

Seawalls

Seawalls are onshore, shore-parallel structures built primarily to reduce wave-induced toe erosion, with a secondary function of limiting flooding of the land behind the structure by reducing wave overtopping. These structures can have a vertical, stepped, or curved face, and typically have a horizontal surface (or cap) at the crest. In some cases the seawall cap can be wide enough to contain a promenade on top of the structure or provide access to the lake. Seawalls can be made of various materials including concrete blocks, cast in place concrete, and stone-filled cribs.

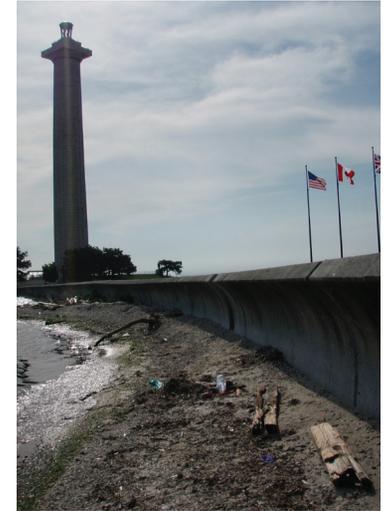
Seawalls typically have a smooth, vertical surface facing the lake which can result in waves reflecting off of the seawall. This reflection can lead to erosion of the shore area immediately lakeward of the structure including beaches and the lakebed, erosion of the area directly landward of the structure, and erosion on unprotected areas adjacent to the ends of the structure.

Erosion landward of the structure can lead to instability of the structure. When building a seawall consideration should be given to the depth of toe burial to account for potential erosion at the toe, while the height of the seawall should prevent overtopping by waves.

To maintain a seawall, monitor the structure for any damage to or movement of the wall. Repair the damaged concrete sections and replace any failing modules or cribs as necessary.

The design and construction of a seawall requires the services of a professional engineer and a contractor.

Seawalls and bulkheads are similar structures, with the main difference between the two exhibited in how each is intended to function. A bulkhead is used to hold the land from the water, whereas a seawall is intended to reduce wave-based erosion and landward flooding. The design of these structures often reflects their differences.



The seawall in the above photos is along the north side of Perry's Victory and International Peace Memorial National Park on South Bass Island. The photo on the left is taken at nearly the same site as the center photo, but the left photo is taken during higher water. The center and right photo are taken on the same day. The center photo is facing west. The right photo is facing east.



Seawall north of Schade-Mylander Plaza in Sandusky, Erie County



Seawall along the southwest side of Perry's Victory National Park in Ottawa County



Seawall at Maumee Bay State Park in Lucas County