



Time for Nature



Unstable ground

A changing climate at York Factory National Historic Site of Canada

When early fur traders constructed a trading post on the shores of Hudson Bay some two centuries ago, they built it to withstand harsh northern winds and countless winter storms. But at York Factory National Historic Site of Canada, a warming climate may be a greater threat than cold and snow.



The ground is thawing

York Factory lies within Canada's zone of continuous permafrost, an area where only the surface of the ground thaws in summer. With global warming, this zone appears to be moving northward. Parks Canada is concerned that the permafrost at York Factory may become patchy, as large areas melt. This is a big problem for buildings, particularly York Factory's Depot Building. Constructed in the 1830s, it is one of just two intact structures remaining at the site.

York Factory is located near the mouth of the Hayes River and surrounded by marsh and boreal taiga forest. © Parks Canada, F. Mercier, 1990.

The building's designers allowed for surface thawing and the building can withstand these seasonal changes. But when parts of the foundation are frozen and others are not, buildings can become unstable or even collapse. The structure is already showing signs of stress. Floors are heaving and a sinkhole is evident in the courtyard.

A former commercial hub

York Factory is commemorated for its vital role in the early fur trade. It served as a major administrative, shipping and manufacturing centre within the fur-trade network. Parks Canada wants to ensure that the site's historic building survives for future generations. That's why it is carrying out technical studies at the site, so that it can take measures to stabilize the building.



Other effects of climate change, however, may not be remedied without addressing root causes. Our climate is changing due to the build-up of greenhouse gasses (GHG) in our atmosphere. The burning of fossil fuels for transportation and heating are major culprits.

Constructed in the 1830s, the Depot Building is one of just two intact structures remaining at the site. © Parks Canada, P. McCloskey, 1977.



While the causes are well known, however, the effects are complex and often surprising. Many of our natural habitats are under threat, some species may disappear and others may be displaced. We need to reduce our dependence on fossil fuels and cut back our GHG emissions. Parks Canada is taking steps to reduce the GHG impacts of its activities by using more fuel-efficient vehicles, improving the energy-efficiency of its buildings and facilities and increasing the use of renewable energy.

We all play a role in climate change

Each of us has an impact on our climate through our decisions about transportation, home heating and other sources of GHG emissions. You can help reduce the threat of climate change by taking the One Tonne Challenge.

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



Permafrost melting has caused a sinkhole to appear in the centre courtyard of the Depot. © Wapusk National Park & Manitoba North National Historic Sites.