



Washington Department of Ecology
Hangman Settlement Agreement
2019 Annual Report

Contents

Executive Summary 3

Hangman Creek Watershed & Settlement Overview 6

Hangman Creek 6

Hangman Watershed TMDL and Settlement Agreement 7

Plan Objectives and Deliverables 7

Hangman Agreement BMP and Deliverable Timeline 9

GIS Riparian Analysis 10

Methodology 10

Hangman Watershed Land Use Assessment 11

Outreach Strategy 15

Adaptive Management 17

Implementation of Action Items 17

Hangman Watershed Evaluations 18

Priority Sites & Effectiveness Tracking 20

Hangman Settlement Progress Tracking 21

Grant Funding Highlights from 2018-2019 21

Direct Implementation Funds (Water Quality Program) 22

2019 Terry Husseman Account (Shorelands Program) 22

FY 2021 Water Quality Combined Funding Draft Offer List (Water Quality Program) 22

2021 Terry Husseman Account (Shorelands Program) 23

Watershed Partner Highlights 23

News/Resources 24

Looking Ahead – 2020 and Beyond 25

Executive Summary

Hangman Creek originates in the Rocky Mountain foothills of north Idaho and flows northwest towards its confluence with the Spokane River near downtown Spokane, Washington. It is one of two major tributaries to the Spokane River (the other is the Little Spokane River). Other than where it meets the Spokane River, Hangman Creek remains unfamiliar for many in the Inland Northwest.

The creek and its tributaries were once home to large numbers of anadromous salmon and Steelhead Trout. Resident Redband Trout also inhabited the many streams in the watershed. Nearly 50 miles upstream from the Spokane River confluence, a Native American fishing village was once positioned to seasonally harvest the returning salmon and steelhead (present day Tekoa, WA). The salmon and steelhead are now gone due to the construction of Columbia River hydroelectric projects. The Redband Trout have been extirpated from most of their former Hangman Creek range and remain only in a handful of small, less disturbed tributaries.

Much of the Hangman Creek watershed is located in what is considered the northern Palouse region. This part of the watershed was once dominated by rolling grass prairies and forests. Agriculture, urbanization, and deforestation have taken their toll on water quality and aquatic habitat. Approximately 70% of the watershed has been converted into productive farmland. Historic practices included clearing forests, removing streamside vegetation, drain tile installation, and straightening stream channels in order to accommodate dryland agriculture. These changes continue to cause streambank erosion, sediment and nutrient run-off, and increased flash flooding. The removal of trees and shrubs also reduced streambank shade and increased water temperatures. The higher temperatures cause increased fish mortality and reduce overall habitat quality. The creek has also been negatively impacted by residential development, septic system failures, stormwater and point source discharges, timber harvest activities and channel modification for roadways.

In recent years, the Department of Ecology (Ecology) has performed extensive water quality monitoring in the Hangman Creek watershed. This monitoring data shows Hangman Creek and many of its tributaries fail Washington State water quality standards. As a result, Hangman Creek is listed on the Washington 303(d) list of polluted waterbodies for bacteria, turbidity (sediment), dissolved oxygen, temperature, and pH. When streams are determined to be polluted, states are required by the federal Clean Water Act to develop clean-up plans called Total Maximum Daily Loads (TMDLs). TMDLs provide a roadmap for achieving state water quality standards. The TMDL allocates the needed pollution reductions to the different point and non-point sources in the watershed. Point sources of pollution are sources that come from a pipe, such as a wastewater treatment plant. Non-point sources of pollution are everything else, such as run-off from roads, farm fields, or golf courses. Hangman Creek is dominated by non-point pollution problems.

The Department of Ecology completed a TMDL water clean-up plan for Hangman Creek in 2009 focused on bacteria, temperature, and turbidity. That plan was scrutinized by the Spokane

Riverkeeper who sued EPA in 2015 over the approval of the plan. The Spokane Riverkeeper argued that not enough progress was being made to address sources of pollution, the plan inadequately addressed non-point pollution, and the plan would ultimately not ensure water quality protection. Ecology joined settlement negotiations with EPA and the Riverkeeper. The parties worked to determine an agreed upon path forward to achieve water quality standards in the Hangman watershed. There was recognition around the table that agricultural production was important to the economy of the Inland Northwest and that we should strive to have both highly productive farms and a healthy Hangman Creek. Ultimately, the parties signed the “Agreement Between Washington Department of Ecology and Spokane Riverkeeper relating to the Hangman Creek TMDL” (Settlement Agreement) in 2018. The Settlement Agreement with the Riverkeeper requires Ecology to:

- Complete a full analysis of the creek’s health including streamside vegetation and in-stream conditions.
- Identify, prioritize and fix pollution problems.
- Monitor the creek’s health and track progress of improvements.
- Develop and implement an education and outreach program.

The Department of Ecology agreed, as part of the negotiations, to make Hangman Creek a state priority watershed. As a result, the agency has looked to direct funding and staff resources to Hangman Creek. In 2019, the water quality program funded a Direct Implementation Fund (DIF) pilot project in Hangman Creek that funded specific implementation efforts. Furthermore, four staff now have a significant portion of their time dedicated to Hangman Creek and implementing the Settlement Agreement elements listed above. The Hangman TMDL and Settlement Agreement work ties directly to Ecology’s and other local, state and federal agencies’ and landowner goals to protect and restore the Spokane River watershed. Efforts in the Hangman watershed will aid in the work to meet pollution reduction targets defined in the Spokane River Dissolved Oxygen TMDL.

Ecology has also partnered with the Spokane Conservation District in order to make water quality improvements in the watershed. Conservation districts are non-regulatory, landowner led organizations that have experience implementing on-the-ground projects and providing technical and financial assistance. Other important regional partners have collaborated to improve water quality in the watershed. The partners include:

- Spokane Falls Trout Unlimited
- Spokane Tribe of Indians
- Pacific Northwest Direct Seed Association
- Spokane Riverkeeper
- WA Association of Wheat Growers
- Natural Resources Conservation Service
- Spokane River Forum
- The Lands Council
- Spokane County
- Coeur d’Alene Tribe
- Inland Northwest Land Conservancy
- USDA Farm Service Agency
- WA Dept. of Transportation
- WA Dept. of Fish and Wildlife
- City of Spokane

The Settlement Agreement dictates that Ecology will work with up to 15 landowners in the watershed each year to make on-the-ground improvements to reduce nonpoint pollution. Ecology communication with landowners includes phone calls, site visits, and technical assistance letters. We look to our partners to help us achieve proactive compliance by connecting landowners with available technical and financial assistance. If that proactive assistance fails, the Settlement Agreement lays out a pathway for Ecology to take formal enforcement action against a landowner. The enforcement actions include issuing administrative orders and/or penalties. This step is separate from the partnership efforts.

The purpose of this annual report is to provide an update to regional partners on Settlement Agreement progress. We also intended to update partners during an annual Hangman Watershed in-person meeting. Unfortunately, we were not able to convene that meeting in 2020 due to the COVID-19 pandemic. We remain hopeful we can meet in person in 2021 to provide an annual update to watershed partners as well as engage on collaborative work in the watershed to improve water quality and restore fish habitat.

Hangman Creek Watershed & Settlement Overview

Hangman Creek

Hangman Creek is a major tributary of the Spokane River. Its headwaters originate in the mountains of Idaho and flow southeast towards its confluence with the Spokane River west of downtown Spokane. The creek once teemed with native salmon and redband trout but urbanization, agriculture, and deforestation have taken a toll on water quality, riparian and aquatic habitats. The watershed was once dominated by forests and prairies, but approximately 70% of it has been transformed into farmland. Land use practices in the past included clearing forests, removing streamside vegetation, drain tile installations, and straightening stream channels to accommodate dryland agriculture and livestock operations. These changes resulted in streambank erosion, pollution to the stream and increased flash flooding. The creek has also been negatively impacted by residential development, septic systems, stormwater and point source discharges, forest management activities and channel modification for roadways.

The degraded water from Hangman Creek flows into the Spokane River along with heavy sediment and nutrient from erosion, contributing to algae blooms and other water quality issues in the River and Lake Spokane. Protecting and restoring the Spokane River watershed is not only a priority for the Department of Ecology, but is also currently the goal of many local, state and federal agencies and landowners. The Spokane River and Lake Spokane have approved water cleanup plans, or Total Maximum Daily Loads (TMDLs), that determine pollution reduction targets. Many regional partners have worked together to develop these plans to reduce the excess nutrients and prevent degradation of downstream water quality. As part of these plans, specific tributaries have assigned pollutant load allocations; Hangman Creek included.

The Hangman Creek watershed plays an integral role in the protection of the Spokane River as Hangman Creek has been found to have historically poor ratings on Ecology's statewide water quality index. This index is used as a waterbody measuring tool to summarize water quality, ability to support aquatic life, and helps determine if the waterbody meets water quality standards and expectations. The last reported score in the water year of 2018 according to Ecology studies shows that Hangman scored a 16 out of a range of 100; resulting in a status of "poor", "does not meet expectations" and of "highest concern."

The Hangman watershed is uniquely situated geographically, politically, and has an engaged, diverse group of stakeholders. The fact that the watershed lies in two different states, has historical and present tribal significance, varied land use throughout, and multiple stakeholder interests allows for an opportunity for partnerships towards widespread improved water quality efforts. By improving water quality and habitat, the watershed will support fish, wildlife and people for generations to come; and can be a model for future work in other Washington watersheds.

Our project partners are key to any present and future success in the watershed. They include:

- Spokane Conservation District
- Spokane Falls Trout Unlimited
- Spokane Tribe of Indians
- Spokane Riverkeeper
- Spokane River Forum
- The Lands Council
- Spokane County Parks, Recreation & Golf Dept.
- Coeur d'Alene Tribe
- Inland Northwest Land Conservancy
- USDA Farm Service Agency
- City of Spokane
- Washington Department of Transportation

Hangman Watershed TMDL and Settlement Agreement

Streams in the Hangman Watershed are impaired by excess fecal coliform bacteria, turbidity, and elevated water temperatures. Several point source and nonpoint source issues have been identified and discussed through a number of water quality studies. Washington Department of Ecology (Ecology) and the Spokane Conservation District (SCD) studied these water quality issues and developed a cleanup plan, or a TMDL report that evaluates sources of pollutant loading and outlines the necessary pollutant reductions. A TMDL implementation plan was also drafted to guide the cleanup of the creek. The TMDL was approved by EPA in 2009 and an Implementation Plan was developed in 2011.

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 that identifies and prioritizes specific actions to reduce pollution within the Hangman Watershed. The settlement outlines specific tasks that demonstrate progress towards addressing nonpoint source pollution, as well as mechanisms to track progress over the course of the 10-year agreement. These tasks include a comprehensive riparian assessment, annual documentation of pollution entering the stream, tracking pollution correction measures and documenting the effectiveness of those measures. The tasks outlined in the agreement will build upon previous studies conducted in the Hangman Watershed to ultimately make progress towards water quality improvements in the watershed.

Plan Objectives and Deliverables

There are three main objectives for this project, all specific to the Hangman Creek watershed:

- Undertake and complete an assessment of the riparian and in-stream conditions of the watershed within Washington State boundaries that includes:

- Riparian landuse assessment
- Riparian condition assessment
- Instream assessment
- Address water quality problems through focused BMP implementation
 - Priority site and data information tracking
 - Three years after prioritization, BMPs implemented on 25% of priority sites
 - Five years after prioritization, BMPs implemented on 50% of priority sites
 - Eight years after prioritization, BMPs implemented on 75% of priority sites
- Develop and implement an outreach strategy
 - To reach audiences both within and outside the watershed;
 - Conduct a survey to determine public perceptions about the Hangman Creek watershed
 - Convene a group of interested stakeholders and group

Ecology formally requested and received an extension from Riverkeeper for the Outreach Strategy and riparian condition assessment deliverables. The extension was requested on account of Ecology staff vacancies, hiring, and orienting new staff on the project. The new completion dates were determined in a joint effort by Ecology and Riverkeeper and allowed for the work to be completed without jeopardizing the quality of the methodology or deliverables. Per the extension, the Outreach Strategy was submitted to Riverkeeper on October 31, 2019; the riparian condition assessment was submitted by the revised due date of June 30, 2020.

Hangman Agreement BMP and Deliverable Timeline

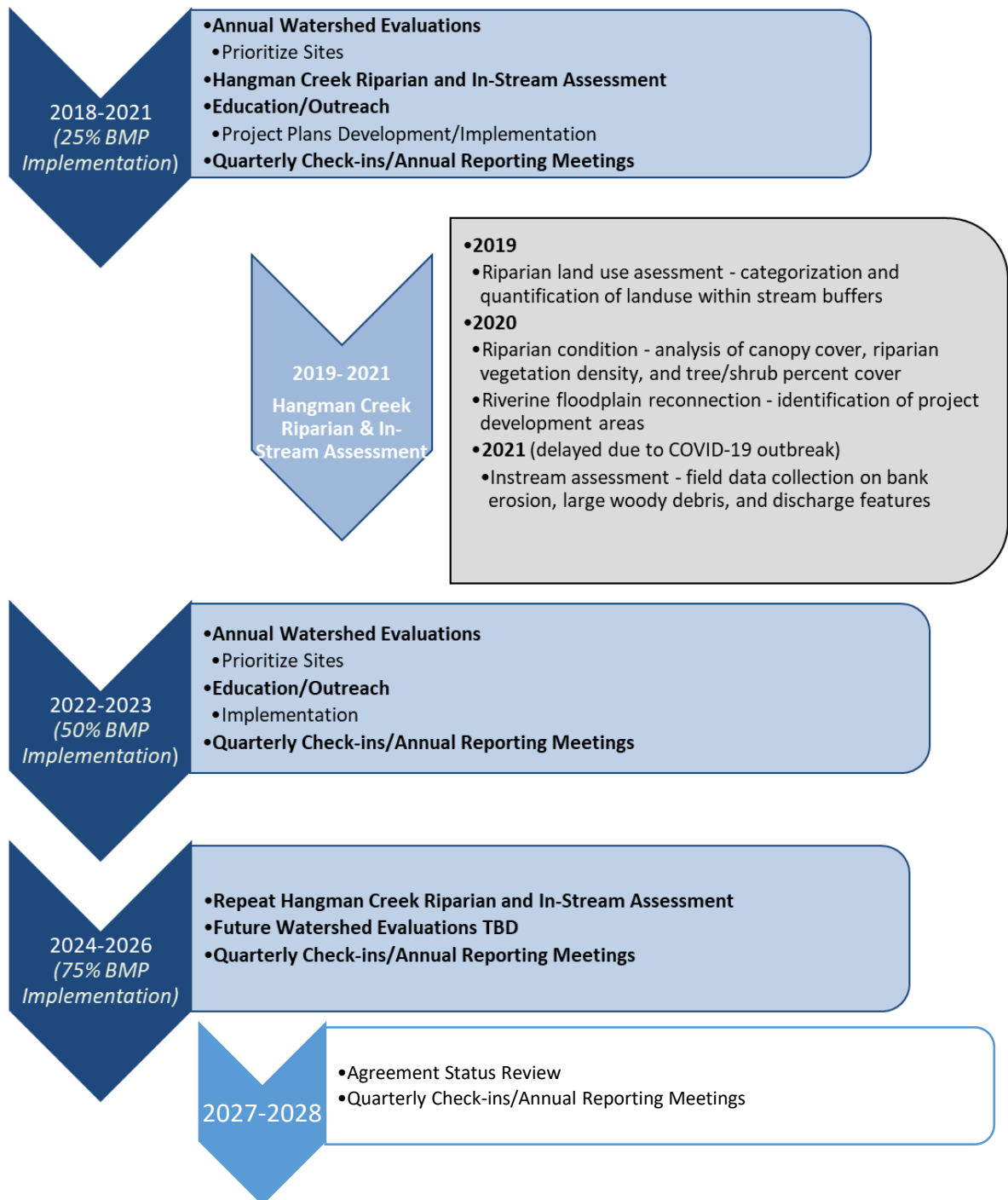


Figure 1. Hangman Agreement BMP and Deliverable Timeline

GIS Riparian Analysis

As part of the agreement, Ecology has initiated an assessment of the riparian areas, instream channel, and relevant upland conditions of the Hangman Creek watershed within Washington State. While the headwaters of the Hangman watershed is within the borders of the State of Idaho, Ecology is only able to collect data within the Washington State boundaries. This work will provide a baseline condition that can be used to determine whether pollutant load reductions are being achieved over time and show progress towards attaining water quality standards. Components of this requirement include categorizing and quantifying land use types within stream buffers, analysis of the riparian condition, and assessing instream conditions.

A variety of baseline conditions were established in 2019 including parcel scale land use type and quantities within the riparian areas across the watershed in Washington State. Ecology focused on categorizing buffer areas within individual parcels to estimate acres in the categories of agriculture, livestock, perennial grass, intact riparian, roads, commercial, residential and other. This land use data will aid Ecology in prioritizing watershed evaluation work as well as tracking progress towards working with landowners to implement land use setbacks and vegetated buffer establishment within the watershed.

Methodology

- All waterways within the Hangman watershed were hand-digitized in ArcGIS to capture the most accurate stream location.
- All waterways with an average bank-full width of greater than 10 feet were hand digitized by the Ordinary High Water Mark.
- Buffers were set at 100' along the main stem Hangman, Little Hangman, and Rock Creek; 75' along all other fish-bearing streams; and 35' along non-fish-bearing tributaries. The Spokane Tribe's data on the intrinsic potential for historic salmonid use was used for identifying fish-bearing streams. All buffer widths meet or exceed Ecology's [Funding Guidelines](#) for minimum buffer widths.
- The buffer data was clipped by County parcel data to generate a parcel-scale riparian buffer for each relevant parcel within the watershed
- Parcel-scale buffers were categorized by land use and an approximate percentage was estimated using aerial imagery.
- Land use area was then quantified at the parcel, HUC 12, and WA portion of the watershed scales.
- Ecology will ground truth the GIS riparian assessment data from public rights of way and streamside assessments

Hangman Watershed Land Use Assessment

The following Figures depict key results of the ArcGIS riparian and land use assessment within the Hangman watershed in Washington State.

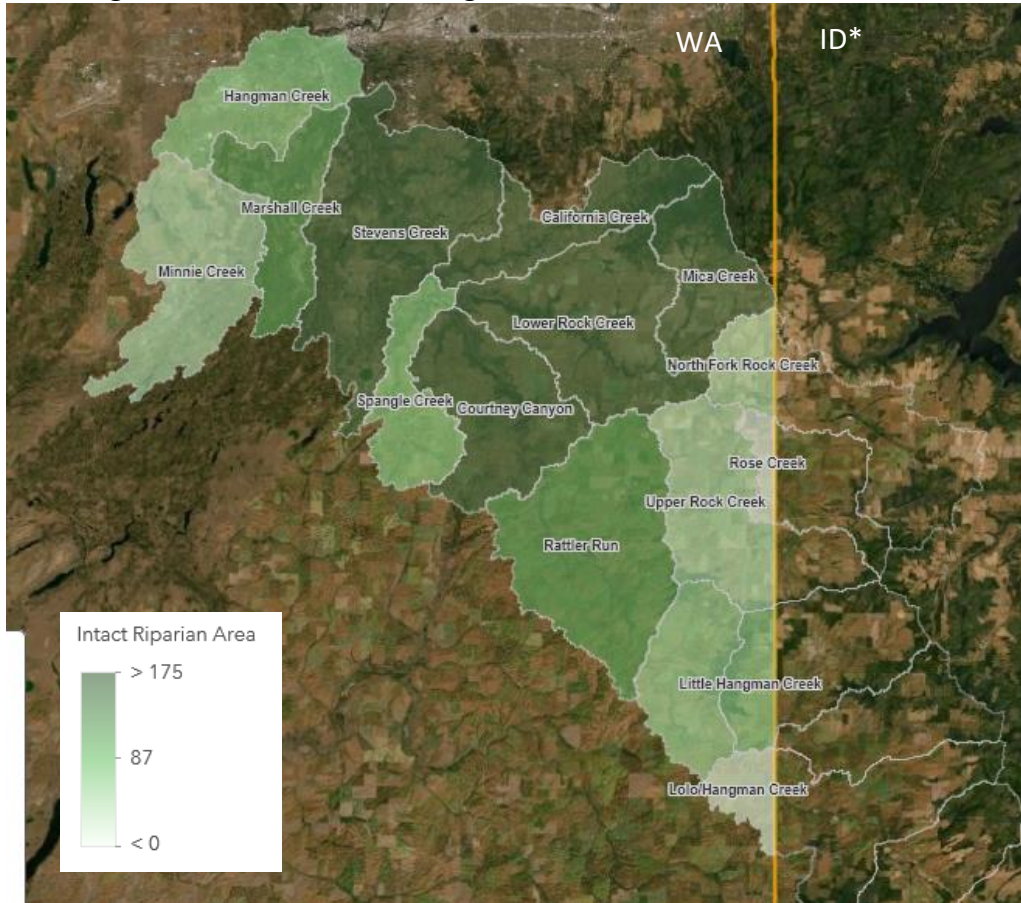


Figure 2. Intact Riparian within stream buffer by sub-basin
 *Data not available for Idaho

- Top five subbasins with greatest intact riparian areas in Washington State:
 - Lower Rock – 456.57 acres
 - Stevens Creek – 337.71 acres
 - California Creek – 319.85 acres
 - Mica Creek – 275 acres
 - Courtney Canyon – 229.85 acres

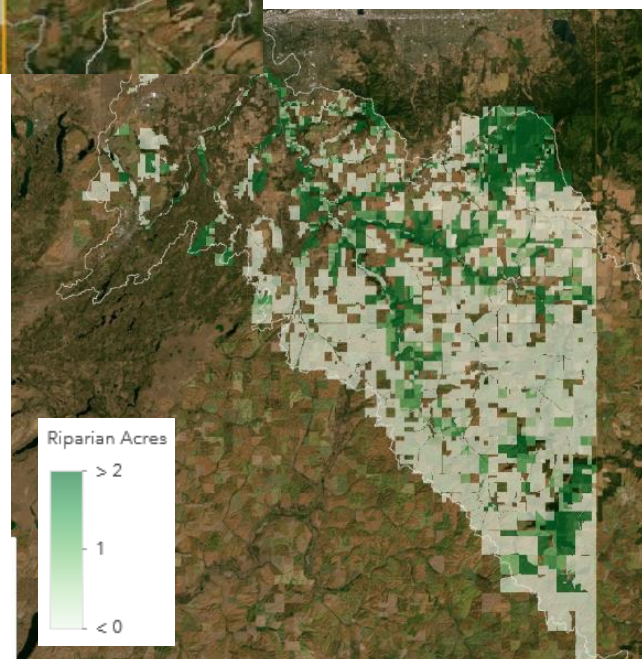


Figure 3. Intact riparian acres within stream buffer by parcel

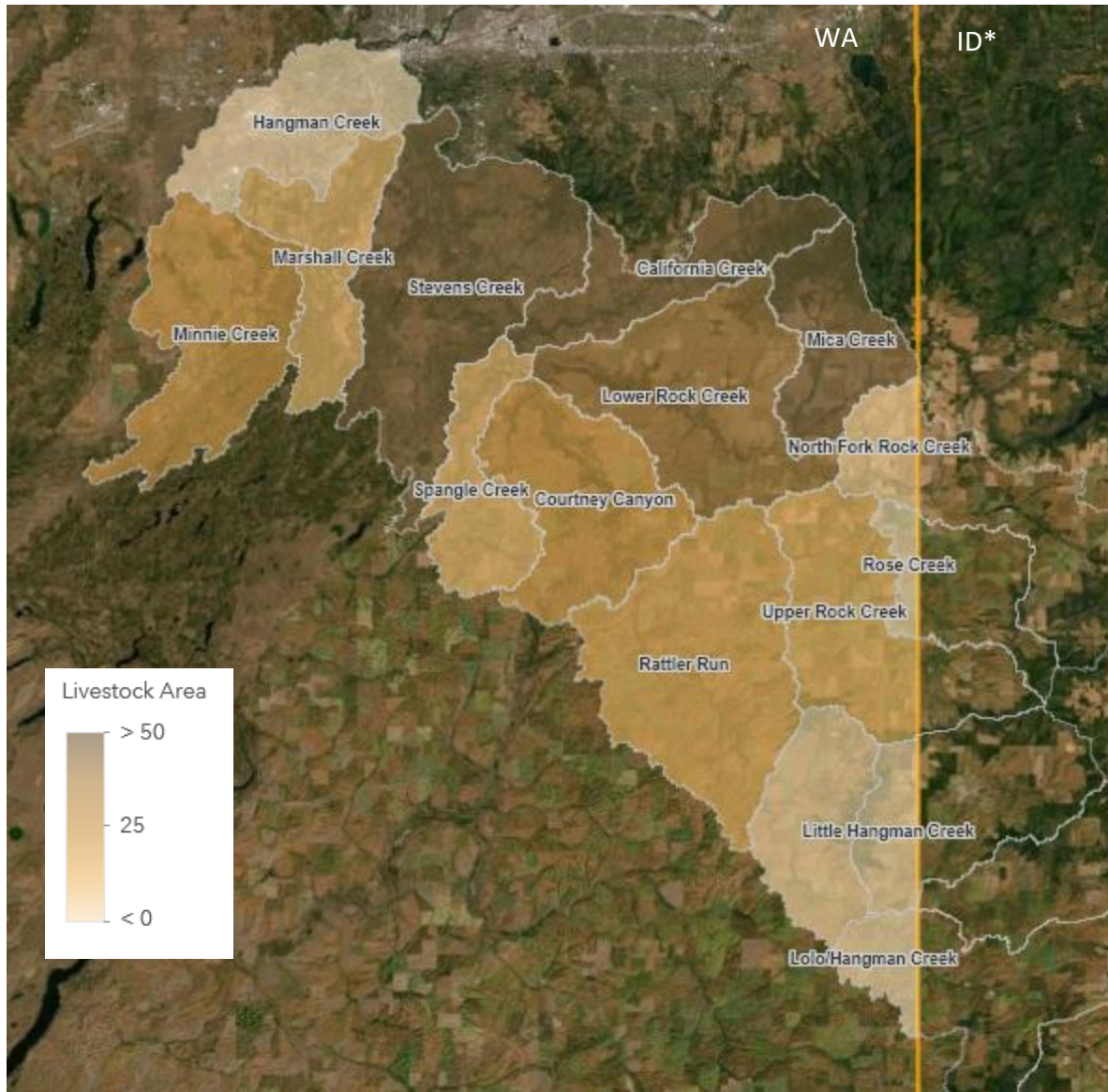


Figure 4. Livestock land use within stream buffer by sub-basin

* Data not available for Idaho

- Critical Areas - Top five subbasins with most livestock land use within riparian areas:
 - Mica Creek – 73.99 acres
 - Stevens Creek – 62.55 acres
 - California Creek – 55.27 acres
 - Lower Rock Creek – 41.96 acres
 - Courtney Canyon – 22.12 acres

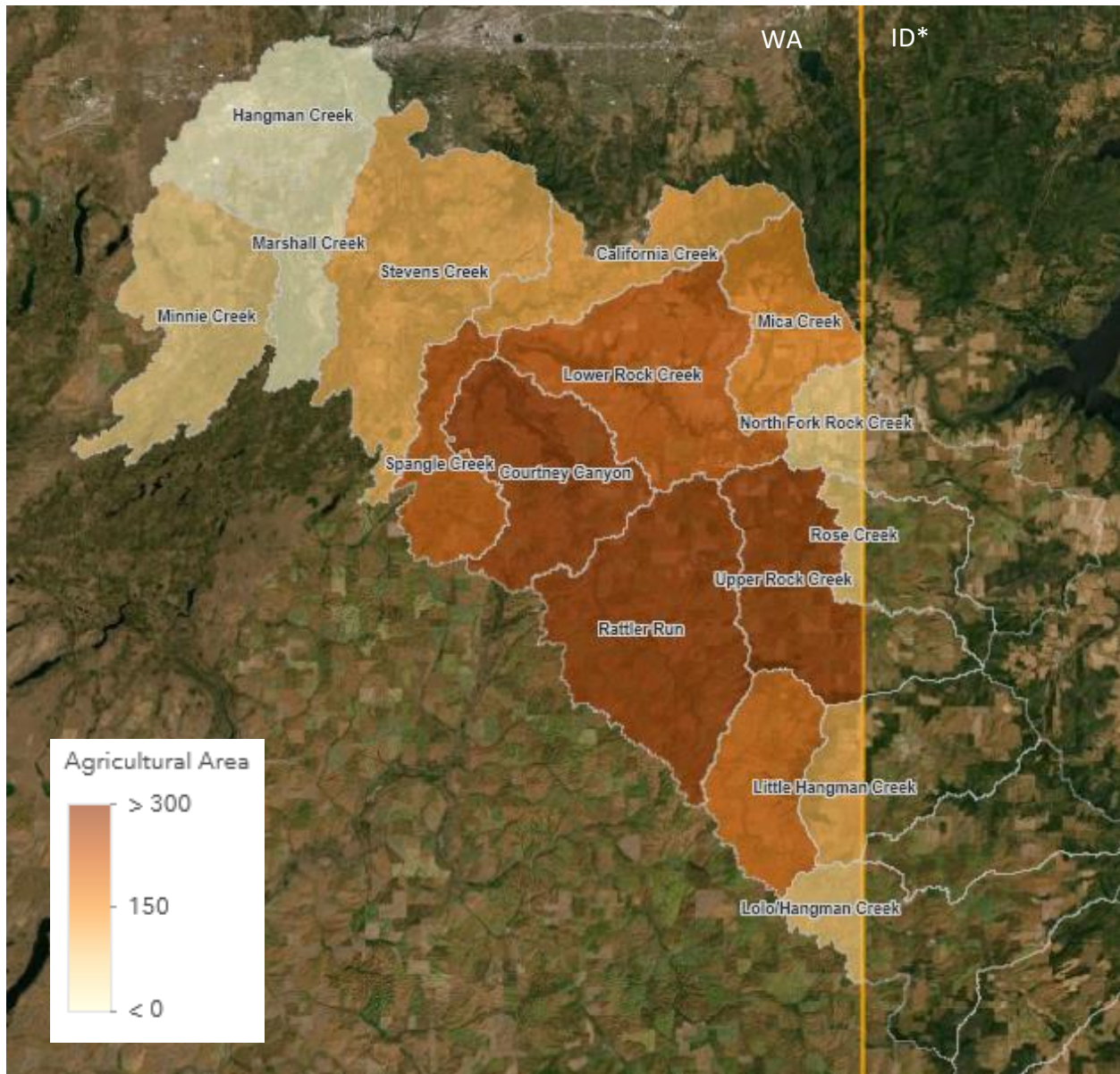


Figure 5. Agriculture land use within stream buffer by sub-basin
 * Data not available for Idaho

- Critical Areas - Top five subbasins with most agricultural landuse within riparian areas:
 - Rattler Run – 645.24 acres
 - Upper Rock Creek – 492.30 acres
 - Courtney Canyon – 295.75 acres
 - Lower Rock Creek – 241.75 acres
 - Spangle Creek – 241.23 acres

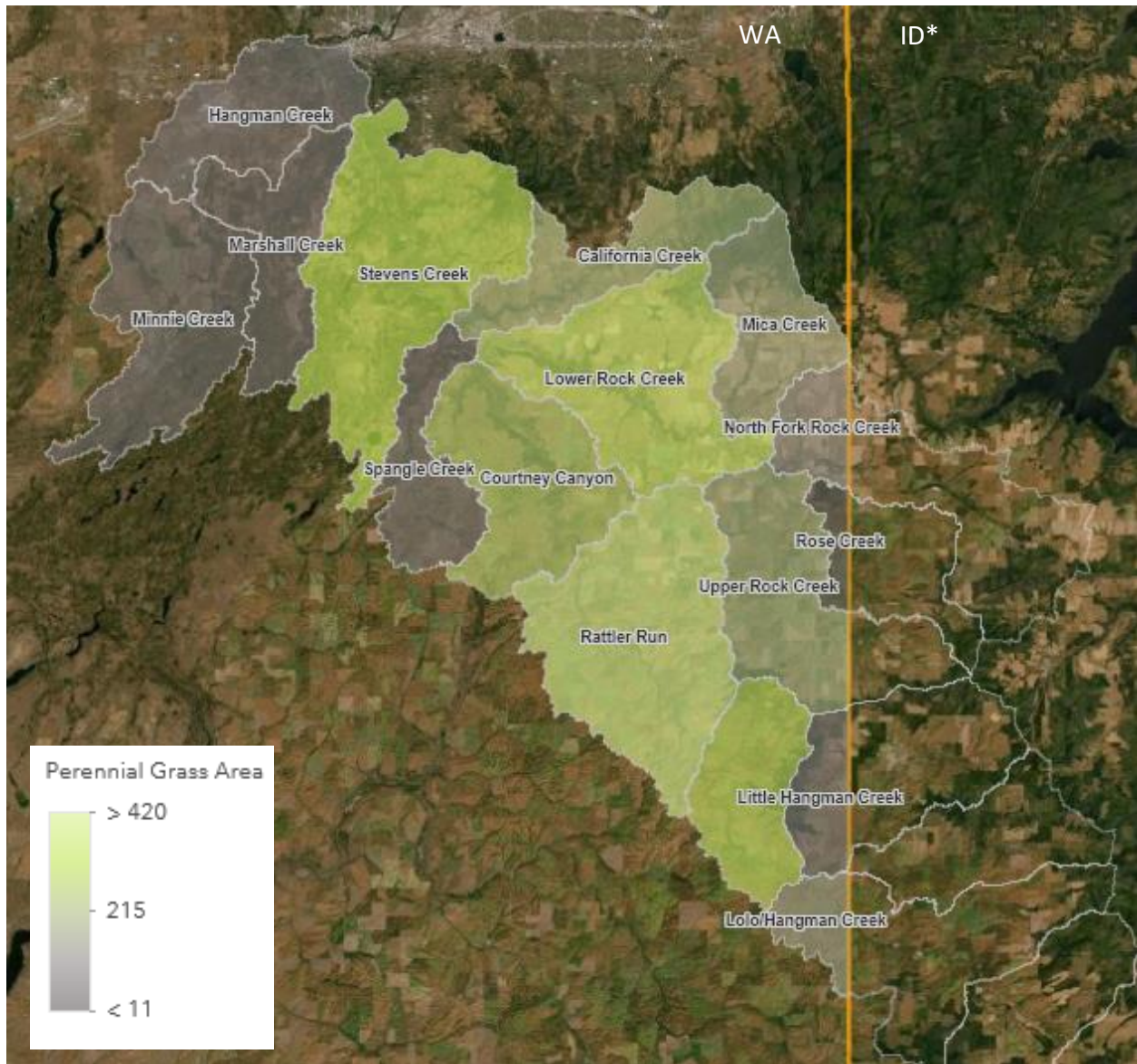


Figure 6. Perennial Grass land use within buffer by sub-basin

*Data not available for Idaho

- Top 5 subbasins with greatest perennial grass area:
 - Rattler Run Creek – 523.91 acres
 - Lower Rock Creek – 367.51 acres
 - Stevens Creek – 313.47 acres
 - Cove Creek – 294.40 acres
 - Cortney Canyon – 229.85 acres

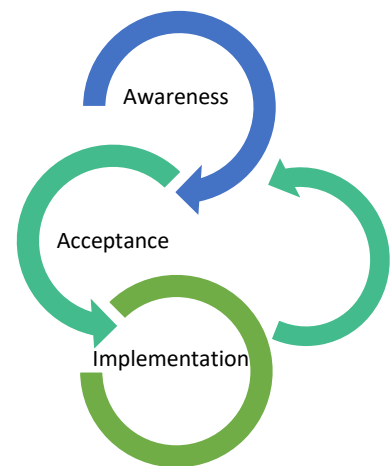
Outreach Strategy

Ecology developed the Hangman Outreach Strategy to identify priorities and actions to inform and engage the community around the value of Hangman Creek and its watershed.

Ecology, Riverkeeper and partners can use the Outreach Strategy to guide individual and joint outreach efforts within and outside the Hangman Creek watershed. There is no dedicated funding, so Ecology is coordinating with partners to implement the strategy. To date, Ecology has worked with several partners on applications to Ecology’s Water Quality Combined Funding Cycle to accomplish elements of the strategy.

Ecology and the Riverkeeper have identified the following priorities to focus outreach efforts on to achieve on-the-ground water quality outcomes:

1. Enhance awareness of water quality issues and concerns
2. Gain acceptance of conservation practices that will improve and protect water quality
3. Implement conservation practices or Best Management Practices (BMPs) to improve and protect water quality



The Outreach Strategy is a guide for watershed partners to make strategic investments in education and outreach programs that address the water quality issues identified in the Hangman Creek TMDL Implementation Plan (2011).

1. Sediment/nutrients from agricultural operations
2. Sediment/fecal coliform from residential uses
3. Nutrients/chemicals from residential uses
4. Sediment/nutrients from agricultural field ditches
5. Nutrients/fecal coliform from improper functioning septic systems
6. Sediment from gravel and summer roads
7. Sediment from sheer or undercut banks
8. Sediment/fecal coliform from stormwater
9. Sediment from poor forestry management
10. Sediment from roadside ditching
11. Solar heating from lack of riparian shade

We designed the strategy by progressive tasks and recommended actions that will lead towards the acceptance and implementation of practices that are protective of water quality. An integral step in this process was to first identify the audiences and a range of key messages. This step is depicted in Table 1 below.

The following topics were identified for the target audiences that include clear specific, actionable messaging:

- Watershed 101
- Stream and Riparian Function 101
- Riparian Buffers in a Working Landscape
- Agricultural Best Management Practices
- Residential Best Management Practices

Table 1. Target Audiences and Messaging

Audience	Messages								
	Watershed 101	Stream/Buffer Function 101	Showcase In-tact Riparian areas	“Messy is Beautiful” – Benefits of buffers in a working landscape	BMPs	Healthy Streams and Ag	Protect what you value	We are all part of the solution	
Urban									
Youth	X	X	X	X	X		X	X	
Adults	X		X	X	X		X	X	
Suburban	X	X		X	X		X	X	
Rural residential /small communities	X	X	X	X	X	X	X	X	
Agricultural producers	X	X	X	X	X	X	X	X	

The Outreach Strategy outlines the following tasks to communicate the priority messages to target audiences:

- Task 1: Public Survey*
- Task 2: Establish Presence in Watershed Communities*
- Task 3: Build Relationships and Trust*
- Task 4: Outreach to Agricultural Producers*
- Task 5: Residential Outreach*
- Task 6: Outreach to Communities outside the Hangman Creek Watershed*

Adaptive Management

The Outreach Strategy is intended to be used as guidance to support Ecology and its partners' water quality improvement efforts in the Hangman Creek Watershed. As Ecology and its partners make progress towards implementing practices and engaging landowners in the coming years, future outreach messages and delivery strategies will be revised to reflect the changing social and ecological conditions of the watershed. It is recommended that the Outreach Strategy be reviewed and updated every three to five years to reflect the outreach projects conducted, an evaluation of successes, documenting lessons learned and recommendations for next steps. We also recommend holding annual partner meetings as part of the adaptive management process to keep partners engaged and coordinated on efforts in the watershed.

Implementation of Action Items

Ecology has prioritized certain tasks in the Outreach Strategy to implement over the next three years. Action items will be evaluated and the Outreach Strategy updated per the adaptive management schedule above.

Ecology and partners will focus on the following action items for the coming three years:

- Conduct a public survey
- Install interpretive signs at key locations in the watershed
- Support the development of Spokane River Rally, an experiential learning event for Spokane Public Schools 4th graders
- Engage local governments
- Produce and distribute educational videos
- Install creek name signs along state highways in the watershed
- Hold annual stakeholder meeting

In 2019, Ecology began working with the Inland Northwest Nature Connection (INNC) to support the development of an Environmental and Sustainability Education Program for Spokane Public Schools District (SPSD). The goal of the program, called Spokane River Rally, is to reach all 4th grade students in the district through an annual, place-based outdoor field trip at Riverside State Park. Students would explore regional challenges and solutions in the Spokane River Watershed. The program was scheduled for spring 2020 but was postponed due to the COVID-19 pandemic. Given the impacts to the school district's budget on account of the pandemic, the future of this program is unclear.

Ecology is funding the installation of an interpretive sign at the Hangman Valley Golf Course as part of the Spokane County Parks, Recreation and Golf Department's *Hangman Valley Golf Course Riparian Planting and Signage* project. The project was funded in 2019 by the Terry Husseman Account (Shorelands Program). The sign will display information about water quality and riparian restoration efforts in the Hangman Watershed. More about this project in the section titled "Grant Funding Highlights from 2018-2019" below.

Ecology met with City of Spokane staff in early 2019 to discuss plans for City improvements at People's Park near the Hangman Creek confluence with the Spokane River. We discussed Ecology's priorities for Hangman Creek and Ecology funding available to support educational efforts and environmental improvements. Ecology staff recommended that the City include additional educational signage in their project plans that highlights Hangman Creek, its cultural and ecological significance, and efforts to improve water quality.

Hangman Watershed Evaluations

Ecology staff perform watershed evaluations at least annually within the Hangman watershed in Washington State to identify sites where water quality problems exist. These surveys assess the health of Hangman Creek and its tributaries, document where improvements have been made and identify new nonpoint pollution problems. Ecology is concerned with land management practices that cause pollution to surface or ground water. Staff focus on evaluating livestock grazing and agricultural tilling impacts to streams. This includes site conditions such as sloughing stream banks, bare ground from over grazing, manure piles, rills or gullies, turbid runoff, farming in the riparian area and an overall lack of riparian vegetation. An extensive body of science shows us these site conditions are associated with on-going pollution.

Ecology operates under Chapter RCW 90.48.080 stating that **"Discharge of polluting matter in waters are prohibited."**

"It shall be unlawful for any person to throw, drain, run, or otherwise discharge into any of the waters of this state, or to cause, permit or suffer to be thrown, run drained, allowed to seep or otherwise discharged into such waters any organic or inorganic matter that shall cause or tend to cause pollution of such waters according to the determination of the department, as provided for in this chapter."

Ecology staff follow the *Flow Chart for Addressing Agricultural Water Quality Problems in ERO* to identify and prioritize sites, provide technical and financial assistance to landowners and site operators, and/or use enforcement tools to resolve pollution problems.

Ecology will continue to prioritize ten tillage and five livestock sites during annual watershed evaluations where the implementation of conservation practices are needed to protect water quality. The evaluation process is critical to identify water quality threats and work with landowners and site operators to make on the ground improvements that reduce pollution sources.

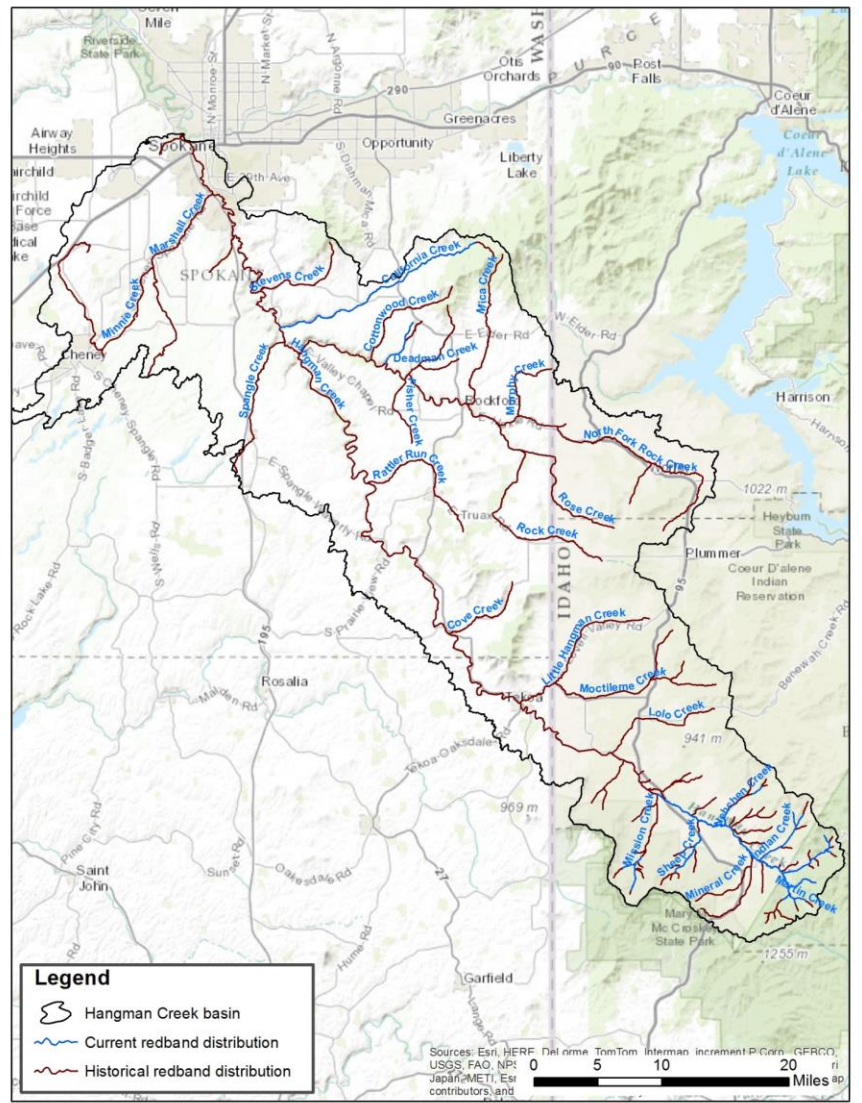


Figure 7. Hangman Creek Watershed Redband Trout Distribution

Priority Sites & Effectiveness Tracking

Ecology shares the results of the watershed evaluation work and the status of priority sites with the Riverkeeper and other partners throughout the year. Ecology tracks the progress of each priority site and associated details in compliance with the Settlement Agreement. Additionally, Ecology follows an effectiveness schedule that outlines the following:

- Three years after prioritization, BMPs implemented on 25% of priority sites
- Five years after prioritization, BMPs implemented on 50% of priority sites
- Eight years after prioritization, BMPs implemented on 75% of priority sites

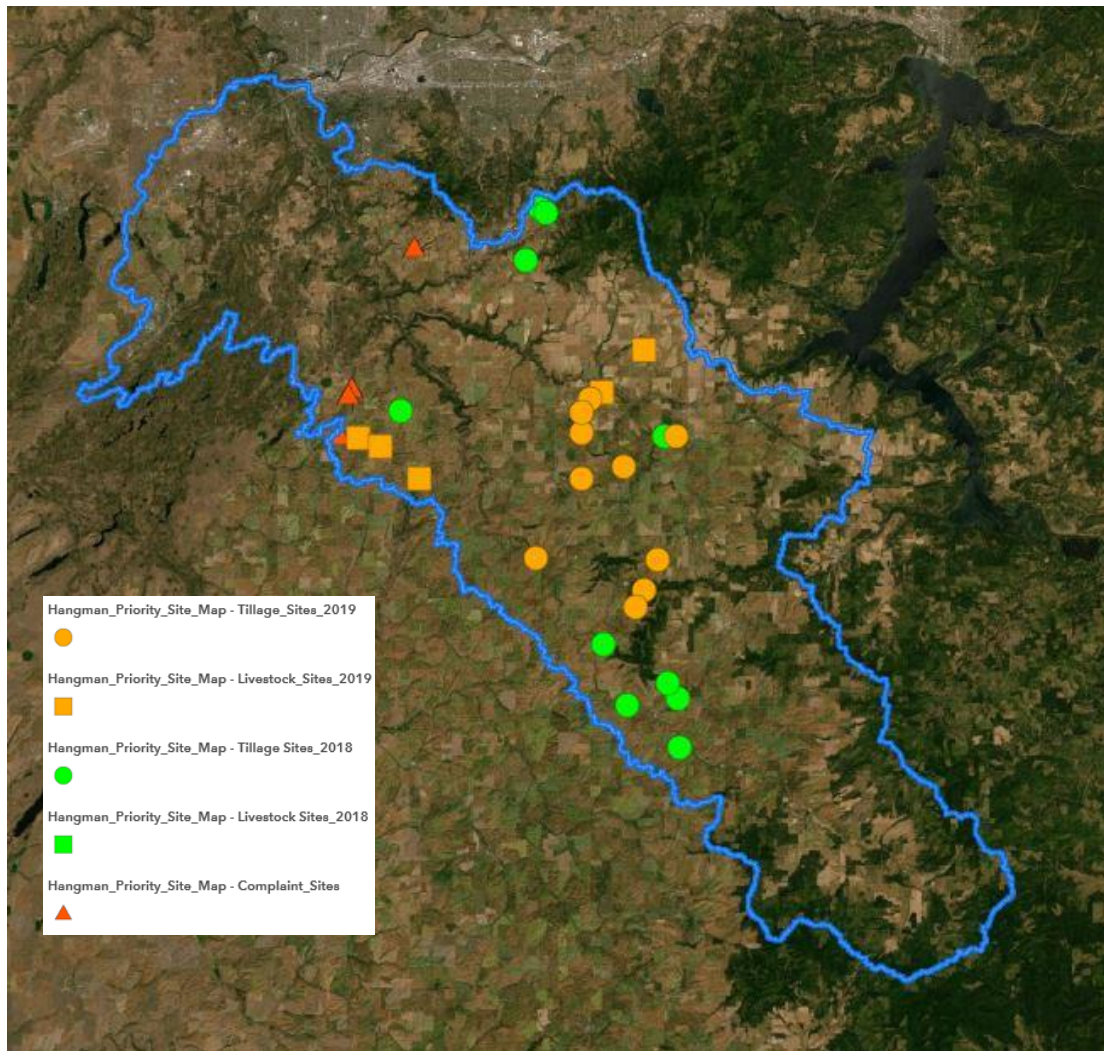


Figure 8. Hangman Priority Site Map

Hangman Settlement Progress Tracking

At the completion of 2019, Ecology has 30 priority sites tillage and livestock sites (20 and 10 respectively), and 5 complaint-based sites within the watershed. Table 2 below shows the prioritized site statuses. Fixed sites are those that no further actions are needed to protect water quality. Currently being implemented sites have approved plans, have been funded, and BMPs are actively being implemented. In queue for implementation sites have approved plans and are awaiting funding opportunities. Working with Ecology and partner on plans/funding are sites that have conceptually approved plans that need to be finalized for funding. Sites in communication but plans still being negotiated are sites where communications are ongoing, but it is uncertain at this time if those sites will choose to work on a plan or not. Unresponsive/unwilling sites are those which no communication efforts have been successful or they are unwilling to work with Ecology on a plan.

Table 2. Prioritized Site Status

Prioritized Site Status	Fixed	Currently being implemented	In queue for implementation	Working with Ecology & Partner on plans/funding	Sites in communication but plans still being negotiated	Unresponsive/Unwilling
# of sites	2	4	2	4	13	10

Grant Funding Highlights from 2018-2019

While the total cost for implementing the Hangman Settlement Agreement will vary considerably as sites are identified on an annual basis and the specific metrics are not known, a rough estimate of \$6,867,500 was calculated as an average of the high- and low-average project cost estimates. The number of sites were determined by the minimum number of sites needed for BMP implementation over 10 years outlined in the Settlement Agreement.

Livestock and Ag BMP Implementation Cost Estimates for Hangman Settlement Agreement				
	# Sites	Average Cost	Low Estimate	High Estimate
Livesock Sites	38	\$25,000-\$70,000	\$ 950,000.00	\$ 2,660,000.00
Agricultural	75	\$10,000 - \$120,000	\$ 750,000.00	\$ 9,375,000.00
		Totals	\$ 1,700,000.00	\$ 12,035,000.00

While Ecology has been able to invest funds towards the Spokane River watershed to reduce toxics and increase dissolved oxygen, there is no current dedicated funding source for work in the Hangman watershed even though it is a direct tributary to the Spokane River and Lake Spokane. Currently, Ecology has been able to fund numerous projects to date for various water quality protection projects through a variety of grant opportunities in the Hangman watershed. Unfortunately, there is no guarantee of funding and thus no long term path on how to fund all of the needed work that is anticipated in the future. Consequently, it is vital that Ecology works

with watershed partners and stakeholders to build relationships, trust, funding programs, and overall engagement to jointly accomplish goals to reach water quality standards. Ecology will continue to support high quality projects protective of water quality.

Direct Implementation Funds (Water Quality Program)

(Unused funds from completed 319/Centennial projects redirected towards Hangman projects)

Spangle Tributary & Upper Hangman Water Quality Improvement Project - \$76,000

- Project in partnership with the Spokane Tribe of Indians
- This project will restore two priority sites, one along Spangle Creek and the second along the mainstem of upper Hangman Creek
 - Spangle tributary – restore a 1,100 foot reach of a tributary to Spangle Creek by installing livestock exclusion fencing and approximately two acres riparian plantings
 - Hangman Creek – plant approximately six acres of native vegetation and establish a land use setback from the creek

California Creek Livestock BMPs Project - \$33,500

- Project in Partnership with Spokane Falls Trout Unlimited
- This project will restore a 2,000-foot reach of California Creek by installing 2,800 feet of livestock exclusion fencing, an off-stream watering facility, and riparian plantings to create a 50-foot riparian buffer

2019 Terry Husseman Account (Shorelands Program)

(A competitive grant where funding is dependent on revenue from water quality penalties. Grants support locally sponsored projects that restore or enhance the natural environment)

- Spokane County Parks, Recreation and Golf Dept., *Hangman Valley Golf Course Riparian Planting and Signage* (\$15,000)
The Spokane County Parks, Recreation, and Golf Department will partner with the Lands Council to plant native riparian vegetation along the main stem Hangman Creek at locations on the Hangman Valley Golf Course. They will develop and install one educational sign about water quality and riparian restoration efforts in the Hangman Watershed.

FY 2021 Water Quality Combined Funding Draft Offer List (Water Quality Program)

The Draft Offer List contains project applications to Ecology's Water Quality Program annual Water Quality Combined Funding cycle that were evaluated, scored and are recommended for funding in the draft Legislative Budget. Once the Legislature approves the budget, the grants will be formally awarded for the following projects:

- Spokane Conservation District, *Making Conservation Pay* (\$3,000,000)
This loan from State Revolving Funds will allow 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, direct seed conservation tillage.
- Spokane Conservation District, *Hangman Creek Streambank Stabilization RM-17 Phase II* (\$333,333)
This project builds upon and continues work along Hangman Creek at river mile 17 to stabilize banks, 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 each year.
- Spokane Conservation District, *Hangman Creek Agricultural BMP Assistance Project* (\$1,500,000)
This project will increase community awareness, address agricultural sediment pathways, inventory bank erosion contributions, implement 3,000-feet of stream restoration and reduce sediment delivery through producer incentives, cost-share programs and loans.

2021 Terry Husseman Account (Shorelands Program)

Recently submitted project/in evaluation

- Spokane Conservation District, *Hangman Creek Water Quality Protection Project* (\$46,050)
The project will implement various NRCS Best Management Practices to improve water quality in Hangman Creek – 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 and riparian forest buffer (native plantings) and development of a pasture management plan for 10 acres. The project will improve riparian habitat, protect stream banks and reduce erosion.

Watershed Partner Highlights

- The Spokane Conservation District
 - The Spokane Conservation District works directly with landowners in the watershed to protect water quality. The Conservation District submitted three different 319/Centennial Water Quality funding applications and all three are on the draft offer list for funding in FY21. Additionally, SCD submitted a competitive Terry Husseman application to protect water quality on one of Ecology's priority sites.
- The Lands Council

- The Lands Council continues to be a partner and a resource to Ecology and watershed stakeholders. They are partners on the Hangman Valley Golf Course planting project and have a current 319 grant-funded project titled *Spokane River Watershed Riparian Restoration & Water Quality Education*. TLC continues to raise public awareness, inspire behavior change and promote responsible water quality actions.
- Spokane Tribe of Indians
 - Spokane Tribe of Indians is partnering with Ecology to address two priority sites with Direct Implementation Funds. This work will protect the main stem of Hangman Creek as well as a tributary to Spangle Creek.
- Coeur d'Alene Tribe
 - The Coeur d'Alene Tribe is another important partner in protecting and restoring Hangman Creek. They have collaborated with Trout Unlimited to plant trees along Hangman Creek and continue to work on large scale floodplain restoration projects in the upper watershed located within the Idaho portion of the watershed. Additionally, the Coeur d'Alene Tribe continues efforts to release adult salmonids in northern Idaho for cultural purposes.
- Spokane Falls Trout Unlimited
 - Spokane Falls Chapter of Trout Unlimited are partnering with Ecology to address a priority site with Direct Implementation Funds. This work will implement livestock BMPs, restore a 2,000-foot reach of California Creek, and create a 50-foot buffer along California Creek.
- Spokane Riverkeeper
 - Spokane Riverkeeper continues to be a partner with Ecology in the creation of the Hangman Outreach Strategy, implementing priority outreach tasks, providing feedback on priority sites and projects, and assisting with engagement of watershed stakeholders to work towards protection of soil and water quality.
- Inland Northwest Lands Conservancy
 - The INWLC continues to work with landowners on easements and acquisitions to conserve land for its natural, recreational, scenic, historical or productive value.

News/Resources

- Spokane River Forum – [Hangman Creek project shows the way for water quality and streambank restoration best practices](#)
- Spokesman Review - [Ecology Department grants \\$15,000 for creek cleanup at Hangman Valley Golf Course](#)
- Department of Ecology - [Hangman Creek Multi-Parameter TMDL](#)
- Spokane River Forum – [Hangman Creek Restoration](#) (video)

Looking Ahead – 2020 and Beyond

As Ecology continues the riparian and in-stream assessment in 2020 & 2021 respectively, we will analyze LiDAR data to calculate canopy cover, tree/shrub composition, and vegetation density. Additional areas of potential riverine floodplain reconnection projects such as disconnected floodplains and relic oxbows may be identified through this process and/or through a small stakeholder group. LiDAR data is necessary to ensure the accuracy and efficiency of the riparian assessment, currently LiDAR data is available for the lower 40% of the watershed, with the remaining 60% scheduled to become available sometime in the next four years. The riparian assessment will be completed on the remaining 60% of the watershed when that LiDAR data becomes available. Watershed stakeholders are planning joint efforts to petition that the LiDAR for this area be prioritized sooner than later.

In spring of 2020, Ecology attempted to complete a float of the main stem Hangman Creek to collect data related to active bank erosion, large woody debris, discharge features, and any other relevant data and pictures. However, due to the COVID-19 outbreak, they were only able to float 20% of the project area before receiving orders to halt all fieldwork. It is anticipated that flows will be too low when the fieldwork ban is lifted to complete the in-stream work in 2020, in that event, the in-stream assessment will be completed in 2021. The active bank erosion component to the assessment is a replication of the Spokane Conservation District's "Hangman (Latah) Creek Erosion Inventory" study from 2004, to make comparisons and assess streambank erosion patterns and projections of sediment contribution within the watershed.

Additionally, Ecology planned to conduct watershed evaluations in March 2020 in order to prioritize the annual minimum ten tillage and five livestock sites required by the settlement agreement. However, due to COVID-19, this work was also postponed. Ecology anticipates conducting this work in the fall as ground conditions allow.

A stakeholder meeting will be scheduled to communicate accomplishments and milestones, education and outreach efforts, and discuss opportunities for partnerships.

Ecology will continue efforts to implement BMPs, conduct education and outreach efforts, continue building relationships and trust, and work with stakeholders towards the implementation of practices that promote water quality stewardship within the Hangman Creek Watershed.