WASHINGTON STATE DEPARTMENT OF Natural Resources
Peter Goldmark - Commissioner of Public Lands

Washington State Department of Transportation

BOEING

Juvenile Chinook salmon photo: Roger Tabor

South Lake Washington Shoreline Restoration

RESTORING VITAL HABITAT FOR JUVENILE CHINOOK SALMON

The shores of Lake Washington are a vital nursery for young salmon. However, most of the shoreline has been altered with piers and other overwater structures, bank armoring, and reduced native vegetation that had protected fish and wildlife. At the south end of the lake, in 1965, 150,000 cubic yards of fill was placed into the lake alongside a 20-foot-wide flume, or channel, made of two sheet-pile walls. The fill and flume destroyed shallow nearshore habitat.

A restoration project is under way to reestablish the nearshore and upland habitat on about a quarter mile of this filled area. Juvenile Chinook tend to rear along shorelines close to the mouth of the Cedar River, seeking shallow areas with overhanging vegetation to spend time feeding and growing, protected from predators. Habitat here will be enhanced to support the salmon when they migrate from the Cedar River between January and April each year, eventually to head out to Puget Sound. Chinook salmon are listed as 'threatened' under the federal Endangered Species Act, so this is a top priority restoration site as a corridor for the young salmon under the *WRIA 8 Chinook Salmon Conservation Plan*.

Located adjacent to Boeing's Renton Plant, the area has stormwater outfalls that release water into the lake. As a part of the project, Boeing is working with the state Department of Natural Resources (DNR) to replace the aging outfalls and move them to deeper water to prevent stormwater from disturbing the newly restored shallow sand and gravel habitat along the shoreline.

What are the ecological benefits of the project?

- The site's proximity to the Cedar River makes it an ideal location for an enhancement project—reestablishing vital rearing habitat for out-migrating salmon.
- The healthy upland habitat with native trees, bushes and grasses also will contribute to improved water quality.
- The restored 1,300-feet of shoreline will provide essential shallow-beach habitat in the lake that supports many wildlife species.
- Monitoring pre-project—and for 10 years after completion—will provide information about the success of the restoration and use of the site by juvenile salmon over time.

What enhancement activities are included?

- Removal of a variety of man-made structures—900 linear feet of sheet-pile walls of an abandoned flume (for a long-closed steam-power-plant), bulkheads, creosote-treated pilings, rip rap, and other debris.
- Removal of invasive Himalayan blackberry and other non-native vegetation from three-acre upland area.
- Planting of native trees and shoreline vegetation.
- Placing sands, gravel and cobbles to create a more suitable shallow water habitat for juvenile salmon.
- Extending two stormwater outfalls into deeper water so the flow does not cut into the restored shallow habitat.

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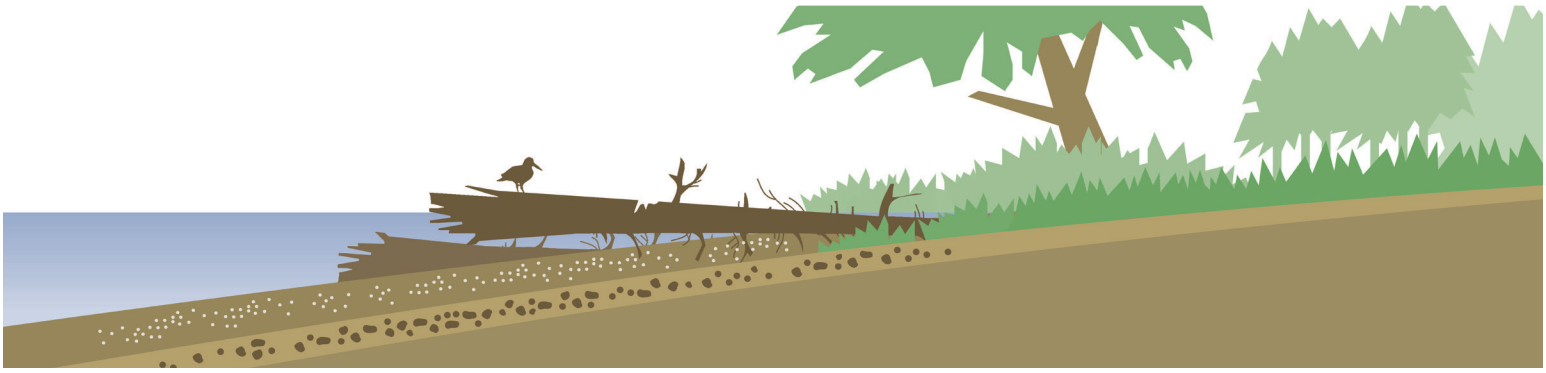

Varying sized rock materials such as streambed cobbles, course sand, pea gravel, and beach gravel will be layered to re-create shallowwater habitat. Native ground cover, bushes and trees will be planted—some of which will gradually bend over and fall into the lake to provide more cover for the juvenile Chinook salmon.

What's the project timeline?

Work began in late spring 2014 and will be completed by spring 2015. DNR and the Washington State Department of Transportation (WSDOT) will monitor and maintain the site for 10 years after construction.

South Lake Washington Restoration Site, with inset map of greater Seattle area

Collaborative public-private partnership

The project is a partnership between the Washington State Department of Natural Resources (DNR), WSDOT and The Boeing Company.

As part of an ongoing effort to enhance Lake Washington, DNR received a grant for the planning, design and permitting of a restoration project at the south Lake Washington site.

WSDOT is supporting the restoration project as partial mitigation for environmental impacts of constructing the new SR 520 floating bridge across Lake Washington—the SR 520 Bridge Replacement and HOV Program. For the funding that WSDOT is providing to DNR for the shoreline-restoration project, WSDOT will receive mitigation credit for aquatic impacts.

Boeing is providing funding to DNR to replace the outfalls and extend them to deeper water.

WHERE CAN I GET MORE INFORMATION?

Online: www.dnr.wa.gov/. In the search engine, type 'South Lake Washington restoration'
Contact: Monica Shoemaker, DNR Restoration Manager
(206) 799-2949 ; email: monica.shoemaker@dnr.wa.gov

SR 520 Bridge Replacement and HOV Program online:
www.wsdot.wa.gov/projects/SR520Bridge/