**Friends of Port Mouton Bay,**
**Contribution #11 July/07**

DECISION SUPPORT SYSTEM FOR PROPOSED AQUACULTURE SITE #1251, IN PORT MOUTON BAY

Friends of Port Mouton Bay have applied their knowledge of Port Mouton Bay to the Department of Fisheries & Oceans' Decision Support System for Aquaculture Site Selection with respect to the proposed aquaculture site #1251.

| Questions | Grade | Score |
|---|---|---|
| ECO-SYSTEM (FAR-FIELD) INFORMATION | | |
| ■ Shellfish closures within the vicinity of the proposed lease site?<br><br>Shellfish closures historically have been 2.6 km distant from site (Environment Canada EP-AR-98-01)<br>Currently the entire Port Mouton Bay is under shellfish closure | <br><br>C<br><br>C | <br><br>-3 |
| ■ Fish or invertebrates or macroalgae harvested within 300 m?<br><br>Lobster have always been harvested at this proposed site (Photo documentation below)<br>Irish moss and rockweed are harvested within 300 m | <br><br>B- | <br><br>-1.5 |
| ■ Finfish aquaculture site within 3 km?<br><br>Site #0835 at Spectacle Island is within 3 km<br>Fishermen are abandoning prime lobster fishing grounds and decline or loss of other species is occurring in an ever widening area from the existing Spectacle Island site (FPMB Contribution # 1 – Unacceptable HADD's, March/07, # 6 – Decline of Scallops (June/07) and #10 – Lobster Trap Survey, June/07) | <br><br>C | <br><br>-3 |
| ■ Marine protected area, marine park or other protected area within 5 km?<br>Kejimkujik Seaside Adjunct National Park, Carter's Beach (a Protected Beach), Back Beach at Port Mouton Island (currently under application for protection) are all within 5 km; Summerville Beach Provincial Park is less than 6 km distant. | <br><br>B- | <br><br>-1.5 |

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|---|---|---|
| ■ Endangered species (fish, mammal or bird) within 5 km for which mitigation measures cannot be applied?<br><br>The piping plover an endangered species (COSEWIC status) nests at Kejimkujik Seaside Adjunct and periodically nests at Carter's and Summerville Beaches.<br>Photo documentation (below) of aquaculture waste on Carter's Beach from site #0835 attests to degradation of intertidal zones.<br>The results of sea-bed drifter releases increased the likelihood that waste particles can reach sensitive shores (FPMB Contribution # 9, July/07) | **C** | -3 |
| ■ River discharge into bay to create stratification?<br><br>Tidal/Freshwater volume ratio is 386.04 thus stratification not expected (Gregory et al., 1993) | **A** | 3 |
| ■ A sill at any location within the bay?<br><br>The islands and sand bar in the Western Channel and Spectacle Ledge off the north-western end of Port Mouton Island all create a sill which inhibits exchange and fosters deposition | **B-** | -1.5 |
| ■ Any industry within 5 km of the site?<br><br>One fish processing plant within 5 km | **B-** | -1.5 |
| ■ People living within 1 km of site?<br><br>No persons presently living within 1 km | **A** | 3 |
| ■ A critical fish habitat (spawning, nursery area, migration route) within 1 km?<br><br>Proposed site #1251 is in the middle of a recognized spawning, nursery and moulting area and migration route for lobster (Traditional Ecological Knowledge – Port Mouton Bay, March 23, 2007; FPMB Contribution # 2)<br>Proposed site # 1251 lies within a general spawning and nursery area for herring which is associated with the herring roe fishery (Herring Roe Fishery at Port Mouton, FPMB Contribution # 12, July 23, 2007) | **C** | -3 |
| **OVERALL SCORE** | | **-12** |
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| SITE VARIABLES (NEAR-FIELD INFORMATION) | | |
|---|---|---|
| ■ Area of the Bay<br>55.6 km$^2$ (Gregory et al. 1993) | | |
| ▪ Depth at lower low water | | |
| Tidal range – spring tides; mean depth under cages;<br>% of time <5m | | |
| Mean peak current velocity and %age time < 2 cm/s<br><br>On most winter (and we presume moreso in summer) days the currents around Port Mouton Island, while they may exceed 2 cm/s, exhibit recirculation at a scale approximately that of the proposed lease area or slightly larger. As a result the water can be exposed to the waste sources repeatedly and effective exchange is weak. (FPMB Contributions #3, and 8, March and June, 2007) | **C** | -3 |
| The DO in surface water in late summer, early fall | | |
| Secchi disc visible depth in metres | | |
| % sediment dry weight in the silt clay fraction | | |
| Sediment organic matter content | | |
| Sediment Redox (Eh) potential | | |
| Number of sediment sampling locations in the lease area | | |
| Number of sediment sampling locations in the lease area | | |
| Length of current meter record in days | | |
| | | |

Yellow highlight indicates pre-emptory criteria and a C rating for any pre-emptory criterion is a failing grade for the proposed project. An A grade scores +3, B+ scores +1.5, B- rates -1.5, and C rates -3. For each question there are criteria for awarding each grade, questions are weighted equally (except for some (yellow), where a C automatically leads to reject), and guidelines are provided for interpreting total scores for the neighboring ecosystem and for the particular site being evaluated (Hargrave, B.T., 2002)[1].

In this case, the far-field verdict is, by our assessment, a reject so that the site is failed regardless of the outcome of the near-field questions. All site variables were not completed for the near-field since several pre-emptory criteria had already been established

Our assessment of the guidelines concludes that the proposed Port Mouton Island site fails the DFO Decision Support System and should be withdrawn from consideration.

[1] Hargrave, B.T. 2002. A traffic light decision system for marine finfish aquaculture siting. Ocean & Coastal Management **45** 215 235.

Lobster fisherman Robin Fisher on the proposed aquaculture site near Back Beach, Port Mouton Island showing large numbers of lobster buoys in the background (May, late 1990's). Photo by Brian Fisher

Lobster fisherman Richard Lawson hauling traps at the Port Mouton Island site in April 2007. Traps had been set to fish in this ‘safe haven’ before the north-easter storm in April.  Photo by Robin Fisher

Waste on Carter's Beach apparently originating from Spectacle Island aquaculture site on February 2007. Photo by Brian Fisher

Algae on Carter's Beach apparently originating from Spectacle Island aquaculture site on February 2007. Photo by Brian Fisher