



**US Army Corps
of Engineers®**
New England District

PUBLIC NOTICE

696 Virginia Road
Concord, MA 01742-2751

Date: February 26, 2008
Comment Period Ends: March 26, 2008
File Number: NAE-2008-0257
In Reply Refer To: Kevin R. Kotelly, P.E.
Or by e-mail: Kevin.r.kotelly@usace.army.mil

The District Engineer has received a permit application from the applicant below to **conduct work in waters of the United States** as described below. The Corps is soliciting comments on both the project itself and the range of issues to be addressed in the environmental documentation.

APPLICANT

The Marine Biological Laboratory

ACTIVITY

The work includes work in navigable waters of the United States in order to install an aquaculture research project. A fish containment structure, known as an Aquadome, would be installed on the seafloor at a subtidal water depth of 35 feet. The Aquadome is an open structure with a containment barrier made of PVC coated galvanized steel wire mesh. The Aquadome configuration proposed for this project is half of a geodesic sphere, 32 feet in diameter and 16 feet tall, to be installed on the seafloor with the seabed providing part of the containment area of the Aquadome. The Aquadome would be installed by floating it and towing it into position over the proposed mooring location and lowering it into position. Five 1,200 pound deadweight anchors would be placed in a circle approximately 70 feet in diameter surrounding the Aquadome. Anchor lines will then be used to secure the Aquadome. A lighted marker buoy will be secured to the top of the Aquadome to mark its location and to support a 4-inch diameter feed hose.

Once the Aquadome is installed, it will be used to raise hatchery-reared black sea bass (*Centropristis striata*) from local broodstock. Up to 5,000 black sea bass will then be tagged and released in waters near Woods Hole, Massachusetts. The Aquadome, the five anchors, and the buoy will eventually be removed at the conclusion of the research project. The work is described on the enclosed plans on four sheets, and dated, January 16, 2008.

WATERWAY AND LOCATION OF THE PROPOSED WORK

This work is proposed in Buzzards Bay near the Weepeket Islands, Massachusetts. The proposed location on the USGS Woods Hole quadrangle sheet is at the coordinates Latitude 41°31'20.04" N and Longitude 70°43'51.12" W.

AUTHORITY

Permits are required pursuant to:

- Section 10 of the Rivers and Harbors Act of 1899
 Section 404 of the Clean Water Act
 Section 103 of the Marine Protection, Research and Sanctuaries Act.

The decision whether to issue a permit will be based on an evaluation of the probable impact of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which may reasonably accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including the cumulative effects thereof; among those are: conservation, economics, aesthetics, general environmental concerns, wetlands, cultural value, fish and wildlife values, flood hazards, flood plain value, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food production and, in general, the needs and welfare of the people.

The Corps of Engineers is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Where the activity involves the discharge of dredged or fill material into waters of the United States or the transportation of dredged material for the purpose of disposing it in ocean waters, the evaluation of the impact of the activity in the public interest will also include application of the guidelines promulgated by the Administrator, U.S Environmental Protection Agency, under authority of Section 404(b) of the Clean Water Act, and/or Section 103 of the Marine Protection Research and Sanctuaries Act of 1972 as amended.

ESSENTIAL FISH HABITAT

The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), requires all federal agencies to consult with the National Marine Fisheries Service on all actions, or proposed actions, permitted, funded, or undertaken by the agency, that may adversely affect Essential Fish Habitat (EFH).

This project will impact approximately 80 square feet of Essential Fish Habitat (EFH) for various life stages of Atlantic cod (*Gadus morhua*), haddock (*Melanogrammus aeglefinus*), red hake (*Urophycis chuss*), winter flounder (*Pleuronectes americanus*), windowpane flounder (*Scophthalmus aquosus*), American plaice (*Hippoglossoides platessoides*), Atlantic sea herring (*Clupea harengus*), bluefish (*Pomatomus saltatrix*), long finned squid (*Loligo pealei*), Atlantic butterfish (*Peprilus triacanthus*), Atlantic mackerel (*Scomber scombrus*), summer flounder (*Paralichthys dentatus*), scup (*Stenotomus chrysops*), black sea bass (*Centropristus striata*), surf clam (*Spisula solidissima*), king mackerel (*Scomberomorus cavalla*), Spanish mackerel (*Scomberomorus maculatus*), cobia (*Rachycentron canadum*), sandbar shark (*Charcharinus plumbeus*), and bluefin tuna (*Thunnus thynnus*). This habitat consists of subtidal sand. Loss of this habitat may adversely affect the species listed above. However, the District Engineer has made a preliminary determination that the site-specific adverse effect will not be substantial. Further consultation with the National Marine Fisheries Service regarding EFH conservation recommendations is being conducted and will be concluded prior to the final decision.

SECTION 106 COORDINATION

Based on his initial review, the District Engineer has determined that little likelihood exists for the proposed work to impinge upon properties with cultural or Native American significance, or listed in, or eligible for listing in, the National Register of Historic Places. Therefore, no further consideration of the requirements of Section 106 of the National Historic Preservation Act of 1966, as amended, is necessary. This determination is based upon one or more of the following:

- a. The permit area has been extensively modified by previous work.
- b. The permit area has been recently created.
- c. The proposed activity is of limited nature and scope.
- d. Review of the latest published version of the National Register shows that no presence of registered properties listed as being eligible for inclusion therein are in the permit area or general vicinity.
- e. Coordination with the State Historic Preservation Officer and/or Tribal Historic Preservation Officer

ENDANGERED SPECIES CONSULTATION

The New England District, Army Corps of Engineers has reviewed the list of species protected under the Endangered Species Act of 1973, as amended, which might occur at the proposed project site during the construction and subsequent operation/use period sought by the applicant. It is our determination that the proposed activity for which authorization is being sought is designed, situated or will be operated/used in such a manner that it is not likely to adversely affect any Federally listed endangered or threatened species or their designated critical habitat. By this Public Notice, we are requesting that the appropriate Federal Agency concur with our determination.

The States of Connecticut, Maine, Massachusetts, New Hampshire and Rhode Island have approved **Coastal Zone Management Programs**. Where applicable the applicant states that any proposed activity will comply with and will be conducted in a manner that is consistent with the approved Coastal Zone Management Program. By this Public Notice, we are requesting the State concurrence or objection to the applicant's consistency statement.

The following authorizations have been applied for, or have been, or will be obtained:

- Permit, License or Assent from State.
- Permit from Local Wetland Agency or Conservation Commission.
- Water Quality Certification in accordance with Section 401 of the Clean Water Act.

In order to properly evaluate the proposal, we are seeking public comment. Anyone wishing to comment is encouraged to do so. **Comments should be submitted in writing by the above date.** If you have any questions, please contact Kevin R. Kotelly, P.E. at (978) 318-8703, (800) 343-4789 or (800) 362-4367, if calling from within Massachusetts.

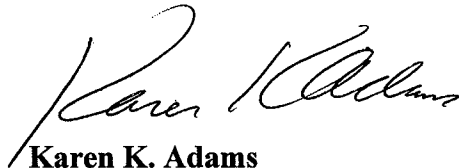
Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider the application. Requests for a public hearing shall specifically state the reasons for holding a public hearing. The Corps holds public hearings for the purpose of obtaining public comments when that is the best means for understanding a wide variety of concerns from a diverse segment of the public.

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The initial determinations made herein will be reviewed in light of facts submitted in response to this notice. All comments will be considered a matter of public record. Copies of letters of objection will be forwarded to the applicant who will normally be requested to contact objectors directly in an effort to reach an understanding.

For more information on the New England District Corps of Engineers programs, visit our website at <http://www.nae.usace.army.mil>.

THIS NOTICE IS NOT AN AUTHORIZATION TO DO ANY WORK.



Karen K. Adams
Chief, Permits and Enforcement Branch
Regulatory Division

If you would prefer not to continue receiving Public Notices, please contact Ms. Tina Chaisson at (978) 318-8058 or e-mail her at bettina.m.chaisson@usace.army.mil. You may also check here () and return this portion of the Public Notice to: Bettina Chaisson, Regulatory Division, U.S. Army Corps of Engineers, 696 Virginia Road, Concord, MA 01742-2751.

NAME: _____
ADDRESS: _____

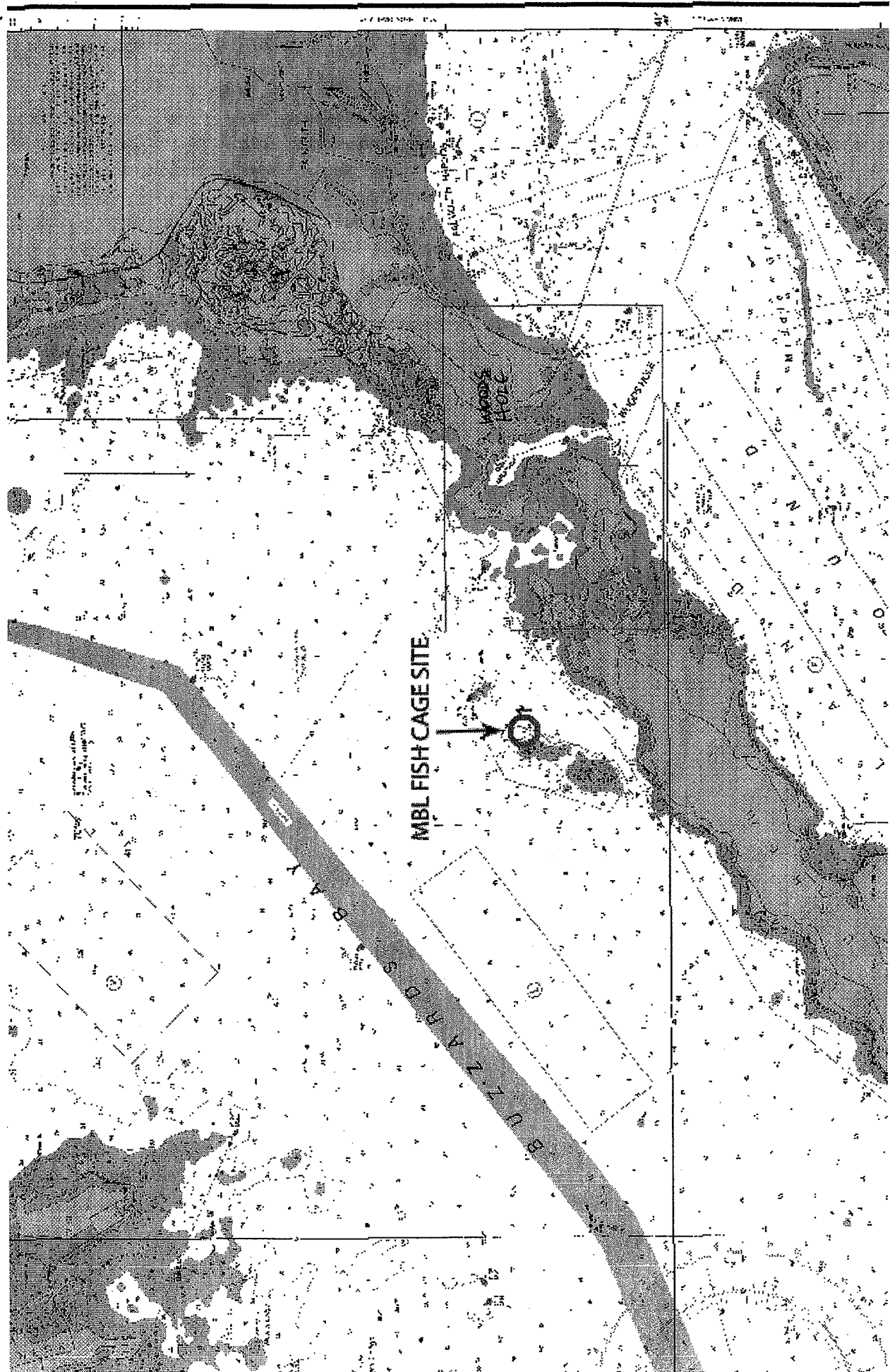
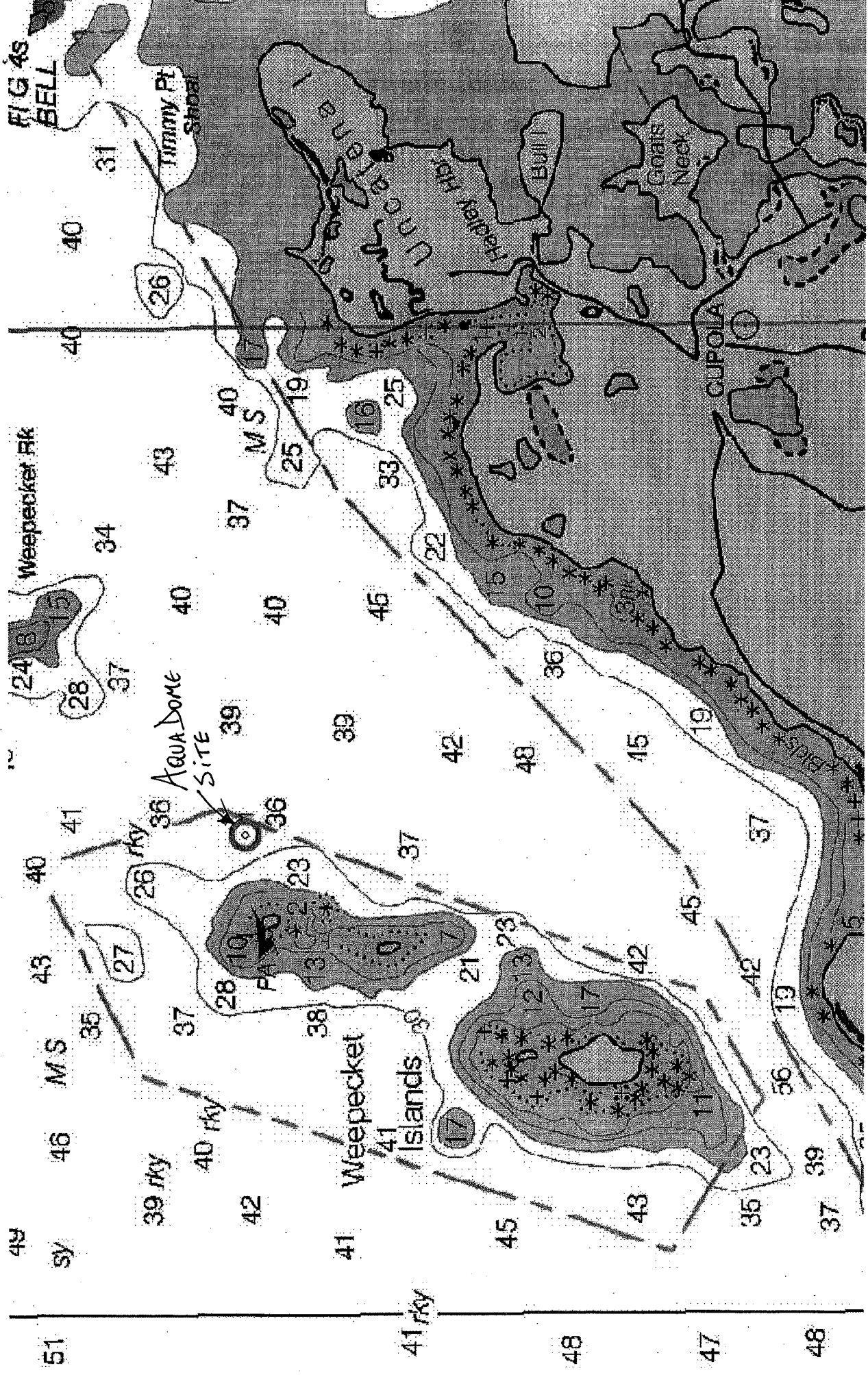


FIG 48
BELL



Weepecket Rk

AQUA DOME
SITE

PA

Weepecket
Islands

CUIPOILA

Gobis
Neck

Bull I

Hatchet Rk

Timmy Pt
Shoal

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SY

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Aquadome™ Installation for MBL

The Aquadome™ is an aquaculture containment structure based on the commercial Aquapod™ fish cage manufactured by Ocean Farm Technologies LLC of Searsmont, Maine. Pictured in Figure 1 is a 10-meter diameter Aquapod™ prototype prior to its launch in Portsmouth, NH.

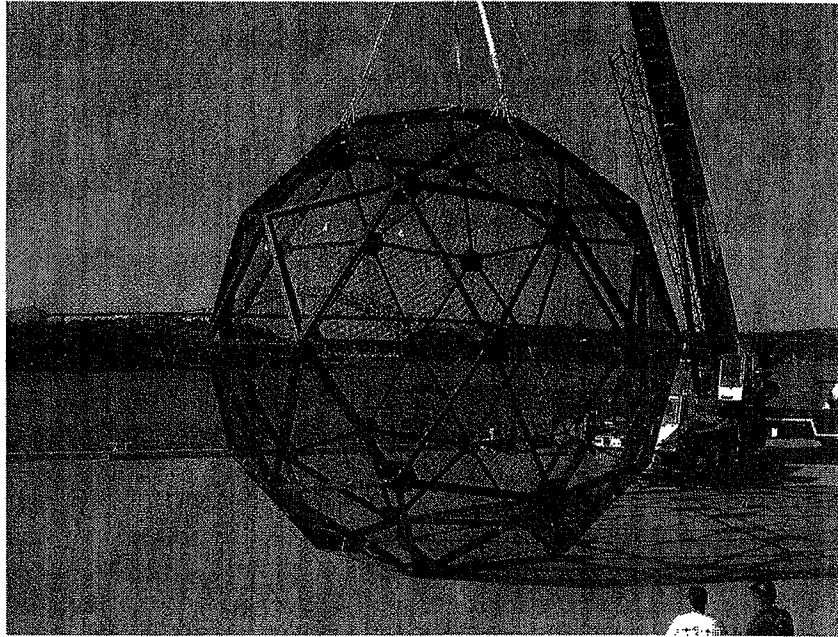


Figure 1. A 10 meter diameter OFT Aquapod™.

The Aquadome™ is the hemispheric portion of a geodesic sphere with the seabed providing part of the containment. The proposed installation to be used for the MBL project is diagrammed below.

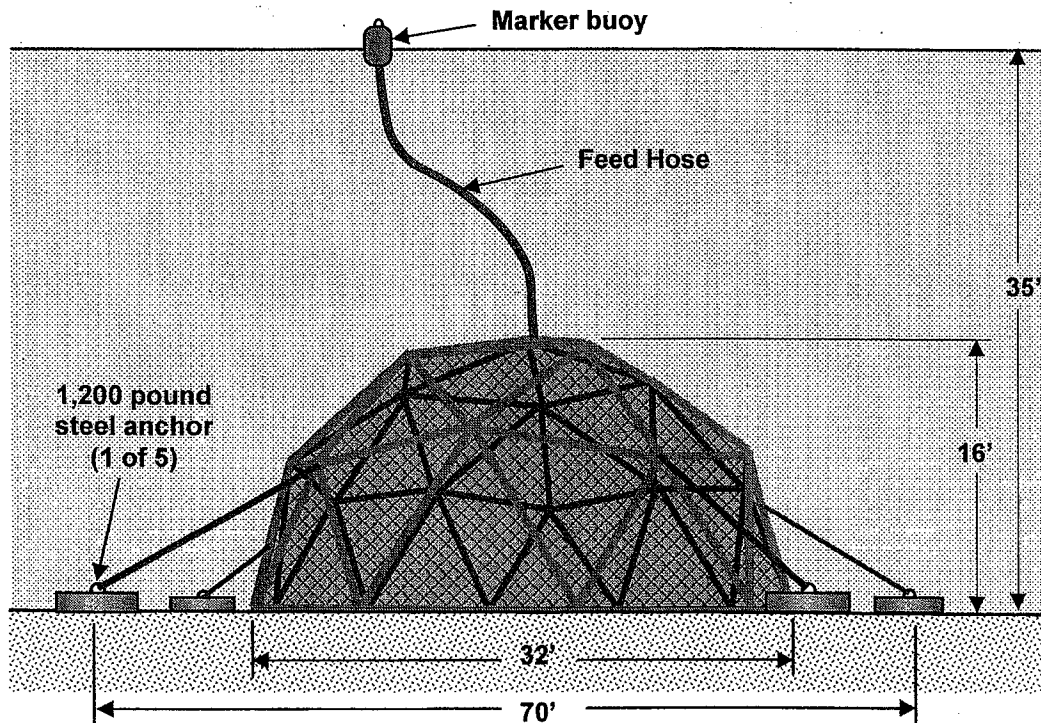


Figure 2. Proposed Aquadome installation in Buzzards Bay.

Installation:

We have selected a site near the northern most Weepecket Island in Buzzards Bay (N41 31.33, W 70 43.85). The site is about 9 meters deep (mean low tide) and about 10 meters from the margin of the rocky outcropping that the island is composed of. The bottom substrate of the site is bare sand with some fine silt on top. We have dived on the site and there is no eelgrass or other vegetative growth in the surrounding sand. The site selection is based on the identification by divers of a flat seabed location that provides proper containment around the lower perimeter of the Aquadome™. Five 1,200 pound deadweight anchors will be lowered in a circle approximately 70 feet in diameter. Their 3/4" Polysteel lowering and retrieval lines will be temporarily buoyed to the surface.

The Aquadome™, buoyed to the surface by polyfloats, will be towed to a position over the center of the mooring circle and lowered into position this May. The anchor lines will then be used to secure the Aquadome™ using a multipart cinching between the anchors and mooring rings located at each of the five pentagon hubs around the perimeter.

A lighted buoy will be secured to the top of the Aquadome™ to mark its location and to support a 4-inch diameter feed hose that will be used in the acclimitization portion of the experiment. The light to be used is a SeaLite SL60 2-mile solar marine light pictured in Figure 3. The buoy, Aquadome™, and the five anchors will be retrieved at the conclusion of the project in October.

Anchor loads:

The Aquadome™ is an open structure with a containment barrier made of PVC coated, welded, Galvanized steel wire mesh. The hydrodynamic resistance of this structure has been determined from towing tests of the Aquapod™ cage. The porosity of this combination yields a relatively low drag system. Below is a table of Aquadome™ resistance vs. current speed. Since the maximum bottom currents are expected to be well under 1.0 knots at the proposed site, our combination of anchors and anchor lines offer ample holding power for this installation.

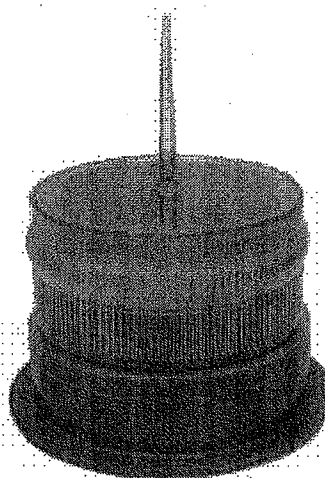


Figure 3. Marker light
Sealight SL60

<u>Current (knots)</u>	<u>Aquadome™ Drag (pounds)</u>
0.5	130
1.0	518
1.5	1,165
2.0	2,070

After initial acclimitization of the stocked fish, several mesh panels of the Aquadome™ will be removed to allow natural foraging. This alteration will reduce somewhat the total resistance of the installation. The performance of the anchors and the condition of biofouling of the containment mesh will be monitored on a monthly basis by divers. Mesh cleaning will be performed if marine growth builds to substantial levels.