GREENWATER RIVER ELJ AND FLOODPLAIN RESTORATION PROJECT

SOUTH PUGET SOUND SALMON ENHANCEMENT GROUP IN PARTNERSHIP WITH THE USDA FOREST SERVICE

PRIMARY GOALS OF THE PROJECT ARE TO:

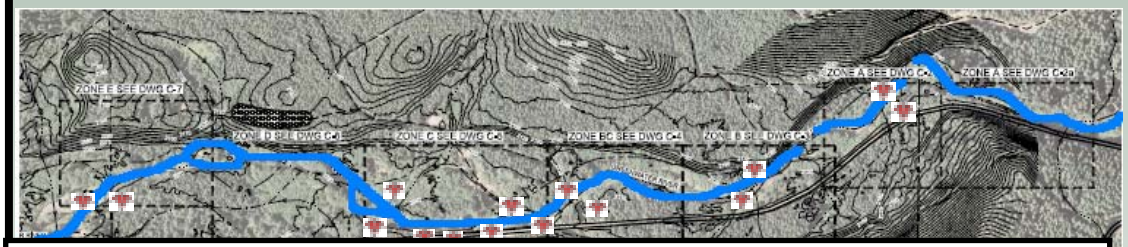
1. Re-introduce stable wood into the mainstem Greenwater River to increase channel complexity, promote deposition of sediment and promote accumulation of mobile wood in the project reach during high flow events.
2. Increase stable channel roughness, dissipate flood energy and sediment transport capacity
3. Partition flow onto into the floodplain/side channels to activate existing side channels over a wider range of flows

NATURAL LOG JAMS IN THE GREENWATER RIVER

The river-channels downstream of the project contain several, substantial channel-spanning log jams composed of one or more large old-growth trees with many large diameter old-growth trees lining the banks. These logs appear to be stable in the flood plain, serving as host logs for vine maple, western hemlock, and grand fir. The growth of these other species suggest that the large single logs have not moved in at least 5 years and were stable in the last large flood in December 2007. The river and it side channels in this area blocked by substantially large trees or log jams, and the channel has not found an unobstructed path through this downstream reach.

Natural Jam Downstream of Greenwater Project

HISTORY OF THE GREENWATER PROJECT



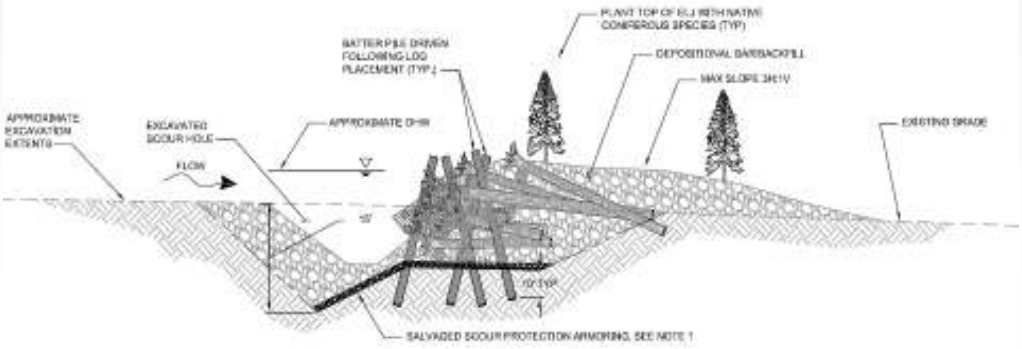
3pm August 22, 2009 Public Mtg. On This Project at Community Cntr.

Come and ensure your property concerns & questions are addressed.

Could there be an impact on the 410 Greenwater bridge from this project?

Logging practices between the 1950s and 1980s removed much of the mature wood from the valley and banks of the Greenwater River, effectively destabilizing the system and triggering erosion of stream banks and mobilization of sediment, wood and logging slash down the river. Logging slash, alongside deforested, unstable stream banks played a major role in flooding the town of Greenwater in 1977. Given the current lack of large woody debris, riparian condition and large volumes of sediment available in the system, it could take centuries for the system to stabilize. Installation of the ELJs will accelerate the recovery of the system. The project is designed to stabilize the Greenwater system by increasing roughness, aggrading an incised stream channel and reconnecting the River with its floodplain. The ELJs have been strategically placed based upon topography to deflect main-channel flows into relic side channels. Reconnection of the River to its floodplain will actually increase flood storage capacity of the system in the project reach and reduce the magnitude of flooding downstream to the town of Greenwater.

DESIGN OF GREENWATER ENGINEERED LOG JAM STRUCTURES



Cross Section View of a Type II Greenwater ELJ

- Utilize rock (alluvial) ballast
- Buried piles anchored by earth give the jams negative buoyancy
- Will trap sediment, causing the channel to build in elevation, thereby increasing ballast and stability
- Piles are buried below scour depth with a boulder scour pad on top.
- Core of the jams are buried
- Designed to be stable in the river and collect additional wood