Tidal or storm surge barriers are a moveable barrier or gate that is closed to prevent flooding when extreme water levels or storm surges are forecast. They can also be constructed near the entrance of river estuaries and tidal inlets to reduce the impact of storm surge on these areas. Small scale barriers such as one-way culverts, or aboiteaux, allow inland runoff to drain from the lowlands behind a structure during low tide and prevent seawater from coming in during high tide. The aboiteaux must be regularly maintained to ensure it does not malfunction or become blocked. Thorough coastal studies are required for the design and regulatory requirements for this tool.

![Aboiteau in Great Village, Nova Scotia](Image Source: Vincent Leys, CBCL)

### ADVANTAGES
- The tidal gate allows for the closure of estuary mouths to prevent storm surge flood during extreme coastal storms.
- The aboiteau allows river drainage during low tide to prevent the backing up of the river.

### DISADVANTAGES
- Can be extremely expensive depending on the size.
- Results in intertidal habitat loss.
- Regular maintenance is required.
Tidal Barriers Example (International)
Century Old Khazans provide flood control in Goa, India

Summary - Khazans are salt water floodplains along Goa’s tidal estuaries. They are composed of an intricate system of dykes and sluice gates. The dyke system consists of external embankments made up of a combination of stones and mud in order to minimize erosion. Inner embankments are made up of mud, straw, and wooden poles. Sluice gates regulate water flow allowing sufficient water in the fields, but pre-venting saltwater flooding/inundation. Sluice gate shutters close automatically during high tide and open during low tide to let water out. These shutters can be manually manipulated to get the required quantity of water inside the fields for various agricultural production. Some fields are also used as shrimp breeding pens by letting in saltwater during high tide.

A Dynamic Flood Control System - Khazan lands are ecologically, economically, and socially very important for both agriculture and aquaculture. The local farming community traditionally practices salt-tolerant rice cultivation during monsoon seasons and shrimp aquaculture during dry seasons. These lands serve as emergency storm water containers and play a major role in preventing floods. The mangrove vegetation near the external or internal dykes provides an important natural, anti-erose barrier.