SILT TRAPS INSTALLED IN TILIKUM LAKE TRIBUTARY

Co-authored by Eric Post and Dean O'Reilly

Eric Post is a Senior at Newberg High School, Newberg, Oregon, and earned his Boy Scout-Eagle Scout Badge by planning and organizing a conservation project to benefit Tilikum Lake.

Tilikum Lake is a man-made, twelve-acre water body that was constructed in 1970 at Tilikum retreat center in upper Chehalem Valley, NW of Newberg. The Retreat Center, owned by George Fox University, is managed by Bedford Holmes, and hosts a variety of programs including elder hostels, summer camps reaching more than 7,000 children and youth, and father/son and mother/daughter retreats.

Recreational activities have been severely impacted over the past fifteen years by heavy sedimentation which decreased water depth at the upper end of the lake. The source of sediment was determined to be primarily from small natural landslides which occurred upstream in forested areas and from agricultural runoff.

Yamhill Soil and Water Conservation District Conservationist/Technician Dean O'Reilly and Oregon Department of Fish & Wildlife Biologist Jim Grimes assisted Eric with design of a project to reduce the amount of silt entering Tilikum Lake. Eric's project was important because it will allowed the retreat center to continue to use the lake for recreation into the future. It is in Tilikum's long range plans to dredge the upper third of the lake to restore it for fishing, boating, etc. Before this investment is made the sources of sediment need to be reduced. Eric's project plan was to construct eight to ten small woody debris check dams to slow the creek down and trap sediment. Eric organized a group of fifteen volunteer boy scouts and adults to help install the sediment traps within an 800-foot long eroding stream tributary. The volunteer group cut down small alder trees and used existing dead wood as building materials. Then variable lengths of wood were cut up to seven feet long, so that the pieces were a foot or two longer than the stream was wide. The pieces were angled to form a structure.

Eric describes some of the techniques used. "We started by wedging the big alder pieces into the creek bed, putting the "butt" end, the larger diameter end, downstream of the smaller end. By doing this, the weight of the water behind the dam actually lodges the pieces into the creek bed and bank to form a stable structure. After we constructed the basic structure of the dam we found pieces of rotting wood and set them into the structure. Then we took the limbs and branches from the alder tree and shoved them to fill any remaining spaces. The result is a dense mound of woody material that slows down, filters and traps sediment behind the individual sediment dams, before it can reach the lake."

Eric's completed project will directly benefit Tilikums lake by helping to reduce and slow the amount of silt that is being deposited extending the life of the lake.

Eric Post, with Boy Scout group, helped to install woody debris for sediment traps within the small tributary of Tilikum Lake.