

CONSERVATION Showcase

The Emergency Watershed Protection Program restores stream bank, protects community from future erosion

It started as a natural disaster: Heavy rainfall resulting in massive flooding – lifting homes off of their foundations – sending them floating down the South Fork of the Stillaguamish River.

It ended with a successful project that united a community.

After the 2003 flooding of the Stillaguamish River, citizens of Robe Valley were devastated, frightened and in need of help. They turned to Snohomish County. The County, in turn, requested assistance from the Natural Resources Conservation Service (NRCS), the USDA agency that administers the Emergency Watershed Protection Program (EWP).

“The objective of the program is to assist entities in implementing emergency measures to relieve imminent threat to life and property created by a natural disaster,” says Ron Shavlik, NRCS Assistant State Conservationist.

According to Shavlik, public and private landowners are eligible for assistance, but both must be represented by a project

sponsor. “A project sponsor must be a public agency of state, county, city government, tribal government, or a special district. Snohomish County is the sponsor helping facilitate the EWP process,” he says.



Michele Whitt Smith, Robe Valley Flood Control District Commissioner, walks near a rock vane water control structure. This structure and others, were part of the NRCS' emergency watershed protection project.

With assistance from the County, Robe Valley landowners organized the Robe Valley Flood Control District. They did so to coordinate and facilitate the community's needs. “The Flood Control District was born out of this issue – three homes were lost to the flooding in November 2003,” says Michele Whitt Smith, Flood Control District Commissioner. “The need was to save the rest of the community from going downstream,” she says.



Rushing flood waters of the South Fork of the Stillaguamish River resulted in significant stream bank erosion. Homes were lifted off of their foundations, sending several floating down the river.

“More erosive power comes from the bottom of the stream channel. By deflecting this force away from the bank into the center of a channel we protect the bank.”

Dean Renner
NRCS

“The Flood Control District provided all land rights to do the repair work as well as securing the necessary permits,” says Ms. Whitt Smith. “Many agencies came together to make this project a success.”

The EWP project began with an engineering design for protecting the stream banks from raging waters.

According to Renner, river currents tend to cut out the bottom of a bank on an outside bend in a river. “More erosive power comes from the bottom of the stream channel. By deflecting this force away from the bank into the center of a channel we protect the bank,” he says.

“You can see how the design changes



During construction of the rock vane water control structures, placement of the large rootwads will create habitat for aquatic wildlife. (Photo taken by Rick Bolger.)

“The Robe Valley EWP project has five rock vanes which jet out from the bank to the center of the river,” says Dean Renner, NRCS Stream Mechanics Engineer. “It is designed to withstand the effects of a 100-year flood and force the river current away from a dangerous bend in the river aimed at residents of Robe Valley,” he says.

the flow of the river – gently pushing water to the main channel,” says Ms. Whitt Smith. “The vanes are doing exactly what they have been designed to do,” she says.

The design is also more fish-friendly than simple rock barriers, which biologist say makes for poor habitat.



Dean Renner, NRCS Stream Mechanics Engineer, examines the rock vane structures designed to prevent further erosion of the river bank by diverting the water current.

“You can see how the engineering and design are working to keep the river from eating away at the river’s bank. The design is incredible.”

Michele Whitt Smith
Robe Valley Flood Control
District Commissioner

“The vanes are designed to collect sediment and logs to resemble a natural bank,” says NRCS’ Renner.

According to Mr. Renner, the project is designed to keep the main force of the river in the channel with slow moving water at the bank’s surface. The project will prevent stream bank erosion, not flooding. “Floods are supposed to go over the top of the bank. Vegetation will protect the top of the banks from eroding away,” he says.

“You can see how the engineering and design are working to keep the river from eating away at the river’s bank,” says Ms. Whitt Smith. “The design is incredible.”

After winter snowpack conditions, spring runoff flowed down the South Fork Stillaguamish River without any problems. “We have had some high water events this season, but nothing of as great magnitude as before,” says Ms. Whitt Smith. “So far, so good.”

The EWP project transformed the steep cliffs of the banks into a gradual decline to the river’s edge. Plants were reestablished along the stream banks protecting soil from further erosion.

Raging flood waters altered the stream banks but could not alter the community’s resolve. “This project is going to make it easier for people down the line to come together and solve local concerns,” Ms. Whitt Smith says.

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