How Do You Save A Beach ?

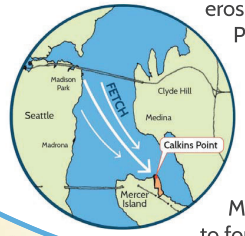
Beach Restoration Takes Work!

Erosion occurs when soil is carried away by wind or water. Waves and fine soil make the shoreline at Calkins Point vulnerable to erosion. In 2015, the City of Mercer Island worked on Calkins Point to prevent erosion and create a healthy and enjoyable beach for people and wildlife.

BEFORE

The secret is in the silt

Until 1916, this area was completely underwater. That year, construction of the Lake Washington Ship Canal lowered the lake by 8.8 feet, exposing the area that is now Calkins Point. Soil at Calkins Point is made of silt from the bottom of the lake. Much finer than sand, silt is easily moved by water and wind. Over time, wind waves and boat wakes have caused erosion at Calkins Point.

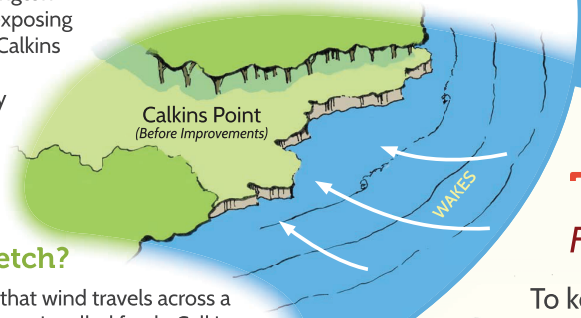


What is Fetch?

The distance that wind travels across a flat body of water is called fetch. Calkins Point's location at the northern end of Mercer Island exposes it to a fetch of close to four miles, creating tall and powerful waves.

Wake Waves

A wave created by a boat is called a wake. In summer, large numbers of boats traveling around Mercer Island create large wakes that roll inland and hit the shoreline.



TODAY

Five erosion fighters

To keep the beach at Calkins Point from washing away, the City of Mercer Island added five layers of protection to hold the shoreline in place. **Can you spot them?**

1 Native Vegetation

When planted at the shoreline, native trees, shrubs, and grasses absorb the force of waves and their roots hold the shoreline in place. Native vegetation also provides shade and habitat for fish and wildlife.

2 Large Woody Debris

Fallen trees, logs, and roots occur naturally on healthy beaches. This material, called large woody debris, protects the beach by absorbing the force of wave action. At Calkins Point and many other beaches, large woody debris is placed on the beach to combat erosion.

3 Brush Layers

Live willow branches grow roots that hold the shoreline in place. They help to build the beach by calming water at the shoreline, allowing the sand and gravel to settle out of the water.

4 Rock Arms

Two large structures called rock arms extend into the ground. Topped with plants, the rock arms contain large woody debris, gravel, and rocks that work together to hold sand and gravel in place.

5 Sheet Pile Wall

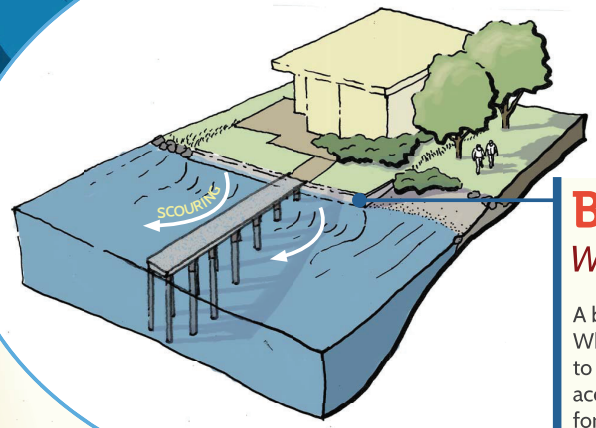
A hidden vinyl sheet pile wall is the final defense against erosion at Calkins Point. The wall extends four feet below the ground, holding everything behind it firmly in place.

King County Flood Control District · Lake Washington/Cedar/Sammamish Watershed · King Conservation District · City of Mercer Island Parks & Recreation

Healthy Shorelines Start at Home

You Can Help to Create a Healthy Home for Fish and Wildlife

Humans are not the only species drawn to Lake Washington's shoreline. Through thoughtful shoreline design, people can create healthy habitat for fish, birds, and other wildlife. If you're ready to make changes to your shoreline, contact the City of Mercer Island for tips and support.



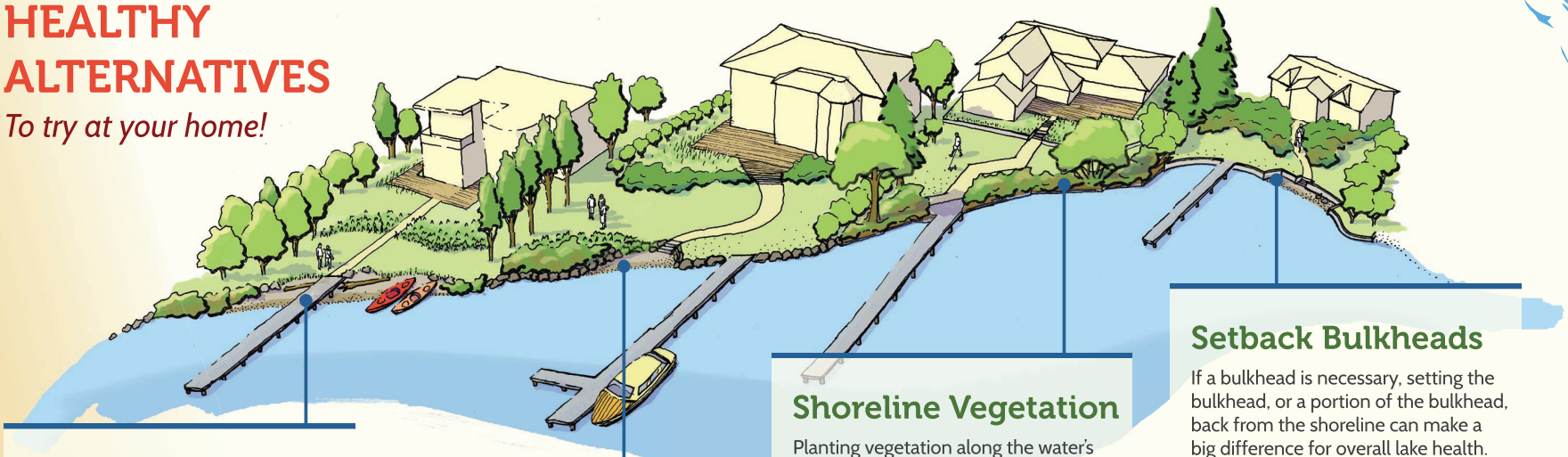
BULKHEADS

What do they do?

A bulkhead is a wall along the shoreline that can protect against erosion. While bulkheads are sometimes needed to protect homes that are close to the shoreline, they replace beaches and make it difficult for people to access the water. They displace vegetation and gravel, reducing habitat for birds and salmon. Further, bulkheads cause waves to dig downward which can cause them to fail. The deeper water created by bulkheads also makes young salmon vulnerable to predators. Fortunately, there are many alternatives to bulkheads. A few examples are shown below.

HEALTHY ALTERNATIVES

To try at your home!



Full Beaches

Removing a bulkhead allows for the creation of a full beach. Beaches are optimal for people and wildlife. They provide easy access to the lake for swimming, kayaking, and enjoying the water. Beaches absorb waves and provide a place for gravel, vegetation, and large woody debris.

Beach Coves

Replacing a section of the bulkhead with a beach cove creates an enjoyable place for people and provides gravel, shallow water, and vegetation for fish and wildlife.

Shoreline Vegetation

Planting vegetation along the water's edge, especially natives, is a simple and effective way of creating a healthier shoreline. Trees, shrubs, and other plants provide food and habitat for fish and wildlife. Shoreline vegetation creates shade and cools the shallow water which is good for young fish. It also improves water quality by slowing stormwater runoff and filtering pollutants.

Setback Bulkheads

If a bulkhead is necessary, setting the bulkhead, or a portion of the bulkhead, back from the shoreline can make a big difference for overall lake health. Like beach coves, setback bulkheads also provide an area that allows people to enjoy the beach and shoreline activities.

King County Flood Control District · Lake Washington/Cedar/Sammamish Watershed · King Conservation District · City of Mercer Island Parks & Recreation