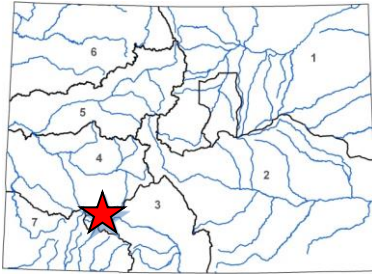




Colorado Watershed Restoration Program Application



L O C A T I O N	
County/Countries:	Mineral
Drainage Basin:	Rio Grande

D E T A I L S	
Total Project Cost:	\$513,414
Colorado Watershed Restoration Program Request:	\$256,707
Recommended amount:	\$256,707
Other CWCB Funding:	\$0
Other Funding Amount:	\$247,657
Applicant Match:	\$9,050
Project Type(s): Planning	
Project Category: Watershed Restoration, Flood Hazard Mitigation	
Measurable Result: Watershed Plan, Conceptual Engineering Designs	

The Headwaters Alliance (HWA) was created to build upon the legacy of the long-time community volunteer group, Willow Creek Reclamation Committee with the added benefit of a consistent and well-functioning organizational structure. HWA is better positioned to effectively negotiate the balance between the community's tendency towards silo project-based thinking and the clear call for more integrated planning, design and implementation of projects across the Willow Creek reaches.



The Willow Creek watershed is an important resource and asset to the community of Creede, CO. Townsfolk, miners, ranchers, and recreationalists have relied on the Willow Creek watershed to sustain life and prosperity throughout the rich history of Creede. Past efforts, projects, and grants have focused specifically on individual aspects of the watershed, leaving a lack of continuity. Historically, these areas were divided into the fractured ownership of headwater mining claims, EPA Superfund Operable Unit boundaries, different hydraulic regimes of East and West Willow Creeks, the concrete flume through Town, and the lower Willow Creek floodplain. The Comprehensive Willow Creek Watershed Plan (The Plan) seeks to unite the unique needs of these

geographical areas into one Plan that can be efficiently executed with collaborative stakeholder involvement, including local community members and government, regional water partners, and state and federal entities. The comprehensive plan will be an efficient way to ensure future implementation actions mesh with specific geographical properties such as channel characteristics/stability, vegetation, habitat, recreational opportunities, fish passage, erosion and debris sources, and water supply infrastructure. Aligning goals and objectives across the watershed will ensure effectiveness of future efforts from the headwaters to the confluence with the Rio Grande.

The Comprehensive Willow Creek Watershed Plan will result in (1) two published documents: *Willow Creek Inventory* and *The Comprehensive Willow Creek Watershed Plan*; (2) repairs to the grizzly protecting the culvert at the Amethyst 5 Mine; (3) an operating and accurate water gage on Willow Creek; (4) assessment of benthic invertebrates and water quality on Willow Creek; (5) an integrated and accessible water quality database; (6) 30% design for flood mitigation in North Creede reach; (8) conceptual design for Flume; and (9) 30% design for the lower Willow Creek floodplain from Flume to Rio Grande. These outcomes will specifically enhance data sharing and project design across reaches, restore and protect land and water within the watershed, mitigate flood hazards - all while integrating multiple objectives.

Comprehensive Willow Creek Watershed Plan Project Proposal Summary Sheet

PROJECT TITLE: Comprehensive Willow Creek Watershed Plan

PROJECT LOCATION: Willow Creek Watershed in Mineral County, Colorado, map following

GRANT TYPE: Watershed Restoration Grant, Flood Mitigation

GRANT REQUEST/AMOUNT: \$256,707

CASH MATCH FUNDING: \$234,810

IN-KIND MATCH FUNDING: \$21,897

PROJECT SPONSOR: Headwaters Alliance

PRIMARY CONTACT: Heather Greenwolf

PO Box 518 Creede, CO 81130

719-588-2417

Brief Description

The Willow Creek watershed is an important resource and asset to the community of Creede, CO. Townsfolk, miners, ranchers, and recreationalists have relied on the Willow Creek watershed to sustain life and prosperity throughout the rich history of Creede. Past efforts, projects, and grants have focused specifically on individual aspects of the watershed, leaving a lack of continuity geographical areas. Historically, these areas were divided into the fractured ownership of headwaters mining claims, EPA Superfund Operable Unit boundaries, different hydraulic regimes of East and West Willow Creeks, the concrete flume through Town, and the lower Willow Creek floodplain. The Comprehensive Willow Creek Watershed Plan (The Plan) seeks to unite the unique needs of these geographical areas into one Plan that can be efficiently executed with collaborative stakeholder involvement, including local community members and government, regional water partners, and state and federal entities. Maintaining a consistent group of project partners and stakeholders from the top of the watershed to the bottom will be a key asset in identifying complexities and priorities in each area. While there are several aspects of The Plan, it is important to evaluate upstream conditions and their effect on lower portions of the watershed, and vice-versa. Providing this consistency in one Comprehensive Plan will be an efficient way to ensure future implementation actions mesh with specific geographical properties such as channel characteristics/stability, vegetation, habitat, recreational opportunities, fish passage, erosion and debris sources, and water supply infrastructure. Aligning goals and objectives across the watershed will ensure effectiveness of future efforts from the headwaters to the confluence with the Rio Grande.

The Comprehensive Willow Creek Watershed Plan will result in (1) two published documents: *Willow Creek Inventory* and *The Comprehensive Willow Creek Watershed Plan*; (2) repairs to the grizzly protecting the culvert at the Amethyst 5 Mine; (3) an operating and accurate water gage on Willow Creek; (4) assessment of benthic invertebrates and water quality on Willow Creek; (5) an integrated and accessible water quality database; (6) 30% design for flood mitigation in North Creede reach; (8) conceptual design for Flume; and (9) 30% design for the lower Willow Creek floodplain from Flume to Rio Grande. These outcomes will specifically enhance data sharing and project design across reaches, restore and protect land and water within the watershed, mitigate flood hazards - all while integrating multiple objectives. The Plan will ensure that future projects can build from the integration of data collection, analysis and sharing, that there is a template for cross reach/cross stakeholder collaboration and quite simply, informed understanding of how to care for our watershed going forward.

Comprehensive Willow Creek Watershed Plan Project Proposal

PROJECT TITLE: Comprehensive Willow Creek Watershed Plan

PROJECT SPONSOR/GRANTEE: Headwaters Alliance

PRIMARY CONTACT: Heather Greenwolf * 719-588-2417

TOTAL PROJECT AMOUNT: \$513,414

GRANT REQUEST: \$256,707

Mineral County experienced a glorious winter in 2018/2019 resulting in an estimated 6-year bankfull snowmelt runoff volume of 600+ cfs in June 2019. The recently reclaimed tailings pile site on the lower Willow Creek floodplain experienced significant damage. High water flows eroded the banks of the engineered single channel, threatened key surrounding infrastructure (Emperius tailings pile, City sewer line), and sent an estimated 12,000+ cubic yards of clean cap material downstream. The questions are (1) how did such an inadequate design come to be implemented and (2) how can we prevent something like that from happening again?

This grant application is intended to ensure that this does not happen again, by creating a comprehensive process whereby stakeholders across reaches share relevant data and key criteria such that the resulting outcomes connect land and water, while protecting life and property from flood hazards. We will work collaboratively with our local and regionally based partners, from whom we have enormously strong support, including unanimous approval from the Rio Grande Basin Roundtable. Partners include local community members and government, regional water partners, and both state and federal entities; the majority of whom have committed either cash or in-kind matches, and letters of support for this project.

This project will integrate new flow volume requirements related to flood mitigation across all reaches. Improved channel design and stabilization in both the North Creede reach and the lower floodplain will enable effective revegetation efforts and increase riparian habitat. It will look for solutions to the water quality issues raised by the Nelson Tunnel Superfund site beyond the siloed thinking of the EPA. This project seeks to ensure downstream connectivity to an ecologically functioning lower Willow Creek floodplain as a single geographic unit. New data will bring new thinking to establishing fisheries. A primary outcome will be a flood resilient, habitat-rich creek that can respond to unpredictable weather, changing climate, and the threat of fires, increasing human use. Comprehensive thinking with a comprehensive group of stakeholders to create the Comprehensive Willow Creek Watershed Plan.

The Comprehensive Willow Creek Watershed Plan will result in (1) two published documents: *Willow Creek Inventory* and *The Comprehensive Willow Creek Watershed Plan*; (2) repairs to the grizzly protecting the culvert at the Amethyst 5 Mine; (3) an operating and accurate water gage on Willow Creek; (4) assessment of benthic invertebrates and water quality on Willow Creek; (5) an integrated and accessible water quality database; (6) 30% design for flood mitigation in North Creede reach; (8) conceptual design for Flume; and (9) 30% design for the lower Willow Creek floodplain from Flume to Rio Grande. These outcomes will specifically enhance data sharing and project design across reaches, restore and protect land and water within the watershed, mitigate flood hazards - all while integrating multiple objectives. The Plan will ensure that future projects can build from the integration of data

collection, analysis and sharing, that there is a template for cross reach/cross stakeholder collaboration and quite simply, informed understanding of how to care for our watershed going forward.

We will demonstrate that we fit the applicant qualifications test, that we have the capability to accomplish the proposed work and that the proposal we have laid out is reasonable and accomplishes the goals of restoration and flood mitigation.

Baseline Data

This project will result in collating existing data and reports, obtaining new and relevant data and the establishment of a single, accessible database related to water quality in an effort to ensure that key baseline data is shared, accessible and valid for all projects going forward. Key documents that will be included, but are not limited to:

- Revised and finalized *CHAMP Phase III, Mineral County, Colorado Hydrologic Analyses Report*, by Woods PLC.
- Hydrologic modelling and recommendations regarding feasibility of FEMA certifying the levy, currently being completed by Wade Henderson, P.E., Davis Engineering.
- Newly obtained aerial LiDAR mapping of Reaches 1, 2 and 3, October 2019.
- Engineering design for Phase 1 Flume Repairs.
- NRCS Reports: *Regional Bankfull Characteristics for the Lower Willow Creek Stream Restoration*, 2003; *Willow Creek Stream Restoration: Planning Study*, 2007
- All design reports related to earlier work on lower Willow Creek floodplain, largely authored by Kiowa Engineering. Also to include *Willow Creek Revegetation Planning Memo* by KC Harvy, 2013.
- Existing water rights within the Willow Creek watershed.
- United States Forest Service, *Forest Plan*
- CPW and River Watch water quality data, water quality data gathered by the Willow Creek Reclamation Committee (willowcreede.org) and CDPHE Water Quality Division specs.
- *Remedial Investigation and Remedial Investigation Addendum: Nelson Tunnel/Commodore Waste Rock Pile Superfund Site*, EPA 2019 and other EPA documents related to the site.
- *Colorado State Water Plan. Technical Updates to Colorado Water Plan*

Project Partners

Headwaters Alliance is the lead project sponsor for the Comprehensive Willow Creek Watershed Plan (The Plan). HWA was created to build upon the legacy of the long-time community volunteer group, Willow Creek Reclamation Committee with the added benefit of a consistent and well-functioning organizational structure. HWA is better positioned to effectively negotiate the balance between the community's tendency towards siloed project-based thinking and the clear call for more integrated planning, design and implementation of projects across the Willow Creek reaches.

Trout Unlimited (TU) will serve as leading environmental expert in partnership with HWA throughout the project, as well as project partner. TU's expertise in developing watershed scale plans and projects will translate well to this proposed work. TU has excellent working relationships with Federal, State, and other local entities. This will make collaboration easier and more efficient when it comes to The Plan development and implementation.

The following Key Partners will be actively engaged in stakeholder meetings, work groups and other specific tasks as articulated in The Plan. Partners include the City of Creede, Mineral County, United States Forest Service, Colorado Parks and Wildlife, EPA, Lower Willow Creek Restoration Company, Wason Ranch, Mineral County Fairgrounds and Mountain Views RV Park. These partners have all committed to active participation and most have made either actual or pledged cash or in-kind contributions to support the articulated process and outcomes. Please refer to the Partners Contributions Chart for more detail in the attachments.

Community members are key partners in accomplishing The Plan. The Willow Creek Reclamation Committee will continue to play a vital role as informed advisors, keepers of institutional knowledge and get-your-hands-dirty volunteers. Headwaters Alliance will invite new community involvement through well-marketed public meetings, inventory process, water quality objectives, design review processes and more. We will also actively engage our Rio Grande River downstream community wherever possible.

Organizational Capabilities

Headwaters Alliance is experienced in bringing solutions to the community, project management and facilitating volunteers effectively. We have provided key environmental leadership, project identification and aggressive grant writing to resolve problems related to historic mine impacts, public works and leadership in water and land use planning. HWA accomplishments include:

1. Project leadership regarding proposed revisions to the floodplain map and flood mitigation efforts in the North Creede reach. The initial report significantly increased the flow volume requirements, creating a potentially onerous situation for the Town. By insisting on a site visit and explanation of assumptions, the engineers have revisited all data. We are optimistic that HWA's persistence for a valid and reliable outcome will prove effective.
2. Floodplain management on the lower Willow Creek floodplain during the 2019 runoff, negotiating solutions between landowners and later implementing urgent stream bank stabilization work through new partnerships and with improved methods.
3. Secured funds and project management to facilitate an investigation as to whether the levy can be FEMA certified. This is in mid-process and dependent on eventual floodplain map revision outcome.
4. Community leadership related to the Nelson Tunnel Superfund Site, including effective public meetings to enhance public understanding. HWA continues to press the EPA to work more directly with the community regarding an eventual remedy. While the Superfund process has certain limitations, new EPA and CDPHE departments have joined the conversation, with the goal of more creatively addressing needs across reaches.
5. Project management for Phase 1 repairs to the Flume through the City of Creede. This entailed working closely with the on-sight engineer, cost oversight, managing all communication with adjacent landowners and closing out the project.
6. Project management for the Lower Willow Creek Restoration Company, implementing the Voluntary Clean-up Plan as articulated by CDPHE. Most recent work, prior to the June 2019 flooding, was focused on revegetation efforts to exceed Brownfields requirements.

The project will require the full time efforts of Headwaters Alliance in Year One, with a reduction in hours in Year Two. We have budgeted for 492 hours by Jason Willis, P.E., TU, and a full-time summer seasonal science officer in Year One to ensure adequate staffing to accomplish all Objectives.

- **Executive Director, Heather Greenwolf** has worked with HWA for over a year. Having served as a midwife for 15 years, with a background in anthropology and financial administration, she brings a unique and passionate approach to problem solving in the rural, low-resource setting of Mineral County. Key to Heather's strategy is the mindset that solving environmental issues is largely a people problem. Heather's background as a midwife has ensured skills in negotiation, risk assessment, informed consent, implementation of evidence based practices and most importantly, a deep recognition that desired outcomes are best achieved through transparent and thoughtful processes. Heather strives to bring key experts to the table to ensure comprehensive understanding and therefore enhanced solutioning. Lastly, and it should not be undervalued, Creede residents love where they live. Heather brings mission driven dedication in service to the Willow Creek Watershed and the people who live here.
- **Katherine Valicenti is an AmeriCorps VISTA volunteer**, in the role of Engagement and Development Coordinator for HWA. Katherine will utilize her degree in Environmental Science and designated role to complete outreach and educational activities, to ensure effective communication during the project and train volunteers for several of the project needs. This is Katie's first time west of the Mississippi River and she is not sure if she'll ever move back.

TU staff will provide lead on the following: assessment of benthic invertebrates, water quality sampling, establishing water quality data set, and lower Willow Creek floodplain. This will ensure that each objective is adequately championed, while also benefiting from Jason's expertise.

- **Jason B. Willis, P.E.** is the Colorado Abandoned Mine Land Program Manager for TU, based in Salida, Colorado. He holds a B.S. in Plastics Engineering Technology from Penn State Behrend and an M.S. in Civil and Environmental Engineering from the University of Pittsburgh. Prior to coming to TU, Jason worked for 4 years at various engineering firms in the disciplines of structural, geotechnical, environmental, and civil engineering. He began working as a contractor for TU in 2011 for nine months on the Kerber Creek Restoration project in Colorado where he was introduced to the field of mine reclamation. Jason was brought on full-time to Trout Unlimited in October 2012, and focuses on reclamation of mining impacted areas, stream channel morphology and river dynamics, soil and water chemistry, and project management/oversight. Jason often wishes he lived in Creede.

Project Budget and Schedule. Please refer to the budget and timeline found in the attachments.

For a project with this many moving parts to be reasonable, a number of variables must be present in the budget and timeline. We have made every attempt to include and consider these variables.

1. **The budget and timeline have been reviewed and edited by several project partners** to (1) ensure reasonability and (2) strengthen partner commitment by demonstrating a doable set of works.
2. **Capacity.** We have planned for adequate staffing to meet stated work goals.

3. **Division of lead responsibility.** HWA and TU will work closely on all Objectives, with each organization taking lead on varying Objectives, ensuring adequate time to achieve outcomes.
4. **Sustainability of administrative funds** beyond Year One. While the proposed budget meets the need for full administrative funding for HWA in Year One, please note that five of the entities providing match funds under Objective 7 make these contributions annually and regularly, which is to say, there is a plan in place for ongoing administrative support beyond Year One.
5. **Funding security.** Of the \$234K offered as cash match, \$171K has either been secured or is strongly favorable. The remaining unsecured cash match comes from three sources, all of which we are excellent programmatic matches to this project and initial conversations have indicated support. We have avoided including the wishful thinking funds that we will still yet chase down.
6. **Partner commitment and in-kind funds.** We capped in-kind funds at \$21.8K. However, \$45K is more realistic, which is only mentioned to underscore the support and resources of project partners.
7. **Timeline.** We have planned for a 2 year project, marked by the written completion of The Plan. We have allowed generous time for meeting processes, acquiring initial draft designs, review process and revisions with the understanding that these may occur slightly sooner or later. Pre-award planning will bring greater focus and structure to the interaction of tasks and timeline.

Implementation Plan

This grant application serves as Project Plan, in that it outlines all the tasks needed to complete the project in the Scope of Work. It also provides a thorough and well-conceived plan for a solid operating budget, staffing capacity, and willingness for active engagement by stakeholders - all key applicant criteria.

The next steps to ensure successful implementation begin immediately upon submitting this application. There are several grants to be written in quick succession. The Partners for Places grant will invite the opportunity to refine and more completely articulate the professional facilitation portion of this project. This will serve to further tweak and adjust the pathways and processes by which the stated goals of this proposal will be successfully achieved.

As noted in the work timeline, HWA will be actively engaged in planning prior to the anticipated award start date. This is for two reasons. First, we want to be prepared to jump into action upon award by CWCB. Second, should CWCB choose not to award this project, we want to still be prepared to jump into action in creating the Comprehensive Willow Creek Watershed Plan. The stakeholders have signed on with willingness to participate, with cash and in-kind matches, and the HWA Board of Directors has determined that this is “the” next most important step for ensuring future projects on Willow Creek do not suffer such considerable losses as did the lower Willow Creek floodplain this past June. We will be working diligently to have a more fully articulated implementation plan for April 1, 2020 to include identifying stakeholder roles and responsibilities, group communications system identified and established, professional facilitator identified, software and other logistical resource needs addressed. We initiate the process of scheduling meetings with partner input to ensure maximum participation. HWA will work closely with TU to ensure that we have identified benchmarks for completed tasks, touchstones for ensuring we are on track and general quality control/quality assurance practices. The thoroughness of our application lays the foundation for successful implementation. Please feel welcome to come to Creede if you have any questions.

Attachments

Comprehensive Willow Creek Watershed Plan
Submitted November 1st, 2019
By Headwaters Alliance
To Colorado Water Conservation Board
Water Restoration Protection Program



Comprehensive Willow Creek Watershed Plan
Headwaters Alliance
November 1st, 2019

Attachments Index

1. Scope of Work
2. Budget
3. Timeline
4. Partners Contributions
5. Map Explanation
6. Maps
7. North Creede Reach Conceptual Drawings
8. TU Description of Stream Bank Stabilization Work on Lower Willow Creek and Floodplain
9. Photos
10. Letters of Support

Comprehensive Willow Creek Watershed Plan Project Scope of Work

PROJECT TITLE: Comprehensive Willow Creek Watershed Plan

PROJECT SPONSOR/GRANTEE: Headwaters Alliance

PRIMARY CONTACT: Heather Greenwolf

719-588-2417

TOTAL PROJECT AMOUNT: \$513,414

GRANT REQUEST: \$256,707

INTRODUCTION AND BACKGROUND

The Comprehensive Willow Creek Watershed Plan (The Plan) focuses on seven Objectives with supporting sub-tasks that address issues and needs across the entire watershed. This approach will holistically focus on integrating community and partner input, infrastructure repair/maintenance needs, data gathering and analysis, 30% designs for various Willow Creek reaches, and grant administration and management. Past efforts in the watershed have separately focused on projects where individual interests or funding has driven outcomes without a long-term vision. By incorporating various geographical areas and stakeholders into one Plan, Headwaters Alliance seeks to put forth a collaborative approach to watershed-wide improvements. Specifically, this Plan will restore/protect the waters of Willow Creek through future removal actions and water quality improvement projects; mitigate flood hazards through the North Creede 30% design process and Flume repair work; and integrate multiple objectives that apply to geomorphic assessments, riparian development, and aquatic habitat improvements along the lower Willow Creek Floodplain Reach. All of this work will be wrapped together by gathering historic data and evaluating progress through pre and post water quality and benthic surveys at specific locations. Headwaters Alliance and project partners seek support from CWCB and the Watershed Restoration Program to achieve Comprehensive Willow Creek Watershed Plan goals and objectives.

OBJECTIVES

Objective 1: Planning Process

Description of Task: Professional facilitation of project partners and stakeholders through the extended period of developing the Comprehensive Willow Creek Watershed Plan.

Method/Procedure:

- Stakeholder Meetings. Will occur in 4 - 7 meetings across a 16 -20 month period. This process will be responsive to the group needs in real time. Additional meetings as needed.
- Focused Work Groups Meetings for the following groups:
 - a. Creek Criteria Work Group.
 - b. Nelson Tunnel Superfund Site Work Group. Listed within Objective 3.
 - c. North Creede Reach Workgroup. Listed within Objective 4
 - d. Flume Work Group. Listed within Objective 5.
 - e. Lower Willow Creek Floodplain Work Group. Listed within Objective 6.
- Headwaters Alliance (HWA) will provide administrative leadership and planning oversight, working with the professional facilitator and stakeholders to ensure a timely and effective process, engagement and completion of committee work, and serve as clearing house for stakeholder feedback throughout the process, as articulated in Objective 7 Scope of Work and on the budget.

Deliverable: Final report, *Comprehensive Willow Creek Watershed Plan*. The Plan will articulate baseline criteria requirements, rationale for prioritized projects, identification of shovel ready projects, and facilitate timely action for most pressing needs with a unified understanding of watershed criteria. Focus will be to provide habitat for aquatic and terrestrial species, revegetate riparian areas as needed, improve channel and floodplain connectivity, improve recreational opportunities all with an eye to flood mitigation. Headwaters Alliance and TU will work collaboratively to include feedback from project partners that will aid in the development of The Comprehensive Willow Creek Watershed Plan (The Plan).

Objective 2: HWA will conduct an inventory of the Willow Creek watershed, including debris sources, prioritize mitigation actions, and implement timely response to immediate needs.

Task 1: Inventory of Willow Creek Watershed

Description of Task: Inventory of Willow Creek Watershed

Method/Procedure:

1. Debris Assessment. HWA will conduct fieldwork with USFS, Trout Unlimited (TU) and volunteers to create a comprehensive inventory of Willow Creek, including but not limited to:
 1. Debris assessment to prevent flooding, with focus to mine waste, avalanche debris, hazard trees and historic structures and more.
 2. Evaluation of riparian health, channel and stream bank stability, vegetation, fish populations, macro-invertebrates, and water quality throughout the watershed.
2. HWA will work with Division of Water Resources (DWR), Rio Grande Water Conservation District and City of Creede to review all water rights in the watershed and integrate data as indicated. May include spatial mapping to ensure proper location of water rights and diversions.

Deliverable:

1. Mitigation Planning. HWA will work with landowners to identify the best mitigation plan and/or monitoring plan to prevent debris accumulation. Partners will inform Mineral County and Town of Creede officials of areas that should be prioritized.
2. Coordination with Mineral County Emergency Manager to integrate necessary information into Emergency Response Plan for Willow Creek.
3. HWA will create a final report, Willow Creek Watershed Inventory, for use by stakeholders as part of creating the Comprehensive Willow Creek Watershed Planning Report.

Task 2: Repair Grizzly at Amethyst 5 Mine site

Description of Task: HWA will work with Mineral County to install a large new grizzly upstream of culvert at the Amethyst 5 Mine site on Willow Creek.

Method/Procedure: A large new grizzly will be anchored into the concrete foundation in the pool upstream of culvert at the Amethyst 5 Mine site on Willow Creek.

Deliverable: Installation of the grizzly will prevent large debris flow from moving downstream into West Willow Creek, protecting downstream capped tailings, waste rock piles, the flume through Creede and other key infrastructure. Flood risk will also be reduced through installation of new grizzly by limiting debris accumulation. New grizzly will be appropriately sized to accommodate debris flows associated with climatic shifts, potential fire, and increased return intervals on peak rainfall events.

Task 3: Repairs to restore operational capacity to Gaging Station on Willow Creek

Description of Task: HWA will work with contractor, local government and DWR to establish an operable and accurate gaging station on Willow Creek.

Method/Procedure:

1. Installation of stream gage, rain gage, radar unit and modem into gage at the head of the flume on Willow Creek.
2. Contract for training of dedicated local staff to establish rating curve for gaging station, and to ensure quality assurance practices for local maintenance and annual maintenance.
3. Contract with Hydromet Cloud as data sensing site.
4. Work with DWR in the San Luis Valley to ensure we are generating high quality usable data.

Deliverable: The gaging station on Willow Creek will be made operational. This will allow real time, accurate determination of flow volumes on Willow Creek. This will allow for appropriate planning for other infrastructure needs/improvements into the future, and provide accurate flow data which is essential to water supply delivery in the surrounding area. Gage data will define acceptable in-stream flows that would sustain a healthy benthic and fish population. Improvement to gage station will also allow for better data sharing with CWCB for decision making.

Objective 3: Submission of a formal proposal to the EPA, USFS by the Mineral County Community and other stakeholders to address water quality, fisheries and the possible alternatives to active water treatment for the Nelson Commodore Super Fund Site. The EPA has asked the community in specific terms, “What are our most key high level goals for the Willow Creek Watershed downstream from the Nelson Tunnel/Commodore Waste Rock Pile Superfund Site.” To this end, we continue to hold community meetings with the EPA, USFS, TU, and Nelson Tunnel Partners regarding issues related to water quality, the potentiality for establishing fisheries downstream, identification of alternate funding strategies to meet long-term goals for Willow Creek and the water contamination issues caused by both the Nelson Site itself, as well as other non-point source locations downstream via other projects and site locations. Results from the specific Tasks below will be essential pieces to proposal to EPA, as well as support other measurable objectives of The Plan, specifically, the establishment of a sustainable fishery in lower Willow Creek floodplain.

Task 1: Assessment of Benthic invertebrates

Description of Task: TU and Headwaters Alliance will work together to collect benthic samples at up to five sites in the Willow Creek Watershed.

Method/Procedure: Sampling protocols will align with the State of Colorado’s Water Quality Control Division (WQCD) methodology and multi-metric index (MMI). Timberline Aquatics Inc. would be utilized as the outside lab for sample processing. Specific steps to accomplish this task include:

1. Sample site identification at up to 5 sites in the Watershed.
2. Field work and sample collection.
3. Sample preservation and shipping to Timberline Aquatics.
4. Macroinvertebrate sorting, identification, and analysis.
5. Brief summary of data and comparison to State MMI.

Deliverable: Summary report of MMI data will evaluate specific site characteristics and compare results to State parameters. Results of report will highlight deficiencies in habitat at sites and recommend

actions to improve MMI score. Project partners will also consult with EPA Aquatic Toxicologist as to how this data relates to mining impacted issues from the Creede Mining District.

Task 2: Water Quality Sampling and report on baseline conditions to determine acceptable water quality standards.

Description of Task: Gather up to five water quality samples during two separate events (high and low flow) in areas of deficiency throughout WC watershed. These will primarily be located in lower Willow Creek Floodplain where degradation and channel abandonment occurred in 2019. TU will locate sampling sites to bracket suspected sources of contamination to complement existing EPA sampling sites.

Methods/Procedures: Site selection will take place after gathering input from EPA staff on where their planned sampling will occur. Sampling approaches will follow standard operating procedures (SOPs) from State WQCD that gather four samples per site along with flow data. Samples will be appropriately preserved and shipped to ACZ Labs in Steamboat Springs, CO. This lab is being selected because it is recognized by other State/Federal agencies so all collected data can be appropriately shared and validated.

Deliverable: Data from Lower Willow Creek area and past events will be evaluated and compared to existing State table value standards (TVS).

Task 3: Integration of all water quality data on WC into single, accessible data-base.

Description of Task: Gathering of data from Task 2 above and other sampling events conducted by partner agencies. Past data includes over 20 years of sampling along Willow Creek, tributaries, and the main stem of the Rio Grande. Incorporation and gathering of data will focus primarily on water quality. TU will assist Headwaters Alliance and project partners in the establishment of water quality database. TU has extensive experience creating water quality databases as part of past EPA nine element watershed plans.

Methods/Procedures: Development of a watershed specific excel spreadsheet that georeferences historic and new sites, and their relationship to potential sources of contamination. HWA will employ a summer seasonal employee to aid in accomplishing the volume of work involved in completing this task.

Deliverable: Creation of Willow Creek water quality database that will evaluate suspected sources of contamination, loading, areas of improvement, and comparison of data to State standards.

Task 4: Headwaters Alliance and TU will work together to solicit feedback from community and Town of Creede regarding goals and objectives for the watershed. This data will be essential in facilitating discussions with EPA and USFS on where federal dollars can be most efficiently spent to improve water quality in the watershed.

Description of Task: Soliciting feedback and community input through outreach and meetings to generate a consensus of preferred watershed goals.

Method/Procedure: Engaging discussions and requests for public feedback through known effect outreach and meeting methods. Direct communication between Headwaters Alliance, TU, EPA, State, and USFS will also be beneficial on establishment of goals and objectives.

Deliverable: Unified consensus that prioritizes goals and objectives for the WC watershed. This can then be used by agencies to help move forward interim remedial/removal action objectives that focus on water quality improvement in the upper WC watershed. Ensuring that EPA objectives complement the

overall goals of the Plan could impact the entire watershed, which is why this collaborative piece is essential. Working with EPA to reduce or limit the 300 gallons per minute emanating from the Nelson Tunnel could have exponential improvements on the water quality of Willow Creek. Incremental improvements like this could be the difference maker for viable aquatic habitat.

Objective 4: Partners will convene to establish criteria for updated Scope of Work and subsequent Request for Proposals (RFP) that addresses engineering to complete design plans that replace outdated and insufficient flood control structures in the North Creede reach of Willow Creek.

We are reapplying for funds to address flood mitigation planning in the North Creede reach (Reach 4) of Willow Creek. These funds had been awarded to Headwaters Alliance in 2018 by CWCB as Flood Mitigation project under the Colorado Watershed Restoration Program. However, two factors delayed moving forward with the original scope of work. First, there have been ongoing revisions to the floodplain map; the most current by Woods PLC at the request of CWCB. Second, the original scope of work did not consider the levy, located at the northern inlet of the flume. These two variables collided in March of 2019, at which time Headwaters Alliance had facilitated an investigation into whether the levy could be FEMA certified. Just as the initial steps were being taken, Woods PLC released *CHAMP Phase III, Mineral County, Colorado Hydrologic Analyses Report*. This report significantly increased the floodplain flow volume requirement for Creede, precipitating a request for a site visit and review by the engineers and a paleo-hydrologist. The potential increase to flow-volume placed the levy investigation on hold. We will be better able to define the full scope of work required in the North Creede area upon receipt of the finalized report and recommendations.

With that said, there has been extensive degradation of the reach to control the channel of the creek since the 1890s. This degraded state of the creek channel combined with flood capacity problems, degrading wooden weir and cribbing structures is such that it has prompted Headwaters Alliance to take a comprehensive approach to restoring this reach by adding it to this Plan. To make this project accessible to the community, the project has also expanded to include a creek side trail for non-motorized use near Silver Park (the hockey pond park) parallel to the lower project reach. Many of the concurrent objectives enumerated as part of The Comprehensive Willow Creek Watershed Plan will serve to enhance flood mitigation planning not only in the North Creede reach, but throughout Willow Creek, such as identification and mitigation planning of debris (Objective 2:Task 1), recreational planning (trails and park improvements) and most importantly, improve the Willow Creek watershed's flood capacity and protect key infrastructure, including the Creede City Flume, utilities, private property and enhance connectivity with the lower Willow Creek floodplain.

Task 1: Active Flood Mitigation Work in North Creede. High water runoff from snowmelt in June 2019 cause concern for flooding in North Creede reach, particularly related to the stability of the culvert on East Willow Creek just above the confluence. High waters exacerbated the stream bank instability causing significant erosion of large rocks and debris into the creek from the 4' bank, threatening to collapse the road. Mineral County generously provided the necessary equipment and labor, even contracting out to ensure there were enough hands on deck to protect the road and ensure water flows were directed to flume.

Task 2: RFP development that addresses comprehensive needs in North Creede reach from north of flume through confluence of East and West Willow Creeks.

Description of Task: Develop/release RFP for Flood Mitigation North Creede and select and engineering firm.

Method/Procedure:

1. Meeting with Work Group and Community to update comprehensive needs in North Creede reach to articulate design criteria into an RFP for the 30% design of North Creede reach.
2. Work with CWCBC Flood office for RFP input that integrates new flow volume requirements, low flow channels, average high water channels, flood prone benches, and transitional zones.
3. Release RFP to list of pre-qualified Engineering Firms for North Creede 30% design.
4. Partners and CWCBC will review proposals and select an Engineer based on “best-value” bid.

Deliverable:

1. Develop and release an RFP for 30% design for North Creede reach (Reach 4)
2. Select a qualified Engineer through release of RFP and open bidding process.

Task 3: 30% Design for North Creede reach (Reach 4).

Description of Task: Contracted engineering firm will submit a 30% design for North Creede reach.

Method:

1. Design Engineer will complete Field Survey of channel features and associated landscape that document existing conditions of the site, as well as past constructed features.
2. Recent LiDAR mapping of entire reach will be available to Engineer so hydraulic model or Civil 3D equivalent plan can be developed.

Deliverable:

1. Engage Stakeholders. The design will be presented to the City of Creede and community through established outreach methods for review and response to assist in incorporating stakeholder and public input into the project design.
2. Completion an overarching 30% Design. This Design will include a set of design drawings, cost estimates, and material quantities that can be used in future grant applications, permits, and construction RFPs.

Objective 5: Partners will convene to establish criteria for planning for completing repairs to the Flume through Creede, with the intent of enhancing this utilitarian feature with conceptual planning for development as a usable public space. The flume was built in 1949 by the US Army Corps of Engineers. It was built in response to flooding that occurred from a large precipitation event which damaged portions of town. The flume was designed to be built out of grouted riprap material and handle approximately 1000 cfs. The flume has held up extremely well over the years but had started to deteriorate at the normal water flow line. Until 2018 it had had no significant repairs or maintenance and large portions of the grouted riprap had come loose and which were the cause of potential problems. In 2018, a project was funded by DOLA to repair these potential problem areas. A four inch thick layer of shotcrete was applied to the invert of the flume and extended up each side 18 inches vertically. This provided a new "wear" surface to the flume and resecured the riprap which had started to come loose. This project started at the mouth of the flume at the north end of town and extended to the south portion

of town where it spilled out into the lower Willow Creek restoration area. The next phase of planning will include completing the installation of a new wear surface on the remaining vertical walls of the flume and creating a design that brings the flume into the community as more than a utility, but as a site for water education, enhanced public safety and recreational use.

Task 1: Planning with City of Creede for completion of flume repair work. The City of Creede has secured the funds for this planning related to this reach. Headwaters Alliance will work closely with the City to ensure the goals that are central to The Plan - integrating consistent data and criteria across reaches, consideration of downstream impacts and flood mitigation through an inclusive process.

Task 2: Conceptual design/artist rendering for alternative ways in which the flume can be integrated into the community to benefit community safety, water quality, and recreational access.

Description of Task: HWA will work with City and other stakeholders through the planning process for the flume to release an RFP for artists rendering/conceptual design for the flume.

Method/Procedure: As stated in other areas of the scope of work, we will work through a community process to create and release an RFP for conceptual design of the flume, inclusive of repair needs, public access and safety, recreational opportunities and beautification.

Deliverable: Select a qualified artist, landscape architect, environmental engineer or the like to create a conceptual design/artist rendering of the flume through Creede, CO. Engage in community for design review process.

Objective 6: Partners and landowners of the lower Willow Creek floodplain will convene to determine design criteria, balancing both the needs of the creek and the unique needs/preferences of individual landowners to release an RFP resulting in a 30% Design for the entire reach of the lower Willow Creek floodplain, from the outlet of the flume to the confluence with the Rio Grande River. As articulated in the grant narrative, there is great need for an improved approach to restoring the lower Willow Creek floodplain. This process is meant to invite collaboration, enable negotiation of a multiplicity of specific needs by individual landowners with the central goal of ensuring adequate flow conveyance via appropriate channel geometry to facilitate functioning floodplain connectivity. Ensuring adequate revegetation efforts are part of both the 30% design and future funding endeavors is also key.

Task 1: Request for Proposal (RFP) development through Lower Willow Creek Floodplain work group meeting(s)

Description of Task: Facilitated group process, including landowners, community members and other key stakeholders to articulate design criteria and elements to be included in an RFP for the 30% design of lower Willow Creek floodplain across property lines.

Method/Procedure:

1. Facilitation planning and preparation with designated facilitator.
2. Multiple meeting structure will include capture partner design needs, including flow conveyance and maintenance of water rights, channel geometry, and floodplain connectivity given the new channel alignment. Other considerations will include fish habitat, passage, and extent/diversity of riparian vegetation. Meeting process will lead to development of draft RFP and group approval.
3. RFP will be released to pre-qualified Engineering Firms for lower Willow Creek 30% design.
4. Partner stakeholders will review proposals and select an Engineer based on "best-value" bid.

Deliverable:

1. Establish an RFP for 30% design of lower Willow Creek floodplain from flume to Rio Grande River. Aspects of the 30% design will focus on flow conveyance and maintenance, channel geometry and planform, floodplain connectivity, aquatic habitat, and riparian vegetation.
2. Select a qualified Engineer through release of RFP and open bidding process.

Task 2: 30% Design for lower Willow Creek floodplain, from outlet of flume to the confluence with the Rio Grande

Description of Task: Contracted engineering firm will submit a comprehensive 30% design for the entire reach of the lower Willow Creek floodplain.

Method:

1. Headwaters Alliance will work with Lower Willow Creek Restoration Company, and Trout Unlimited to implement emergency stream stabilization features are incorporated into 30% design. Some of the features installed in October of 2019 focused on bank and channel stability along the historic railroad grade and Emperius tailings pile.
2. Design Engineer will complete Field Survey of channel features and associated landscape that document existing conditions of the site, as well as past constructed features.
3. Recent LiDAR mapping of entire reach will be available to Engineer so hydraulic model or Civil 3D equivalent plan can be developed.
4. 30% Design should also incorporate a geomorphic assessment of reach and potential habitat improvements.
5. HWA will work with landowners to identify funding strategies for design implementation.

Deliverable:

1. Completion of Field Survey, Geomorphic Assessment, model development within an overarching 30% Design. This Design will include a set of design drawings, cost estimates, and material quantities that can be used in future grant applications, permits, and construction RFPs.
2. Engage Stakeholders. The design will be presented to the landowners, stakeholders and community through established outreach methods for review and response to assist in incorporating stakeholder and public input into the project design.

Objective 7: Administration and midwifing of the process and projects related to establishing the Willow Creek Watershed Plan.

Task 1: Oversight of all facets of administering the facilitated partner process by which the Comprehensive Willow Creek watershed plan is established. This includes seeking professional facilitation through an open-bid process of pre-qualified firms.

Task 2: Direct implementation and participation in completing an inventory of Willow Creek Watershed and producing a final written report: *Willow Creek Watershed Inventory, 2020*.

Task 3: Coordinate and ensure completion of repair of grizzly at Amethyst 5 Mine. This task is underway for implementation as completion. This occurred as a result of the County committing to make a match of \$10,000 for the purposes of this grant. HWA suggested they apply those funds immediately given the importance of having the grizzly in situ prior to any significant winter weather.

Task 4: Coordinate and ensure completion of repair and operations of gaging station on Willow Creek. As part of determining budget, HWA worked with Black Creek Hydrology to determine need and projected costs for installation, training and ongoing maintenance of existing gage.

Task 5: Ongoing community leadership in working with Nelson Tunnel Partners, and facilitation of water quality and benthic invertebrate assessments and establishment of unified, accessible database. HWA and TU will work jointly on this objective.

Task 6: Ongoing administration of the North Creede Flood Mitigation Project to accomplish stated goals as listed in Objective 4.

Task 7: Key participation in planning for completion of flume repair project, with the inclusion of obtaining conceptual designs for flume that satisfy environmental, public recreational access and safety use.

Task 8: Coordinate and ensure completion of a preliminary design for the entire reach of the lower Willow Creek floodplain to accomplish stated goals as listed in Objective 6.

Task 9: Ensure community has multiple opportunities to remain informed, participate and provide feedback, guidance and hands-on volunteerism.

Task 10: Ensure the completion of this project ensuring the following outcomes. The Comprehensive Willow Creek Watershed Plan will result in:

1. Two published documents: *Willow Creek Inventory* and *The Comprehensive Willow Creek Watershed Plan*;
2. Repairs to the grizzly protecting the culvert at the Amethyst 5 Mine;
3. An operating and accurate water gage on Willow Creek;
4. Assessment of benthic invertebrates and water quality on Willow Creek;
5. Establishing an integrated and accessible water quality database;
6. 30% design for flood mitigation in North Creede reach;
7. Conceptual design for Flume;
8. 30% design for the lower Willow Creek floodplain from Flume to Rio Grande.

These outcomes will specifically enhance data sharing and project design across reaches, restore and protect land and water within the watershed, mitigate flood hazards - all while integrating multiple objectives. The Plan will ensure that future projects can build from the integration of data collection, analysis and sharing, that there is a template for cross reach/cross stakeholder collaboration and quite simply, informed understanding of how to care for our watershed going forward.

Task	Description	Target Start Date	Target Completion Date	CWCB Funds	Other Funding Cash - Source	Other Funding Cash	Other Funding In-Kind - Source	Other Funding In Kind	Total	
OBJECTIVE 1: Professional facilitation of project partners and stakeholders										
1	Stakeholder Meetings: 4 - 6 meetings minimum	4/1/20	2/1/22	\$20,000	Partners for Places *Award May 2020	\$20,000	Headwaters Alliance	\$1,200	\$41,200	
2	Focused Work Group Meetings, 4 groups to meet 3-5 times minimum. Specific tasks listed as separate objectives.	4/1/20	2/1/22							
4	Final Report: Comprehensive Willow Creek Watershed: Planning for Integrated Design	4/1/20	2/1/22	\$10,000					\$10,000	
	Objective 1 Subtotal			\$30,000		\$20,000		\$1,200	\$51,200	
OBJECTIVE 2: Willow Creek Watershed Inventory and immediate priorities										
1	Inventory of Willow Creek Watershed by reaches.	4/1/20	12/15/20		Colorado Healthy Rivers Fund Award Jan 30, 2020	\$12,000	USFS	\$2,500	\$2,500	
1A	Debris Assessment, riparian, habitat and structural inventory	4/1/20	12/15/20	\$7,387						
1B	Mitigation Planning	4/1/20	12/15/20				WCRC	\$2,000	\$2,000	
1C	Integration into Emergency Response Plan	4/1/20	12/15/20				Mineral County	\$2,500	\$2,500	
1D	Inventory of Willow Creek Watershed Report	4/1/20	4/15/21						\$12,000	
2	Repair Culvert/Grizzly at Amethyst 5 Mine site	11/1/19	11/20/19		Mineral County *secured	\$10,000			\$10,000	
3	Make Gaging Station on Willow Creek operational									
3A	Stream and rain gage, radar, modem, current meter and other equipment	4/15/20 weather allowing	6/15/20	\$9,750					\$9,750	
3B	Installation	4/15/20 weather allowing	6/15/20	\$7,200					\$7,200	
3C	Hydronet Cloud Service, year 1	4/15/20 weather allowing	6/15/20		Headwaters Alliance*secured	\$650			\$650	
3D	Training	6/15/20	9/30/20	\$1,800			WCRC	\$2,725	\$4,525	
	Objective 2 Subtotal			\$26,137		\$22,650		\$9,725	\$51,125	
OBJECTIVE 3: Focused Work Group: Nelson Tunnel Water Quality Questions										
1	Assessment of Benthic invertebrates	5/1/20	1/15/21	\$6,678	Trout Unlimited *secured	\$4,485			\$11,163	
2	Report on workable baseline conditions to determine acceptable water quality standards within Willow Creek.	5/1/20	1/15/21	\$3,428			Trout Unlimited	\$4,832	\$8,260	
3	Integration of all water quality data on WC into single, accessible data base	4/1/20	1/15/21	\$13,489					\$13,489	
	Objective 3 Subtotal			\$23,595		\$4,485		\$4,832	\$32,912	

	OBJECTIVE 4: Focused Work Group: North Creede Flood Mitigation								
1	Active Flood Mitigation Work	6/9/19	7/25/19				Mineral County	\$4,077	\$4,077
2	Develop and Release RFP for Flood Mitigation North Creede	4/1/20	8/15/20						\$0
3	Contracted engineering firm will submit a 30% design for North Creede reach.	9/15/20	1/15/21	\$25,000	Headwaters Alliance *secured	\$7,200			\$32,200
					City of Creede *provisional yes	\$10,000			\$10,000
	Objective 4 Subtotal			\$25,000		\$17,200		\$4,077	\$46,277
\$46,277									
	OBJECTIVE 5: Conceptual Designs for completing repairs to flume								
1	Planning process with City of Creede and other stakeholders for completing repairs to flume.	4/1/20	4/1/21		Partners for Places *Award made May 2020	\$5,000			\$5,000
					City of Creede *secured	\$10,500			\$10,500
2	Conceptual Designs/Artist Renderings of integrating flume into community design	10/1/20	5/1/21	\$3,000	Arts in Society *To apply	\$8,000			\$11,000
	Objective 5 Subtotal			\$3,000		\$23,500		\$0	\$26,500
\$26,500									
	OBJECTIVE 6: Focused Work Group: Lower Willow Creek Floodplain								
1	RFP development via Lower Willow Creek Floodplain Work Group and community participation, solicit bids, select Engineer	04/01/20	1/1/21	\$11,775	Partners for Places *Award made May 2020	\$5,000	Trout Unlimited	\$1,063	\$17,838
2	30% Design for lower Willow Creek floodplain, from outlet of flume to the confluence with the Rio Grande	04/01/21	8/15/21	\$85,000	NFWF *secured	\$23,400			\$108,400
2A	Installation of emergency stream stabilization features to be incorporated into 30% design	10/21/19	10/25/19		Trout Unlimited *secured	\$28,375			\$28,375
					Lower Willow Creek Restoration Company *secured	\$40,000			\$40,000
3	Stakeholder and Community Feedback	4/1/20	12/31/21				Headwaters Alliance	\$1,000	\$1,000
	Objective 6 Subtotal			\$96,775		\$96,775		\$2,063	\$195,613
\$195,613									

OBJECTIVE 7: Administration and Midwifing of Comprehensive Willow Creek Watershed Plan				Please note: CWCB and all other matching cash and in-kind funds listed will cover all tasks in Objective 7, and funding does not have direct line item correlation to tasks. CWCB are totaled on Task 10 line.					
1	Oversight of all facets of administering the partner process by which the Comprehensive Willow Creek watershed plan is established	4/1/20	6/30/21		Mineral County *secured	\$1,500			\$1,500
2	Direct implementation and participation in completing an inventory of Willow Creek Watershed and producing a final report of the inventory.	4/1/20	4/15/21		NFWF *secured	\$8,400			\$8,400
3	Coordinate and ensure completion of repair of grizzly at Amethyst 5 Mine	11/1/20	11/15/20		City of Creede. *provisional yes	\$6,500			\$6,500
4	Coordinate and ensure completion of repair and operations of gaging station on Willow Creek.	4/1/20	12/30/20 with articulated rating curve		Rio Grande Water onservation District *strong yes	\$12,000			\$12,000
5	Coordinate and facilitate Community Process related to the Nelson Tunnel Superfund Site	11/1/19	Long term work		Wason Ranch *soft yes	\$4,000			\$4,000
6	Ongoing administration of the North Creede Flood Mitigation Project	11/1/19	5/1/21		Mountain Views RV Park *soft yes	\$4,000			\$4,000
7	Key participation in planning for completion of flume repair project, with the inclusion of obtaining conceptual designs for flume that satisfy environmental, public recreational access and safety use.	11/1/19	7/1/21		Partners for Places *Award made May 2020	\$13,800			\$13,800
8	Coordinate and ensure completion of a preliminary design for the entire reach of the lower Willow Creek floodplain.	4/1/20	12/31/21						0
9	Ensure community has multiple opportunities to remain informed, participate and provide feedback, guidance and hands-on volunteerism.	11/1/19	2/28/22						
10	Ensure the publication of a final report:Comprehensive Willow Creek Watershed Plan.	4/1/20	2/28/22		\$52,200				\$52,200
				\$52,200		\$50,200		\$0	\$102,400
									\$102,400
	GRAND TOTALS			\$256,707		\$234,810		\$21,897	\$506,027
				\$256,707			\$256,707		\$513,414

3.Timeline for Comprehensive Willow Creek Watershed Plan												
		Lead	2019	2020								
ACTIVITY			Q4	Q1	April	May	June	July	Aug	Sept	Oct	Nov
FACILITATED PROCESS												
Primary Watershed Plan Stakeholder Meetings		HWA	Preparation			Groundwor k		Preparation		Lit Review		
Lit Review/Creek Criteria Work Group		HWA				Literature Review						
Nelson Tunnel Superfund Site		HWA		Mtg/w EPA		Mtg/w EPA	Review of H2o quality, Benthic invertebrates, Scenario planning,Facilitated Comm					
North Creede Reach		HWA	Preparation		Mtg		Mtg	Issue RFP for 30% Design		Select Firm		
Flume		Creede	Preparation		Mtg					Mtg	Issue RFP for Artists Conce	
Lower Willow Creek Floodplain		TU/HWA	Preparation				#1		#2		#3	
IMMEDIATE NEEDS												
Willow Creek Stream Gage		HWA				Installation	Establish Rating Curve					
Inventory of Willow Creek		HWA/TU	Assessment, Water Rights Investigation, Mitigation Planning									
Assessment of Benthic invertebrates &MMI data		TU				Assessment						
Water Quality Sampling and report on baseline conditions		TU				High water range		Low water range				
Integrate WQ data into single, accessible data-base		TU			Set-up		Past data input			New data input		

4. Comprehensive Willow Creek Watershed Plan Partners Contributions

Organization	Role		Total
Active Partners of Comprehensive Planning Process			
Headwaters Alliance	Project Sponsor, Administrative Lead, Partner Participation	Cash Match & In Kind *secured*	\$7,850 cash \$2,200 in kind
Trout Unlimited	Lead Partner & Technical Assistance	Cash Match & In Kind *secured*	\$32,860 cash \$5,895 in kind
City of Creede	Partner Participation & Technical Assistance	Cash Match *secured and or provisional yes*	\$26,500 cash
Mineral County	Partner Participation & Technical Assistance	Cash Match & In Kind *secured*	\$11,500 cash \$6,577 in kind
Mineral County Emergency Manager	Technical Assistance	In Kind	In Kind
United States Forest Service	Partner Participation & Technical Assistance	In Kind	\$2,500
Colorado Parks and Wildlife	Partner Participation & Technical Assistance	In Kind	In Kind
Lower Willow Creek Restoration Company	Match and Partner Participation	Cash Match *secured*	\$40,000
Mineral County Fairgrounds	Partner Participation	In Kind	In Kind
Wason Ranch	Match and Partner participation	Cash Match *soft yes, 12/10/20	\$4,000
Mountain Views RV Park	Match and Partner participation	Cash Match *soft yes, 12/10/20	\$4,000
Creede Community, including Willow Creek Reclamation Committee	Technical Assistance, volunteerism and community participation	In kind, design review, inventory field work	\$4,725 In kind inventory field work
Funding Partners of Comprehensive Willow Creek Watershed Plan			
Rio Grande Water Conservation District	Match and Technical Assistance	Cash Match *soft yes, 12/10/20	\$12,000
Partners for Places	Match funding	Cash Match *award May 2020	\$43,800
National Fish and Wildlife Federation	Match Funding	Cash Match *secured*	\$31,800
Colorado Healthy Rivers	Match Funding	Cash Match *award Jan 2020*	\$12,000
Arts in Society	Match and Technical Assistance	Cash Match *seeking funds*	\$8,000
Rio Grande Basin Roundtable	Technical Assistance and Partner Participation	In Kind	In Kind
Colorado Water Conservation Board	Funding and Technical Assistance	Cash and review of plan	\$256,707

5. Maps Explanation

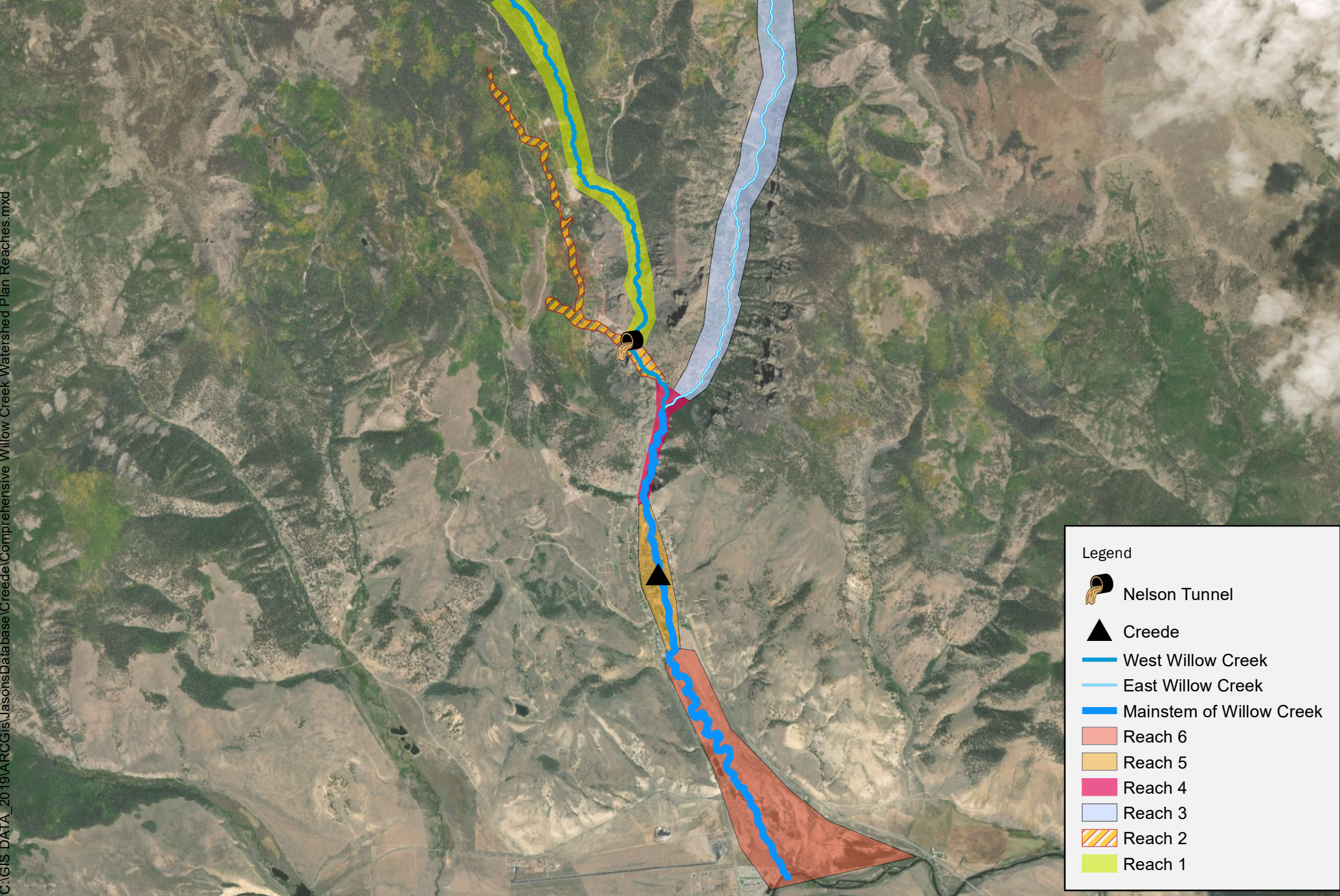
- a. Map of Willow Creek Watershed – This map delineates the two HUC 12 watersheds where work will occur with respect to this grant and proposal. The two watersheds highlighted in this Figure are West Willow Creek – Willow Creek – (HUC12) 130100010702 and Whited Creek – East Willow Creek – (HUC12) 130100010701.

The following maps represent designated reaches in Willow Creek Watershed as described in the grant proposal.

- b. Comprehensive Willow Creek Watershed Plan Reaches – Overall view of each specific Reach, number, and spatial location in the watershed. Reach boundaries do not correlate to HUC boundaries, but pertain to infrastructure, river features, Superfund boundaries, and other aspects specific to each Reach.
- c. Reach 1 - Headwaters of West Willow Creek to Nelson Tunnel Site. This map represents the headwaters of West Willow to just above the discharge of the Nelson Tunnel.
- d. Reach 2 - Nelson Tunnel/Commodore Waste Rock Superfund Site – Please note that this shapefile attempts to represent Operable Unit (OU) boundaries of the EPA Superfund Site.
- e. Reach 3 - East Willow Creek from headwaters to above confluence of East and West Willow. This Reach represents projects along the East Willow Creek drainage before it meets West Willow Creek.
- f. Reach 4 - North Creede Reach. This Reach begins ½ mile above the confluence of East and West Willow Creeks and down to the flume entrance.
- g. Reach 5 - Flume through City of Creede. Represents the flume reach through the City of Creede and any infrastructure along the way.
- h. Reach 6 - Lower Willow Creek Floodplain. This Reach begins at flume outlet and continues to the confluence with the Rio Grande River.



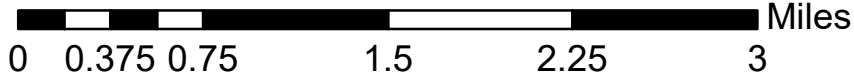
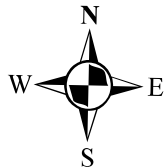
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Legend

-  Nelson Tunnel
-  Creede
-  West Willow Creek
-  East Willow Creek
-  Mainstem of Willow Creek
-  Reach 6
-  Reach 5
-  Reach 4
-  Reach 3
-  Reach 2
-  Reach 1

Title: Comprehensive Willow Creek Watershed Plan Reaches
Date: 10/30/19
Project Partners: Headwaters Alliance and Trout Unlimited
Drawn by: J. Willis



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Legend

 Nelson Tunnel

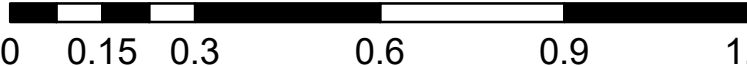
 West Willow Creek

 East Willow Creek

 Reach 1

Title: Reach 1 - Headwaters of West Willow Creek to Nelson Tunnel
Date: 10/30/19
Project Partners: Headwaters Alliance and Trout Unlimited
Drawn by: J. Willis





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Legend



Nelson Tunnel



West Willow Creek



East Willow Creek



Mainstem of Willow Creek

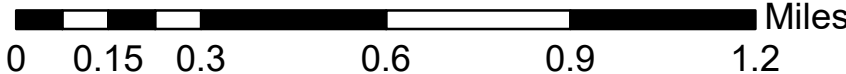
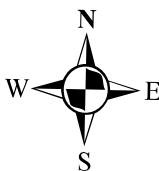


Reach 4

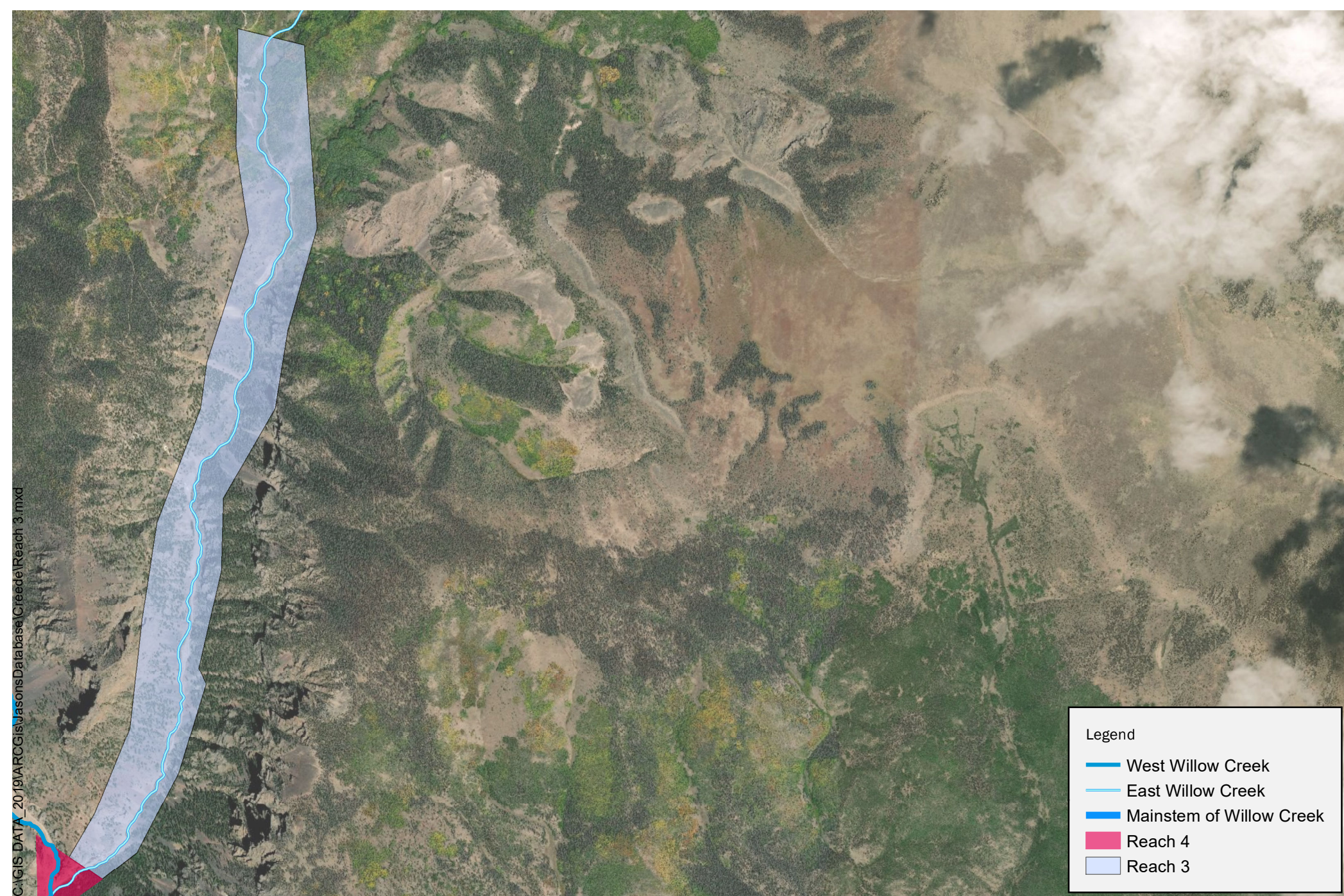


Reach 2

Title: Reach 2 - Nelson Tunnel/Commodore Waste Rock Superfund Site (Operable Unit Boundary is Approximate)
Date: 10/30/19
Project Partners: Headwaters Alliance and Trout Unlimited
Drawn by: J. Willis



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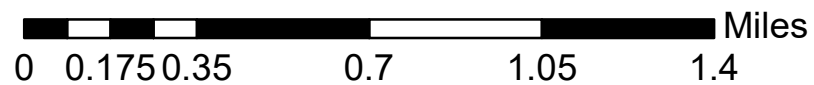
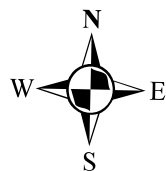
- West Willow Creek
- East Willow Creek
- Mainstem of Willow Creek
- Reach 4
- Reach 3

Title: Reach 3 - East Willow Creek (Headwaters to above confluence with West Willow)

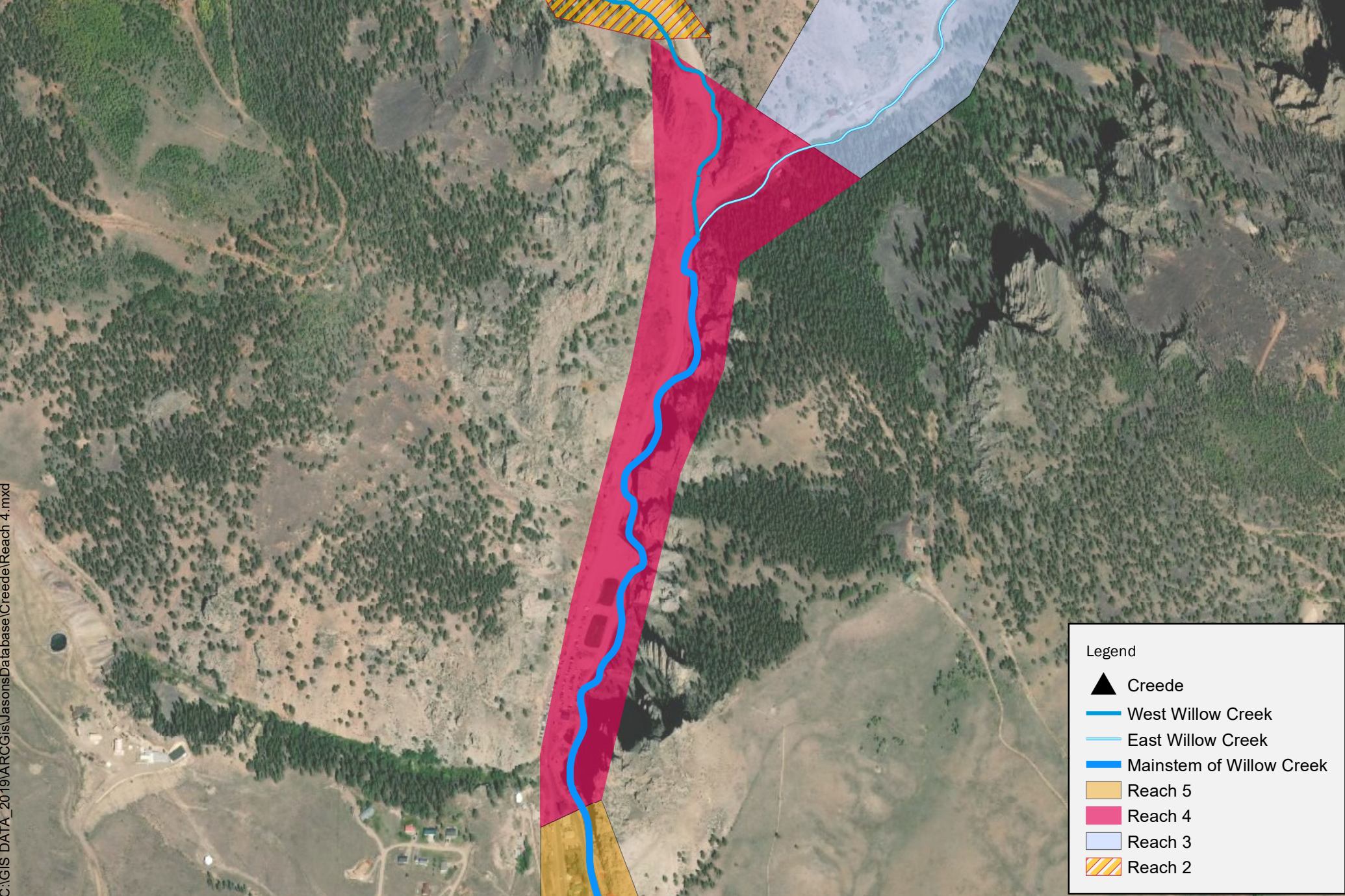
Date: 10/30/19

Project Partners: Headwaters Alliance and Trout Unlimited

Drawn by: J. Willis



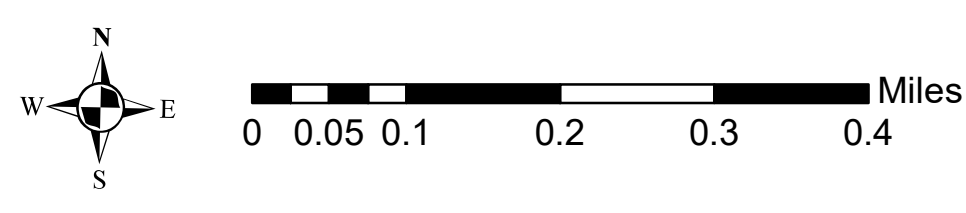
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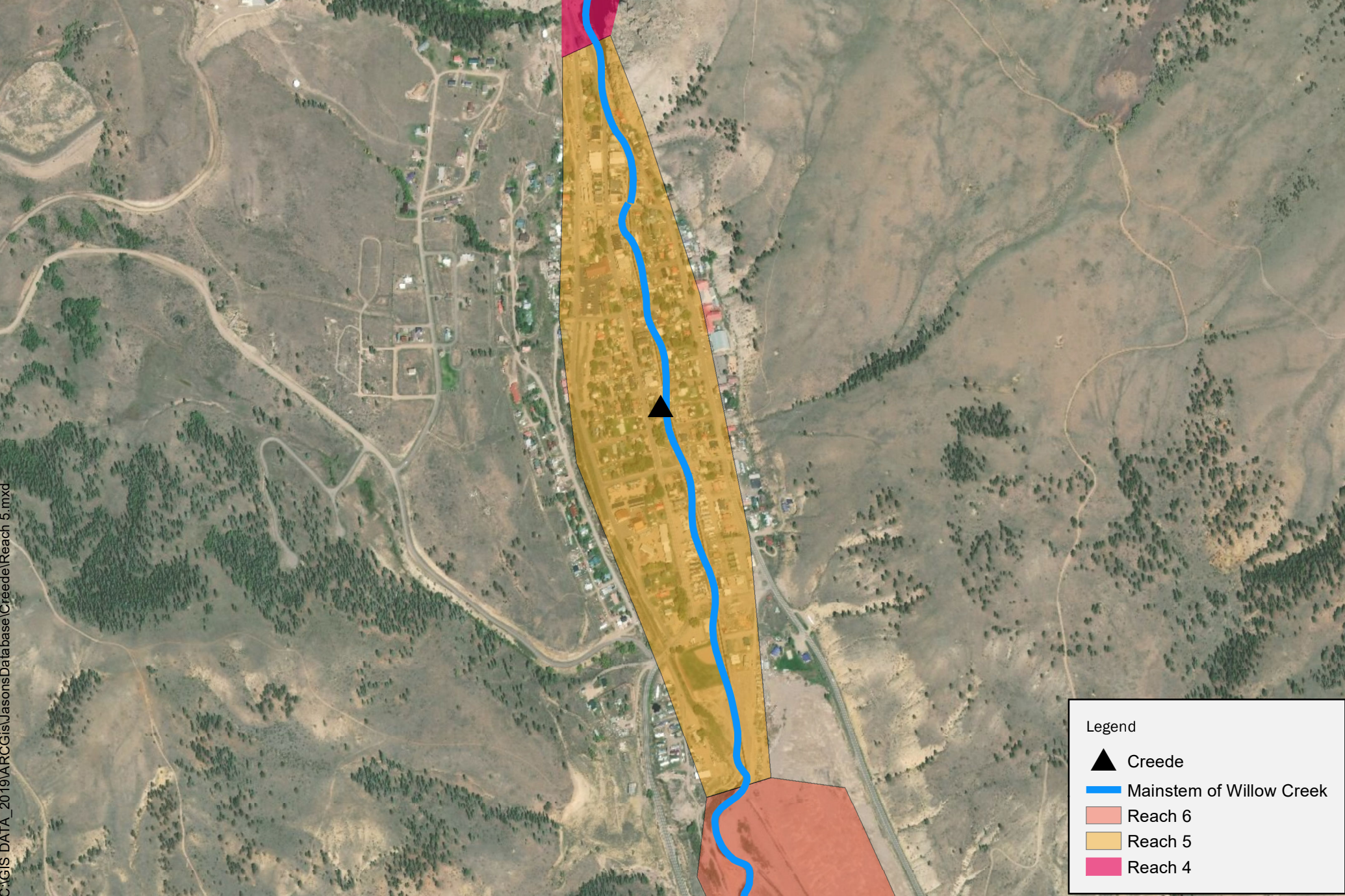
Legend

- ▲ Creede
- West Willow Creek
- East Willow Creek
- Mainstem of Willow Creek
- Reach 5
- Reach 4
- Reach 3
- Reach 2

Title: Reach 4 - North Creede (1/2 mile upstream of West and East Willow Confluence to start of flume)
Date: 10/30/19
Project Partners: Headwaters Alliance and Trout Unlimited
Drawn by: J. Willis



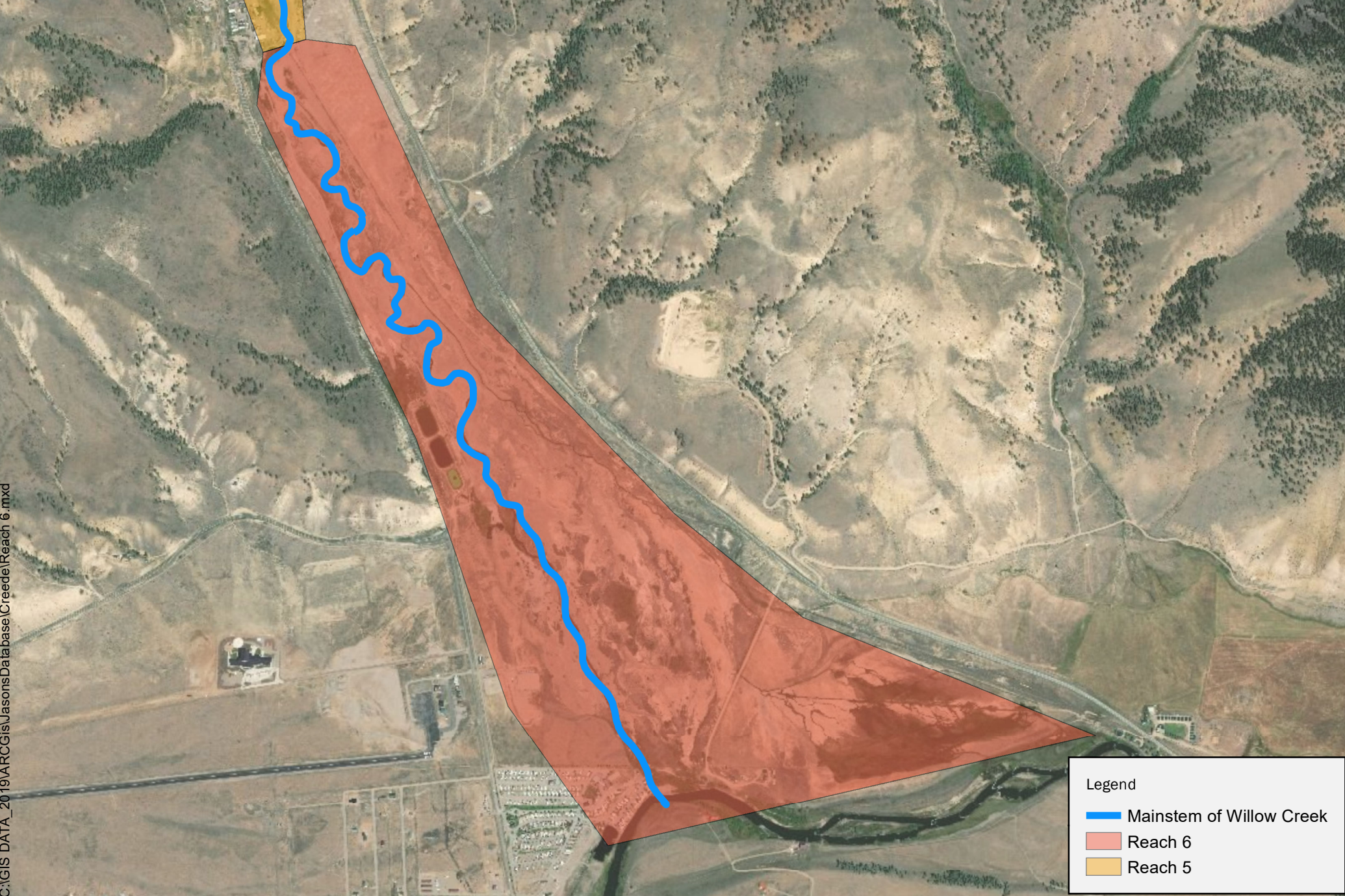
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- Legend
- ▲ Creede
 - Mainstem of Willow Creek
 - Reach 6
 - Reach 5
 - Reach 4

Title: Reach 5 - Flume through City of Creede
Date: 10/30/19
Project Partners: Headwaters Alliance and Trout Unlimited
Drawn by: J. Willis

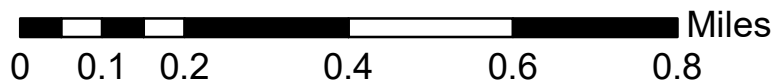
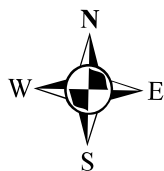
C:\GIS DATA_2019\ARCGIS\JasonsDatabase\Creede\Reach 6.mxd



Legend

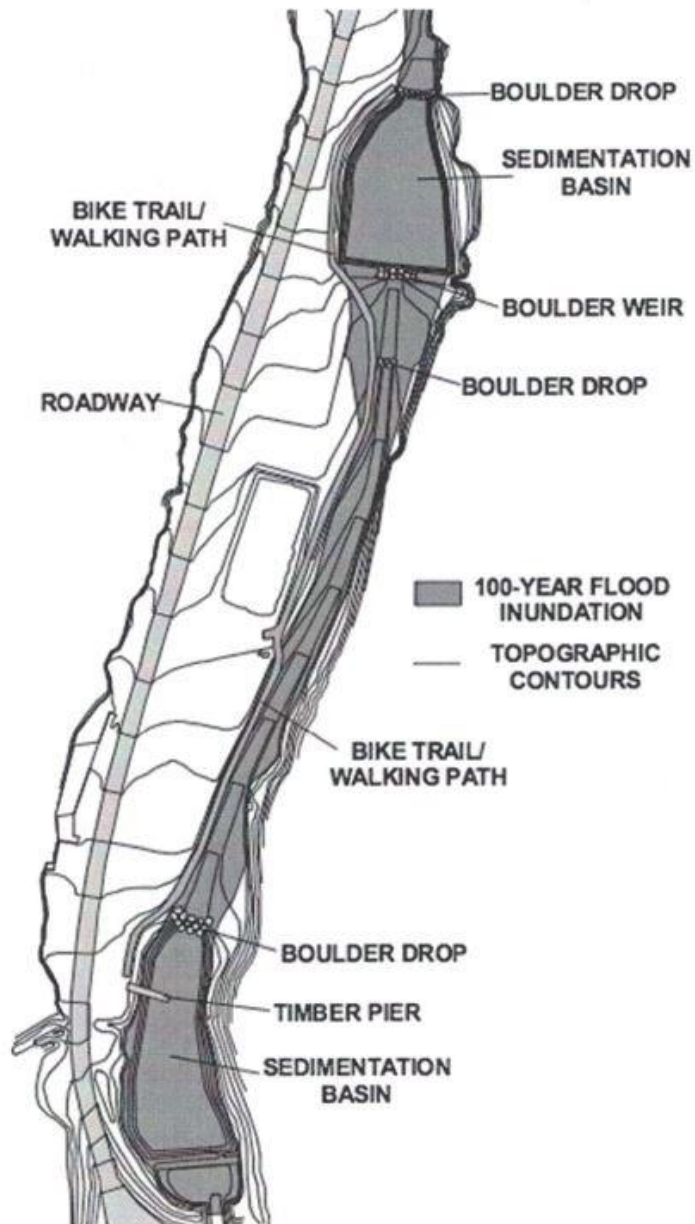
- Mainstem of Willow Creek
- Reach 6
- Reach 5

Title: Reach 6 - Lower Willow Creek Floodplain (End of flume to confluence with Rio Grande River)
Date: 10/30/19
Project Partners: Headwaters Alliance and Trout Unlimited
Drawn by: J. Willis



7. North Creede Flood Mitigation Stream Restoration Conceptual Plan

Argo Engineering (2002) Upper Willow Creek Watershed Flood Control and Stream Stability Study.



8. TU description of stream bank stabilization work on lower Willow Creek and floodplain area during 2019 emergency Fall actions. - TU Program Manager, Jason Willis, was able to secure funding from CDPHE Water and Power Authority to complete emergency stabilization along the degraded reach of lower Willow Creek. While these efforts were primarily incorporated to protect existing infrastructure (trails, railroad grade, tailings pile), they also focused on long-term stability and habitat. Over 2,000 willow cuttings and 5 whole willow clumps were placed either within structures or along stabilized banks of the reach. TU structures were also installed in conjunction with Lower Willow Creek Restoration Company (LWCRCo) riprap to provide habitat and promote riparian vegetation establishment. The partnership with LWCRCo was a positive experience that will facilitate future design and implementation aspects along the reach.



Removal of debris and concrete (upper left) during initial structure installation followed by excavation and willow cutting installation (upper right). Bottom middle photo shows final product including 5 large boulders and over 30 cuttings.

9. PHOTOS

Grizzly at Amethyst Mine, West Willow Creek



Figure c. June 5, 2019 Grizzly at the Amethyst mine before and after debris cleanup by Headwaters Alliance and WCRC volunteers just prior to runoff event.

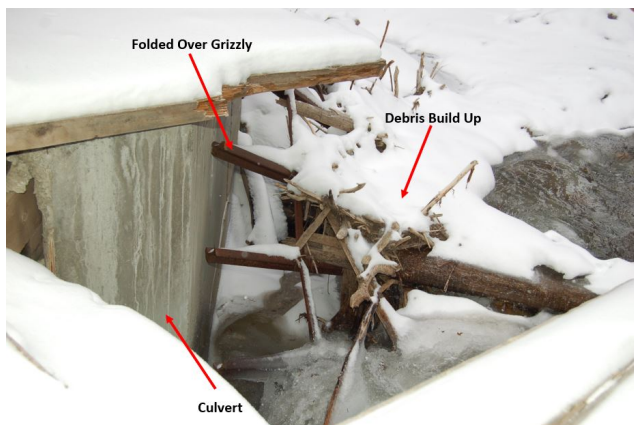


Figure d. October 29, 2019 snow and ice make it difficult to see. Please note grizzly is completely folded over with large debris in culvert due to flooding in June. Due to the immediate need to make these repairs prior to Spring 2020 runoff, Mineral County has committed their match funds for the Comprehensive Willow Creek Watershed Plan for immediate application to repairing the Grizzly at the Amethyst 5 Mine site.



Water Gage at the Top of the Flume Below the Levee



Figure h. Water Gage at the top of the flume. The gage has been inactive since 1987. Without accurate reading of cfs flow volumes during high water events, concern of impacts during high water events cause uncoordinated response actions due to the lack of accurate data. Additionally, the lack of data on Willow Creek has made the floodplain map revision process long and arduous.

Possible areas for enhanced design of Flume



Figure e. Flume behind Rare Things. The owner is willing to put space into public use.



Figure f. South end of flume. Unused public space with potential for the development of arts and green space.

Figure g. Flume at crossing of Highway 149, possible area for public green space.



Lower Willow Creek Floodplain



Figure a. June 12, 2019 Aerial photo depicting impacts from snowmelt runoff. Please note return of creek from engineered single channel to braided stream.

A single design from flume to Rio Grande lines will integrate needs across property lines, radically improve the environmental health of this reach and bring it into use as a key connective corridor and community greenspace.



Figure b. May 6, 2019 Ariel photo of Wason Ranch. Note the absence of vegetation and the need for reclamation work.

This property, while currently in private ownership, is in the process of being placed into conservation easement with the landowners' intent to donate the land into public ownership, allowing for an extended greenspace from Flume to Rio Grande.

Early concepts include establishing a walking trail, fisheries in the lower reaches, interpretive signage to educate on the value of restoring floodplains to ecologically functioning environments.



November 1, 2019

Chris Sturm
Colorado Water Conservation Board
1313 Sherman Street, Room 721
Denver, CO 80203

RE: Colorado Watershed Restoration Grant

Dear Mr. Sturm,

The Basin Rio Grande Roundtable voted unanimously to support Headwaters Alliance's grant application to the CWCB for a Comprehensive Willow Creek Watershed Plan. Creede and Mineral County are stewards within the headwater county of the Rio Grande. And in spite of years of excellent work by both the Willow Creek Reclamation Committee and Headwaters Alliance, Willow Creek remains the single point source for the of zinc and cadmium into the Rio Grande, as well as other metals. Despite the endless uphill battles of remediating the impacts from 100 years of mining and the presence of a designated superfund site, Headwaters Alliance and the Mineral County community continue to work to create a solution for Willow Creek specifically, and their downstream neighbors on the Rio Grande River.

This is no easy task. Headwaters Alliance will be working in partnership with Trout Unlimited, the City of Creede, Mineral County, USFS and many others to create a comprehensive plan for the watershed that lays the foundation for responding to immediate needs, particularly related to flood concerns; for developing responsive solutions to larger issues, such as seeking an integrated design for the lower Willow Creek floodplain; while laying a solid foundation for future work to enhance the Willow Creek Watershed. Given that water supply and water quality is a key issue across Colorado, we are delighted that Headwaters Alliance is working to establish clear and grounded strategies for conservation, restoration and protection of vital water in Mineral County.

We recognize that many of the initiatives present in the Comprehensive Willow Creek Watershed Plan may show up on the updated Basin Implementation Plan for our Basin in 2020. Headwaters Alliance is leading the charge within their county to craft a strategy that merges the short term understanding and needs of the community with the long-term goals of the state water plan. The Rio Grande Basin Roundtable wholeheartedly supports Headwaters Alliance's work to create a Comprehensive Willow Creek Watershed Plan.

Sincerely,

A handwritten signature in dark ink that reads "Emma Reesor". The signature is fluid and cursive, with the first name "Emma" being more prominent than the last name "Reesor".

Emma Reesor
Vice Chair, RGBRT



Jason Willis, P.E. – CO AML Program Manager
128 East 1st Street, Salida, CO 81201
jwillis@tu.org – (719) 221-0411

October 30, 2019

Letter of support regarding Comprehensive Willow Creek Watershed Plan

Dear CWCB Grant Representative,

I am writing to express the support of Trout Unlimited (TU) towards the Comprehensive Willow Creek Watershed Plan Grant through the Colorado Water Conservation Board's (CWCB) Watershed Restoration Program. Headwaters Alliance (HWA) has been a great project partner of TU for several years and the concept of the overarching watershed plan aligns with TU's goals of watershed-wide water quality improvements. The HWA is taking the initiative to look at a multitude of issues on a watershed scale, comprehensive approach that will align future reclamation and implementation efforts.

As one of the leading cold-water conservation organizations, TU strives to protect, restore, reconnect, and sustain our nation's waterways. Since TU was founded in 1959, on-the-ground restoration of streams, watersheds, and fisheries has been our hallmark. TU has been supporting project work across Colorado since the early 2000's. Specifically, TU has completed over 30 reclamation projects across the State since 2012 that focus on water quality improvement, non-point source contamination reduction, and revegetation of degraded landscapes. The effort of this comprehensive plan will intend to generate a list of projects that will ultimately restore and protect water resources, lands, and other natural resources in the entire Willow Creek Watershed. This collaborative approach to watershed improvements is an effort that TU can support and be a part of.

TU is in support of the Grant because it will also help identify environmental issues regarding benthic populations, water quality, and fish habitat, while also raising awareness and input from the local community. Therefore, grant deliverables will optimally act as a template for future conservation work and water quality improvement projects in the Willow Creek Watershed.

With a strong work ethic, and a dedicated local watershed coordinator, HWA has the capacity necessary to manage and coordinate this type of comprehensive grant. In addition, the support of local private consultants, Federal/State agencies, and other non-profits will ensure a collaborative approach to a quality finished product. TU supports the Willow Creek Project, which aligns with our goals to protect the nation's cold-water resources.

Best Regards,

Jason Willis
Trout Unlimited CO AML Program Manager

Headwaters Alliance
PO Box 518
Creede, CO 81130
719-588-2417



Colorado Water Conservation Board
1313 Sherman Street, Room 721
Denver, CO 80203

October 17, 2019

RE: Colorado Watershed Restoration Grant

Dear Chris Sturm,

I am writing to state my support for the requested funding for Headwaters Alliance's (HWA) grant request for the project entitled Comprehensive Willow Creek Watershed Plan under CWCB's Watershed Restoration Protection Program.

As a third generation native of Creede, and President of the Board of Directors of HWA, I am extremely excited about the work HWA has been doing and is proposing to do. Building on the work and legacy of the Willow Creek Reclamation Committee, HWA will be addressing water issues in the Willow Creek and Rio Grande watersheds that have been impacted by historic mining, development and flood concerns. HWA is in a unique position to address these issues and facilitate the work being accomplished through the establishments of effective communication and trust with the multitude of government, agencies and individuals involved in this kind of work.

A lot of great work has been done on Willow Creek over the past two decades. It was devastating to see the damage done this spring on the flood plain below Creede. HWA is a "get work done" organization that will serve as facilitator for all the stakeholders along Willow Creek to ensure all projects consider upstream and downstream impacts. HWA has been key to ensuring that updated flow volume requirements for Willow Creek will be considered in all future work. HWA has successfully facilitated collaboration between the Lower Willow Creek Restoration Company and Trout Unlimited (TU) to accomplish stream bank stabilization in the flood plain along the railroad bed and Emperius tailings pile. This included 700 feet of riprap armor with boulder structures installed by TU and over 2,500 willows planted that will stabilize over 1,000 feet of stream bank.

The requested funding is vital to HWA to be able to continue doing the work that our rural, low-resource region desperately needs. There is tremendous support from stakeholders including the City of Creede, Mineral County, Wason Ranch, Mountain Views RV Resort and Mineral County Fairground Association, USFS, TU, Rio Grande Basin Roundtable and even the EPA!

Thank you for your consideration,

Randy McClure

Headwaters Alliance was founded in 2016 to support and continue the incredible work accomplished by the Willow Creek Reclamation Committee over the past 22 years. HWA is proud to build on this legacy, as we seek sustainable solutions for the well-being of Willow Creek and the upper Rio Grande that nurture the Creede and Mineral County that we love so well.



October 25, 2019

Chris Sturm
Colorado Water Conservation Board
1313 Sherman Street, Room 721
Denver, CO 8003

Dear Mr. Sturm,

On behalf of the Mineral County Board of Commissioners I am writing this letter to support the grant being submitted by the Headwaters Alliance. A Comprehensive Willow Creek Watershed Plan is a vital component to the continued future of establishing a healthy watershed. That healthy watershed is a mainstay to Creede and by default Mineral County.

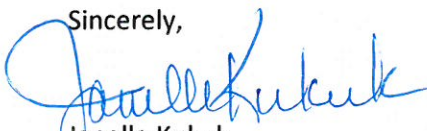
After the high water event in June of 2019 took out a main component of the floodplain and threatened much of the work upstream that has been done in the last two decades it became very apparent that there needs to be a broad overview of the whole of the watershed and what else needs to happen to create and sustain a healthy creek and supporting watershed. A Comprehensive Plan seems to be the vehicle to adequately create that overview. From the further mitigation/elimination of mine wastewater to the creating of a natural flow path of the creek into the confluence with the Rio Grande, there is still much to be done with the watershed as a whole. Again, a Comprehensive Plan is a smart move to take a holistic view and make sure that each part ultimately will create a sum that is greater than the parts.

Mineral County is dependent on a tourist based economy. Angling is a core component of that economy. Having healthy fisheries and by default watersheds is imperative to the economy. Coupled with the scenic beauty and rich history that Mineral County enjoys the Comprehensive Plan hits all the major buttons to bettering the assets we already enjoy.

In full support of this project we are committing approximately \$10,000 in labor and materials to repair the grizzly at the Amethyst Mine before significant snowfall hinders our ability as well as efforts this summer and in the future towards flood mitigation on Willow Creek.

We appreciate your serious consideration of this grant request.

Sincerely,



Janelle Kukuk
Mineral County Administrator



Authentic. Heritage. Home

To: Chris Sturm
Colorado Water Conservation Board
1313 Sherman Street, Room 721
Denver, CO 80203

Date: 10/29/19

RE: Letter of Support for the Comprehensive Willow Creek Watershed Planning Process

Dear Mr. Sturm,

I would like to express my strong support for the Headwater Alliance's application for funding to create a comprehensive plan for the Willow Creek Watershed. Since I began work as the Town Manager for Creede in December of 2018, it has become evident to me that the many stakeholders involved in the restoration and development process within the watershed suffer from a general lack of coordination and planning. The proposed process would facilitate the development of a coordinated vision for the watershed, better define the roles and responsibilities of the various stakeholders, prioritize proposed projects and create a unified path forward for the region. To this end, the City of Creede is excited about this opportunity and intends to participate fully in the ensuing process.

Thank you for your consideration regarding this matter. If there is any further information that I can provide, please do not hesitate to contact me.

Sincerely,

Louis Fineberg
Town Manager



File Code: 1500

Date: October 29, 2019

Chris Sturm
Colorado Water Conservation Board
1313 Sherman Street, Room 721
Denver, CO 80203

RE: Colorado Watershed Restoration Grant

Dear Mr. Sturm,

I am pleased to submit this letter in support of Headwaters Alliance's proposed Comprehensive Willow Creek Watershed Plan Project. This primary objective of this project is to conduct a planning process in order to develop baseline criteria requirements for Willow Creek, articulate the rationale for prioritized projects, identify shovel ready projects, and facilitate timely action for most pressing needs with a unified understanding of watershed criteria. This planning effort will dovetail with the preceding Upper Rio Grande Watershed Assessment, conducted by the Rio Grande Headwaters Restoration Project, an effort in which the Rio Grande National Forest partnered.

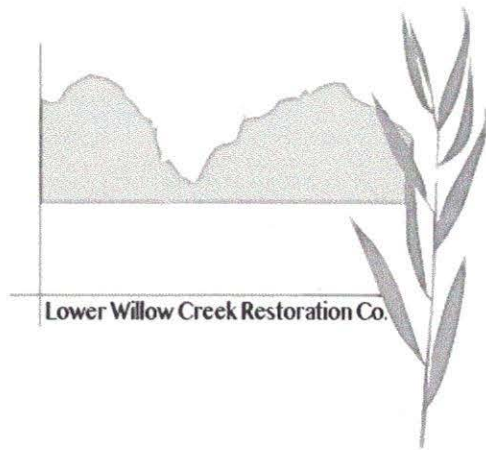
The Rio Grande National Forest is intimately and inextricably connected to the community of Creede and the Willow Creek watershed. The forest is in a unique position of being a partner with the Environmental Protection Agency at the Nelson Tunnel/Commodore Waste Rock Pile Superfund site and a neighbor to the adjacent communities. We support the Headwaters Alliance Comprehensive Willow Creek Watershed Plan project and commits to participating in the facilitated planning process, sharing data and subject matter expertise, using our Land and Resource Management Plan as a resource for defining watershed and water quality objectives.

Upon completion of the Comprehensive Watershed Management Plan, the Rio Grande National Forest looks forward to opportunities to partner with the Headwaters Alliance and stakeholders to implement the recommendations through collaborative projects.

Sincerely,

MARTHA A. WILLIAMSON
District Ranger





Lower Willow Creek Restoration Company
PO Box 518
Creede, CO 81130

October 23, 2019

Chris Sturm
Colorado Water Conservation Board
1313 Sherman Street, Room 721
Denver, CO 80203

RE: Colorado Watershed Restoration Grant

Dear Chris Sturm,

The Lower Willow Creek Restoration Company (LWCRCo) offers the following letter of support for the creation of a Comprehensive Willow Creek Watershed Plan as articulated by Headwaters Alliance in their application for support to Colorado Water Conservation Board as part of the Watershed Restoration Protection Program. This is a far-sighted plan with the intention of supporting landowners, stakeholders and community members who live and play within the Willow Creek watershed on a daily basis.

The LWCRCo is the owner of the upper portion of the lower Willow Creek floodplain. We are proud of our long history working closely with the City of Creede, Willow Creek Reclamation Committee and Headwaters Alliance to complete reclamation work on this site. Snow melt runoff in 2019 caused substantial harm. Despite having worked diligently to integrate best guidance from experts, in particular the NRCS 2002 report *Regional Bankfull Characteristics for the Lower Willow Creek Stream Restoration*, to create a design, mother nature delivered more. As we navigate the best path forward to ensure this land remains a public use greenspace and key connective corridor, we are delighted to partner with fellow landowners and Headwaters Alliance to seek a single design for the entirety of the floodplain, from flume to Rio Grande, that incorporates the unique, but all too often, shared goals of all the landowners on the lower Willow Creek floodplain. It is always hard to recover from damages to one's property, however, we are hopeful that this process, which seeks to integrate needs and criteria will result in an award winning reclamation site that can serve as an example of successful collaboration.

It is worth mentioning that the LWCRCo is no stranger to collaborative projects in Creede. We were only able to achieve the initial reclamation work we did with the support and substantive sweat equity volunteerism of the many Creede residents, particularly from Willow Creek Reclamation Committee and Adopt an Oxbow volunteers as managed by Headwaters Alliance. We will continue to work with the community and community organizations to ensure an optimal outcome for the community and ourselves – and the Comprehensive Willow Creek Watershed Plan offers this pathway. Additionally, we are offering funds for use as match for the comprehensive plan. These funds were utilized to establish timely stream bank stabilization on the lower Willow Creek floodplain in anticipation of 2020 runoff. Additionally, these funds may serve as a baseline direction for a future comprehensive design on the floodplain.

Please let us know if you have any questions.

Sincerely,

A handwritten signature in blue ink, appearing to read "Lori Dooley", with a stylized flourish extending to the right.

Lori Dooley
Board President, LWCRCo



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8**

1595 Wynkoop Street
DENVER, CO 80202-1129
Phone 800-227-8917
<http://www.epa.gov/region08>

Ref: 8SEM-RBB

October 30, 2019

Heather Greenwolf
Executive Director, Headwaters Alliance
PO Box 518
Creede, CO 81130

Re: Letter of Support for Headwaters Alliance

Dear Ms. Greenwolf,

The purpose of this letter is to acknowledge and affirm the long history of collaboration and communication between the EPA Superfund program in Region 8 and the Willow Creek Reclamation Committee (WCRC), now Headwaters Alliance. As the Remedial Project Manager of the Nelson Tunnel/Commodore Waste Rock (CWR) Superfund site, I and my EPA site team and State partners at the Colorado Department of Public Health and Environment (CDPHE) have an established relationship with Headwaters Alliance staff. EPA and CDPHE have supported their work prior to and since the Superfund listing.

The Nelson Tunnel/CWR Superfund Site is situated in the middle of the Willow Creek watershed near Creede, Colorado. Metal laden water from the Site and other historic mining waste areas in the watershed impairs the water quality significantly, preventing fish from living in Willow Creek its entire length to the confluence with the Rio Grande River. EPA listed the Nelson Tunnel/CWR Site in 2008 and has been working to implement a solution to the largest source of zinc and cadmium in the Willow Creek watershed. Concurrently, WCRC/Headwaters Alliance has executed or has been instrumental in the execution of several non-point source clean-up projects in the watershed and has more recently been instrumental in obtaining grant funding and completing a Brownfields project which had created more suitable habitat for fish and macroinvertebrates in the lower Willow Creek area. High water and flooding this past spring washed out portions of the restoration work and highlighted the need for the community to establish a comprehensive plan for the Willow Creek watershed. Headwater Alliance is well connected and positioned to lead the community through this important planning process. And while the Superfund Site listing is narrow and does not include most of the watershed, the Site team is committed to sharing information and data with Headwaters Alliance to facilitate the planning efforts. The goals that the community develops in their comprehensive watershed plan will also inform Superfund Site goals as well.

My team recognizes the important role and impactful work that the group has implemented for the town of Creede and the surrounding local community. My team also sees the group as instrumental in collaborative working relationships between EPA and other local entities. We will continue to rely on Headwaters Alliance to share information, to provide local input into the Superfund process, and to work toward collaborative solutions to the area's environmental concerns. This will include collaborative efforts with EPA to create a data repository and mapping of water quality findings for the Willow Creek Watershed. We look forward to continuing to communicate and collaborate with the Headwaters Alliance in the future.

Please contact me with questions at 303-312-7122 or by email at zinner.dania@epa.gov.

Sincerely,

A handwritten signature in black ink that reads "Dania Zinner". The signature is written in a cursive, flowing style.

Dania Zinner
Superfund Remedial Project Manager

cc: Joy Jenkins, EPA
Ross Davis, CDPHE



COLORADO

Department of
Public Health &
Environment

Dedicated to protecting and improving the health and environment of the people of Colorado

October 29, 2019

Ms. Heather Greenwolf
Headwaters Alliance
201 North La Garita Avenue, PO Box 518
Creede, Colorado 81130

RE: Colorado Department of Public Health and Environment Support for Comprehensive Watershed Plan -
Lower Willow Creek Floodplain, Creede, Mineral County, Colorado

Dear Ms. Greenwolf:

As you know, the Colorado Department of Public Health and Environment (CDPHE) has been working closely with the Town of Creede, Willow Creek Reclamation Committee, Lower Willow Creek Reclamation Company for the past 15 years on floodplain characterization and reclamation. For better or worse, previous efforts were completed in stages and tasks in a parsed out and compartmentalized manner. The spring runoff of 2019 demonstrated the need for a floodplain basin approach to the Willow Creek Floodplain site from the end of the USACE flume to the confluence with the Rio Grande River. Numerous property owners and a mix of use was a previous hindrance but efforts taken on by Headwaters Alliance to bring these mixed property owners with differing interests into a cohesive planning group. It is the strong position of CDPHE that a structured and comprehensive watershed plan will address the rehabilitation of the floodplain at the same time as taking into account the ownership differences and the nature of the floodplain as a means of dissipating water momentum and its destructive nature.

EPA and CDPHE Brownfields have a vested financial interest in this site with significant capital expended to date. While not entirely wasted, we have a goal to hopefully build off of what has been constructed and what has been destructed, knowing that the natural regime has been expressed in the spring runoff this year. The state offers this support to Headwaters Alliance in conjunction with its on-going efforts to render care and assistance to the residents of Mineral County, the Town of Creede, property owners and future recreationalists in the Lower Willow Creek Floodplain.

If you have any questions, please feel free to call me at (303) 692-3311.

Sincerely,

Mark Rudolph
Superfund and Brownfields Project Manager
Hazardous Materials and Waste Management Division

