

# Reshaping Chelan's Waterfront

Importing sand, gravel, and other natural materials to re-create the beach that was lost due to bulkhead construction and erosion



## WIND & WAVES

Don Morse Park's sandy swimming beach eroded due to the placement of a bulkhead. This impacted park popularity and left a dangerous five-foot drop from the upland park to the beach. The city hired landscape architects to develop a design that could withstand the windy, high-wave environment. As the beach serves primarily as a swimming beach, new materials needed to meet comfort levels for users and look natural.

## LOCAL MATERIALS

The team studied numerous designs using wind and wave modeling. The final design incorporates a series of high and low drift sills, which create coves that can be used for distinct recreational purposes, such as swimming, small-children's swimming area, and a hand-carry boat launch. The selected beach material, pea-gravel, requires less replenishment than sand. Sourcing local materials reduced transportation costs and improved the visual quality.

## HABITAT FEATURES

Habitat features such as large woody material were added to the marina in an area that would not create hazards for boaters. Habitat snags and bat boxes were included in new planting areas, which served as mitigation for the imported fill. At the upland edge, plantings with beach-side shade-tree groves and shrubs provide enhanced fish and wildlife habitat. The plantings enhance the beauty of the park and offer welcome shade for beach-goers.

## PHASED APPROACH

To create a feasible project for the client, the team developed a phase one design that met engineering criteria for a stable beach and looked desirable to the State Recreation and Conservation Office (RCO) for grant funding. The project won two RCO grants totalling \$1.5M and made implementation possible for the City of Chelan. With Chelan's matching funds, the \$3.2M project began construction in 2012 and was completed in June 2013.

## OTHER AMENITIES

A new breakwater expanded the marina's capacity. Redesign of the boat launch now allows for all-season use during lake water level fluctuations. Renovations to the uplands provide new opportunities for visitors to enjoy the views and access the water. New ADA paths improve circulation within the park and provide easy access to the water's edge. Picnic areas and shore-side seating offer gathering areas.

native  
 boat launch paths  
 waves recreation beach  
 marina winter water level wind  
 park erosion sediment transport  
 tourism infrastructure summer water level  
 landscape architecture  
 permitting habitat enhancements  
 access ADA engineering science  
 woody debris bulkhead  
 aesthetics



Don Morse Park  
 Shoreline Restoration &  
 Marina Improvements  
 Chelan, Washington

J.A. Brennan Associates, PLLC  
*in association with*  
 Reid Middleton  
 Coast & Harbor Engineering  
 The Watershed Company  
 SWCA  
 Budinger & Associates  
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 Cascade Interpretive Design  
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