



Time for Nature



Balancing the sand budget

Point Pelee National Park of Canada

Point Pelee National Park of Canada is constantly changing. For thousands of years, Lake Erie's waves have eroded and replenished the park's sandy shores and dunes in a natural rhythm. Now, however, the balance has shifted. Shoreline development outside the park has reduced the supply of shifting sand, and Point Pelee's long-term future could be in question.



Wave action continually eats away at the Point, but eroding bluffs on Lake Erie's shores replenish the beaches.

© Parks Canada, T. Grant, 1978.

Sculpted by nature

Point Pelee was formed by the glaciers that scoured the earth's surface over hundreds of thousands of years. The debris they left behind formed moraines, lakes and rivers. One of the moraines formed the two barrier beaches and enclosed marsh of Point Pelee.



Since the glaciers left, the Point's evolution has been dominated by the waves. Although wave action continually eats away at the Point, eroding bluffs on Lake Erie's shores replenish the beaches. This material helps slow the gradual shrinking of the Point.

What's happened to the sand?

Today, less sand is available to balance erosional processes on the Point. Man-made changes on adjacent shores have taken their toll. Much of Lake Erie's shore is armoured by artificial erosion protection measures, which reduce the amount of sand available for beach building.

The tip of Point Pelee is a dynamic structure that can change daily.

© Point Pelee National Park of Canada.

A dynamic rise and fall

Lake water levels too play an important role in shaping the point. Great Lakes water levels rise and fall in fairly predictable patterns. In the early 1970's and again in the mid



1980's, lake levels were high; erosion of the Point accelerated. From 1999 through 2003 levels were lower. Erosion was reduced, allowing Point Pelee's barrier beaches to grow and vegetation to stabilize them.

The tip of Point Pelee is a dynamic structure that can change daily. It can actually disappear during extended storms. Sometimes, it changes position from east to west depending on the wind and currents. In 1999 when lake levels dropped, it became noticeably longer.

While the tip has temporarily gained ground, the tiny, 1,575 ha park is shrinking in other areas. On the east side, the sand barrier ridge that separates the park's marshlands from the lake has been reduced to a slim ribbon of sand that occasionally is breached, exposing the marsh to the lake. In the northeast corner of the park, 37 ha of land have been lost since 1967.



Protected by barrier beaches, Point Pelee's marsh is rich in wildlife.
© Parks Canada, W. Lynch, 1991.

What does the future hold?

In the short term, the low water levels at the start of the 21st century are allowing Point Pelee's barrier beaches to stabilize. They will be better able to withstand the force of the waves during high water episodes.

Parks Canada is continually monitoring the situation. A shoreline management strategy is needed for the area surrounding Point Pelee. Long-term solutions might include removing or modifying the barriers along the shoreline outside the park. The goal would be to reestablish the regional sand budget that once sustained Point Pelee.

For more information visit www.pc.gc.ca/pointpelee