



U.S. Army Corps of Engineers Evaluation of Activities on Lake Erie – In Ohio

U.S. ARMY CORPS OF ENGINEERS - Buffalo District Regulatory Program

The U.S. Army Corps of Engineers (USACE), Buffalo District, Regulatory Branch, geographical boundaries include the northern portion of Ohio. The purpose of this document is to provide information on the USACE Regulatory Branch's role in activities associated with Lake Erie and its shoreline.

Under Section 10 of the Rivers and Harbors Act (RHA) of 1899, the USACE has regulatory authority over work in, above, or below navigable waters of the U.S., such as Lake Erie. Under Section 404 of the Clean Water Act (CWA), the USACE regulates the discharge of dredged or fill material into all waters of the U.S., including Lake Erie. Specifically, USACE jurisdiction in Lake Erie extends to the ordinary high water (OHW) mark, which is 573.4 feet International Great Lakes Datum, 1985.

The mission of the USACE Regulatory Program is “to protect the nation’s aquatic resources, while allowing reasonable development through fair, flexible, and balanced permit decisions.”

Activities Performed Along the Shoreline of Lake Erie:

Many of the activities occurring within and along the shoreline of Lake Erie require authorization from the USACE prior to initiating work. Examples of activities which may require authorization include, but are not limited to bank stabilization, groin/revetment construction, dock construction, marina activities, beach nourishment, boat ramp construction, utility line crossings, dredging activities, and installation of intake and outfall structures.

Helpful Advice for Projects Planned on Lake Erie:

- The majority of work proposed within Lake Erie requires submission of a permit application and authorization from the USACE prior to initiating work. Information pertaining to submitting a permit application and application forms, can be found on the USACE website at: <http://www.lrb.usace.army.mil/Missions/Regulatory.aspx>
- Many projects along the shoreline of Lake Erie in Ohio require excavation down to clay or bedrock and side-casting of all sand and gravel material proposed to be covered by a project into the nearshore area.
- Many projects along the shoreline of Lake Erie require the placement of sand prefill in the nearshore area. Other projects may require the implementation of monitoring plans.
- Additional authorizations may be required. In Ohio, you should also contact Ohio Department of Natural Resources (ODNR) Coastal Management Office, the Ohio Environmental Protection Agency (OEPA), and any other applicable agency that may require authorization.
- When in doubt, or for information or guidance, **call the USACE.**

USACE Enforcement Actions on Lake Erie:

Enforcement is part of the overall USACE Regulatory Program and discourages activities that have not been properly authorized. Unauthorized activities can result in unforeseen impacts on such things as navigation, obstructing the movement of sand along the shoreline, loss of aquatic habitat, etc. The USACE often receives reports alleging that unauthorized work, structures, and/or filling is occurring within and/or along Lake Erie. To report an activity that may not have proper USACE authorization, please fill out and submit the form located at: <http://www.lrb.usace.army.mil/Missions/Regulatory.aspx>

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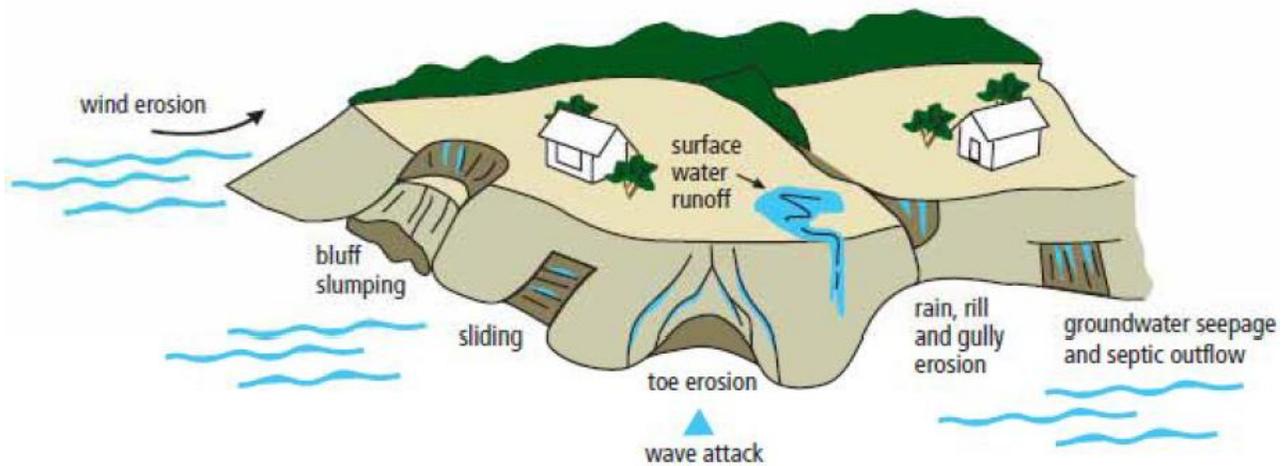


Relationship between Littoral Transport and Shore Protection Projects in Lake Erie

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Lake Erie Littoral Zone and Littoral Transport

The littoral zone of Lake Erie is generally described as the nearshore area where the sunlight can reach the lakebed and promote plant growth. Littoral transport, also referred to as littoral drift, is best described as a natural river of sand and gravel, shell fragments, and coarse granular material that is constantly in motion along the shoreline. The predominant direction of littoral transport is west to east for most sections of the shoreline, but may vary based on location and wind direction. Littoral material predominantly originates from shoreline erosion, with limited material provided by streams/rivers entering Lake Erie. Littoral transport plays an important role in replenishing and maintaining beach width along the shoreline, providing natural erosion protection, supporting recreational opportunities, and providing habitat for a variety of plants and animals.



Causes and Effects of Coastal Erosion

Permit Evaluations in the Littoral Zone of Lake Erie

Natural littoral transport may be interrupted or impeded when work is performed along the Lake Erie shoreline. The degree of disruption is dependent upon the type of work performed. Adverse effects resulting from disruption may include increased erosion rates on the adjacent shoreline, property damage, loss of recreational opportunities, loss of habitat, loss of beach width, and safety hazards. Structures and fills extending lakeward from the shoreline have the potential to block or redirect natural littoral transport. These types of projects may result in deposition, the accrual of material at the location of the project and may result in erosion, the loss of material down drift from the project. Essentially, these types of projects prevent properties down the shoreline from being replenished with littoral material, which can accelerate the rate of erosion. Bank stabilization projects, including revetments, vertical walls, and steel sheet pile bulkheads also impact littoral transport. While properly designed/constructed bank stabilization projects effectively prevent erosion in the immediate project footprint, it is at the expense of natural erosion processes that supply the bulk of material for littoral transport along the shoreline. By removing sources of littoral material, less material is available to replenish the natural shoreline, including beaches.

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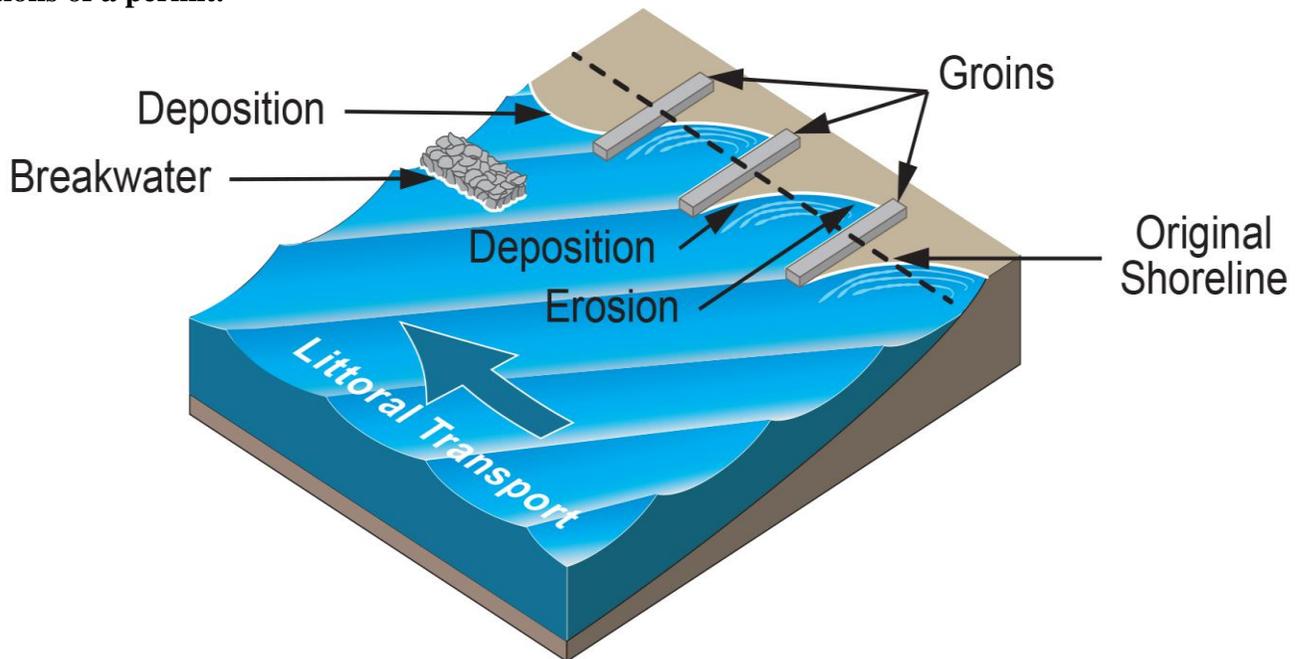
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USACE regulations require consideration of the effects proposed activities may have on several public interest factors such as conservation, fish and wildlife values, shore erosion and accretion, navigation, safety, and consideration of property ownership. The USACE may not grant a permit that is contrary to the public interest. The Section 404(b)(1) guidelines (40 CFR 230.10) require the USACE to permit only those discharges of dredged or fill material into waters of the U.S. that represent the least environmentally damaging practicable alternative, so long as the alternative does not have other significant adverse environmental consequences.

In an effort to ensure shoreline projects are not contrary to the public interest and to prevent adverse impacts to littoral system of Lake Erie, the USACE often requires sand prefill and/or monitoring plans as conditions of a permit.



Sand Prefill Requirements for the Lake Erie shoreline in Ohio

Sand prefill is typically required for permits that authorize hardening of the shoreline and/or projects that may disrupt littoral transport. Nationwide Permit 13, which authorizes bank stabilization projects, includes Regional Condition (c) which requires 2 cubic yards of sand prefill per running foot of shoreline hardened. Sand prefill is typically obtained from an upland source and placed within the littoral zone of the Lake. Sand prefill is a mechanism to offset the loss of natural erosion contribution and/or to minimize project impacts on littoral transport.

Sand Monitoring and Bypass Requirements

Sand monitoring plans are required for any project that may trap, interrupt, or divert sand from the natural path of littoral transport. Plans may be required for a defined number of years or for the lifespan of the project. A sand monitoring plan typically includes requirements for pre- and post-construction surveys, annual surveys, and annual calculation of a project's effect on littoral transport. The monitoring results allow the USACE to determine whether corrective action is necessary to ensure the project does not have adverse impacts on the aquatic environment and/or that the project is not contrary to the public interest.

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