

coastal bluffs



Coastal bluffs are steep faces of sediment or soil along the Great Lakes shoreline. This type of surface is subject to erosion from waves. Coastal bluffs supply large amounts of sand to perched dunes and other dune formations through erosion and subsequent natural movement of sand along the shoreline. They can be composed of sand, gravel, or clay.

THE BIGGER THEY ARE, THE HARDER THEY FALL

Lake Michigan's majestic coastal bluffs seem indestructible, and for thousands of years, they have thrived in this harsh yet ideal climate that gives the perfect blend of wind, weather, and water. Coastal bluffs are extremely erodible, as the base is constantly being pounded and washed away by waves while the tops face threats such as construction, clear-cutting and stormwater run-off.

Although erosion over time is natural, removing vegetation too close to the crest of dunes may accelerate the process. Building on a bluff may appear easier than building on a dune, but the likelihood of the structure collapsing is much greater due to the recession of clay and silt both above and below the bluff.



While more people are familiar with dunes rather than bluffs, many areas along Lake Michigan's shoreline consist of gravel bluffs overlooking narrow, sandy beaches like this property, protected by Southwest Michigan Land Conservancy.



The steep coastal bluffs of Sleeping Bear Dunes provide recreational and aesthetic enjoyment to thousands of tourists and Michiganders every year. Perched dunes sit on top of the bluffs at this famous site.

COASTS PROVIDE ECONOMIC VALUE

Today, the tourism industry booms in Michigan despite the crowded houses along the shoreline. Millions of people every year visit Michigan's public parks and nature preserves. Travel and tourism is in the top three industries of our state, providing 173,000 Michigan jobs and \$812 million in state and local taxes. Last year, travelers spent more than \$12.8 billion exploring our state, according to the Office of the Governor. In-state travel by Michiganders accounted for 57% of that revenue, proving that once in Michigan, we stay in our Great Lakes State.

ERODING BLUFFS BAD FOR BUSINESS

Once nature's sand castles melt into the shore, they can never be replaced. Our Great Lakes coastal system faces more challenges and threats than ever before, with most of them caused directly or indirectly by humans. Not only do these threats harm the ecological benefits that support our plants and animals, but they cause extensive damage to tourism and related industries that have long depended on our shores for their sustainability.

Fluctuating water levels due to natural short- and long-term cycles also contribute to the erosion of coastal bluffs and dunes. This dramatic series of highs and lows causes extensive damage to the bluffs by tearing and flooding at their foundations and peaks.

PRESSURE FROM SECOND-HOME DEVELOPMENT

Among the various coastal system components, bluffs can be the easiest to build on and therefore particularly threatened by development. More than 40 million people live in the Great Lakes basin equating to 50% of Canada's population, and 15% of the U.S. Many of us enjoy living near water, and Michigan's shoreline provides an ideal location for second-home residents from Chicago, Wisconsin and our own state.

Unfortunately, supply is not keeping up with demand. Prices of shoreline properties have skyrocketed with the recent real estate boom, with few places remaining to build the dream home with a lakefront view. In fact, about 83% of our shoreline is privately owned with property values as high as \$10,000 per linear foot of lakefront, according to a recent U.S. Geological Survey.

Yet with all of the many challenges facing our shoreline, there is still cause for hope. More organizations and people than ever before are working to protect this globally significant natural feature.

What can YOU do to help save our coastal bluffs?

Michigan's coastal system has been here for thousands of years, but that does not necessarily mean they will last through the next millennium, or even this century, without our help. You can make a difference by following any or all of these suggestions.

- ▲ When visiting a park or nature preserve, stay on the path.
- ▲ Take only pictures, leave only footprints.
- ▲ Wash your shoes after a hike to avoid spreading invasive species.

- ▲ Volunteer for beach clean-up, piping plover patrol and/or stewardship work days.
- ▲ If you own property on or near the shore, consider placing a conservation easement on your land to restrict future development in perpetuity.
- ▲ Donate land or money to your favorite conservation organization!
- ▲ Participate in Sand Dune Day every May!
- ▲ Learn more and tell others about the importance of Michigan's dunes and shoreline.



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West Michigan Program
3728 W. River Dr. NE
Comstock Park, MI 49321
(616) 785-7055