

## Jetties

Jetties are navigational structures used to stabilize river mouths and tidal inlets. Jetties are shore-connected features built parallel to the navigation channel, which is usually perpendicular to the shore. They may be found on one or both sides of an inlet. By directing sediment from the rivers or tidal inlets farther offshore, jetties function to limit the build-up of sediment within the channel and immediately lakeward of the inlet.

Jetties are typically constructed out of armor stone, concrete blocks, or concrete modules and may contain lighthouses or navigational buoys at the lakeward end.

Similar to all shore-perpendicular structures, a jetty can cause a significant impact to sediment moving along the shore. Due to their perpendicular-to-shore placement, sediment usually builds up on the updrift side of a jetty, resulting in a loss of sediment on the downdrift side. In most cases, the longer the jetty, the greater the impact there is on the adjacent areas (i.e. significant loss of sediment downdrift). To counter these effects, bypassing of sediment trapped by the structure is required.

To maintain a jetty, periodic monitoring of the structure is necessary. Re-positioning or replacement of the armor units may be necessary to ensure the structure functions properly. If excess sediment builds up on the updrift side of jetties, bypassing of the sediment may need to occur.

Since jetties maintain navigation channels, it is necessary that they are designed and constructed by a professional engineer and contractor. Maintenance to the structure may also require a contractor as the movement of armor units in the water requires specific machinery.

At first glance, breakwaters, jetties and groins appear to be similar structures, but they are each unique in their location and function. In comparison to a breakwater, jetties are considerably smaller and are not primarily used to reduce wave action. Jetties are designed primarily for sediment management and are typically located at the mouth of a river.

Breakwaters are typically found surrounding a harbor facility as they are primarily designed for limiting wave action. Groins are shore-perpendicular structures, often smaller than jetties, and are intended to trap sediment as a means of erosion control, and are therefore not found at harbors or river mouths.



*West jetty: Huron River looking north*



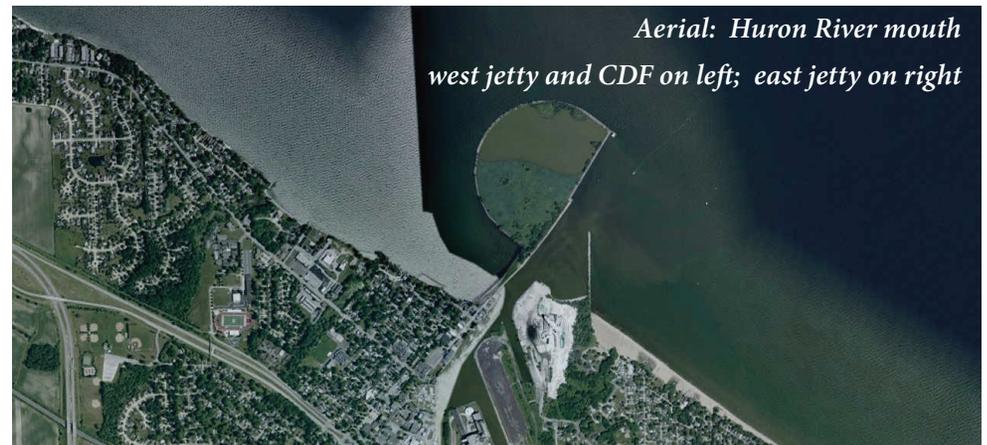
*East jetty: looking northwest*



*West jetty: Huron River looking south*



*East jetty: looking southeast*



*Aerial: Huron River mouth  
west jetty and CDF on left; east jetty on right*