

multibeam bathymetry study that evaluated specific geoscience questions and features that were determined from previous geological/geophysical surveys and modeling. Considerable insight has now been gained into the complex stratigraphy of the Bay that includes the formation of till tongues from floating ice fronts during ice retreat, late glacial iceberg furrowing, and unique mussel bioherms. These examples underscore the need for a comprehensive high resolution understanding of materials and processes which is essentially less talk and more action.

In order to take the next major step in understanding the environment of the Bay of Fundy, it is imperative that regional multibeam bathymetric surveys be conducted, integrated with high quality sampling, geophysical surveys, and interpreted. This will form the basis for the many Fundy-related environmental groups and government agencies to understand change in this unique and extreme environment and begin a true science based dialogue on appropriate management decisions.

The past, present and future geoscience research in understanding the Bay of Fundy

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Over the past decade numerous groups have convened meetings and workshops on environmental issues of the Bay of Fundy that include topics such as marine habitats and the fishery, environmental health, river damming, dredge disposal and coastal sedimentation. A common observation is that conditions in the Bay appear to be rapidly changing but many of the observations are largely anecdotal and not well-understood or documented. This is in concert with the pace of science that has substantially slowed from the heydays of tidal power assessment several decades ago.

The key to understanding the Bay of Fundy and the complex relationships between the seabed, strong currents, biology and the influence of human activities, is a basic and essential high-resolution knowledge of the environment. The Geological Survey of Canada has had an on and off again program in the Bay but a regional study has not been a priority for over 20 years. In the meantime, new technologies for high resolution study of seabed processes, benthic habitats and oceanography have been developed and largely applied elsewhere.

Regional marine geological assessments of the Bay of Fundy conducted in 1997 and 1999, have revealed previously unknown aspects of the history of glacial advance and retreat, marine archaeology, sea level change, seabed habitat, sediment dynamics, aggregate potential and the discovery of mussel reefs. Much of this new knowledge was based on a high graded