

The Niagara Escarpment: A Unique Wisconsin Coastal Resource

Angela Pierce

The Niagara Escarpment is generally not a recognized name in Wisconsin. However, most northeast Wisconsin locals are familiar with the feature known commonly as “the Ledge”, which runs along Door County’s Green Bay shoreline into Brown County. The Niagara Escarpment is a distinguishing natural resource area due to its unique geology, the presence of rare plants and animals, and growing development pressure.

The Niagara Escarpment is a geologic landform that was formed 430 to 450 million years ago when current day North America was near the equator and submersed under a shallow warm sea centered on what is now the State of Michigan. The outer rim of this ancient sea, crossing present state and national borders, now marks the location of the Niagara Escarpment.

The escarpment is a sickle-shaped ridge with a steep face on one side and a gentle slope on the other that begins in south-central Wisconsin, arches east through Michigan and southern Ontario and ends in western New York State. The best-known portion of the Niagara Escarpment is the section of the ledge over which the Niagara River falls to form Niagara Falls. The Niagara Escarpment in Ontario, Canada is a United Nations Educational, Scientific and Cultural Organization (UNESCO) designated World Biosphere Reserve, making it part of a network of more than 400 reserves in 95 countries.

Since the Niagara Escarpment was formed prior to glaciations, glacial ice cover and melt water have dramatically altered it. The Escarpment in Wisconsin varies from prominent rock faces with 150-foot cliffs to a series of ledges, low cliffs and pavement including areas where the escarpment is completely buried—and may only be evident in a quarry. The visible effects of the glaciation seen on the escarpment today were shaped during the most recent stage of glaciation called the “Wisconsin Glaciation”.

The Niagara Escarpment is sometimes overlooked as a coastal resource in Wisconsin even though the escarpment *is* the shoreline of much of the Door Peninsula on the Green Bay side.

The Niagara Escarpment in Wisconsin is present almost continuously from the tip of Washington Island to the northeast side of the city of Green Bay. Beyond the city of Green Bay, the Niagara Escarpment becomes intermittent as it is covered with glacial till for several miles in sections and reappears in other sections as it continues into south-central Wisconsin.

The climate, ecology, and geology of the escarpment is significantly influenced by the Great Lakes that surround it, creating unique microenvironments that support a diversity of life including many threatened and endangered resources. The landscape of the Niagara Escarpment supports unique natural relationships and communities that include Alvars, oak savannas, communities of threatened dwarf lake iris, and cliff face communities of slow-growing cedars that are over 1,000 years old. Additionally, the Escarpment provides habitat for a number of migratory birds, bats, the endangered glacial Relict land snails and the Hines Emerald dragonfly.

The cultural resources on and along the Niagara Escarpment are numerous as well and include archeological sites, pictographs and petroglyphs, mounds, lighthouses, lime kilns and caves, historic farmsteads and over 500 historic sites, 37 of which are on the National Register of Historic Places.

According to a study completed by the Bay-Lake Regional Planning Commission, *An Inventory and Assessment of the Resources of the Niagara Escarpment in Wisconsin* (March 2001), the Niagara Escarpment area is experiencing steady population growth and development pressure, especially along the coastal Niagara Escarpment area adjacent to Green Bay. This sensitive shoreline ecosystem is vulnerable to misuse from improper land development and resource extraction.

Although much of the Brown and Kewaunee county shoreline along Green Bay is already developed and experiencing second and third tier development, a significant amount of the Green Bay shoreline in Door County along the escarpment remains undeveloped as wooded or agricultural land. Current trends reveal that development will likely continue to consume the escarpment since few land use controls exist to protect it.

The Niagara Escarpment is a special coastal resource in Wisconsin and we are fortunate to have it here. It is important that we all work to ensure that this unique resource will be available in a natural state for future generations to marvel. We should follow the lead of our Ontario neighbors and work at preserving the remaining undeveloped portions of the escarpment before they are lost to us. The time to act is now.

The Niagara Escarpment Resource Network is a great organization to turn to for additional information on the Niagara Escarpment in Wisconsin. The Network is a coalition of federal, state and regional agencies, local and county governments, academia, non-profit organizations and individual landowners and citizens whose purpose is to provide a common forum for discussion and action promoting balanced land-use decisions and an appreciation for the unique ecology of Wisconsin's Niagara Escarpment. Involvement with the Network is a great way to learn more about the escarpment. The group meets regularly and always welcomes new members. For more information on the Niagara Escarpment Resource Network, check out its website at <http://www.escarpmentnetwork.org/>.