

REPORT TO THE BOARD OF SELECTMEN FROM THE DUXBURY BAY MANAGEMENT COMMISSION CONCERNING AQUACULTURE

NOVEMBER 27, 2006

Background

On January 14, 2005, the Board of Selectmen (BOS) imposed a moratorium on the approval of additional aquaculture leases. The basis of that decision was the increasing number of lease applications and the BOS's concern that it lacked sufficient information to decide whether additional leases should be approved. The areas subject to existing leases at the time of the moratorium appear in black on Chart 1. At that time, there were 10 lease applications pending. In September 2005, the BOS voted to lift the moratorium to allow pending applications to be processed. While the moratorium was lifted, two existing lease holders filed applications to move the location of their leases resulting in 12 pending applications. The 12 applications were approved by the BOS in September 2005, but some of the leases have not been finally approved by the Town because state and/or federal review is pending. Those leases appear in red on Chart 1.

In order to assist the BOS in deciding whether the moratorium should be continued, modified, or lifted, the Duxbury Bay Management Commission (DBMC) and the Duxbury Shellfish Advisory Committee (DSAC) created a joint sub-committee to review the moratorium. In order to evaluate the current status in the bay, the sub-committee decided that existing data from previous DBMC and DSAC efforts along with some missing data needed to be collected and documented for ongoing use. We chose to represent our data graphically to better understand the overlapping natural resources and uses in the Bay. The 7 charts as listed below represent these data.

Along with preparing a chart of existing and pending leases (Chart 1), the sub-committee has engaged in the following activities:

- Held a series of meetings
- Met with commercial "wild" shellfish industry and collected information to be used in preparing a chart of natural shellfish areas. At this time, further input is needed from the wild shellfish industry before this chart can be finalized. The chart will be appended to this report and provided at a later date. Also attached is a copy of the DFM/CZM shellfish suitability map showing natural shellfish areas (Chart 2).
- Identified areas occupied by eelgrass (Charts 3, 4, and 5). Respectively, these charts show areas of eel grass in 1995 and 2001, and the changes between those dates.
- Determined the location of boat moorings and prepared a chart showing the locations (Chart 6).

- Prepared a composite chart showing shellfish and eelgrass resources, moorings, and leases (Chart 7).

Based upon the information collected, the DBMC makes the following findings:

1. Aquaculture is a viable business in Duxbury that should be encouraged and supported. There are significant benefits associated with aquaculture, including the following:
 - a. Shellfish farming is sustainable because it does not damage the environment;
 - b. Shellfish farming helps to improve water quality because shellfish are filter feeders and remove nitrogen from the bay and improve light penetration that sustains eel grass;
 - c. Nursery racks provide habitat for fish and crustaceans;
 - d. Shellfish farming currently provides local employment for approximately 30 individuals on a full-time basis and 30 on a part-time basis; and,
 - e. Shellfish farming helps to maintain the Town's historic connection to the sea.
2. Based upon a review of existing information, there are remaining areas of Duxbury in the bay that are:
 - a. more suitable than others for aquaculture from a resource perspective;
 - b. not subject to existing leases; and
 - c. not in areas used extensively by boaters.
3. The DBMC does not have any basis for concluding that the density of existing leases poses an environmental or shellfish resource problem for the aquaculture industry, but the DBMC believes that this question warrants study.
4. The greatest potential impact from aquaculture on recreational boating and other uses of the bay comes from the use of nursery racks. These are similar to lobster pots, are placed on the bottom of the bay, and are necessary in the juvenile stage of oysters. Typically the structures are put out in late June and removed in late summer when oysters are large enough to be spread on the bottom of the bay or placed in soft, plastic mesh bags. The potential conflicts are caused by the impact of nursery racks and rack-marking on boating. These conflicts stem from boaters being unable to distinguish the significance of the buoy marking system and the potential for boaters to run into the hard structures on the bottom.
5. Although considerable effort has been made to minimize the impact of lease and bottom structure marker buoys on boating, the number and density of buoys at some locations creates confusion for boaters. In addition, the marking system is not well understood by boaters.
6. In a few locations, nursery racks are made of rebar and are permanently attached to the bottom of the bay.
7. The practice of marking leases with piping or stakes creates hazards to boaters, tubers, and water skiers. This practice also conflicts with shellfish regulations.
8. There is also the potential conflict between leases and board sailing if bottom structures are allowed in the area used extensively by board sailors in the northeast corner of the bay.

9. At present, there is no recreational harvesting of oysters in Duxbury Bay because natural propagation is minimal.
10. The present level of aquaculture has increased the intensity of the use of public landings. The increased use is mitigated to some extent by the fact that a large part of aquaculture activity occurs at low tide while boating activity peaks around high tide.
11. The aquaculture industry in Duxbury is relatively new and is still evolving.

Based upon these findings, the DBMC makes the following recommendations for consideration by the BOS:

1. The BOS should continue the existing moratorium until the DBMC completes a comprehensive Aquaculture Management Plan.
2. The DBMC should form an ad hoc committee to develop a draft Aquaculture Management Plan. The committee should include representatives from the DBMC, the DSAC, the Duxbury Shellfish Growers Association, and the Duxbury Agriculture Commission. The draft should be completed in six months and should be based on existing protocol and policies and any relevant recommendations provided within this document and agreed upon by the BOS. The plan would incorporate information on existing permitting processes, shellfish resources (recreational and commercial), and specific recommendations to manage shellfish aquaculture in the bay including include information regarding the area and/or number of leases that can support hard and soft structures in Duxbury Bay. The draft plan will then be presented to relevant and responsible town committees (e.g., DBMC, Agriculture Commission, Conservation Commission) for review and further development prior to incorporation into the Bay Management Plan. Recommended changes to any town policies on shellfish aquaculture will be made by the DSAC and provided to the BOS as in past instances.
3. Until the management plan is completed, exceptions to the moratorium should be considered only when conflicts between conditions imposed by the federal or state government and the Town prevent a license from being viable. However, any further site selection associated with this should be consistent with previous site-selection criteria such as areas utilized by wild shellfish industry, protected resources, and other pertinent factors.
4. The DBMC and DSAC consult jointly with the Duxbury Shellfish Growers Association, the Massachusetts Aquaculture Association, the New England Shellfish Growers Association, the Duxbury Agriculture Commission, and the Division of Marine Fisheries in an effort to determine whether additional leases would stress the existing aquaculture industry or the bay's ecosystem and natural resources.
5. Both historic and existing eelgrass beds, as shown on the 1995 and 2001 historic eelgrass maps (Charts 3 and 4), be deemed unsuitable for aquaculture, as consistent with existing criteria imposed by the US Corps of Engineers.
6. The aquaculture industry and the DSAC continue to work on a buoy marking system that both provides for the needs of the industry and minimizes impacts on boat traffic.

7. The aquaculture industry and the DSAC seek to modify federal and state license marking systems to eliminate the need to buoy the corners of licenses.
8. Buoys in excess of those required by Duxbury regulations should be prohibited.
9. The DSAC work with the aquaculture industry to determine whether the impact of nursery racks in congested areas could be reduced in the future by relocating the structures to other areas.
10. New permanent nursery racks and new racks constructed of rebar be prohibited on new leases and existing leases where they currently do not exist today.
11. A program be developed to educate the boating public about the location of nursery racks and the buoy marking system. The DBMC suggests that a chart marking lease locations be posted at the Town pier.
12. To minimize potential conflicts between the main channel and the western shore of the bay, it is recommended that there be no additional licenses in the area west of the main channel and north of buoy #10.
13. Bottom structures, such as racks, should be prohibited in the northeast part of the bay used by windsurfers.

Other recommendations:

1. That consideration be given to developing a public oyster fishery in the bay. The goal of the program would be to use the fees from oyster licenses and/or oyster leases to fund the purchase of juvenile oysters.
2. The BOS should direct the aquaculture industry, the DBMC, the DSAC, and the Harbor Master to study a public fishery and report to the BOS with recommendations within six months.

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