

**Restoring the Ecology and Channel Processes of the Purgatoire River along the Trinidad
River Walk Through Multi-Stakeholder Collaboration**

Prepared by Purgatoire Watershed Partnership
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1.0 Executive Summary

Applicant Name: Purgatoire Watershed Partnership

City: Trinidad

County: Las Animas

State: Colorado

Date: 01/30/18

Purgatoire Watershed Partnership is applying for a WaterSMART Phase I Grant under Category C: Watershed Management Project Design. In December 2016, Purgatoire Watershed Partnership (PWP) convened a group of diverse stakeholders to determine management priorities for a 4.5 mile stretch of the Purgatoire River as it flows from Trinidad Dam and through the City of Trinidad. This area contains important value for recreation users, agricultural uses, property developers, rural economic development, and wildlife habitat. In a hydraulic analysis completed by the Bureau of Reclamation Sedimentation and River Hydraulics Group in 2011, the group determined that the river channel had deteriorated and required further evaluation to understand the level of deterioration in the channel processes. In January 2018, PWP received funding from the City of Trinidad and Colorado Water Conservation Board to hire a consultant to assess the river channel processes, including biological, geomorphic, and physical processes, and identify best management practices. The consultants will also include a hydraulics analysis that will serve two purposes: 1) prepare the Purgatoire River channel for high flows of 5,000 cfs by assessing the threat of high flows on City of Trinidad utility structures that pass over and under the Purgatoire River and 2) develop a collaborative flow management program to manage winter time baseflows. PWP is requesting \$92,080 from WaterSMART – Phase I Grant Funding to hire a consultant to develop project design and engineering following the recommendations of these assessments and to fund a coordinator position to oversee project management. Using a collaborative working group representing many interests on the river, the group will implement best conservation practices while reducing barriers between water users. The estimated timeframe for project implementation and completion is from April 2018 to December 2019, with the design aspect occurring from March 2019 to October 2019. The project is located immediately downstream from Trinidad Dam, a reservoir managed jointly by the Bureau of Reclamation, US Army Corps of Engineers, Colorado Parks & Wildlife, and Purgatoire River Water Conservancy District.

2.0 Background Data

2.1 Land Characteristics of the Purgatoire

The Purgatoire River Watershed is located in southeastern Colorado. Originating in the Culebra Range of the Sangre de Cristo mountains, the Purgatoire River travels 196 miles before it drains into the Arkansas River. This makes it the largest tributary to the Arkansas in Colorado. The total area of the Purgatoire River Basin is 2,206,204 acres. The watershed is located within six counties: Las Animas, Otero, Bent, and Costilla Counties in Colorado, and Union and Colfax Counties in New Mexico. Most of the watershed, 96.4%, is located in Colorado, and the majority of it is also located in Las Animas County, 84%.

The Purgatoire River flows through a variety of terrain. Its maximum elevation is 13,962 feet and its minimum elevation is 4,321 feet. According to the United States Geologic Survey's National Land Cover Database, grassland and herbaceous cover composes 55.7% of the river basin while shrub/scrub and evergreen forest covers 20% and 18.4% of the watershed respectively. The remaining 5.9% of landcover consists of deciduous forest, cultivated crops, woody wetlands, mixed forest, developed open space, emergent herbaceous wetlands, barren land, pasture and hay, developed low intensity, open water, and developed medium intensity. The western half of the Purgatoire River Watershed, which is mostly privately held unfragmented forest, grassland, shrubland, and riparian systems, differs greatly from the eastern half, which reflects Great Plains habitat: pinon-juniper shrublands, grasslands, and canyonlands.

The Purgatoire River Watershed is an ecologically intact system and agriculturally productive region of Colorado. According to the Colorado Natural Heritage Program, a non-profit program based out of Colorado State University Warner College of Natural Resources that documents the status and location of species of concern, 1,658,688 acres, over half of the watershed, is classified as having high biodiversity or very high biodiversity. There are 19 species in the watershed that are listed as Colorado species of concern, threatened, or endangered, including the Black-footed ferret, swift fox, plains leopard frog, and meadow jumping mouse.

The primary source of economy in the watershed is traditional industry: agriculture, mining, manufacturing, and government. Approximately, 1,353,931.5 acres are privately owned, accounting for 61.3% of the land. Out of the traditional industries, agricultural production is essential to the economy and fuels the livelihood of the people in the watershed. Of the land in Las Animas County, 2,304,766 acres are used for farms and ranches on which there are around 47,000 head of cattle. Maintaining the health of the land, the river, and its tributaries is essential not only for conservation efforts but also to sustain the agricultural heritage of the community.

Major federal landholdings include Pinon Canyon Maneuvering Site (Department of Defense; 259,978 acres), USFS Comanche National Grassland (Department of Agriculture; 205,664 acres), USFS San Isabel National Forest (Department of Agriculture; 69,962 acres), and Bureau of Land Management (Department of Interior; 7,737 acres).

2.2 Water Sources in the Purgatoire

The primary source for the Purgatoire River is snowmelt. The annual average total precipitation is 15.55 inches while the average total snowfall is 50.8 inches; although, there is great variation between the western part of the watershed which receives 43 inches of precipitation per year at the headwaters and the eastern portion of the watershed which receives 13 inches of precipitation per year.

Consequently, the natural flow of the Purgatoire River peaks during May and June due to snow melt with additional storm driven flow peaking in July and August. Baseflow naturally occurs from mid-September through early April. After the installation of Trinidad Dam, the hydrograph altered immediately downstream of the project. Releases from the dam correspond to irrigation season, and flows during the non-irrigation season are limited to flood control, stock-watering, and municipal/industrial uses. This release structure significantly extends the period of higher than natural flows from mid-April through mid-October. During the non-irrigation season from mid-October to mid-April, releases from the dam are frequently zero, meaning the only supply of water for the river immediately downstream from the dam is one tributary, Raton Creek.

There are three reservoirs in the Purgatoire River Watershed: North Lake, Monument Lake, and Trinidad Reservoir. From the 49,000 acre-feet that are produced by the Purgatoire River on average, the City of Trinidad is allocated 7,700 acre-feet, which can sufficiently supply water to the current population of 10,000. The City stores 5,746 acre-feet of the water in two mountain reservoirs, North Lake and Monument Lake. The remaining 2,000 feet are stored in Trinidad Lake. The total capacity for North Lake is 3,768 acre-feet, and it is the primary storage for municipal water supply. Monument Lake provides ancillary storage for City of Trinidad water. Since Trinidad is the largest city in the Purgatoire River Watershed, 85% of Las Animas County receives their domestic water from city water supply.

Trinidad Reservoir is by far the largest of the three reservoirs. Located three miles southwest of the City of Trinidad, its maximum capacity is 125,967 acre-feet. The reservoir was built by the Army Corps of Engineers and completed in 1977. The water rights in the reservoir allocate 51,000 acre-feet for flood control, 39,000 acre-feet for joint use & sediment pool, 20,000 for irrigation and municipal & industry, and 15,967 acre-feet for permanent recreation & fishery. In regards to irrigation water rights, downstream of the dam there are ten agricultural ditches that irrigate 19,499 acres. Many of the ditches own priority water rights with the oldest rights established in 1861 and the youngest ones established in 1920. The Bureau of Reclamation has a contract with the Purgatoire River Water Conservancy District to repay and manage the irrigation, municipal, and industrial components of the dam.

Other uses of the Purgatoire River include industrial, military, and non-consumptive uses. In the western part of the Purgatoire River Watershed, there are three companies that produce coalbed methane gas. The largest of the companies, Pioneer Natural Resources produces 200 million cubic feet of natural gas and about 5.2 million gallons of water per day, of which 60-70% is surface discharged under permits issued by the State of Colorado. The military uses water to supply the Pinon Canyon Maneuver Site with fresh water. The City of Trinidad annually provides the U.S. Army with 9.84 acre-feet of water. The Colorado Water Conservation Board

(CWCB) maintains some in-stream flow rights on the river in the western half of the watershed. Their rights are on the North Fork of the Purgatoire River, the South Fork of the Purgatoire River, and several miles on the Purgatoire River downstream from the confluence of the North Fork and South Fork. The CWCB's in-stream rights exist in total on 19.5 miles of the river.

2.3 Purgatoire River Watershed Plan

The Purgatoire River Watershed Plan, completed in 2014 under a Bureau of Reclamation WaterSMART Phase I Grant, identifies eight broad issues of concern in the watershed: water quality, water quantity, forest and rangeland health, invasive species, stream and habitat restoration, recreational use and access to the river, awareness and knowledge of watershed issues, and stakeholder participation and PWP sustainability. The proposed project seeks to address invasive species, stream and habitat restoration, recreational use (including access to the river), and stakeholder participation and PWP sustainability as the main issues of concern.

Invasive plant species are a major concern in the watershed. In particular, woody invasives tamarisk and Russian-olive are an identified threat in the riparian corridor. In the watershed plan, one of the objectives is the reduction of tamarisk, Russian-olive, and other invasive species. The Purgatoire Watershed Weed Management Collaborative is an organization that has made significant headway on this task. Since 2005, over 1,500 acres of private and state land have been treated in the watershed. However, Russian-olive and tamarisk still persist along the river, often over-crowding banks, out-competing native vegetation, and limiting river access.

Conservation of the riparian corridor is another priority in the watershed plan. To address this priority, a project was implemented to enhance trout habitat in the Upper Purgatoire River. In 2011, Trout Unlimited Chapter 100 Purgatoire River Anglers contracted with a consultant to assess existing habitat conditions and conduct a feasibility study for a cold-water habitat improvement project on a segment of the Purgatoire River within the City of Trinidad with the intention of establishing a sustainable, year-round fishery. The subsequent assessment created six separate reaches for the project. Since the completion of the assessment, the Purgatoire River Anglers worked with contractors to install in-stream structures for fish habitat in three of those six reaches, representing approximately 1.5 miles of the river. The current enhancements provide velocity, shelter, and in-channel holding cover for stocked fish during high flow periods.

One of the biggest impediments to sustaining a year-round fishery is a lack of baseline flow in the winter time. Since the flow regime downstream of the Trinidad dam is primarily released for irrigation use, there is minimal baseflow in the winter time when the only dam releases are for filling stock tanks and historic delayed return flows.

Another flow management problem arises due to requirements under the Arkansas River Compact. During flooding events, the City of Trinidad is required to release flows up to 5,000 cfs depending on the severity of the flood. As it stands, the release of that amount of water potentially threatens damage to infrastructure, including utility lines above and below the river, as observed by a release of 3,000 cfs in the spring of 2017. Another goal of the project is to commission a planning study to analyze the effects of a 5,000 cfs release and determine best management practices to increasing channel capacity to prepare for flood waters.

Finally, the last major goal highlighted in the watershed plan is to improve access to the river for recreationists, such as hikers, fisherman, and bird watchers among others. This means planning and developing programs that conscientiously provide residents and visitors with safe outdoor activities that interact with the river in meaningful ways. Enhancing trout habitat is one way to make the river more attractive for fisherman. Removing Russian-olive and tamarisk trees will also improve accessibility and appearance of the river.

3.0 Project Location

The Purgatoire Watershed Partnership operates in the Purgatoire River Watershed (HUC 11020010). The river travels 196 miles from the peaks of the Sangre de Cristo mountains until it drains into the Arkansas River, a few miles west of John Martin Reservoir. The watershed is located primarily in Las Animas county in the southeast region of Colorado. The biggest city in the watershed is Trinidad, Colorado, the county seat of Las Animas.

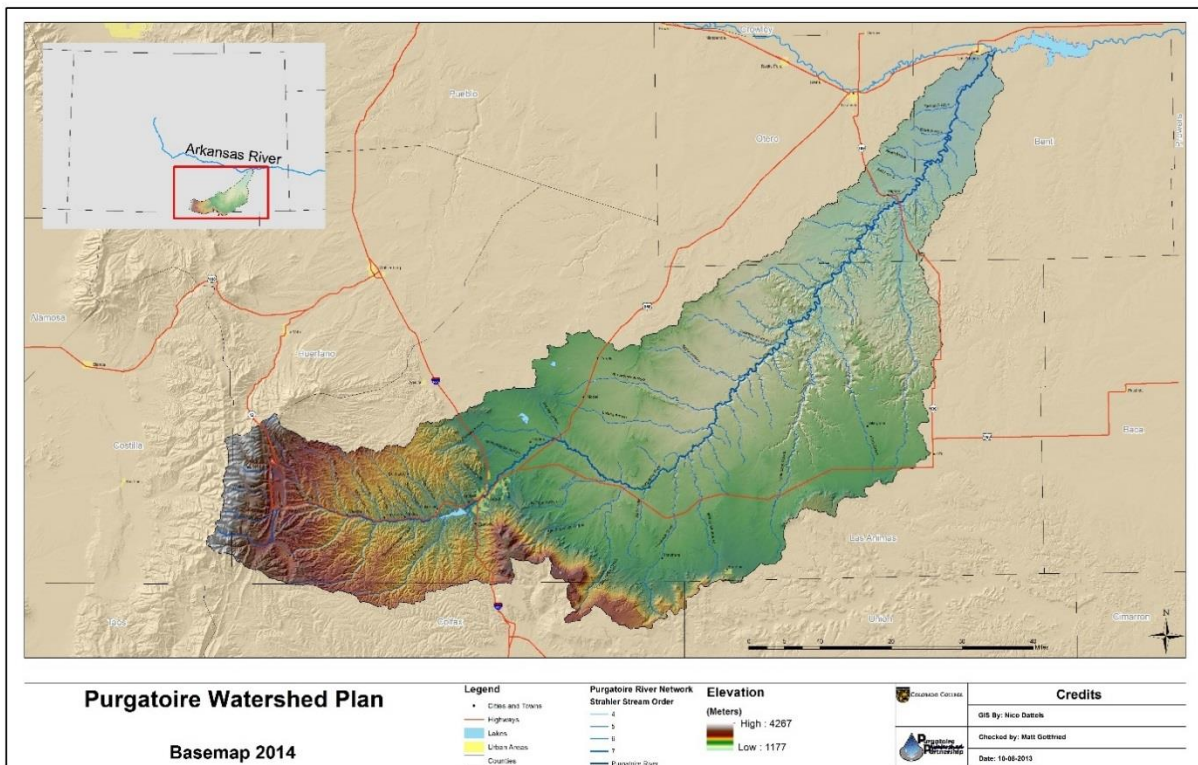


Figure 1: Overview of the Purgatoire River Watershed

4.0 Technical Project Description

4.1 Purgatoire Watershed Partnership Background, History, and Eligibility

The Purgatoire Watershed Partnership (PWP), as an active watershed group, is applying as an Existing Watershed Group for Task C Activities including:

- Completing an analysis in order to prioritize watershed management projects and identify specific project locations
- Completing site-specific project design and engineering
- Developing project timelines and milestones

PWP is a grassroots, non-regulatory legal entity. The first meeting of PWP stakeholders occurred in November of 2011. Stakeholders at that meeting included representatives from local business, ditch companies, students, local attorneys, county commissioners, oil and gas operators, environmental consultants, USDA – NRCS, Spanish Peaks-Purgatoire River Conservation District, Trout Unlimited, Purgatoire Water Conservancy District, Colorado Watershed Assembly, Trinidad Community Foundation, Southern Colorado Environmental Council, Pinon Canyon Maneuver Site, and Culebra Range Community Coalition.

Under a WaterSMART Phase I Grant received by Spanish Peaks-Purgatoire River Conservation District in September 2012, the stakeholder group initiated the development of the Purgatoire River Watershed plan and the formation of a watershed group. Using funds from the WaterSMART Phase I Grant, PWP hired its first full-time coordinator. The coordinator drafted the Articles and Bylaws necessary for gaining incorporated status. PWP was officially incorporated as a 501(c)3 non-profit on January 16th, 2015.

Following the EPA Nine Elements of a Watershed Plan outline, the coordinator organized stakeholder meetings to inform the development of a watershed plan with the assistance of a consultant. The plan was completed in 2014 with input of over forty stakeholders and represents PWP's major accomplishment to date.

The mission of PWP is to actively maintain a watershed-wide stakeholder partnership aimed at the assessment, restoration, protection, & improvement of all aspects regarding the Purgatoire River Watershed (HUC 11020010). PWP's vision is to manage watershed resources in a way that builds consensus, engages the community, and improves the eight issues of concern highlighted in the plan, which include water quality and water quantity. It comes from a shared belief that the Purgatoire River resources are better managed when more voices and interests are involved in the planning process. Currently, the PWP Board represents interests from local landowners, ditch companies, educators, conservation non-profits, and city utilities.

4.2 Overview of Project Approach

In the spirit of this vision, the Purgatoire Watershed Partnership organized a working group with assistance from an AmeriCorps VISTA volunteer to look at ways to better manage a four and a half mile stretch of the Purgatoire River from the Trinidad Dam to the edge of Trinidad City proper defined by the Highway 350/160 Bypass. Meetings began in December of 2016, occurred regularly throughout 2017, and are continuing into 2018. The approach of the working group is to build consensus around river restoration management practices and identify key issues within this particular stretch of the river. The working group has agreed upon five major tasks for improving the riparian corridor:

- Task 1: Removing, monitoring, and treatment of invasive species (to include passive and active revegetation strategies as need is identified)
- Task 2: Bank stabilization and fishery enhancement
 - Task 2a: Cross vanes design and construction of in-stream habitat to enhance fishery habitat and slow down erosion.
 - Task 2b: Design for a fish ladder across the dam adjacent to the Baca-Picketwire headgate in Reach 3 & 4
 - Task 2c: Increase channel capacity to hold at maximum 5,000 cfs as is required under the Arkansas River Compact between Kansas and Colorado
- Task 3: Recreation and education
 - Task 3a: Design and build a riverside park next to La Puerta development
 - Task 3b: Implement security and education features around the Baca-Picketwire headgate
- Task 4: Collaborative Flow Management Program
 - Task 4a: Convene flow working group and create a collaborative flow management design and protocol for the project
- Task 5: Administration
 - Task 5a: Coordination of multi-interest working group to determine best management practices for the river corridor
 - Task 5b: Development of milestones for project design and program implementation

Through the coordination of the multi-interest working group, the purpose of this grant application is to address Task 2a, 2b, 2c, Task 4a, Task 5a, and Task 5b. The final deliverable is a 1) hydraulics assessment that examines the effect of floodwaters on key city infrastructure and develops a winter flow management program, 2) a river health assessment that analyzes channel processes to better understand the deterioration of the natural river functions, including channel capacity. Included in the final deliverable is an outline of best riparian restoration management practices as well as project engineering and designs to increase channel capacity to more effectively and safely allow floodwaters to pass through the City of Trinidad, restore natural channel processes, and create in-stream structures for fish habitat and recreation.

The final category for use of funds is to manage administrative tasks. This includes partially funding a coordinator to organize the collaborative working group as well as oversee important tasks, such as project management and grant writing for project implementation. A multi-stakeholder working group is essential to developing this project in a way that considers multiple objectives. For example, understanding the impact of floodwater on utility lines will guide decisions on channel capacity, such as efforts to manage the vegetative growth in the channel and encroachment of woody invasive trees, Russian-olive and tamarisk. In turn, removing invasive vegetation may require additional ways to stabilize the bank and slow down erosion, including revegetation with native phreatophytes or rock structures on the bank that can also serve as fish habitat. Alterations to the channel geomorphology could accomplish multiple goals, like increasing channel capacity to hold floodwaters and creating deeper pools for fish habitat during the winter, which would also potentially be supplemented by a more substantial baseflow due to the efforts of the collaborative flow working group.

Table 1: Overview of objectives and activities for the Trinidad River Walk project

		Deliverables / Products (***)
Objective 1	Characterize and assess the health of the Purgatoire River within the project area	Watershed study document
Activity 1	Commission a planning study to examine the impact of a 5,000 cfs release on utility lines above and below the river, such as gas lines, water pipelines, etc.	Completion of a planning study
Activity 2	Create a collaborative winter baseflow design to sustain year-round fish habitat	Protocol document detailing the practices of a collaborative flow management program
Sub-Activity 1	Convene a flow management working group	Detailed meeting minutes and sign-in sheets
Activity 3	Assess the biological, physical, and geomorphic character of the river to determine the overall deterioration of the channel	Assessment of the river functions, such as sediment transport models, vegetation mapping, etc.
Sub-Activity 1	Determine best management practices to increasing channel capacity, protecting key infrastructure, and restoring river functions	Best management practices section in completed study
Objective 2	Create project design and engineering to implement full-scale restoration	Project blueprints for designs and engineering work to be completed
Objective 3	Maintain a multi-interest working group including relevant stakeholders to oversee the project	Detailed meeting minutes and sign-in sheets
Activity 1	Oversight from river walk steering committee over project development to ensure it benefits as many interests as possible, including but not limited to, conservation, recreation, rural economic development, agriculture, and flood protection	Developed milestones for project design and program implementation
Activity 2	Identify additional grant and funding opportunities for project construction and implementation	Summary of funding options and timing

Multiple objective management allows for more efficient and effective project planning. The funds from the WaterSMART grant will ultimately allow for collaborative, stakeholder driven decision-making regarding natural resource management within the project area. Analysis and studies will inform and guide watershed management decisions, including project designs and engineering, providing benefit to the multiple interests involved in the working group.

While PWP was not a direct recipient of WaterSMART grant funds in the past, funds from the grant program were used to formalize the partnership. The purpose of the previous WaterSMART Phase I grant, received by the Spanish Peaks-Purgatoire River Conservation District who acted as the fiscal agent, was to develop the Purgatoire River Watershed Plan, completed in 2014 by PWP. The plan serves as a consolidation of information, data, and

potential conservation projects. While it is sufficient as a guiding document for conservation projects, it is not entirely sufficient to guide specific on-the-ground projects, like the Trinidad River Walk Project. As a result, more scientific information is required to ensure that restoration work reflects the best management practices to achieve project goals. While the previous WaterSMART Phase I grant received by PWP in 2012 was used for Task A and B goals, this application is for objectives categorized under Task C, Watershed Management Project Design.

5.0 Evaluation Criteria

5.1 Evaluation Criteria A: Watershed Group Diversity and Geographic Scope

5.1.1 Sub-Criterion A1: Watershed Group Diversity - Project Stakeholders

The affected stakeholders have been categorized into nine categories: landowners, farmers/ranchers/irrigators/ditch companies, oil and gas companies, Burlington Northern-Santa Fe railway, environmental groups, private businesses, recreational users, government (local, regional, state, federal), and community members.

Landowners: The Purgatoire Watershed is comprised of a large percentage of private land. Therefore, landowners and their practices have a significant impact on the health of the Watershed. Pollution, degradation, and overall watershed health can be a threat to both property and prosperity within the Watershed.

Farmers/Ranchers/Irrigators/Ditch Companies: Irrigation is an important consumptive use within the Purgatoire Watershed. Private farms and ranches make up a significant amount of the land within the Watershed. Irrigation ditches that support these lands are a concern for watershed health and must be managed in order to prevent watershed degradation.

Oil and Gas Companies: Within the Purgatoire Watershed there are many sites that are used for natural resource development. Both active and inactive sites exist. It is important to understand the best management practices in place which prevent potential impacts within the Watershed and work with operators to sustain watershed health.

BNSF: Trains run through the Watershed every day. As a major landowner as well as potential source of contamination, Burlington Northern-Santa Fe (BNSF) Railway plays an important role in ensuring best management practices are implemented to prevent watershed contamination.

Environmental Groups: Environmental groups within the Watershed can serve as champions for the Purgatoire Watershed. These groups are already involved in work directly relating to the watershed and serve as important partners in maintaining and improving watershed health.

Private Businesses: Many private businesses have invested interest in the health of the Purgatoire River. As an attraction for visitors, tourists, and community members, a healthy river corridor has the potential to spur economic growth in the City of Trinidad.

Recreational Users: Recreation is an important industry for both local citizens and the tourist industry. It is important to keep the Watershed healthy for this group, as well as recognize potential degradation from recreational activity.

Government: Government often serves as the decision makers within a watershed. It is important that these decision makers have a holistic understanding of community viewpoints, watershed

science, and best management practices. This includes local, regional, state, and federal government entities.

Community Members: People within the community engage with the Watershed in many different ways. From drinking water, to runoff, to the land itself, all components are important for a watershed to remain healthy. The PWP will focus on making the connection for local community members and their place and importance within the Watershed.

The Trinidad River Walk working group organized in December 2016 included representatives from Purgatoire River Water Conservancy District, Purgatoire Watershed Weed Management Collaborative, Arkansas Basin Roundtable, Colorado Parks and Wildlife, City of Trinidad Water Department, City of Trinidad Urban Forestry Board, Trout Unlimited Chapter 100 Purgatoire River Anglers, Coalitions & Collaboratives, Culebra Range Community Coalition, Spanish-Peaks Purgatoire River Conservation District, Downtown Trinidad Development Group, and Baca-Picketwire Ditch Company.

While each of these groups represents a cross-section of stakeholders and interests, they can be categorized generally into one of these nine categories. Purgatoire River Water Conservancy District (PRWCD) and the Baca, Picketwire, and Chilili Ditch Companies represent farmers/ranchers/irrigators/ditch companies. PRWCD manages water rights in the downstream agricultural community to ensure that the agriculture water users are allocated their respective amount of water under legal requirements. They also manage stock tank releases and historic delayed return flows during winter months. The Baca-Picketwire Ditch Company's headgate is located in the project area and is adjacent to a new development in Trinidad known as La Puerta de Colorado. The Ditch Company has vested interest in the safety of the headgate to reduce liability as the area becomes more crowded once the new development opens. The Chilili ditch diversion is also located within the project area just downstream.

Downtown Trinidad Development Group is a local business developer in Trinidad. Presently, they are developing a riverside project named La Puerta de Colorado. As it is located next to the Purgatoire River, the intention is to create recreational trails that connect the development to the River Walk and to include signs that educate trail users on the history of water in southern Colorado, touching on subjects such as historical uses and riparian ecology. They act as a representative for private businesses.

Culebra Range Community Coalition, Purgatoire Watershed Weed Management Collaborative, and Coalitions & Collaboratives represent environmental organizations. The Culebra Range Community Coalition represents community initiatives for youth environmental education and wildfire mitigation. Their particular interest is in increasing environmental education opportunities through the installation of signage along the River Walk path and in La Puerta de Colorado that tells the Colorado Water Story, including the historical uses of water for irrigation and agriculture, its significance to travelers along the Santa Fe Trail, and the ecological importance of riparian habitats. The Purgatoire Watershed Weed Management Collaborative represents conservation efforts to remove herbaceous and woody invasive species and to restore native vegetation throughout the Purgatoire Watershed. Their particular goal in this project is the removal of woody invasive trees (Russian-olive and tamarisk trees), controlling secondary noxious weeds, and restoration of native riparian vegetation. Coalitions & Collaboratives is a

non-profit whose goal is to foster on-the-ground conservation efforts that protect natural resources and communities by supporting collaborative conservation organizations.

Trout Unlimited Chapter 100 Purgatoire River Anglers represents recreational users in the working group. Their primary interest is in sustaining year-round fish populations for recreation and wildlife conservation purposes.

The City of Trinidad Water Department and City of Trinidad Urban Forestry Board represents local government interest. The City of Trinidad Water Department is required under the Arkansas River Compact to release up to 5,000 cfs from Trinidad Lake in extreme flooding events. To ensure the safety of the city, they look to increase channel capacity and apply management practices to manage high flow. As the majority of the river corridor in the project area is owned by the City of Trinidad, the city’s Urban Forestry Board seeks to better manage the vegetation with an emphasis on removing invasive trees that make the River Walk unsightly.

Colorado Parks & Wildlife, Arkansas Basin Roundtable, Spanish Peaks-Purgatoire River Conservation District, and Colorado Water Conservation Board represent state and regional government. Colorado Parks & Wildlife focuses on maintaining habitat for wildlife. The Arkansas Basin Roundtable is a regional board that distributes funds and oversees projects throughout the Arkansas River Basin, in which the Purgatoire Watershed is located. The Spanish Peaks-Purgatoire River Conservation District manages conservation projects on private land throughout the western half of the Purgatoire River watershed, from forestry management to invasive species removal to infrastructural improvements on farms and ranches. Lastly, the Colorado Water Conservation Board (CWCB) is a statewide organization that oversees water management objectives in Colorado. The CWCB is tasked with implementing the Colorado Water Plan created in November 2015. These organizations have a larger view of the community and conservation efforts and provide valuable guidance and insight to achieve broader state and regional goals.

Table 2: Represented Interests in the Trinidad River Walk Project

Interest Categorization	Organization
Farmers/Ranchers/ Irrigators/Ditch Companies	<ul style="list-style-type: none"> • Purgatoire River Water Conservancy District • Baca, Picketwire, & Chilili Ditch Companies
Environmental	<ul style="list-style-type: none"> • Culebra Range Community Coalition • Purgatoire Watershed Weed Management Collaborative • Coalitions & Collaboratives
Recreation Users	<ul style="list-style-type: none"> • Trout Unlimited Chapter 100 Purgatoire River Anglers
Local Government	<ul style="list-style-type: none"> • City of Trinidad Water Department • City of Trinidad Urban Forestry Board
State & Regional Government	<ul style="list-style-type: none"> • Arkansas Basin Roundtable • Spanish Peaks-Purgatoire River Conservation District • Colorado Parks and Wildlife • Colorado Water Conservation Board
Private Businesses	<ul style="list-style-type: none"> • Downtown Trinidad Development Group

Support for the watershed coordinator will also further potential expansion of the working group since currently, there are no representatives from oil & gas companies or Burlington-Santa Fe Railway. Additionally, representatives from Colorado Division of Water Resources, Bureau of Reclamation, and Army Corps of Engineers are not actively engaged but will be solicited to participate in the project. While Trinidad Dam was constructed by the Army Corps of Engineers, the Bureau of Reclamation has considerable oversight in regards to operating principles and irrigation waters.

To increase the effectiveness of the project, including these parties in planning discussions will be key. Continuing monthly Trinidad River Walk Project meetings will be the cornerstone of outreach efforts, bringing stakeholders together to discuss ongoing studies and improvements occurring in the project area. Additionally, publicizing the project and project meetings will allow the public at large to participate. This can be accomplished by publishing articles and listing meeting dates through the local newspapers, Trinidad Chronicle News and Huerfano World. Holding public forums and educational events will also play a role in disseminating information to the public. By using the networks of current project partners, such as Trout Unlimited Chapter 100 Purgatoire River Anglers, and including information in the bi-monthly PWP newsletters, the working group can reach out to stakeholders and keep them informed.

Additionally, Purgatoire Watershed Partnership is planning an outreach event with Trinidad River Walk Project partners: The State of the Purgatoire Watershed event will be an all-day conference that will be held in August or September of 2018. The event will have a distinct focus on the Purgatoire River Watershed with guest speakers addressing topics ranging from forest management, invasive species, water quality, and sedimentation. The conference is intended to give an overview of the current condition of natural resources in the Purgatoire River Watershed as well as provide a platform to engage private landowners and concerned citizens in watershed health efforts by offering land management tools and resources. As multiple agencies and organizations continue to implement projects to conserve the Purgatoire River, we want to capitalize on this momentum by publicizing these projects. This event is an example of a method to engage the community and facilitate broad understanding of the Purgatoire River Watershed.

While one of the primary purposes of the project is to restore the deteriorated river channel, another important objective is reducing the barriers between water users on the Purgatoire River and restoring trust with the local community. The Purgatoire River Watershed is unique in that it is highly intact. Ecologically, there are large areas of connected wildlife habitat. Hydrologically, there are no inter-watershed diversions leaving or entering the Purgatoire River drainage basin. Historically, many of the water uses are the same as they were a hundred years ago.

The Trinidad River Walk Project working group was originally formed to work collaboratively and balance perspectives between multiple water users to preserve the historical uses of the river, like agriculture, while innovating for future uses, such as recreation and ecotourism. Improving dialogues and expanding the lines of communication between water users who rely on water deliveries from the Bureau of Reclamation is an important part of the project. The vision is that by restoring this section of the river, it will serve as a model for other multi-stakeholder collaboratives that could be formed for other sections of the Purgatoire River.

The project is also about bringing the attention of the community to the river. We have received strong interest from a number of local businesses and the economic development staff of Trinidad who understand that developing recreation is a way to attract tourists and boost economic growth in a rural town. Increasing community awareness through the installation of educational signs along the Trinidad River Walk and building a robust volunteer program through events such as invasive tree removals and willow plantings, which allow people to engage with the river, are essential to encourage the community to take ownership over the river. The dual tasks of overcoming barriers between water users and educating the community about river stewardship is what will lead to the sustainable development of water resources that balances water uses for wildlife, agriculture, recreation, rural economic development, and the overall ecological resiliency of the Purgatoire River.

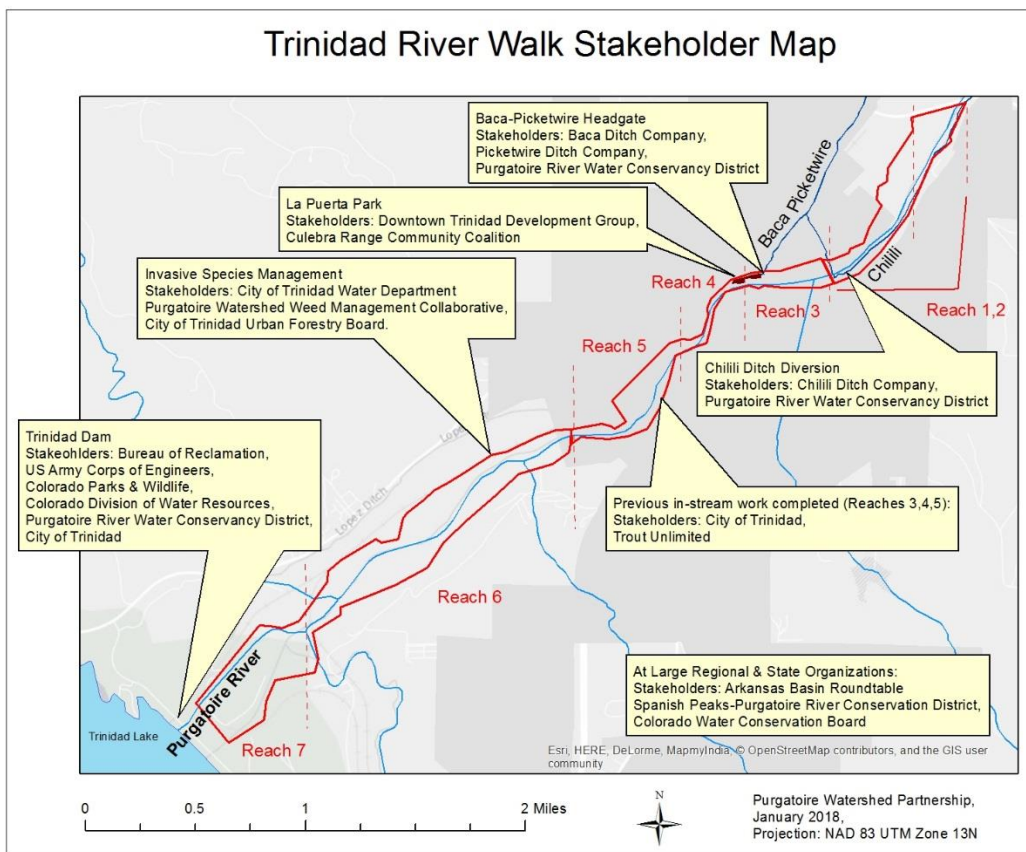


Figure 2: Trinidad River Walk Stakeholder Map

5.1.2 Sub-Criterion A2: Geographic Scope

While the geographic scope of Purgatoire Watershed Partnership’s actions and objectives is the entirety of the Purgatoire River Watershed (HUC 11020010), this project represents a smaller portion of the watershed, a 4.5 mile stretch of the river located immediately downstream of Trinidad Dam. The project includes stakeholders in the project area as listed above (Figure 2).

The project area is a key segment of the Purgatoire River. As the project area is immediately downstream from Trinidad Dam, it is the first portion of the river where the flow regime has

been altered due to the construction of the dam. The project area also includes the river as it runs through the City of Trinidad. This stretch of the river has been identified for its value to encourage recreation and tourism in the city as well as the need for flood protection in the case of high flow releases from the dam. Lastly, there are ten total diversions that rely on irrigation releases from Trinidad Dam. Three of those diversions are within the project area: Baca Ditch Company, Picketwire Ditch Company, and Chilili Ditch Company. Agriculture is a primary economic driver in the watershed, and protecting the agricultural heritage of the community is a priority for the project. This includes ensuring river functions are intact that improve water quality and water quantity while maintaining water rights.

In the *Assessment of Current River Condition & Fisheries Enhancement Potential*, this 4.5 mile stretch of the river was split into six different reaches based on flow regimes, ditch diversions, channel morphology, potential barriers to aquatic organism passage, and land ownership. The Trinidad River Walk Project working group incorporated these defined reaches into the River Walk Project. A seventh reach was added to extend the project completely to Trinidad Dam.

Reach 1 is defined from the Highway 160 Bypass to an ephemeral tributary, which enters the river from the south. Reach 2 begins at the ephemeral tributary and ends upstream at the bridge on Linden Avenue in the boundaries of the city. The Chilili ditch diversion is located in this reach and flows from the south side of the river. Reach 3 extends from the Linden Avenue bridge to a low-head concrete dam that forms the diversion point for the Picketwire ditch. The concrete dam has been identified as a significant barrier to aquatic organism passage. Reach 4 is defined from the low head concrete dam to the Interstate 25 southbound lanes. Reach 4 is located in the heart of downtown Trinidad, representing a key point for inner-city recreation. Reach 5 is from the Interstate 25 southbound lanes to the confluence of the Prospect Canyon ephemeral tributary. In this reach, the City of Trinidad has designated a nature park, known as the Boulevard Addition Park. Reach 6 extends from the Prospect Canyon ephemeral tributary to the confluence of Raton Creek. Lastly, Reach 7 extends from the confluence of Raton Creek to the base of Trinidad Dam.

The Trinidad River Walk Project group includes representatives from the full geographic scope of the project. This includes the aforementioned representatives from agricultural, municipal, recreation, commercial, and conservation interests. Further efforts will be taken to incorporate the community at-large into the conversation, including hosting the State of the Purgatoire event in August 2018. Outreach efforts through published newspaper articles, newsletters, and social media will also be implemented to connect the community with the project.



Figure 3: Aerial photo of Trinidad Lake and Trinidad Dam

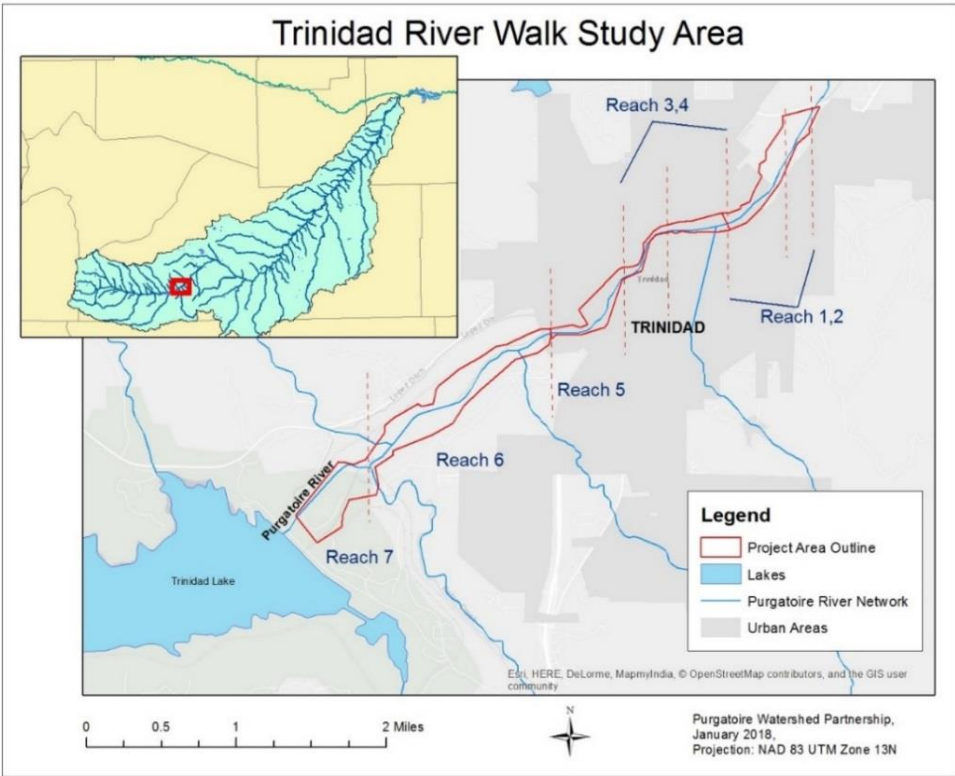


Figure 4: Trinidad River Walk Project Map

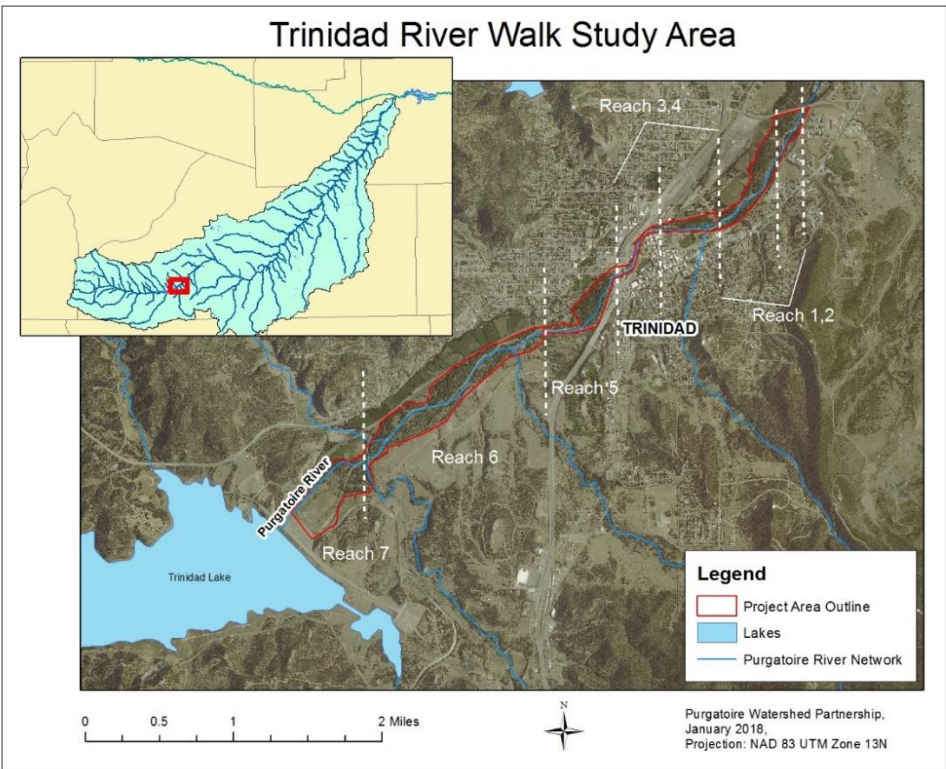


Figure 5: Trinidad River Walk Study Area – Detailed Imagery

5.2 Evaluation Criteria B: Addressing Critical Watershed Needs

5.2.1 Sub-Criterion B1: Critical Watershed Needs or Issues

The critical watershed issues within the project area are flooding, declining ecological resiliency due to invasive species encroachment, and lack of fishery habitat and recreation access.

Flooding Protecting infrastructure and the community from potential flooding events is a primary objective of the project. In the project area, immediately downstream of Trinidad Dam, flooding is a serious threat. The Bureau of Reclamation operating principles require the maximum release of 5,000 cfs during a flooding event.¹ While the operating principles determine these flows to be non-damaging, flows that reached close to 3,000 cfs in the Spring of 2017 threatened US Army Corps of Engineer's infrastructure.

In 2011, the Army Corps of Engineers and Bureau of Reclamation completed a channel capacity study. The study performed a one-dimensional hydraulics analysis for the Purgatoire River from the Trinidad Dam to 42 miles downstream. It modeled a range of flows from 250 cfs release to 21,000 cfs release, the 100-year flood estimate, and the impact of a varying range of flows on 8 inline structures (ditch diversions) and 14 bridges. The study concluded that the 5,000 cfs release was a non-damaging flow to the inline structures and bridges. Another conclusion of the study is that after years of channel deterioration due to vegetation growth, flow management, and land use changes, the current channel capacity of the Purgatoire River in the studied stretch has declined to 800 cfs. Because of this, restoration and rehabilitation of the channel is needed to both increase channel capacity and restore the biological and physical functions of the river.

The final recommendations of the study suggested a Phase II for increasing channel capacity in this stretch of river. The study groups recommendation was:

Possible future studies are recommended for the reach as a Phase II. A brief geomorphic assessment of the reach should be completed. This study could be used to assess river changes since closure of Trinidad Dam. Old aerial photographs would be helpful for this study. Additional mapping of the geology, bedrock outcrops, and vegetation of the reach would also be useful. Vegetation mapping both before and after dam construction would be beneficial to understanding the current river conditions. A sediment transport model could also be useful to determine vertical and lateral channel stability and widening. Bed material data along the channel would be beneficial in completion of the sediment transport study. If river restoration projects are to be implemented, it would be important to assess past, current, and future geomorphic, biological, and water resources conditions in an effort to understand the overall channel process.²

¹ Bureau of Reclamation. (2017). 2005-2014 Review of Operating Principles and Project Operations (DRAFT), 2017(October). Retrieved from https://www.usbr.gov/gp/eca/trinidad/draft_review_trinidad.pdf

² Klumpp, C., & Garcia, D. (2010). Hydraulic Model Study of the Purgatoire River and Trinidad Dam. *Joint Federal Interagency Conference*. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.459.3878&rep=rep1&type=pdf>

In correspondence between the US Army Corps of Engineers and Colorado Office of the State Engineer in 1999, they agreed that releases from the dam should not exceed 3,000 cfs without consultation with the US Army Corps of Engineers office in Albuquerque and should never exceed 5,000 cfs. Releases in the range of 3,000+ cfs and 5,000 cfs had never been released since that date.³ However, in the spring of 2017, flows at the Trinidad gage on Commercial Street reached 3,000 cfs and triggered a review, during which it was determined that higher releases threatened US Army Corps of Engineers infrastructure. Furthermore, the hydraulics analysis performed by Corps of Engineers and Bureau of Reclamation highlighted inline structures and bridges but did not address threats to city utility lines, such as water lines that pass under and above the river. Most notably, there is a water line under the Highway 350/160 bypass that serves as the conduit to deliver water to the Department of Defense's Pinon Canyon Maneuver Site. The City of Trinidad has expressed concerns over the risk that flood waters above 3,000 cfs might present to these utility lines. More information on the vulnerability of the utility lines is needed to assess the potential risks of releasing flood waters at a rate above 3,000 cfs.

Declining Ecological Resiliency Invasive species encroachment threatens the biological diversity within the riparian corridor. In particular, woody invasive phreatophytes (Russian-olive and tamarisk) grow in thick stands along the stream bank and within the floodplain of the river in many locations. These trees are aggressive invaders, and often out-compete native vegetation. These trees are also non-beneficial consumers of water, using precious water that would otherwise be available for sustaining native vegetation.⁴

While wildlife and bird species are known to use invasive woody phreatophytes for shelter and food, the Colorado Department of Agriculture cites that ecologists have found bird species richness is less in Russian-olive and tamarisk dominated riparian areas than in riparian areas with native vegetation.⁵ Both of these trees are List B noxious weed species under the Colorado Noxious Weed Act, meaning that is “required to be either eradicated, contained, or suppressed depending on the local infestations.”^{4,5} Additionally, the hydraulic analysis completed by the Bureau of Reclamation and US Army Corps of Engineers specifically cite the control of vegetation as a mean to restore the channel processes.⁶ Removal of Russian-olive and tamarisk paves the course for riparian restoration through the re-establishment of native vegetation. This in turn improves wildlife habitat, improves recreational access, restores channel processes, and decreases non-beneficial water consumption through reduced evapo-transpiration.

Fishery Habitat and Recreation Improving fishery habitat and recreational opportunities is another goal of the project. The City of Trinidad and local non-profits, such as Trout Unlimited Chapter 100 Purgatoire River Anglers, recognize that having a self-sustaining fishery in the Purgatoire River as it runs through Trinidad has potential benefits for wildlife and recreational

³ Bureau of Reclamation. (2017), 66-68. 2005-2014 Review of Operating Principles and Project Operations (DRAFT), 2017(October). Retrieved from https://www.usbr.gov/gp/eca/trinidad/draft_review_trinidad.pdf

⁴ Colorado Department of Agriculture. (2015). Saltcedar Identification and Management. Retrieved from <https://www.colorado.gov/pacific/agconservation/saltcedar-tamarisk>

⁵ Colorado Department of Agriculture. (2015). Russian Olive Identification and Management. Retrieved from <https://www.colorado.gov/pacific/agconservation/russian-olive>

⁶ Klumpp, C., & Garcia, D. (2010), 2. Hydraulic Model Study of the Purgatoire River and Trinidad Dam. *Joint Federal Interagency Conference*. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.459.3878&rep=rep1&type=pdf>

tourism in the city. In 2009, Trout Unlimited commissioned a study titled *Assessment of Current River Condition & Fisheries Enhancement Potential* with the purpose of identifying segments of the stream for restoration and developing a planning document for future projects that would stabilize stream channel dimension while enhancing aquatic and riparian habitat and carrying capacity for trout.

Fishery Habitat - Geomorphology The study characterized the basic geomorphic features of the river and created designs to increase fish habitat and shelter in the high flows during irrigation season and low flows during the non-irrigation season. The designs mostly included boulder vanes and boulder J-hooks. These in-stream structures were mostly designed to create pool and pocket habitat, velocity shelter, and stabilize banks. In the winter of 2014 and winter of 2016, Trout Unlimited hired a contractor to install the in-stream structures in sections of the Purgatoire River, totaling approximately 1.5 miles of the river in reaches 3,4, and 5.

Fishery Habitat - Winter Flow One goal of the project is to collaboratively develop a plan to increase winter baseflows to sustain fishery habitat. The study identifies low baseline flows in the winter as the biggest impediment to a self-sustaining fishery. During the non-irrigation season, flow releases from the dam are usually at 0 cfs. The study suggests that a baseflow of 3-cfs to 5-cfs would be sufficient for winter fish habitat if the channel is shaped correctly, e.g., a channel within a channel concept. Since the construction of Trinidad Dam, water releases only occur for two reasons during the non-irrigation season: historic delayed return flows and stock water flows.

Under current operating principles, a small amount of permanent fishery pool water is required to be released to maintain a percentage of historic flow downstream. As it stands, the historic delayed return flows are normally released at a flow of 10-cfs to 15-cfs for one to two weeks twice during the non-irrigation period from mid-October to mid-April. A permanent amendment during the ten-year review in 2004 established the release of stock water flows to be released as slugs of water ranging from 70-cfs to 100-cfs with the maximum annual release of 1,200 acre-feet per year. Developing a collaborative flow management program would involve coordinating the release of these two releases during non-irrigation time periods. More than likely, this would involve timing the historic delayed return flow releases to occur at a different time than stock water releases. It would also involve extending the duration of historic delayed return flow releases over several weeks at a lower flow rate, ideally between 3-cfs and 5-cfs.

In the 2018 non-irrigation season, the historic delayed return flows required to be released from Trinidad Dam were a little over 300 cfs. Hypothetically, this could be spread out to equal 100 days of 3 cfs flow or 60 days of 5 cfs flow. When timed with the stock flow releases so that delayed return flows do not occur concurrently with stock flow releases, the combination of flows may represent a sufficient amount of water to allow fish to overwinter downstream of the dam. By extending the release of historic delayed return flow, this would require coordination among ditch managers to ensure that no one captures that water.

A key process to the flow management program is ensuring that it is flexible as to account for years of low water and drought and that it is evaluated on an annual basis. Recognizing that the release of delayed return flows will need to be adaptable will be important to planning releases

during non-irrigation season. The historic delayed return flows are already determined as a percentage of the flow diverted for irrigation (10%), meaning that flows will be variable during years of low moisture. Additionally, outlining a protocol that could be adopted into the operating principles of the dam will allow for these releases to become an incorporated part of the flow regime. To develop a collaborative flow regime, it will require coordination between multiple parties, including but not limited to, Colorado Division of Water Resources, Purgatoire River Water Conservancy District, Bureau of Reclamation, ditch companies, US Army Corps of Engineers, and City of Trinidad. It will also require outreach to ditch managers who will be informed to not capture water from the delayed return flow releases.

5.2.2 Sub-Criterion B2: Developing Strategies to Address Critical Watershed Needs – Watershed Management Project Design

Due to the multi-interest nature of the meetings, there exists multiple objectives for this stretch of the river, including conservation, flood protection, wildlife, recreation, agricultural, and economic benefits. The purpose of the project is to use funds to conduct a hydrology/hydraulics assessment, conduct a river health assessment, and create project designs to use as guidance for on-the-ground implementation. The ultimate objective is to restore the deteriorated river channel to a state that models a natural riverine process that enhances the river for multiple purposes.

Hydrology/Hydraulics Assessment A hydraulics assessment for the 4.5 mile stretch of the river corridor will assess previous river channel work completed and identify future needs, including how to best manage winter flows and spring runoff. The purpose of a hydrology/hydraulics assessment is two-fold: determine how to best manage controlled releases of storm water from Trinidad Reservoir with the goal of preparing for the potential maximum release of 5,000 cfs as is required under the Arkansas River Compact, and to determine how to best manage winter flows to create a self-sustaining fishery.

To determine how to best manage controlled releases of storm water to prepare for the maximum release of 5,000 cfs, the hydraulics assessment will analyze the impacts that flows above 3,000 cfs could have on utility lines located below and above the river. While surface infrastructure, such as bridges and inline structures, have been evaluated under the Bureau of Reclamation Sedimentation and River Hydraulics Group in cooperation with US Army Corps of Engineers, it did not address flooding threats on City of Trinidad utility lines. Information gathered will be used by the City of Trinidad to reinforce the utility lines in the case of flood waters.

The second objective of a hydraulics assessment is developing a protocol for a collaborative flow management program. As previously discussed, there is opportunity to coordinate non-irrigation flow releases to provide a baseline flow for overwintering fish. Using a collaborative approach that includes the contribution of multiple stakeholders, the goal is to develop a voluntary flow management program that is flexible to years of low flow and implementable from year to year. Through the assessment, the goal is to develop language that can be codified into the operating principles of Trinidad Dam that dictate the release of historic delayed return flows. If the language is adopted, it will allow for winter baseflows that will help sustain a year-round fishery

River Health Assessment The second objective of the project is to determine best management practices to increase stream channel capacity for flood protection, bolster ecological resiliency through the removal of invasive species, and enhance recreational opportunities through the Trinidad River Walk. To accomplish this goal, funding will be applied to conduct a river health assessment in order to determine trends and needs, guide best management practices, and create project designs that can be used to implement on-the-ground restoration.

The stream channel morphology has been professionally estimated in the *Assessment of Current River Condition & Fisheries Enhancement Potential* prepared by Fin-Up Habitat Consultants, Inc. Following completion of the study, Chaparral Construction under the guidance of Trout Unlimited Chapter 100 Purgatoire River Anglers, installed in-stream habitat structures, including cross-vanes, J-hooks, and boulder clusters in approximately 1.5 miles of the river (reaches 3,4, and 5). However, there has not been extensive monitoring or analysis completed to evaluate the effectiveness of these structures on improving fish habitat, stabilization of the stream channel, and overall condition of the river, including the effect on channel processes.

As a result, the assessment will include an evaluation of geomorphic, biological, physical, and water resource conditions of the river channel, including an evaluation of the work completed by Trout Unlimited, to better understand the channel processes as recommended by the Bureau of Reclamation Sedimentation and River Hydraulics Group. The analysis will be used to prioritize management projects and identify specific project locations. The study may include a sediment transport study, riparian habitat assessment, aquatic habitat assessment, vegetation mapping, floodplain connectivity assessment, and in-depth characterization of bed material (already accomplished partially by Fin-Up Consultants). Data for the river health assessment will most likely be gathered using channel cross sections to characterize the channel processes of the river.

Project Design & Engineering From this information, the study will derive best riparian restoration practices and project designs for structures to restore the deteriorated stream channel under the objectives of increasing channel capacity for flood control, enhancing fish habitat and recreation, and restoring ecological resiliency. The design parameters and best methodology for riparian restoration in the study area will be founded on the data gathered through the hydraulics analysis and river health assessment. Best management practices will be applied to structural designs for direct on-the-ground restoration work.

Through their Colorado Watershed Restoration grant program, the Colorado Water Conservation Board has granted the project \$20,000 per year for two years to hire a full-time coordinator for Purgatoire Water Partnership. They also included in the award \$50,000 to conduct the hydraulic analysis and river health assessment. In addition, the City of Trinidad has committed \$7,500 per year for two years to hire a full-time PWP coordinator and \$35,000 to fund the analyses. These funds committed by the CWCB and the City of Trinidad will be applied to the hydraulics and river health assessment. If received, WaterSMART Grant funds will be used for the project design element of the project. This includes creating designs for on-the-ground restoration work based on the determinations of the previous assessments. As the data has not been collected yet, it is not clear what the site-specific designs and engineering will be. However, the designs will be based on the scientific analysis collected in the river health assessment and hydraulic analysis

and will fulfill the goals of restoring river channel processes, increasing channel capacity, increasing ecological resiliency, and enhancing recreation.

Collaborative Working Group The consultants hired to complete the assessment and create a river design will report to the Trinidad River Walk Project working group. The Trinidad River Walk Project working group will continue to meet on a monthly basis where the stakeholders can discuss project tasks. At these meetings, project timelines and milestones also will be developed. The group will be given oversight and accountability over project tasks. Including key stakeholders, such as representatives from Colorado Division of Water Resources, US Army Corps of Engineers, Purgatoire River Water Conservancy District, and Bureau of Reclamation, is important to guide the project so it stays within the legal guidelines set forth in the Trinidad Dam Operating Principles and Arkansas River Compact. It will also ensure that the project follows all site-specific environmental and cultural compliances. Meeting minutes will be taken at every meeting as well as attendance sheets to document attendees. The PWP watershed coordinator will be responsible for organizing the working group, communicating with the consultants, reaching out to stakeholders, and administrative tasks. The watershed coordinator is essential to support overall project oversight and management. Using a multi-party working group to establish and adhere to project timelines, we can ensure that the studies, plans, and designs developed produce as much benefit to different water users as possible.

5.3 Evaluation Criteria C: Implementation and Results

5.3.1 Sub-Criterion C1: Understanding of and Ability to Meet Program Requirements

The major tasks are listed as below:

1. Convene the Trinidad River Walk Project working group, oversee project development, manage consultant's timelines and deliverables, and engage in community outreach
2. Work with Bureau of Reclamation staff on cultural and environmental compliance before beginning any monitoring, measuring, or field work
3. Draft RFP outlining the primary objectives of the scientific study to go out to bid:
 - a. Hydraulics analysis to determine threat of flooding on utility lines and management of wintertime baseflows,
 - b. Analysis on biological, geomorphic, and physical processes of the Purgatoire River channel to determine deterioration of channel processes,
 - c. Determine riparian restoration design methodologies and best management practices to restoring deteriorated river channel,
 - d. Site-specific project designs and engineering, guided by previous assessments
4. Approve consultant to complete study.
5. Report to Trinidad River Walk Improvement Project meetings throughout the study.
 - a. Completion of a hydraulics analysis to determine threat of flooding on utility lines and management of wintertime baseflows,
 - b. Completion of an analysis on the biological, geomorphic, and physical processes of the Purgatoire River channel to determine deterioration of channel processes,

- c. Completion of a procedure for best management practices to restoring deteriorated river channel,
 - d. Completion of site-specific project designs and engineering
6. Administrative project reporting for financial reports, interim project reports, and final performance reports as outlined in the Bureau of Reclamation WaterSMART Grant FOA

Table 3: Project Timeline and Milestones (2018)

Task	2018									
	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	
Convene the Trinidad River Walk Project working group, oversee project development, manage consultant’s timelines and deliverables, and engage in community outreach										
Reach out to representatives in US Army Corps of Engineers, Bureau of Reclamation, and Colorado Division of Water Resources										
Draft RFP outlining the primary objectives of the scientific study to go out to bid										
Work with Bureau of Reclamation staff on cultural and environmental compliance before beginning any monitoring										
Approve consultant to complete study										
Implement study with monthly meetings with the Trinidad River Walk Group										
Administrative project reporting as outlined in the Bureau of Reclamation WaterSMART Grant FOA										

Table 4: Project Timeline and Milestones (2019)

Task	2019											
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Convene Trinidad River Walk Project working group, oversee project development, manage consultant’s timelines and deliverables, and engage in community outreach												
Implement study with monthly meetings with the Trinidad River Walk Group												

Site-specific project designs and engineering, guided by the previous assessments											
Administrative project reporting as outlined in the Bureau of Reclamation WaterSMART Grant FOA											

Table 5: Cost Associated with Each Task

Task	Start Date	End Date	Estimated Cost
Convene Trinidad River Walk Project meetings, oversee project development, manage consultant’s timelines and deliverables, and engage in community outreach	Apr-18	Dec-19	\$27,700
Work with Bureau of Reclamation staff on cultural and environmental compliance before beginning any monitoring, measuring, or field work	Jun-18	July-18	\$5,000
Hydraulics analysis to determine threat of flooding on utility lines and management of wintertime baseflows	Aug-18	Feb-19	\$35,000
Analysis on biological, geomorphic, and physical processes of the Purgatoire River channel to determine deterioration of channel processes	Aug-18	Feb-19	\$35,000
Determine riparian restoration design methodologies and best management practices to restoring deteriorated river channel	Aug-18	Feb-19	\$15,000
Site-specific project designs and engineering, guided by the previous assessments	Mar-19	Oct-19	\$32,500
Administrative project reporting for financial reports, interim project reports, and final performance reports as outlined in the Bureau of Reclamation WaterSMART Grant FOA	Sept-18	Dec-19	\$7,500
Total			\$167,700 ⁷

5.3.2 Sub-Criterion C2: Building on Relevant Federal, State, or Regional Planning Efforts

Colorado Water Plan The Colorado Water Plan is a statewide initiative developed to uncover ways to manage Colorado water sustainably in the face of a quickly growing population. The Colorado Water Plan identifies stream management planning as a way to address issues associated with stream and river health. To develop a stream management plan, the authors cite

⁷ The total cost for the above tasks does not include costs for office equipment, PWP staff travel, the total salary for a watershed coordinator, and indirect costs. These costs are reflected in the total budget on page 26.

the importance of using multiple stakeholders; assessing biological, hydrological, and geomorphological conditions at a reach scale; identifying flow and other physical characteristics needed to support recreation and ecosystem function; incorporating values of recreation and ecosystem function as identified locally and through the roundtable basin implementation plan; and prioritizing alternative management actions to achieve measurable outcomes toward improving the physical conditions of the river.⁸ This project aligns with the goals of the Colorado Water Plan stream management planning. By organizing a multi-interest stakeholder collaborative, assessing biological and physical river function, and identifying flow management programs, we are following the guidelines set forth as state policy.

Arkansas Basin Roundtable Basin Implementation Plan In Colorado there are a total of nine roundtables created to facilitate conversation over watershed management and oversee local collaborative solutions in the nine major river basins of Colorado. The Purgatoire River Watershed is under the jurisdiction of the Arkansas Basin Roundtable. The Arkansas Basin Roundtable is responsible for the creation of the Basin Implementation Plan (BIP). The purpose of the Basin Implementation Plan according to the directives of the Colorado Water Conservation Board is for “each basin to identify projects and methods to meet basin-specific municipal, industrial, agricultural, environmental, and recreational needs.”⁹

In the Arkansas Basin Roundtable Basin Implementation Plan, they highlight several projects in the Purgatoire River. They identify the need for many of the objectives highlighted in the Trinidad River Walk Project, such as installing in-stream structures for fish habitat, improving stream habitat, augmenting winter flows, and removing invasive species.¹⁰ The need for the stated objectives in the project is demonstrated through the inclusion in the Arkansas Basin Roundtable Basin Implementation Plan. Further evidence of support from the Arkansas Basin Roundtable is their contribution to the project, providing \$14,300 in grant funding to continue administrative work for the Trinidad River Walk Project, indicating their support for the project.

Purgatoire River Watershed Plan In 2014, Purgatoire Watershed Partnership with the Spanish Peaks-Purgatoire River Conservation District acting as a fiscal agent completed the Purgatoire River Watershed Plan. The plan identifies eight broad issues of concern in the watershed: water quality, water quantity, forest and rangeland health, invasive species, stream and habitat restoration, recreational use and access to the river, awareness and knowledge of watershed issues, and stakeholder participation and PWP sustainability and publicity.¹¹ The proposed

⁸ Colorado Water Conservation Board. (2015). Environmental and Recreational Projects and Methods. In *Colorado Water Plan* (pp. 157–180). Retrieved from <http://cwcwweblink.state.co.us/weblink/0/doc/199519/Electronic.aspx?searchid=69705cbe-d4c1-446a-a4b9-00a411d2dad7>

⁹ Colorado Water Conservation Board. (2015). *Basin Implementation Plan DRAFT Guidance*. Retrieved from <http://cwcwweblink.state.co.us/WebLink/ElectronicFile.aspx?docid=172522&searchid=da8f2c6c-3efa-48d6-a43e-892b5c2bd750&dbid=0>

¹⁰ Arkansas River Basin Project Database: Executive Summary - Master Needs List Report by County. (2015), 1–32. Retrieved from http://www.arkansasbasin.com/uploads/2/7/1/8/27188421/ark_bip_apr15_es_master_needs_list_draft.pdf

¹¹ Purgatoire Watershed Partnership. (2014), 9-10. Purgatoire River Watershed Plan. Retrieved from: <https://www.usbr.gov/watersmart/cwmp/docs/plans/Spanish-Peaks-Purtgatoire-Conservation-District.pdf>

project seeks to address invasive species, stream and habitat restoration, recreational use and access to the river, and stakeholder participation and PWP sustainability as the issues of concern.

Under each of the stated goals, there is listed objectives and projects and strategies, of which the Trinidad River Walk Project addresses many of them. Under objectives, projects, and strategies for invasive species, the plan specifically addresses the reduction and control of tamarisk and Russian-olive. The objectives for stream and habitat restoration include improving trout habitat, identifying wildlife corridors and opportunities for habitat restoration, and maintaining existing riparian and wetland habitats. The projects and strategies include researching in-stream flow potentials, assessing and restoring degraded riparian areas and streambanks, and collaborating for habitat planning. To enhance recreational opportunities, the plan suggests improving recreational access to the river. Lastly, increasing stakeholder participation is a priority of this project, including communicating and working with government, non-profits, conservations groups, industry, and local and regional water agencies. Since the Trinidad River Walk Project seeks to implement recommendations from the Purgatoire River Watershed Plan, the project represents the logical next step following the completion of the watershed plan in 2014.

5.4 Evaluation Criterion D: Nexus to Department of Interior Initiatives

The project is in direct nexus with a Bureau of Reclamation project. The 4.5 mile stretch of the Purgatoire River is immediately downstream from Trinidad Dam, in which the irrigation purpose of the dam is managed by the Bureau of Reclamation. The Bureau of Reclamation maintains a contract with the Purgatoire River Water Conservancy District for repayment of the reimbursable cost allocated to the irrigation purpose of the project. The Bureau of Reclamation was responsible for the first draft of the operating principles, first outlined in 1960s, and conducts 10-year reviews of the operation principles to update operation protocol.

The stream channel was identified by the Bureau of Reclamation Sedimentation and River Hydraulics Group as a deteriorated channel in their study titled *Hydraulic Model Study of the Purgatoire River and Trinidad Dam*. In the recommendation section of their study, the group suggested possible future studies that assess river changes, including analyzing the biological, geomorphic, and water resource conditions of the river, before the implementation of restoration projects.¹² Building off past assessments and restoration projects, the Trinidad River Walk Project working group is following the recommendations of the Bureau of Reclamation staff to study and design restoration projects along the Purgatoire River before implementing any on-the-ground projects.

¹² Klumpp, C., & Garcia, D. (2010). Hydraulic Model Study of the Purgatoire River and Trinidad Dam. *Joint Federal Interagency Conference*. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.459.3878&rep=rep1&type=pdf>

6.0 Project Budget

6.1 Budget Proposal

Table 1 Budget Proposal						Table 2 Cost Sharing Entities				
BUDGET ITEM DESCRIPTION	COMPUTATION		Quantity Type	TOTAL COST	City of Trinidad	Colorado Water Conservation Board	Arkansas Basin Roundtable	BoR - WatersSMART Grant	Total Income	
	\$/Unit	Quantity								
Watershed Entity Salaries and Wages										
Watershed Coordinator (2-years)	\$25.00	4160	hourly	\$104,000.00	\$15,000.00	\$40,000.00	\$13,800.00	\$35,200.00	\$104,000.00	
AmeriCorps VISTA Volunteer	\$8,000.00	1	volunteer	\$8,000.00				\$8,000.00	\$8,000.00	
Contractual - Design Contractor Salaries and Wages										
Senior Project Leader	\$220.00	80	hourly	\$17,600.00	\$7,175.00	\$10,425.00			\$17,600.00	
Senior Design Engineer	\$175.00	100	hourly	\$17,500.00				\$17,500.00	\$17,500.00	
Junior Design Engineer	\$125.00	120	hourly	\$15,000.00				\$15,000.00	\$15,000.00	
Biologist I	\$145.00	90	hourly	\$13,050.00	\$5,800.00	\$7,250.00			\$13,050.00	
Biologist II	\$100.00	120	hourly	\$12,000.00	\$5,000.00	\$7,000.00			\$12,000.00	
Technician I	\$110.00	117	hourly	\$12,870.00	\$4,950.00	\$7,920.00			\$12,870.00	
Technician II	\$85.00	120	hourly	\$10,200.00	\$4,250.00	\$5,950.00			\$10,200.00	
Field Personnel	\$85.00	100	hourly	\$8,500.00	\$3,825.00	\$4,675.00			\$8,500.00	
Administrative Support	\$50.00	106	hourly	\$5,300.00	\$2,250.00	\$3,050.00			\$5,300.00	
Travel										
Site Visit Pre-Design Phase	\$0.54	300	Miles	\$162.00		\$162.00			\$162.00	
Project Team Meetings	\$0.54	2400	Miles	\$1,296.00		\$1,296.00			\$1,296.00	
Final Design Presentation	\$0.54	300	Miles	\$162.00		\$162.00			\$162.00	
PWP Staff Travel	\$0.54	2000	Miles	\$1,080.00				\$1,080.00	\$1,080.00	
Supplies and Materials										
Prints & photocopies	\$0.30	1200	Estimate	\$360.00		\$360.00			\$360.00	
Office Equipment	\$2,500.00		Estimate	\$2,500.00			\$500.00		\$2,500.00	
Design Contractor Supplies	\$3,500.00		Estimate	\$3,500.00	\$1,750.00	\$1,750.00			\$3,500.00	
Environmental and Regulatory Compliance Costs										
	\$5,000.00		Estimate	\$5,000.00	\$0.00	\$0.00	\$0.00	\$5,000.00	\$5,000.00	
Total Direct Costs					\$50,000.00	\$90,000.00	\$14,300.00	\$83,780.00	\$238,080.00	
Indirect Costs										
Watershed Administrative Support	\$50.00	166		\$8,300.00				\$8,300.00	\$8,300.00	
Total Indirect Costs								\$8,300.00	\$8,300.00	
Total Estimated Project Costs					\$50,000.00	\$90,000.00	\$14,300.00	\$92,080.00	\$246,380.00	

Table 6: Budget Proposal - Cost & Income

6.2 Budget Narrative

Salaries and Wages

The salary and wages are divided into two sections. The first section is the cost associated with the management of the project by the watershed entity, in this case Purgatoire Watershed Partnership. The watershed coordinator will be responsible for multiple parts of the project, including the management of the Trinidad River Walk Project working group, coordination of community outreach, communication with Bureau of Reclamation representatives and other key stakeholders, grant research and application, and completion of administrative tasks.

Administrative tasks include project reporting required by Bureau of Reclamation, such as financial reporting, interim project reporting, and final project reporting, and activities involved with financial management, such as accounting and budgeting. The cost associated for project coordination was determined by the rate of \$25/hour for 1408 hours (300 hours for administrative tasks and 1108 hours for project management) for a total of \$35,200. Although the budget reflects a higher salary for the watershed coordinator, those additional values are funded by grants provided by Colorado Water Conservation Board, Arkansas Basin Roundtable, and the City of Trinidad. WaterSMART Grant funding will serve to supplement those funds to hire a watershed coordinator.

Table 7: Tasks and Costs Associated with a Watershed Coordinator

Tasks for Project Development over 2 years	Hours	\$/Hour	Total Costs
Organizing River Walk meetings	200	\$25/hr	\$5,000
Writing press releases for newspapers	60	\$25/hr	\$1,500
Attending regional and state meetings	73	\$25/hr	\$1,825
Coordinating with consultants, including any additional research to complete project	200	\$25/hr	\$5,000
GIS Mapping and assistance with data collection	75	\$25/hr	\$1,875
Community outreach coordination (State of the Purgatoire event, volunteer events, newsletters, social media management)	250	\$25/hr	\$6,250
Additional grant research and application for project construction and implementation	250	\$25/hr	\$6,250
Tasks for Administration over 2 years			
Project Reporting (financial reporting, interim project reporting, and final project reporting)	150	\$25/hr	\$3,750
Financial Management (accounting and budgeting)	150	\$25/hr	\$3,750
Total	1408		\$35,200

The budget also includes funds for an AmeriCorps VISTA Volunteer. Purgatoire Watershed Partnership has managed an AmeriCorps VISTA volunteer for three years, meaning we will have to apply for special eligibility for a fourth-year volunteer. Based upon previous experience with the AmeriCorps program, under an AmeriCorps contract, a VISTA volunteer is required to serve at minimum for 1,700 hours for a year for the cost of \$8,000. The VISTA volunteer will assist

with community outreach, educational events, volunteer recruiting, grant research, and press releases. The hiring and management of the AmeriCorps VISTA Volunteer will be left to the discretion of the watershed coordinator and PWP Board of Directors.

Contractual - Design Contractor Salaries & Wages

The second list of wages is those for the consultants who will be responsible for completing the hydraulic analysis, river health assessment, and project design and engineering. The hourly rate was estimated by a representative from CH2M. Each position is identified for a specific need in the overall completion of analysis and project design. The senior project leader will act as the project coordinator and liaison to the Trinidad River Walk Project working group. The senior and junior design engineer will be responsible for the designing phase of the project. This includes any in-stream structures or other potential solutions to the issues identified in the hydraulic analysis and river health assessment. As fishery habitat and habitat in the riparian corridor is an important element of the project, biologist I and biologist II will be on the consultation team to help guide best management practices on restoring conditions for wildlife. Their role may include on-site riparian habitat and aquatic habitat assessments and vegetation mapping. Technician I, technician II, and field personnel roles will survey and take samples for on-site analysis of the river, including channel cross-sectional analysis. The administrative support role will fulfill any administrative duties on the side of the consultant. If received, the funding from the WaterSMART Grant will be applied to the project design & engineering phase of the project, paying for the salaries of the senior design engineer and junior design engineer. The prices and hours will ultimately be negotiated with whomever is awarded the project through a contract.

Travel

Travel will most likely be a factor in cost for the project. As Trinidad is located in the southern region Colorado, it is reasonable to expect travel time for any consultant and project team to reach the area. The travel estimates include 300 miles round trip at a rate of \$0.54/mile. This amounts to \$162 per trip. For site visit pre-design phase, it was estimated to be \$162 for one trip. Subsequent project team meetings amount to \$162/trip multiplied by a total of eight trips. Lastly, the final project meeting will include \$162 for one trip. These costs are covered by the Colorado Water Conservation Board grant.

It is also assumed that the watershed coordinator will also have to travel for different local, state, and regional meetings for the purpose of meeting stakeholders, consultants, and further developing the project. To factor in the travel of the watershed coordinator, the applicant has included 2,000 miles at a rate of \$0.54/mile for a total cost of \$1,080.

Materials and Supplies

The materials and supplies needed for the project include printing costs for research papers, rough drafts, and final drafts of the assessment and project design. A total of 1,200 printing pages are accounted for in the project at a cost of \$0.30/page, a standard estimate for printing. These costs are covered by the Colorado Water Conservation Board grant.

Additional funding of \$2,500 was added for office equipment. Costs were estimated by performing an internet search for standard prices. For ArcGIS, the cost of the software was determined using past experiences with purchasing the license for the software. For the past couple years, PWP has been donated in-kind resources, such as use of a printer and printing pages. For PWP to become a self-reliant entity, the purchase of the following material and supplies will allow PWP to function independently. Each of the listed office supplies will aid to the development of the Trinidad River Walk Project. For example, ArcGIS software will be needed to aid in mapping and presentations; a printer will be needed to print off flyers and other outreach material in house; ink trays will be needed for in-house printing; a computer will be needed by the VISTA volunteer for work purposes.

Table 8: Costs for Office Supplies

Office Supplies	Purpose	\$/Unit	Quantity	Unit Type	Total Cost
ArcGIS Software	Research	\$500	2	One-year license	\$1,000
Printer	Office	\$500	1	Device	\$500
Printer ink trays	Office	\$125	4	Ink Trays	\$500
Computer	Research	\$500	1	Device	\$500
Total					\$2,500

Based on the conversation with CH2M, their staff estimated a cost of equipment at \$3,500 for channel cross sectional analysis. These costs are covered by funds from the Colorado Water Conservation Board grant and City of Trinidad.

Environmental and Regulatory Compliance Costs

The estimated cost for environmental and regulatory compliance costs is \$5,000. The project will require field work and therefore the applicant acknowledges that the project must be in compliance with environmental regulations and will incur costs for any environmental compliance, analyses, permits, or approvals. Such costs include, but are not limited to:

- The cost incurred by Reclamation to determine the level of environmental compliance required for the project
- The cost incurred by Reclamation, the recipient, or consultant to prepare any necessary environmental compliance documents or reports
- The cost incurred by Reclamation to review any environmental compliance documents prepared by a consultant
- The cost incurred by the recipient in acquiring any required approvals or permits, or in implementing any required mitigation measures

The environmental and cultural resource compliance staff at the Bureau of Reclamation Great Plains office estimated that it would cost \$3,000 to complete an environmental compliance review and prepare any documents for the project. The environmental and cultural resource compliance staff also acknowledged that a change in dam operating procedures or the

implementation of a flow management program *may* trigger a review under the National Environmental Policy Act. As a result, an additional \$2,000 was budgeted for compliance costs.

Indirect Costs

The applicant has never received a Federal negotiated indirect cost rate. Following the standard rate of 10%, the estimated indirect cost is \$8,300 based at the rate of \$50/hour for 166 hours.

INTERNAL REVENUE SERVICE
P. O. BOX 2508
CINCINNATI, OH 45201

DEPARTMENT OF THE TREASURY

Date: JAN 16 2015

PURGATOIRE WATERSHED PARTNERSHIP
3590 EAST MAIN STREET
TRINIDAD, CO 81082-5001

Employer Identification Number:
46-1757863
DLN:
26053414002105
Contact Person:
CUSTOMER SERVICE ID# 31954
Contact Telephone Number:
(877) 829-5500
Accounting Period Ending:
May 31
Public Charity Status:
509(a)(2)
Form 990/990-EZ/990-N Required:
Yes
Effective Date of Exemption:
December 21, 2012
Contribution Deductibility:
Yes
Addendum Applies:
No

Dear Applicant:

We're pleased to tell you we determined you're exempt from federal income tax under Internal Revenue Code (IRC) Section 501(c)(3). Donors can deduct contributions they make to you under IRC Section 170. You're also qualified to receive tax deductible bequests, devises, transfers or gifts under Section 2055, 2106, or 2522. This letter could help resolve questions on your exempt status. Please keep it for your records.

Organizations exempt under IRC Section 501(c)(3) are further classified as either public charities or private foundations. We determined you're a public charity under the IRC Section listed at the top of this letter.

If we indicated at the top of this letter that you're required to file Form 990/990-EZ/990-N, our records show you're required to file an annual information return (Form 990 or Form 990-EZ) or electronic notice (Form 990-N, the e-Postcard). If you don't file a required return or notice for three consecutive years, your exempt status will be automatically revoked.

If we indicated at the top of this letter that an addendum applies, the enclosed addendum is an integral part of this letter.

For important information about your responsibilities as a tax-exempt organization, go to www.irs.gov/charities. Enter "4221-PC" in the search bar to view Publication 4221-PC, Compliance Guide for 501(c)(3) Public Charities, which describes your recordkeeping, reporting, and disclosure requirements.

Letter 5436

PURGATOIRE WATERSHED PARTNERSHIP

Sincerely,

Tamara Ripponda

Director, Exempt Organizations

Appendix B – Environmental and Cultural Resources Compliance

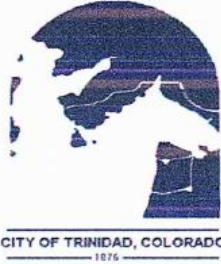
Environmental and Cultural Resources Compliance

Because this project includes monitoring, measurement, and other field work, the applicant acknowledges that the project must comply with environmental regulations and will incur costs for any environmental compliance, analyses, permits, or approvals. After a conversation with a representative from the Bureau of Reclamation Great Plains office, it was estimated that the cost for environmental and cultural resource compliance would be \$3,000. However, the environmental and cultural resource compliance staff also acknowledged that a change in dam operating procedures or the implementation of a flow management program *may* trigger a review under the National Environmental Policy Act. As a result, an additional \$2,000 was budgeted for compliance costs.

Required Permits or Approvals

As there is no activity under this grant application that will directly disturb the earth or modify physical structures, there are no required permits or approvals necessary. However, if the need for required permits or approvals arises, Purgatoire Watershed Partnership is committed to working with Bureau of Reclamation staff to secure all applicable permits or approvals before beginning on-the-ground work.

Appendix C - Letters of Support



City of Trinidad
P.O. Box 880
Trinidad, Colorado 81082
Telephone (719) 846-9843
Fax (719) 846-4140
www.trinidad.co.gov

January 23, 2018

Bureau of Reclamation
WaterSMART Grant – Phase I
Attn: Bureau of Reclamation
Denver Federal Center
6th & Kipling, Bldg 67
Denver, CO 80225

Re: Letter of Support for Approval of WaterSMART Grant – Phase I for the Purgatoire Watershed Partnership's application *Restoring the Ecology and Channel Processes of the Purgatoire River along the Trinidad River Walk through Multi-Stakeholder Collaboration*

Dear Bureau of Reclamation:

I am writing on behalf of the City of Trinidad to register my support for the Purgatoire Watershed Partnership's application for the US Bureau of Reclamation Phase I WaterSMART Grant. The project represents a community effort to implement a conservation project that is mutually beneficial for different users along the Purgatoire River as it runs through the City of Trinidad. This multi-use project will improve the natural environment of the riparian corridor while also providing benefits to the citizens who rely upon the water.

We acknowledge the need for scientific studies to analyze the hydraulics and channel processes of the Purgatoire River to guide best management practices to effectively restore the river channel and riparian corridor. I strongly urge you to approve the grant request, which will bring benefits to multiple types of water users on the Purgatoire River.

Sincerely,

A handwritten signature in black ink, appearing to read "Gilbert A. Ramirez".

Gilbert A. Ramirez
City of Trinidad
Water Resources Manager

PURGATOIRE RIVER WATER CONSERVANCY DISTRICT

3590 East Main Street, Suite 3
Trinidad, Colorado 81082

(719) 846-7285

January 30, 2018

Bureau of Reclamation
WaterSMART Grant – Phase I
Attn: Bureau of Reclamation
Denver Federal Center
6th & Kipling, Building 67
Denver, CO 80225

Re: Letter of Support for Approval of WaterSMART Grant Phase I for the Purgatoire Watershed Partnership's application *Restoring the Ecology and Channel Processes of the Purgatoire River along the Trinidad River Walk Through Multi-Stakeholder Collaboration*

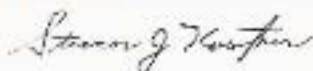
Dear Bureau of Reclamation:

I am writing on behalf of the Purgatoire River Water Conservancy District to register my support for the Purgatoire Watershed Partnership's application for the US Bureau of Reclamation Phase I WaterSMART Grant. The project represents a community effort to implement a conservation project that is mutually beneficial for different users along the Purgatoire River as it runs through the City of Trinidad. This multi-use project will improve the natural environment of the riparian corridor while also providing benefits to the citizens who rely upon the water.

This overall project will benefit the irrigators of the Purgatoire River Water Conservancy District by improving the channel efficiency and lessening the water losses of the Purgatoire River below the Trinidad Dam thus increasing the irrigation water yields from the Bureau of Reclamation's Trinidad Project.

We acknowledge the need for scientific studies to analyze the hydraulics and channel processes of the Purgatoire River to guide best riparian restoration practices and project engineering to effectively restore the river channel and riparian corridor. I strongly urge you to approve the grant request, which will bring benefits to multiple types of water users on the Purgatoire River.

Sincerely,



Steven J. Kastner
General Manager



Coalitions & Collaboratives, Inc.

Post Office Box 746
Lake George, Colorado 80827
EIN: 47-2144690

Bureau of Reclamation
Denver Federal Center - 6th & Kipling, Building 67
Denver, Colorado 80225

January 22, 2018

Re: Purgatoire Watershed Partnership, BOR WaterSMART Grant – Phase I,
*Restoring the Ecology and Channel Processes of the Purgatoire River along the Trinidad
River Walk Through Multi-Stakeholder Collaboration*

Dear Sir or Madam:

I am writing in support of the Purgatoire Watershed Partnership (PWP) and their application for WaterSMART funds. Coalitions & Collaboratives (COCO) has been one of a diverse set of stakeholders that are active in promoting this partnership's programs and projects. This funding is key in allowing this collaborative effort to move forward by completing river restoration planning and design. Objectives include:

- Building collaborative relationships with diverse stakeholders and funders to prioritize the health of the river, including private citizens, local governments and nonprofits
- Promoting outreach and education within the Purgatoire community to build stewardship, volunteer and recreation opportunities
- Implementing river restoration projects to improve habitat and water quality while also improving flow management for citizens, agricultural producers and in support the of Interstate Colorado Kansas Compact

The project represents a community based conservation project that benefits both the Purgatoire River and the community. COCO will continue support this partnership, and strongly supports this proposal. Please feel free to contact me if I can clarify any questions.

Sincerely,

A handwritten signature in blue ink that reads "Carol Ekarius".

Carol Ekarius,
Chief Executive Officer
Coalitions & Collaboratives, Inc.

DOWNTOWN • TRINIDAD • DEVELOPMENT GROUP

GROWTH · PROSPERITY · COMMUNITY

January 23, 2018

Bureau of Reclamation
6th & Kipling, Bldg 67
Denver, CO 80225

Re: **Letter of Support for Approval of WaterSMART Grant – Phase I for the Purgatoire Watershed Partnership’s application *Restoring the Ecology and Channel Processes of the Purgatoire River along the Trinidad River Walk Through Multi-Stakeholder Collaboration***

Dear Bureau of Reclamation:

I am writing on behalf of the Downtown Trinidad Development Group to register our support for the Purgatoire Watershed Partnership’s application for the US Bureau of Reclamation Phase I WaterSMART Grant. The project represents a community effort to implement a conservation project that is mutually beneficial for different users along the Purgatoire River as it runs through the City of Trinidad. This multi-use project will improve the natural environment of the riparian corridor while also providing benefits to the citizens who rely upon the water.

The Downtown Trinidad Development Group is currently working on several development projects in the Trinidad area which offer unique opportunities to partner with conservationists and visionaries. La Puerta de Trinidad, a 15-acre restoration project situated between I-25, the Purgatoire River and Historic Downtown, is expected to be completed in the next few years and attract millions of travelers each year. The 15 acres will be home to a multi-modal transportation hub, a 100-room branded hotel, a restaurant and retail space and a plaza gathering area for art festivals, craft shows and more. Included in this project is a riverfront park where habitat restoration and preservation are an integral part of the development plan that will include river walking and bicycle trails as well as recreational access for fly-fishing, kayaking and tubing all on the historic Purgatoire River.

We acknowledge the need for scientific studies to analyze the hydraulics and channel processes of the Purgatoire River to guide best management practices to effectively restore the river channel and riparian corridor. I strongly urge you to approve the grant request, which will bring benefits to not only the La Puerta de Colorado community project, but multiple types of water users on the Purgatoire River.

Sincerely,

A handwritten signature in black ink, appearing to read 'K. Gabrielson', written in a cursive style.

Karl Gabrielson

General Manager

Downtown Trinidad Development Group

133 N. Commercial St.

Trinidad, CO 81082

kgabrielson@trinidaddevelopment.com



Purgatoire Watershed Partnership

3590 E. Main St.

Trinidad, CO 81082

purgatoirewatershedpartnership@gmail.com

January 26th, 2018
Bureau of Reclamation
WaterSMART Grant – Phase I
Attn: Bureau of Reclamation
Denver Federal Center
6th & Kipling, Bldg 67
Denver, CO 80225

Re: Official Resolution of the Purgatoire Watershed Partnership Board of Directors for WaterSMART Grant

To whom it may concern:

I, Tom Verquer, Chairman of the Purgatoire Watershed Partnership Board of Directors, am writing on behalf of the Purgatoire Watershed Partnership (PWP). After reviewing the application, the PWP Board of Directors voted to:

- 1) commit the applicant to the financial and legal obligations associated with the receipt of financial assistance under the WaterSMART Grant – Phase I FOA,
- 2) support the submission of the application,
- 3) assert that we are capable of providing the amount of funding specified in the funding plan,
- 4) ensure that we will work with the Bureau of Reclamation to meet established deadlines for entering into a grant or cooperative agreement.

The PWP Board of Director hereby adopts this official resolution and the content therein on January 26th, 2018.

Please contact us at purgatoirewatershedpartnership@gmail.com if you have any questions or concerns.

Sincerely,

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

Tom Verquer

Purgatoire Watershed Partnership

Chairman of the Board of Directors