Long Pond Barachois: an overview

Don Pittman
Department of Geography, Memorial University of Newfoundland, St. John's, NF A1B 3X9, Canada

Long Pond Barachois, Conception Bay, South, Newfoundland, is a shore-parallel gravel barrier that measures approximately 2 km in length. The barachois separates Long Pond, which consists of two basins joined by a tidal channel, from Conception Bay. The main body of the barachois consists of a single crested storm berm, fronted by a relatively narrow intertidal swash zone. Burnt Island, a small glacio-fluvial outwash deposit, serves as an anchor point for the barrier. Long Pond Barachois has developed under a variety of coastal processes, and this diversity is reflected in the barrier morphology. These processes include shore parallel currents, driven by prevailing southwesterly winds, storm waves and swells from the north east, and a relatively rapid rate of sea level rise.

The barachois has also been affected by anthropogenic development. The construction of an extensive beach wall to the south during the 1890's decreased the amount of available sediment. This allowed formation of a gut, which migrated to the southern end of the beach. The gut was then stabilized by the addition of shore-normal breakwaters on either side. This not only changed the local water chemistry, but facilitated tidal currents within the lagoon.

The barrier morphology can then be generalized into four main sections. The southern margin is prograding, mainly as a result of sediment trapping by a breakwater. This is the widest section of the barrier. The section fronting the tidal channel has been narrowed by scouring of the back-barrier sediments by the channel. This section contains the narrowest area of the barrier. The outer margins of both sections are dominated by beach ridges. The third section, located between the tidal channel and Burnt Island, experiences periodic overwash activity, associated with the formation of beach cusps. The northernmost section, stretching from Burnt Island to the mainland, is transgressing, and shows more evidence of overwash. The elevation decreases from south to north, as does the storm berm slope.

Atlantic Geology, July 1999, Volume 35, Number 2