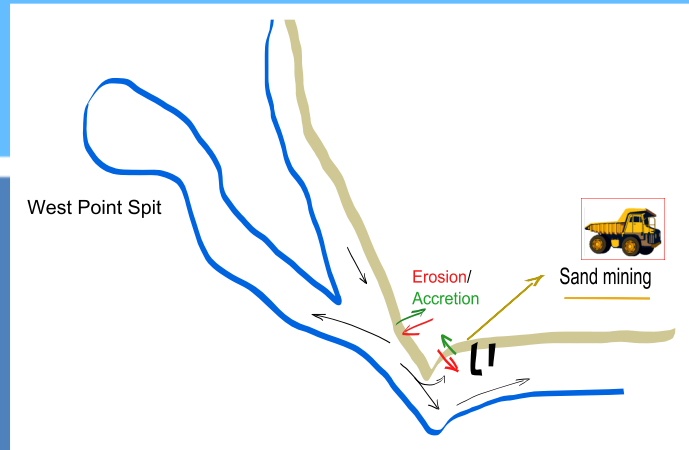




PROJECT DESCRIPTION

In response to a request from the provincial government, Coldwater Consulting Ltd. has undertaken a study of shore processes at West Point, PEI including a review of the sediment budget for the area. The West Point shoreline has undergone dramatic changes over the past 20 years and erosion is now encroaching upon the dunes at the West Point Lighthouse and remedial measures need to be assessed.

PROJECT APPROACH

The analysis used observations of present and historical shorelines and a 50-year hindcast of wave conditions to describe conditions in the region. This information was used to develop computer simulations of longshore sediment transport along the southern and western shorelines over the past 50 years. These regional-scale (1 km resolution) sediment transport simulations, combined with records of sand mining quantities have been used to develop a sediment budget for the shoreline in the immediate vicinity of the West Point spit and the harbour wharves.

A 50-yr hindcast of wave and sediment transport conditions was used to show that decadal fluctuations in storm activity are significant, but that storms experienced in the last decade are no worse than those seen in the 1960s. Sea level rise (roughly 0.3 m/century) was found to be a significant factor in shoreline erosion. A sediment budgeting analysis, a useful tool for coastal zone management, was used to show that sand mining practices on the south shore were a significant contributor to recent erosion and the re-shaping of the spit at West Point.

As a result of the study, Coldwater provided recommendations to the government on sand management practices and future shoreline erosion hazards. On Nov. 3, 2009 the government of PEI announced its revocation of provincial sand mining regulations in order to preserve beaches throughout the province. This move was directly based on the findings of the West Point study.

CLIENT

Government of PEI

LOCATION

West Point, PEI

DATE

2008