

## Geotourism: The Great Sand Hills, Southwest Saskatchewan- Among the Largest Sand Dunes in Canada

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### INTRODUCTION

The Great Sand Hills in southwestern Saskatchewan cover an area of approximately 1,900 square kilometers (730 square miles). The aeolian landforms originated from sediments deposited by glacial meltwaters during the retreat of the Laurentide Ice Sheet beginning approximately 13,000 years ago. The subsequent modification and reworking of these sand deposits by strong winds created a landscape of rolling topography with open sand dunes and unique dune complexes. The Great Sand Hills is an area of contrasts with open sand dunes, stabilized sand dunes, grasslands, juniper and shrub land, saline lakes and wetlands, pebble plains, and cotton wood groves and aspen bluffs.

While the name “Great Sand Hills” conjures up an image of great relief and topography, few individual dunes rise more than 15 meters (50 feet) above the surrounding plain. The ruggedness of the topography is the result of steeply sloping dunes located close together.

The sparse ground cover has limited organic material and has low moisture holding capacity of the soil which is coupled with broken topography. This has created a situation of great sensitivity to any kind of disturbance which makes the fragile soils extremely susceptible to wind erosion. Presently, less than one percent of the area which consists of 19 square kilometers (7 square miles) is exposed sand in active sand dunes.

The Great Sand Hills are among the largest active sand dunes in Canada. These dunes are the second largest in Saskatchewan after the Athabasca Sand Dunes in northwest Saskatchewan located along the southern shore of Lake Athabasca. The above-mentioned information was provided on signage at the Interpretation Centre in Great Sands Provincial Park. We hereby fully credit them for the information provided in our abstract.

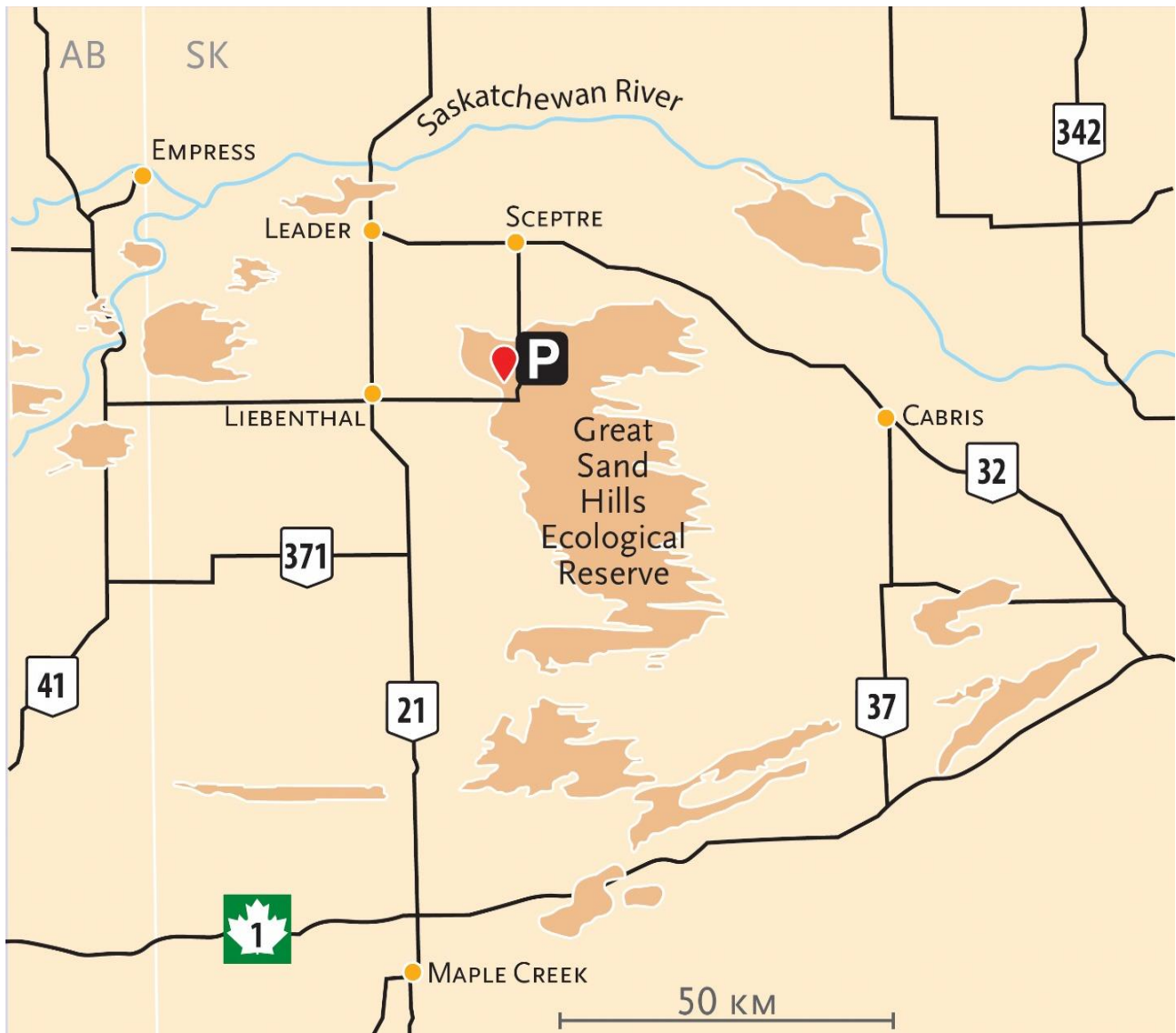


Figure 1. Location Map. From: Dale Leckie, 2024, *Wildlife, Landscapes, and Geology – An Alberta and Saskatchewan Touring Guide*, Publisher - Broken Poplars, printed by Friesens, Altona, Manitoba.

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Figure 2: Sand Dune. Photo by Tako Koning



Figure 3: Sand Dune, Mrs. Henrietta Koning for scale. Photo by Tako Koning.

## Geotourism

Geotourism is becoming very popular both in Canada and worldwide. The public-at-large is increasingly interested in geology, paleontology, and the effects of climate change. Geotourism is a “green” industry with low environmental impact and provides steady local employment. The Royal Tyrrell Museum is a prime example of geotourism which attracts many tourists to Alberta and provides steady employment for the residents of Drumheller.

Both authors visited the Great Sand Dunes at separate times, and both felt inspired to share their experience with geoscientists and the public-at-large. The first time that Koning and Leckie gave a presentation on the Great Sands Dunes was at a November 15, 2024 meeting of the Alberta Palaeontological Society at Mount Royal University, Calgary. They are pleased to share their knowledge of these sand dunes at GeoConvention 2025 through both an oral and poster paper. We are willing to share with anyone the PowerPoint presentation and poster paper. The senior author can be contacted at [tako.koning@gmail.com](mailto:tako.koning@gmail.com).