A Focused Assistance Program in Hangman Creek Watershed

Motivated producers make strides toward cleaner water

Introduction

Hangman Creek delivering sediment to the Spokane River during spring runoff.

The Hangman Creek Watershed has been involved in a long process to develop a water quality improvement plan (also known as a total maximum daily load or TMDL). The Hangman Creek watershed consists of 689 square miles in the states of Washington and Idaho, and the Coeur d'Alene Tribal Reservation. About 70 percent of the watershed is devoted to agriculture. The conservation districts in both Washington and Idaho have been actively working with agricultural landowners to increase the acreage utilizing direct seed tillage to reduce runoff and erosion. These districts also worked with producers to limit livestock access to streams. However, funding to support these efforts has always been a limiting factor. In the spring of 2010, Ecology and the Spokane County Conservation District (SCCD), with the support of several Washington and Idaho agencies and organizations, partnered to submit a funding application to the Natural Resources Conservation Service (NRCS).

Problem

Hangman Creek and its tributaries generally have too much fecal coliform bacteria and sediment in the water during the high flow winter and spring months. During the summer months, water temperature is too warm to protect cold-water fish. People in the Spokane area are very familiar with the way the creek runs a chocolate-milk color during spring run-off. These issues are outlined in the TMDL developed by Ecology in partnership with the SCCD. Now, that partnership has turned to implementing the activities called for in the TMDL. In the past, lack of coordination between jurisdictions was a barrier to achieving our goal of better water quality. However, this project is different in that it brought together four conservation districts, two state agencies, a federal agency, and a Tribe to work on shared water quality problems.

Example of agricultural erosion in the Hangman Creek watershed.

Upland agricultural runoff and riparian degradation are the focus of this project. In the Hangman Creek watershed about 260,000 acres are devoted to dryland farming practices on highly erodible soils. Under conventional farming methods, average losses of these soils amounts to over 12 tons per acre per year. Using direct seed tillage, soil losses can be cut to less than five tons per acre, for a total annual soil savings of nearly two million pounds. Because most of the eroded soil eventually winds up in the Spokane River, the benefits extend well past the Hangman Creek watershed.

The TMDL used water quality modeling to understand the watershed. Modeling is a computer tool that predicts outcomes. The model predicted that to protect the streams, significant agricultural acreage

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needs to be converted to conservation cropping systems such as direct seed or mulch-till. Direct seed cropping is a low soil disturbance planting practice where the new season's crop is planted directly into the stubble of the previous crop. Mulch-till, like direct seed, results in a large amount of residue left on the soil and does not involve fully tilling (inverting) the soil. These methods result in very little runoff and erosion. In addition, streams need to have their banks stabilized and planted with native vegetative buffers, and livestock need to be managed so as to avoid water quality impacts.

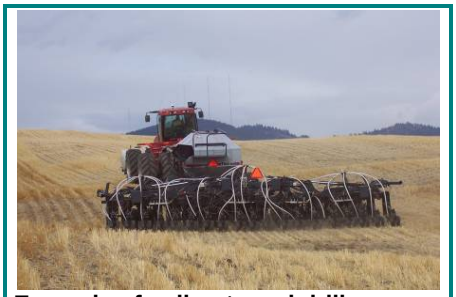
Project details

The SCCD and Ecology recognized that to better manage the watershed, a funding source was necessary to help landowners and producers employ these practices. This funding needed to be available throughout the entire watershed, not just in Washington. Together, we submitted a proposal to NRCS for their Agricultural Watershed Enhancement Program (AWEP). The proposal asked for $1.2 million over three years to fund direct seed technology adoption, livestock exclusion fencing and off-stream watering systems, and stream bank stabilization projects. Our application asked that funds be made available in both Washington and Idaho so sources throughout the entire watershed could be addressed. Our application package included letters of support from the city of Spokane, Spokane County, Idaho Department of Environmental Quality, the Coeur d'Alene Tribe, and the Benewah Soil and Water Conservation District.

Milestones and outcomes

The project received approximately $757,000 for the three-year program. The outcomes included:

- 5,720 acres of conventional tillage converted to conservation tillage.
- Approximately 3,000 acres put into direct seed with the remaining acreage converted to mulch-till.
- Five-acre grassed waterway implemented to reduce runoff and capture sediment.
- Over 4,600 feet of fence installed to keep livestock out of a stream.
- Nutrient management plan developed for 521 acres.
- Water and sediment control structure planned and being implemented in both states with 14 contracts in Washington and two in Idaho.



Example of a direct seed drill planting into the last crop's stubble.

The conversion of conventional tillage to conservation practices alone could reduce erosion by approximately 40,000 tons per year.

Project highlights

This project brought together a team of people dedicated to seeing water quality protection implemented in the Hangman Creek Watershed. Both Idaho and Washington are at the table and actively working on this project without letting the state line create a barrier to success.

A challenge during the first year of the program was a very short timeframe in which to advertise and enroll producers. The award was announced during the first week of July 2010, and all funds had to be under contract with the landowners/producers by August 31, 2010. This meant the enrollment period had to be limited to little over two weeks. Once the producers submitted applications, NRCS and the conservation districts had less than a month to develop plans and contracts outlining what practices would take place. In spite of the short timeframe, enough producers enrolled for eligible practices to exhaust all

of the first year's funding allotment, emphasizing the need for additional funding for the following two years.

The response to the request for applications surprised everyone involved. It demonstrated that there are a lot of producers interested in implementing these practices. Past experience suggests that one of the barriers to implementing direct seed technology is the fear that it will fail. One of the eligible practices funded through this program allows the producer to work with an experienced direct-seed farmer. The mentor helps plan and manage their direct-seed system to get them started on the right track. This watershed is the only location where NRCS will currently fund the addition of a mentor to the direct seed practice. This project's success may help expand this to other areas.

Funding

The funding for this project comes from NRCS's Agricultural Watershed Enhancement Program (AWEP). Part of the Environmental Quality Incentives Program (EQIP), AWEP provides contracts with producers to implement conservation practices in the project area. In addition, each partner organization devoted many hours and resources to this project.

Partners

The AWEP team is made of staff from several organizations and agencies:

Washington Department of Ecology
Jon Jones (now retired) and Elaine Snouwaert

Spokane County Conservation District
Rich Baden, Walt Edelen, Ty Meyer, and Rick Noll

Natural Resources Conservation Service
Gary Mitchell, Rich Edlund, Mark Cottrell, Mark Addy, Colleen Winchester, Steve Sprecher, and Colfax NRCS staff

Benewah Soil & Water Conservation District
Sherry Klaus

Pine Creek Conservation District
Raymond Brown

Kootenai Soil & Water Conservation District
Erica Waterman

We believe much of the success in receiving the award from NRCS came from the diverse support that accompanied our application. Letters of support were provided by:

- Coeur d'Alene Tribe Water Resources
- Idaho Department of Environmental Quality
- City of Spokane
- Spokane County

We also must recognize the landowners and producers who are taking the steps to ensure their operations are protecting water quality.

For more information

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