



Natural forces formed and continue to shape Lake Erie and its watershed.

400,000,000

age in years of oldest rocks beneath Lake Erie which formed when saltwater covered what is now the basin. Evidence of the ocean past includes limestone bedrock and salt deposits found deep below the lake's bottom.

1 mile

thickness of ice sheets that carved Lake Erie 1 million to 12,600 years ago. As glaciers advanced and retreated, they left deposits such as clay, peat, sand and gravel that are economically valuable today.

5

main factors continue to influence the shape of the coast:

- lake level changes
- wave action and storms
- development
- shore and nearshore soil types
- human actions

Human actions also shape Lake Erie and its watershed.

Lake Erie Literacy Principle 2d:

Erosion - the wearing away of rock, soil and other earth materials - occurs in coastal areas as wind, waves, river flow and currents in Lake Erie move sediments.

Lake Erie Literacy Principle 2f:

Beaches, barrier beaches and coastal wetlands protect upland areas by reducing the impact of storm waves and wind tides [known as seiches]. Waves breaking on the beach and plants reduce wave height and energy.



Coastal erosion is a natural process that impacts all of the shore at some point in time. To slow coastal erosion, at some locations people have built a variety of erosion control structures.

When there is potential for sand to accumulate and remain trapped by a coastal structure, there needs to be an ODNR-approved written plan to move trapped material back into the natural system that moves sand along the shore.

Human movement of sand back into the littoral system is called **sand bypassing**.

Sand bypassing helps ensure that shore structures will not adversely impact neighboring properties.

If sand is not moved back to the natural littoral system downdrift of the structure trapping the sand, significant erosion and loss of beach may occur.

