



## SPECIAL FEATURES IN THE NORTHWEST TERRITORIES

# KARST



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### What is karst?

Karst is a term for features that have formed on the landscape due to the dissolution of soluble bedrock, such as limestone, marble or dolomite. The resulting topography can include caves, sinkholes, springs and disappearing streams. It can sometimes form complex underground drainage systems.

The biological and chemical composition of karst landscapes creates unique habitats for aquatic and terrestrial species. Some species have adapted specifically to the karst environment and cannot survive anywhere else. Other species thrive in karst features because of the relatively rich nutrient load in some karst soils.

Karst terrains have the potential to host unique ecological communities, and can host many rare or confined plant species because of their distinctive drainage patterns.

Poljes are surface karst landforms prone to seasonal flooding and draining and are known to have remnants of a distinct, globally rare species called moss grass (*Coleanthus subtilis*). The most southerly sighting in the NWT is 1,700 km further north than the next nearest sighting in southern British Columbia.

Physical characteristics of karst features may also provide important habitat for vertebrates, such as bats, snakes and Dall's sheep, and invertebrates that rely on caves for portions of their lifecycle. Climatic conditions that do not change in subterranean karst provide an ideal environment for preservation of fossils and artefacts, making karst features important to archaeologists and palaeontologists.

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Some of the ecological values of karst features may translate to economic values, as well. Across the world, karst regions have been sources of water, agriculture, forestry, tourism and limestone extraction activities.

## Karst landscape in the NWT

Most of the karst systems in the Northwest Territories (NWT) are remote and poorly studied. The most well-known karst systems are in the greater Nahanni ecosystem, entirely within the Nahanni National Park Reserve.

Karst features are unique to the NWT and can be fragile and sensitive to disturbances. Karst caves are sensitive to hydrologic disturbances and land use activities because of their ability to rapidly move groundwater long distances without being filtered through soils. Unless subsurface karst networks are well understood, it may be difficult to predict the extent and seriousness of impacts that may occur.

Dr. Derek Ford, a world leader in the study of karst landscapes, conducted a brief survey of several karst areas in the Sahtu Settlement Area. He believes that karst along the Canol Trail is worthy of nomination for UNESCO Geopark status. Dr. Ford also conducted a survey of aerial photos of the NWT to map visible karst features. His report gauges the global significance of these features based on his expertise of the quality and uniqueness of the landforms. For copies of both reports, see the Conservation Network Planning webpage.

## How can we protect karst?

Practice “**Leave No Trace**” principles in the backcountry.

To minimize impacts on karst and associated conservation features, developers are asked to observe the following recommended best practices:

- If you are conducting land use activities, make sure you obtain current information and surveys for karst features your area of interest. As well, identify any impacts your proposed activities, and determine appropriate mitigation measures to minimize impacts on karst features, including the hydrological and hydrogeological processes associated with them.
- Monitor and adapt your land use activities and mitigation efforts to make sure there are minimal impacts on karst features.

## Where can I get more information?

Visit the Conservation Network Planning **webpage** for other information sheets, reports and most recent maps.

Email Conservation Network Planning at [conservationplanning@gov.nt.ca](mailto:conservationplanning@gov.nt.ca)

