

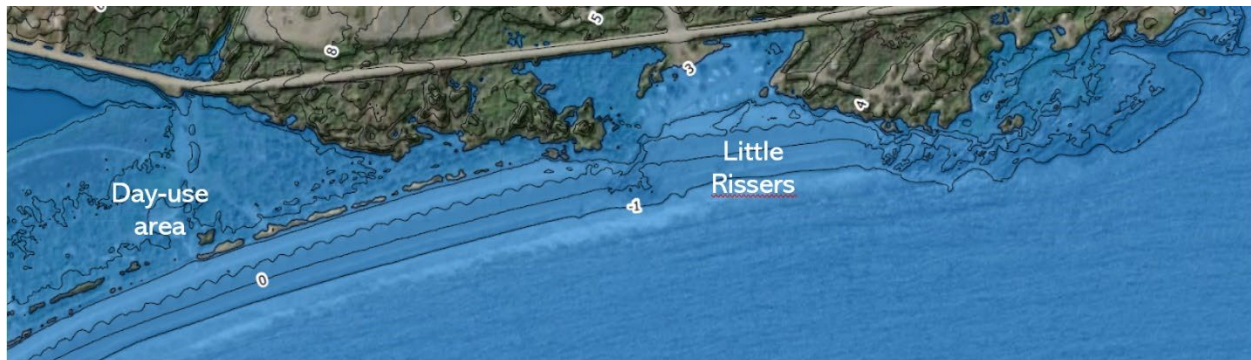
March 12<sup>th</sup>, 2024

## Rissers Beach Provincial Park Coastal Hazard Study – Executive Summary

Rissers Beach is a popular Provincial Park located on the South Shore of Nova Scotia, along a beautiful 1-km sand beach. The facilities suffered severe coastal storm damage in September 2023, which required closure of Little Rissers Beach campground to the east and extensive repairs to the day-use area to the west. DNRR engaged CBCL to conduct a coastal hazard study to examine the processes and implications of increasing pressures from climate change-induced sea level rise and storm impacts. Protection approaches would typically require costly sand fill and artificial breakwaters. The most sustainable approach is to gradually migrate assets away from flood and erosion hazard areas.

### Flood and Erosion Hazards

Day-use facilities and Little Rissers campground are vulnerable to coastal flooding caused by storm surge and wave runup. The estimated annual likelihood of flooding exceeds 20% (which corresponds to a return period of less than 5 years). Severe floods as encountered in the fall of 2023 will occur increasingly often.



*Estimated wave runup limit during post-tropical storm Lee (16 Sep 2023), showing flooding of Little Rissers campground and day-use facilities (dynamic flood level 2.8 m CGVD2013)*

A comparison of historical air photos indicates erosion rates have generally been between 4 to 8 metres per decade along the beach. A portion of the eroded sand at the west end has migrated into the tidal inlet. The beach erosion rates have significantly increased in the last 4 years. Higher sea levels and further wave action will drive increased beach erosion.

Areas less vulnerable to flooding and erosion include the east section of the seaside campground located on a higher rocky headland, as well as higher ground between Little Rissers Beach and the day use area.

## Sustainable Management Options

Sustainable management requires the intentional alignment of intervention approaches with dynamic processes and increasing hazards. A 'hold-the-line' approach would require sand nourishment partially stabilized with artificial rock breakwaters to reinstate Little Rissers Beach and mitigate sand loss to the west tidal inlet. Such approaches are typically costly capital and maintenance-wise. They are best suited for protection of high-value permanent infrastructure that cannot easily be relocated. Alternatively, the most sustainable approach is to gradually migrate assets away from flood and erosion hazard areas. Only short-term infrastructure should be considered within vulnerable areas. Such infrastructure should be set back from the shore and raised above flood levels where practical, depending on intended lifetime. Higher ground located behind the rock headlands should be considered as more sustainable locations for permanent infrastructure.

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