

P.E.I. NATURAL HISTORY SOCIETY SPONSORS BAR CLAM RESEARCH PROJECT

The society was approached early this spring by Dr. Thomas W. Sephton, a Dept. of Fisheries and Oceans (DFO) research scientist, to consider a Section 38 Job Creation Project that addressed a neglected aspect of shellfish research in P.E.I. and the Gulf region in general. Specifically, the project was a stock assessment of the Atlantic bar/surf clam, Spisula solidissima, which was the first part of the global strategy of studying the population dynamics and production of this species in P.E.I. by the DFO Fisheries Research Branch. The society accepted the invitation and the four month project was approved for funding by Employment and Immigration by mid-August. The project received close to \$50,000 in salary funds for 11 employees and \$24,000 in expense and operating funds.

The impetus for research on bar clams stemmed from the DFO Resource and Protection Branches, P.E.I. Department of Fisheries and Labour, and the shellfisherman organizations having expressed interest in the P.E.I. bar clam fishery from both management and enhancement viewpoints. Management strategies implemented presently are severely limited in their depth and scope because almost all biological information available for this species pertains to American research performed on the species within its main distributional area off the mid-Atlantic U.S. coast, and this information may not be entirely applicable to the P.E.I.-Gulf region. Consequently, the commercial fishery is presently curtailed in many areas and closed in others, as a fundamental precautionary conservation measure, until such time as detailed research is conducted to obtain the biological and ecological information for stocks within the area. Detailed studies of population dynamics and production are what are required to provide the basic data to develop management strategies that are urgently needed to control the present and future exploitations of bar clams. The urgency of the research is brought about by the increased demand and prices for bar clams. Bar clams are used extensively in commercial clam chowders and battered strips are commonly substituted for battered soft-shelled clams.

Bar clams have a distributional range that extends from Cape Hatteras to Gaspe Peninsula. This oceanic species is found in both intertidal areas of unobstructed turbulent beach and subtidal areas of sand, avoiding estuarine areas as well as silty and rocky substrate. This dioecious species reaches maturity in 2 to 3 years and usually spawns once a year between July and September. The planktonic larvae settle as juvenile clams within a month after spawning and live in the surface sediments, Bar clams can live as long as 20 years and obtain a maximum size of 226mm. a resilient hinge ligament maintains the proper shell gape for filter feeding but necessitates that the clams remain burrowed in the sand. Because of their hinge ligament, they cannot keep their valves sealed for extended periods when out of the sand and eventually die of muscle fatigue. Consequently, they are not as hardy as quahaugs (Mercenaria mercenaria), soft-shelled clams (Mya arenaria) and mussels (Mytilus edulis) The common predators of bar clams are moon snails, whelks, crabs, starfish, groundfish and shore birds. Changes in water circulation patterns, salinity and silt loadings are the usual causes of familiar bar clam digging grounds becoming obsolete, If anyone requires additional information on bar clams, please feel free to contact Dr. Thomas Sephton or Mr. Clair Bryan at the DFO Fisheries Research Centre - U.P.E.I., 892-4121, ext 374.

Submitted by Dr. Tom Sephton.