open to both recreational and commercial fishing industries.

- The proposed reef construction plan will impact boat navigation in the specific 0.25-acre reef footprint but is not located in a frequented boating location and is greater than 1,000 feet from the navigation lane, thus does not pose a significant navigation hazard. The corners of the artificial reef will be marked for the duration of the study to provide awareness of potential boating hazards. At no time will reef modules extend greater than 3-feet from the sea floor. Boats will be able to navigate around and inside at their own risk and may anchor within and around project sites.

g. Demonstrate that the alteration will not result in significant impacts to water circulation, flushing, turbidity, and sedimentation:

- We highlight that areas of the providence river estuary are known to experience temporary hypoxic conditions during the late summer months and could benefit from added structure and slight alteration to local water circulation. In 2017, Sabin Point experienced temporary hypoxia from mid-September to the beginning of October. Mats of *Ulva* spp. get blown into the cove formed behind the sandspit and settle in the shallows south of Sabin Point park, contributing to the observed hypoxic days.
- Added structure and improved rugosity to benthic habitats have been shown to improve turbulent flow of an area, which could help alleviate the severity and length at which these events occur as well as provide important water column mixing for active suspension feeders that will colonize the reef (Lenihan 1996, Lenihan 1998, Lenihan 1999, Lenihan 2001). Turbulent flow also increases shear stress that thins the diffusive boundary layer that regulates mass transfer, allowing for greater mass flux of molecules, such as oxygen, across the sediment-water interface (Patterson 1991a, 1991b, Reidenbach 2010). These physical processes are especially important for sessile organisms (e.g., corals, oysters) during times of stress as they can increase the transfer of oxygen molecules (Finelli et al. 2006).

h. Demonstrate that there will be no significant deterioration in the quality of the water in the immediate vicinity as defined by DEM:

- We highlight that areas of the providence river estuary are known to experience temporary hypoxic conditions during the late summer months, but our project will help to reduce the severity of these in events.
- We do not anticipate this project having a negative impact on the current water quality and will only



help to improve it. Added structure and improved rugosity to benthic habitats have been shown to improve turbulent flow of an area, which could help alleviate the severity and length at which these events occur as well as provide important water column mixing for active suspension feeders that will colonize the reef (Lenihan 1996, Lenihan 1998, Lenihan 1999, Lenihan 2001). Turbulent flow also increases shear stress that thins the diffusive boundary layer that regulates mass transfer, allowing for greater mass flux of molecules, such as oxygen, across the sediment-water interface (Patterson 1991a, 1991b, Reidenbach 2010). These physical processes are especially important for sessile organisms (e.g., corals, oysters) during times of stress as they can increase the transfer of oxygen molecules (Finelli et al. 2006).

i. Demonstrate that the alteration or activity will not result in significant impacts to areas of historic and archaeological significance:

- Historically, Sabin Point was a significant winter flounder fishing spot (pers. comm. Michael Bucko, DMF Lead APAIS Biologist). Baseline seine and fish trap data from 2016 to 2017 show that Sabin Point supports the highest number of juvenile winter flounder of the 12 sites. However, the beach seine conducted at Sabin Point is approximately 250 meters away from the proposed AR on a sand substrate, which is more suitable for winter flounder settlement (Pereira, 1999). Given the small scale, non-preferential sediment type for settlement, and time of the year we plan to build (October 15th, pre-spawning), the artificial reef at Sabin Point should not impact the Winter Flounder spawning potential of the nearby sandy locations.

j. Demonstrate that the alteration or activity will not result in significant conflicts with water dependent uses and activities such as recreational boating, fishing, swimming, navigation, and commerce:

- Our intended goal is to enhance a site that currently provides fishing access but supports low fish abundance due to the unproductive benthic habitat. The project site has been carefully chosen to balance the goals and objectives of the project while taking into consideration the environmental constraints, logistics of implementation, and competing uses.
- We used geospatial, benthic video monitoring, and scientific fisheries data to ensure that our enhancement work was conducted in a suitable location. Data collected and evaluated for the assessment included bathymetry, slope, marine shipping channel use, sediment type, dissolved oxygen, benthic habitat, seagrass distribution, and demersal fish abundance. Data sources and maps can be provided upon request.

- From the 12 alternative sites, we selected Sabin Point because this location minimizes all conflicts to other known uses occurring in Providence River Estuary. Over the last six months, the project team has facilitated meetings and provided background on the project to foster awareness and gain feedback from user groups. Before the project was presented at the Rhode Island Marine Fisheries Council public hearing, several in-person and phone meetings were held with prospective stakeholders including: RISAA, the City of East Providence Planning department and Harbor Master, ACOE, CRMC, RIDEM Enforcement, and fishermen that represent whelk and quahog industries in the vicinity of our project area. Shellfishing is prohibited at Sabin Point (RI DEM Marine Fisheries Regulations, Shellfish, 4.12.2.S.1, and RI DEM Office of Water Resources: <http://www.dem.ri.gov/maps/mapfile/shellfsh.pdf>). Our reef design was reviewed by the contacted stakeholder groups to ensure they were well briefed on the scope and goals of the proposed work, and no foreseen conflicts arose from any of these groups.

k. Demonstrate that measures have been taken to minimize any adverse scenic impact (see § 1.3.5 of this Part):

- The proposed work will result in no adverse scenic impacts given that these reefs will not be exposed above the surface of the water. More specifically, we anticipate the top of each reef will be at minimum 2 feet below the surface of the water at mean low water.



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https://www.bayjournal.com/article/study_to_measure_reef_balls_ability_to_agitate_water_lessen_dead_zones.



State of Rhode Island
Coastal Resources Management Council
Oliver H. Stedman Government Center
4808 Tower Hill Road, Suite 3
Wakefield, RI 02879
(401)783-3370

State of Rhode Island
Department of Environmental Management
Office of Technical and Customer Asst.
235 Promenade Street
Providence, RI 02908-5767
(401)222-6822

JOINT PUBLIC NOTICE

CRMC File No.: 2019-01-002

January 28, 2019

RIDEM Water Quality Certification Number: 19-011

These offices have under consideration the application of:

Department of Environmental Management
Division of Marine Fisheries
3 Fort Wetherill Road
Jamestown, RI 02835
And
The Nature Conservancy
159 Waterman Street
Providence, RI 02906

for State of Rhode Island Assent (in accordance with the Coastal Resources Management Program), and State of Rhode Island Water Quality Certification (in accordance with Chapter 42-35 pursuant to Chapters 46-12 and 42-17.1 of the RIGL, as amended): to create an artificial reef to enhance habitat and fishing opportunities in the Providence River. Please see attached map of Sabin Point.

Project Location: Providence River south of Sabin Point

Street & Number: Providence River

City/Town: East Providence

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.

RICRMC/RIDEM Joint Public Notice
CRMC File No. 2019-01-002
February 22, 2016
Page Two

This also serves as notice that the Rhode Island Department of Environmental Management, Office of Water Resources, Water Quality Certification Program has under consideration and review the same proposed activity as described above for compliance with the State's Water Quality Regulations (AUTHORITY: in accordance with Clean Water Act, as amended (33 U.S.C. 1251 et.seq.; Chapter 42-35 pursuant to Chapters 46-12 and 42-17.1 of the Rhode Island General Laws of 1956, as amended).

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 and be received at this office on or before **February 28, 2019.**

It is expected that objectors will review the application and associates plans thoroughly. Comments that pertain to this Joint Notice must be submitted in writing and must be addressed to Rhode Island Coastal Resources Management Council and Rhode Island Department of Environmental Management at the above referenced addresses.

/lat

	LATITUDE	LONGITUDE
A	41.7846	-73.5884
B	41.7846	-73.5887
C	41.7843	-73.5884
D	41.7843	-73.5887



CRMC Mailing List for Department of Environmental Management
CRMC File Number 2019-01-002

Department of Environmental Management
Division of Marine Fisheries
3 Fort Wetherill Road
Jamestown, RI 02835

CRMC (2019-01-002)
O. S. Government Center
4808 Tower Hill Road
Wakefield, RI 02879

RIDEM/Office of Technical and Customer Asst.
235 Promenade Street
Providence, RI 02908-5767

From: Lisa Turner <ltturner@crmc.ri.gov>
Sent: Monday, January 28, 2019 2:05 PM
To: Alison Kates, NRPA Program Coordinator; Amy Rose Weinreich, Charlestown TC; 'Andrew Nota, Jamestown Town Administrator'; 'Bruce Eastman, RISA'; 'C. Brown, DBEngineers'; Carol Wordell Little Compton TC; 'Charlotte Taylor'; Cheryl Fernstrom, Jamestown TC; 'Chris Church, Reporter'; 'Christine Andrews, QDC'; Colin Howard, Independent RI -- South Kingstown; Dale Holberton South Kingstown TC; David Latham; 'David Murdock'; David Prescott, Save the Bay; 'Deborah Mongeau, Librarian'; 'Dennis Erkan, RIDEM F&W'; Donna Giordano, Westerly TC; 'Emilie Holland'; 'Eric Schneider, RIDEM Fish and Wildlife'; Glenn Modica; James Bessette, Editorial Assistant; Jean Bellm, Exec Asst, Barrington; Jeanne Spencer, Tiverton Town Clerk's Office; Jeannette Alyward, North Kingstown TC; 'Jeffrey Gardner'; Jennifer M. West, Portsmouth TC; Jerry Elmer, Esq, CLF; 'John Torgan'; 'John Williams, Warwick Cove Marina'; 'Jonathan F. Stone, Exec Dir'; 'Jude Zeh'; Julie Coelho Warren TC; Kathy & Steve Jacques; Kathy & Steve Jacques; 'Kendra L. Beaver, Esq, Save the Bay'; Kim A. Casci-Palangio, East Prov CC; Laura C. Swistak, City Clerk, Newport; 'Lawrence Taft, Exec Dir'; Leigh Carney, Town Clerk; Liz Boardman; Lori Hagen, Prov City Clerk; Louis P. Cirillo, Bristol Town Clerk; Lyn Pagliarini, Warwick City Clerk; Maria Wall Cranston TC; 'Matt Gineo, Oldport Marine'; Matt O'Brien, AP Reporter; Matthew Enright, Independent RI -- Narragansett; Meg Kerr, Audubon Society of RI; Melanie Jewett Army, AICP, RIDOT; Meredith J. DeSisto, Barrington TC; 'Michael McGiveney'; Mike Jarbeau, Save The Bay; Nancy Mello, Tiverton TC; 'Neal Personeus, RIDEM'; Nick Donadio; 'Peter A. Healey'; 'Peter M. Vieira, Marine Construction'; Phil Capaldi; Richard Goldstein Pawtucket TC; 'Richard Kalunian'; 'Robert Lyons, Ocean House Marina'; Rodman R. Black Jr. HIIA; 'Scott Briggs, Librarian'; Taylor Bell (Taylor.M.Bell@usace.army.mil); 'Thomas R. Evans, State Librarian'; 'tim rockwell'; 'Tom Kutcher STB Bay Keeper'; Wendy J. W. Marshall, Middletown TC; Albert Quatrucci East Providence BO; Anna M. Sousa, East Providence City Council; Anthony Perry, Chair, East Providence Harbor Commission; Brian J. Faria, East Providence City Council; Diane M. Feather AICP, Planning Director, City of East Providence; Edward Pimentel AICP, Zoning Official, City of East Providence; Erik Skadberg, City Engineer, City of East Providence; Gregg M. Amore, Representative, City of East Providence; James A. Briden, Mayor, City of East Providence; Oscar M. Elmasian, Chief, East Providence Fire Dpt.; Robert Britto, Assistant Mayor, City of East Providence; S. Bruce Dufresne, EP Harbormaster; Scott Pickering, GM, Eastbay Newspapers; Steve Coutu, PE, Director, City of E. Providence Public Works; Steven Hazard, Assessor, City of East Providence; Timothy Chapman, City Manager, East Providence; Wayne Barnes, East Providence Conservation Commission Liaison; William J. Conley Jr, Senator, City of East Providence
Subject: CRMC Public Notice -- RIDEM & The Nature Conservancy Joint Public Notice
Attachments: 2019-01-002 RIDEM E Providence.pdf

Please note: Comments must be received in our offices by February 28, 2019

Lisa A. Turner

Office Manager

Coastal Resources Management Council

O S Government Center

4808 Tower Hill Road, Rm 116

Wakefield, RI 02879

(401)783-3370

Lisa Turner

From: Dave Beutel <dbeutel@crmc.ri.gov>
Sent: Monday, January 28, 2019 2:11 PM
To: 'Alison Verkade - NOAA Federal'; 'Steve Medeiros'; 'Azure Cygler'; 'Robert Rheault'; 'Robert Ballou'; 'Rich Fuka'; mclamdigger@aol.com; 'Dennis Erkan'; 'Prescott, David'; 'Leavitt, Dale'; gvdwood@cox.net; 'Jim Arnoux'; 'Dave Reis'; 'Jeff Grant'; 'Jeff Gardner'; 'Jody King'; 'Katie Eagan'; kurt.blanchard@dem.ri.gov; 'Michael A. Rice'; 'Rich Hittinger'; FVThistle@verizon.net; dmontifish@verizon.net; 'Rick Bellavance'; cgreinstrategies@gmail.com; lad0626@aol.com; 'Catherine White'; 'John Torgan'; dean.hoxsie@dem.ri.gov; 'Beuth, Joshua (DEM)'; 'LeBlanc, Edward G CIV'; cindy.hannus@dem.ri.gov; 'Jerry Carvalho'; 'Phil Capaldi'; marcapcar@icloud.com; marcapcar@me.com; michaelaonosko@gmail.com; john_crosson@watkinson.org; dacapaldi@aol.com; mmcapaldi@aol.com; jschickler@cox.net; suemarinaro@me.com; traceydistefano@gmail.com; travisbarao@gmail.com; mroderick@towndock.com; maridee2@gmail.com; Taylor.M.Bell@usace.army.mil; dacapaldi@aol.com; mmcapaldi@aol.com; 'Ed'; buddhajay108@yahoo.com; 'Kenneth Murgo'; 'Janet Coit'; 'Jason McNamee'; 'Osenkowski, Jay (DEM)'; ckarp@brown.edu; psozek@lighttower.com; 'Mcmanus, Conor (DEM)'; 'Livermore, Julia (DEM)'; 'Dick Pastore'; 'Mike Jarbeau'; 'Todd Corayer'; traceydistefano2013@gmail.com; 'Lisa Turner'; 'Gerry Schey'; davidclatham@gmail.com; william.helt@tnc.org; patrick.barret@dem.ri.gov; eric.schneider@dem.ri.gov
Cc:
Subject: thirty day public notice Providence River
Attachments: 2019 DEM-TNC.pdf

This application for assent begins thirty day public notice today. The application is for a 0.91 acre site to create an artificial reef to enhance habitat and fishing opportunities. Please send comments to me by February 28, 2019.

David Beutel
Coastal Resources Management Council
Aquaculture Coordinator
Oliver Stedman Government Center
4808 Tower Hill Road
Wakefield, RI 02879
401-783-3370



This email has been checked for viruses by AVG antivirus software.
www.avg.com

CRMC DECISION WORKSHEET

2018-09-033

Daniel Torre & Max Davidson

Hearing Date:			
Approved as Recommended			
Approved w/additional Stipulations			
Approved but Modified			
Denied		Vote	

APPLICATION INFORMATION						
File Number	Town	Project Location		Category	Special Exception	Variance
2018-09-033	Portsmouth	Sakonnet River		B	☐	☐
		Plat	Lot			
		Owner Name and Address				
Date Accepted	9-12-18	Daniel Torre & Max Davidson		Work at or Below MHW	☒	
Date Completed	5-6-2019	152 Winter Street Wakefield, RI 02879		Lease Required	☒	

PROJECT DESCRIPTION
Three acre oyster culture farm

KEY PROGRAMMATIC ISSUES
Coastal Feature: Submerged land
Water Type: Type 2, Low Intensity Use
CRMP: §§ 1.2.1(B); 1.3.1(A); 1.3.1(K); and 1.3.1(R)

Variances and/or Special Exception Details:

Specific Staff Stipulations (beyond Standard stipulations): lighted corner buoys for corners farthest from shore

STAFF RECOMMENDATION(S)	
Engineer _____	Recommendation: <u>NA</u>
Biologist _____	Recommendation: <u>NA</u>
Other Staff <u>JTB</u>	Recommendation: <u>Approval</u>

[Signature] 5/6/2019
Executive Director Sign-Off date

[Signature] 5-7-19
Aquaculture Coordinator Sign-off date

[Signature] 5-21-19
Staff Sign off on Hearing Packet (Aqua) date

P1

Sakonnet River Wes



P7

3. Guidelines for floating aquaculture gear

- a. floating gear should be a minimum of 750 feet from the nearest residence
- b. low profile floating gear shall be required (maximum 4" above still water elevation).
- c. floating gear is discouraged in areas where the fetch from the prevailing wind is greater than 3 nautical miles.
- d. floating gear should be secured with helical (screw) anchors
- e. floating gear shall have a minimum \$15,000 proof of performance bond
- f. initial floating gear leases should be a maximum of three (3) acres
- g. floating gear is discouraged in Type 1 waters
- h. areas which are subject to significant boat traffic or significant water based recreational activities including but not limited to sailing, kayaking, paddleboarding, kiteboarding or swimming should not have floating gear
- i. floating gear should be at least 200 feet from an existing CRMC approved recreational mooring field
- j. floating gear shall not be permitted over or within 25 feet of protected submerged aquatic vegetation (SAV)
- k. floating gear shall not be permitted in areas of significant fishing activity
- l. towns may recommend areas where floating gear should be discouraged
- m. floating gear should be discouraged within 400 feet along shorelines which have been preserved for conservation, recreation and/or public access through easements, purchase by the state or municipality or are owned by a land trust or conservation organization and have been recognized by the CRMC
- n. floating gear should not be located within 400 feet along shorelines where public access is provided through CRMC rights-of-way, public land where the primary purpose is intended for public access, or by CRMC easements and/or where there is evidence of significant public usage and access
- o. leases permitted for direct bottom plant may receive a stipulation preventing modification to floating gear

Determinations such as "significant" will be a determination made by the CRMC based on staff experience, communication with municipalities, user groups and other organizations, available guides, publications and promotional literature, photographs, satellite images, aerial photographs and through public comments and consultations.

Torre & Davidson Application
Prepared 2/16/2018
Site Plans (Floating Cage Side-View Only)



Torre & Davidson Application
Prepared 2/16/2018
Site Plants (Farm Schematic Only)

10 Floating Lines about 25 ft apart
with 42.5 ft buffer on North and South
420 ft

NW Corner:

Lon: 71.237900 W

Lat: 41.560671 N

NE Corner:

Lon: 71.236379 W

Lat: 41.560638 N

310 ft

25

SW Corner:

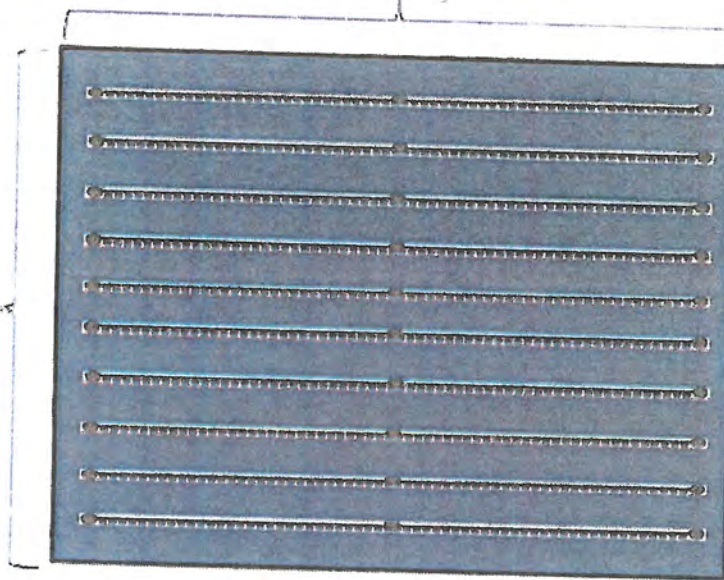
Lon: 71.237900 W

Lat: 41.559804 N

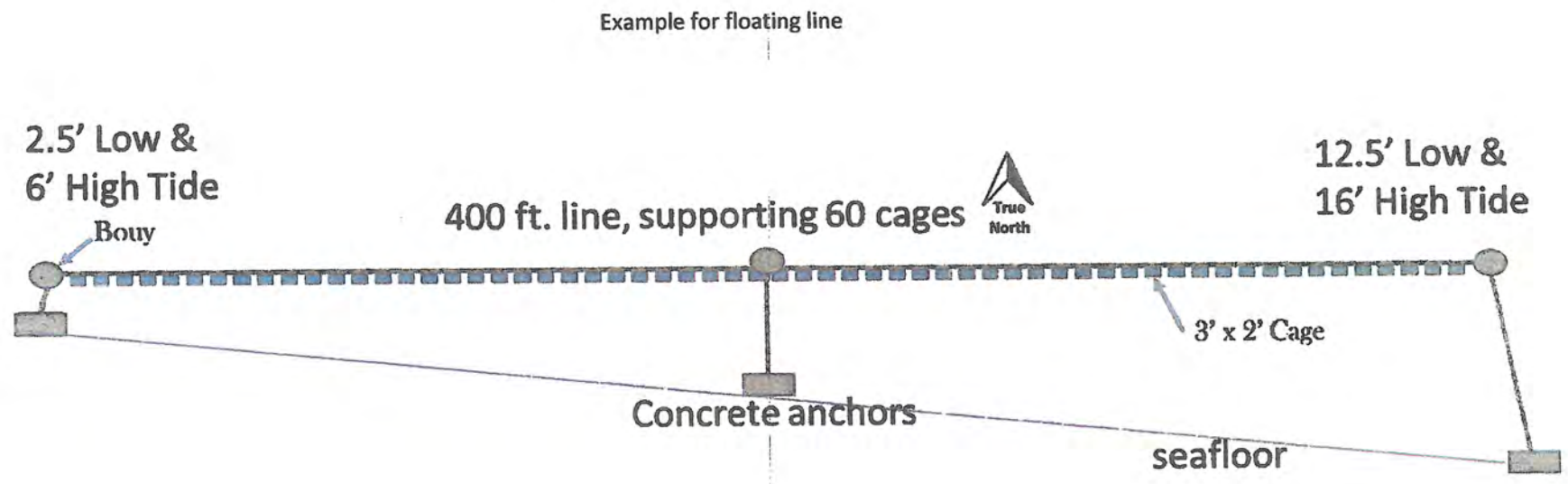
SE Corner:

Lon: 71.236379 W

Lat: 41.559804 N



Torre & Davidson Application
Prepared 2/16/2018
Site Plans (Cross-section Only)





State of Rhode Island and Providence Plantations
Coastal Resources Management Council
Oliver H. Stedman Government Center
4808 Tower Hill Road, Suite 3
Wakefield, RI 02879-1900

(401) 783-3370
Fax (401) 783-2069

APPLICATION FOR STATE ASSENT

To perform work regulated by the provisions of Chapter 279 of the Public Laws of 1971 Amended.

Applicant's Name: Daniel Torre		File No (CRMC use only): 2018-09-033
Mailing Address: 243 Colonel John Gardner Road		Res. Tel. # (609)351-3006
City/Town: Narragansett	State: RI Zip Code 02882	Bus. Tel. # (609)351-3006
Waterway: Sakonnet River	Est. Project Cost \$	Fee/Costs: \$ \$50
Longitude/latitude of all corners of Proposed Aquaculture Project Location (preferably in decimal degrees): NW NE Lon: 71.237900 W Lon: 71.236379 W Lat: 41.560671 N Lat: 41.560671 N SW SE Lon: 71.237900 W Lon: 71.236379 W Lat: 41.559804 N Lat: 41.559804 N		

Have you or any previous owner filed an application for and/or received an assent for any activity on this site? (If so please provide the file and/or assent numbers).

Is this application being submitted in response to a coastal violation?

Yes _____ No x

If yes, you must indicate NOV or C&D Number _____

Is this site within a designated historic district? No

Dan Torre

Owner's Signature (sign and print)

STORMTOOLS (<http://www.beachsamp.org/resources/stormtools/>) is a planning tool to help applicants evaluate the impacts of sea level rise and storm surge on their projects. The Council encourages applicants to use STORMTOOLS to help them understand the risk that may be present at their site and make appropriate adjustments to the project design.

NOTE: The applicant acknowledges by evidence of their signature that they have reviewed the Rhode Island Coastal Resources Management Program, and have, where possible, adhered to the policies and standards of the program. Where variances or special exceptions are requested by the applicant, the applicant will be prepared to meet and present testimony on the criteria and burdens of proof for each of these relief provisions. The applicant also acknowledges by evidence of their signature that to the best of their knowledge the information contained in the application is true and valid. If the information provided to the CRMC for this review is inaccurate or did not reveal all necessary information or data, then the permit granted under this application may be found to be null and void. Applicant requires that as a condition to the granting of this assent, members of the CRMC or its staff shall have access to the applicant's property to make on-site inspections to insure compliance with the assent. This application is made under oath and subject to the penalties of perjury.

01/17

PLEASE REVIEW REVERSE SIDE OF APPLICATION FORM



STATEMENT OF DISCLOSURE AND APPLICANT AGREEMENT AS TO FEES

The fees which must be submitted to the Coastal Resources Management Council are based upon representations made to the Coastal Resources Management Council by the applicant. If after submission of this fee the Coastal Resources Management Council determines that an error has been made either in the applicant's submission or in determining the fee to be paid, the applicant understands that additional fees may be assessed by the Coastal Resources Management Council. These fees must be paid prior to the issuance of any assent by the Coastal Resources Management Council.

The applicant understands the above conditions and agrees to comply with them.

Dan Torre

Signature

Dan Torre
243 Colonel John Gardner Road
Narragansett, RI
02882

09/10/2018

Date

Print Name and Mailing Address

Full Application Written Description:

Dan Torre & Max Davidson
243 Colonel John Gardner Road,
Narragansett, Rhode Island 02882
danmtorre@gmail.com
(609) 351-3006
CRMC file number: D2018-02-048
DEM Aquaculture License number: TBD

Overview

Our farm will utilize a floating culture method to commercially culture the eastern oyster (*Crassostrea virginica*) off the West bank of the Sakonnet River, RI. Seed oysters will be purchased from established and approved hatcheries and placed in the field.

We will set up 10 units of 60, 2' x 3' floating polyethylene cages that are suspended from a floating longline system in the water column, and anchored on both ends, and a mid-point for extra stability using concrete anchors and helical anchors as needed. Bags will vary in mesh size to maximize flow, while ensuring no loss of product.

Floating cages will eliminate the need for mechanized tumblers and power washers due to their inherent design which constantly tumbles the oysters via wave action with intermittent periods of air drying. Oysters will be cleaned and sorted by hand to ensure marketability.

During the warmer summer months, oysters will be feeding at a maximum and cages will be flipped regularly by hand to minimize fouling and tumbled to promote cup shaped oysters that are free of fouling organisms. Additionally oysters farmed in this manner will be more consistent in size, shape, and quality.

During the winter months oyster cages will be sunk to the bottom, by removing both floats. As a result of our oyster cages being sunk during the winter months they will have limited interaction with migratory waterfowl populations. Though no work will be planned during this time, any work that does occur during these winter months (November to April) will be done from 10:00am to 2:00pm.

Impacts:



Oyster aquaculture in this area will have positive implications on throughout many estuarine trophic levels. Our product will be actively removing nitrogen from the water column as it is assimilated into oyster biomass, or deposited in the sediment due to particulate settling. Increased particulate nitrogen to the sediment is thought to be extremely advantageous for restoring eelgrass, as eelgrass can opportunistically uptake nitrogen from the sediment.

Outreach:

As both of us stem from a background in marine science, we are interested in the possibility of setting up a blog to document our work to educate the public on the benefits of oyster aquaculture in estuarine habitats and inform conservation groups of our work.

1.3.1(A).

Permitting the proposed farm will create jobs directly, and indirectly, while helping to meet the increasing demand for oysters. The land adjacent to the farm is a rock and debris filled slope, followed by a 30-foot cliff that shows evidence of erosion. Aquaculture, and especially floating aquaculture has been noted to reduce erosion to adjacent land for a several reasons.

Aquaculture promotes the proliferation of submerged aquatic vegetation, which has obvious advantages in areas subject to erosion. In addition, it's been hypothesized that floating aquaculture reduces wave energy which would ultimately diminish erosion of nearby land.

The closest public land access is south of the site, leading to the Glen Manor House dock. The proposed site is over 400 feet from the dock access and would not impede any recreational activities taking place on or near the dock. Only positive impacts on water quality, sedimentation, turbidity, flushing and water circulation will be observed from the proposed farm. The proposed site is adjacent to an abandoned boathouse, with significant deterioration and misuse, and as such it is unsafe for recreation in the area due to fallen pilings, stray metal piping, etc.,. Scenic impacts will be minimized by using low profile cages that will only stick out

Details

Legend

ROW: Right-of-Way

+



of the water a fraction of an inch, and by using low profile coloring (black/gray). In addition, the proposed location was chosen in an area which would be unseen by residents.

Floating Gear Guidelines:

During the preliminary determination meeting the following items were identified to be addressed moving forward (my responses in bold):

d. floating gear should be secured with helical (screw) anchors

Due to terrain in this area, it has been suggested to use concrete blocks.

j. floating gear shall not be permitted over or within 25 feet of protected submerged aquatic vegetation (SAV)

The initially proposed lease was adjusted to removed contact with eelgrass, according to a CRMC survey conducted in September of 2018. The current lease site does not interfere with eelgrass or other SAV according to the survey conducted.

l. towns may recommend areas where floating gear should be discouraged

Conversations with Gary Crosby, Portsmouth Town Planner, and Don Wilkinson, manager of Glen House Manor Estate, have not identified any issues with siting floating gear in this area.

m. floating gear should be discouraged within 400 feet along shorelines which have been preserved for conservation, recreation and/or public access through easements, purchase by the state or municipality or are owned by a land trust or conservation organization and have been recognized by the CRMC

No CRMC recognized right-of-way in the area according to CRMC website (see attached figure below). In addition, the proposed lease is over 400 feet from the closest shore access point. The shoreline adjacent to the proposed site presents a hazardous path over old brick and stone rubbish.

<http://www.arcgis.com/home/webmap/viewer.html?webmap=6ab50d9cef0c47a49e894cde4b1d2ef7&extent=-72.5362,40.952,-70.3994,42.1442>



Guidance Document for Aquaculture Operations Plans

Anyone conducting aquaculture operations in RI must comply with all applicable CRMC regulations (*Coastal Resources Management Program Section 300.11*) and DEM regulations, as set forth in "*Aquaculture of Marine Species in RI Waters*." Plans provided to the CRMC will be available for DEM review. Modifications to the permit must follow the CRMC process for modification of assent. Separate, individual plans shall be developed and submitted for each aquaculture site/facility (i.e., one for each lease site, one for each upweller location, etc.); provided, however, that if lease sites are contiguous, or part of a single, unified operation, the overall site can be covered by a single plan. Operations Plans shall address each of the items listed below, as applicable, following the format set forth below.

Note: All plans must be type written. This Microsoft Word document is intended to be used by licensees/operators as a template when preparing plans and may be modified as needed to fit the specific needs of the operator.

1. ***Name and mailing address:***

Dan Torre and Max Davidson
243 Colonel John Gardner Road
Narragansett, RI, 02882

2. ***CRMC file number:*** TBD

3. ***DEM Aquaculture License number:*** TBD

4. ***Type of facility:***

This is a commercial oyster aquaculture lease site where floating cultivation will be used to grow oysters to commercial sale size.

5. ***Location of facility:*** (include aerial or chart depicting exact location):

- Town: Portsmouth
- Water body: Sakonnet River
- Lat/long coordinates of facility:

6. ***Species of shellfish*** grown at the facility:

Our farm will utilize a floating culture method to commercially culture the eastern oyster (*Crassostrea virginica*) off the West Bank of the Sakonnet River, RI. Seed oysters will be purchased from established and approved hatcheries following Biosecurity Board protocols.

7. ***Types of structures, gear and methods:***

We will set up 10 units of 60, 2' x 3' floating polyethylene cages that are suspended from a floating longline system in the water column, and anchored on both ends, and a mid-point for extra stability using a combination of concrete and helical anchors. Bags will vary in mesh size to maximize flow, while ensuring no loss of product.

8. ***Methods and equipment used to identify and mark site:***

The four corners of the commercial aquaculture site will be marked using the standard 11 inch pot buoys with written notation marking in 3 inch letters "CRMC" including our file number when available.

9. ***DEM Shellfish Harvesting Classification*** at site.

Lease is located in approved waters outside of known shellfish beds.

10. ***Description of practices and procedures used*** during the growth, harvest, storage, transportation, and sale of the cultured species.

During the warmer summer months, oysters will be feeding at a maximum and cages will be flipped regularly by hand to minimize fouling and tumbled to promote cup shaped oysters that are free of fouling organisms. Additionally, oysters farmed in this manner will be more consistent

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COASTAL RESOURCES
MANAGEMENT COUNCIL

in size, shape, and quality. Oysters will be cleaned and sorted by hand to ensure marketability. Bags will also be rotated to dry bags to reduce biofouling.

11. Procedures for *maintaining records*:

For operations using seed acquired from out-of-state:

Description of notification, disease certification, and labeling/tagging procedures:

All out of state seed purchases will go through the approval of the Biosecurity Board pending disease certifications from the relevant hatchery.

Disease certification will be conducted when seed is purchased and a pathology report will be collected before sale. Tags will be equipped with company information including name, address, contact information, location of harvest, the intended recipient, and time of harvest,

12. Procedures for *maintaining records*:

For upwellers/seed-growing facilities in prohibited waters:

This does not apply as we will not be using these

Description of procedures, including frequency of grading (with particular reference to requirements that seed must be removed before it exceeds maximum "seed" size threshold, i.e., <32 mm for oysters, <25 mm for quahogs):

13. Procedures for *maintaining records*:

For operations using seed from prohibited waters, or operations using shellfish obtained from a third party that originated as seed from prohibited waters:

No seed from prohibited waters will be used.

Detailed description of demarcation methods and record-keeping practices used at the lease site to ensure that animals have been cultured at least twelve (12) months in approved waters, prior to sale, including:

a. Detailed record-keeping practices specifying date, source, average size, and amount of seed; and

b. Protocols and associated record keeping for tracking product, e.g., use of tagged/numbered cages and/or bags, use of marked trawls, and/or use of marked, segregated portions of lease sites.

Description of the process for notifying the third party that (a) seed came from prohibited waters, (b) the date of that transfer, and (c) the remaining time needed to maintain the animals in approved waters prior to sale.

Oyster aquaculture has been noted to increase water quality, provide habitat and overall increase the abundance and diversity of plant and animal life.

(6) demonstrate that the alteration will not unreasonably interfere with, impair, or significantly impact existing public access to, or use of, tidal waters and/or the shore;

There are no CRMC recognized rights-of-way in the area according to CRMC GIS database. In addition, the proposed lease is over 400 feet from the closest accessible point. The shoreline adjacent to the proposed site presents a hazardous path over old brick, rusted piping and stone rubbish.

(7) demonstrate that the alteration will not result in significant impacts to water circulation, flushing, turbidity, and sedimentation;

Only positive impacts on water quality, circulation, sedimentation, turbidity, flushing and water circulation will be observed from the proposed farm.

(8) demonstrate that there will be no significant deterioration in the quality of the water in the immediate vicinity as defined by DEM;

Only positive impacts on water quality, sedimentation, turbidity, flushing and water circulation will be observed from the proposed farm.

(9) demonstrate that the alteration or activity will not result in significant impacts to areas of historic and archaeological significance;

The proposed site is adjacent to an abandoned boathouse, with significant deterioration and misuse, and as such it is unsafe for recreation in the area due to fallen pilings, stray metal piping, etc., Scenic impacts will be minimized by using low profile cages that will only stick out of the water a fraction of an inch, and by using low profile coloring (black/gray). In addition, the proposed location was chosen in an area which would be unseen by residents, due to the large cliff adjacent to the proposed site.

(10) demonstrate that the alteration or activity will not result in significant conflicts with water-dependent uses and

activities such as recreational boating, fishing, swimming, navigation, and commerce, and;

The proposed site is adjacent to an abandoned boathouse, with significant deterioration and misuse, and as such it is unsafe for recreation in the area due to fallen pilings, stray metal piping, etc.,

Coastal Resources Management Program

Section 300.1

Category B Requirements

All persons applying for a Category B Assent are required to:

(1) demonstrate the need for the proposed activity or alteration;

Permitting the proposed farm will create jobs directly, and indirectly, while helping to meet the increasing demand for oysters required for Rhode Island large tourist attraction. There are no negative impacts to the proposed farm, due to its remote and unused location. On the contrast localized environmental benefits are expected, including increased water quality, biodiversity and abundance, as well as reduced wave energy.

(2) demonstrate that all applicable local zoning ordinances, building codes, flood hazard standards, and all safety codes, fire codes, and environmental requirements have or will be met; local approvals are required for activities as specifically prescribed for nontidal portions of a project in Sections 300.2, 300.3, 300.6, 300.8, 300.9, 300.11, 300.13, 300.15 and 300.17; for projects on state land, the state building official, for the purposes of this section, is the building official,

NA

(3) describe the boundaries of the coastal waters and land area that are anticipated to be affected;
The land adjacent to the farm is a rock and debris filled slope, followed by a 30-foot cliff. The lease is proposed over 100 feet from shore.

(4) demonstrate that the alteration or activity will not result in significant impacts on erosion and/or deposition processes along the shore and in tidal waters.

The land adjacent to the farm is a rock and debris filled slope, followed by a 30-foot cliff that shows evidence of erosion. Aquaculture, and especially floating aquaculture has been noted to reduce erosion to adjacent land for a several reasons. Aquaculture promotes the proliferation of submerged aquatic vegetation, which has obvious advantages in areas subject to erosion. In addition, it's been hypothesized that floating aquaculture reduces wave energy which would ultimately diminish erosion of nearby land.

(5) demonstrate that the alteration or activity will not result in significant impacts on the abundance and diversity of plant and animal life.



Fishing practices were observed over a full season and no conflicts were observed. Commercial fishing practices were observed in the area, but were several hundred feet past the scope of the proposed farm, likely due to insufficient depth to navigate commercial fishing vessels, and lack of efficient fishable habitat.

(11) demonstrate that measures have been taken to minimize any adverse scenic impact (see Section 330). Each topic shall be addressed in writing.

Scenic impacts will be minimized by using low profile cages that will only stick out of the water a fraction of an inch, and by using low profile coloring (black/gray). In addition, the proposed location was chosen in an area which would be unseen by residents.

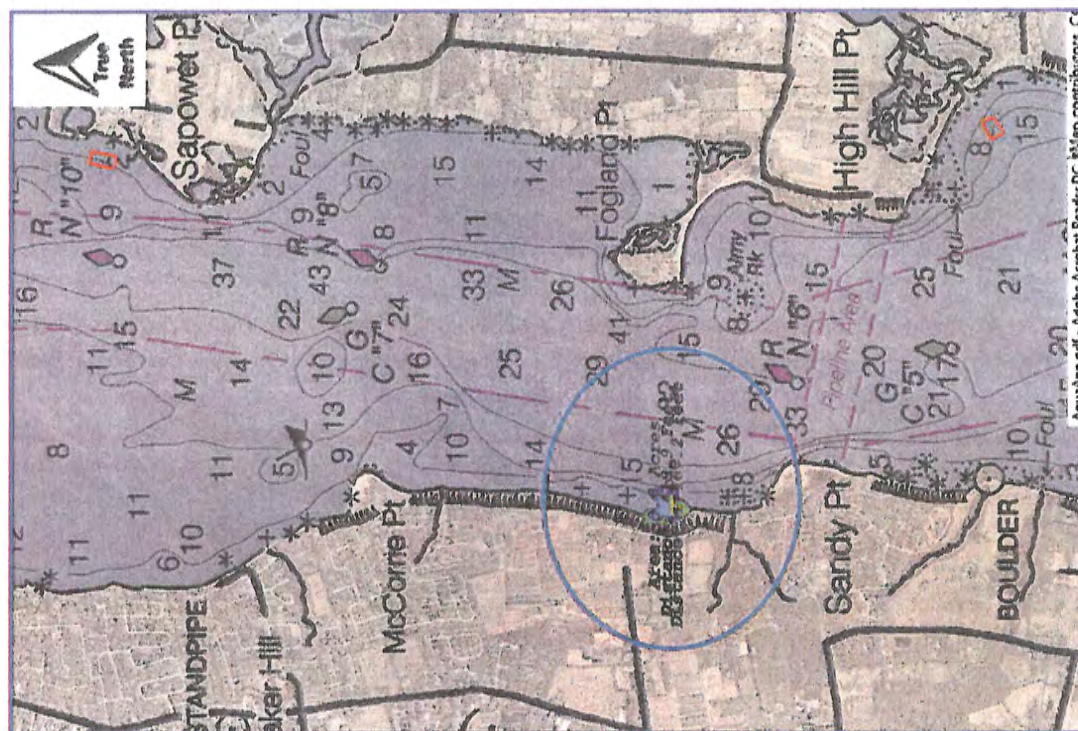


Torre & Davidson Application
Prepared 2/16/2018
Site Location



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Torre & Davidson Application
 Prepared 2/16/2018
 Site Location NOAA

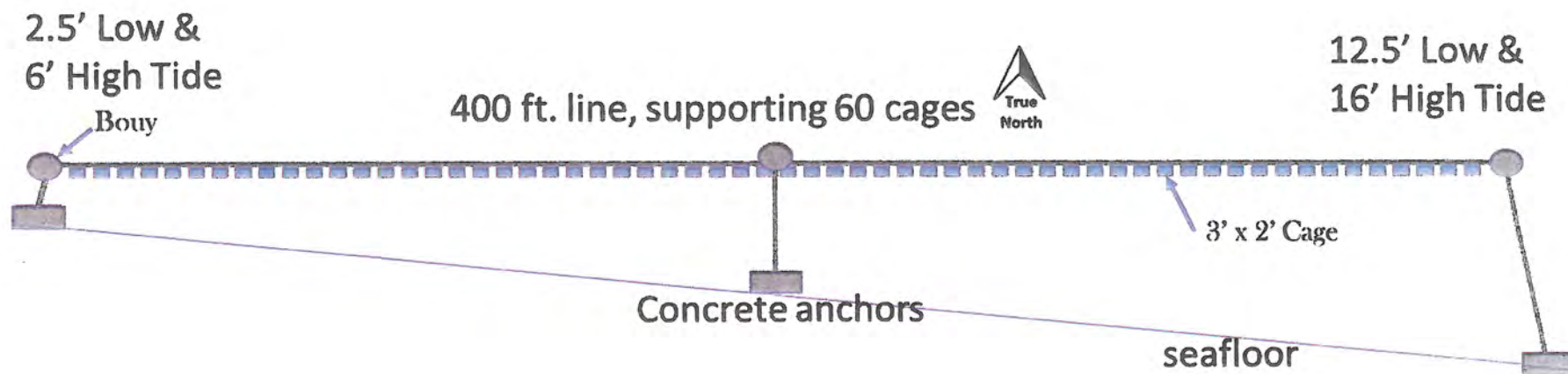


Site Plans (aquaculture tool, including distance to shore)



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Example for floating line



Torre & Davidson Application
Prepared 2/16/2018
Site Plants (Farm Schematic Only)

10 Floating Lines about 25 ft apart
with 42.5 ft buffer on North and South
420 ft

NW Corner:

Lon: 71.237900 W

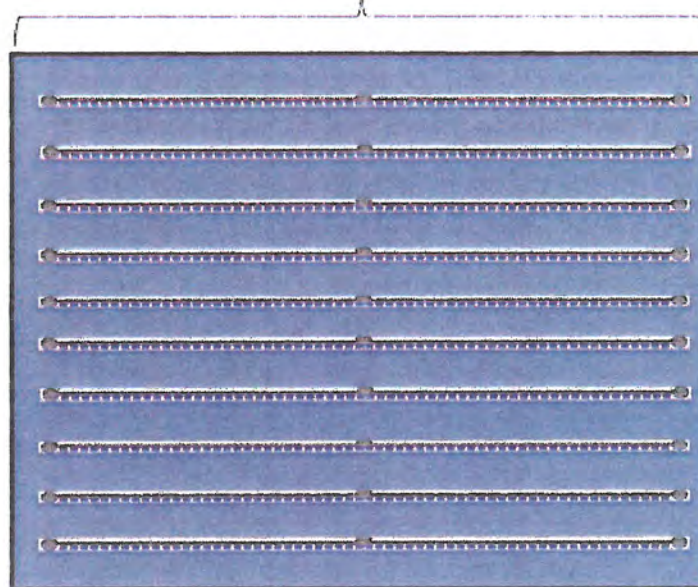
Lat: 41.560671 N

NE Corner:

Lon: 71.236379 W

Lat: 41.560638 N

310 ft



SW Corner:

Lon: 71.237900 W

Lat: 41.559804 N

SE Corner:

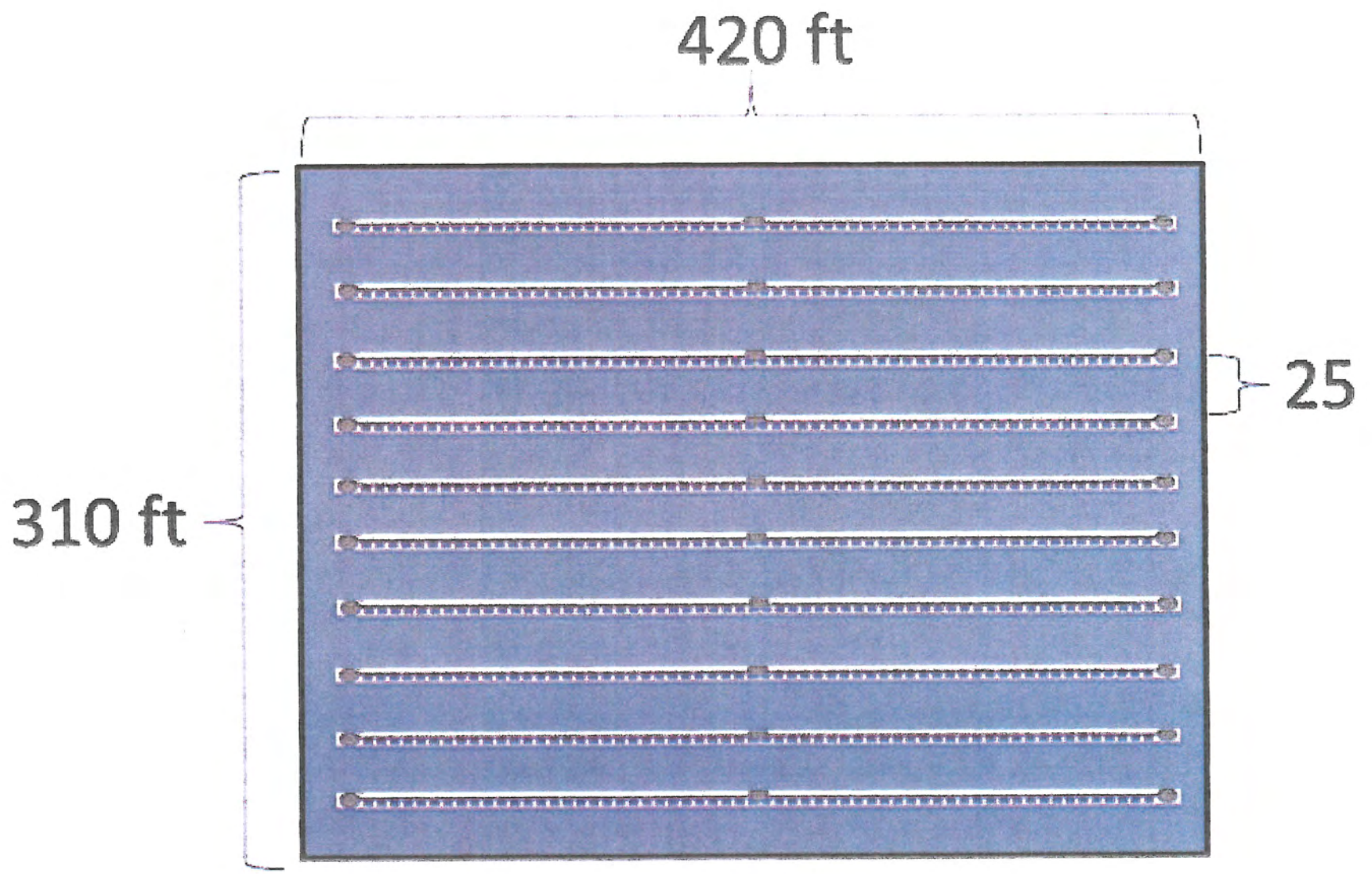
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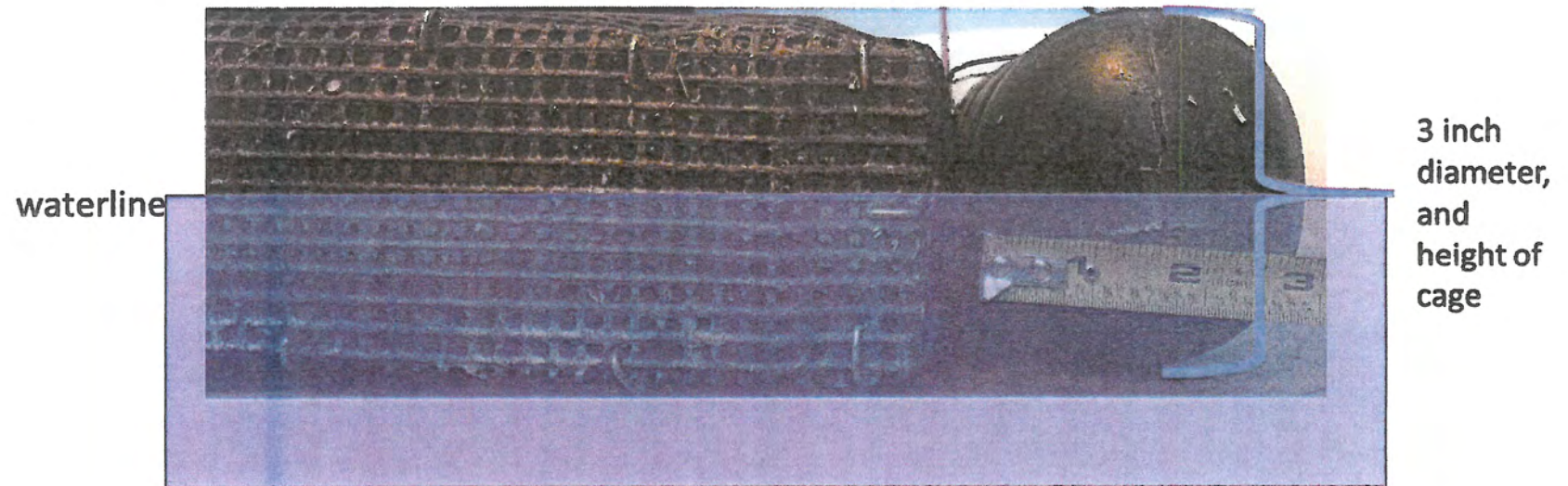
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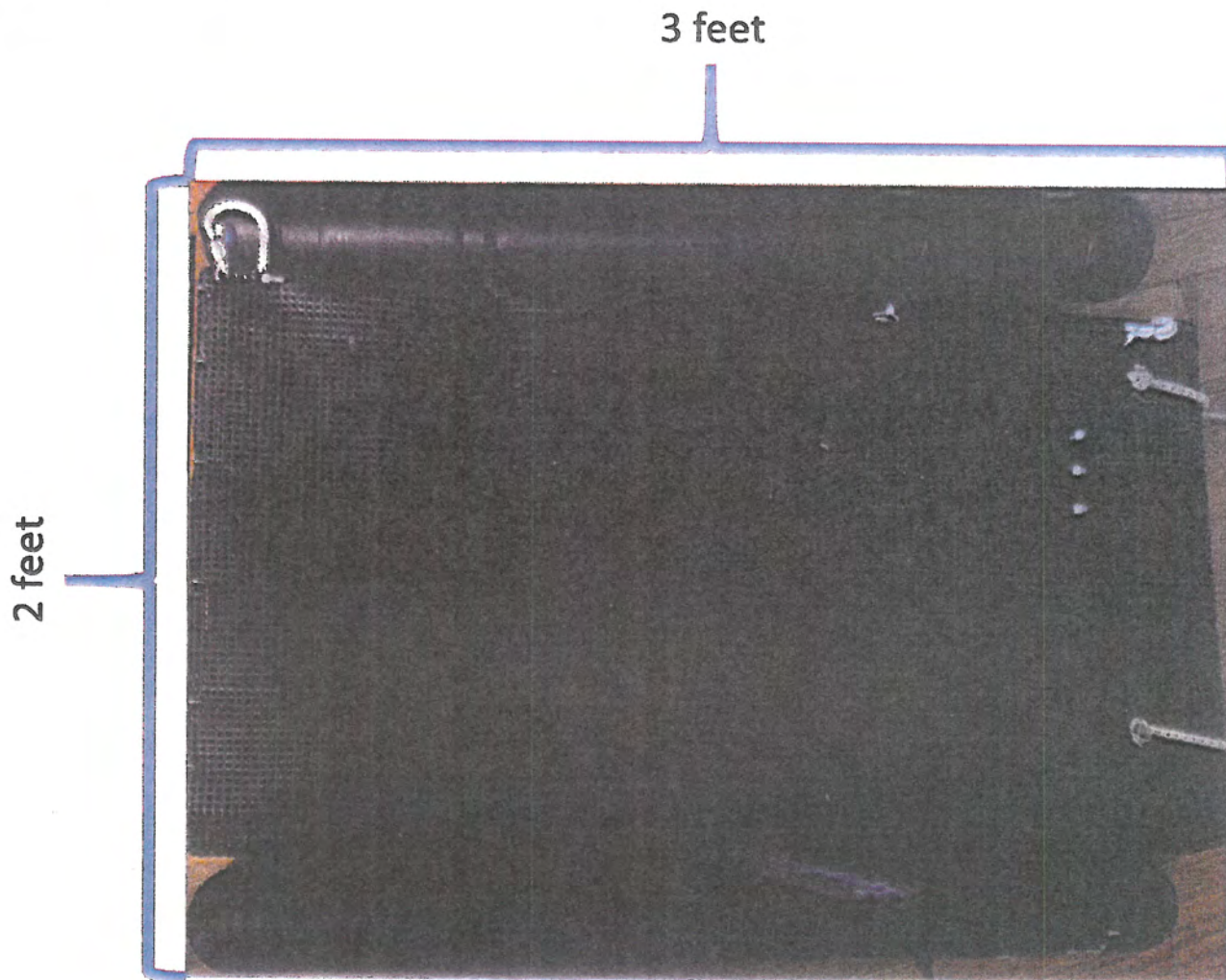
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Torre & Davidson Application
Prepared 2/16/2018
Site Plans (Floating Cage Side-View Only)



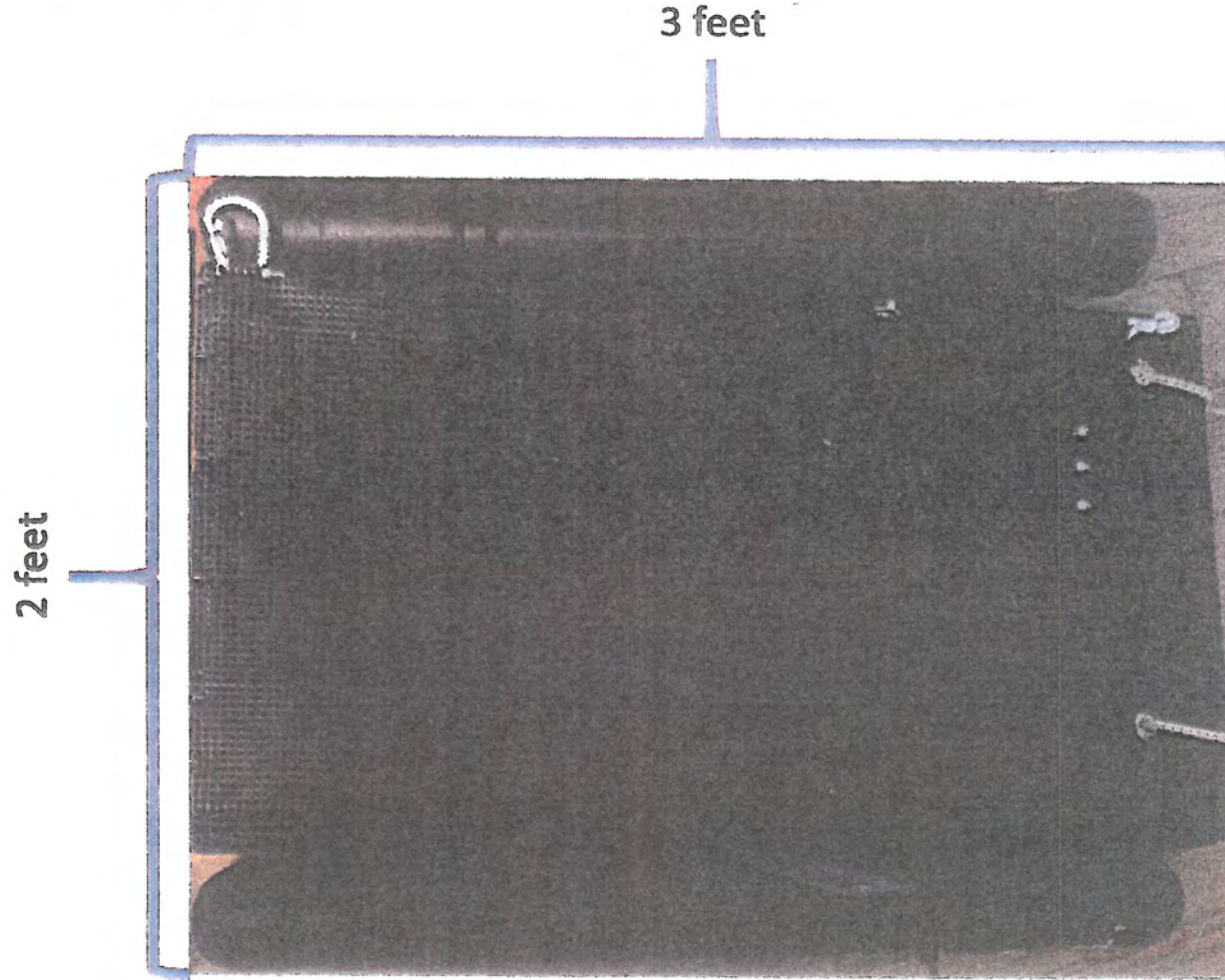
Torre & Davidson Application
Prepared 2/16/2018
Site Plans (Floating Cage Top-View Only)



Torre & Davidson Application
Prepared 2/16/2018
Site Plans (Floating Cage Side-View Only)



Torre & Davidson Application
Prepared 2/16/2018
Site Plans (Floating Cage Top-View Only)



Torre & Davidson Application
Prepared 2/16/2018
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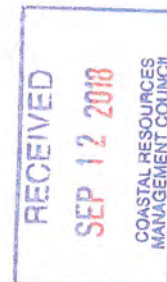
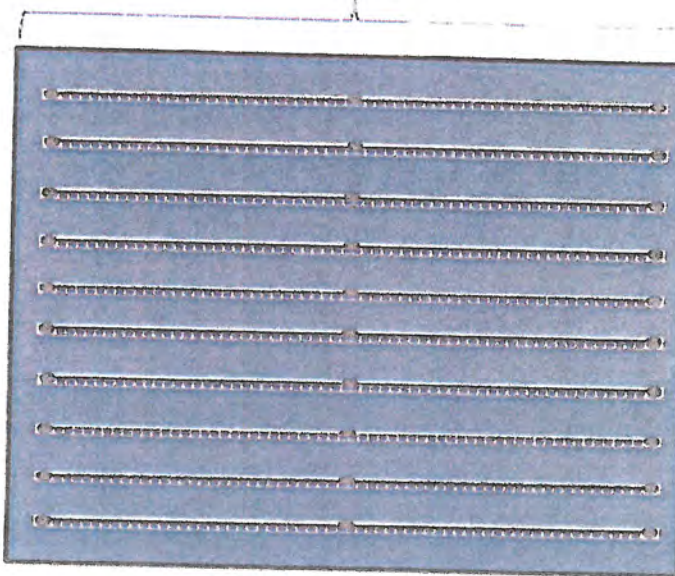
Lon: 71.237900 W

Lat: 41.559804 N

SE Corner:

Lon: 71.236379 W

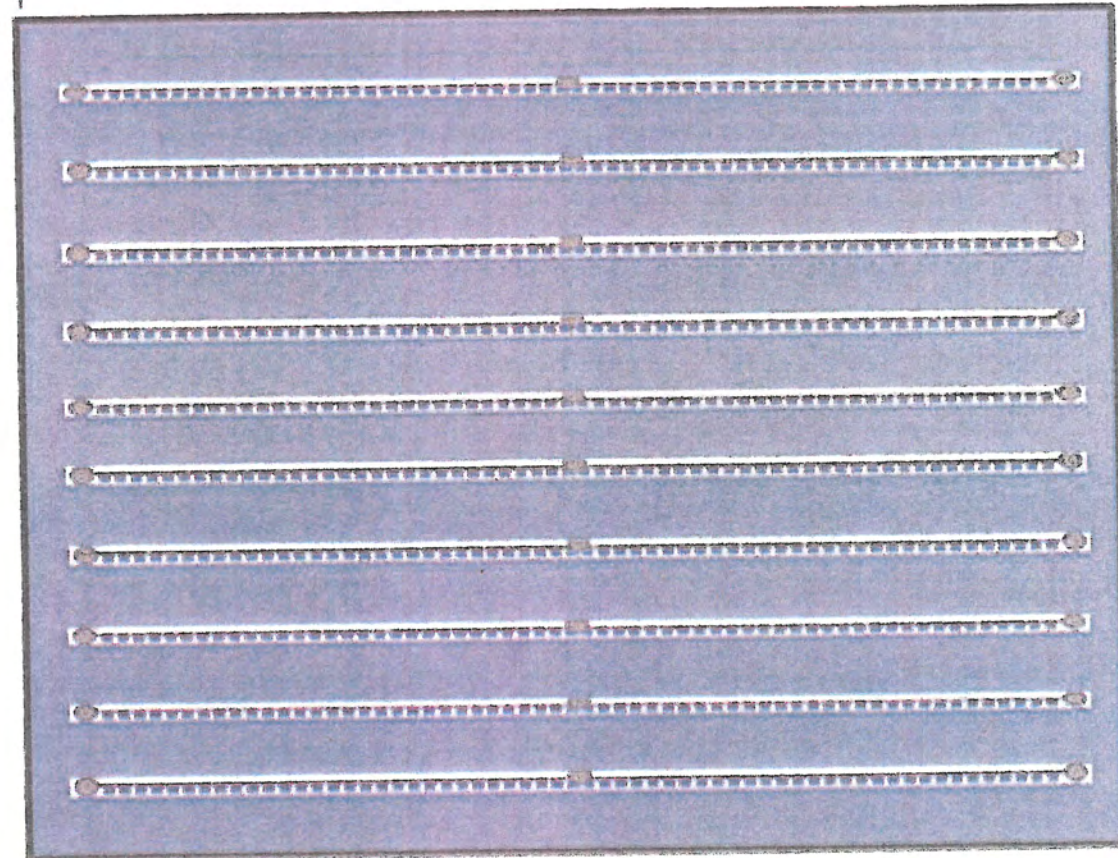
Lat: 41.559804 N

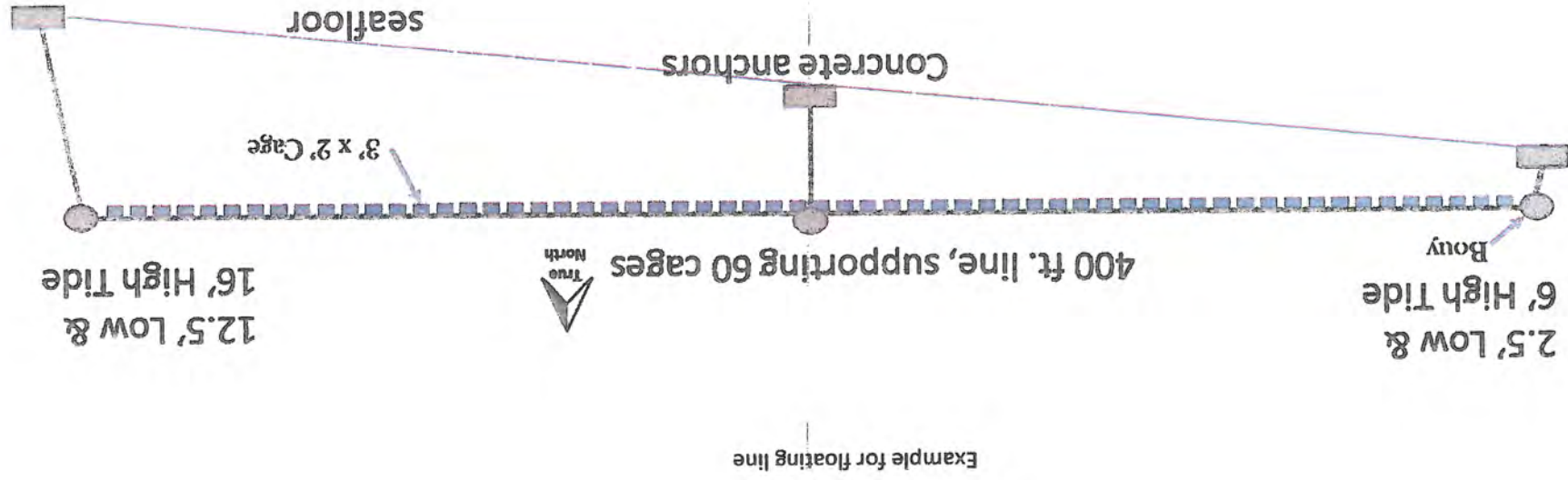


420 ft

310 ft

25





Torre & Davidson Application

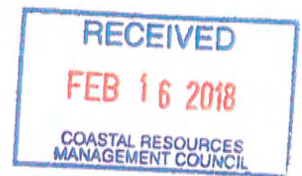
Prepared 2/16/2018

Site Plans (aquaculture tool, including distance to shore)



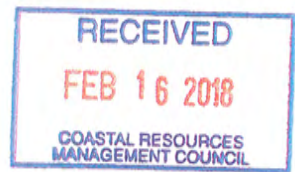
RECEIVED
SEP 12 2018
COASTAL RESOURCES
MANAGEMENT COUNCIL

Torre & Davidson Application
Prepared 2/16/2018
Site Photos

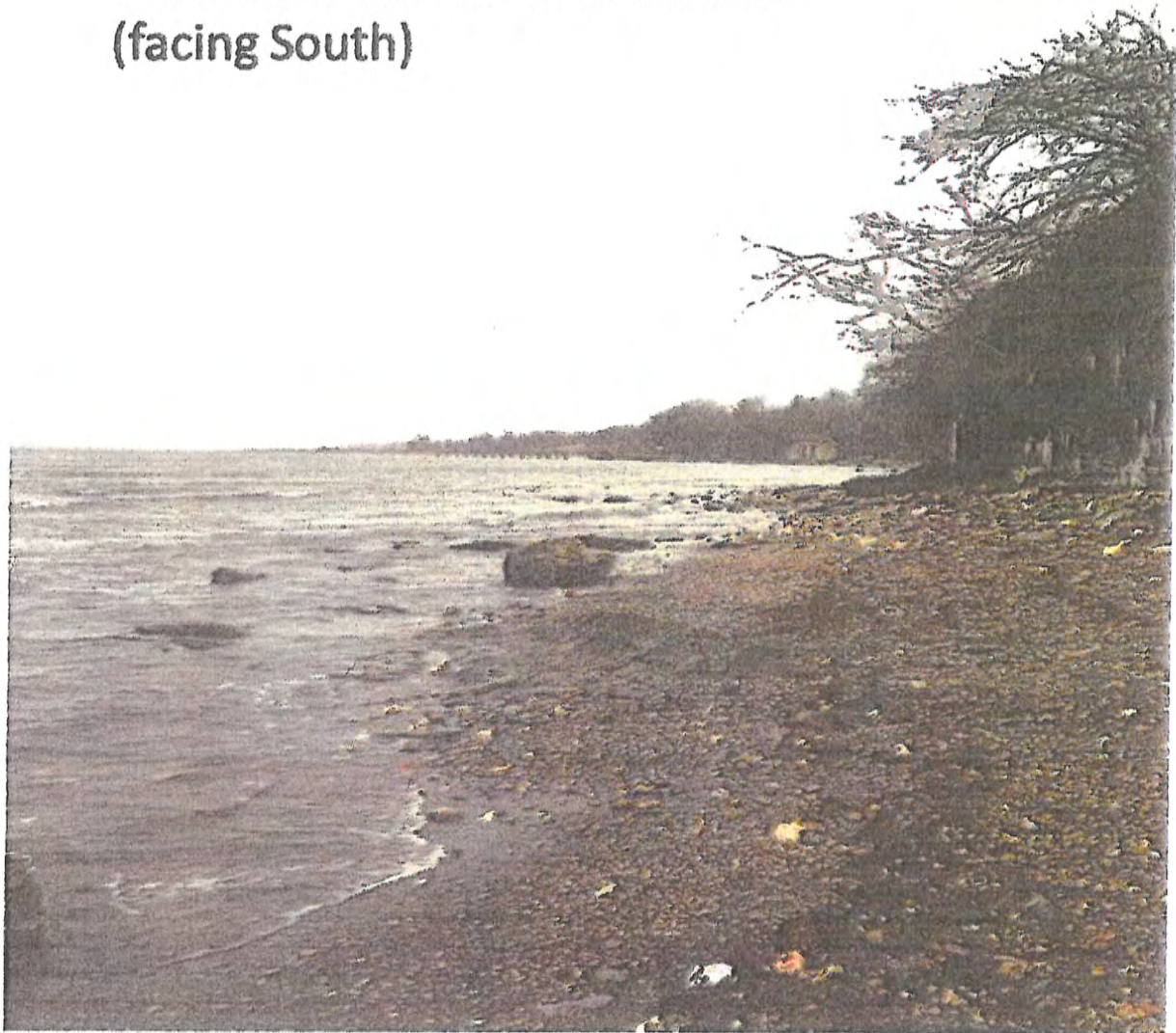


View from the South of the site
(facing North)





View from the North of the site
(facing South)





State of Rhode Island and Providence Plantations
Coastal Resources Management Council
Oliver H. Stedman Government Center
4808 Tower Hill Road, Suite 3
Wakefield, RI 02879-1900

(401) 783-3370
Fax (401) 783-2069

PUBLIC NOTICE

File Number: 2018-09-033 Date: October 2, 2018

This office has under consideration the application of:

Daniel Torre & Max Davidson
243 Colonel John Gardner Road
Narragansett, RI 02882

for a State of Rhode Island Assent to create and maintain:

a three acre oyster farm in the Sakonnet River using floating gear (2foot by 3 foot floating bags).

Project Location:	Sakonnet River
City/Town:	Portsmouth
Waterway:	Sakonnet River

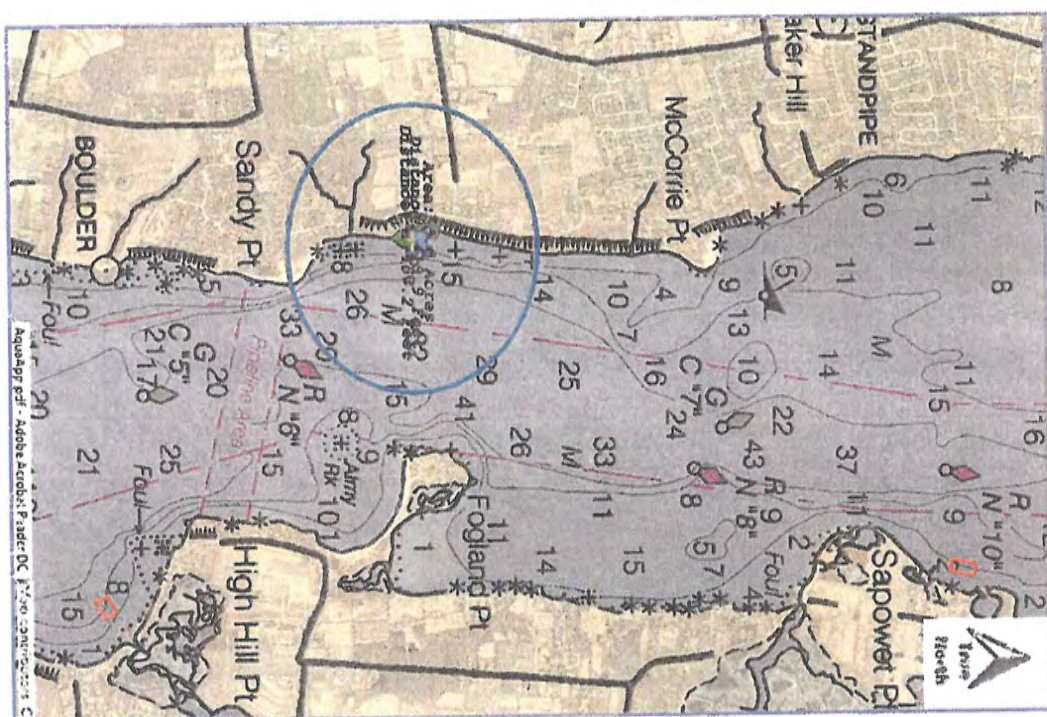
Plans of the proposed work may be seen at the CRMC office in Wakefield.

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 November 1, 2018.

/lat

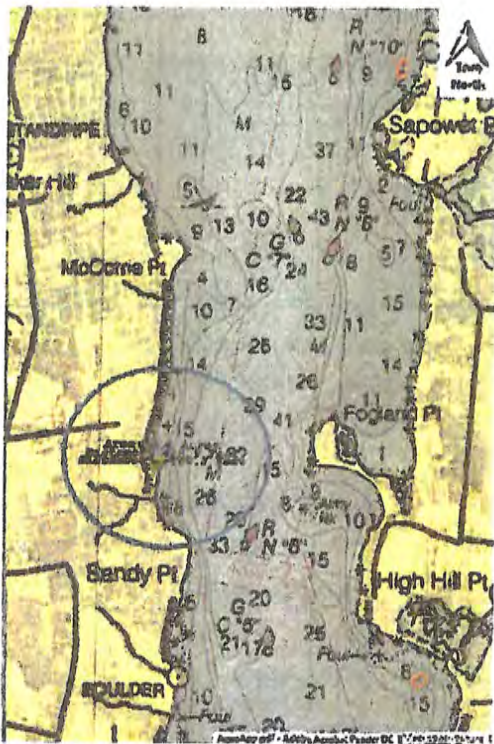


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Three-acre oyster farm proposed for Sakonnet River

CRMC seeking comments on application until Nov. 1



(/uploads/original/20181004-131628-oyster farm map.jpg)

Map shows approximate location of three-acre oyster farm proposed for the Sakonnet River, between Sandy Point and McCorrie Point.

[Buy this photo](#)

Posted Thursday, October 4, 2018 1:17 pm

PORTSMOUTH — The R.I. Coastal Resources Management Council (CRMC) is considering an application to build and maintain a **three-acre oyster farm** (<http://www.portsmouthri.com/AgendaCenter/ViewFile/Item/4966?fileID=8059>) in the Sakonnet River.

The proposal, by Daniel Torre and Max Davidson of Narragansett, would use floating gear consisting of 2x3-foot floating bags, according to the application.

The oyster farm would be located between McCorrie Point and Sandy Point.

Members of the public may request a hearing on the application. Objectors must attend the hearing and give sworn testimony when one is scheduled, according to CRMC.

To request a hearing, write to the CRMC, Oliver H. Stedman Government Center, 4808 Tower Hill Road, Suite 3, Wakefield, RI 02879-1900. Include your mailing address, e-mail address and contact number.

All requests must be received at the CRMC office by Nov. 1.

Brittany Spurlock

From: cstaff1@crmc.ri.gov
Sent: Friday, November 16, 2018 8:09 AM
To: Brittany Spurlock
Subject: FW: Proposed oyster farm in the Sakonnet River

Objection 2018-09-033 Torre Davidson

Lisa A. Turner

Office Manager
Coastal Resources Management Council
O S Government Center
4808 Tower Hill Road, Rm 116
Wakefield, RI 02879
(401)783-3370

 This email is sent on 100% Unused Paper
Help promote Green Business practices by not printing this email

From: rosiedav [<mailto:rosiedav@aol.com>]
Sent: Thursday, November 15, 2018 6:21 PM
To: cstaff1@crmc.ri.gov
Subject: Proposed oyster farm in the Sakonnet River

To whom it may concern:

I am sending this in response to hearing the possibility of an Oyster Farm proposal near Sandy Point Beach in Portsmouth.

My question is why would that be a consideration when the beach is often closed due to contamination? I feel you should strongly reconsider if in fact you are considering it for approval. That strip along the shore between McCorrie Point and Sandy Point is also a busy and popular recreational waterway where boating and other marine sports are frequent activities because the middle of the river has strong currents.

Please consider. This was not well publicized to the Portsmouth Community.

Thank you, Rosemary Davidson Rosiedav@aol.com

Sent from my Galaxy Tab® A



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Brittany Spurlock

From: cstaff1@crmc.ri.gov
Sent: Friday, November 02, 2018 8:19 AM
To: Brittany Spurlock
Subject: FW: Application No . 2018-09-033. Applicant: Daniel Torre & Max Davidson RE: Oyster Farm Proposal Sakonnet River Portsmouth RI

From: Lisa Lepore [<mailto:leporelisa1@gmail.com>]
Sent: Thursday, November 01, 2018 7:02 PM
To: council@crmc.ri.gov; cstaff1@crmc.ri.gov
Subject: Application No . 2018-09-033. Applicant: Daniel Torre & Max Davidson RE: Oyster Farm Proposal Sakonnet River Portsmouth RI

Dear CRMC :

This application requires a complete public review and hearing with supported documentation of environmental assessment by the project proponents to adequately evaluate what impacts such a farm adjacent to recreational water use / the town beach would have. This should be reviewed by CRMC and the public and made available with an appropriate review period.

Thank you for your consideration.

Lisa E Lepore PE
70 Adams Drive
Portsmouth RI 02871

Cell: 401 835 7534
Email: leporelisa1@gmail.com



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From: Peter Hussey <ghussey411@aol.com>
Sent: Thursday, November 01, 2018 5:16 PM
To: cstaff1@crmc.ri.gov
Subject: #2018-09-033 Daniel Torre and Michael Davidson

I am a local taxpayer and have lived overlooking the Sandy Point Beach in Portsmouth for nearly 30 years. I learned today of the planned oyster farm on the Sakonnet River and have concerns regarding traffic, noise, pollution, location and although I am not necessarily against the project, want to make sure that there are no unattended consequences that may arise from that could affect my neighborhood.

I hope that there will be public forum available to discuss these and any other related concerns.

Thanks,

P. Hussey
General Sullivan Circle
Portsmouth, RI 02871

Tina & Angelo Grilli
105 Heidi Drive
Portsmouth, RI 02871
Agpropmgt@gmail.com
401-623-5900



November 1, 2018

Coastal Resources Management Council
Oliver H. Stedman Government Center
4808 Tower Hill Road, Suite 3
Wakefield, RI 02879-1900

Re: File # 2018-09-033
Oyster Farm in the Sakonnet River

I am writing in regard to the proposed oyster farm in the Sakonnet River. **I OBJECT to this development** and wish to request an initial private meeting and request to be heard at a public hearing to discuss our concerns and those of many others in the immediate neighborhood; some of which I've listed below.

- The creation of this farm will cause a significant navigational hazard for boaters. There are multiple moorings in that immediate area where the access will be impaired.
- The farm will impede and negatively impact the neighborhood and surrounding recreational use of the water. The residents enjoy boating, kayaking, paddleboarding, swimming, sailing and wind surfing in this exact area. Also, the children take sailing lessons from Sandy Point Beach and they sail right through this area. In fact, children have been jumping off the dock at Glen Manor for decades into this area which is exactly where the nets and buoys will be. We are extremely concerned about the children's safety getting caught in these nets which would impose a very dangerous situation. I am also concerned about the quality of the water and any health hazards that MAY present as a result of the farm.
- This area is a quiet haven enjoyed by all in this neighborhood. We are very concerned about the potential noise from the boat motors and power washing of the cages and the smell that this could bring. The proposed oyster farm is over three acres which is extremely large for this space that the neighborhood uses. There is also a major concern about the devaluation of the properties in the immediate area; specifically mine. I'm not sure what a seller would think if their use of the water directly in front of their house or right next to it could not be used because there were buoys and nets where they could not enjoy and utilize their mooring. As stated by members of the town council, "It will not be visible from Glen Manor." If visibility is a concern of the Town Council, it is certainly a concern of mine and my neighbors as it will clearly be visible from our properties.

Please let me know as soon as possible the date of the meeting.

Sincerely,

Tina & Angelo Grilli

Norman & Joyce Cote
95 Heidi Drive
Portsmouth, RI 02871
nictj@aol.com
401-862-8802



November 1, 2018

Coastal Resources Management Council
Oliver H. Stedman Government Center
4808 Tower Hill Road, Suite 3
Wakefield, RI 02879-1900

Re: File # 2018-09-033
Oyster Farm in the Sakonnet River

I am writing in regard to the proposed oyster farm in the Sakonnet River. I **OBJECT to this development** and wish to request an initial private meeting and request to be heard at a public hearing to discuss our concerns and those of many others in the immediate neighborhood; some of which I've listed below.

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Please let me know as soon as possible the date of the meeting.

Sincerely,

Norman & Joyce Cote

cstaff1

From: Sue Burghouwt <susan@burney.com>
Sent: Thursday, November 01, 2018 1:37 PM
To: cstaff1@crmc.ri.gov
Cc: burghouwt@cox.net
Subject: Daniel Torre & Max Davidson

Re: file number 2018-09-033

As a resident of 22 Annette Drive in Portsmouth, RI, I am interested in learning more about the proposed Oyster Farm between us and Sandy Point. We are interested in supporting farming in the state. But we have questions about how the proposal affects the use of the Sakonnet River between McCorrie Point and Sandy Point. Will physical barriers be visible above the water, and will we be prevented from kayaking in the area? Will there be a chance to see what this looks like from land before the proposal is decided?

Thanks,
Susan Burghouwt



Sue Burghouwt, Administrator
283 Carriage Dr. Portsmouth, RI

(401) 847-2953 (phone)
(866) 245-1263 (fax)
www.burney.com



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Ellen Toner
70 Sigourney Rd
Portsmouth, RI 02871
401.228.5672

No
email

October 25, 2018

Coastal Resources Management Council
Oliver H. Stedman Government Center
4808 Tower Hill Rd, Suite 3
Wakefield, RI 02879

RE: File#2018-09-033
Application of Daniel Torre & Max Davidson

Dear Coastal Resources Management Council:

I am writing because I am concerned with the proposed Oyster Farm near Sandy Point Beach. As I am not opposed to Oyster Farms in general, I am opposed to the location and size of this Oyster Farm. Have alternative locations been explored and does it really need to be so large?

My sons and their friends sail along the shallow water in this proposal. For safety reasons, they are restricted to sail between Sandy Point and Mc Corrie's Point. If this water way is restricted, it will force them further out into the channel with larger vessels. Afternoon winds constantly blow them and others on their sunfishes, paddleboards and kayaks into the proposed cove area. Even the Town's vandalized life guard chairs floated into that area last summer.

I personally use this area for early morning paddle boarding with my friends. This oyster farm would also push us further out into the current making our daily exercise more difficult and harder to reach shore if one of us were to incur an injury.

Please consider an alternate location for this farm. Our children already use this area for recreational purposes. As parents, we struggle every day to keep them occupied and doing outdoor activities and away from video games and the lure of drug experimentations.

The water way off the shores of Montaup Golf course are not utilized by the public, this area would not interfere with the public use of the water. There are other suitable alternate locations without interfering with the public's enjoyment of this waterway.

Sincerely,

Ellen Toner

cstaff1

From: JOHN HOUGH <ajhough@cox.net>
Sent: Tuesday, October 30, 2018 4:24 PM
To: cstaff1@crmc.ri.gov
Subject: file#2018-09-033 Daniel Torre&Max Davidson

I live on Adams Dr, Portsmouth

I read about the request today in the Daily News. Previously I was not notified though this will impact my family as we use Sandy Point Beach, have a view of the Sakonnet River from our home, and use Sandy Point Avenue.

I have several reservations about the creation of an oyster farm in the Sakonnet River.

How much would this impact the traffic on Sandy Point Avenue?

How much would this impact the parking at Sandy Point Beach (which, at times, is completely full)?

Three acres sounds much larger than 2x3 floating bags, and it seems this could be a visual eyesore against our beautiful view and would impact the value of our properties.

I do not know if the water quality would be affected. Our beach is used by many families with young children, as well as adults.

I don't know if this area would be a stepping stone to a larger area with more impact, under the "we're already there" argument.

Please consider all of this.

Arleen Hough 4401-847-4833



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From: Gretchen Markert <markertg@gmail.com>
Sent: Wednesday, October 31, 2018 9:59 AM
To: cstaff1@crmc.ri.gov
Subject: 2018-09-033

Hello,

I have a few questions in reference to the proposed oyster farm in Portsmouth.

1. Are there images available online that show what the installation would look like, both from the shore and from the air?
2. What is the term of the license? If the venture was approved by the Town but residents later objected to various facets of it, at what point could the Town decide to not renew the approval/license?
3. If the venture wanted to expand, would that require approval?
4. Is it possible or probably that this venture would negatively impact expected revenue from the Glen Manor House rentals?
5. Would approval of this venture be a precedent for other similar ventures on the coastal sections of Portsmouth?

Thank you for asking for input and for your response.

Sincerely,

Gretchen Markert
270 Vanderbilt Lane
Portsmouth, RI



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cstaff1

From: Lara Both <lmaxmillion@cox.net>
Sent: Tuesday, October 30, 2018 5:22 PM
To: cstaff1@crmc.ri.gov
Subject: Daniel Torre & Max Davidson

Dear Coastal Resource Management Council, I am writing in regards to file #2018-09-033.
I am a Glen Farm / Sandy Point homeowner who frequents Sandy Point Beach daily, especially in the Spring / Summer and Fall.
Not only do we use the beach but also the waters between the beach and Glen Manor property for water sports and boating activities.
This is the towns recreational area and should not be used for oyster farming.
Please do not consider approving this application as it is currently written.
I am in support of all local farmers, especially for oysters (which I love) but an oyster farm does not belong that close to a marine recreational area.
Don't take away some of the only summer fun our town has on the waters around Portsmouth.
Please consider asking them to look at a different area of the Sakonnet, possible closer to the south side of McCorrie Beach.
Sincerely, Lara Both

This email has been checked for viruses by AVG.
<https://www.avg.com>



Diane Bolusky
108 Raymond Drive
Portsmouth, RI 02871
October 16, 2018

Coastal Resources Management Council
Oliver H. Stedman Government Center
4808 Tower Hill Road, Suite 3
Wakefield, RI 02879

Re: File Number 2018-09-033
Application of Daniel Torre & Max Davidson

Dear Coastal Resources Management Council:

I am a resident of Portsmouth and a frequent user of our town beach, Sandy Point Beach. I am writing to express concern about the proposed three acre oyster farm adjacent to Sandy Point Beach. The oyster farm area noted in the published map is in a location that is frequently used by residents for water activities, including paddle boarding, kayaking, swimming, sailing and boating. As the only beach in the town, it is also the location for many town recreational activities, including youth sailing. Restricting such a wide area will force residents doing water activities away from the protected cove area and out into the main channel that is frequently congested with power boat traffic. This is particularly problematic for youngsters learning to sail since wind in the afternoon is generally quite strong once they get out of the cove. The Sakonnet River is very large. I struggle to understand why the oyster farm needs to be located in the area most used by Portsmouth town residents and request that an alternative location be identified.

Sincerely,

A handwritten signature in black ink that reads "Diane Bolusky". The signature is written in a cursive style.

Diane Bolusky



October 10, 2018

State of Rhode Island and Providence Plantations
Coastal Resources Management Council
Oliver H. Stedman Government Center
4808 Tower Hill Road, Suite 3
Wakefield, RI 02879-1900

RE: File number 2018-09-033

Dear Members of the Coastal Resources Council,

We would like to notify you of our opposition to the above referenced application to create and maintain a 3 acre oyster farm in the Sakonnet River using floating bags, and we would like to request a hearing.

Sincerely,
Michael and Elizabeth McBreen
143 Heidi Drive
Portsmouth, RI 02871
Mmcbreen125@yahoo.com
Bmcbreen1@cox.net
(401) 486-9831 Michael



**RHODE ISLAND
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT**

235 Promenade Street, Providence, RI 02908-5767 TDD 401-222-4462



May 11, 2018
Dave Beutel Aquaculture Coordinator
Coastal Resources Management Council
Wakefield, RI 02879-1900

Dear Mr. Beutel,

I am writing in reference to the Preliminary Determination request by Dan Torre and Max Davidson for a floating gear aquaculture lease (File number 2018-02-048). The proposed location for this site is in waters approved for shellfish harvesting located in shellfish classification area Sakonnet River GA4 harvest area 5B in the town of Portsmouth.

The classification of shellfish grounds is an ongoing process based on the principles of the National Shellfish Sanitation Program. The Department of Environmental Management assumes no liability by the leaseholder for changes in classifications that may restrict or prohibit access and/or harvesting from said lease area. While this site currently has an approved classification for the harvesting of shellfish, extraordinary circumstances (i.e., large amounts of rainfall, hurricanes or oil spills) could temporarily halt such harvesting and prohibit work on said lease. If approved please include the following language that CRMC and DEM previously agreed to as a stipulation:

Aquaculturists in areas where emergency shellfish closures have been enacted will be allowed access to their leases for the purposes of preparing for and planting seed and when extreme weather could result in loss or damage of gear to conduct necessary maintenance/retrieval of their equipment. All other activities on the aquaculture lease, including but not limited to the harvest of shellfish, will remain prohibited until the water quality is acceptable to allow for harvest. Aquaculturists seeking permission to access their lease during an emergency closure must seek authorization by contacting Dave Beutel, CRMC's aquaculture coordinator at 783-7587.

The applicant should be aware that at the 2017 ISSC conference, changes were adopted to the model ordinance relating to floating aquaculture gear. The proposed changes are under review by FDA for final approval and inclusion in the next model ordinance update. The changes adopted at the ISSC conference include a requirement that aquaculture gear that attracts birds or mammals to the extent that their waste presents a human health risk shall have a written operation plan. While not yet a requirement, please advise the applicants of this pending requirement and encourage them to consider methods to deter waterfowl attraction in consultation with RIDEM Division of Marine Fisheries

In the effort to address increasing water temperatures and the potential threat of a Vibrio illness outbreaks we are asking all lease holders to monitor water temperature at their lease site and keep records of actual temperatures of bottom, surface and at the depth waters where the shellfish are being grown during the Summer months (June-September). If this project is approved, please include this request in your aquaculture approval document.

Neither a RIPDES permit nor a Water Quality Certificate is required for the proposed facility. Please call me at 222-4700, Ext. 7241 if you have any questions.

Sincerely,

A handwritten signature in blue ink that reads "Lucinda M. Hannus". The signature is written in a cursive style with a large initial 'L'.

Lucinda M. Hannus, Principal Environmental Scientist
RI DEM
Office of Water Resources – Shellfish Program

cc Angelo Liberti
Conor McManus
Dennis Erkan
Julia Livermore
Catherine White- RIDOH



STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
HISTORICAL PRESERVATION & HERITAGE COMMISSION

Old State House • 150 Benefit Street • Providence, R.I. 02903-1209

TEL (401) 222-2678

FAX (401) 222-2968

TTY (401) 222-3700

Website www.preservation.ri.gov

Jennifer R. Cervenka, Chair
Coastal Resources Management Council
Stedman Government Center, 4808 Tower Hill Road
Wakefield, RI 02879

CRMC File Number: 2018-09-033

Applicant: D. Zure

Town: Narragansett

Response Date: 9/18/18

Dear Ms. Cervenka,

The Rhode Island Historical Preservation & Heritage Commission has reviewed the above- referenced project. It is our conclusion that this project will have no effect on any significant cultural resources (those listed on or eligible for listing on the National Register of Historic Places).

These comments are provided in accordance with Section 220 of the Coastal Resources Management Plan. If you have any questions, please contact Jeff Emidy, Project Review Coordinator, or Charlotte Taylor, Senior Archaeologist, at this office.

Very truly yours,

Charlotte Taylor

J. Paul Loether
Executive Director, RIHPHC
State Historic Preservation Officer





RHODE ISLAND

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

DIVISION OF MARINE FISHERIES

3 Fort Wetherill Road
Jamestown, RI 02835

DIVISION OF FISH AND WILDLIFE

277 Great Neck Road
West Kingston, RI 02892

October 31, 2018

David Beutel
Aquaculture Coordinator
Coastal Resources Management Council
4808 Tower Hill Road
Wakefield, RI 02879

Re: Torre and Davidson Lease Application #2018-09-033

Dear Mr. Beutel:

The Rhode Island Department of Environmental Management (Department), through the Division of Marine Fisheries (DMF) and the Division of Fish and Wildlife (DFW), has received and reviewed the application submitted by Daniel Torre and Max Davidson for a 2.96-acre lease for cultivating oysters (*Crassostrea virginica*) using floating cages.

The DMF and DFW believe that the adverse impacts to marine fisheries and wildlife and their habitat from this prospective shellfish farm would be minimal. As such, the DFW and DMF do not have objections to this application. The Divisions' acceptance of the current proposal is specific to the location and specifications outlined in the application.

Sincerely,

Dean Hoxsie,
Acting Associate Director for Natural Resources





Rhode Island Marine Fisheries Council

3 Fort Wetherill Road Jamestown, Rhode Island 02835
(401) 423-1920 Fax: (401) 423-1925

Robert Ballou
Chairman

David Monti
Vice Chair

Travis Barao

Andrew Dangelo

Jeff Grant

Jason Jarvis

Christopher Rein

Michael Rice, Ph.D.

Michael Roderick

April 24, 2019

Dave Beutel, Aquaculture Coordinator
Coastal Resources Management Council
4808 Tower Hill Road
Wakefield, RI 02879

Re: CRMC Aquaculture Lease Application # 2018-09-033 – Torre and Davidson –
Sakonnet River

Dear Mr. Beutel:

Pursuant to RIGL §20-10-5, the above-referenced application was brought before the RI Marine Fisheries Council (hereafter "Council") on April 1, 2019 for review and consideration. The Council found that the proposal poses no inconsistency with competing uses engaged in the utilization of marine fisheries in the area.

Sincerely,

Robert Ballou, Chair

cc: RIMFC Members





RHODE ISLAND

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

DIVISION OF MARINE FISHERIES

3 Fort Wetherill Road
Jamestown, RI 02835

DIVISION OF FISH AND WILDLIFE

277 Great Neck Road
West Kingston, RI 02892

October 31, 2018

David Beutel
Aquaculture Coordinator
Coastal Resources Management Council
4808 Tower Hill Road
Wakefield, RI 02879

Re: Torre and Davidson Lease Application #2018-09-033

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Sincerely,

Dean Hoxsie,
Acting Associate Director for Natural Resources



Dave Beutel

From: LeBlanc, Edward G CIV <Edward.G.LeBlanc@uscg.mil>
Sent: Wednesday, October 03, 2018 10:31 AM
To: Dave Beutel
Subject: RE: [Non-DoD Source] thirty day public notice floating aquaculture in Sakonnet River

No objection Dave.

Edward G. LeBlanc
Chief, Waterways Management Division
Coast Guard Sector Southeastern New England
Office 401-435-2351
Cell 401-580-8747
Fax 401-435-2399
E-mail: Edward.G.LeBlanc@uscg.mil

From: Dave Beutel <dbeutel@crmc.ri.gov>
Sent: Tuesday, October 2, 2018 12:07 PM
To: 'Alison Verkade - NOAA Federal' <alison.verkade@noaa.gov>; 'Steve Medeiros' <stevem@risaa.org>; 'Azure Cygler' <azure@crc.uri.edu>; 'Robert Rheault' <bob@ecsga.org>; 'Robert Ballou' <robert.ballou@DEM.RI.GOV>; 'Rich Fuka' <captlobster@gmail.com>; mclamdigger@aol.com; 'Dennis Erkan' <dennis.erkkan@DEM.RI.GOV>; 'Prescott, David' <dprescott@SaveBay.org>; 'Leavitt, Dale' <dleavitt@rwu.edu>; gvdwood@cox.net; 'Jim Arnoux' <eastbeachoysterfarm@gmail.com>; 'Dave Reis' <dreis@crmc.ri.gov>; 'Jeff Grant' <jeffgrant19@cox.net>; 'Jeff Gardner' <watchhillloysters@gmail.com>; 'Jody King' <nosmoshep@icloud.com>; 'Katie Eagan' <eagan.katie@gmail.com>; kurt.blanchard@dem.ri.gov; 'Michael A. Rice' <rice@uri.edu>; 'Rich Hittinger' <hittinger@risaa.org>; FVThistle@verizon.net; dmontifish@verizon.net; 'Rick Bellavance' <makosrule@verizon.net>; cgreinstrategies@gmail.com; lad0626@aol.com; 'Catherine White' <Catherine.White@health.ri.gov>; 'John Torgan' <jtorgan@TNC.ORG>; dean.hoxsie@dem.ri.gov; 'Beuth, Joshua (DEM)' <Joshua.Beuth@DEM.RI.GOV>; LeBlanc, Edward G CIV <Edward.G.LeBlanc@uscg.mil>; cindy.hannus@dem.ri.gov; 'Jerry Carvalho' <comfish100@gmail.com>; 'Phil Capaldi' <philcapaldi@yahoo.com>; marcapcar@icloud.com; marcapcar@me.com; michaelaonosko@gmail.com; john_crosson@watkinson.org; dacapaldi@aol.com; mmcapaldi@aol.com; jschickler@cox.net; suemarinaro@me.com; traceydistefano@gmail.com; travisbarao@gmail.com; mroderick@towndock.com; maridee2@gmail.com; Taylor.M.Bell@usace.army.mil; dacapaldi@aol.com; mmcapaldi@aol.com; Ed <etroiano1@cox.net>; buddhajay108@yahoo.com; Kenneth Murgo <kenneth.murgo@gmail.com>
Cc: 'Janet Coit' <Janet.Coit@DEM.RI.GOV>; 'Jason McNamee' <jason.mcnamee@DEM.RI.GOV>; 'Osenkowski, Jay (DEM)' <jay.osenkowski@DEM.RI.GOV>; ckarp@brown.edu; psozek@lighttower.com; 'Mcmanus, Conor (DEM)' <Conor.McManus@dem.ri.gov>; 'Livermore, Julia (DEM)' <Julia.Livermore@dem.ri.gov>; 'Dick Pastore' <RPENGRI@gmail.com>; 'Mike Jarbeau' <mjarbeau@savebay.org>; 'Todd Corayer' <tcorayer@fishwrapwriter.com>; traceydistefano2013@gmail.com; 'Lisa Turner' <lturner@crmc.ri.gov>; 'Gary R. Crosby' <gcrosby@portsmouthri.com>; Gerry Schey <gerryschey22@gmail.com>; Max Davidson <maxiandavidson@gmail.com>; Daniel Torre <Daniel.Torre@rpsgroup.com>; davidclatham@gmail.com
Subject: [Non-DoD Source] thirty day public notice floating aquaculture in Sakonnet River

This application for aquaculture assent begins thirty day public notice today. The application is for a 3 acre site to grow oysters using floating cages (2' x 3') in the Sakonnet River. Please send comments to me by November 1, 2018.

David Beutel
Coastal Resources Management Council
Aquaculture Coordinator

CRMC DECISION WORKSHEET

2018-08-071

Matthew Griffin

Hearing Date:			
Approved as Recommended			
Approved w/additional Stipulations			
Approved but Modified			
Denied		Vote	

APPLICATION INFORMATION						
File Number	Town	Project Location		Category	Special Exception	Variance
2018-08-071	North Kingstown	Narragansett Bay		B	☐	☐
		Plat	Lot			
		Owner Name and Address				
Date Accepted	8/30/2018	Matthew Griffin		Work at or Below MHW	☒	
Date Completed	4/30/2019	57 Lindley Avenue North Kingstown, RI 02852		Lease Required	☒	

PROJECT DESCRIPTION

4.2 acre aquaculture farm

KEY PROGRAMMATIC ISSUES

Coastal Feature: Submerged land

Water Type: Type 4, Multi-Purpose Waters

CRMP: §§ 1.2.1(E); 1.3.1(A); 1.3.1(K) and 1.3.1(R)

Variances and/or Special Exception Details:

Additional Comments and/or Council Requirements:

Specific Staff Stipulations (beyond Standard stipulations):

STAFF RECOMMENDATION(S)

Engineer	_____	Recommendation:	NA
Biologist	_____	Recommendation:	NA
Other Staff	<u>JTB</u>	Recommendation:	Approval

Matthew Griffin
Executive Director Sign-Off
5/3/2019
date

David Bental 5/2/2019
Aquaculture Coordinator Sign-off date
David Bental 5-21-19
Staff Sign off on Hearing Packet (Aqua) date



STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
COASTAL RESOURCES MANAGEMENT COUNCIL
INTER-OFFICE MEMORANDUM

DATE: April 30, 2019
TO: Grover J. Fugate, Executive Director
FROM: David Beutel
SUBJECT: CRMC File No. 2018-08-071

Applicant's Name: Matthew Griffin
Project: 4.2 acre aquaculture site

Location: Narragansett Bay, North Kingstown
Water Type/Name: Type 4, Multi-Purpose Waters,
Coastal Feature: submerged land

STAFF REPORT

This application is for a 4.2 acre aquaculture site to grow oysters, bay scallops, and kelp. The methods proposed include bottom cages for bay scallops and oysters, floating cages, and suspended longlines for kelp. The bottom cages will be on the western end of the site. The floating cages will use the remainder of the site but with most cages submerged from November to April. The sugar kelp suspended longlines will be in place from November through April and will be above the submerged cages. This site has sufficient depth for this action to occur. The applicant has had a commercial viability permit to grow oysters in floating cages and kelp on suspended longlines in this area since September 2016 (#2016-05-050). The success of the commercial viability operation has resulted in this application. The applicant also has a one acre site in Portsmouth growing oysters in bottom cages (#2015-08-101). The location of the proposed site is near Rome Point which is an active aquaculture area for floating and submerged cages (Figure 1).

The layout provided (Figure 2) shows 37 trawl lines. Seven of the trawl lines are designed for bottom cages for oysters and bay scallops (Figure 7). The remaining 30 trawl lines will use two sizes of floating cages (Figure 6). The kelp lines (Figure 4) and bottom cages (Figures 5 and 8) are gear and methods commonly used in aquaculture in Rhode Island. The application narrative states that a maximum of 43 trawl lines for

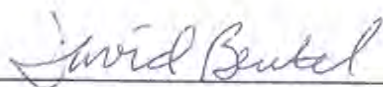
cages and a maximum of 516 cages will be used on the site. Please note that this area has two other farms with floating cages which have not generated complaints concerning floating gear.

Staff is familiar with this area and has inspected nearby sites at least twice every year. There is no eelgrass present, the native shellfish density is low, and the area receives very little boating activity.

The thirty day public notice was completed on October 5, 2018. No objections have been received for this application. CRMC has received the following correspondence:

- RI Department of Environmental Management (DEM) Office of Water Resources (during the preliminary determination); Water Quality Certificate is not required Feb. 6, 2018
- RI Historical Preservation and Heritage Commission; no effect on cultural resources Sep. 18, 2018
- RI DEM Division of Marine Fisheries; no significant impact on marine resources Sep. 27, 2018
- RI Marine Fisheries Council; no significant impact on marine fisheries April 30, 2019

The applicant is a thoroughly experienced aquaculturist. His existing operations have been successful and he has volunteered in aquaculture research projects that benefit the industry. His application has met the requirements of the RI Coastal Resources Management Program. Staff recommends approval of this application.



Aquaculture Coordinator

Figure 1. Site location.

Location map

Proposed Aquaculture lease

Species: oysters, bay scallops, kelp

Proposed lease is located 510 feet from the shoreline at the closest point. 397 feet and 550 feet of navigable water remains between proposed lease and existing lease to the north and south, respectively.

Proposed lease area

Existing aquaculture lease
14 ft. MLW in proposed lease

Site Corner	Latitude	Longitude
NW	41.542017°	-71.422677°
SW	41.541442°	-71.422727°
NE	41.542131°	-71.419537°
SE	41.541563°	-71.419594°



550 ft.

Map created by M. Griffin: 6/2018

Extent map



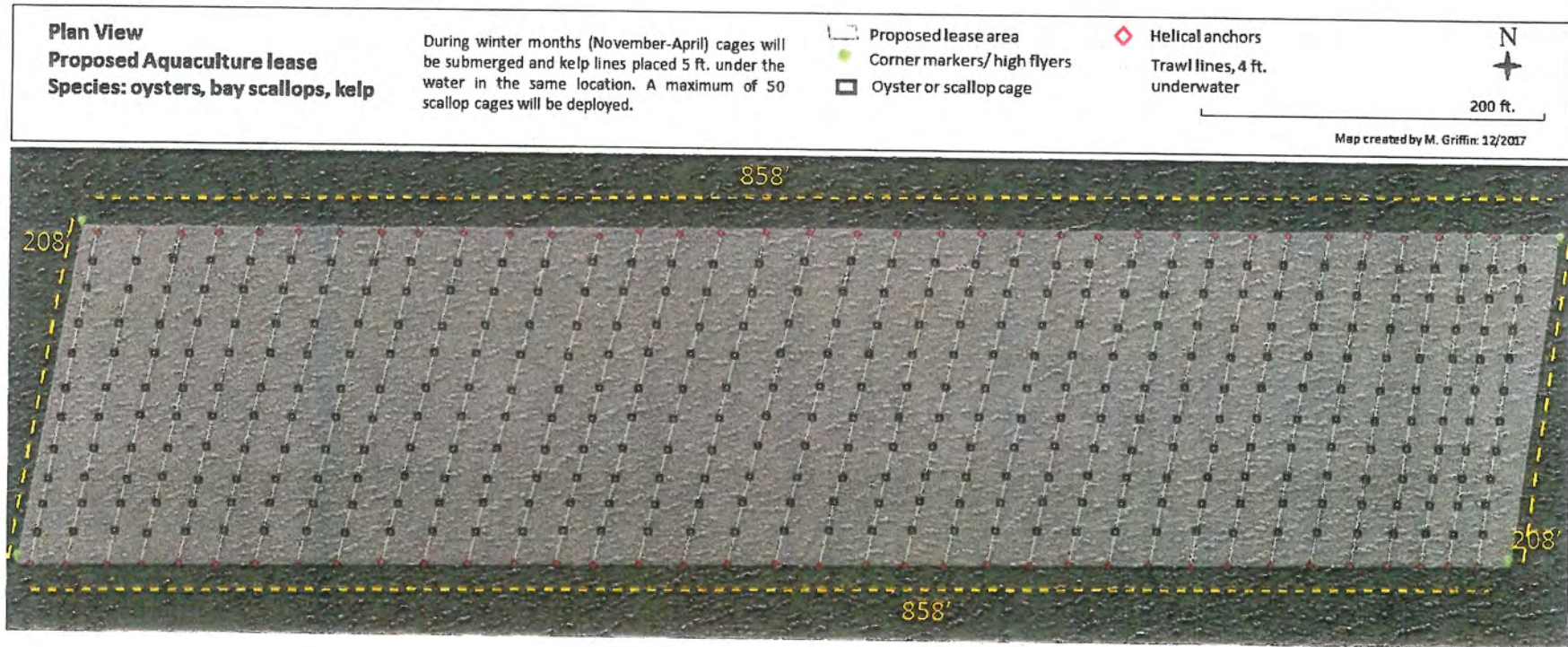
RECEIVED

AUG 27 2018

COASTAL RESOURCES

P4

Figure 2. Plan view. Scallop cages will occupy the 5 western most trawls. Oyster bottom cages will be deployed in trawls 6 and 7 from the western boundary. Water depth is 14 feet at MLW.



Site Corner	Latitude	Longitude
NW	41.542017°	-71.422677°
SW	41.541442°	-71.422727°
NE	41.542131°	-71.419537°
SE	41.541563°	-71.419594°



P5



Figure 3. Cross section of the eastern most part of the proposed lease depicting oyster cages while at the water's surface (April-November). Trawl lines continue west for a total of 43 trawls encompassing 858 ft. along the east-west axis (see figure 2). Figure created by M. Griffin - modified from Oyster Gro, 12/2017.

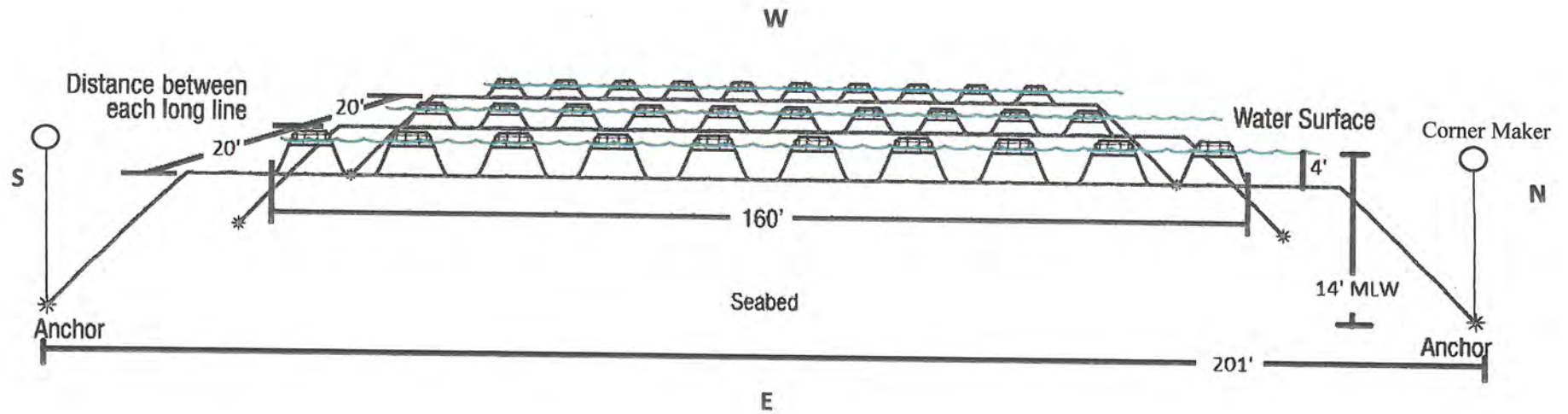
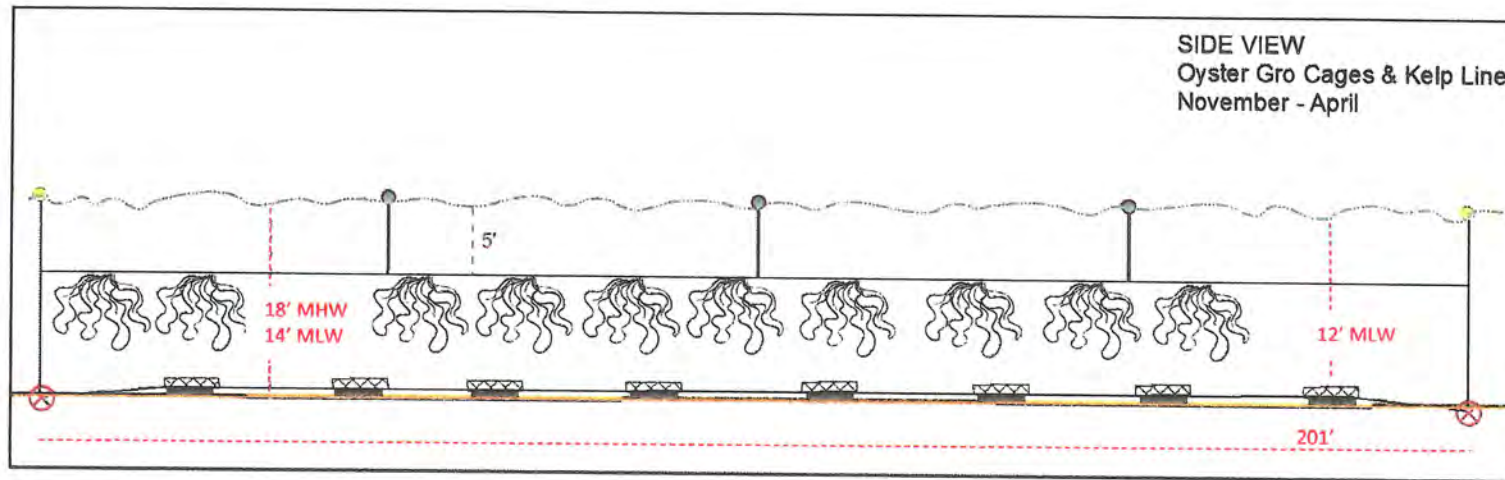


Figure 4. Cross section of oyster cages submerged during winter months with kelp planted above. A maximum of 30 kelp lines will be deployed utilizing the same space and ground tackle as the oyster cages. Kelp Lines will be placed according to location of oyster cages which have been submerged for the winter. *Figure created by M. Griffin 12/2017.*



Legend

- 11" Lobster buoy
- 11" Lobster Buoy
- 🌿 Kelp
- ⊗ Helical Anchor
- Longline
- 1/2" PVC spacer
- ▤ Oyster Gro

P7



Figure 5. Cross section of scallop cages and oyster bottom cages on proposed lease. Scallop cages will be placed on the 5 western most trawls when deployed. Oyster bottom cages will be deployed on trawls 6 and 7 from the western boundary. *Figure created by M. Griffin 12/2017.*

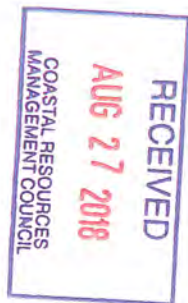
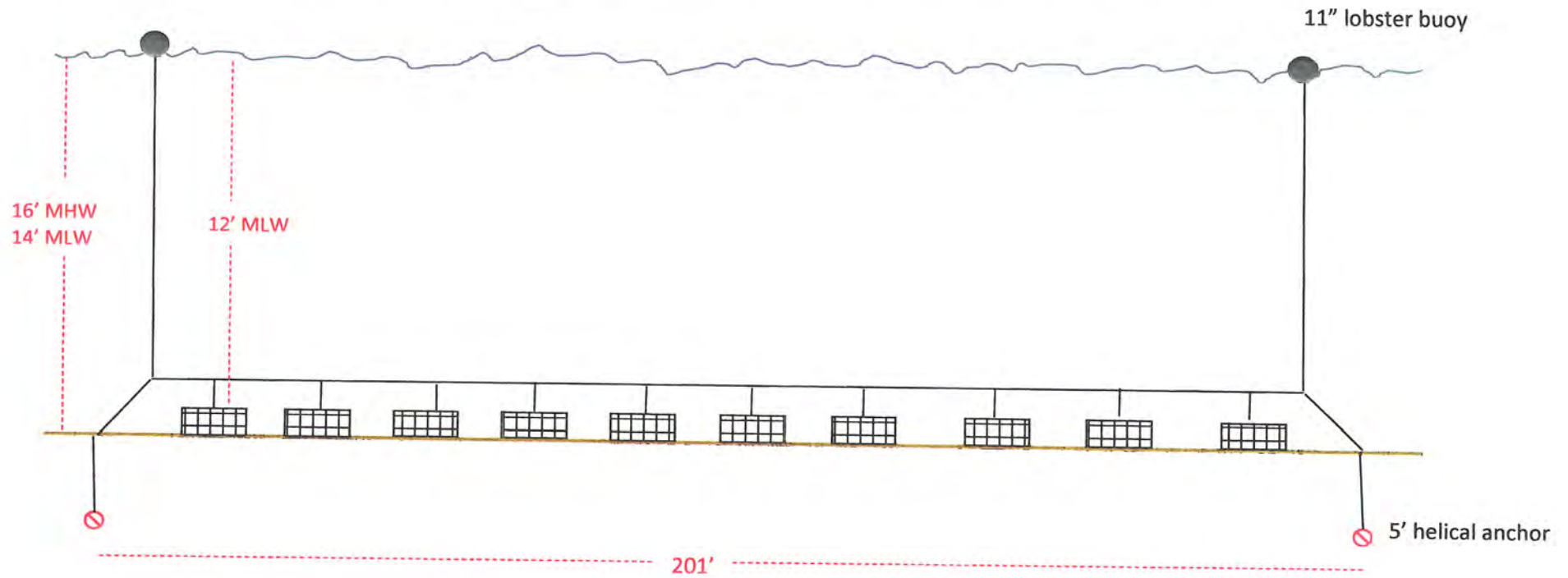
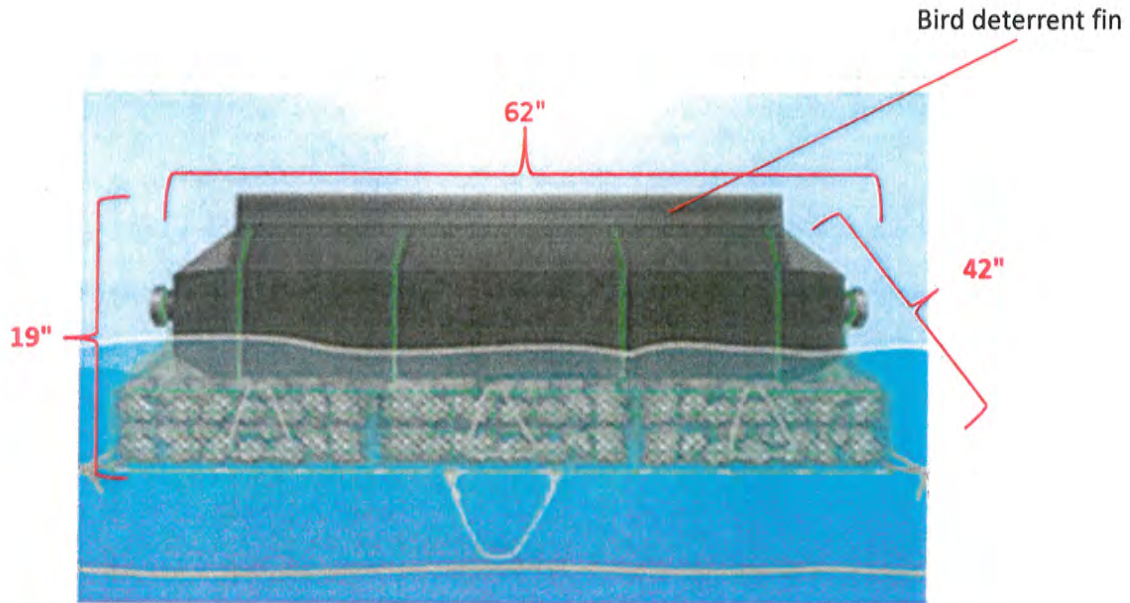


Figure 6. Floating oyster cage diagrams. Floats will be modified to maintain a maximum of 4" above still water. Images created by M. Griffin and adapted from Oyster Gro & Ketchum Traps 12/2017.

a. OysterGro



b. Low Pro Grow diagram

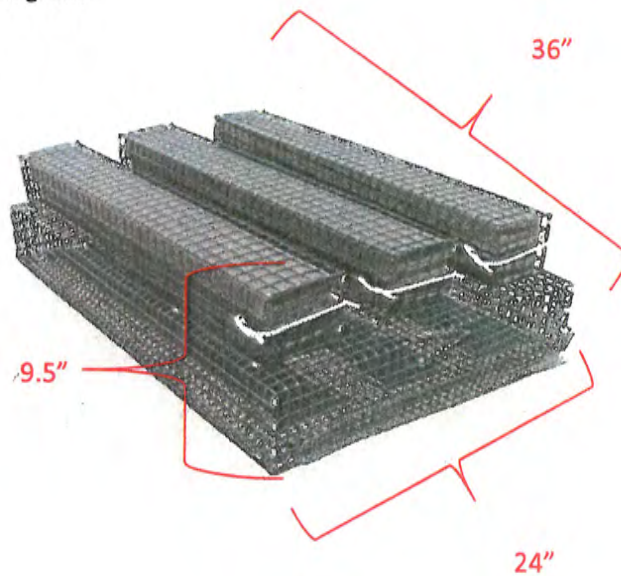


Figure 7. Kelp long line spacer. Three spacers will be placed along each kelp line at 50 ft. intervals to hold the line 5 ft. below the water surface. *Image created by M. Griffin and adapted from (Kelp Farming Manual, A Guide to the Process, Techniques, and Equipment for Farming Kelp in New England Waters) 12/2017.*

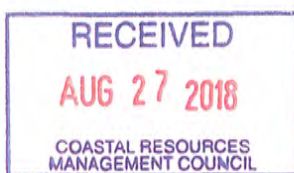
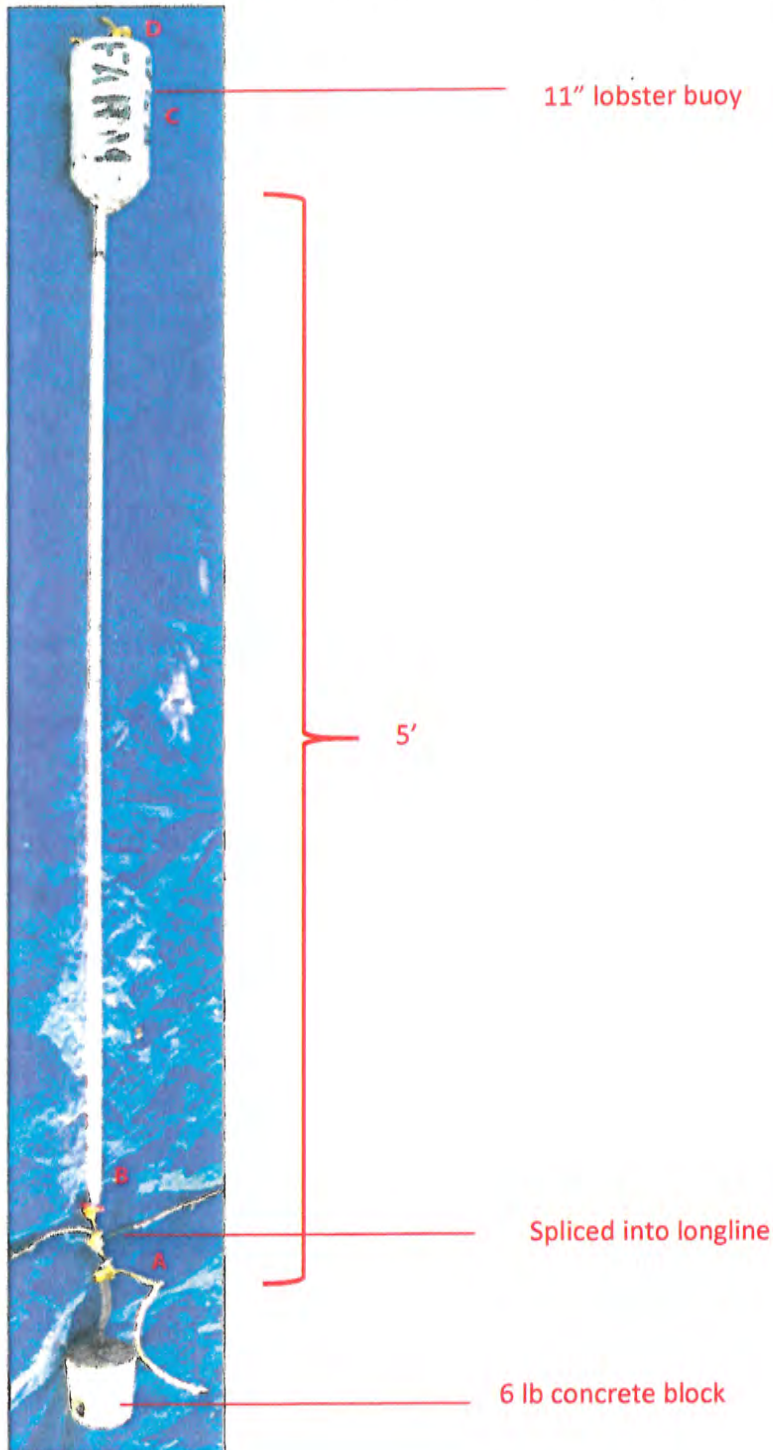


Figure 8. Scallop cages and oyster bottom cages. Cages will be placed on a 200' longline and sit on the seafloor. *Images created by M. Griffin 12/2017.*

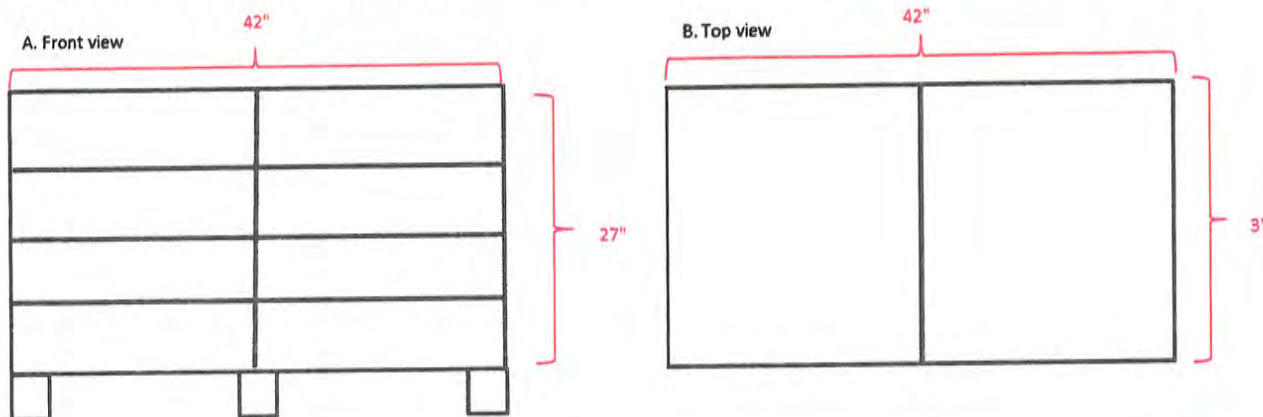
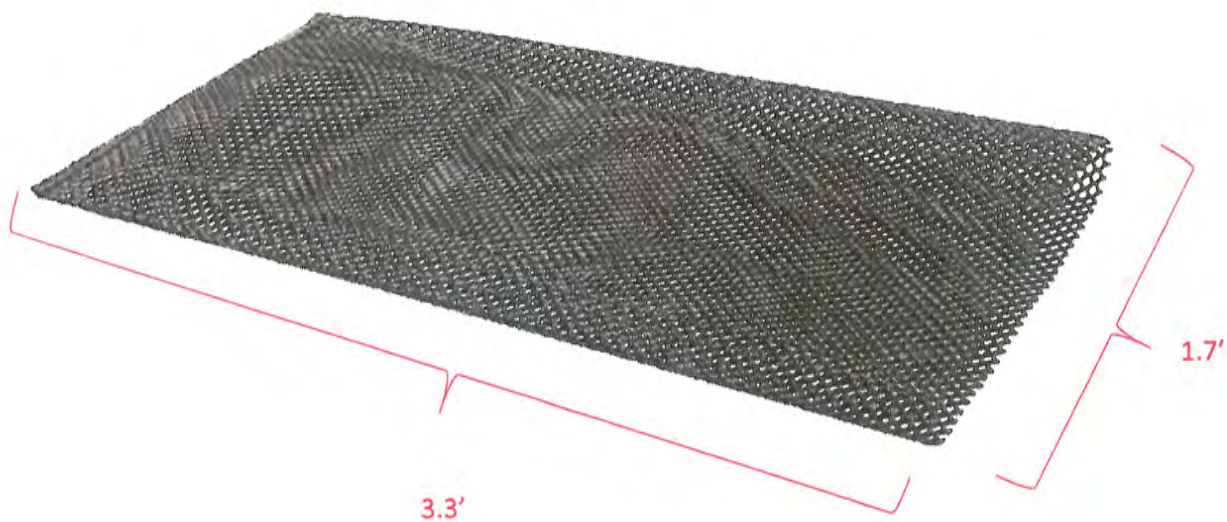


Figure 9. Vexar bags holding oysters and scallops. Bags placed in cages. *Image created by M. Griffin and adapted from oyster-mesh.com 12/2017.*





State of Rhode Island and Providence Plantations
Coastal Resources Management Council
Oliver H. Stedman Government Center
4808 Tower Hill Road, Suite 3
Wakefield, RI 02879-1900

(401) 783-3370
Fax (401) 783-2069

APPLICATION FOR STATE ASSENT

To perform work regulated by the provisions of Chapter 279 of the Public Laws of 1971 Amended.

Applicant's Name: Matthew Griffin		File No (CRMC use only): <u>2018-08-071</u>
Mailing Address: <u>57 Lindley Avenue</u>		Res. Tel. # <u>(401) 378-1213</u>
City/Town: North Kingstown	State: RI	Zip Code 02852
Waterway: West Passage, Narragansett Bay		Est. Project Cost \$ 250,000
Longitute/latitude of all corners of Proposed Aquaculture Project Location (preferably in decimal degrees): 41.542017N, -71.422677W 41.542131N, -71.419537W 41.541442N, -71.422727W 41.541563N, -71.419594W		Fee/Costs: \$ 250.00

Have you or any previous owner filed an application for and/or received an assent for any activity on this site? (If so please provide the file and/or assent numbers).

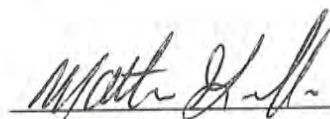
Commercial Viability Aquaculture Permit: 2016-05-050

Is this application being submitted in response to a coastal violation?

Yes _____ No X

If yes, you must indicate NOV or C&D Number _____

Is this site within a designated historic district? No

 Matthew Griffin
Owner's Signature (sign and print)

STORMTOOLS (<http://www.beachsamp.org/resources/stormtools/>) is a planning tool to help applicants evaluate the impacts of sea level rise and storm surge on their projects. The Council encourages applicants to use **STORMTOOLS** to help them understand the risk that may be present at their site and make appropriate adjustments to the project design.

NOTE: The applicant acknowledges by evidence of their signature that they have reviewed the Rhode Island Coastal Resources Management Program, and have, where possible, adhered to the policies and standards of the program. Where variances or special exceptions are requested by the applicant, the applicant will be prepared to meet and present testimony on the criteria and burdens of proof for each of these relief provisions. The applicant also acknowledges by evidence of their signature that to the best of their knowledge the information contained in the application is true and valid. If the information provided to the CRMC for this review is inaccurate or did not reveal all necessary information or data, then the permit granted under this application may be found to be null and void. Applicant requires that as a condition to the granting of this assent, members of the CRMC or its staff shall have access to the applicant's property to make on-site inspections to insure compliance with the assent. This application is made under oath and subject to the penalties of perjury.

01/17

PLEASE REVIEW REVERSE SIDE OF APPLICATION FORM



STATEMENT OF DISCLOSURE AND APPLICANT AGREEMENT AS TO FEES

The fees which must be submitted to the Coastal Resources Management Council are based upon representations made to the Coastal Resources Management Council by the applicant. If after submission of this fee the Coastal Resources Management Council determines that an error has been made either in the applicant's submission or in determining the fee to be paid, the applicant understands that additional fees may be assessed by the Coastal Resources Management Council. These fees must be paid prior to the issuance of any assent by the Coastal Resources Management Council.

The applicant understands the above conditions and agrees to comply with them.

Matthew Griffin
Signature

8/21/18
Date

Matthew Griffin 57 Lindley Ave, North Kingstown, RI 02882
Print Name and Mailing Address



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I. Introduction

Matthew Griffin currently operates a one acre oyster lease in Portsmouth, RI and has worked intimately with the aquaculture and shellfish restoration community in Rhode Island for the past fourteen years with employment in state, federal, academic and non-governmental organizations. In efforts to increase oyster, kelp and bay scallop production I propose to operate a four acre shellfish and sugar kelp lease within the embayment between Rome Point and Green Point, North Kingstown, RI (Figure 1, Table 1). At the closest point, the proposed lease is situated 510 ft. from the shoreline and between two existing aquaculture leases; 397 ft. away from the lease to the north and 550 ft. away from the lease to the south (Figure 1). The proposed lease is sited within an embayment outside of commercial boat traffic and within an area of limited recreational use. The expanse of navigable water between the proposed lease and existing leases to the north and south (397 ft. and 550 ft., respectively) is adequate to allow boat traffic to enter the cove. Substrate below the proposed lease consists of soft mud with no evidence of aquatic vegetation. Impact to the wild harvest shellfish industry will be limited as quahog densities are low ($0.7 \text{ clams m}^{-2} \pm 0.4 \text{ SE}$; Leavitt and Griffin 2013, unpublished data) and natural oyster populations are non-existent within the proposed lease. Matthew Griffin has operated a commercial viability oyster and kelp lease within the footprint of the proposed lease for a period of 15 months. Within the trial period, no conflicts arose with commercial or recreational boat traffic and growing practices of oysters and kelp described herein proved viable.

II. Operational Plan

1. Name and address:

Matthew Griffin
57 Lindley Avenue
North Kingstown, RI 02852

2. CRMC file number: TBD

3. DEM aquaculture license number: 000120

4. Type of facility: Commercial lease site

5. Location of facility:

North Kingstown, Rhode Island
West passage of Narragansett Bay
Between Rome Point and Green Point



Site Corner	Latitude	Longitude
NW	41.542017°	-71.422677°
SW	41.541442°	-71.422727°
NE	41.542131°	-71.419537°
SE	41.541563°	-71.419594°

Table 1. Coordinates of corner points of proposed lease.

6. Species grown:

<i>Crassostrea virginica</i>	Eastern oyster
<i>Argopecten irradians</i>	Bay scallop
<i>Saccharina latissima</i>	Sugar kelp

All shellfish and kelp operations will be conducted in accordance with the Rhode Island Biosecurity board protocols.



7. Gear description:

Oysters: Eastern oysters will be grown in two types of floating cages: OysterGro cages constructed of 4 inch vinyl coated wire mesh with two polyethylene floats fixed to the top and Low Pro Grow cages constructed of 1/2 in. wire mesh with polyethelne floats attached to the top. If possible both cages will be constructed to maintain a maximum of 4 in. above still water, allowing for minimal visual impact. OysterGro Cages are configured with 3 rows of two tiers, capable of holding six 35 in. x 18 in. vexar mesh bags and have outside dimensions of 41 in. x 42 in. x 12 in. (Figure 6). Low Pro Grow cages have outside dimensions of 37 in. x 25 in. x 9 in (Figure 7). Twelve cages will be spliced into a 160 ft. longline (½ in. polysteel), running north to south, and anchored on each end with 5 ft. helical screws (Figures 2 and 3). During the growing season, April to November, cages will be floated on the surface. During winter months, November to April, the majority of the cages, baring those designated for winter harvest, will be submerged to the bottom (Figures 4 and 6). Each floating cage will have a bird deterrent fin to dissuade birds from perching on the gear (Figure 6). Market size oysters will be stocked in bottom cages, consisting of two rows with four tiers each, capable of holding a total of eight 3.3 ft. x 1.7 ft. vexar mesh bags (Figure 8), a minimum of 2 days prior to harvest. A maximum of 43 long lines, spaced 20 ft. apart, totaling 516 cages will be deployed on the lease.

Bay scallops: Bay scallops will be placed in vexar mesh bags with appropriate mesh size, held inside bottom cages. Bottom cages consist of two rows with four tiers each, capable of holding a total of eight 3.3 ft. x 1.7 ft. vexar mesh bags (Figure 8). Ten bottom cages will be attached to a 200 ft longline (Figure 5). Up to 50 bottom cages will be deployed within the lease on the 5 western most trawls (Figure 2).

Note. The applicant is aware of the challenges associated with growing bay scallops in an aquaculture setting. Production of bay scallops will not be the primary focus of this aquaculture site, rather a secondary crop to further personal and communal knowledge of bay scallop culture techniques in New England and to diversify farmed species to mitigate financial loss in the event of a single species failure (i.e. oyster mortality associate with disease). Bay scallop culture on the lease will begin on a small scale and grow dependent upon successful growth and marketability of the product.

Kelp: During winter months (November-May) sugar kelp will be grown on a second longline, above submerged Gro cages, at a depth of 5 feet below the surface (Figure 4). The longlines will utilize the same helical anchors as the Gro cages. Long lines will be suspended in the water column using 5 ft., ½ in. PVC spacers with a six pound concrete block tied into the longline and an 11 inch lobster buoy providing floatation (Figure 7). Spacers will be deployed every 50 ft. along the kelp line. After harvest in April, the kelp long line and buoys will be removed and the Oyster Gro cages will be floated to the surface.

8. Identifying markers:

Each of the four corners of the site will be marked with a 12 in. buoy and a 5 ft. highflyer (radar reflector). Buoy color will be chosen in coordination with the North Kingstown Harbor Commission and CRMC to allow for differentiation from existing leases in the area. The poles of the high flyer will be wrapped in reflective tape. The CRMC assent number will be printed on each of the four corner markers.



The north and south sides of the lease will be marked with a unique system to provide clear marking for boating access to the shoreline (e.g. red buoys on the south side, green buoys on the north side). The marking system to allow for clear boating access to the shoreline will be developed in coordination with the North Kingstown Harbor Commission and CRMC.

9. DEM Shellfish Harvesting Classification:

Narragansett Bay, West Passage, 3w - Approved waters.

10. Description of practices and procedures:

10a. Seed Source and Husbandry

Oysters: Oyster seed will be sourced from a New England based commercial hatchery or oyster farm (e.g. Mook Sea Farms, Muscongus Bay Aquaculture, Fisher Island Oyster Farm, Aquaculture Research Corporation), with an approved pathology report. Determination of exact seed source will be dependent upon hatchery supply. The CRMC Aquaculture Coordinator will be notified of seed source and provided a corresponding pathology report (if source is outside the biosecurity zone) at least five days in advance of moving any seed onto the farm. Seed will be purchased with a minimum valve length of 4 mm and grown in Oyster Gro cages until market size is achieved. Market oysters will be held in bottom cages prior to harvest. Throughout the growing season oysters will be sorted according to size and density of oysters in bags will be thinned to mitigate overcrowding and food competition. Floating gear with juvenile oysters will be submerged during the winter months (November-April). Number of seed purchased annually will be dependent upon available space on the farm. Maximum annual oyster yield for the proposed lease is 275,000 individuals.

Bay Scallops: Scallop seed will be sourced from a New England based commercial hatchery or oyster farm (e.g. Mook Sea Farms, Muscongus Bay Aquaculture, Fisher Island Oyster Farm, Aquaculture Research Corporation), with an approved health certificate. Determination of exact seed source will be dependent upon hatchery supply. The CRMC Aquaculture Coordinator will be notified of seed source and provided a corresponding pathology report at least five days in advance of moving any seed onto the farm. Seed will be purchased with a minimum valve length of 4 mm and grown in bottom cages as described in section II, 7. Throughout the growing season scallops will be sorted according to size and density of oysters in bags will be thinned to mitigate overcrowding and food competition. Number of seed purchased annually will be dependent upon available space on the farm. Maximum annual scallop yield for the proposed lease is 50,000 individuals.

Kelp: Kelp will be purchased on seeded spools from: Matha's Vinyard Shellfish Group, Woods Hole Oceanographic Institution or Walrus and Carpenter Oysters. Reproductively active kelp tissue will be harvested from Rhode Island water and provided to the hatchery for spore production. The CRMC Aquaculture Coordinator will be notified at least five days prior to planting kelp and provided required documentation if needed. Kelp will be planted on the longlines in November, timing dependent upon water temperature (<50°F), and grown until March or April. Growing kelp does not require maintenance of shoot density or anti-fouling practices, therefore, husbandry will be limited to making sure lines are secure and correctly positioned in the water column.



10b. Gear Maintenance

Oysters: To mitigate fouling, floating cages will be turned upside down on the integrated floats, twice per month, allowing the oysters, bags and cages to air dry for 24 hours. Oyster will be hand sieved on site. Anchors and longlines will be checked via SCUBA annually to insure cages are secure. Fouled vexar bags will be replaced with clean ones and stored onshore at the home residence of this applicant. No onsite gear storage will be employed.

Bay Scallops: Fouled bags will be removed from the site, to air dry on shore at the home residence of this applicant, and replaced with clean bags. Cages will not need regular fouling control as they will be constructed of 4 in. wire mesh allowing adequate flow when fouled. If necessary in-situ hand scrubbing of cages will be employed.

Kelp: Growing kelp does not require maintenance of shoot density or anti-fouling practices, therefore, husbandry will be limited to making sure lines are secure and correctly positioned in the water column.

10c. Harvest, Storage and Transportation

All handling of shellfish to be consumed will follow the recommendations/regulations set forth by RIDEM (Rhode Island Marine Fisheries Regulations, Part IV Shellfish) and in accordance with the RIDEM Vibrio Management Plan, as instituted 1 July 2014. All handling of kelp to be consumed will follow recommendations/regulations set forth by regulating agencies as protocols are developed. All shellfish/kelp movement and sales will be recorded with appropriate tagging as mandated by the RI shellfish regulations and those records will be maintained by Matthew Griffin and will be available for review upon request. Shellfish and kelp will be sold to wholesale dealers for public consumption. Market size oysters will be placed in bottom cages a minimum of 2 days prior to harvest for public consumption.

10d. Time table of work performed.

Farm work described herein will take place 3-5 days per week, between sunrise and sunset, during the shellfish growing season (April – November). Kelp work on the farm will be limited to 1 day a week (November – May) to assure gear is properly in place.

11. Procedures for maintaining records for operations using seed acquired from out-of-state. Description of notification, disease certification, and labeling/tagging of product.

Records of seed purchases will be maintained by Matthew Griffin for review by CRMC upon request. CRMC will be notified prior to seed purchases and supplied with the appropriate documentation including: the origin of the seed (hatchery name and location), spawn date, number purchased, date of delivery and pathology report(s).

12. Procedures for maintaining records for upwellers in prohibited waters.

Not applicable to this application.

13. Procedures for maintaining records for operations using seed from prohibited waters.



Seed purchased from a third party that originated from prohibited waters will be kept separate from other cohorts by marking bags with red tags. Tags will contain the date the seed was purchased to insure sales do not occur prior to 6 months of growth in approved waters of the lease. Seed which originated in prohibited waters will not be mixed with seed originating from approved waters.

III. Written responses to CRMP section 300.1

1. *Demonstrate the need for the proposed activity or alteration:*

Matthew Griffin is currently operating a one acre shellfish lease. The size of the current lease constrains business growth from sales of aquaculture products. Obtaining a lease of four acres, as proposed herein, would allow the applicant to build a viable business and provide local sustainable aquaculture products to the greater community of New England.

2. *Demonstrate that all applicable local zoning ordinance, building codes, flood hazard standards, and all safety codes, fire codes, and environmental requirements have or will be met.*

Permits required for the proposed lease will be obtained through RI CRMC pending approval of subsequent applications.

3. *Describe the boundaries of the coastal waters and land areas that are anticipated to be affected.*

The proposed lease is located between Rome Pt. and Green Pt. in the west passage of Narragansett Bay. The lease is bordered by the Chafee preserve to the west and cannot be seen, without aid of optical magnification, by any residential domiciles or land based businesses. Land abutting the lease (510 ft. from the closest point) is coarse sand beach and upland forest. The proposed lease is sited between two existing aquaculture leases; 397 ft. away from the lease to the north and 550 ft. away from the lease to the south. The west passage of Narragansett Bay is to the east of the proposed site. See Figure 1.

4. *Demonstrate that the alteration or activity will not result in significant impacts on erosion and/or deposition process along the shore and tidal waters.*

Impacts of erosion and or deposition are not applicable to this project as the gear used will have little effect on the hydrodynamics in the area.

5. *Demonstrate that the alteration or activity will not result in significant impacts on the abundance and diversity of plant and animal life.*

The proposed lease will not result in significant impacts on the abundance and diversity of plant and animal life. Eastern oysters play a critical ecological role within our coastal environment by providing complex biogenic structures, which increase species density, biomass and richness over nearby mud habitats (Tolley and Volety 2005, Manley *et al.* 2010, Abeels *et al.* 2012, Quan *et al.* 2012). Shellfish and associated culture gear serve as essential fish habitat (Coen *et al.* 1999, Peterson *et al.* 2003, Forrester 2007); ultimately increasing productivity within our coastal waters (Grabowski *et al.* 2004, Grabowski *et al.* 2008). Sugar kelp provides habitat for sessile and mobile species. There is no submerged aquatic vegetation on the proposed lease.



6. *Demonstrate that the alteration will not unreasonably interfere with, impair, or significantly impact existing public access to, or use of, tidal waters and/or the shore.*

There will be no interference with public access or use of tidal waters and or the shore. The proposed lease is sited in 14 ft. of water at mean low tide. The closest portion of lease to the shoreline is 512 ft. Trawl lines with gear will be spaced 20 ft. apart allowing adequate room to navigate watercraft between gear.

7. *Demonstrate that the alteration will not result in significant impacts to water circulation, flushing, turbidity, and sedimentation.*

Impacts of water circulation, flushing, turbidity, and sedimentation are not applicable to this project as the gear used will have little effect on the hydrodynamics in the area.

8. *Demonstrate that there will be no significant deterioration in the quality of water in the immediate vicinity as defined by DEM.*

The proposed lease will have no negative effect on water quality. Oysters are capable of benthic-pelagic coupling by filtering phytoplankton and seston and transporting this organic matter to the benthos, thus supplementing benthic food webs and accelerating nutrient cycling within the system (Dame 1993, Smaal and Prins 1993, Pietros and Rice 2003). Through filter feeding activities, oysters increase water clarity, reduce turbidity (Cloern 1982, Newell 1988) as well as reduce carbon, nitrogen, (Hargis and Haven 1999) and pollutants from the water column (Tolley *et al.* 2005).

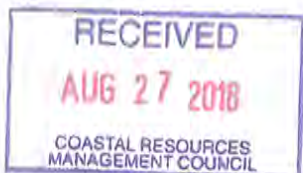
9. *Demonstrate that the alteration or activity will not result in significant impacts to areas of historic archeological significance.*

There is no known historic archeological significance in the propose lease.

10. *Demonstrate that the alteration or activity will not result in significant conflicts with water-dependent uses and activity such as recreational boating, fishing, swimming, navigation and commerce.*

The cove between Rome Pt. and Green Pt. is lightly used by recreational boaters, whom anchor along the shoreline. The lease is a long rectangle with the short axis (208 ft. in length) 510 ft. away from the shoreline (Figures 1 and 2). The expanse of water between the shoreline and the short axis of the lease is 9 ft. at mean low tide allowing boats to anchor or traverse between the shoreline and oyster culture gear. The expanse of navigable water between the proposed lease and existing lease to the north and south (397 ft. and 550 ft., respectively) is adequate to allow boat traffic to enter the cove. Total access to the cove will be reduced by only 208 ft. as the proposed lease parallels a current aquaculture lease (Figure 1). The north and south sides of the lease will be marked with a unique system, as decided by the North Kingstown Harbor Commission and CRMC, to provide clear marking for boating access to the shoreline (e.g. red buoys on the south side, green buoys on the north side). Longlines, as described in section II 7, will be 20 ft. apart, allowing watercraft to navigate between gear.

Swimming in the cove occurs from recreational boats anchored along the shoreline or wading from the beach. The location of the proposed lease will not impede swimming.



The proposed lease is outside of commercial boat traffic routes.

Impact to the wild harvest shellfish industry and recreational shell fishermen will be limited as quahog densities are low ($0.7 \text{ clams m}^{-2} \pm 0.4 \text{ SE}$; Leavitt and Griffin 2013, unpublished data) and natural oyster populations are non-existent within the proposed lease. Within the one year of operating the commercial viability lease zero shellfishing was witnessed in the area of the proposed lease.

Impacts to recreational fin fishermen will be limited as the benthic substrate is soft mud providing little habitat for resident fish or foraging pelagics. Rock reefs, providing habitat and foraging for game fish, exist to the north and south along the edges of the cove. Access to the reefs will not be impaired by the proposed lease. Shellfish aquaculture provides structure and habitat and has shown to increase local biodiversity and fish production (See section III, 5). Within the one year of operating the commercial viability lease zero fin fishing was witnessed in the area of the proposed lease.

Commercial shellfish lease holders to the north and south of the proposed site were in support of the commercial viability lease and the proposal herein.

11. *Demonstrate that measures have been taken to minimize any adverse scenic impacts.*

The proposed lease is bordered by the Chafee preserve to the west and cannot be seen, without aid of optical magnification, by any residential domiciles or land based businesses. The configuration of the lease (208 ft. by 858 ft.) was designed to parallel, with a gap of 397 ft., an existing aquaculture lease to allow proposed shellfish infrastructure to blend in with already existing shellfish infrastructure. The gear in the proposed lease will not deviate from gear in the existing lease to the north, as the lease to north is permitted for Oyster Gro cages. The proposed lease will be laid out in a grid pattern using a differential GPS to provide an orderly configuration of gear.

IV. References

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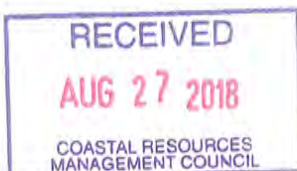


Figure 1. Site location.

Location map

Proposed Aquaculture lease

Species: oysters, bay scallops, kelp

Proposed lease is located 510 feet from the shoreline at the closest point. 397 feet and 550 feet of navigable water remains between proposed lease and existing lease to the north and south, respectively.

Proposed lease area

Existing aquaculture lease

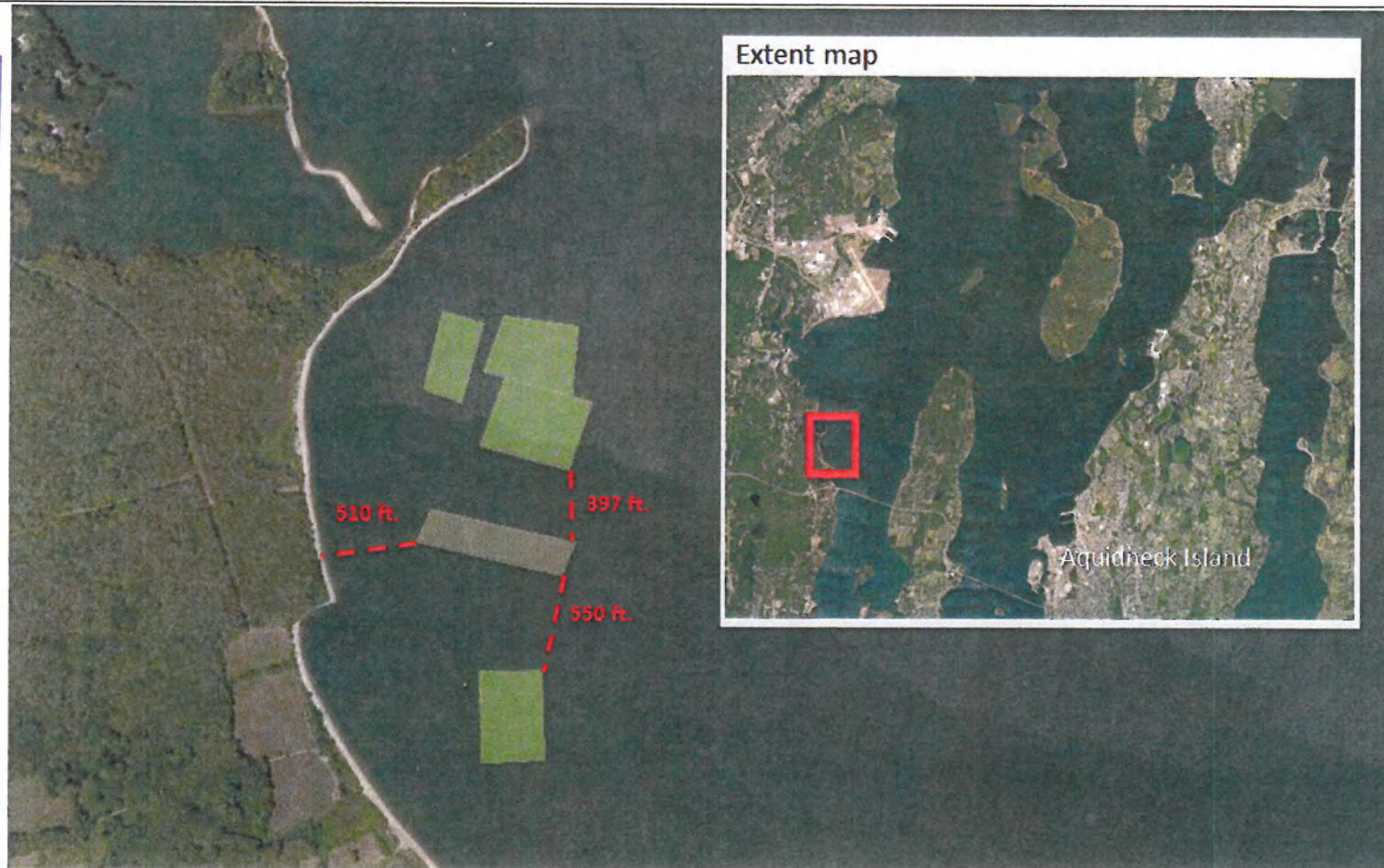
14 ft. MLW in proposed lease

Site Corner	Latitude	Longitude
NW	41.542017°	-71.422677°
SW	41.541442°	-71.422727°
NE	41.542131°	-71.419537°
SE	41.541563°	-71.419594°



550 ft.

Map created by M. Griffin: 6/2018



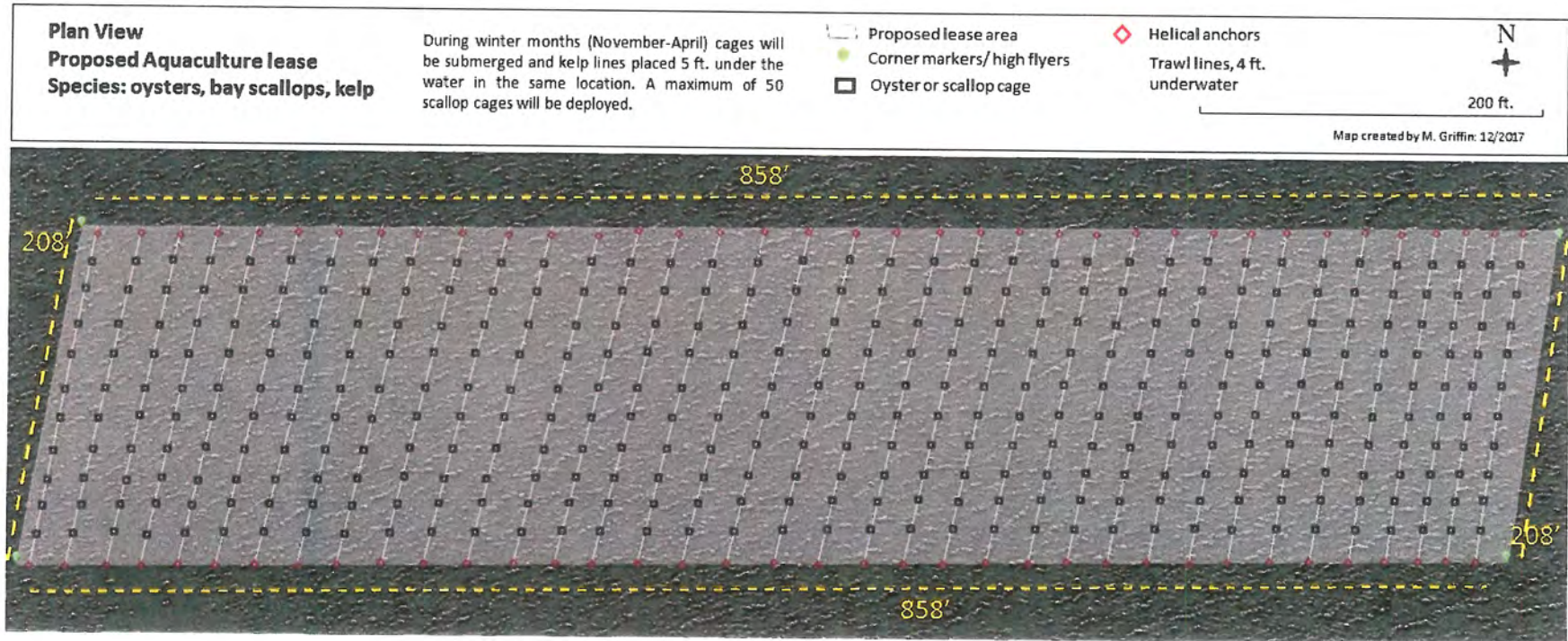
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Figure 2. Plan view. Scallop cages will occupy the 5 western most trawls. Oyster bottom cages will be deployed in trawls 6 and 7 from the western boudary. Water depth is 14 feet at MLW.



Site Corner	Latitude	Longitude
NW	41.542017°	-71.422677°
SW	41.541442°	-71.422727°
NE	41.542131°	-71.419537°
SE	41.541563°	-71.419594°



Figure 3. Cross section of the eastern most part of the proposed lease depicting oyster cages while at the water's surface (April-November). Trawl lines continue west for a total of 43 trawls encompassing 858 ft. along the east-west axis (see figure 2). Figure created by M. Griffin - modified from Oyster Gro, 12/2017.

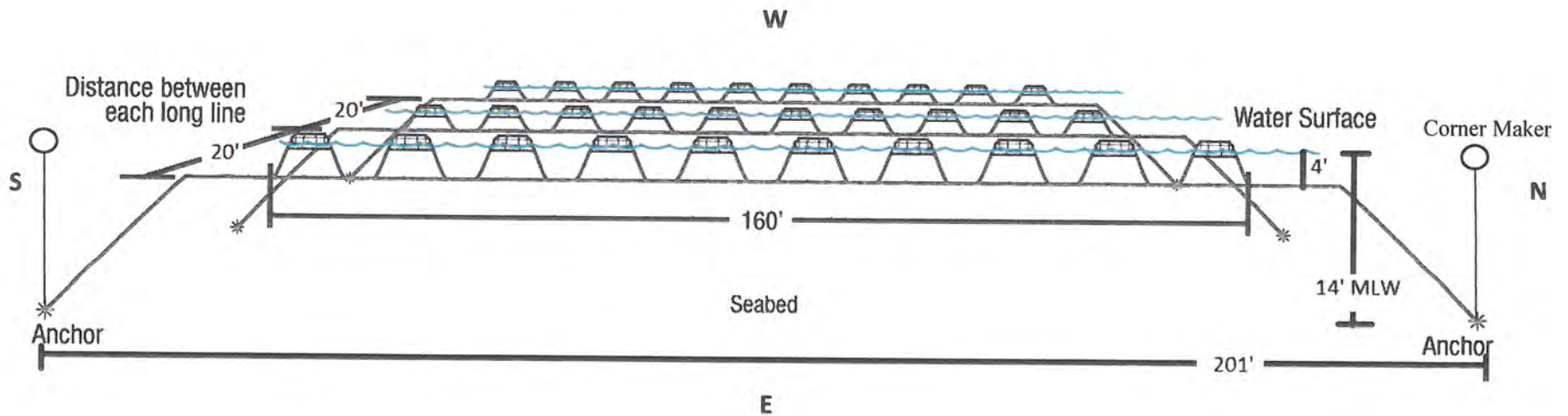
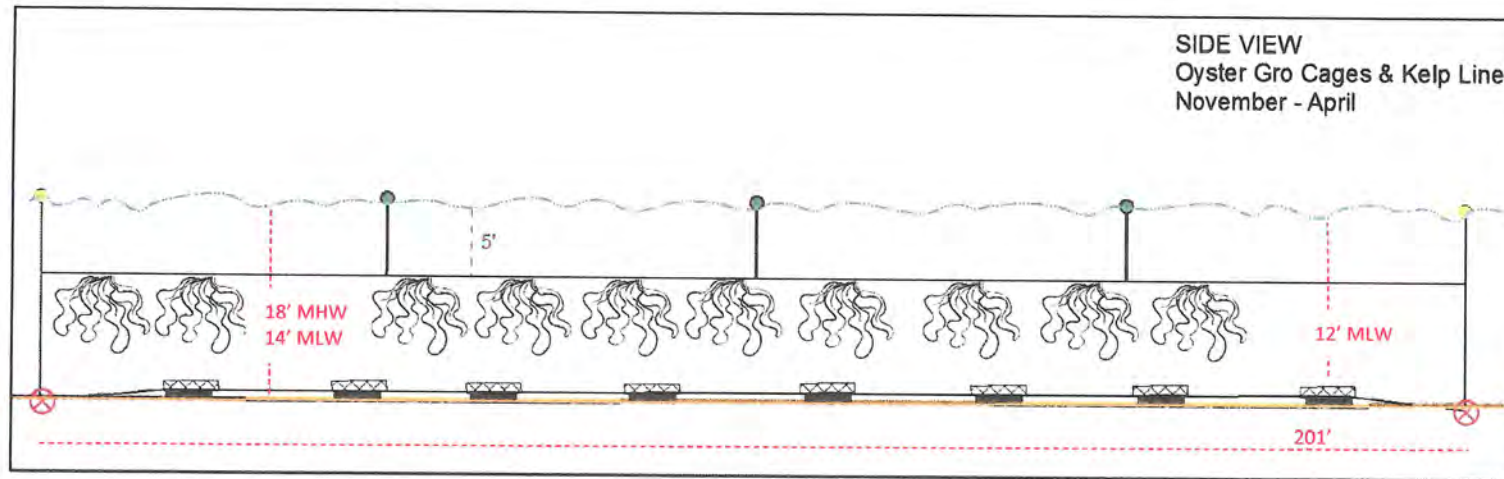


Figure 4. Cross section of oyster cages submerged during winter months with kelp planted above. A maximum of 30 kelp lines will be deployed utilizing the same space and ground tackle as the oyster cages. Kelp Lines will be placed according to location of oyster cages which have been submerged for the winter. *Figure created by M. Griffin 12/2017.*



Legend

- 11" Lobster buoy
- 11" Lobster Buoy
- ⊗ Helical Anchor
- ⊗ Kelp
- Longline
- 1/2" PVC spacer
- ⊗ Oyster Gro

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Figure 5. Cross section of scallop cages and oyster bottom cages on proposed lease. Scallop cages will be placed on the 5 western most trawls when deployed. Oyster bottom cages will be deployed on trawls 6 and 7 from the western boundary. *Figure created by M. Griffin 12/2017.*

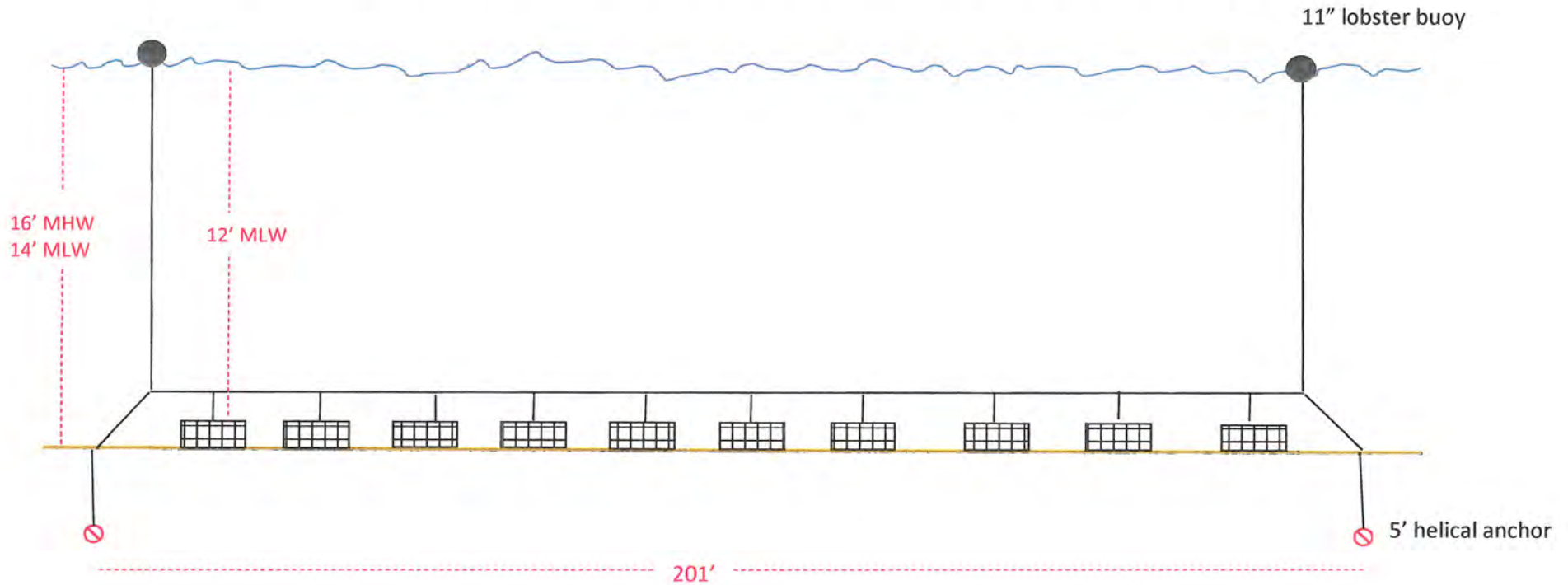
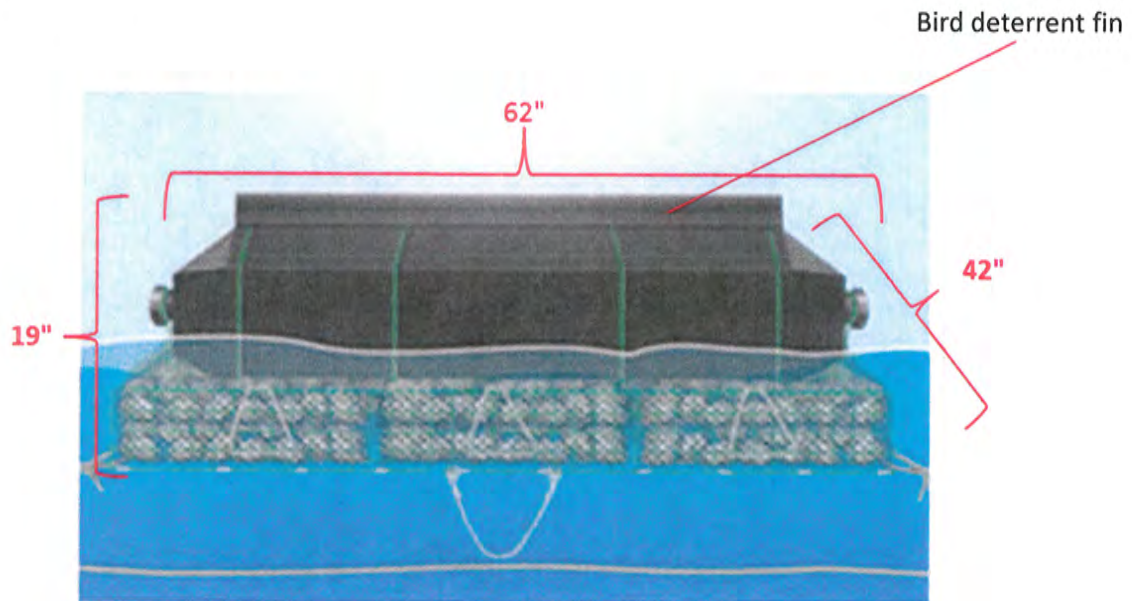


Figure 6. Floating oyster cage diagrams. Floats will be modified to maintain a maximum of 4" above still water. Images created by M. Griffin and adapted from Oyster Gro & Ketchum Traps 12/2017.

a. OysterGro



b. Low Pro Grow diagram

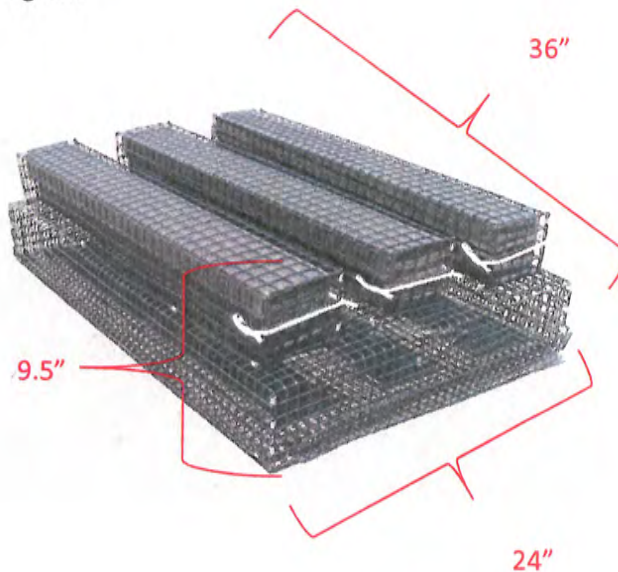


Figure 7. Kelp long line spacer. Three spacers will be placed along each kelp line at 50 ft. intervals to hold the line 5 ft. below the water surface. *Image created by M. Griffin and adapted from (Kelp Farming Manual, A Guide to the Process, Techniques, and Equipment for Farming Kelp in New England Waters) 12/2017.*

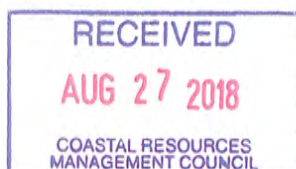
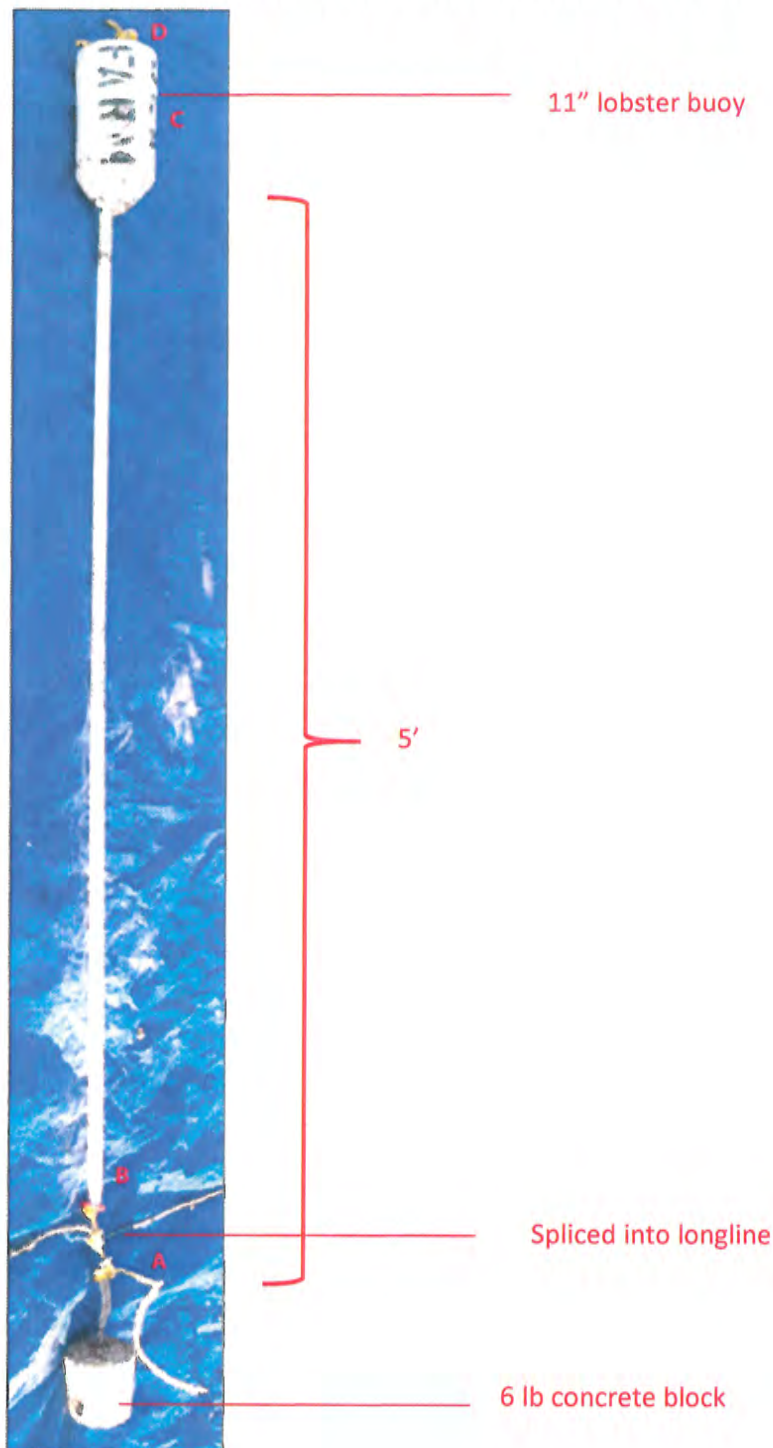


Figure 8. Scallop cages and oyster bottom cages. Cages will be placed on a 200' longline and sit on the seafloor. *Images created by M. Griffin 12/2017.*

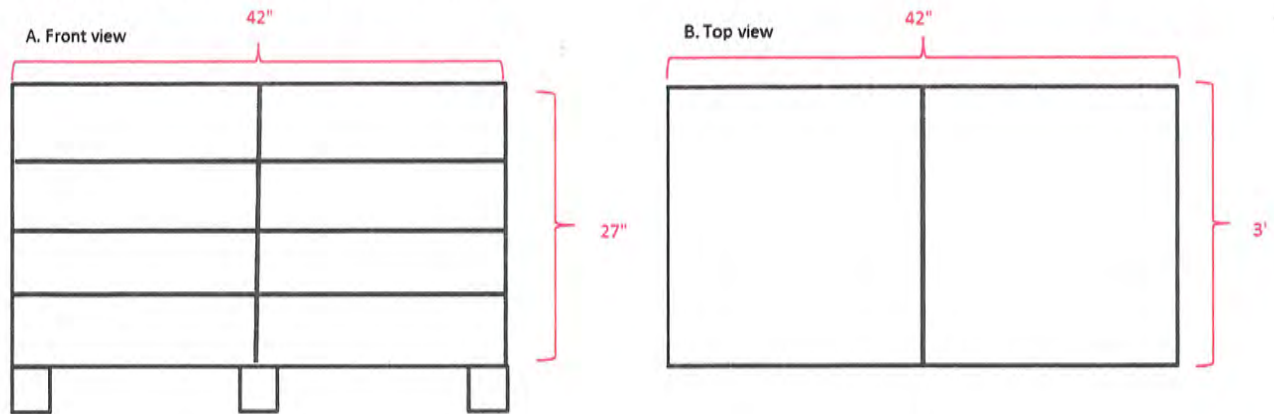


Figure 9. Vexar bags holding oysters and scallops. Bags placed in cages. *Image created by M. Griffin and adapted from oyster-mesh.com 12/2017.*

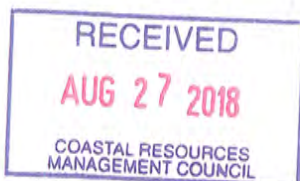
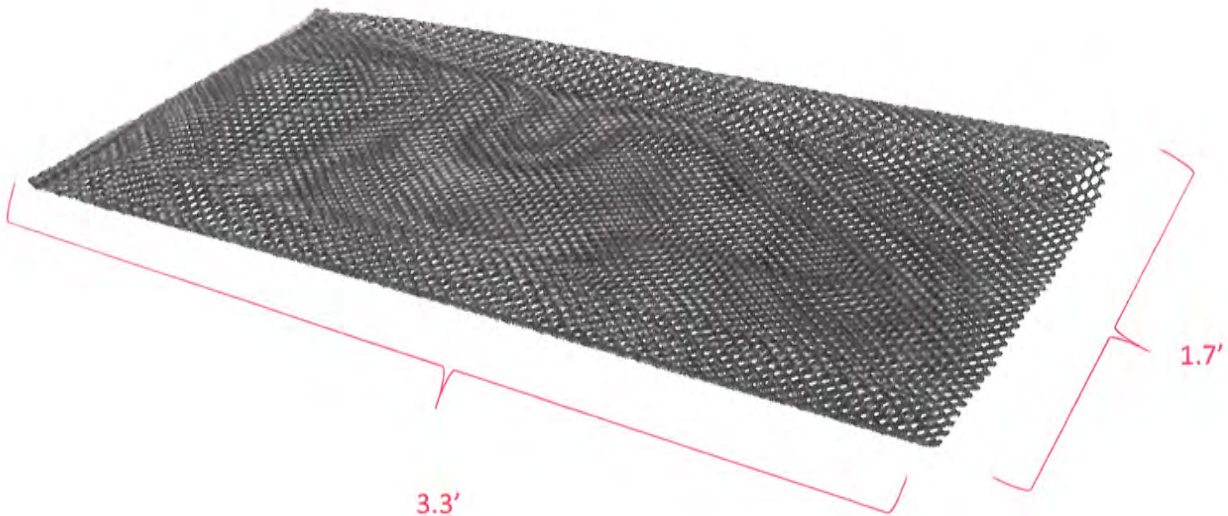


Figure 10. View looking north from proposed lease.

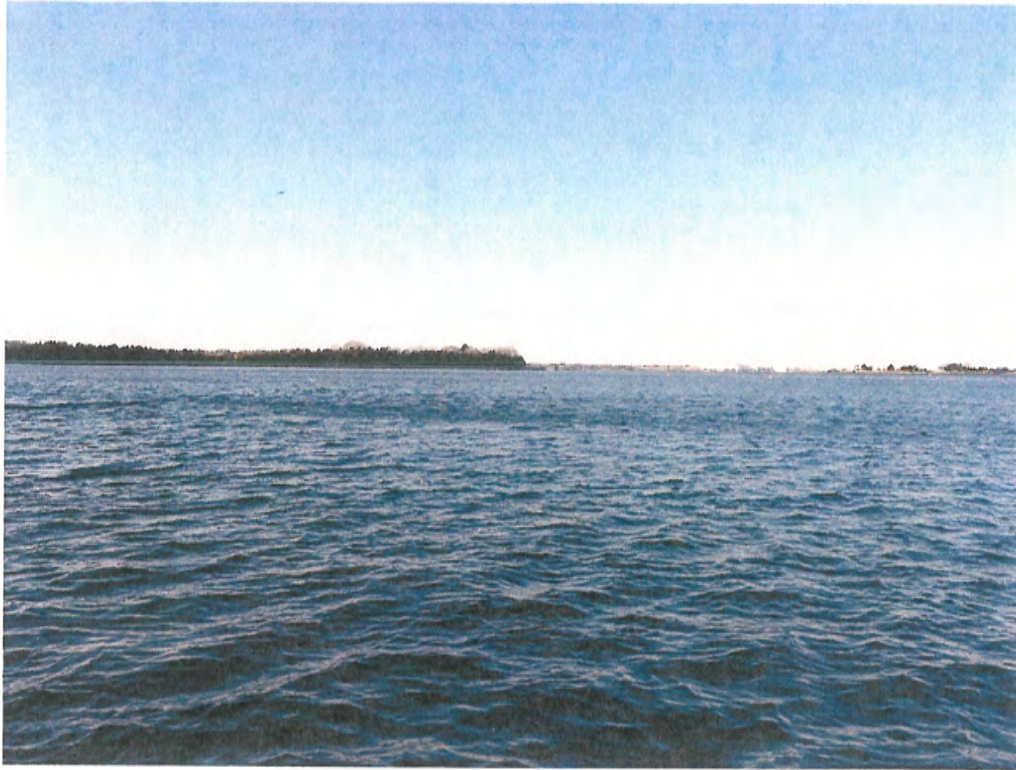


Figure 11. View looking east from proposed lease.

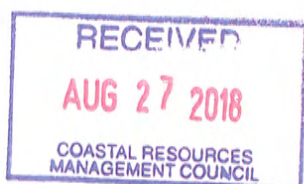
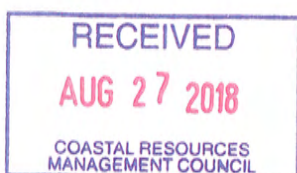


Figure 12. View looking south from proposed lease.



Figure 13. View looking west from proposed lease.





State of Rhode Island and Providence Plantations
Coastal Resources Management Council
Oliver H. Stedman Government Center
4808 Tower Hill Road, Suite 3
Wakefield, RI 02879-1900

(401) 783-3370
Fax (401) 783-2069

PUBLIC NOTICE

File Number: 2018-08-071 Date: September 5, 2018

This office has under consideration the application of:

Matthew Griffin
57 Lindley Avenue
North Kingstown, RI 02852

for a State of Rhode Island Assent to create and maintain: a 4.2 acre aquaculture farm for oysters, bay scallops, and kelp using floating, suspended and bottom techniques

Project Location:	Narragansett Bay
City/Town:	North Kingstown
Plat/Lot:	/
Waterway:	Narragansett Bay West Passage

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 October 5, 2018.

Figure 1. Site location.

Location map

Proposed Aquaculture lease

Species: oysters, bay scallops, kelp

Proposed lease is located 510 feet from the shoreline at the closest point. 397 feet and 550 feet of navigable water remains between proposed lease and existing lease to the north and south, respectively.

Proposed lease area

Existing aquaculture lease

14 ft. MLW in proposed lease

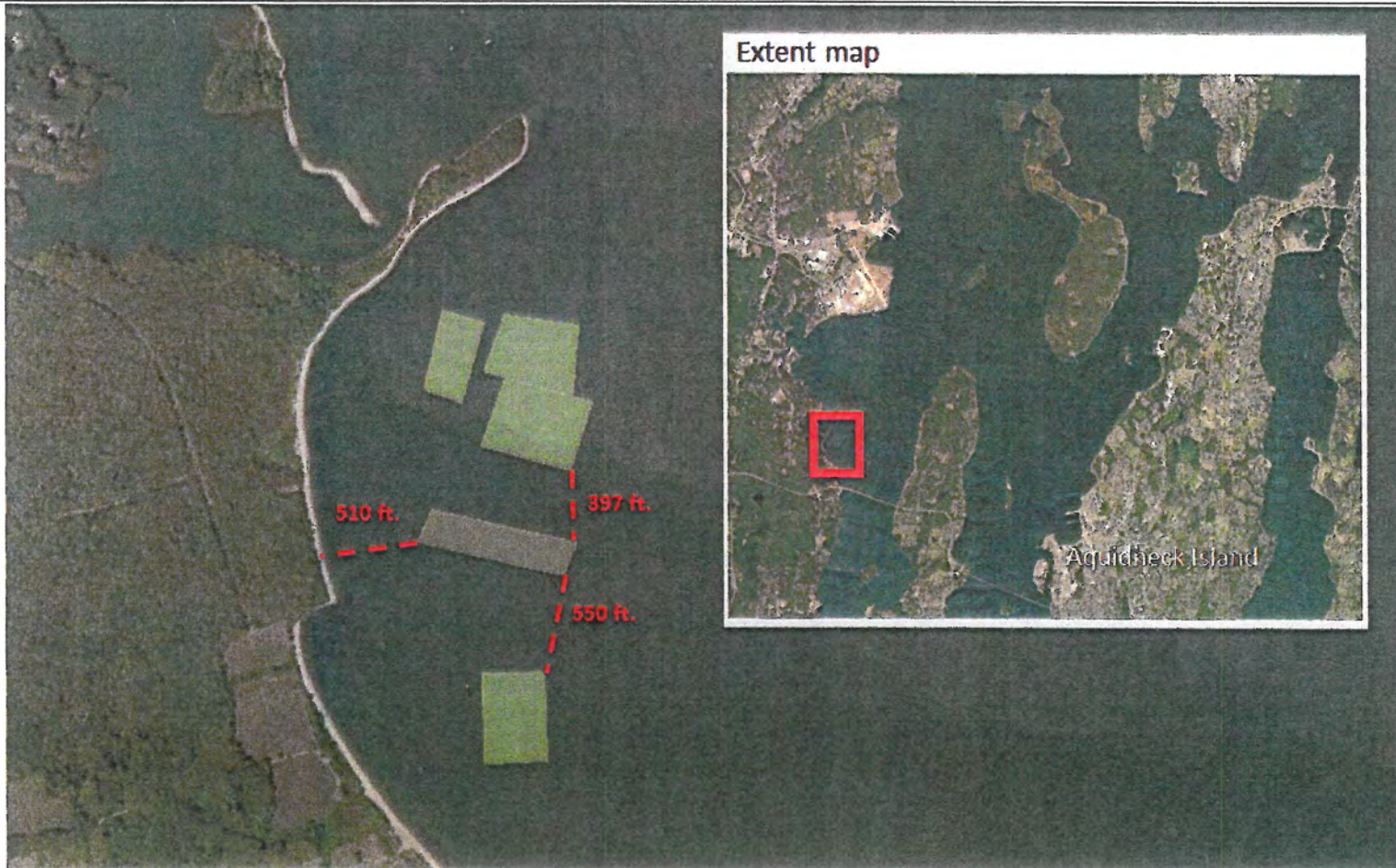
Site Corner	Latitude	Longitude
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SW	41.541442°	-71.422727°
NE	41.542131°	-71.419537°
SE	41.541563°	-71.419594°



550 ft.

Map created by M. Griffin: 6/2018

Extent map



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RHODE ISLAND
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

DIVISION OF MARINE FISHERIES

3 Fort Wetherill Road
Jamestown, RI 02835

DIVISION OF FISH AND WILDLIFE

277 Great Neck Road
West Kingston, RI 02892

September 27, 2018

David Beutel
Aquaculture Coordinator
Coastal Resources Management Council
4808 Tower Hill Road
Wakefield, RI 02879

Re: Griffin Application #2018-08-071

Dear Mr. Beutel,

The Rhode Island Department of Environmental Management, through the Division of Fish and Wildlife (DFW) and Division of Marine Fisheries (DMF), has received and reviewed the application submitted by Matthew Griffin for a proposed 4.2-acre aquaculture lease in the near Rome Point for cultivating eastern oysters (*Crassostrea virginica*), bay scallops (*Argopecten irradians*), and sugar kelp (*Saccharina latissima*) using floating, suspended, and bottom gear. The site will be active year-round, with oysters and bay scallops April 30 – November 1 and kelp November 1 - April 30. Mr. Griffin has operated a commercial viability oyster and kelp lease within the proposed lease footprint for a period of 15 months. During that time, no issues arose and the growing practices proved viable.

The DMF and DFW believe that the adverse impacts to marine fisheries and wildlife and their habitat from this prospective site would be minimal. While the rocks off Rome Point are a well-documented and heavily used harbor seal haul-out site (STB 2017, Raposa and Dapp 2009), the DFW does not believe that the aquaculture site in question will disturb the seals. NOAA Fisheries recommends staying at least 50 yards from seals by land or sea in order to avoid Level A Harassment under the Marine Mammal Protection Act (NOAA Fisheries 2016, STB 2017). The distance at which seals become alert and begin to move towards the water can be as much as 500–800m (Henry & Hammill 2001, Wilson et al. 2011), though the actual distance at which most flushing to the water occurs has varied from study site to site, but has been given as approximately <100m (Wilson 2013, Allen et al 1984, Jackson & Wilson 1990, Calambokidis et al 1991, Brown & Prior 1998, Suryan & Harvey 1999, Henry & Hammill 2001, Johnson & Acevedo 2007, Fox 2008, Jansen et al 2010). Assent 2001-08-080 is greater than 1900 feet (579 m) from the haul-out site (Figure 1). Although the aquaculture site potentially falls within a range where human activity may attract the attention of hauled-out seals, it is unlikely to cause flushing activity and excess energy expenditure. Therefore, aquaculture activities within the lease area are unlikely to harm the seals.

As such, the DFW and DMF do not have objections to this application. The Divisions' acceptance of the current proposal is specific to the location and specifications outlined in the application.

Sincerely,



Dean Hoxsie,
Acting Associate Director for Natural Resources

References:

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<http://www.pinnipeds.org/attachments/article/199/Disturbance%20for%20SCS%20-%20text.pdf>



Rhode Island Marine Fisheries Council

3 Fort Wetherill Road Jamestown, Rhode Island 02835

(401) 423-1920 Fax: (401) 423-1925

Robert Ballou
Chairman

David Monti
Vice Chair

Travis Barno

Andrew Dangelo

Jeff Grant

Jason Jarvis

Christopher Rein

Michael Rice, Ph.D.

Michael Roderick

April 24, 2019

Dave Beutel, Aquaculture Coordinator
Coastal Resources Management Council
4808 Tower Hill Road
Wakefield, RI 02879

Re: CRMC Aquaculture Lease Application # 2018-08-071 – Griffin – Narragansett
Bay West Passage

Dear Mr. Beutel:

Pursuant to RIGL §20-10-5, the above-referenced application was brought before the RI Marine Fisheries Council (hereafter "Council") on April 1, 2019 for review and consideration. The Council found that the proposal poses no inconsistency with competing uses engaged in the utilization of marine fisheries in the area.

Sincerely,

Robert Ballou, Chair

cc: RIMFC Members



RHODE ISLAND
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

235 Promenade Street, Providence, RI 02908-5767 TDD 401-222-4462

February 6, 2018
Dave Beutel Aquaculture Coordinator
Coastal Resources Management Council
Wakefield, RI 02879-1900

Dear Mr. Beutel,

I am writing in reference to the Preliminary Determination request by Matthew Griffin for a new four (4) acre shellfish and sugar kelp lease . (File number 2017-12-088). The proposed location for this site is in waters approved for shellfish harvesting located in shellfish classification area GA 7 West Passage and harvest area 3W in the town of North Kingstown. Sugar Kelp is not a regulated species under the National Shellfish Sanitation program. However, the proposal states that both shellfish and kelp will be present on the lease concurrently during certain times and the following comments would apply at all times.

The classification of shellfish grounds is an ongoing process based on the principles of the National Shellfish Sanitation Program. The Department of Environmental Management assumes no liability by the leaseholder for changes in classifications that may restrict or prohibit access and/or harvesting from said lease area. While this site currently has an approved classification for the harvesting of shellfish, extraordinary circumstances (i.e., large amounts of rainfall, hurricanes or oil spills) could temporarily halt such harvesting and prohibit work on said lease. Although sugar kelp is not regulated by the NSSP, your proposal states that both shellfish and sugar kelp will be present on the lease concurrently during certain times. If approved please include the following language that CRMC and DEM previously agreed to as a stipulation that would apply at all times:

Aquaculturists in areas where emergency shellfish closures have been enacted will be allowed access to their leases for the purposes of preparing for and planting seed and when extreme weather could result in loss or damage of gear to conduct necessary maintenance/retrieval of their equipment. All other activities on the aquaculture lease, including but not limited to the harvest of shellfish, will remain prohibited until the water quality is acceptable to allow for harvest. Aquaculturists seeking permission to access their lease during an emergency closure must seek authorization by contacting Dave Beutel, CRMC's aquaculture coordinator at 783-7587.

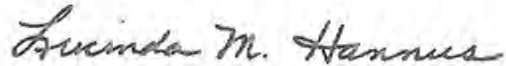
The applicant should be aware that at the 2017 ISSC conference, changes were adopted to the model ordinance relating to floating aquaculture gear. The proposed changes are under review by FDA for final approval and inclusion in the next model ordinance update. The changes adopted at the ISSC conference include a requirement that aquaculture gear that attracts birds or mammals to the extent that their waste presents a human health risk shall have a written operation plan. While not yet a requirement, please advise Mr. Griffin of this pending requirement and encourage him to consider methods to deter waterfowl attraction in consultation with RIDEM Division of Marine Fisheries

In the effort to address increasing water temperatures and the potential threat of a Vibrio Illness outbreaks we are asking all lease holders to monitor water temperature at their lease site and keep records of actual

temperatures of bottom, surface and at the depth waters where the shellfish are being grown during the Summer months (June-September). If this project is approved, please include this request in your aquaculture approval document.

Neither a RIPDES permit nor a Water Quality Certificate is required for the proposed facility. Please call me at 222-4700, Ext. 7241 if you have any questions.

Sincerely,

A handwritten signature in cursive script that reads "Lucinda M. Hannus".

Lucinda M. Hannus, Principal Environmental Scientist
RI DEM
Office of Water Resources – Shellfish Program

cc Angelo Liberti
Conor McManus
Dennis Erkan
Julia Livermore
Catherine White- RIDOH

PROPOSED RULEMAKING BEFORE THE FULL COUNCIL FOR DECISION:



State of Rhode Island and Providence Plantations
Coastal Resources Management Council
Oliver H. Stedman Government Center
4808 Tower Hill Road, Suite 3
Wakefield, RI 02879-1900

(401) 783-3370
Fax (401) 783-3767

PUBLIC NOTICE

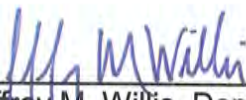
Pursuant to R.I. Gen. Laws § 42-35-2.8 the Rhode Island Coastal Resources Management Council (CRMC) issued public notice for rule-making on April 25, 2019 for amendment to 650-RICR-20-00-3, the Salt Pond Region Special Area Management Plan (SAMP), and held a public hearing at 6:00 p.m. on May 14, 2019 in Conference Room A at the Department of Administration, One Capitol Hill, Providence, RI to afford the public an opportunity to offer comments on the proposed rule-making. No public testimony was offered at the hearing.

The CRMC hereby gives written public notice pursuant to R.I. Gen. Laws § 42-46-6 that the Council will deliberate on the proposed amendment to 650-RICR-20-00-3, consider written comments filed in this matter and vote on the proposed amendments. **Having provided an opportunity for public comment at a public hearing on May 14, 2019, the Council will not consider public testimony at this meeting.**

A copy of the public notice for rule-making and the proposed amendment to the Salt Pond Region SAMP (650-RICR-20-00-3) is available on the Secretary of State's web site at: <https://rules.sos.ri.gov/promulgations/part/650-20-00-3>.

The meeting as set forth above is scheduled for **May 28, 2018 at 6:00 p.m.** in Conference Room A at the Department of Administration, One Capitol Hill, Providence, RI. The room is accessible to the disabled and persons requesting interpreter services for the hearing impaired must notify the Council office at 401-783-3370 or RI 711 at least three (3) business days in advance of the hearing date so that such assistance can be provided at no cost to the person requesting. Further information may be obtained by contacting the Coastal Resources Management Council offices at 783-3370.

Signed this 20th day of May, 2019.



Jeffrey M. Willis, Deputy Director
Coastal Resources Management Council

**RHODE ISLAND GOVERNMENT REGISTER
PUBLIC NOTICE OF PROPOSED RULEMAKING**

COASTAL RESOURCES MANAGEMENT COUNCIL

Title of Rule: Salt Pond Region Special Area Management Plan (650-RICR-20-00-3)

Rule Identifier: 650-RICR-20-00-3

Rulemaking Action: Proposed Amendment

Important Dates:

Date of Public Notice: 04/25/2019

Hearing Date: 05/14/2019

End of Public Comment: 05/27/2019

Authority for this Rulemaking:

R.I. Gen. Laws § 46-23-6

Summary of Rulemaking Action:

Amend § 3.4.12(A)(1) to extend the existing regulatory deadline of 10/7/19 by five (5) years until 10/7/2024 for the filing of an experimental coastal erosion control application.

Additional Information and Comments:

All interested parties are invited to request additional information or submit written or oral comments concerning the proposed amendment until May 27, 2019 by contacting the appropriate party at the address listed below:

James Boyd
Coastal Resources Management Council
Stedman Government Center
4808 Tower Hill Road
Wakefield, RI 02879
jboyd@crmc.ri.gov

Public Hearing:

A public hearing, in accordance with R.I. Gen. Laws § 42-35-2.8, to consider the proposed amendment shall be held on May 14, 2019 at 6:00 pm at Department of Administration, Conference Room A, One Capitol Hill, Providence, RI 02908 at which time and place all persons interested therein will be heard. The seating capacity of the room will be enforced and therefore the number of persons participating in the hearing may be limited at any given time by the hearing officer, in order to comply with safety and fire codes.

The place of the public hearing is accessible to individuals who are handicapped. If communication assistance (readers/interpreters/captioners) is needed, or any other accommodation to ensure equal participation, please call 401-783-3370 or RI Relay 711 at least three (3) business days prior to the meeting so arrangements can be made to provide such assistance at no cost to the person requesting.

Regulatory Analysis Summary and Supporting Documentation:

The purpose of the Salt Pond Region Special Area Management Plan (SAMP) is to provide for the integration and coordination of the protection of natural resources, the promotion of reasonable coastal-dependent economic growth, and the improved protection of life and property within the coastal watershed area within the municipalities of Westerly, Charlestown, South Kingstown and Narragansett. The proposed amendment to § 3.4.12(A)(1) does not change the status quo of the existing regulations, but merely extends the deadline for eligible coastal property owners to file an application for experimental coastal erosion control methods to protect shoreline property.

For full regulatory analysis or supporting documentation see agency contact person above.

3.4.12 Experimental Coastal Erosion Control

A. Policies

1. Unless extended by the Council, these Experimental Coastal Erosion Control rules shall expire ~~in their entirety six (6) years following their effective date of October 7, 2013~~ on October 7, 2024.
2. The Council considers experimental coastal erosion methods as temporary, short-term solutions while longer-term solutions are considered for these shorelines. Longer-term solutions may require a landward retreat of residential and commercial structures, including public infrastructure, as sea level rise and coastal storm surge impacts continue into the future.
3. It is the Council's policy to carefully control and monitor the use of experimental coastal erosion techniques for use only in the Misquamicut and Matunuck Headland areas described below. Further, it is the Council's policy to assess the effectiveness of experimental coastal erosion techniques before authorizing their continued use in these two headland areas. Therefore, since some experimental techniques could have detrimental and undesirable environmental and economic impacts on the coastal environment, it is the Council's policy to evaluate such techniques over a multi-year period before approving their continued use.
4. It is the Council's policy to require that any Assent issued under the provisions herein shall terminate at the end of three (3) years. If an experimental method proves successful during the initial permit period, then the applicant may apply for renewal of the Assent.
5. Because barriers are dynamic coastal features and are constantly shifting due to wave and wind forces, the Council will not authorize the use of experimental erosion control techniques on any parcels located on CRMC-designated barriers.
6. The Council may permit experimental coastal erosion control techniques along Atlantic Avenue between and inclusive of parcels 165-282 to 165-286 and 175-1A to 175-16 and 176-17 to 176-31. These parcels comprise the shoreline of the Misquamicut Headland. See Figure 6 of § 3.4.12(E) of this Part.
7. The Council may permit experimental coastal erosion control techniques along Matunuck Beach Road between and inclusive of parcels 92-2:46 to 92-3:9. These parcels constitute a portion of the Matunuck Headland west of the cobble terrace. See Figure 7 of § 3.4.12(F) of this Part. At the request of the Town of South Kingstown, parcel 92-2:43 containing the Town Beach facility has been included as an eligible parcel for use of experimental coastal erosion control.

8. It is the Council's policy to require applicants or their agents to file a Preliminary Determination (PD) request with the CRMC. The CRMC shall not accept a formal application for an Assent until the Preliminary Determination has been completed and issued by the CRMC. There is no filing fee for the PD request. The PD process is an opportunity for a pre-application consultation and for CRMC staff, in consultation with the technical Review Panel, to provide an opinion as to whether the proposed experimental coastal erosion method is appropriate and whether a performance bond or escrow account will be required of the applicant. Pending violations shall also be reviewed and discussed during the PD meeting and a resolution of the violation(s) shall be formulated.
 9. The Council's policy is that any experimental coastal erosion control technique approved for use by the Council may be subject to immediate suspension and/or termination in the event that the Council determines that the experimental technique is having a significant environmental or economic impact or a significant impact to public shoreline usage or accelerating erosion on the site or adjacent areas.
 10. The Council's policy is that revetments, bulkheads, seawalls, groins, breakwaters or jetties are not authorized coastal erosion control methods for purposes of this section.
 11. It is the Council's policy that unauthorized structures or unauthorized work must be removed or a valid CRMC Assent must be obtained for the unauthorized structure or work. Such unauthorized structures or work may be removed concurrently with the construction of experimental coastal erosion control techniques approved by the CRMC.
 12. Erosion and the effects of an experimental coastal erosion control system are not restricted by property boundaries. Thus, it is the Council's policy to encourage joint applications amongst abutting property owners that seek to address erosion based on the natural physical environment rather than on a lot-by-lot basis. Individual applications, especially by owners of properties with limited coastal exposure will be closely scrutinized to prevent detrimental or undesirable impacts to surrounding properties and public infrastructure. The State holds the area below the Mean High Water (MHW) line in public trust.
- B. Other State or Federal Permits
1. Applicants for experimental erosion control structures that are to be located in tidal waters or the intertidal zone, seaward of the mean high water (MHW) line, are required to obtain a federal Army Corps of Engineers permit. Applicants are advised to apply for the federal permit concurrently with the CRMC permit. In addition, such applications may also require a DEM Water Quality Certification, and accordingly,

applicants are advised to apply directly to DEM concurrently with the CRMC application process.

C. Prohibitions

1. The installation or use of experimental erosion control systems is prohibited unless located within the CRMC-designated areas of Misquamicut and Matunuck described herein and permitted by the CRMC.
2. The installation of new revetments, bulkheads, seawalls, groins, breakwaters or jetties is prohibited, as specified in § 1.3.1(G)(3)(a) of this Subchapter.

D. Standards

1. The Council may only permit experimental coastal erosion control systems on the Misquamicut Headland along Atlantic Avenue between and inclusive of parcels 165-282 to 165-286 and 175-1A to 175-16 and 176-17 to 176-31, and on the Matunuck Headland along Matunuck Beach Road between and inclusive of parcels 92-2:46 to 92-3:9, including parcel 92-2:43, only after review by the CRMC and after the applicant demonstrates the following conditions are met:
 - a. it is feasible on an engineering and ecological basis that the proposed experimental erosion control technique will minimize coastal erosion;
 - b. the proposed experimental coastal erosion control technique will not result in any long-term increased erosion on adjacent or downdrift properties; and
 - c. the proposed coastal erosion control technique will not detrimentally impact coastal habitat or public access.
2. A Technical Review Panel (TRP) consisting of, but not limited to the following: the CRMC Executive Director; the CRMC Coastal Geologist; a CRMC Engineer, a CRMC Environmental Scientist; the DEM Director or designee, a URI Ocean Engineering professor, a University Coastal Geologist, and a municipal official appointed by their respective Town Councils of South Kingstown and Westerly. Additionally, a town resident from South Kingstown and Westerly appointed by their respective Town Councils may be included on the TRP as an ex-officio, non-voting member. The TRP will evaluate each experimental coastal erosion control method or technique as part of the CRMC Preliminary Determination review process and make recommendations as to whether such systems should be considered for use and permitted by the CRMC. The TRP may also make recommendations as to technology-specific permit conditions where warranted.

3. Applicants shall submit a Preliminary Determination (PD) request (no filing fee) to the CRMC detailing the proposed experimental erosion control project. Applicants or their agents shall participate in a PD meeting with CRMC staff. The CRMC shall not accept a formal application until the Preliminary Determination has been processed and issued. The CRMC staff in consultation with the Technical Review Panel will provide an opinion within the PD as to whether the experimental coastal erosion method is appropriate as proposed and whether a performance bond or escrow account will be required of the applicant. Performance bond/escrow account requirements will be determined on a case-by-case basis depending on the scope and complexity of the proposed project. In addition, a resolution to any pending violation(s) shall be formulated as part of the PD meeting.
4. Applicants seeking CRMC approval for experimental erosion control techniques in the designated areas must submit the following documentation along with their applications:
 - a. Proof of ownership in the form of a current certified copy of the deed of the subject property or a letter from the local tax assessor certifying ownership;
 - b. A current list of the abutting property owners including names and current mailing addresses sufficient for public notice purposes;
 - c. A description of the experimental erosion control technique including materials (sand, cobble, gravel, etc.) to be used as fill and the source of those materials, and the method of installation and project site access for construction equipment and vehicles;
 - d. An impact avoidance and minimization statement – essentially detailing what installation methods will be used and their timing to avoid and minimize impacts to the beach and public access along the beach.
 - e. For experimental erosion control installation landward of mean high water (MHW) line a site plan prepared by a Rhode Island-licensed land surveyor or professional engineer shall be submitted showing beach profile locations that are perpendicular to the shoreline and located along the property boundaries and every twenty-five feet within the property bounds. Beach profiles shall be marked with a physical datum point on the landward end of each profile. The top of each datum shall be surveyed and referenced to NAVD88. Profiles should extend seaward to MLLW, where possible. Datum should be placed deep enough so as to not erode and high enough so as not to be buried by storm overwash.

- f. For experimental erosion control installation on public lands seaward of mean high water (MHW) line a site plan prepared by a Rhode Island-licensed land surveyor or professional engineer shall be submitted showing beach profile locations that are perpendicular to the shoreline and located along the property boundaries and every twenty-five feet within the property bounds. Beach profiles shall be marked with a physical datum point on the landward end of each profile. The top of each datum shall be surveyed and referenced to NAVD88. Profiles should extend seaward to MLLW, where possible. Datum should be placed deep enough so as to not erode and high enough so as not to be buried by storm overwash.
5. The Council shall require the applicant to submit a detailed survey of current site conditions in the area subject to impact by the experimental erosion control system to serve as a baseline against which to measure the effectiveness of the system. Applicants shall use the Modified Emery Method to develop a beach profile that shows current beach face elevations. A fixed control point shall be established based on a benchmark referenced to NAVD88 so that profiles can be compared to profiles in adjacent areas.
6. Unauthorized structures or unauthorized work shall be removed or a valid CRMC Assent must be obtained for the unauthorized structure or work. Such unauthorized structures or work may be removed concurrently with the construction of experimental coastal erosion control techniques approved by the CRMC. The applicant shall schedule a site visit with CRMC permit staff to ensure that the unauthorized structure was removed before or during installation of the CRMC-approved experimental coastal erosion method.
7. As determined through the Preliminary Determination process the CRMC may require the applicant to post a performance bond or provide an escrow account to ensure that failed erosion control systems are properly removed in the event of failure. The Council may require the applicant to restore the beach to pre-system installation conditions. Performance bonds or escrow accounts, when required, shall cover 100 percent of expected removal and restoration costs. The term of the performance bond or escrow account must be for the entire life of the project.
8. All experimental coastal erosion control proposals shall be processed as a Category B application requiring public notice.
9. Monitoring requirements. The applicant must submit with their application a monitoring plan with protocols developed by a coastal engineer or coastal geologist or other qualified expert that provides for a minimum three (3) years of monitoring data that includes quarterly reports submitted to the CRMC. Permittees shall submit quarterly reports to the CRMC and

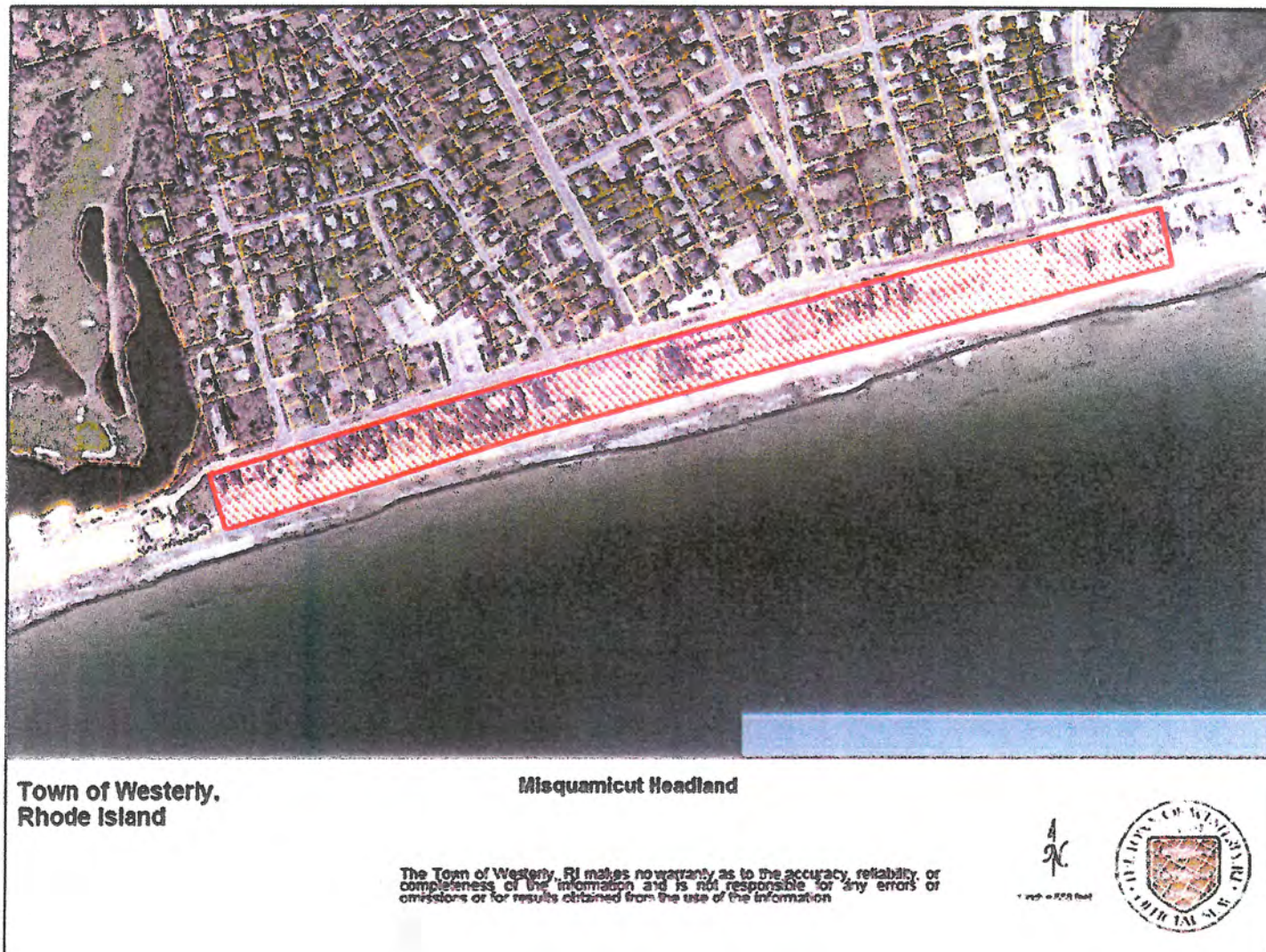
include photographs and beach profiles with a fixed control point of reference. The CRMC will evaluate the plan and may require further monitoring conditions. A summary report shall be submitted to the CRMC within 30 days following the end of the 3-year period or when notified by the CRMC that details whether the experimental coastal erosion control was a success or failure and the reasons behind such success or failure.

10. Assents for experimental coastal erosion control shall only be valid for a three (3) year period, but may be renewable upon application. A Permittee must submit an application for renewal within sixty (60) days prior to the expiration of the Assent. Otherwise, the experimental coastal erosion control must be removed at the termination of the Assent and the site restored to pre-project conditions. Assents for experimental coastal erosion control are not subject to tolling as provided in R.I. Gen. Laws § 46-23-6.3.
11. Failure of experimental erosion control system shall be determined by the CRMC and may include, but not be limited to, any or all of the following:
 - a. poor performance that is below the projected claims of the experimental system manufacturer or applicant;
 - b. abnormal damage to properties or public infrastructure;
 - c. significant environmental damage (either cumulative or site specific);
 - d. presents a hazard to life or property;
 - e. significant detrimental impacts to public access; and
 - f. potential to become a significant hazard to public safety during a storm.
12. The fact that an experimental erosion control system has not been evaluated for the full monitoring period specified herein, shall not preclude a determination by the CRMC that the system has failed.
13. Upon determining that an experimental coastal erosion control system has failed, the CRMC will issue an Assent revocation notice to the Permittee and the Council will hold a public hearing on the matter and provide the Permittee and other parties an opportunity to present evidence. The CRMC will order the Permittee to remove, and in some cases immediately remove depending on severity of impact, of any failed experimental erosion control system as defined above, based upon the testimony and evidence presented at the public hearing. The CRMC may utilize the Performance Bond or Escrow account to pay for the removal of structures

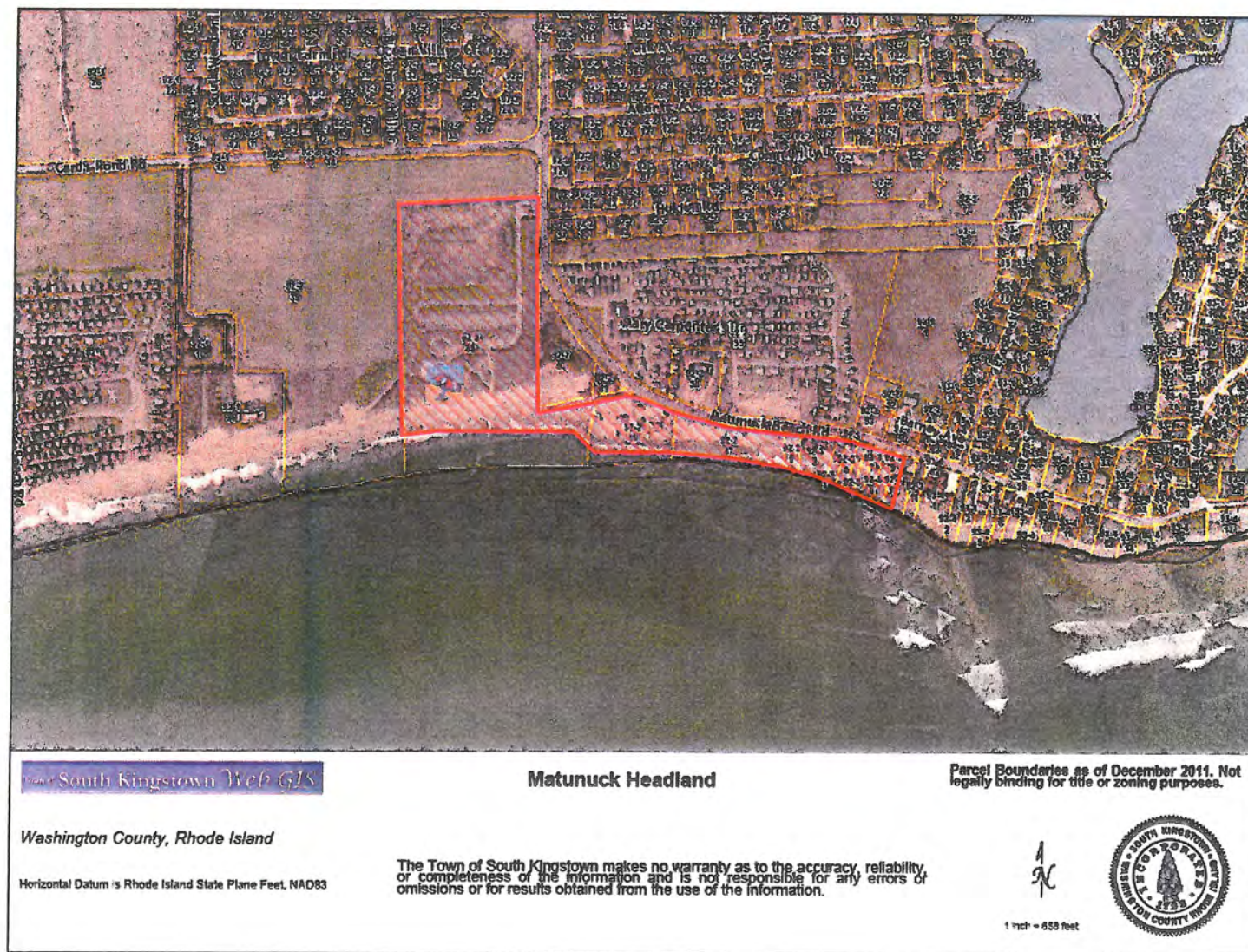
and restoration of the beach in the event that the Permittee fails to do so as ordered by the Council.

14. The CRMC shall retain jurisdiction over any Assents issued prior to the enactment of these regulations that are the subject of an outstanding compliance order or other formal administrative, civil or criminal legal action initiated by the CRMC for the purpose of litigating or settling that action.
15. The CRMC shall retain jurisdiction over any Assent application(s) acted upon by the CRMC prior to the enactment of these regulations to permit the CRMC to defend or settle any legal proceedings brought against it as a result of those actions.
16. Any compliance order issued or other civil or criminal enforcement action taken by the CRMC prior to the enactment of these regulations shall continue to be subject to the CRMC's authority and to be governed by the rules and regulations in effect at the time the order was issued or action taken.

E. Figure 6: Misquamicut headland area depicting shoreline parcels eligible for experimental coastal erosion control



F. Figure 7: Matunuck headland area depicting shoreline parcels eligible for experimental coastal erosion control



G. Table 2: Eligible Parcels

Experimental Coastal Erosion Control - Eligible Parcels

Westerly - Misquamicut		South Kingstown - Matunuck	
Parcel ID	Address	Parcel ID	Address
165-282	149 Atlantic Avenue	92-2:46	811 Matunuck Beach Road
165-283	145 Atlantic Avenue	92-2:47	855 Matunuck Beach Road
165-285	141 Atlantic Avenue	92-3:1	883 Matunuck Beach Road
165-286	139 Atlantic Avenue	92-3:2	895A & B Matunuck Beach Road
176-17	137 Atlantic Avenue	92-3:3	907A & B Matunuck Beach Road
176-18	133 Atlantic Avenue	92-3:4	911A & B Matunuck Beach Road
176-19	129 Atlantic Avenue	92-3:5	915 Matunuck Beach Road
176-20	127 Atlantic Avenue	92-3:6	919 Matunuck Beach Road
176-21	121 Atlantic Avenue	92-3:7	921A & B Matunuck Beach Road
176-22	119 Atlantic Avenue	92-3:8	929 Matunuck Beach Road
176-23	117 Atlantic Avenue	92-3:9	933 Matunuck Beach Road
176-24	115 Atlantic Avenue	92-2:43	719 Matunuck Beach Road
176-25	111 Atlantic Avenue		
176-26	111 Atlantic Avenue		
176-27	109 Atlantic Avenue		
176-28	103 Atlantic Avenue		
176-29	89 Atlantic Avenue		
176-30	85 Atlantic Avenue		
176-31	83 Atlantic Avenue		
175-1A	75 Atlantic Avenue		
175-1	69 Atlantic Avenue		
175-2	65 Atlantic Avenue		
175-2A	57 Atlantic Avenue		
175-4	55 Atlantic Avenue		
175-5	53 1/2 Atlantic Avenue		
175-6	53 Atlantic Avenue		
175-7	51 Atlantic Avenue		
175-8	48 Atlantic Avenue		
175-9	49 Atlantic Avenue		
175-10	47 Atlantic Avenue		
175-11	45 Atlantic Avenue		
175-12B	45 Atlantic Avenue		
175-12	41 Atlantic Avenue		
175-12A	Atlantic Ave. Right-of-Way		
175-13	37 Atlantic Avenue		
175-14	35 Atlantic Avenue		
175-15	33 Atlantic Avenue		
175-16	31 Atlantic Avenue		