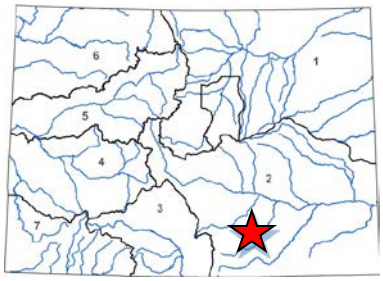
COLORADO
Colorado Water Conservation Board
Department of Natural Resources

Purgatoire River Watershed Riparian Rehabilitation Project, Phase V
SPPRCD
January 2021 Board Meeting

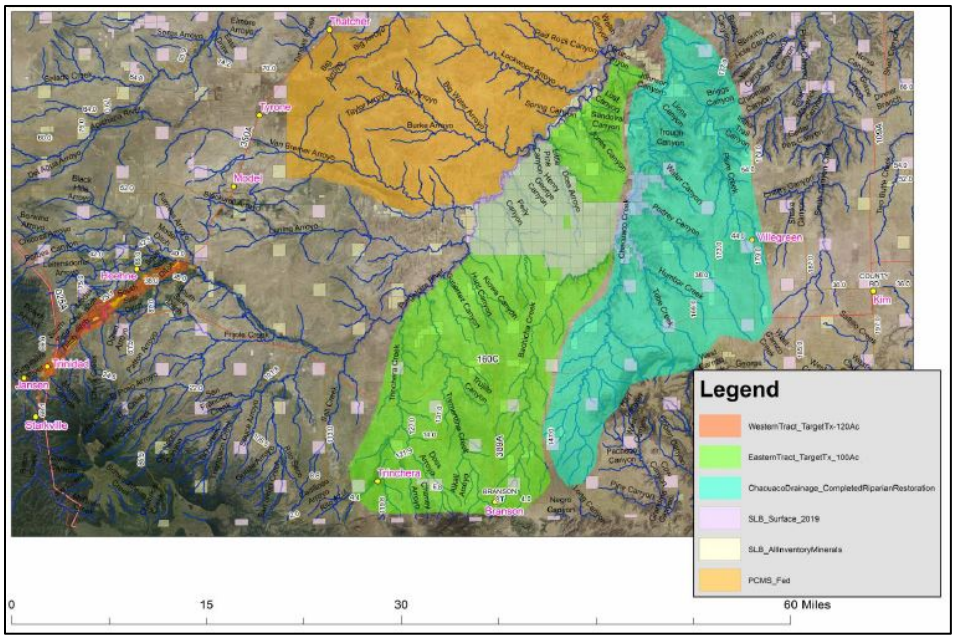
Colorado Watershed Restoration Program Application



L O C A T I O N	
County/Counties:	Las Animas
Drainage Basin:	Arkansas

D E T A I L S	
Total Project Cost:	$405,000
Colorado Watershed Restoration Program Request:	$200,000
Recommended amount:	$125,000
Other CWCB Funding:	$0
Other Funding Amount:	$12,500 secured $130,000 pending
Applicant Match:	$62,500
Project Type(s): Watershed Restoration	
Project Category(Categories): Watershed/Stream Restoration	
Measurable Result: Changes in woody invasive composition, secondary invasive composition, native vegetation, hydrology, and the presence and effectiveness of the tamarisk leaf beetle	

The Purgatoire Watershed is one of the most ecologically intact watersheds in the State of Colorado. One of the biggest threats is the encroachment of non-native invasive woody and herbaceous plants. Taking a pro-active approach and addressing non-native invasive plant species now, rather than waiting until they become a much larger threat, will facilitate ecosystem resiliency.



This project will build ecosystem resiliency in the Purgatoire Watershed by improving riparian habitat and function. This will be achieved by (1) applying targeted Integrated Pest Management (IPM) strategies to reduce non-native woody and secondary invasive pant species by 50% and (2) apply BMP's to improve native vegetative cover by 20% within the project area during the project time frame.

Integrated pest management and best management practices will be used to control non-native invasive plant species and revegetate areas where native vegetation in riparian areas has been degraded by noxious weeds. This will result in enhancement of available water resources within the system by removing non-native, non-beneficial water consuming plants; promotion and enhancement of native vegetation and thus native wildlife populations; protection of communities and agriculture (and associated infrastructure) from risk of wildfire and flooding (posed by non-native invasive

phreatophytes); enhancement of agriculture by improving available water resources and promoting native vegetation.

The funding recommendation provides for partial funding for the tasks identified in the scope of work. Unfortunately, the available funding, the application score, and the need to reduce funding across all the major river basins represented in the applicant pool resulted in a reduced recommendation for this application. Staff encourages the applicant to seek funding from other sources or in subsequent grant cycles of the CWCB's Colorado Watershed Restoration Program.

1.0 Project Proposal Summary

Project Title: Purgatoire River Watershed Riparian Rehabilitation Project, Phase V
Project Sponsor: Spanish Peaks-Purgatoire River Conservation District (SPPRCD)
(fiscal agent) Jonnalea Tortorelli, District Manager
Jonnalea.tortorelli@co.nacdnet.net 719.497.3118
Project Manager: Purgatoire Watershed Weed Management Collaborative (noxious weed program of SPPRCD)
(project contact) Shelly L. Simmons, Coordinator
ssimmons@purgatoireconservation.org 719.469.2847

Project Location (*see 'Attachment A-Maps', Map #1-proposed project overview*): Purgatoire River Watershed in Las Animas County. Phase V will include two focus areas: A Western Tract and Eastern Tract. The Western Tract (*See Map #2*) includes the mainstem and tributaries of the Purgatoire River in the El Moro and Hoehne areas. Phase V will continue to connect previous project phases within this same tract. New to Phase V is the addition of an Eastern Tract (*See Map #3*) within the Branson-Trinchera Conservation District: Trinchera, Trementina and Bachicha drainages, and smaller tributaries located in between. No previous restoration projects have been implemented within this tract, but riparian restoration has been completed in the Chacauco drainage to the East (2008-2014).

Grant Type: Watershed/Stream Restoration

CWCB Grant Request: $200,000
Cash Match: $175,000
In-Kind Match: $ 30,000
Total Match: $205,000
Total Project Cost: $405,000

Estimated Acres Impacted: 220 **Estimated Completion Date**: June 31st, 2025

Description of Project:
Goal Build ecosystem resiliency in the Purgatoire Watershed (PW) by improving riparian habitat and function.

Objectives 1) Apply targeted IPM strategies to reduce non-native woody and secondary invasive plant species by 50% and 2) apply BMP's to improve native vegetative cover by 20% within the project area during the project time frame.

Habitat Management Practices Utilize integrated pest management and best management practices to control non-native invasive plant species and revegetate areas where native vegetation in riparian areas has been degraded by noxious weeds.

Outcomes Enhancement of available water resources within the system by removing non-native, non-beneficial water consuming plants; promotion and enhancement of native vegetation and thus native wildlife populations; protection of communities and agriculture (and associated infrastructure) from risk of wildfire and flooding (posed by non-native invasive phreatophytes); enhancement of agriculture by improving available water resources and promoting native vegetation.

Justification/Need The PW is one of the most ecologically intact watersheds in the State of Colorado. One of the biggest threats is the encroachment of non-native invasive woody and herbaceous plants. Taking a pro-active approach and addressing non-native invasive plant species now, rather than waiting until they become a much larger threat, will facilitate ecosystem resiliency.

2.0 Qualifications Evaluation

Current CWCB Watershed Restoration (WR) Grant (PO: POGG1,PDAA,202000002468)

At the time of this application, SPPRCD is currently wrapping up a previously awarded CWCB WR grant. The remaining tasks are vegetative monitoring and active revegetation. Field work for vegetative monitoring has been completed, with a final report coming by mid-November. Active revegetation will be completed spring of 2021, with project wrap up and a final report submitted by June 31st, 2021; a full two years ahead of the scheduled grant completion deadline.

Project Sponsor - Spanish Peaks-Purgatoire River Conservation District (SPPRCD)

In-Kind = $10,000 Cash = $15,000

SPPRCD will act as the grant fiscal agent. Jonnalea Tortorelli, District Manager, will take on the responsibility of managing grant funds through procurement of supplies and vendor payments, as well as managing project budgets. SPPRCD will be providing in-kind for the District Manager's salary valued at $2,500 for project fiscal management.

SPPRCD will also be providing cash match valued at $15,000 in salary for their Noxious Weed Technician to assist with project implementation. SPPRCD Noxious Weed Technician, Donna Albertson, will work under the direction of the PWWMC Coordinator, assisting with field work such as project site mapping and inspections, noxious weed mapping, project monitoring and landowner outreach.

Project Manager – Purgatoire Watershed Weed Management Collaborative (PWWMC)

Cash = $30,000 (SPPRCD direct cash funds) In-Kind = $7,500

The PWWMC Coordinator, Shelly L. Simmons, will be the project management lead, overseeing all aspects of project management: site visits, mapping, project plans, project implementation, contractor bids/contracts, landowner outreach, education and outreach events, and managing project budgets in conjunction with SPPRCD. SPPRCD will be providing direct cash valued at $30,000 and in-kind valued at $7,500 for PWWMC Coordinator salary match.

Project Partners

Duck's Unlimited (DU), NAWCA Grant

Cash = $70,000 (application February 2021)

DU may potentially provide cash match through an additional NAWCA grant (if funded) valued at $70,000 for on-the-ground project work such as TRO mechanical removal, re-sprout spraying and active revegetation activities. DU plans on applying for a NAWCA grant in February 2021 that will include the SPPRCD/PWWMC riparian restoration program (per Matt Reddy). DU will also provide technical assistance as needed for on-the-ground project work, especially with wetland restoration sites.

Colorado Parks and Wildlife (CPW), Wetlands Grant

Cash = $60,000 (application December 2020)

SPPRCD/PWWMC will apply for a CPW Wetlands grant in December 2020. This CPW Wetlands grant, if awarded, may potentially provide up to $60,000 in cash match for on-the-ground project work such as TRO mechanical removal, re-sprout spraying and active revegetation activities.

Branson-Trinchera Conservation District (BTCD)

In-Kind = $5,000

BTCD board members will provide $5,000 in-kind for landowner outreach and educational events, and assistance with project budget management specific for sites located within BTCD (Eastern Tract).

Purgatoire Watershed Partnership (PWP)

In-Kind = $5,000

PWP will provide in-kind contributions valued at $5,000 in the form of technical assistance with restoration guidelines, and project promotion through education/outreach events and PWP social media outlets. PWP is working on riparian restoration projects within the City of Trinidad River Corridor and the upper watershed that, over time, will connect with

SPPRCD/PWWMC projects on private lands. PWP is also currently working on a stream management plan in which SPPRCD/PWWMC are active partners.

Private Landowners
In-Kind Contribution = $10,000
Private landowners will provide in-kind contributions valued at $10,000 through project site maintenance for a minimum of five years after initial project implementation.

Breakdown of Cash and In-Kind Contributions Relative to Grant Request

CWCB Grant Request:	***$200,000***
Cash Match:	$175,000
In-Kind Match:	$ 30,000
Total Match:	$205,000

3.0 Organizational Capacity

History of Accomplishments

The creation of PWWMC (formerly Tackling Tamarisk on the Purgatoire, or TTP) was based on the realization that much of the Purgatoire River Watershed is an ecologically intact, biologically diverse system. However, the invasion of tamarisk and Russian-olive pose a great threat to this system. Much of the infestation of tamarisk and Russian-olive within the upper watershed is manageable. PWWMC partners are taking a pro-active approach and addressing these non-native invasive species now, rather than waiting until they become a much larger threat. The partnership has been in existence since 2004 and has received over $600,000 in funding and restored over 2,000 acres of riparian corridor through the treatment of tamarisk and Russian-olive and secondary noxious weeds.

In the early stages of the partnership, over 800 acres of riparian corridor was restored in the Chacuaco drainage through the treatment of tamarisk (*See Map #3*). The Chacuaco is the largest tributary to the Purgatoire. In 2019, the PWWMC Coordinator checked in with landowners in this treatment area – Generally , there is very little re-growth and they have been very pleased with the results. Major funding for this project was provided by the Colorado Division of Wildlife's Wetland program and the CWCB's TRO program. Project partners for this project included: CSFS, TNC, BT CD, PRWCD, SPPRCD, CDA, SLB, CPW, USFWS and private landowners. Dr. Anna Sher with Denver University also played a major role in this project as she set up several monitoring research sites located in the Chacuaco drainage.

PWWMC partners also completed 90% of initial control of tamarisk and Russian-olive in the upper tributaries of the Purgatoire above Trinidad Reservoir and on Trinidad State Park. Over 15 tributaries and areas around the reservoir have been treated. Major funding for this was provided by the CDA State Noxious Weed Fund, the SLB Noxious Weed Fund, and the PRWCD. Major partners included CSFS, TNC, SP-PR CD, Trinidad State Park, and private landowners.

During the past three years (2017-2020) over 400 acres of riparian restoration has been implemented under PWWMC leadership (*see Attachment A, Map #2*) in the Hoehne and El Moro areas along the mainstem of the Purgatoire. Active revegetation was completed on four of these sites, as well as vegetative monitoring on four sites. The data show positive vegetation trends, with a higher percentage of native and desirable plant species replacing tamarisk and Russian-olive dominated project sites (*see Attachment B, Project Monitoring Examples).* Two more sites are in various stages of vegetative monitoring, with full reports expected by the end of November 2020. Major funding sources include CWCB IPCP, CPW Wetlands Program, ARWC, and CSFS State and Private Forestry grant. Major partners include SPPRCD, PWP, CSFS, private landowners and RiversEdge West (REW). REW has played a critical role with supporting PWWMC, most notably through their Restore Our Rivers funding campaign, which provided capacity dollars to get PWWMC up and running (i.e. funding the PWWMC coordinator position).

Level of Staffing – Primary Project Staff for Project Implementation and Management
PWWMC Coordinator, Shelly L. Simmons – 1 FTE
Shelly will serve in the role of overall project manager. Roughly >70% of her time will be solely dedicated to this project. Shelly has managed riparian restoration/woody invasive projects for over a decade with a stellar track record of project completion and meeting or exceeding project goals, including four previous CWCB grants. Shelly's experience includes grant writing and management, budget management, project management, IPM and BMP's specific for noxious weed

management and riparian restoration, education and outreach related to natural resource management, and creating and maintaining collaborative partnerships focused on natural resource conservation.

SPPRCD/BTCD District Manager, Jonnalea Tortorelli - .75 FTE
Jonnalea will serve as the fiscal manager for the project. Roughly 10% of her time will be dedicated to the fiscal management of this project. Jonnalea has worked hand-in-hand with Shelly for over twelve years implementing riparian restoration/woody invasive projects. Jonnalea's related work experience includes business and operational manager for the two conservation districts in Las Animas County. She is proficient in accounting and use of Quick Books. Jonnalea also writes and manages multiple grants for the conservation districts, including four previous CWCB grants.

SPPRCD Noxious Weed Technician, Donna Albertson – 1 FTE
Donna joined SPPRCD in June of 2018 as the new Noxious Weed Technician. Donna will assist Shelly with on-the-ground project implementation tasks. Roughly >30% of her time will be dedicated to this project and will include landowner outreach, site visits, mapping, creating plans, monitoring and working with contractors. Donna is a licensed CDA Qualified Supervisor. Her experience includes managing the SPPRCD noxious weed cost share program, noxious weed spraying, mapping, landowner outreach, and completing noxious weed plans for landowners.

Project Budget and Timeline (see Figure 1)
With over a decade's worth of experience, the personnel and organizations needed to achieve success are already in place. The PWWMC partnership is stronger and more experienced than ever, having secured over $600,000 in funding and restored over 2,000 acres of riparian corridor through the treatment of tamarisk and Russian-olive and secondary noxious weeds. Thus we are confident in the proposed project budget and timeline.

Figure 1 – Budget and Timeline *(see as a separate attachment the original MS Excel file)*

Purgatoire River Watershed Riparian Rehabilitation Project, Phase V - Proposed Budget & Timeline Table

Task	Description	Target Start Date	Target Completion Date	CWCB Funds	DU - CASH	CPW - CASH	SPPRCD/PWWMC - CASH	SPPRCD/PWWMC In-Kind	PWP In-Kind	BTCD In-Kind	Private LandO In-Kind	Totals
1	**Mechanical TRO Removal**											
	Contracted - Extraction + Mastication@ $1,000 acre x 220acres	11/1/2021	3/15/2024	$ 125,000.00	$ 55,000.00	$ 40,000.00						$ 220,000.00
												$ -
2	**Commercial Applicator/Herbicide**	9/1/2021	11/1/2024									$ -
	Contracted - Commercial Applicator @ $113/acre x 220 acres			$ 15,000.00	$ 5,000.00	$ 5,000.00						$ 25,000.00
	Herbicide = $13,000			$ 13,000.00								$ 13,000.00
												$ -
3	**Monitoring**	8/1/2021	6/1/2025									$ -
	Contracted - for at least two representative properties @ $150/hr x 53hrs			$ 8,000.00								$ 8,000.00
												$ -
4	**Revegetation**	3/1/2022	5/15/2025									$ -
	Contracted - 20 acres @ $1,050/acre			$ 11,000.00	$ 5,000.00	$ 5,000.00						$ 21,000.00
												$ -
5	**Maintenance**	9/1/2021	9/1/2024									$ -
	TRO re-sprout Tx and secondary invasive Tx										$ 10,000.00	$ 10,000.00
												$ -
6	**Project Management and Implementation - Salaries**	Ongoing throughout project	6/1/2025									$ -
	PWMMC Coordinator Salary			$ 25,000.00	$ 5,000.00	$ 10,000.00	$ 30,000.00	$ 7,500.00				$ 77,500.00
	Noxious Weed Tech Wages						$ 15,000.00					$ 15,000.00
	SPPRCD District Manager							$ 2,500.00				$ 2,500.00
												$ -
7	**Technical Assistance**	Ongoing throughout project	6/1/2025						$ 2,500.00			$ 2,500.00
												$ -
8	**Education and Outreach/PR and Marketing of Project**	Ongoing throughout project	6/1/2025	$ 3,000.00					$ 2,500.00	$ 5,000.00		$ 10,500.00
												$ -
			TOTALS	**$ 200,000.00**	**$ 70,000.00**	**$ 60,000.00**	**$ 45,000.00**	**$ 10,000.00**	**$ 5,000.00**	**$ 5,000.00**	**$ 10,000.00**	**$ 405,000.00**
					$		**175,000.00**	**$**			**30,000.00**	
			Total Match		**$**						**205,000.00**	

4.0 Proposal Effectiveness

PWWMC utilizes a targeted, long-term sustainable approach to riparian restoration with an overarching goal to improve the riparian ecological system as a whole.

Information Utilized for Project Planning
The following plans and guidance documents are all used by PWWMC for identifying target treatment areas, IPM strategies and BMP's for riparian restoration and noxious weed control. PWWMC also draws upon its own extensive experience with riparian restoration, tamarisk and Russian-olive control and secondary noxious weed control.

Woody Invasives Plan - A woody invasives management plan for the Purgatoire Watershed was completed in 2008, approved by the Colorado Department of Agriculture's State Weed Coordinator -

http://www.tamariskcoalition.org/sites/default/files/images/TTP%20Plan%20final%208-08.pdf . The plan is based on a set of guiding principles that focus on ecological, social-cultural, economic, and research considerations.

Watershed Plan - The Purgatoire River Watershed Plan was completed in 2014 by the Purgatoire Watershed Partnership, http://www.usbr.gov/watersmart/cwmp/docs/plans/Spanish-Peaks-Purtgatoire-Conservation-District.pdf . Goals #4 and #5 (mitigating invasive plants and riparian habitat improvement) are in sync with this project.

Las Animas County Weed Plan - Las Animas County is very active with noxious weed control, focusing mainly on County right-of-ways. They are also involved with a multi-organizational effort in conjunction with CSU Extension and the Colorado Department of Agriculture's Noxious Weed Program to eradicate African rue, a List A noxious weed. Las Animas County's weed plan and other relevant weed information can be found at http://www.lasanimascounty.net/departments/weed-control.html .

Resource Guides Utilized: Tamarisk - Best Management Practices in Colorado Watersheds by Scott Nissen; Best Management Practices for Revegetation after Tamarisk Removal by Anna Sher; A Guide for Planning Riparian Treatments in New Mexico, USDA publication.

Multiple Project Objectives

Relation of Project to CWCB's Multi-objective Missions

This project will further the CWCB's multi-objective missions in the following ways:

1. **Watershed Restoration**: By removing tamarisk and Russian-olive from the Watershed, the ecosystem can progress towards a more restored system, improving native vegetation and habitat for native wildlife.
2. **Protection of Water Resources**: Tamarisk and Russian-olive are non-native plants that do not belong in our systems. They are non-beneficial consumers of water. Removing these plants will increase water availability within the Watershed for agriculture, communities, recreation, and wildlife.
3. **Mitigating Flood Risks below Trinidad Dam**: It has been well documented that tamarisk creates flood hazards by narrowing streambanks, deepening stream channels, and serving as a rigid impediment for flood debris. By removing it from our systems, flood hazards will be reduced, lessening potential flood damage to communities, recreational infrastructure (i.e. Trinidad River Walk and associated fishery) and agricultural infrastructure.
4. **Wildfire Mitigation**: Tamarisk creates an unnatural ladder fuel in our riparian systems that native plants are not adapted to. It increases the wildfire risk to communities because of extreme fire behavior, including easy ignition, intense heat, and rapid spread, which occurs when tamarisk burns. Our project work creates large acreages of fire breaks within the Purgatoire mainstem corridor, mitigating the risk of potential uncontrolled wildfire encroachment into the City of Trinidad and additionally for local farms and ranches.
5. **Protection of Agriculture**: Tamarisk and Russian-olive, when taken to a stand level, are non-beneficial consumers of large amounts of water—water that is precious in our semi-arid climate and vital for agricultural producers and local communities.
6. **Improving Recreational Opportunities**: Counties within the Purgatoire Watershed offer unique and diverse recreational opportunities. Specifically, Trinidad State Park and the Trinidad River Walk provide thousands of people every year with countless ways to enjoy the outdoors. Tamarisk and Russian-olive encroachment is a serious threat to these opportunities primarily by limiting access to streambanks for fishing, boating, hunting, and wildlife viewing.

SPPRCD/PWWMC's riparian restoration efforts also compliment the ongoing efforts of PWP. PWP is currently leading stream management planning and hydrological studies in the upper Purgatoire Watershed. SPPRCD/PWWMC are working with PWP in these efforts, specifically utilizing active riparian restoration sites to collect data or set up monitoring/study sites.

Monitoring and Implementation Plans

Long-term Monitoring and Maintenance Plan

PWWMC will hire a contractor to perform vegetative monitoring on at least two representative project sites. Post-treatment monitoring variables will be compared with initial baseline resource data (collected during site visits and recorded in site specific plans). Monitoring will precede active revegetation for at least one year post-treatment, and will continue for no less than two years after active revegetation. Based on this project's goal of moving the Upper Purgatoire Watershed towards a more ecologically functioning system, our monitoring variables will include the following: Changes in woody invasive composition, changes in secondary invasive composition, changes in native vegetation, changes in hydrology, and the presence and effectiveness of the tamarisk leaf beetle.

Passive revegetation monitoring will begin one year after treatment and continue for no less than five years. Post-treatment monitoring data will be collected on an annual basis by PWWMC.

Photo points will be used at all project sites.

Monitoring data will determine the maintenance needs at each project site. Maintenance, such as controlling woody and secondary invasives, will be conducted annually following monitoring, and will continue for no less than five years after initial treatments by landowners (this is a required component that landowners must agree to in order to participate in the project). Project partners will work with landowners to develop monitoring and maintenance schedules.

Monitoring data will also be evaluated to determine whether or not the overall project goal is being attained. If it is determined alternative actions are necessary, then plans will be adjusted accordingly (i.e. adaptive management).

Development of Site Specific Implementation Plans

IPM strategies for control of woody invasives and secondary invasives for the project area will be developed based upon the baseline resource inventory data. Project partners will determine what treatment methods will yield the most effective result in relation to cost, ease of implementation, the ability of the site to recover, and long-term ecological sustainability. Due to the diverse ecological conditions within the project area, IPM control strategies will also be diverse and will include a combination of methods.

Project partners will employ the least disruptive invasive weed control strategies within the project area to facilitate ease of revegetation and/or recovery. Again, it is a matter of determining what treatment methods will yield the most effective result in relation to cost, ease of implementation, the ability of the site to recover, and long-term ecological sustainability.

Due to the diverse landscape within the project area, revegetation strategies will be diverse as well. Revegetation efforts will focus on choosing planting strategies and plant materials that are best suited to the conditions at each site, and that will have the best chance of success with natural precipitation/hydrology patterns.

Educational Components

Several educational events will be conducted in coordination with this project. It is yet to be determined if these will be in-person events (due to continuing COVID-19 restrictions) or conducted via virtual platforms. Regardless, the first goal of these educational events is to increase the public's awareness about watershed health. By increasing public awareness, project partners will help promote long-term ecological sustainability of the watershed by building community support for conservation organizations such as PWP and SPPRCD/PWWMC, and fostering a sense of stewardship for watershed restoration.

The second goal is to teach land managers and land owners how to successfully maintain their projects by utilizing monitoring techniques.

Educational events will include presentations at the annual Trinidad Water Festival (if allowed), and comprehensive land management workshops for landowners and land managers. If in-person events continue to be stifled into 2021 and beyond, a series of webinars may be a possible if funding for such virtual platforms becomes more readily available.

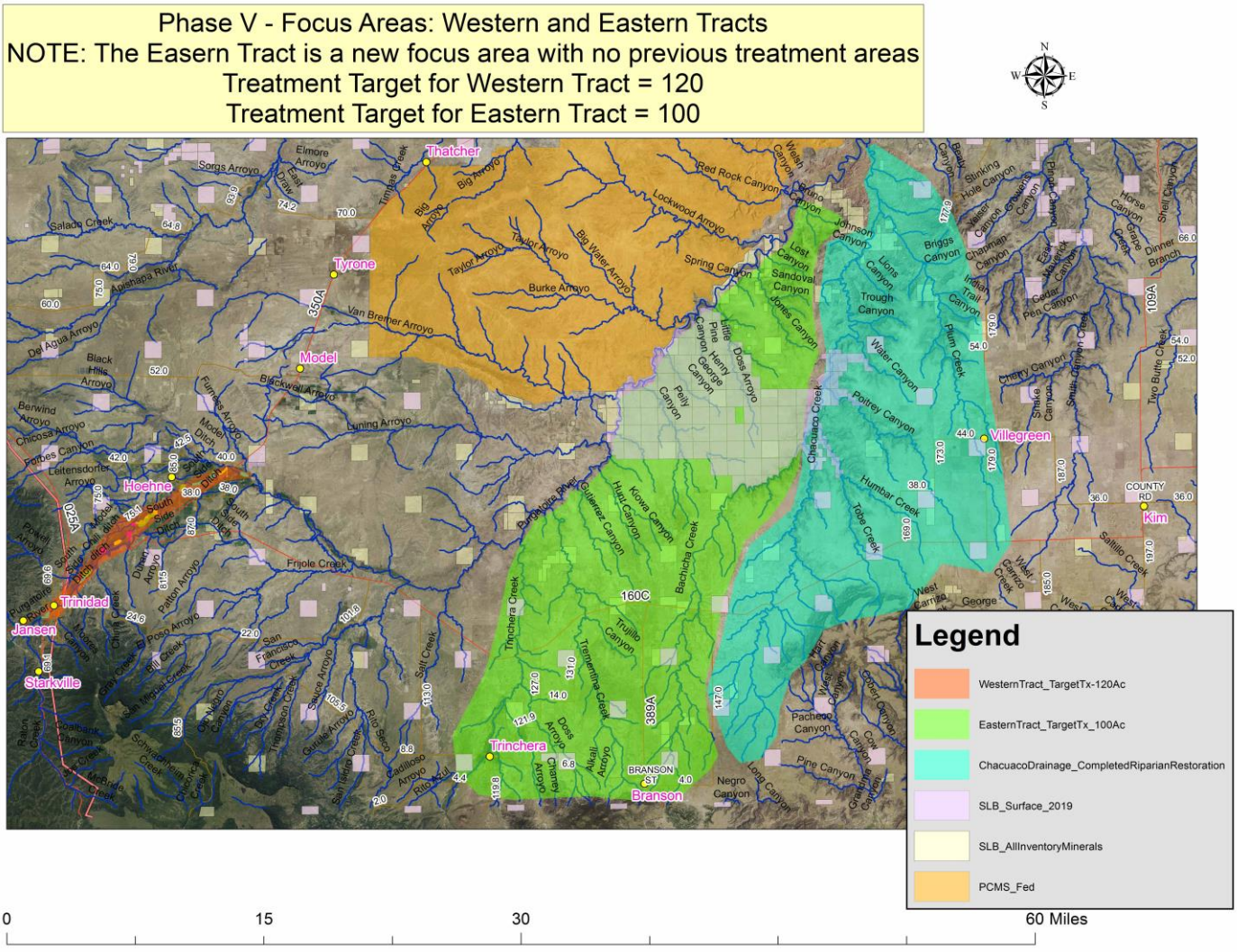
PWP will work with PWWMC to assist with these educational events through marketing and outreach of watershed conservation events and information through their social media outlets and newsletters.

5.0 Attachments

Attachment A: Project Location Maps

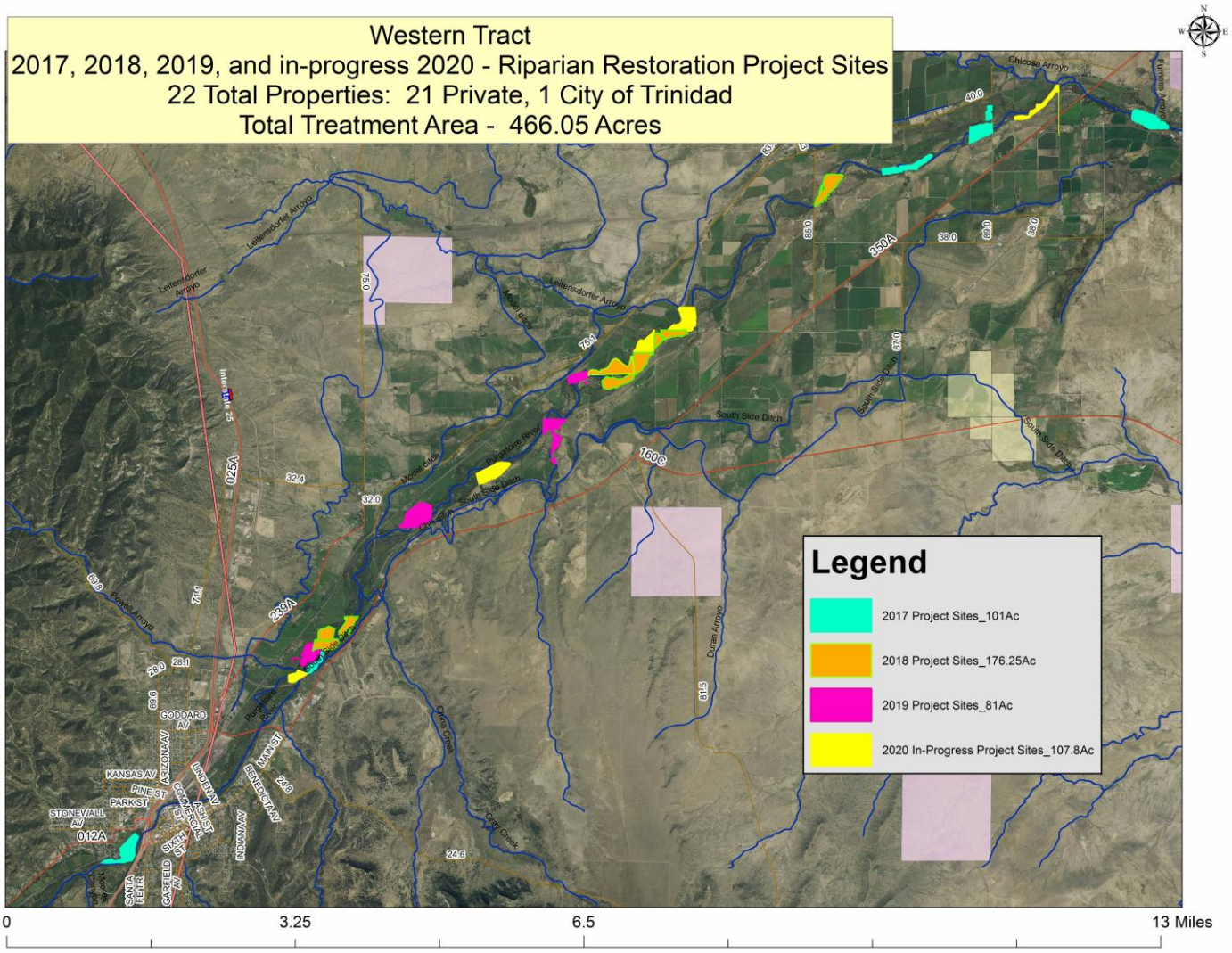
Map #1: Phase V Proposed Overview Project Map

This map demonstrates the two distinct focus areas: A Western Tract and an Eastern Tract.



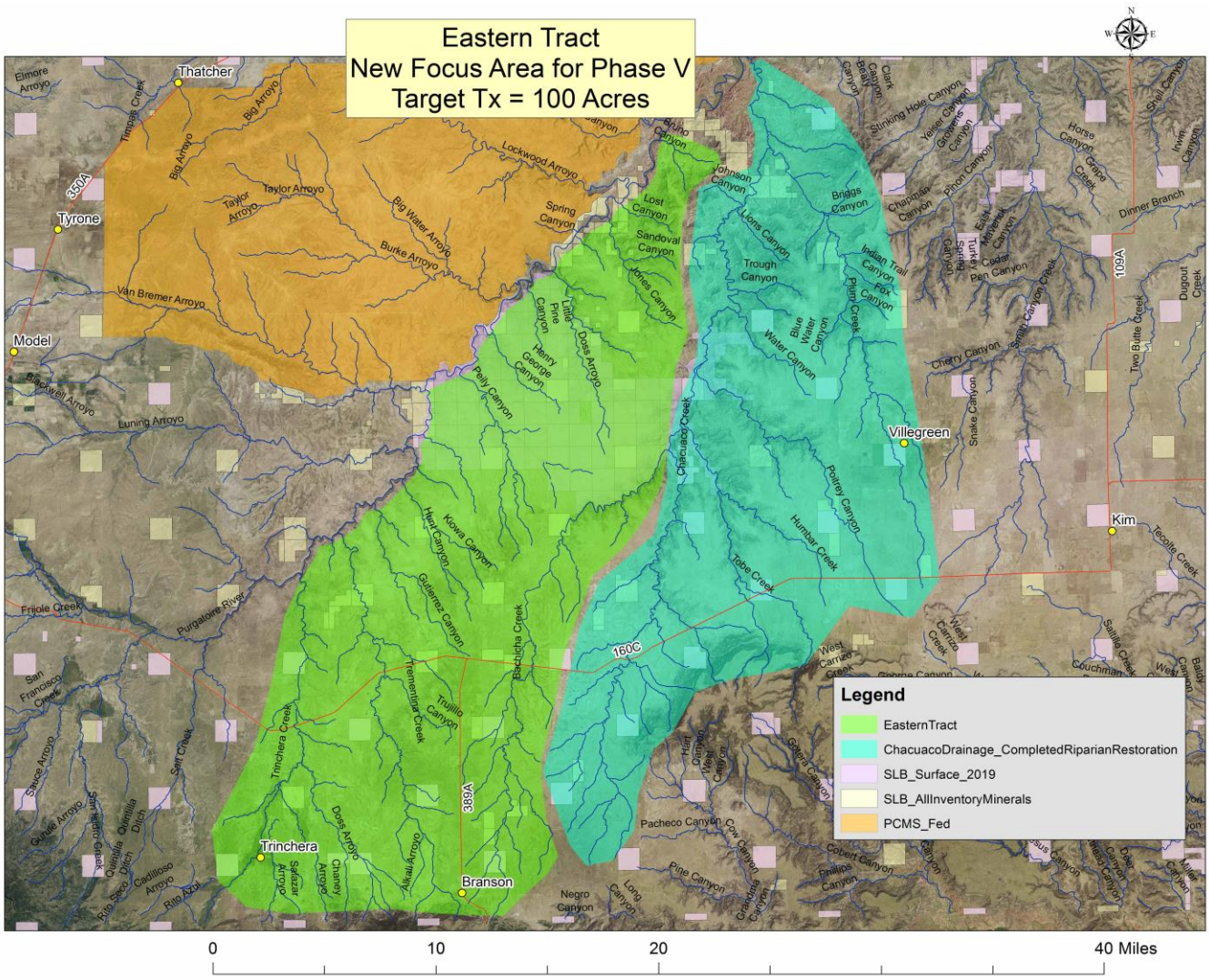
Map #2: Western Tract

New project sites will be added to previous project sites to continue landscape-scale restoration. Within the Western Tract, 359 acres have been previously treated, with 107 acres currently underway. Phase V will connect previous project sites within the Western Tract. Target treatment acreage is 120.



Map #3: Eastern Tract

The Eastern Tract is a new focus area, with no previous treatments implemented. However, with the entire Chacuaco drainage treated between the years of 2008-2014, SPPRCD/PWWMC decided to begin project work in tributaries between the Chacuaco drainage and the Western Tract, eventually merging the two treatment areas. Phase V will focus on the Trinchera, Trementina and Bachicha drainages, including smaller drainages in between. Target treatment acreage is 100.



Attachment B: Project Monitoring Examples – Montoya, Miller and DeGarbo Properties

Scientifically rigorous vegetative monitoring has been completed on three Riparian Restoration project sites, with one property in the process of completion (DeGarbo). Monitoring work has been conducted by Senior Scientist, Robin Bay with Habitat Management, Inc.

These three properties are representative of all of our previous project sites, showing a positive progression towards reduction in woody and secondary noxious weeds and an increase in desirable vegetation: Evidence that our project work has been, and continues to be very successful.

Montoya Ranch

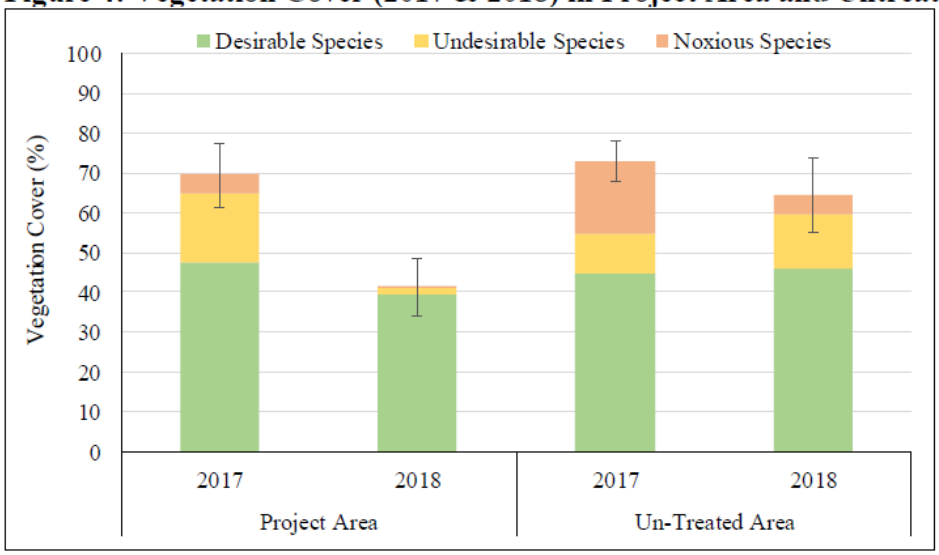
2020 vegetative photo monitoring showing surviving cottonwood poles (left) and desirable vegetation holding strong surrounding the wetland area (below).

The following data are excerpts from Robin's report. It is important to note that 2017 was an abnormally high precipitation year and 2018 was below average for this area.

Table 1: Vegetation Data Summary

	Project Area				Untreated Area			
	2017		2018		2017		2018	
Descriptive Statistics	Mean	SE	Mean	SE	Mean	SE	Mean	SE
Absolute Cover (%)								
Vegetation Cover	68.3	8.1	41.4	7.2	73.0	5.0	59.7	9.4
Desirable Vegetation Cover	47.4	12.8	39.7	7.3	44.7	10.1	46.0	9.6
Noxious Cover	4.3	3.6	0.4	0.3	18.3	9.7	5.0	2.6
Relative Cover (%)								
Desirable Vegetation Cover	62.8	13.9	94.4	2.4	60.0	10.6	77.6	10.0
Noxious Cover	4.9	3.9	0.7	0.5	25.7	13.0	9.4	4.7
Diversity (count)								
Total Species Richness	43		31		22		21	
Total Desirable Richness	28		22		14		12	
Average Species Richness	15.1	0.9	11.1	1.5	14.0	1.0	12.7	0.3
Average Desirable Richness	9.3	0.9	8.1	1.1	10.3	0.3	8.7	0.3
Woody Density (plants/acre)								
Total Density	248.6	110.4	121.4	73.8	593.6	350.7	431.7	300.6
Desirable Density	28.9	22.9	20.2	17.3	27.0	27.0	0.0	0.0
Noxious Density	219.7	101.0	101.2	58.9	566.6	327.1	431.7	300.6

Figure 4: Vegetation Cover (2017 & 2018) in Project Area and Untreated Transects



River Valley Ranch (Miller)

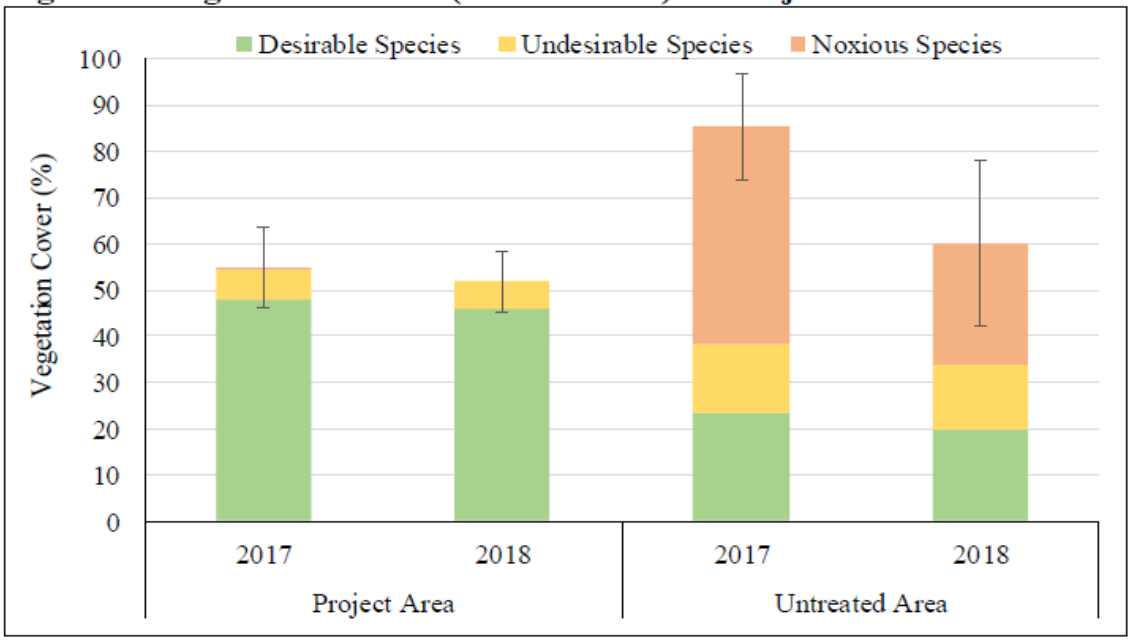
2020 photo vegetative monitoring continues to demonstrate positive site progression for three years at the Miller property.

The following data are excerpts from Robin's report. It is important to note that 2017 was an abnormally high precipitation year and 2018 was below average for this area.

Table 1: Vegetation Data Summary

	Project Area				Untreated Area			
	2017		2018		2017		2018	
Descriptive Statistics	Mean	SE	Mean	SE	Mean	SE	Mean	SE
Absolute Cover (%)								
Vegetation Cover	54.9	8.8	51.9	6.3	85.5	11.5	60.0	18.0
Desirable Vegetation Cover	48.1	10.7	46.1	7.0	23.5	13.5	20.0	19.0
Noxious Cover	0.4	0.2	0.0	0.0	47.0	13.0	26.0	13.0
Relative Cover (%)								
Desirable Vegetation Cover	82.3	8.7	85.9	5.8	25.8	12.3	26.2	23.8
Noxious Cover	0.6	0.3	0.0	0.0	53.9	8.0	40.5	9.5
Diversity (count)								
Total Species Richness	53		44		20		12	
Total Desirable Richness	37		31		13		8	
Average Species Richness	17.3	2.5	14.3	2.1	11.0	1.0	7.5	0.5
Average Desirable Richness	11.3	1.9	10.9	1.5	7.5	2.5	5.0	1.0
Woody Density (plants/acre)								
Total Density	329.5	119.6	121.4	12.5	1578.3	971.3	1922.3	1517.6
Desirable Density	57.8	26.3	69.4	22.9	60.7	20.2	20.3	20.3
Noxious Density	271.7	111.6	52.0	21.1	1517.6	951.1	1902.0	1497.3

Figure 4: Vegetation Cover (2017 & 2018) in Project Area and Untreated Transects

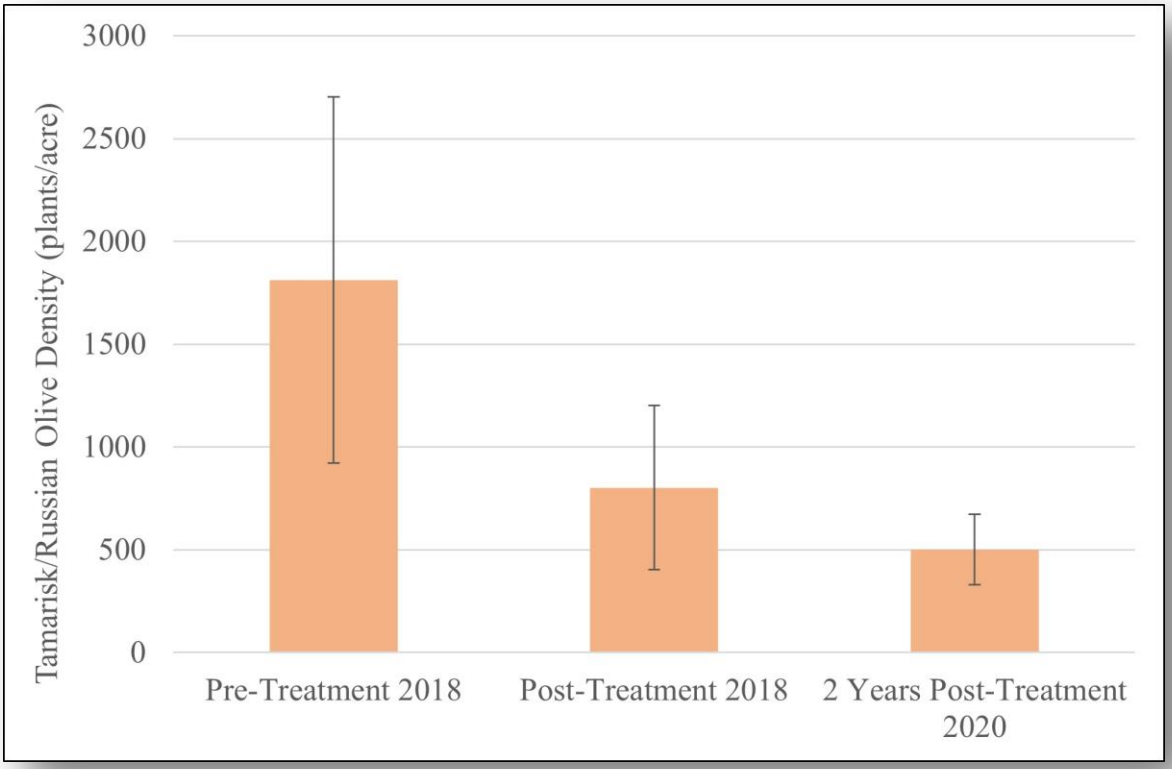


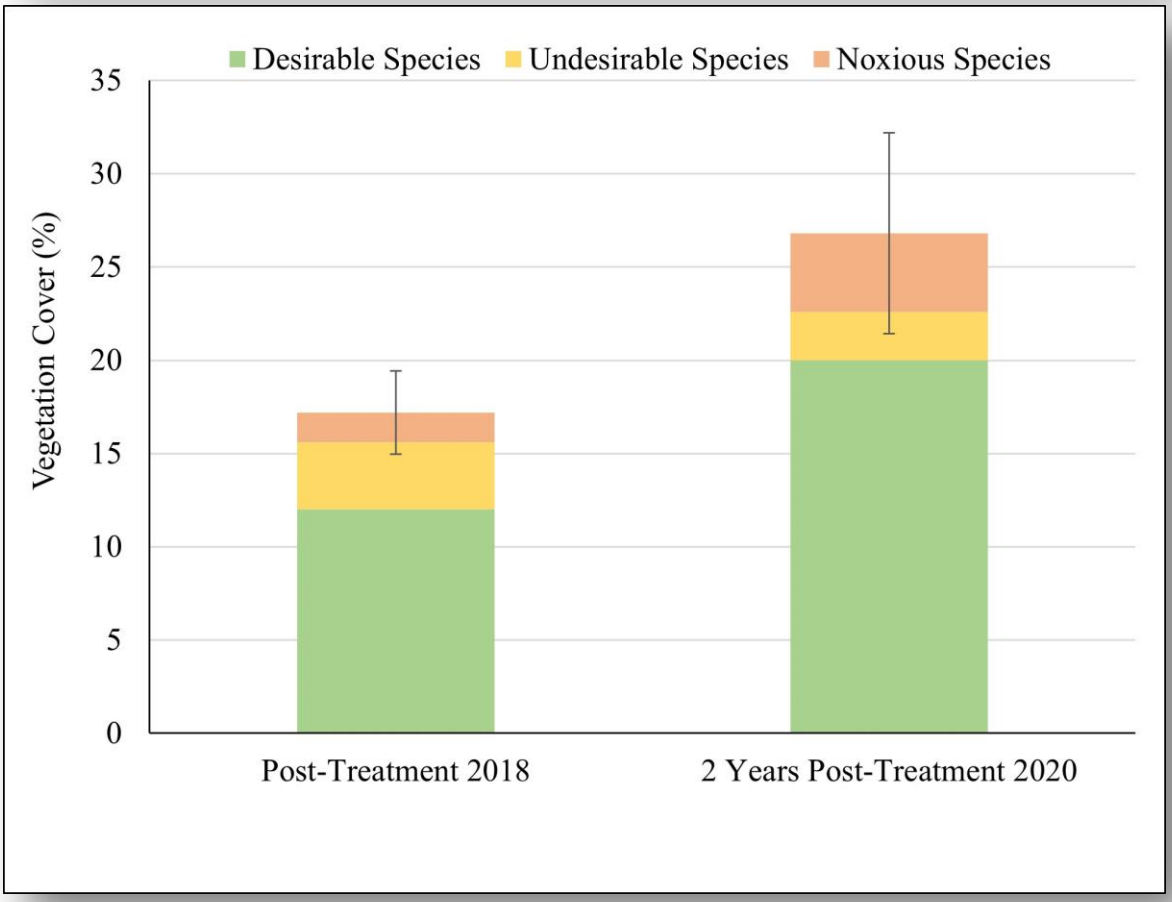
DeGarbo Property

This site has been our most challenging site thus far. The pre-removal percent cover of both tamarisk and Russian-olive was more than 80% throughout most of the project area. However, the vegetative recovery trend is still moving in a positive direction. Additionally, there is strong natural recruitment of new cottonwood seedlings within the river channel and a moderate recruitment of willow.

2020 photo vegetative monitoring show stabilizing stream banks and over 100 new natural recruits of coyote willow and plains cottonwood seedlings (noted by red flags)

The following data are excerpts from Robin's report. It is important to note that 2017 was an abnormally high precipitation year and 2018 was below average for this area. 2020 has been an exceptional drought year for SE CO, which has negatively affected desirable vegetative cover at this site.





Attachment C: Scope of Work

Grantee: Spanish Peaks-Purgatoire River Conservation District (SPPRCD)
Federal Employer ID # (FEIN): 84-1106744

Primary Contact:
Shelly L. Simmons, Coordinator
Purgatoire Watershed Weed Management Collaborative (PWWMC)
3590 E. Main Street
Trinidad, CO 81082
719.469.2847
ssimmons@purgatoireconservation.org

Secondary Contact:
Jonnalea Tortorelli, SPPRCD District Manager
3590 E. Main Street
Trinidad, CO 81082
719.497.3118
Jonnalea.tortorelli@co.nacdnet.net

Project Title: Purgatoire River Watershed Riparian Rehabilitation Project, Phase V

CWCB Grant Request: $200,000
Cash Match: $175,000
In-Kind Match: $ 30,000
Total Match: $205,000
Total Project Cost: $405,000

Estimated Acres Impacted: 220

Estimated Completion Date: June 31st, 2025

Introduction and Background
Goal Build ecosystem resiliency in the Purgatoire Watershed (PW) by improving riparian habitat and function.

Objectives 1) Apply targeted IPM strategies to reduce non-native woody and secondary invasive plant species by 50% and 2) apply BMP's to improve native vegetative cover by 20% within the project area during the project time frame.

Habitat Management Practices Utilize integrated pest management and best management practices to control non-native invasive plant species and revegetate areas where native vegetation in riparian areas has been degraded by noxious weeds.

Outcomes Enhancement of available water resources within the system by removing non-native, non-beneficial water consuming plants; promotion and enhancement of native vegetation and thus native wildlife populations; protection of communities from risk of wildfire and flooding (posed by non-native invasive phreatophytes); enhancement of agriculture by improving available water resources and promoting native vegetation.

Justification/Need The PW is one of the most ecologically intact watersheds in the State of Colorado. One of the biggest threats is the encroachment of non-native invasive woody and herbaceous plants. Taking a pro-active approach and addressing non-native invasive plant species now rather than waiting until they become a much larger threat will facilitate ecosystem resiliency.

Tasks and Timeline

Tasks will be accomplished over the project timeline with staggered initial treatments occurring over the project time frame.

Task 1 – Phase I - Mechanical tamarisk and Russian-olive removal (CWCB and partner funds)

Timeline

- Winter seasons of 2021 through 2024

Description

- Biomass removal of TRO

Method/Procedure

- PWWMC will visit individual project sites, conduct mapping, create site specific treatment plans, sign up participants
- PWWMC will then put job out to bid for contractors
- SPPRCD will contract with contractor
- Contractor will mechanically extract and masticate TRO, following contract specifications

Deliverable

- Completed TRO biomass removal on 220 acres

Task 2 – Phase II - Treatments of TRO re-sprouts and Secondary Invasives: Commercial Applicator/Herbicide (CWCB and partner funds)

Timeline

- Fall seasons of 2022 through 2025

Description

- TRO re-sprout and secondary invasive treatments following TRO biomass removal

Method/Procedure

- PWWMC will put job out to bid for contractors
- SPPRCD will contract with contractor
- Contractor will treat TRO re-sprouts and secondary invasives with herbicide, following contract specs

Deliverable

- Completed TRO re-sprout and secondary invasive treatments on 220 acres by contractor

Task 3 – Phase III - Monitoring (CWCB funds)

Timeline

- Vegetative monitoring and maintenance activities will occur during the next growing season after treatment and for no less than 2 years post-treatment for monitoring

Description

- Hire Contractor to conduct vegetative monitoring on at least two representative sites

Method/Procedure

- Contractor will conduct vegetative monitoring, mapping and collecting data via GPS
    - Pre-monitoring before phase I begins
    - Post-monitoring the following summer after initial treatments, but before re-sprouts are treated
    - Post monitoring one full year after biomass removal and first round of re-sprout treatments
- Monitoring data will then dictate maintenance and/or revegetation needs. Monitoring data will also be used to determine whether or not project objectives are being achieved.

Deliverable

- Assurance that desired project site conditions are occurring: Enhancement of available water resources within the system by removing non-native, non-beneficial water consuming plants; promotion and enhancement of native vegetation and thus native wildlife populations; protection of communities from risk of wildfire and flooding; and enhancement of agriculture by improving available water resources and promoting native vegetation.

Task 4 – Phase IV - Revegetation Activities (CWCB and partner funds)

Timeline

- Timing of revegetation will vary by site. BMP's will be utilized to determine the best suited revegetation strategy for each site. Most revegetation activities will take place during the following growing season after treatment of invasives, although there might be some exceptions, depending upon the site.
    - Spring 2022
    - Spring 2023
    - Spring 2024

Description

- Developing and implementing revegetation plans by comparing baseline resource inventory data with site conditions after initial control treatments. Monitoring data will determine revegetation needs at project sites.

Method/Procedure

- Following site specific revegetation plans for project sites, active revegetation will include activities such as pole plantings and/or tall-pot plantings in areas with high water tables, and xeric upland seeding

Deliverable

- Increasing and establishing native vegetative cover at project sites on approximately 20 acres

Task 5 – Project Maintenance (partner in-kind)

Timeline

- Maintenance activities will occur no less than 5 years after the first year of initial treatment. This is the landowner's responsibility (landowners must agree to five years post-project maintenance to enroll in the program)

Description

- Project participants will conduct maintenance of their project sites for no less than five years following initial treatments.

Method/Procedure

- The following year after initial treatment, landowners will arrange treatment of any TRO re-sprouts or secondary invasives on their project site
- PWWMC will inspect project sites annually and work with landowners to make sure maintenance activities are conducted property and in a timely manner and that maintenance activities are inspected

Deliverable

- Assurance that desired project site conditions are maintained
- Annual landowner TRO/secondary invasives completed on approximately 220 acres

Task 6 – Project Management and Implementation (CWCB funds and partner in-kind)

Timeline

- Ongoing throughout project

Description

- Overall project management, implementation, fiscal management, grant reporting

Method/Procedure

- Fiscal project/grant management
- Field review of project sites to evaluate and document pre-treatment site conditions
- Development of project management plans, mapping, landowner sign up
- Implementing site specific management plans
- Monitoring
- Grant reporting

Deliverable

- Ensuring all phases of project work are properly planned and implemented

Task 7 – Technical Assistance (partner in-kind)

Timeline

- Ongoing throughout project

Description

- Project partners will assist PWWMC with project guidance as needed

Method/Procedure

- PWP and DU will assist PWWMC as needed with project guidance such as: IPM strategies and BMP's for monitoring, revegetation, wetland specific restoration

Deliverable

- Project work will meet restoration standards and monitoring standards

Task 8 – Education and Outreach Activities (partner in-kind)

Timeline

- Ongoing throughout project

Description

- Project partners will plan and implement education and outreach activities.

Method/Procedure

- Specific activities:
  - Two land management workshops will be conducted in the spring/summers of 2022 and 2023 (either in-person workshops or a series of educational webinars via virtual platforms)
  - PWWMC will present on the topic of riparian restoration at the Trinidad Water Festival annually from 2021-2024 (if the festival will be held)
- Outreach/Marketing: Outreach and marketing strategies will be utilized to educate the public at large about watershed health, such as radio and newspaper spots, and targeted publications

Deliverable

- By increasing public awareness through education and outreach activities, project partners will help promote long-term ecological sustainability of the Watershed by fostering a sense of stewardship and building community support for conservation organizations within the watershed

Budget and Timetable (*see attached separate, original MS Excel file*)

Purgatoire River Watershed Riparian Rehabilitation Project, Phase V - Proposed Budget & Timeline Table												
Task	**Description**	**Target Start Date**	**Target Completion Date**	**CWCB Funds**	**DU - CASH**	**CPW - CASH**	**SPPRCD/PWWMC - CASH**	**SPPRCD/PWWMC In-Kind**	**PWP In-Kind**	**BTCD In-Kind**	**Private LandO In-Kind**	**Totals**
1	**Mechanical TRO Removal**											
	Contracted - Extraction + Mastication@ $1,000 acre x 220acres	11/1/2021	3/15/2024	$ 125,000.00	$ 55,000.00	$ 40,000.00						$ 220,000.00
												$ -
2	**Commercial Applicator/Herbicide**	9/1/2021	11/1/2024									$ -
	Contracted - Commercial Applicator @ $113/acre x 220 acres			$ 15,000.00	$ 5,000.00	$ 5,000.00						$ 25,000.00
	Herbicide = $13,000			$ 13,000.00								$ 13,000.00
												$ -
3	**Monitoring**	8/1/2021	6/1/2025									$ -
	Contracted - for at least two representative properties @ $150/hr x 53hrs			$ 8,000.00								$ 8,000.00
												$ -
4	**Revegetation**	3/1/2022	5/15/2025									$ -
	Contracted - 20 acres @ $1,050/acre			$ 11,000.00	$ 5,000.00	$ 5,000.00						$ 21,000.00
												$ -
5	**Maintenance**	9/1/2021	9/1/2024									$ -
	TRO re-sprout Tx and secondary invasive Tx										$ 10,000.00	$ 10,000.00
												$ -
6	**Project Management and Implementation - Salaries**	Ongoing throughout project	6/1/2025									$ -
	PWMMC Coordinator Salary			$ 25,000.00	$ 5,000.00	$ 10,000.00	$ 30,000.00	$ 7,500.00				$ 77,500.00
	Noxious Weed Tech Wages						$ 15,000.00					$ 15,000.00
	SPPRCD District Manager							$ 2,500.00				$ 2,500.00
												$ -
7	**Technical Assistance**	Ongoing throughout project	6/1/2025						$ 2,500.00			$ 2,500.00
												$ -
8	**Education and Outreach/PR and Marketing of Project**	Ongoing throughout project	6/1/2025	$ 3,000.00					$ 2,500.00	$ 5,000.00		$ 10,500.00
												$ -
			TOTALS	**$ 200,000.00**	**$ 70,000.00**	**$ 60,000.00**	**$ 45,000.00**	**$ 10,000.00**	**$ 5,000.00**	**$ 5,000.00**	**$ 10,000.00**	**$ 405,000.00**
					$		**175,000.00**	**$**			**30,000.00**	
				Total Match	**$**						**205,000.00**	

Attachment D: Letters of Support

Branson-Trinchera Conservation District

{October 28, 2020

Colorado Water Conservation Board
1313 Sherman St.
Denver, CO 80203

RE: SPPRCD/PWWMC CWCB Watershed Restoration Grant Application

To Whom It May Concern:

Branson-Trinchera Conservation District (BTCD) fully supports the Spanish Peaks-Purgatoire River Conservation District (SPPRCD)/Purgatoire Watershed Weed Management Collaborative's (PWWMC) CWCB Watershed Restoration Grant application.

For over a decade, BTCD and SPPRCD/PWWMC have developed a strong conservation partnership, working on numerous woody invasive projects and educational events highlighting the impact of noxious weeds, and the importance of maintaining healthy rangelands and riparian areas.

BTCD will be an active partner for this project, providing landowner outreach for project work, supporting and assisting with educational events, and assisting with project budget management specific for sites located within BTCD.

BTCD and SPPRCD/PWWMC have a track record of proven success with riparian restoration projects. We respectfully encourage CWCB to provide financial support to continue this important work.

Sincerely,
Harold R Unruh

{Title} Sec/Treasurer
Branson-Trinchera Conservation District

Purgatoire Watershed Partnership ● 3590 East Main Street, Trinidad, CO 81082 ● 970-420-1915

October 27, 2020

Colorado Water Conservation Board
1313 Sherman Street
Denver, CO 80203

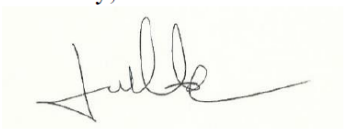
RE: PWWMC 2020 CWCB Watershed Restoration Grant

To Whom It May Concern:

The Purgatoire Watershed Partnership (PWP) is in full support of the Spanish Peaks-Purgatoire River Conservation District (SPPRCD)/Purgatoire Watershed Weed Management Collaborative's (PWWMC) CWCB 2020 Watershed Restoration Grant application. PWP, SPPRCD and PWWMC have developed a strong partnership and continue to work closely together for the benefit of the Purgatoire River watershed and its stakeholders. In addition, we are currently working collaboratively together with stakeholders on an important Stream Management Planning outreach and engagement effort in the watershed.

This PWWMC 2020 CWCB Watershed Restoration Grant project ties in closely with stakeholder needs that we are hearing through our Stream Management Planning outreach efforts, as well as significantly enhancing the ecological health and resilience of our watershed. PWP will be providing in-kind contributions for this project valued at $5,000 in the form of technical assistance to PWWMC with restoration guidelines, and project promotion through education/outreach events and PWP social media outlets. PWP is working on riparian restoration projects within the City of Trinidad River Corridor and the upper watershed that, over time, will connect with PWWMC projects on private lands.

Sincerely,



Julie Knudson
Executive Director/Watershed Coordinator
Purgatoire Watershed Partnership

DUCKS UNLIMITED

Colorado Office
2114 Midpoint Drive, Suite #1
Fort Collins, CO 80525
(970) 484-1785
www.ducks.org

Monday, November 2nd, 2020

Colorado Water Conservation Board
1313 Sherman St.
Denver, CO 80203

RE: SPPRCD/PWWMC Watershed Restoration Grant Application

To Whom It May Concern:

This letter is to serve as affirmation regarding the level of potential match in the Spanish Peaks-Purgatoire River Conservation Distirct's/Purgatoire Watershed Weed Management Collaborative's (PWWMC) Watershed Restoration Grant Application to the Colorado Water Conservation Board. Over the past two years, Ducks Unlimited, Inc. (DU) and SPPRCD/PWWMC have been developing a strong conservation partnership, focusing on the hydrologic restoration of degraded watersheds through strategic invasive species treatment. This work not only increases the productivity of the wetlands and surrounding uplands, but also greatly enhances the habitat values for wildlife, including a variety of migratory waterfowl.

In partnership with SPPRCD/PWWMC, DU plans on submitting a North American Wetland Conservation Act (NAWCA) grant application in February 2021 that will continue the work of our current partnership, of which over 200 acres have been treated to-date. If awarded the NAWCA grant, DU commits to providing a minimum of $70,000 in cash match to this CWCB grant.

Sincerely,

Matthew A. Reddy
Regional Biologist – Colorado/Wyoming

COLORADO
Parks and Wildlife
Department of Natural Resources

Terrestrial Programs Unit
317 W. Prospect Rd.
Fort Collins, CO 80526

October 27, 2020

Colorado Water Conservation Board
1313 Sherman St.
Denver, CO 80203

RE: SPPRCD/PWWMC CWCB Watershed Restoration Grant Application

To Whom It May Concern:

Colorado Parks and Wildlife (CPW) supports the Spanish Peaks-Purgatoire River Conservation District (SPPRCD)/Purgatoire Watershed Weed Management Collaborative's (PWWMC) CWCB Watershed Restoration Grant application.

For over a decade, CPW and SPPRCD/PWWMC have developed a strong conservation partnership, focusing on the hydrologic restoration of degraded watersheds through strategic invasive species treatment. This work not only increases the productivity of the wetlands and surrounding uplands, but also greatly enhances the habitat values for wildlife, including a variety of migratory waterfowl and several at-risk nongame species. The partnership has garnered the support of local landowners, both public and private, in the Purgatoire River watershed.

SPPRCD/PWWMC has a proven record of accomplishment, and CPW has supported numerous SPPRCD/PWWMC riparian restoration projects. We have found SPPRCD/PWWMC to be highly capable project and grant managers, with all previous CPW Wetlands grants completed per the original scope, on time, and within budget. CPW strongly supports their efforts to continue this important work.

Sincerely,

Brian D. Sullivan

Brian D. Sullivan
Wetlands Program Coordinator
Tel. 970-472-4306
brian.sullivan@state.co.us