



# Hangman Settlement Agreement 2021 Annual Report

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By

**Water Quality Program, Eastern Region**

Washington State Department of Ecology  
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# Table of Contents

- List of Figures and Tables ..... 2**
  - Figures.....2
  - Tables.....2
- Introduction..... 3**
- Watershed Evaluation Work..... 3**
- Priority Site Tracking..... 7**
- Riparian and In-Stream Analysis ..... 9**
- Outreach Strategy..... 9**
  - 2021 Action Item Implementation.....9
- 2021 Funding Highlights..... 11**
- Partner Coordination ..... 13**
- Future Outlook ..... 13**
  - Watershed Evaluation and Site Tracking .....13
  - Hangman Riparian and Instream Assessment .....14
  - Outreach Strategy .....14
  - 2022 Funding .....14
  - Partner Coordination .....15

# List of Figures and Tables

## Figures

|  |   |
|--|---|
| Figure 1: Hangman prioritized site map .....   | 4 |
| Figure 2: Example of a tillage site documented during 2021 watershed evaluations .....   | 5 |
| Figure 3: Example of a tillage site documented during 2021 watershed evaluations .....   | 5 |
| Figure 4: Example of a livestock site documented during 2021 watershed evaluations ..... | 6 |
| Figure 5: Example of a livestock site documented during 2021 watershed evaluations ..... | 6 |

## Tables

|                                       |   |
|---------------------------------------|---|
| Table 1: Priority site tracking ..... | 8 |
|---------------------------------------|---|

## Introduction

Streams in the Hangman Watershed are impaired by excess fecal coliform bacteria, turbidity, elevated water temperatures, dissolved oxygen (DO), and pH. Several point source and nonpoint source issues have been identified and discussed through a number of water quality studies. The Washington Department of Ecology (Ecology) and the Spokane Conservation District (SCD) studied these water quality issues and developed a cleanup plan, or a [Total Maximum Daily Load](#)<sup>2</sup> report. The TMDL evaluated sources of pollutant loading and outlines the necessary pollutant reductions. The TMDL was approved by EPA in 2009. A [TMDL Implementation Plan](#)<sup>3</sup> was produced to guide the cleanup of the creek in 2011. More information is available about Ecology's work in the Hangman Watershed on Ecology's Hangman Creek multi-parameter TMDL [webpage](#)<sup>4</sup>.

On September 28th, 2015, Spokane Riverkeeper (Riverkeeper) challenged the EPA's decision to approve the Hangman TMDL based on the lack of "adequate reasonable assurances that nonpoint sources of pollution will be reduced." In early 2018, Ecology and Riverkeeper reached a settlement agreement ([The Hangman Settlement Agreement](#)<sup>5</sup>) that consists of the following components:

- Complete a full analysis of the creek's health including streamside vegetation and in-stream conditions within Washington State boundaries;
- Identify, prioritize, and fix water quality problems through focused Best Management Practice (BMP) implementation;
- Monitor the creek's health and track progress of improvements; and
- Develop and implement an education and outreach plan.

This document describes the work that Ecology and its partners completed during 2021 and fulfills the Settlement Agreement obligation for Ecology's annual reporting on watershed evaluation work, prioritized site tracking, and education and outreach efforts. It also describes Ecology funding for work in the watershed and what lies ahead for 2022 and beyond.

## Watershed Evaluation Work

As a condition of the Settlement Agreement, Ecology staff performed an annual evaluation of the Hangman watershed to document nonpoint water quality concerns related to dryland agriculture and livestock land uses. 41 sites were documented in 2021.

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<sup>2</sup> <https://fortress.wa.gov/ecy/publications/documents/0910030.pdf>

<sup>3</sup> <https://fortress.wa.gov/ecy/publications/documents/1110012.pdf>

<sup>4</sup> <https://ecology.wa.gov/Water-Shorelines/Water-quality/Water-improvement/Total-Maximum-Daily-Load-process/Directory-of-improvement-projects/Hangman-Creek>

<sup>5</sup> [https://static1.squarespace.com/static/585aee335016e1541642dc0c/t/5ab4456f8a922d7af03cb277/1521763696270/2018+02+06+Spokane+Riverkeeper\\_Ecology+Unsigned.pdf](https://static1.squarespace.com/static/585aee335016e1541642dc0c/t/5ab4456f8a922d7af03cb277/1521763696270/2018+02+06+Spokane+Riverkeeper_Ecology+Unsigned.pdf)

The Settlement Agreement requires Ecology staff to prioritize up to ten livestock sites and ten tillage sites annually for contact to address water quality concerns. Five livestock sites and nine tillage sites were prioritized and contacted in 2021. At the end of 2021, Ecology has a total of 65 priority sites (Figure 1) that include tillage, livestock, and complaint-based sites within the watershed. 2021 was the fourth year that watershed evaluations were completed in the Hangman watershed as part of the Settlement Agreement. Figures 2 through 5 show some examples of the livestock and tillage photo documentation collected during 2021 watershed evaluations.

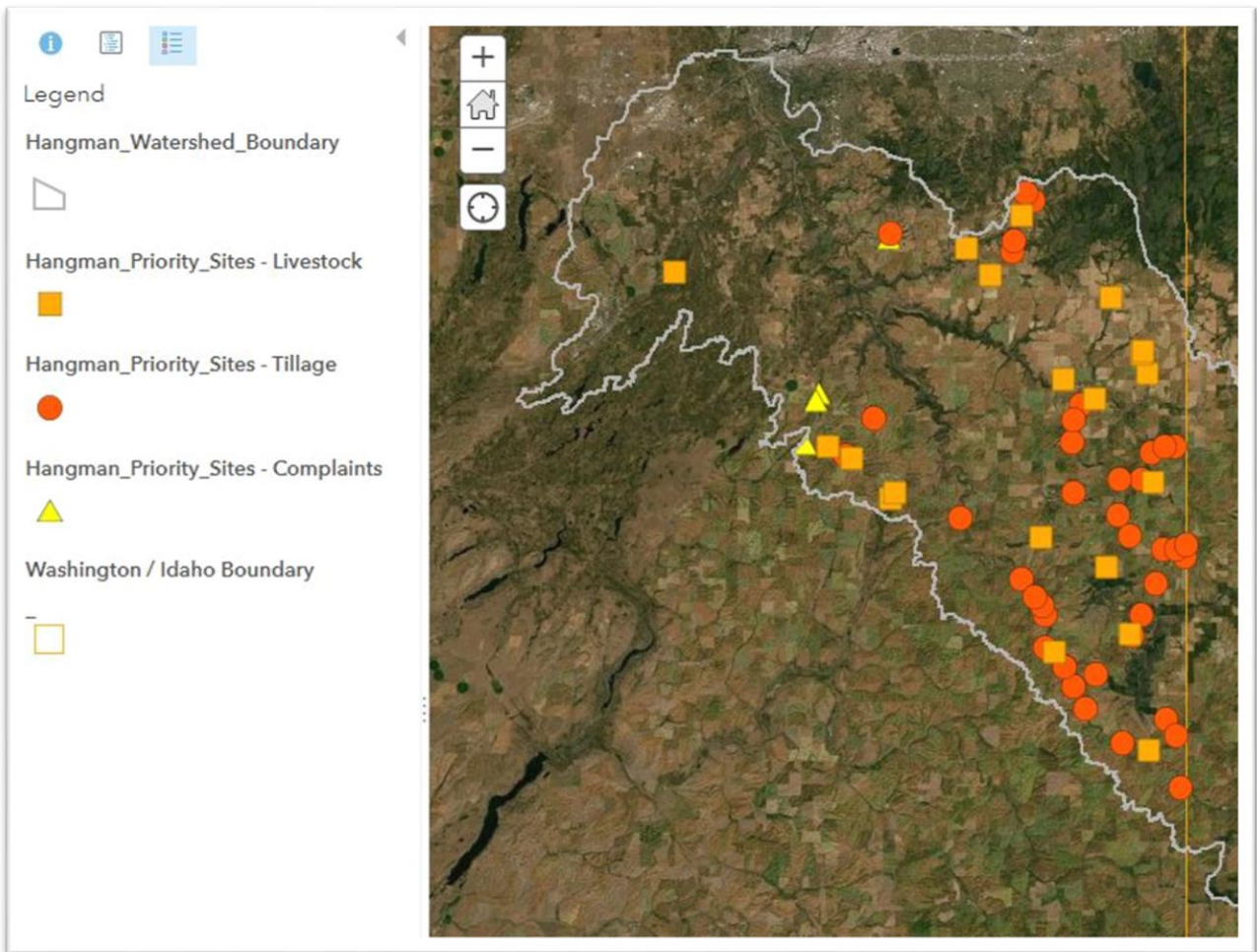


Figure 1: Hangman Prioritized Site Map





Figure 2: Example of a tillage site documented during 2021 watershed evaluations



Figure 3: Example of a tillage site documented during 2021 watershed evaluations



Figure 4: Example of a livestock site documented during 2021 watershed evaluations



Figure 5: Example of a livestock site documented during 2021 watershed evaluations



## Priority Site Tracking

The Settlement Agreement requires Ecology to track the progress of each priority site, and report annually the following information located below in Table 1.

Table 1: Priority Site Tracking

| <b>Project Tracking Elements</b>  | <b>Amount</b> | <b>Notes</b>   |
|---|---------------|--|
| Sites evaluated   | 154           | Total sites evaluated during watershed evaluations 2018-2021.  |
| Sites prioritized   | 65            | All livestock, tillage, complaint and opportunity sites are considered priority sites for tracking purposes.   |
| Ecology site visits   | > 53          | Ecology staff have met with 53 of the priority sites. This number does not account for multiple meetings per site, which would account for many more than 53 visits.   |
| Priority sites being addressed by Ecology alone   | 16            | Sites which the producer or landowner has worked or is working only with Ecology on a plan, to the best of Ecology's knowledge.  |
| Priority sites being addressed by Ecology and a CD or other stakeholder organization in partnership | 21            | Sites which the producer or landowner has worked, or is working with, Ecology and third party on a plan. Third parties include: Spokane Conservation District, Spokane Tribe of Indians, Spokane Riverkeeper, Natural Resources Conservation Services, Farm Service Agency, Pine Creek Conservation District, Spokane County, and Spokane Falls Trout Unlimited. |
| Sites certified in Farmed Smart Program   | 0             | No current priority sites are part of this program.  |
| Site visits where previously implemented BMPs are not operated and maintained adequately            | 0             | Ecology will continue to monitor previous BMP sites during annual watershed evaluations for proper operation and maintenance.  |
| Sites brought into compliance without use of enforcement tools                                      | 8             | Sites where BMPs have been implemented to be fully protective of water quality, without the use of enforcement tools.  |
| Recommendations for enforcement   | 2             | Sites where Ecology staff submitted a request for enforcement.   |
| Enforcement actions taken by Ecology  | 2             | Sites where an administrative order was issued.  |
| Sites brought into compliance after enforcement   | 0             | The two enforcement actions issued thus far were still in process as of December 31st 2021.  |
| Sites contacted but not brought into compliance   | 17            | Sites that are unwilling to work with Ecology or are have yet to respond to contact efforts. Ecology will continue to escalate regulatory pressure on these sites as needed.   |
| Valid complaints in watershed   | 6             | Six complaints have become priority sites.   |
| Complaints resolved through technical assistance  | 5             | Five complaint sites are in various stages of active communication with Ecology on plans.  |
| Complaints resolved through enforcement   | 0             | No complaints have yet been resolved through enforcement   |

## Riparian and In-Stream Analysis

In 2019, Ecology initiated the riparian analysis of the Hangman Creek Watershed in Washington State. Ecology categorized and quantified land use types within the stream buffer at the parcel and HUC 12 scales. The 2020 riparian assessment work focused on two LiDAR datasets that analyzed canopy height and cover within the riparian buffer area for the 40% of the watershed where LiDAR data was available.

The assessment of riparian and in-stream conditions work has been mostly completed and results shared with Riverkeeper. The in-stream field component was postponed in both 2019 and 2020 due to the COVID-19 pandemic. That remaining work is planned to take place in spring of 2022.

## Outreach Strategy

The purpose of the Hangman Outreach Strategy is to identify priorities and actions that will inform and engage the community around the value of the Hangman Creek watershed. The Strategy is intended to be used as a guide for partners and stakeholders to plan and implement individual and joint outreach and education efforts. For further information on the outreach strategy, refer to the [2019 Annual Report<sup>6</sup>](#).

## 2021 Action Item Implementation

The Outreach Strategy prioritizes action items for the first three years. They are listed below with an update on activities that occurred during 2021.

- **Conduct a public survey**

Ecology made significant progress on this element of the Settlement Agreement in 2021. Ecology and Riverkeeper staff met throughout the year to discuss and draft survey questions. Ecology drafted a survey rollout plan and created the draft survey in Survey Monkey online software. The survey is planned for release in 2022.

- **Install interpretive signs at key locations**

Ecology, in partnership with the Spokane Riverkeeper, Spokane Tribe of Indians, Coeur D' Alene Indian Tribe, Trout Unlimited, Friends of the Centennial Trail, and with permission from Greenstone Corporation, designed, manufactured, and installed an interpretive sign providing water quality and aquatic habitat information about the

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<sup>6</sup>[https://static1.squarespace.com/static/585aee335016e1541642dc0c/t/5fadae9d48fd365a1097790e/1605217956430/2019+ECY+Annual+Report\\_Final.pdf](https://static1.squarespace.com/static/585aee335016e1541642dc0c/t/5fadae9d48fd365a1097790e/1605217956430/2019+ECY+Annual+Report_Final.pdf)

Hangman Creek watershed along the Centennial Trail at the confluence of the Spokane River and Hangman Creek.

Ecology worked with the Spokane County Parks, Recreation and Golf Department to fund and develop an interpretive sign about redband trout and water quality for the Latah Valley Golf Course (formerly the Hangman Valley Golf Course). The sign was installed spring 2021.

- **Install creek name signs along state highways**

Ecology worked with The Lands Council and Washington State Department of Transportation (WSDOT) to develop and install seven creek name signs throughout the watershed. The signs were installed spring 2021. Funding for this project was through an Ecology water quality grant.

- **Produce and distribute educational videos**

Ecology produced a video highlighting several projects in the watershed completed by partners using Ecology Direct Implementation Fund (DIF).

- **Support the development of Spokane River Rally**

Spokane River Rally is an experiential learning event for Spokane Public Schools fourth-grade students. This effort was delayed indefinitely due to COVID-19 and resulting budget crisis. Ecology remains committed to support this, as well as other student education efforts in the future.

- **Hold annual stakeholder meeting**

Ecology gathered Hangman watershed partners for two stakeholder meetings in 2021.

- **Outreach to agricultural producers**

Ecology worked with The Lands Council and social scientists from the University of Idaho to conduct one-on-one interviews and two listening sessions to understand producer perceptions of riparian vegetation and to identify barriers to implementing riparian restoration on agricultural waterways. A summary report with the findings and recommendations was delivered to The Lands Council summer 2021.

- **Website updates**

Ecology revamped the Hangman Creek multi-parameter TMDL [webpage<sup>7</sup>](https://ecology.wa.gov/Water-Shorelines/Water-quality/Water-improvement/Total-Maximum-Daily-Load-process/Directory-of-improvement-projects/Hangman-Creek) to focus on TMDL implementation and provide additional information about the Settlement Agreement.

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<sup>7</sup> <https://ecology.wa.gov/Water-Shorelines/Water-quality/Water-improvement/Total-Maximum-Daily-Load-process/Directory-of-improvement-projects/Hangman-Creek>

## 2021 Funding Highlights

Below is a summary of projects funded by Ecology's [Water Quality Combined \(WQC\) Funding Program](#)<sup>8</sup> in fiscal year (FY) 2021.

- **Completed implementation of the Hangman Creek Direct Implementation Fund Project (\$76,500)**

The Department of Ecology partnered with the Spokane Tribe to implement riparian buffers and livestock BMPs at two high priority properties in the Hangman watershed. This project was completed summer 2021.

- **Continued implementation of the Spokane Conservation District's *Making Conservation Pay* Project (\$3,000,000)**

This loan from State Revolving Funds allowed Spokane County Conservation District to expand their Direct Seed Equipment Loan program to 13 counties in Eastern Washington. This program allows producers to purchase the necessary direct seed equipment to practice low disturbance, conservation tillage. This loan helps dryland agricultural producers to convert acres in the Hangman Creek farmed with conventional tillage techniques to direct seed. This three year program is well underway and currently providing equipment loans to multiple producers in Eastern WA.

- **Continued implementation of the Spokane Conservation District's *Hangman Creek Streambank Stabilization RM-17 Phase II* Project (\$333,333)**

This project builds upon and continues work along Hangman Creek at river mile 17 to stabilize streambanks, plant riparian buffers, and install irrigation systems to improve plant survival. The second phase of the project will prevent an estimated 16,000 tons of sediment from reaching the Spokane River. Designs, materials, and permits were obtained in 2021, and the project is slated for construction for 2022.

- **Continued implementation of the Spokane Conservation District's *Hangman Creek Agricultural BMP Assistance* Project (\$1,500,000)**

This project increases community awareness, addresses agricultural sediment pathways, inventories streambank erosion contributions, implements 3,000 feet of stream restoration, and reduces sediment delivery through producer incentives, cost-share programs and loans. The funding allows the Spokane CD to support producers by focusing implementation at high priority sites identified during Ecology watershed evaluations. This three year grant is well underway providing financial assistance to implement multiple projects throughout the watershed.

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<sup>8</sup> [https://ecology.wa.gov/About-us/Payments-contracts-grants/Grants-loans/Find-a-grant-or-loan/Water-Quality-Combined-Funding-Program/WQC-funding-cycle?utm\\_medium=email&utm\\_source=govdelivery](https://ecology.wa.gov/About-us/Payments-contracts-grants/Grants-loans/Find-a-grant-or-loan/Water-Quality-Combined-Funding-Program/WQC-funding-cycle?utm_medium=email&utm_source=govdelivery)



- **Completed implementation of the Spokane Conservation District's *Hangman Creek Water Quality Protection Project (\$46,050)***

The project implemented various Best Management Practices (BMPs) to improve water quality in Hangman Creek at a high priority site. BMPs include installation of 3,200 feet of exclusionary riparian fencing, relocation of two off-creek watering facilities, installation of one heavy use protection area and one hardened livestock crossing, construction of one waste storage facility, implementation of drainage solutions, riparian forest buffer (native plantings), and the development of a pasture management plan for 10 acres. The project was completed in fall 2021. It improved riparian habitat, protected streambanks, and reduced erosion and eutrophication.

- **Completed implementation of The Lands Council's *Spokane River Watershed Riparian Restoration & Water Quality Education Project (\$319,138)***

The goal of this project was to achieve water quality and public health improvements within the Greater Spokane River Watershed, including Hangman Creek. The project addressed water quality impairments by enhancing and restoring riparian buffers, streambank stabilization via Beaver Dam Analogs (BDAs), and education about water quality impairments and BMPs to address them. This project was completed in September 2021.

- **Completed implementation of the Spokane Falls Trout Unlimited's *California Creek Livestock BMPs Project (\$40,500)***

This project restored a 2,800 foot reach of California Creek by installing livestock exclusion fencing, off-stream water, and riparian plantings on a high priority property. This project was completed in summer 2021.

- **Completed Spokane County Parks, Recreation and Golf Dept., *Latah Valley Golf Course Riparian Planting and Signage Project (\$15,000)***

The Spokane County Parks, Recreation, and Golf Department partnered with The Lands Council to plant approximately 0.58 acres and 250 native riparian plants at two golf course locations along main stem Hangman Creek in October 2020. They developed and installed one educational sign about water quality and riparian restoration efforts in the Hangman Watershed in 2021. The project was completed in fall 2021.

- **Continued implementation of The Lands Council's *Hangman Creek Watershed Riparian and Wetland Restoration Project (\$294,600)***

This FY22 grant project continues The Land Council's work in the Hangman Watershed by installing BDAs, planting riparian buffers and educating agricultural producers and local youth in the watershed.

## Partner Coordination

- **Meetings with the Spokane Riverkeeper**

Ecology met with the Spokane Riverkeeper every other month to provide updates on work in the Hangman Creek watershed, talk through issues, and plan for future work.

- **Coordination with partners**

Ecology met regularly with watershed partners to plan, fund, and coordinate on implementing BMPs that improve and protect water quality. Watershed partners included, but are not limited to: Spokane Tribe of Indians, Spokane Riverkeeper, Spokane Conservation District, Pine Creek Conservation District, The Lands Council, Inland Northwest Land Conservancy, Coeur d'Alene Tribe, and Spokane Falls Trout Unlimited.

- **Hangman stakeholder meetings**

Ecology worked with the Spokane Conservation District to host two Hangman stakeholders meetings. Watershed stakeholders convened virtually to share work being conducted in the watershed and to collaborate on potential future project opportunities.

- **Funding for new riparian restoration program**

Ecology regional staff submitted a proposal for \$1M to establish the Hangman Riparian Restoration and Conservation Program – a hybridized riparian incentive program that builds upon existing conservation programs and producer-reported barriers to participation. This program will provide competitive rental rates designed to match dryland crop production per acre returns with long-term contracts for agricultural riparian land taken out of production. Ecology partnered with Spokane Conservation District on the program. The proposal was funded in 2021 and outreach for enrollment will begin in 2022.

## Future Outlook

### Watershed Evaluation and Site Tracking

- **Watershed evaluations and site prioritization**

As a condition of the Settlement Agreement, Ecology staff will perform an annual evaluation of the Hangman watershed to document nonpoint water quality concerns related to dryland agriculture and livestock land uses in 2022. An estimated 15 sites will be prioritized for technical assistance outreach.

- **Continue tracking and reporting on existing sites**

Ecology staff will continue to offer technical and financial assistance for existing prioritized sites. This may include additional regulatory escalation on sites with water quality issues that are unwilling to work on water quality protection measures.

## Hangman Riparian and Instream Assessment

The Settlement Agreement requires Ecology to complete an assessment of the riparian and in-stream conditions of the watershed within Washington State boundaries. The in-stream assessment has been yet to be completed due to COVID-19 restrictions on field work. Ecology is planning to partner with Spokane CD to complete the remaining instream work including a streambank erosion inventory, in spring 2022.

## Outreach Strategy

Ecology will work with Riverkeeper to identify outreach priorities for 2022. One priority is to complete and distribute the public survey. Another priority is to review and update the Action Plan in the Outreach Strategy. The Strategy, drafted in 2019, calls for Ecology to evaluate the success of outreach projects implemented, lessons learned, and identify follow-up actions. The Action Plan outlined outreach tasks for three years. Ecology and Riverkeeper, with the help of partners, will identify new or continued outreach needs and outline action items for the next three- to five- years.

## 2022 Funding

Below is a summary of the projects funded through Ecology's WQC Funding Program for FY22.

- **Spokane Tribe of Indian's Direct Implementation Fund *Project Maintenance, Riparian Restoration, and Livestock BMPs Project* (\$257,868)**

This project proposal is slated to receive funding in July 2022 through Ecology's Water Quality Funding Program. The project includes maintenance on existing sites, riparian restoration and livestock best management practices to address high priority water quality issues at sites previously identified by Ecology within the Hangman watershed.

- **Spokane Riverkeeper's *Rock and Hangman Creeks Riparian Restoration and Water Quality Improvement Project* (\$256,892)**

This project proposal is slated to receive funding in July 2022 through Ecology's Water Quality Funding Program. The project will continue to improve nonpoint pollution issues throughout the watershed by installing 50 acres of riparian plantings, establishing three water quality monitoring locations, 10 water temperature loggers, and provide education and outreach programs to maximize restoration efforts within the watershed.

- **Spokane Conservation District's *Spokane Riparian Establishment Project* (\$283,500)**

This project is slated to receive funding in July 2022 through Ecology's Water Quality Funding Program. This grant aims to implement three projects, two of which are located

in the Hangman watershed. These projects will implement livestock BMPs and riparian restoration.

- ***Hangman Riparian Restoration and Conservation Program (\$1,000,000)***

This program will provide competitive rental rates with long-term contracts for agricultural riparian land taken out of production. Ecology partnered with Spokane Conservation District on the program. Open enrollment for the program is planned for spring 2022.

- ***The Lands Council's Hangman Creek Watershed Riparian and Wetland Restoration Project (\$294,600)***

This project is slated to receive funding in July 2022 through Ecology's Water Quality Funding Program. It continues The Land Council's work in the Hangman Watershed by installing BDAs, planting riparian buffers and educating agricultural producers and local youth in the watershed.

## Partner Coordination

- **Stakeholder engagement**

Ecology staff will continue to work on increasing the number and diversity of stakeholders engaged in the Hangman watershed, as well as continue building and maintaining positive relationships with existing stakeholders. Engaged watershed stakeholders and positive partnerships are vital to cultivating a synergistic environment for achieving significant water quality improvements. Additionally, Ecology is committed to engage with the Spokane and Coeur d'Alene Tribes and local municipalities on water quality protection measures.

- **Meetings with the Spokane Riverkeeper**

Ecology staff will continue to meet with the Spokane Riverkeeper every other month to provide updates on work in the Hangman Creek watershed, talk through issues, and plan for future work.

- **Meet with watershed partners**

Ecology staff will continue to meet regularly with watershed partners to plan and coordinate on implementing best management practices that improve and protect water quality. Ecology will continue to work on maintaining existing funding opportunities as well as support and encourage new funding opportunities for water quality improvement work.

- **Hangman stakeholder meetings**

Ecology staff will continue to work with the Spokane Conservation District to convene watershed stakeholders again in 2022.