

Arizona Water Protection Fund
Application Cover Page
FY 2027

WPF2706

Title of Project: Lower TAPCO River Access Point Tamarisk Removal and Monitoring													
Type of Project: ☒ Capital or Other ☐ Water Conservation ☐ Research	Stream Type: ☒ Perennial ☐ Intermittent ☐ Ephemeral	Your level of commitment to maintenance of project benefits and capital improvements: ☐ < 5 years ☐ 5-10 years ☐ 11-15 years ☒ 16-20 years											
Applicant Information: Name/Organization: Friends of the Verde River Address 1: 115 S. Main St. Address 2: City: Cottonwood State: AZ ZIP Code: 86326 Phone: 928-641-6013 Fax: Tax ID No.: Personal Identifying Information		Inside an AMA: Yes ☐ No ☒ If yes, which AMA: ☐ Douglas ☐ Phoenix ☐ Pinal ☐ Prescott ☐ Ranegras Plain ☐ Santa Cruz ☐ Tucson ☐ Wilcox											
Contact Person: Name: Rachel Laura Title: Deputy Executive Director Phone: 928-421-3350 Fax: E-mail: rachell@verderiver.org		Type of Application: ☒ New ☐ Continuation											
Arizona Water Protection Fund Grant Amount Requested: \$ 339,787 If the application is funded, will the Grantee intend to request an advance: ☒ Yes ☐ No		Any Previous AWPB Grants: ☒ Yes ☐ No If yes, please provide Grant #(s): 07-149, 15-187, 17-191, 19-193, 22-210, 24-222, 25-224											
Matching Funds Obtained and Secured:		<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;"><u>Applicant/Agency/Organization:</u></th> <th style="text-align: right; border-bottom: 1px solid black;"><u>Amount (\$):</u></th> </tr> </thead> <tbody> <tr> <td>1. Applicant</td> <td style="text-align: right;">\$40,334</td> </tr> <tr> <td>2.</td> <td></td> </tr> <tr> <td>3.</td> <td></td> </tr> <tr> <td style="text-align: right;">Total:</td> <td style="text-align: right;">\$40,334</td> </tr> </tbody> </table>		<u>Applicant/Agency/Organization:</u>	<u>Amount (\$):</u>	1. Applicant	\$40,334	2.		3.		Total:	\$40,334
<u>Applicant/Agency/Organization:</u>	<u>Amount (\$):</u>												
1. Applicant	\$40,334												
2.													
3.													
Total:	\$40,334												
Has your legal counsel or contracting authority reviewed and accepted the Grant Award Contract General Provisions? ☒ Yes ☐ No ☐ N/A													
Signature of the undersigned certifies understanding and compliance with all terms, conditions and specifications in the attached application. Additionally, signature certifies that all information provided by the applicant is true and accurate. The undersigned acknowledges that intentional presentation of any false or fraudulent information, or knowingly concealing a material fact regarding this application is subject to criminal penalties as provided in A.R.S. Title 13. The Arizona Water Protection Fund Commission may approve Grant Awards with modifications to scope items, methodology, schedule, final products and/or budget.													
Typed Name of Applicant or Applicant's Authorized Representative W. David Gressly		Title and Telephone Number Executive Director (928) 821-3429											
Signature		Date Signed Aug 12, 2026											

Lower TAPCO River Access Point Tamarisk Removal and Monitoring Executive Summary

Friends of the Verde River (FVR) is pleased to submit this proposal for a Capital Project to the Arizona Water Protection Fund (AWPF) Commission for the FY27 Funding Cycle. Our proposal builds on seven previous projects funded by AWPF (Grants 07-149, 15-187, 17-191, 19-193, 22-210, 24-222, 25-224). This proposal will also build on the extensive work accomplished since 2012 by FVR and our Verde Watershed Restoration Coalition (VWRC) partners. VWRC is a collaborative partnership coordinated by FVR to restore habitat throughout the Verde River Watershed.

In 2010, Verde Watershed stakeholders gathered to discuss and strategize how to cooperatively manage woody invasive plants on a watershed scale in the Verde River system. A series of workshops resulted in a community-based public-private partnership, VWRC, and the development of the Verde River Cooperative Invasive Plant Management Plan (CIPMP). The CIPMP established a strategic approach to controlling stakeholder-prioritized invasive plants in the riparian areas of the Verde River Watershed while increasing collaboration.

In the fifteen years since, three strategic restoration plans have been completed, including the most recent VWRC plan that was finalized in 2025. The current plan prioritizes riparian invasive plant management, wildlife corridors, sediment reduction, water quality monitoring, and watershed stewardship. VWRC partners will soon begin the process of implementing the third strategic restoration plan. FVR is now in year fifteen of successfully implementing riparian restoration projects with more than 11,000 riparian acres treated for invasive plants to maintain a healthy, flowing Verde River.

This project aims to improve the Lower TAPCO River Access Point (RAP). Lower TAPCO provides recreational use and river access and is important for the habitat the riparian ecosystem offers. Improvement efforts include removing invasive species and spreading native seeds in restoration sites. The invasive plant of focus is tamarisk. Secondary species of focus include giant reed, Russian olive, and tree of heaven. These plants threaten the health and sustainability of riparian forests in the Verde Watershed. Negative impacts of invasive plants include increasing the risk of fire, streambank erosion and flooding, out-competing native species, and reducing shade. Removal of invasive plant species will protect existing native riparian vegetation and aid native plants in recolonizing. The project will improve river health by reducing channelization, restoring natural stream geomorphology, and increasing floodplain connections. This project will protect riparian habitat for species such as Southwestern willowflycatcher, Western yellow-billed cuckoo, Northern Mexican gartersnake, and bald eagle. A coordinated monitoring effort focused on vegetation and water quality will inform the success of this project and build a greater understanding of the health of the ecosystem.

These actions will build upon the work completed and underway by FVR and our VWRC partners while accomplishing the common goal of cooperatively managing invasive plants and improving watershed conditions.

Lower TAPCO River Access Point Tamarisk Removal and Monitoring Project Overview

Background

The Verde River and its diverse Fremont cottonwood-Goedding's willow riparian forests are one of the most significant natural resources in Arizona. These rare riparian areas sustain a diversity of wildlife, providing habitat for migratory birds and serving as a centrally important economic and recreational resource to local communities. Invasive plant species – particularly tamarisk (*Tamarix spp.*), tree of heaven (*Ailanthus altissima*), giant reed (*Arundo donax*), and Russian olive (*Elaeagnus angustifolia*) – threaten the health and sustainability of these communities on the Verde River. Negative impacts of riparian invasive plants include 1) increasing risk of fire, 2) increasing streambank erosion and flooding, 3) out-competing native species that provide superior wildlife habitat, and 4) reducing shade causing increased water temperatures and harmful algal growth.

Goals

Friends of the Verde River (Friends or FVR) will improve riparian and aquatic habitat by managing invasive plants through educating and engaging with local land managers, volunteers, conservation corps, young adults, and military veterans.

Objectives

1. Manage invasive plants in the Verde River riparian area to reduce threats to biodiversity and the long-term health of the river.
2. Monitor the ecological health (vegetation and water quality) of the project area before, during and after treatment.
3. Provide job training in effective restoration practices for young conservation corps members, military veterans and local community members.
4. Create effective river stewards through volunteer involvement in hands-on monitoring and maintenance, and through teaching people about the ecological, social, and economic importance of these riparian areas.

Tasks

1. Contract with, train, and manage crews to treat invasive plant growth and monitor vegetation in the project areas.
2. Train volunteers in water quality sampling methods and the importance of the Verde River ecosystem, along with safe and effective riparian stewardship practices.
3. Plan and implement two volunteer events (one annually) at these sites to engage trained volunteers in stewardship activities and community science.

Statement of Problems/Causes

The Verde River is one of the few remaining free-flowing rivers in Arizona. The Verde River's riparian areas provide critically important resources for humans and wildlife. Invasive plants negatively impact ecosystem function by degrading wildlife habitat and soils, disrupting flow and fire regimes, and altering vegetation structure, river geomorphology, and biodiversity. The Lower TAPCO RAP has been identified as one of the largest infestations of tamarisk remaining in the Verde Valley. These tamarisk are a major seed source for tamarisk throughout the Verde River. Additionally, this reach of the Verde River is designated as impaired for *E. coli* by ADEQ. Recreation along the river corridor has increased in recent years, especially at the proposed site. This increase is beneficial for the local economy but

comes with the potential for ecosystem degradation. Additionally, the public is typically unaware of invasive plant issues, Leave No Trace principles, and the many values of a healthy river system.

Statement of Solutions

The proposed project will address the threat to our riparian areas from invasive plants, impaired water quality and increased recreation by managing invasive species, collecting water samples and educating the community about sustainable recreation practices. This project will treat this site for invasive plant species and monitor ecological health including vegetation and water quality. This site is one of the largest remaining stands of tamarisk along the free flowing Verde River. Treatment here will improve the local riparian habitat and reduce continued spread downstream. Additionally, monitoring is often overlooked and yet is critical to a successful restoration project. Through extensive experience, FVR knows that ecological monitoring is key to continued success in adaptive management for long-term success in controlling invasive plants. By including water quality monitoring we can have a broader understanding of the health of the floodplain and what other factors may be influencing the riparian habitat. Outreach will also be conducted to educate users on the importance of the riparian forest and Leave No Trace principles.

Statement of Project Years of Benefit to the Resource and General Public

The activities described in this proposal will have many years of ecological, social, and economic benefits in the project area and the greater Verde River Watershed. This project will allow for sustainable recreational use along the Verde River and will ensure that invasive plant treatments continue to be successful. FVR's organizational capacity and field-tested protocols will support the continued monitoring and project maintenance for many years following this project. The volunteer events, community science effort and public outreach are intended to have a lasting effect on our community's support of watershed conservation and riparian restoration projects.

The benefits of the proposed activities include:

- Directly benefiting the Verde River to keep it healthy and flowing
- Furthering the success and commitment of FVR and VWRC in riparian restoration, including building upon past projects funded by the Arizona Water Protection Fund.
- Protecting native riparian vegetation and floodplain
- Improving riparian habitat for wildlife
- Building certainty around water quality issues to inform future implementation projects
- Creating local employment for young adults and veterans
- Increasing river stewards through education and involvement in volunteer activities and community science
- Engaging communities to support and understand the wildlife and economic value of the Verde River

Project Location & Environmental Contaminant Information

FY 2027

Project Location Information			
1. County: Yavapai	2. Section(s): 7, 8, 17	3. Township: 16 North	4. Range: 3 East
<p>5. Watershed: <u>Verde River Watershed</u></p> <p>6. 8 or 10 Digit Hydrologic Unit Code (HUC) [hyperlink goes to US Geological Survey website]: <u>1506020207</u></p> <p>7. Name of USGS Topographic Map where project area is located: <u>Clarkdale, AZ</u></p> <p>8. State Legislative District: <u>01</u></p> <p style="margin-left: 20px;">(Information available at: https://redistricting-irc-az.hub.arcgis.com/pages/official-maps)</p> <p>9. Land ownership of project area: <u>Freeport McMoran, Town of Clarkdale</u></p> <p>10. Current land use of project area: <u>Recreational</u></p> <p>11. Size of project area (in acres): <u>53</u></p> <p>12. Stream Name: <u>Verde River</u></p> <p>13. Length of stream through project area: <u>.87</u></p> <p>14. Miles of stream benefited: <u>.87</u> miles</p> <p>15. Acres of riparian habitat: <u>53</u> acres will be:</p> <div style="margin-left: 400px;"> ☐ Enhanced ☐ Maintained ☒ Restored ☐ Created </div>			
<p>16. General description and/or delineation for the area of impact of the project within the watershed. Riparian area within the 100-year floodplain at the Freeport-McMoRan owned, Town of Clarkdale managed Lower TAPCO River Access Point (RAP).</p> <p>17. Provide directions to the project site from the nearest city or town. List any special access requirements: From Clarkdale, take Tuzigoot Rd towards Tuzigoot National Monument. Turn left onto Sycamore Canyon Rd. After 2 miles turn left into the Lower TAPCO RAP parking area.</p>			
Environmental Contaminant Location Information			
<p>1. Does your project site contain known environmental contaminants? ☐ YES ☒ NO If yes, please identify the contaminant(s) and enclose data about the location and levels of contaminants:</p> <p>2. Are there known environmental contaminants in the project vicinity? ☒ YES ☐ NO If yes, please identify the contaminant(s) and enclose data about the location and levels of contaminants: A slag pile from the Clarkdale smelter is present approximately 500 meters downstream from the treatment area. This slag pile has been found to contain numerous metals including lead and arsenic, though we were unable to find information on the exact levels.</p> <p>3. Are you asking for Arizona Water Protection Fund monies to identify whether or not environmental contaminants are present? ☐ YES ☒ NO</p>			

Lower TAPCO River Access Point Invasive Plant Removal and Monitoring Scope of Work

TASK # 1 Permits, Authorizations, Clearances, Surveys, and Contracts

Task Description

FVR will work with VWRC partners to obtain and submit to the project manager all authorizations, clearances, and contracts and perform any consultations necessary to complete the tasks listed in this scope of work. This task will begin with meetings with Town of Clarkdale staff to discuss project implementation and compliance.

FVR will secure contracts with restoration crews such as Arizona Conservation Corps (AZCC), Conservation Legacy, and Verde Earth Technologies (VET), and other contractors for on-the-ground work at the project sites. Contracts for treatment crews will stipulate that one member from each crew shall hold a current Commercial Applicator License through the Arizona Department of Agriculture. All field crew members will take an EPA Herbicide Handlers Course administered by the State of Arizona. FVR will also contract EcoPlateau Research to model and identify presence/absence of critical habitat for Southwestern willow flycatcher and Western yellow billed cuckoo within the project area, ensuring invasive plant treatments will not negatively impact threatened or endangered species under the Endangered Species Act. As range shifts or expansions can occur for listed species from year to year (e.g., southwestern willow flycatcher), this process will be necessary annually to adaptively manage riparian restoration.

Task Purpose/Objective

To comply with all local, state, and federal permit requirements, environmental laws, and regulations, and to obtain legal access to the project areas. Contracts with restoration contractors, ecological trainers, and herbicide providers will ensure we have the capacity to accomplish this project.

Responsible Personnel

Deputy Executive Director (Rachel Laura), Restoration Program Manager (Elaine Nichols), Executive Director (W. David Gressly)

Deliverable Description

Copies of contracts, herbicide applicator licenses, SHPO clearance, existing archeological reports, PNF participating agreement, T&E species data, relevant USFWS concurrence, ADEQ permit, and relevant NEPA documentation.

Deliverable Due Date

All project compliance will be completed before implementing treatment activities.

Task Cost (rounded to the nearest dollar)

\$48,363

TASK # 2: Develop Riparian Restoration Monitoring, Treatment, and Volunteer Plans

Task Description

FVR will work with land managers to develop plans for each phase associated with the implementation of invasive plant management. All plans will include a detailed description of the work to be implemented during that year of the grant cycle. The project plans will consist of the following:

1. Ecological Health Monitoring Plan - a detailed plan that describes how the project site will be monitored for invasive species, native plant regrowth and general ecological health. The monitoring plan will include:
 - a. Maps to scale, of the project areas clearly showing the proposed monitoring sites
 - b. Attributes to be measured, as well as frequency of monitoring
 - c. Rationale for the number and location of monitoring points
 - d. Procedures used to measure attributes and specific data analyses to be performed
 - e. Materials and equipment list
 - f. Discussion of quality assurance/quality control
 - g. Sample monitoring data collection sheets including photo point record sheets
2. Treatment Plan - FVR will develop and submit a detailed plan to include a description of the work to be implemented annually at the Lower TAPCO RAP during the grant cycle to treat invasive plants. The plan will list a combination of manual, mechanical, and chemical control methods and techniques currently being used by the U.S. Forest Service and conform to industry standards.
 - a. Due to the large size of this stand the treatment is broken into phases. The priority 1 treatment area would include the tamarisk on river-left of the Lower TAPCO RAP. The next priority would be the most upstream stands on river-right of the RAP. The additional downstream tamarisk will be included in future funding proposals.
3. Volunteer and Outreach Plan – FVR will develop and submit a detailed plan to include descriptions of outreach including tabling events planned for the year and volunteer events planned for the year.

Task Purpose/Objective

The purpose of this task is to develop plans that provide a clear picture of when and how the work is to be accomplished, to ensure successful outcomes.

Responsible Personnel

Deputy Executive Director (Rachel Laura), Restoration Program Manager (Elaine Nichols)

Deliverable Description

Project plans for monitoring, invasive plant treatment, recreation management/erosion reduction plan, and volunteer plan.

Deliverable Due Date

Year 1: Monitoring Plan April 1, 2027

Year 1: Treatment Plan and Volunteer and Outreach Plan September 30, 2026

Year 2: Monitoring Plan April 1, 2028

Year 2: Treatment Plan and Volunteer and Outreach Plan September 30, 2027

Year 3: Monitoring Plan April 1, 2029

Year 3: Treatment Plan and Volunteer and Outreach Plan September 30, 2028

Year 4: Monitoring Plan April 1, 2030

Task Cost (rounded to the nearest dollar)

\$\$16,289

TASK # 3 - Implement Monitoring Plan

Task Description

FVR will implement the monitoring plan developed under Task 2. This plan will include the protocol developed with input from VWRC partners currently used to monitor FVR projects across the watershed. The FVR monitoring plan uses a tiered approach to monitoring, including both quantitative and qualitative elements. These approaches will provide data to evaluate whether actions are meeting management objectives, indicators of whether modifications need to be made (adaptive management) during the process, and plant community changes (native and invasive) within the riparian corridor. Monitoring and native plant community surveys will occur during the growing season, prior to treatment activities, and after treatment is completed.

In addition to vegetative monitoring, FVR is working to assess overall ecological health at nearby restoration sites. These areas will receive water quality monitoring to evaluate stream health. Proposed parameters for sampling will be outlined in the monitoring plan developed under Task 2. These parameters include turbidity, temperature, Escherichia coli, nutrients and metals. This additional monitoring will allow for a greater understanding of the ecological health at the restoration site.

Task Purpose/Objective

Monitoring is an important part of invasive plant management that is often overlooked. Monitoring information is used to adapt management techniques to ensure the long-term success of the project, maximize effectiveness, document restoration benefits, and assess the health of the riparian ecosystem.

Responsible Personnel

Deputy Executive Director (Rachel Laura), Restoration Program Manager (Elaine Nichols), Restoration Technician / GIS Specialist (Emily Dewing), Restoration Ecologist / Water Quality Monitoring Coordinator (Cynthia Butler)

Deliverable Description

An annual report will be developed and submitted to the WPF Project Manager after each field season. The report will include a summary of monitoring data and results, a visual map of monitored sites, and include all monitoring completed prior to treatment and after each year of treatment.

Deliverable Due Date

Year 1: July 31, 2027

Year 2: July 31, 2028

Year 3: July 31, 2029

Year 4: July 31, 2030

Task Cost (rounded to the nearest dollar)

\$50,588

TASK # 4

Task Title

Implement Treatment Plan

Task Description

FVR will implement the Treatment Plan developed under Task 2. The plan will include a detailed description of the work to be implemented during the grant cycle. In total, FVR will treat the

well-established invasive plant populations across the project area and any regrowth. Crews will use a combination of manual, mechanical, and chemical control methods, and techniques, which are currently being used by the Forest Service and conform to industry standards.

Task Purpose/Objective

To remove the remaining established populations of Russian olive and giant reed while reducing tamarisk and tree of heaven populations to less than 10% of the riparian zone within the project area.

To retreat tamarisk, Russian olive, giant reed, and tree of heaven to reduce tamarisk and tree of heaven infestations to less than 10% of the riparian zone within the project area and to eliminate giant reed and Russian olive from the project area.

Responsible Personnel

Deputy Executive Director (Rachel Laura), Restoration Program Manager (Elaine Nichols), Restoration Technician / GIS Specialist (Emily Dewing), Restoration Ecologist / Water Quality Monitoring Coordinator (Cynthia Butler)

Deliverable Description

An annual report will be submitted to the AWPf Project Manager after each treatment season. The report will include a summary of treatment accomplishments, a map of treated stands, and all associated data.

Deliverable Due Date

Year 1: April 30, 2028

Year 2: April 30, 2029

Year 3: April 30, 2030

Task Cost (rounded to the nearest dollar)

\$212,592

TASK # 5

Task Title

Implement Volunteer and Outreach Plan

Task Description

FVR, in partnership with project area land managers, will hold two volunteer events within the project area to educate and train community members. These events will engage local citizens in riparian restoration through projects that may include invasive plant removal, monitoring, erosion control installations and litter clean up. These events will also include an educational component to better inform local community members of the importance of a healthy riparian area and the threat of invasive plants.

FVR will also engage community scientists in the water quality component of the monitoring plan implementation. Volunteers will collect samples with the assistance of FVR staff. Additionally, FVR staff will engage school age students in water quality sampling at the Lower TAPCO RAP.

FVR will implement outreach to recreational users at community events and communicate the value of invasive plant removal, ecological monitoring and practicing Leave No Trace. The public is typically unaware of ecological issues and the many values of a healthy river system. This outreach will allow

more property owners to become engaged in the project and new areas of invasive plants to be identified and treated.

Task Purpose/Objective

Use volunteer time to achieve project goals through invasive plant removal, water quality sampling and river clean ups. Educate river recreationists about the threats to river systems, especially in the Verde Watershed, the importance of riparian health, and project information. The goal is to create excitement about the Verde Watershed through education and hands-on activities.

Responsible Personnel

Deputy Executive Director (Rachel Laura), Restoration Program Manager (Elaine Nichols), Restoration Technician / GIS Specialist (Emily Dewing), Restoration Ecologist / Water Quality Monitoring Coordinator (Cynthia Butler)

Deliverable Description

A report that summarizes the events: total volunteer hours contributed, the number of participants, outreach materials, and restoration accomplishments at each event.

Deliverable Due Date

Year 1: July 31, 2028

Year 2: July 31, 2029

Year 3: July 31, 2030

Task Cost (rounded to the nearest dollar)

\$8,028

TASK # 6 Final Report and Presentation

Task Description

FVR will submit a final report to include a summary of all methods used, outcomes of all tasks, analysis of all project data, suggestions for any changes or future actions, and an evaluation of the success in meeting project objectives. FVR will provide all data generated from this project and make an oral presentation in a summary of the final report to the AWPf Commission.

Task Purpose/Objective

To provide a comprehensive final report for public distribution that gives a detailed description of the project and highlights its benefits to the State of Arizona

Responsible Personnel

Deputy Executive Director (Rachel Laura), Restoration Program Manager (Elaine Nichols), Restoration Technician / GIS Specialist (Emily Dewing), Restoration Ecologist / Water Quality Monitoring Coordinator (Cynthia Butler)

Deliverable Description

Final Report

Deliverable Due Date

October 31, 2030

Task Cost (rounded to the nearest dollar)

\$3,926

AWPF Fund Request

NOTE: This table is provided as a guide to help develop your project budget and AWPF fund grant request. Feel free to modify this table as needed to accurately describe your proposed budget details.

Arizona Water Protection Fund Grant Application Detailed Budget					
Task 1: Permits, Authorizations, Clearances, Surveys, and Contracts					
	Quantity	Unit	Unit Cost	Total	Notes
Direct Labor Costs					
Executive Director	39.0	hour	\$67	\$2,624	Includes fringe benefits and a planned COLA for January 2026
Deputy Executive Director	156.0	hour	\$63	\$9,850	Includes fringe benefits and a planned COLA for January 2026
Restoration Program Manager	156.0	hour	\$36	\$5,565	Includes fringe benefits and a planned COLA for January 2026
Direct Labor Subtotal				\$18,039	
Outside Service Costs					
EcoPlateau Research	3.0	years	\$9,137	\$27,411	taken from last invoice
Outside Services Subtotal				\$27,411	
Other Direct Costs					
Applicator licenses	9.0	each	\$50	\$450	for project
Mileage reimbursement for staff	240.0	miles	\$1	\$161	over three years
Other Direct Subtotal				\$611	
Capital Outlay, Equipment, Supplies, etc.					

AWPF Fund Request

Capital Outlay, Equipment, Supplies Subtotal				\$0	
Task Subtotal				\$46,060	
Optional: AWPFF Administrative Costs (not to exceed 5% of Task Subtotal)				\$2,303	
			Task 1 Total	\$48,363	
Task 2: Develop Riparian Restoration Monitoring, Treatment, and Volunteer Plans					
	Quantity	Unit	Unit Cost	Total	Notes
Direct Labor Costs					
Deputy Executive Director	78.0	hour	\$63	\$4,925	Includes fringe benefits and a planned COLA for January 2026
Restoration Program Manager	168.0	hour	\$36	\$5,993	benefits and a planned COLA for January 2026
Restoration and GIS Specialist	156.0	hour	\$28	\$4,435	benefits and a planned COLA for January 2026
Restoration Ecologist/Water Quality Monitoring Coordinator	156.0	hour	\$30	\$4,680	benefits and a planned COLA for January 2026
Direct Labor Subtotal				\$15,353	
Outside Service Costs					
Outside Services Subtotal				\$0	
Other Direct Costs					
Mileage reimbursement for staff	240.0	miles	\$1	\$161	20 round trips to work site
Other Direct Subtotal				\$161	
Task Subtotal				\$15,513	

AWPF Fund Request

Optional: AWPFF Administrative Costs (not to exceed 5% of Task Subtotal)				\$776	
			Task 2 Total	\$16,289	
Task 3: Implement Monitoring Plan					
	Quantity	Unit	Unit Cost	Total	Notes
Direct Labor Costs					
Deputy Executive Director	78.0	hour	\$63	\$4,925	benefits and a planned COLA for January
Restoration Program Manager	219.0	hour	\$36	\$7,812	benefits and a planned COLA for January
Restoration and GIS Specialist	468.0	hour	\$28	\$13,305	benefits and a planned COLA for January
Restoration Ecologist/Water Quality Monitoring Coordinator	219.0	hour	\$30	\$6,570	benefits and a planned COLA for January
Direct Labor Subtotal				\$32,612	
Outside Service Costs					
Eurofins	9.0	Lab Analyses	\$236	\$2,124	
Outside Services Subtotal				\$2,124	
Other Direct Costs					
Mileage reimbursement for staff	681.0	miles	\$1	\$456	lab in Phoenix one
Other Direct Subtotal				\$456	
Capital Outlay, Equipment, Supplies, etc.					
Water quality equipment / supplies / equipment maintenance	3.0	sites	\$4,329	\$12,987	parameters, metals and
Capital Outlay, Equipment, Supplies, etc. Subtotal				\$12,987	
Task Subtotal				\$48,179	

AWPF Fund Request

Optional: AWPFF Administrative Costs (not to exceed 5% of Task Subtotal)				\$2,409	
			Task 3 Total	\$50,588	
Task 4: Implement Treatment Plan					
	Quantity	Unit	Unit Cost	Total	Notes
Direct Labor Costs					
Deputy Executive Director	78.0	hour	\$63	\$4,925	benefits and a planned COLA for January
Restoration Program Manager	312.0	hour	\$36	\$11,129	benefits and a planned COLA for January
Restoration and GIS Specialist	555.0	hour	\$28	\$15,779	benefits and a planned COLA for January
Restoration Ecologist/Water Quality Monitoring Coordinator	562.5	hour	\$30	\$16,875	benefits and a planned COLA for January
Direct Labor Subtotal				\$48,708	
Outside Service Costs					
Treatment crews	12.0	weeks	\$12,000	\$144,000	
Herbicide Services	75.0	gallons	\$70	\$5,250	
Nowak Ecological	3.0	each	\$350	\$1,050	
Port-a-John rentals	3.0	rentals	\$600	\$1,800	
Outside Services Subtotal				\$152,100	
Other Direct Costs					
Mileage reimbursement for staff	240.0	miles	\$1	\$161	12 round trips to the mark site
chipper maintenance	3.0	each	\$400	\$1,200	maintenance, new blades, prorated for
fuel for chipper and work truck	75.0	gallon	\$4	\$300	
Other Direct Subtotal				\$1,661	
Task Subtotal				\$202,468	
Optional: AWPFF Administrative Costs (not to exceed 5% of Task Subtotal)				\$10,123	
			Task 4 Total	\$212,592	

AWPF Fund Request

Task 5: Implement Volunteer and Outreach Plan					
	Quantity	Unit	Unit Cost	Total	Notes
Direct Labor Costs					
Deputy Executive Director	39.0	hour	\$63	\$2,462	benefits and a planned COLA for January
Restoration Program Manager	47.0	hour	\$36	\$1,676	benefits and a planned COLA for January
Restoration and GIS Specialist	45.0	hour	\$28	\$1,279	benefits and a planned COLA for January
Restoration Ecologist/Water Quality Monitoring Coordinator	45.0	hour	\$30	\$1,350	benefits and a planned COLA for January
Communication Coordinator	26.0	hour	\$32	\$829	benefits and a planned COLA for January
Direct Labor Subtotal				\$7,597	
Outside Service Costs					
Outside Services Subtotal					
Other Direct Costs					
Mileage reimbursement	72.0	miles	\$1	\$48	
Other Direct Subtotal				\$48	
Capital Outlay, Equipment, Supplies, etc.					
Volunteer event supplies	3.0	events	\$200	\$600	
Capital Outlay, Equipment, Supplies Subtotal				\$600	
Task Subtotal				\$7,645	

AWPF Fund Request

Optional: AWPFF Administrative Costs (not to exceed 5% of Task Subtotal)				\$382	
			Task 5 Total	\$8,028	
Task 6: Final Report and Presentation					
	Quantity	Unit	Unit Cost	Total	Notes
Direct Labor Costs					
Deputy Executive Director	32.0	hour	\$63	\$2,020	benefits and a planned COLA for January
Restoration Program Manager	40.0	hour	\$36	\$1,427	benefits and a planned COLA for January
Restoration and GIS Specialist	5.0	hour	\$28	\$142	benefits and a planned COLA for January
Restoration Ecologist/Water Quality Monitoring Coordinator	5.0	hour	\$30	\$150	benefits and a planned COLA for January
Direct Labor Subtotal				\$3,739	
Outside Service Costs					
Outside Services Subtotal					
Other Direct Costs					
Other Direct Subtotal					
Task Subtotal				\$3,739	
Optional: AWPFF Administrative Costs (not to exceed 5% of Task Subtotal)				\$187	
			Task 6 Total	\$3,926	

AWPF Fund Request

Arizona Water Protection Fund Grant Application Fund Request				\$339,787	

Matching Funds - Cost Share

NOTE: This table is provided as a guide to help develop your project budget and matching funds / project cost share budget. Feel free to modify this table as needed to accurately describe your proposed budget details.

Matching Funds / Cost Share Budget

Task 1: Permits, Authorizations, Clearances, Surveys, and Contracts

	Quantity	Unit	Unit Cost	Total	Notes
Direct Labor Costs					
Direct Labor Subtotal					
Outside Service Costs					
Outside Services Subtotal					
Other Direct Costs					
Other Direct Subtotal					
Capital Outlay, Equipment, Supplies, Per Diem, Travel, etc.					
Other Direct Subtotal					
Task Subtotal					
			Task 1 Total		

Matching Funds - Cost Share

Task 2: Develop Riparian Restoration Monitoring, Treatment, and Volunteer Plans					
	Quantity	Unit	Unit Cost	Total	Notes
Direct Labor Costs					
		hour			
Direct Labor Subtotal					
Outside Service Costs					
Outside Services Subtotal					
Other Direct Costs					
Other Direct Subtotal					
Capital Outlay, Equipment, Supplies, Per Diem, Travel, etc.					
Other Direct Subtotal					
Task Subtotal					
			Task 2 Total		

Matching Funds - Cost Share

Task 3: Implement Monitoring Plan					
	Quantity	Unit	Unit Cost	Total	Notes
Direct Labor Costs					
WQM Volunteer Time	288	hour	34.79	\$10,020	4 volunteers, 4 times per year for 3 years, 6 hours per visit
Direct Labor Subtotal				\$10,020	
Outside Service Costs					
Outside Services Subtotal					
Other Direct Costs					
Other Direct Subtotal					
Capital Outlay, Equipment, Supplies, Per Diem, Travel, etc.					
Other Direct Subtotal					
Task Subtotal					
			Task 3 Total	\$10,020	
Task 4: Implement Treatment Plan					

Matching Funds - Cost Share

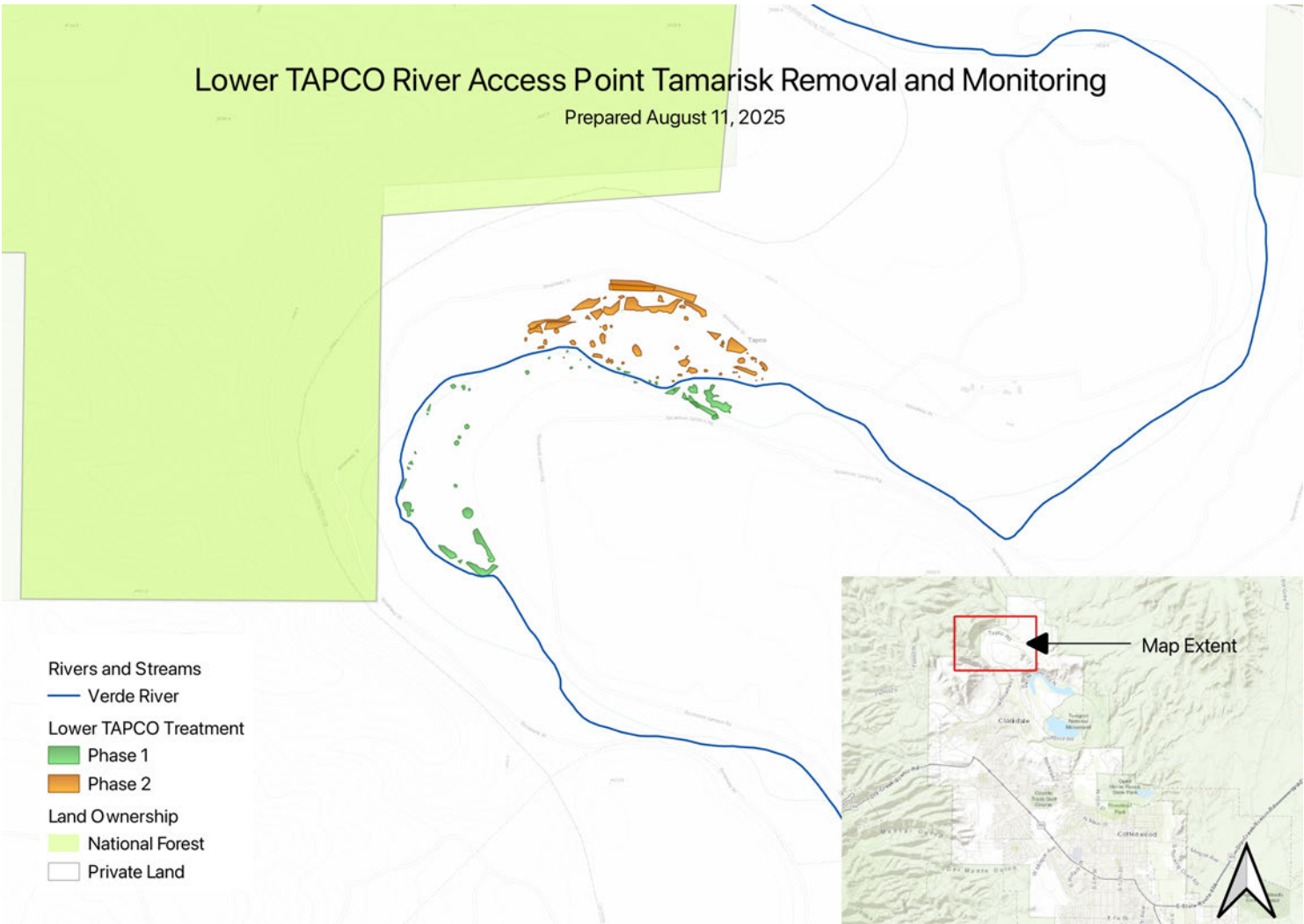
	Quantity	Unit	Unit Cost	Total	Notes
Direct Labor Costs					
Direct Labor Subtotal					
Outside Service Costs					
Treatment Crews	2	weeks	12000	\$24,000	FMI / PNF
Outside Services Subtotal				\$24,000	
Other Direct Costs					
Other Direct Subtotal					
Capital Outlay, Equipment, Supplies, Per Diem, Travel, etc.					
Other Direct Subtotal					
Task Subtotal					
			Task 4 Total	\$24,000	
Task 5: Implement Volunteer and Outreach Plan					
	Quantity	Unit	Unit Cost	Total	Notes
Direct Labor Costs					

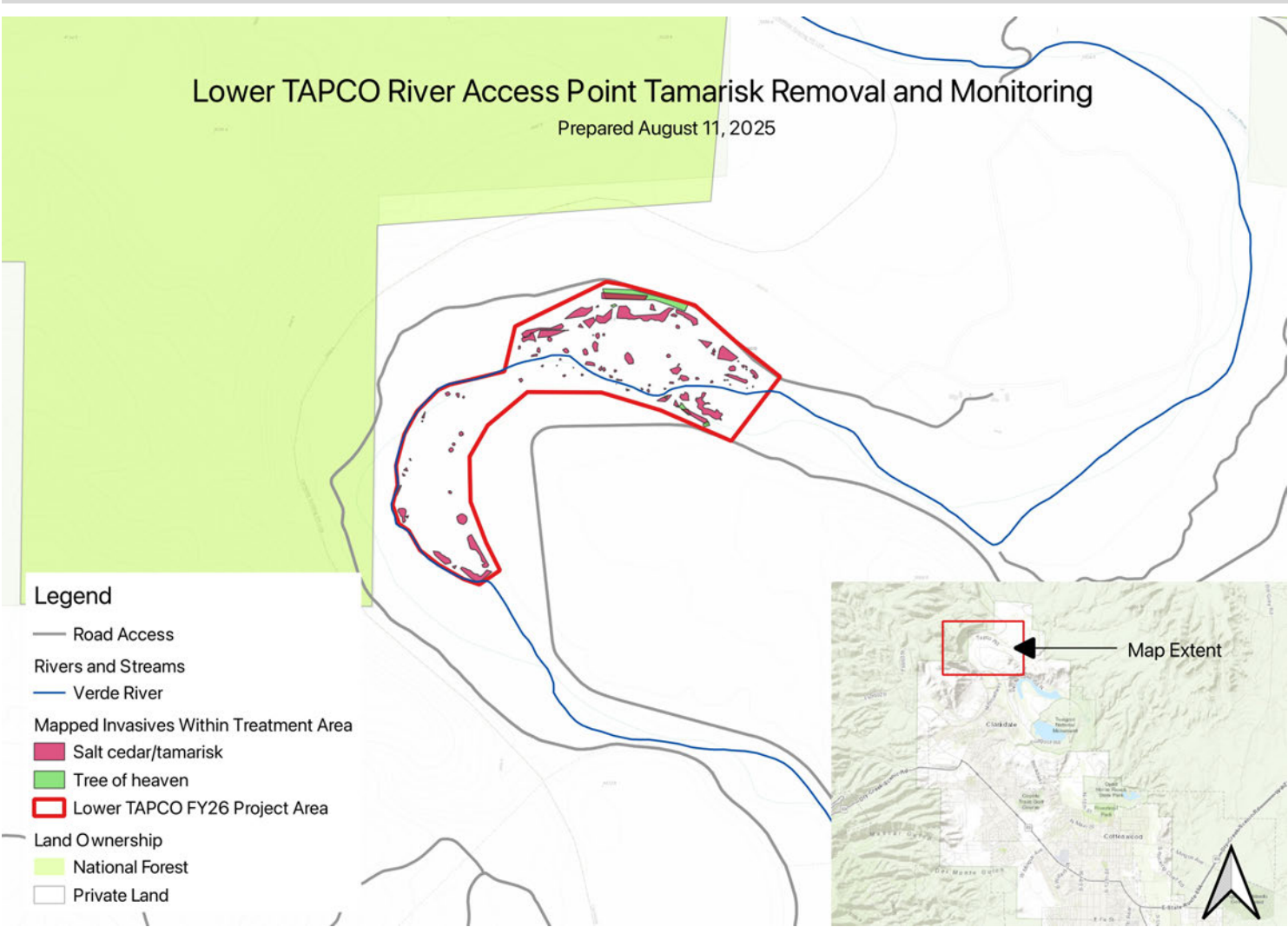
Matching Funds - Cost Share

Outreach Coordinator	26	hour	30.35	\$789	planned COLA for January
Communications Services Coordinator	26	hour	31.88	\$829	planned COLA for January
MLK Day Volunteers	135	hours	\$34.79	\$4,697	15 volunteers, 5 hours each, 5 times per year
Direct Labor Subtotal				\$6,315	
Outside Service Costs					
Outside Services Subtotal					
Other Direct Costs					
Other Direct Subtotal					
Capital Outlay, Equipment, Supplies, Per Diem, Travel, etc.					
Other Direct Subtotal					
Task Subtotal					
			Task 5 Total	\$6,315	
Task 6: Final Report and Presentation					
	Quantity	Unit	Unit Cost	Total	Notes
Direct Labor Costs					

Matching Funds - Cost Share

Direct Labor Subtotal					
Outside Service Costs					
Outside Services Subtotal					
Other Direct Costs					
Other Direct Subtotal					
Capital Outlay, Equipment, Supplies, Per Diem, Travel, etc.					
Other Direct Subtotal					
Task Subtotal					
			Task 6 Total		
			Total Match	\$40,334	





STATE HISTORIC PRESERVATION OFFICE Review Form

In accordance with the State Historic Preservation Act (SHPO), A.R.S. 41-861 *et seq.*, effective July 24, 1982, each State agency must consider the potential of activities or projects to impact significant cultural resources. Also, each State agency is required to consult with the State Historic Preservation Officer with regard to those activities or projects that may impact cultural resources. Therefore, it is understood that **recipients of state funds are required to comply with this law** throughout the project period. All projects that affect the ground-surface that are funded by AWPf require SHPO clearance, **including those on private and federal lands.**

The State Historic Preservation Office (SHPO) must review each grant application recommended for funding in order to determine the effect, if any, a proposed project may have on archaeological or cultural resources. To assist the SHPO in this review, the following information **MUST** be submitted with each application for funding assistance:

- A completed copy of this form, and
 - A United States Geological Survey (USGS) 7.5-minute map
 - A copy of the cultural resources survey report if a survey of the property has been conducted, and
 - A copy of any comments of the land managing agency/landowner (i.e., state, federal, county, municipal) on potential impacts of the project on historic properties.
- NOTE: If a federal agency is involved, the agency must consult with SHPO pursuant to the National Historic Preservation Act (NHPA); a state agency must consult with SHPO pursuant to the State Historic Preservation Act (SHPA),
- OR**
- A copy of SHPO comments if the survey report has already been reviewed by SHPO.

Please answer the following questions:

1. Grant Program: Arizona Water Protection Fund Commission FY27 Grant Cycle
2. Project Title: Lower TAPCO River Access Point Tamarisk Removal and Monitoring
3. Applicant Name and Address: Friends of the Verde River, PO Box 2535 Cottonwood, AZ, 86326
4. Current Land Owner/Manager(s): Freeport-McMoRan/Phelps Dodge, Town of Clarkdale
5. Project Location, including Township, Range, Section: 16N, 3E, Sections 7, 8, and 17
6. Total Project Area in Acres (or total miles if trail, fence line, etc.): 100
7. Does the proposed project have the potential to disturb the surface and/or subsurface of the ground?
☐ YES ☒ NO
8. Please provide a brief description of the proposed project and specifically identify any surface or subsurface impacts that are expected: This project will remove invasive plants using herbicide application or hand removal and would not result in any ground-disturbing activities.
9. Describe the condition of the current ground surface within the entire project boundary area (for example, is the ground in a natural undisturbed condition, or has it been bladed, paved, graded, etc.). Estimate horizontal and vertical extent of existing disturbance. Also, attach photographs of project area to document condition: Current conditions at the project site vary. Conditions include bare ground and native/invasive vegetation.
10. Are there any known prehistoric and/or historic archaeological sites in or near the project area? ☐ YES
☒ NO

11. Has the project area been previously surveyed for cultural resources by a qualified archaeologist? ☐ YES
☐ NO ☒ UNKNOWN

If YES, submit a copy of the survey report. Please attach any comments on the survey report made by the managing agency and/or SHPO

12. Are there any buildings or structures (including mines, bridges, dams, canals, etc.), which are 50-years or older in or adjacent to the project area? ☐ YES ☒ NO

If YES, complete an Arizona Historic Property Inventory Form for each building or structure, attach it to this form and submit it with your application.

13. Is your project area within or near a historic district? ☐ YES ☒ NO

If YES, name of the district:

Please sign on the line below certifying all information provided for this application is accurate to the best of your knowledge.

Rachel Laura 8/12/2026 Rachel Laura
Applicant Signature /Date Applicant Printed Name

FOR SHPO USE ONLY	
SHPO Finding: ☐ Funding this project will not affect historic properties. ☐ Survey necessary – further GRANTS/SHPO consultation required (<i>grant funds will not be released until consultation has been completed</i>) ☐ Cultural resources present – further GRANTS/SHPO consultation required (<i>grant funds will not be released until consultation has been completed</i>)	
SHPO Comments: 	
For State Historic Preservation Office:	Date:

STATE OF ARIZONA HISTORIC PROPERTY INVENTORY FORM

Please type or print clearly. Fill out each applicable space accurately and with as much information as is known about the property.

PROPERTY IDENTIFICATION

For properties identified through survey: Site No. _____ Survey Area: _____

Historic Names (enter the name(s), if any that best reflect the property's historic importance): _____

Address: _____

City or Town: _____ ☐ Vicinity County: _____ Tax Parcel No.: _____

Township: _____ Range: _____ Section: _____ Quarters: _____ Acreage: _____

Block: _____ Lot(s): _____ Plat (Addition): _____ Year of plat (addition): _____

UTM Reference – Zone: _____ Easting: _____ Northing: _____

USGS 7.5' quadrangle map: _____

ARCHITECT: _____ ☐ not determined ☐ known Source: _____

BUILDER: _____ ☐ not determined ☐ known Source: _____

CONSTRUCTION DATE: _____ ☐ known ☐ estimated Source: _____

STRUCTURAL CONDITION

- ☐ Good (well maintained; no serious problems apparent)
☐ Fair (some problems apparent) Describe: _____
☐ Poor (major problems; imminent threat) Describe: _____
☐ Ruin/Uninhabitable

USES/FUNCTIONS

Describe how the property has been used over time, beginning with the original use: _____

Sources: _____

PHOTO INFORMATION

Date of photo: _____

View Direction (looking towards): _____

Attach a recent photograph of property in this space.
Additional photographs may be appended.

SIGNIFICANCE

To be eligible for the National Register, a property must represent an important part of the history or architecture of an area. The significance of a property is evaluated within its historic context, which are those patterns, themes, or trends in history by which a property occurred or gained importance. Describe the historic and architectural contexts of the property that may make it worthy of preservation.

A. HISTORIC EVENTS/TRENDS – Describe any historic events/trends associated with the property: _____

B. PERSONS – *List and describe persons with an important association with the building:* _____

C. ARCHITECTURE – Style: _____ ☐ no style

Stories: _____ ☐ Basement Roof Form: _____

Describe other character-defining features of its massing, size and scale: _____

INTEGRITY

To be eligible for the National Register, a property must have integrity (i.e. it must be able to visually convey its importance). The outline below lists some important aspects of integrity. Fill in the blanks with as detailed a description of the property as possible.

Location - ☐ Original Site ☐ Moved: Date: _____ Original Site: _____

DESIGN

Describe alterations from the original design, including dates: _____

MATERIALS

Describe the materials used in the following elements of the property:

Walls (structure): _____

Walls (sheathing): _____

Windows: _____

Roof: _____

Foundation: _____

SETTING

Describe the natural and/or built environment around the property: _____

How has the environment changed since the property was constructed? _____

WORKMANSHIP

Describe the distinctive elements, if any, of craftsmanship or method of construction: _____

NATIONAL REGISTER STATUS (if listed, check the appropriate box)

☐ Individually Listed; ☐ Contributor; ☐ Non-contributor to _____ Historic District

Date Listed: _____ ☐ Determined eligible by Keeper of National Register (date: _____)

RECOMMENDATIONS ON NATIONAL REGISTER ELIGIBILITY (opinion of SHPO staff or survey consultant)

Property ☐ is ☐ is not eligible individually.

Property ☐ is ☐ is not eligible as a contributor to a listed or potential historic district.

☐ More information needed to evaluate.

If not considered eligible, state reason: _____

Lower TAPCO River Access Point Tamarisk Removal and Monitoring

Key Personnel

W. David Gressly, Executive Director: David joined Friends after retiring from the United Nations as its Resident and Humanitarian Coordinator in Yemen. He has held many positions with the United Nations, most recently working collaboratively to prevent what could have been the world's largest oil spill in the Red Sea. David has worked extensively in Africa and Asia, building teams to effect positive goals in the world. David grew up working on the family farm. He stated that his initial desire was to become an environmentalist and is looking forward to working in that milieu with Friends of the Verde River.

Rachel Laura, Deputy Executive Director: As Deputy Director of Friends of the Verde River, Rachel oversees the Sustaining Flows and Habitat Restoration Programs as well as the science functions of the organization, including the Watershed Report Card and biannual State of the Verde Watershed Conference. Bringing over 15 years of experience in ecology, restoration, and project management, she holds a B.S. in Wildlife and Habitat Restoration from Arizona State University, an M.S. in Natural Resources and Environmental Sciences from the University of Illinois, and is currently completing her PhD in Natural Resources from the University of Arizona. Rachel has spent her career working in wildlife conservation and habitat restoration, primarily in the western United States. She worked for the U.S. Fish and Wildlife Service for a decade prior to starting with Friends of the Verde River earlier this year. She is excited to work on impactful on-the-ground projects with a group of staff and partners dedicated to the long-term conservation of the Verde River Watershed.

Elaine Nichols, Restoration Program Manager: Elaine manages VWRC restoration projects, working with public and private landowners, crews, and volunteers. She has worked in Friends' restoration program since 2017. During that time she earned her Masters in Environmental Management with a focus on Integrated Public Land Management from Western Colorado University. Her studies included many Verde River specific projects. Previous to working with Friends, she worked for the Coconino National Forest in Fossil Creek Wild & Scenic River. Before the Forest Service, she worked in the non-profit sector serving two 1,700-hour AmeriCorps terms leading and coordinating projects in trail construction, invasive species removal, and fire mitigation. She also earned a B.S. in Environmental Science from University at Buffalo.

Emily Dewing, Restoration Technician/GIS Specialist: Emily Dewing completed two AmeriCorps seasons in the Rocky Mountains and a year-long AmeriCorps term in Northern California, where she worked on invasive plant removal, trail restoration, tree removal, and prescribed fire implementation. During her time in Northern California, she also developed geodatabases for multiple preserves to support research, utility planning, sea level rise adaptation, and fire mitigation. Emily earned a B.S. in Geography, Environmental Science, and Planning from Sonoma State University and an M.S. in Geographic Information Systems from San Jose State University. She is excited to join Friends of the Verde River and apply her restoration and GIS expertise to help protect and restore the Verde River watershed.

Cynthia Butler, Restoration Ecologist/Water Quality Monitoring Coordinator: Cynthia has worked in the Friends' restoration program for three years coordinating community science water quality monitoring and supporting upland and riparian restoration projects. Cynthia earned a B.S. in Environmental Science and Sustainability Studies from Northern Arizona University as well as a B.A. in Painting and Drawing from California Colleges of the Arts. In her last years of school at NAU, she focused on watershed restoration and botany with a particular interest in native plants of Arizona and the Southwest. Cynthia enjoys working with native plants, plant I.D., propagation, and ethnobotany.

Site Photos









Arizona Water Protection Fund
FY27 Proposal

Friends of the Verde River
Lower TAPCO River Access Point Tamarisk Removal and Monitoring

Project Implementation Plan

Monitoring

The proposed project will utilize FVR staff and restoration field crew labor. We will address the threat to our riparian areas from invasive plants by implementing the often-overlooked monitoring that is critical to a successful restoration project. FVR will be implementing ecological health monitoring to include water quality sampling and other indicators that will allow for a full understanding of the health of the riparian ecosystem. The 2026 Monitoring and Maintenance plan was developed with Verde Watershed Restoration Coalition partners and is attached for reference.

Invasive Treatment

FVR will contract crews to treat the invasive species present at the project site. Crews will utilize loppers and chainsaws to cut back the invasive vegetation. They will then use aquatically approved herbicides to directly treat the cut stumps. Treatment methods were determined in partnership with federal partner specialists.

Photo Monitoring

Before and After Photos - Prior to the start of invasive removal before photos of each site will be taken to adequately represent the current state of the site. Photos will be taken throughout the work to reflect the process of invasive removal. The same photos will be taken when work is completed and annually for three years following the project. These photos will give a visual representation of changes at the site and allow us to analyze long-term effects post-project.

Landmark Photos - Photo point locations have been established at permanent landmarks, such as bridges and overlooks, from the Tuzigoot Bridge to Beasley Flats on the main stem of the Verde River and from Red Rock State Park to the confluence on Oak Creek. Additional points may be added in the future as needed.

Photo point locations are collected in ArcGIS Field Maps. For both types of photos, monitors will navigate to the GPS point for each photo and line up their tablets to take the new repeat photo. Photo-point locations will be pre-loaded into Field Maps so that the crew can easily navigate to the points with their tablets.

Verde Watershed Restoration Coalition

2026 Monitoring Plan



Friends
of the
VERDE
RIVER



CONSERVATION
LEGACY

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Introduction

Rapid monitoring will be performed on the Verde River by a two-person Southwest Conservation Corps (SCC) monitoring team in conjunction with Friends of the Verde River (FVR)/Verde Watershed Restoration Coalition (VWRC) field staff. This document outlines the overall plan for the 2026 monitoring season, enabling FVR and VWRC to meet their monitoring objectives.

The VWRC's rapid monitoring program is designed to provide meaningful data across all restored sites to inform management decisions and assess overall restoration success.

Monitoring data is used to determine whether sites meet ecological health goals. VWRC has outlined ecological goals with specific criteria that sites must meet to be considered "meeting restoration criteria". These criteria are as follows:

- Sites where the occurrence of all tamarisk (*Tamarix spp.*) and Russian Olive (*Eleagnus angustifolia*) are reduced to less than 10% of the treatment area AND
- Sites where there are no new populations of giant reed (*Arundo donax*) or Tree of Heaven (*Ailanthus altissima*) AND these species make up less than 20% of the overall vegetative cover on the site AND
- Sites must meet woody passive recruitment threshold (see Passive Recruitment section of this document for details) OR
- Sites labeled as 'NA'; 'Site does not have expected potential to meet cottonwood/willow and mixed broadleaf passive recruitment threshold' BUT has met other land manager objectives. This may be due to small site acreage or river geomorphology.

As is the nature of riparian habitats, site conditions are always changing. When funding allows, we work to monitor all sites to ensure that they continue to meet these criteria into the future.

Monitoring Objectives

Specific objectives inform where monitoring should be conducted and how many sites should be monitored.

2026 Objectives:

- Monitor a total of 12 reaches, encompassing 1,557 riparian acres. Monitoring for all sites includes rapid assessment, invasive species inventory mapping, landmark photo points, and before and after photo points. The crew will additionally complete 4 Sentinel long-term vegetation surveys, using the riparian vegetation monitoring protocol outlined in this document.

Protocols and Methods

Data Collection Method

Rapid monitoring is based on determining relative vegetation cover through ocular estimates. Monitors will walk the entirety of a site before filling out data forms. The goal is to get eyes on the entire site between the two monitors. Each monitor keeps track of and determines their cover estimates while walking the site. Invasive species mapping and photo points are collected while monitors do their

walk-throughs. After their walk-through, monitors discuss their observations and ultimately develop a consensus for cover classes, abundant native species, etc., and fill out an attribute table for each site. Data is recorded with Arc Collector on tablets. Monitors sync data to ArcGIS Online from the downloaded offline maps on their tablets. Monitoring includes rapid assessment, invasive species mapping, before and after photo points, landmark photo points, and native recruitment transects.

See Appendix A for the data collection method for sentinel monitoring.

A two-person monitoring crew from the Southwest Conservation Corps, joined by one FVR/VWRC field staff, will perform the monitoring. The FVR/VWRC field staff will work with the SCC crew for the monitoring season, creating a three to four-person monitoring team.

Rapid Assessment

Rapid assessment includes estimates of relative cover for target invasive species, an estimate of relative cover for all native species, an estimate of absolute vegetation cover, and other information on bank erosion, the presence of hazardous materials etc. Appendix B displays the attribute table of information that monitors collect for rapid assessment of each site.

All estimates of canopy cover are recorded using cover classes, which generally represent ranges of 10%. Table 1 below displays the cover classes.

Cover Classes
0%
1-5%
6-10%
11-20%
21-30%
31-40%
41-50%
51-60%
61-70%
71-80%
81-90%
91-95%
96-100%

Table 1: Cover Classes

Passive Recruitment

VWRC assesses passive recruitment through native species counting within the rapid assessment. A site is deemed to have evidence of passive recruitment if it meets the following threshold:

Native Woody Natural Recruitment Threshold: Over 20 stems of indicator species in the appropriate size class (<1 meter in height) were counted when the rapid assessment occurred and the relative cover of native woody species was measured as greater than 90%.

The indicator species are any of the Native Broadleaf Tree or Shrub species that exist along the Verde River and its tributaries.

Invasive Species Mapping

The invasive species mapping protocol involves the creation of a polygon for each infestation of a target invasive species found in a site. Table 2 is the list of target invasive species. Monitors fill out the monitoring form in Appendix C for each target invasive species polygon. Secondary invasive species will only be mapped based on land manager needs or notable infestation (new infestation, significant invasion, etc.). Table 3 is the list of secondary invasive species.

Salt cedar	Tree of heaven
Russian olive	Giant reed

Table 2: Target Invasive Species

Catalpa	Mexican fireweed / kochia
Himalayan blackberry	Pampas grass
Yellow star thistle	Cheat grass
Malta star thistle	Eurasian watermilfoil
Dalmatian toadflax	Water lily
Yellow sweet clover	Tall fescue
Russian knapweed	Floating water primrose
Spotted knapweed	Red brome

Diffuse knapweed	Fountain grass
Saharan mustard	Siberian elm
Other species as recommended by land managers	

Table 3: Secondary Invasive Species

Photo-Points

Before and After Photos

FVR/VWRC staff identified ten sites where photographs from treatment seasons plan to be continued. Each photograph is a sample of a treatment site showing a stand of invasive species before treatment and after treatment. These areas have been recorded spatially and the photographs can be continued through time to visually measure changes within the treatment area.

Landmark Photos

Photo point locations are established at permanent landmarks, such as bridges and overlooks, from the Tuzigoot Bridge to Beasley Flats on the main stem of the Verde River and from Red Rock State Park to the confluence on Oak Creek. Additional points may be added in the future as needed.

Photo point locations are collected in Field Maps for ArcGIS. These locations and associated data will be integrated into Friends of the Verde River's Dropbox at the end of the season (FVRG Dropbox/GIS/Photos/Monitoring Photos/Landmark_Photo_Sites). Photos will be taken during the growing season (April – June) and all repeat photos will be taken as close to the initial photo date as possible.

For both types of photos, monitors will navigate to the GPS point for each photo and line up their tablet to take the new repeat photo. Photo-point locations will be pre-loaded onto the Field Maps app, so that the crew can easily navigate to the points with their tablets.

Monitoring Locations

Monitoring is conducted on pre- and post-treatment sites. Monitoring is conducted on pre-treatment sites that are scheduled for initial treatment in the upcoming treatment season. Monitoring is conducted on post-treatment sites within two years of initial treatment. Established sites are then monitored on a 3-year rotational schedule based on established stream segments. Table 4 displays the sites to be monitored in 2026. Scheduled sites are subject to change

Work Area	Stream Name	Segment ID	Reach
Cornville Rd - Oak Creek Conf.	Oak Creek: P.S. to confl.	RC_19	OC-5
Mormon Crossing - Cornville Rd	Oak Creek: P.S. to confl.	RC_19	OC-4
Headwaters to Perk	Headwaters to Perk	RC_17	HW-PK
Perk to Syc	Perk to Confl.	RC_18	PK-SYC
Greenway	Verde Tuzigoot RAP to OCC	RC_21	Verde Tuzig - OCC
OCC	Verde O.C.C. to Beaver	RC_22	OCC-I-17
Cloverleaf	Verde O.C.C. to Beaver	RC_22	OCC-I-17
Middle Verde	Verde O.C.C. to Beaver	RC_22	OCC-I-17
Horseshoe Bend	Verde O.C.C. to Beaver	RC_22	OCC-I-17
Parson's Park	Verde O.C.C. to Beaver	RC_22	OCC-I-17
Beaver Creek	Confl WBC/DBC to Confl Verde	RC_09	BC

Table 4: Sites to be monitored in 2026 monitoring season

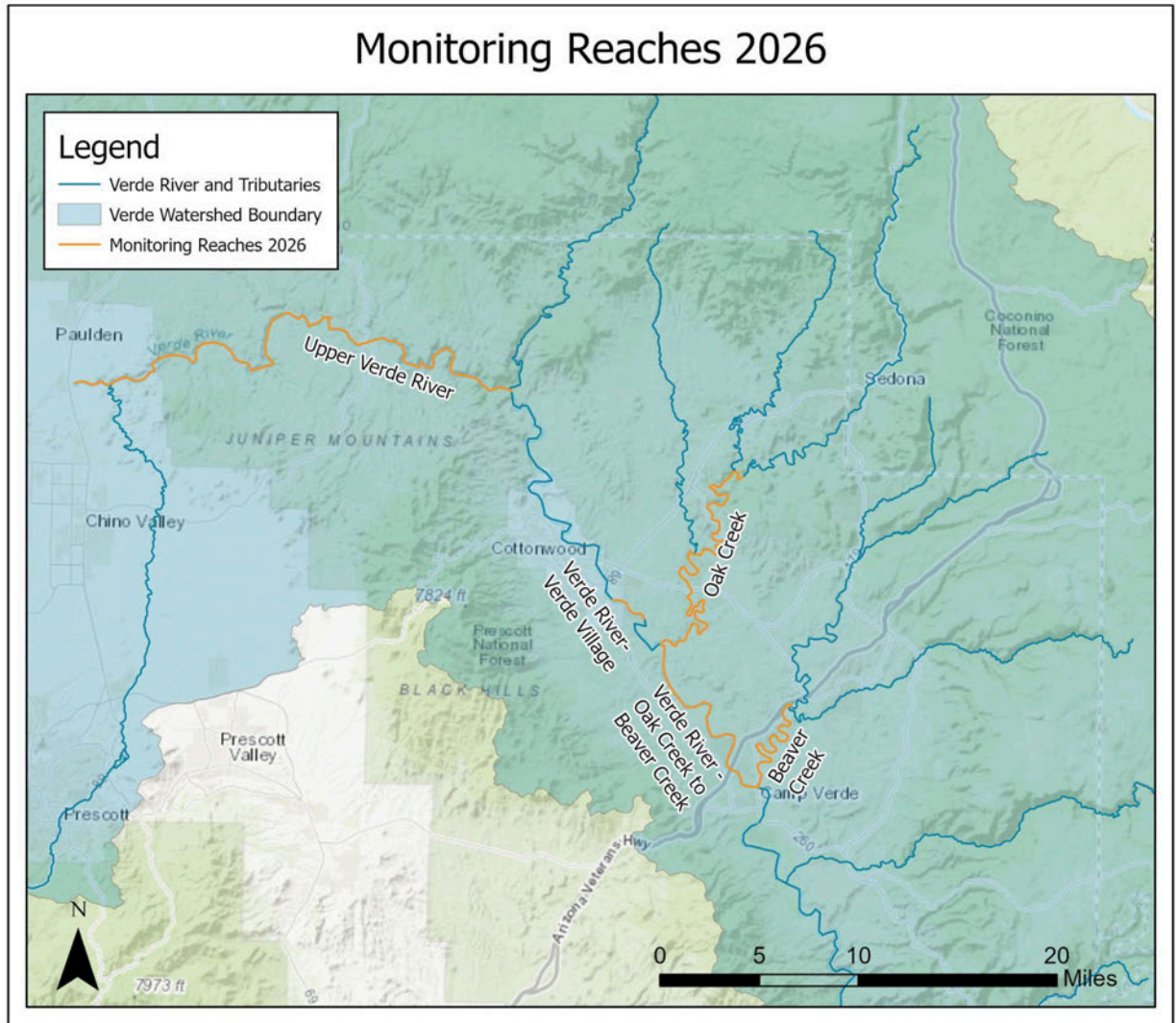


Figure 1: Segments of the Verde River and tributaries to be monitored during the 2026 monitoring season.

Schedule

The SCC monitoring team will spend 12 weeks total collecting monitoring data on the Verde River from **April 14th, 2026 through June 16th, 2026 (10 weeks)** and **October 20, 2026 through October 27, 2026**.

Monitoring data management and transfer is also on a schedule. See Roles and Responsibilities for this timeline.

The SCC crew will work 10-hour days on an 8-day on, 6-day off hitch schedule while working with the VWRC. This may transition to an 8-hour day on a 10-day on, 8-day off hitch schedule with higher heat levels.

Training

Training for the two-person SCC monitoring crew will be provided by both the SCC and FVR staff/ VWRC. It is up to FVR/VWRC to provide specific protocol training and plant identification training that meets the specific needs of their monitoring program.

SCC will provide the following training:

- Crew Leader will come prepared with a Wilderness First Responder
- Leave no Trace Ethics
- Risk Management Training
 - In-Reach Device use
 - SCC's On-Call System
 - Employee Assistance Program
- Driver Training
- ArcGIS Training
 - Use of ArcGIS Field Maps
 - How to Sync Maps
 - How to Download New Maps

FVR Staff/VWRC will provide the following training:

- Background of the project
- Protocol training
 - Ocular estimates of cover
 - How to fill out each attribute table
 - How to perform native recruitment transects
 - How to perform long-term vegetation surveys
 - Photo-point training (Before-After and Landmark)
 - Creating invasive species polygons
- Plant Identification training
 - Focus on key invasive species and important native species

Roles and Responsibilities

FVR staff/VWRC will help the SCC crew with navigation and access to sites in the form of maps, GPS locations, coordination with private landowners, and if needed, guiding them to locations. In the case of emergencies or unforeseen situations, FVR staff/VWRC can assist with logistical support. At least one FVR staff/VWRC will accompany the SCC crew for the entirety of the season and use the SCC vehicle.

The SCC crew will come with a 4-wheel drive, high-clearance vehicle, equipment for car camping, will be prepared for long strenuous hikes, and carry an InReach satellite communication device and med kit with them. The SCC crew will shop for their food at the beginning of every week.

The monitoring field crew is responsible for data collection, with oversight by FVR staff/VWRC. It is the responsibility of both SCC and FVR staff/VWRC to monitor progress and check data for completeness and accuracy. RiversEdge West is responsible for geodatabase management and reporting to the Walton Family Foundation. Figure 2 displays the general flow of monitoring data and who is responsible for it at which stage. FVR staff are responsible for additional reporting requirements to other funders including the Arizona Department of Forestry and Fire Management, Arizona Water Protection Fund, National Forest Foundation, and Coconino and Prescott National Forests.

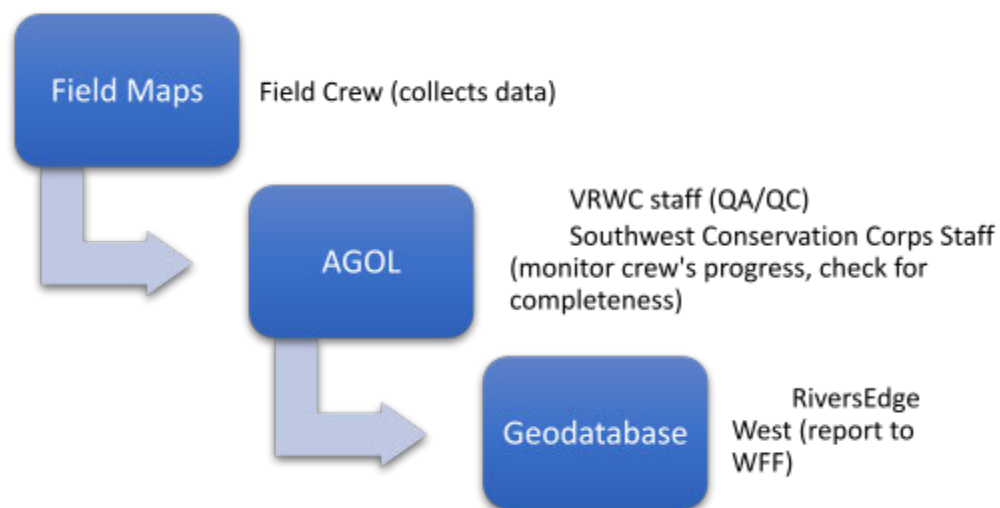
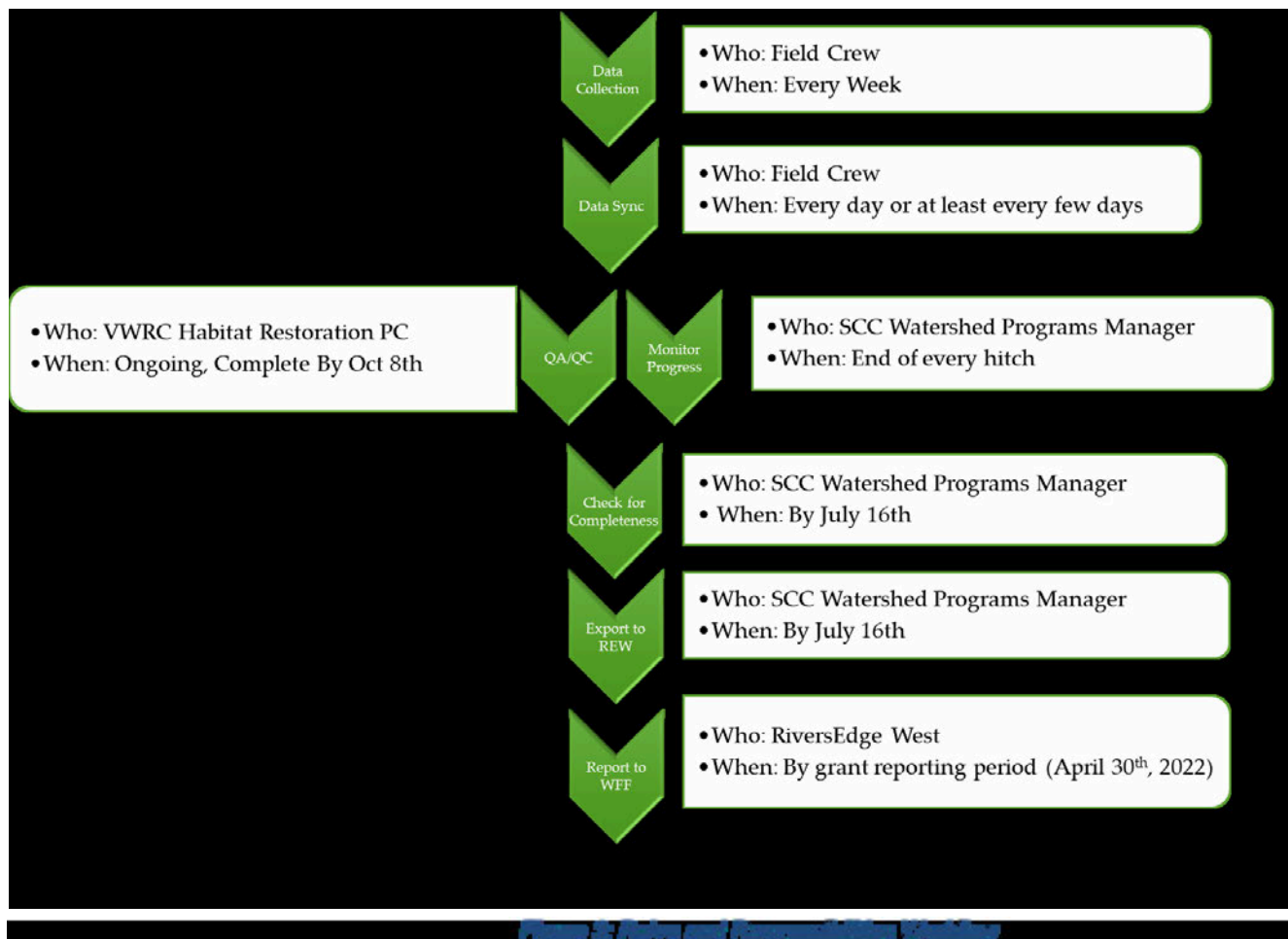


Figure 2: Monitoring Data Flow Diagram

The workflow in Figure 3 lines out the tasks for each person at SCC, RiversEdge West, and FVR/VWRC and their responsibilities for the monitoring program.



Deliverables

The following list clearly defines the deliverables for 2026 VWRC Rapid Monitoring:

- This 2026 Annual Monitoring Plan
 - Submitted to the Walton Family Foundation (WFF) per grant requirements by April 1, 2026
 - Submitted to other FVR/VWRC funders as per grant requirements - additional funders include the Arizona Department of Forestry and Fire Management, Arizona Water Protection Fund, National Forest Foundation, and Coconino and Prescott National Forests
- Monitoring implemented and documented in a WFF geodatabase managed by RiversEdge West. This geodatabase will be provided to WFF annually. Monitoring for each site listed for 2026 in this document includes rapid assessment, invasive species mapping, landmark photo-points, and either native recruitment transects on older sites or plant community composition monitoring (PCCM). There will also be 10 before and after photo point location

Appendix A

RIPARIAN VEGETATION MONITORING PROTOCOLS

September 2020

Prepared by RiversEdge West for Friends of Verde River

Purpose

The purpose of this document is to outline the main steps for collecting monitoring data to describe changes in the Verde River's riparian plant community. The document is in draft form; a work in progress that will be finalized as the methods outlined below are adapted and augmented in the field and during discussions with Friends staff.

Materials

- Tablet
- Data worksheets
- Survey123 Application with downloaded maps for offline use
- GaiaGPS or Earthmate Application for UTM Coordinates (WGS 84 Datum)
- Number Generator app
- Camera
- 1m x 1m PVC quadrant
- Compass
- Two to three 100-m tag lines or measuring tapes
- Cardboard cutouts for 5%, 10%, 15%, 20% then ten percent increments to 90% to allow team to calibrate themselves for estimating vegetation cover in 1m x 1m plots

Terms

- Monitoring site: This is an area along a stream channel that has been selected for monitoring and encompasses transects and monitoring plots.
- Transects: In this monitoring summary for Friends, two types of transects are described: longitudinal transects that run 100 m along the stream channel, which demarcate the backbone of a monitoring site, and latitudinal transects that run perpendicular from the longitudinal transect across the riparian zone (also called riparian transect). Data are not collected along the transects, per se, but serve as the means for establishing the 1m x 1m monitoring plots.
- Monitoring plots: Per methods described, below, are 1m x 1m plots from which percent cover and/or density data are collected.
- Restoration actions: In this document, 'restoration' describes all on-the-ground actions, management initiatives, and other activities that Friends and its partners are conducting to improve hydroecological conditions along the Verde River.

Monitoring Objectives

One of the overarching critical steps that monitoring personnel need to focus on at the onset is to finalize the central questions that they want their monitoring program to answer. Once finalized, these questions can be easily reformatted into monitoring objectives. For example, a key monitoring question might be, how has the arrival of the saltcedar leaf beetle impacted the

density and percent cover of saltcedar? If this question is agreed to by the monitoring team as a key question that they want their monitoring program to answer, then one of potential several objectives of their monitoring program will be: to quantify changes in the percent cover and density of saltcedar as the Verde River's riparian plant community is impacted by the saltcedar leaf beetle.

Main Steps and Methods

Step 1. Define Monitoring Region

As the protocols outlined in this document are designed for the riparian community along a river or stream, the monitoring region defined by Friends will be that portion of the stream corridor associated with the Verde River and its tributaries where restoration actions have taken place or will likely take place. That is, where ecological change is anticipated and needs to be quantified. In addition, the monitoring region may also encompass control sites where no management or restoration actions will take place and, as such, can serve as a comparison to biophysical conditions at sites where restoration actions were implemented.

Step 2. Select Monitoring Sites

Monitoring sites are randomly established within the geographic region defined in Step 1, above. This randomization will be determined by walking to the nearest river mile marker and setting that as the upstream point of the longitudinal transect.

A GPS point will be collected in the center of the channel (or on immediate right or left bank) that will define the upstream end of the monitoring site. Sites are monitored pre-treatment, post-treatment, and every 3 years after primary treatment. Sites visited will be a mix of previously established monitoring sites and newly established sites.

In the case that a survey is being repeated and compared to data collected using the old protocol, the top of the new monitoring area will be established using the GPS coordinates from the in-stream photo point. The new monitoring area should include part of the old PCCM plot if there was one present.

Step 3. Establish Location of Monitoring Plots

A 100m long baseline transect is established longitudinally along the stream channel 100 m downstream of the monitoring point established above (see Figure 1, below). Five perpendicular transects are established along the baseline transect: one at the upstream end of the baseline transect, another at downstream end, and three at equidistant points in between. Only one side of the stream channel is monitored (i.e., the riparian zone on the left side of the stream channel or the right side). The side selected for monitoring can be determined by flipping a coin or by common sense rules that allow monitoring personnel to select the side of the stream channel that is most conducive to

monitoring objectives (e.g., selecting the side of the channel that has diverse alluvial surfaces versus one that is narrow and dominated by bedrock). The five perpendicular transects expand the entire width of the riparian zone, extending from the channel bank or water's edge across primary floodplain surfaces and ending where surfaces transgress from those that are frequently inundated (on average, at least once a year and are part of the active bottomland environment) to those that are not. From this point forward, perpendicular transects are referred to as riparian transects. Two to four 1m x 1m plots are randomly established along the length of each riparian transect such that at least 10 plots are established and measured per monitoring site.

The location of 1m x 1m monitoring plots along the transect are determined by pacing the length of the riparian transect and then selecting the location of the monitoring plots using numbers generated by a random number table. For example, if the riparian transect is 20 paces long, monitoring personnel would go down a selected row of randomly generated numbers and select the first four numbers (if four plots are going to be established along the transect) that fall within the paced length of the transect. As such, plots would be established at 2, 7, 13, and 19 paces from the beginning of the riparian transect if consecutive randomly generated numbers were 65, 13, 43, 21, 2, 82, 19, 2, 88, and 7.

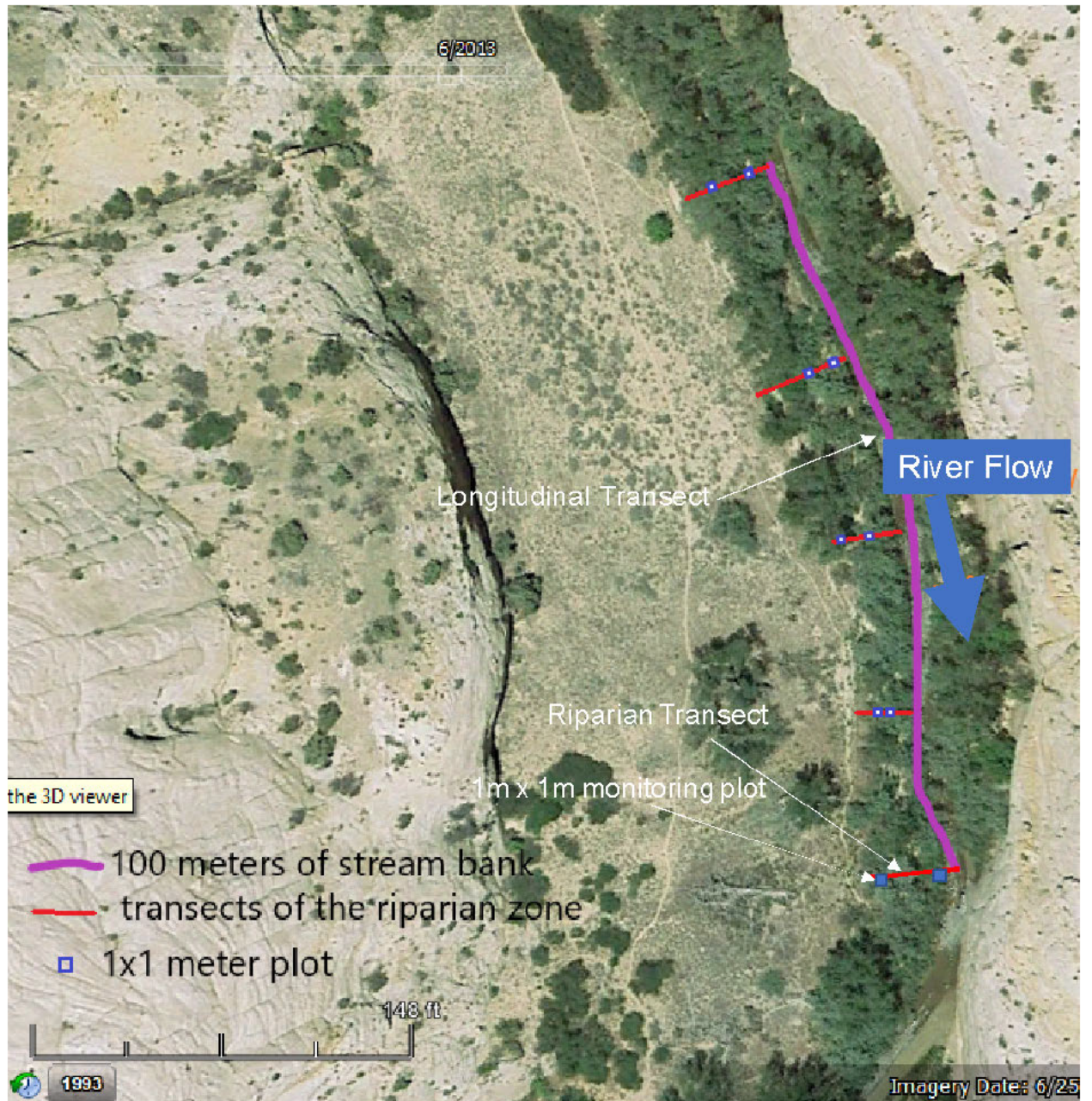


Figure A1. Example of setting up longitude and latitude transects and placement of riparian vegetation monitoring plots at a monitoring site along Escalante River. In this example, 10 monitoring plots were established at this monitoring site.

If the riparian zone is narrow (e.g., just several meters wide), monitoring personnel may want to establish 1m x 1m plots on both sides of the channel in order to obtain an adequate number of monitoring plots for the site being monitored. Regardless of whether one side of the stream channel is being monitored or both, establishing the location of the plots along the riparian transects is accomplished using the same methods that are described above.

Depending on the morphologic characteristics of the stream corridor that passes through the monitoring site, monitoring personnel may want to divide the riparian zone into stratified units. For example, plots may want to be randomly selected and established on channel surfaces that are frequently inundated (e.g., primary floodplain) separately from plots established on secondary or terrace surfaces. Determining the necessity of this will depend on monitoring objectives and will be discussed in more detail in the field.

Step 4. Data Collection

Percent cover is estimated within each 1m x 1m plot by species. The species measured are whichever species identified by monitoring personnel as central to accomplishing monitoring objectives. For example, monitoring objectives may dictate measuring only selected woody species (e.g., saltcedar and a few native trees), or all woody riparian species, or all woody species and herbaceous. No matter what species are included as part of the monitoring program, the percent cover of all vertical layers that intersect the 1m x 1m plot are measured. For example, if the only species of interest is saltcedar, the percent cover of saltcedar quantified for any given 1m x 1m monitoring plot would all vertical layers of saltcedar (seedlings to adult trees) that intersect the plot. Broader monitoring objectives could include everything from the percent cover of bare ground, litter, and all species of herbaceous, shrub, mid-story trees to overstory mature tree canopy that intersect the plot.

Prior to collecting field data, monitoring personnel calibrate themselves using cardboard cutouts that correspond to selected percent cover within a 1m x 1m plot. Cardboard cutouts can be made at 5% increments all the way to a desired amount.

Density data of woody species can also be collected by counting the number of woody stems that fall within the 1m x 1m plot. Stems 'count' when 50% or more of the stem's diameter falls within the monitoring plot.

Survey data are documented in the field using field sheets or tablets. Field sheets are preferable given that electronic tabulation of data can succumb to a variety of technologic glitches. Once your data sheet is filled out, monitoring personnel should take a photo of the field sheet that has been filled out as a backup in case sheets are lost. An example of a monitoring data sheet used to collect riparian vegetation data along the Rio Grande/Bravo is below (see Figure 2, below).

Photo points need to be established, monumented and taken at each monitoring site. The number and location of photo points will be finalized in the field. Examples of potentially critical photo point locations include: on surfaces that overlook the monitoring site, at the upstream and downstream end of the longitudinal transect, at near channel and end of the riparian transects. To the extent possible, photo points should be 'marked' with GPS unit, monumented, and described. Photo points established in the active bottomland environment do not need to be monumented given propensity of stream dynamics to bury, scour, and remove monuments. However, monitoring personnel should try to monument photo points outside the bottomland environment. Descriptions should include the location, direction of the photo and have a sign (often held by a team member) indicating location. For example, a description might be, looking due west toward the channel at end of riparian transect one, monitoring site 11 (with a team member holding a sign that reads 'transect one, monitoring site 11').

Step 6. Organize and Analyze Collected Monitoring Data

Methods for organizing and analyzing collected monitoring data depend on the monitoring objectives and will be finalized during the first stages of implementing the above protocols with Friends. A sample template for organizing and analyzing vegetation monitoring data is on following page and shows several parameters for three monitoring sites that encompass 15 monitoring plots each. Depending on the objectives of the monitoring program, measurements from each plot measured can be grouped by monitoring site or sites with outputs describing average percent cover (with appropriate standard deviations), densities and other for the species selected. Year to year comparisons can then be made with basic statistics conducted to describe the significance of change that has been measured and quantified.

Template for organizing and analyzing veg monitoring data (adapted from Boquillas Canyon Tam Treatment Monitoring data)																
Cell contents: Percent cover by cover category																
*Note: Cobble, Cobble/Gravel Mix, Cobble/Silt Mix, Fine Sand, Gravel, Horse Scat, Sand & Silt columns began in 2009																
			% Cover	% Cover	% Cover	% Cover	% Cover	% Cover	% Cover	% Cover	% Cover	% Cover	% Cover	% Cover		
Monitoring Site	Plot	Year	Bare Ground	BG-Cobble	BG-Cobble/Fine Sand	BG-Cobble/Gravel	BG-Cobble/Silt	BG-Fine Sand	BG-Fine Sand/Gravel	BG-Gravel	BG-Gravel/Silt	BG-Horse Scat	BG-Sand	BG-Sand/Gravel		
1	1	2020														
1	2	2020														
1	3	2020														
1	4	2020														
1	5	2020														
1	6	2020														
1	7	2020														
1	8	2020														
1	9	2020														
1	10	2020														
1	11	2020														
1	12	2020														
1	13	2020														
1	14	2020														
1	15	2020														
2	1	2020														
2	2	2020														
2	3	2020														
2	4	2020														
2	5	2020														
2	6	2020														
2	7	2020														
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3	4	2020														
3	5	2020														
3	6	2020														
3	7	2020														
3	8	2020														
3	9	2020														
3	10	2020														
3	11	2020														
3	12	2020														
3	13	2020														
3	14	2020														
3	15	2020														
Average Percent Cover of Measured Attribute by Monitoring Site																
Monitoring Site 1			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		
Monitoring Site 2			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		
Monitoring Site 3			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		
Etc.																
				Attribute Measured	Monitoring Site	Year										
				Average	1	2014	2015	2016	2017	2018	2019	2020	2021	2022		
				Native	2											
				Woody	3											
					4											
					5											
					6											
					7											
					8											
				Average	1											
				Non-Native	2											
				Woody	3											
					4											
					5											
					6											
					7											
					8											
				Total	1											
				RO	2											
					3											
					4											
					5											
					6											
					7											
					8											

Figure A3: Sample template for organizing and analyzing vegetation monitoring data.

Appendix B: Rapid Assessment Monitoring Form

This information was taken directly from the VWRC – Protocol for Mapping & Monitoring

Invasive_Species_1	TARA
Relative_Cover_Invasive_1	10-20%
Invasive_Species_2	
Relative_Cover_Invasive_2	
Invasive_Species_3	
Relative_Cover_Invasive_3	
Invasive_Species_4	
Relative_Cover_Invasive_4	
Invasive_Species_5	
Relative_Cover_Invasive_5	
Invasive_Species_6	
Relative_Cover_Invasive_6	
Invasive_Species_7	
Relative_Cover_Invasive_7	
Monitoring_Year	2017-2018
Native_Species_1	Goodding's willow
Native_Species_2	
Native_Species_3	
Native_Species_4	
Monitoring_Date	10/31/2017 8:20
Absolute_Veg_Cover	60-70%
Relative_Cover_Native	90-100%
Land_Use	public_land
Initial_Treatment_Year	
Data_Collector_(your_name)	Edith
Form_Type	Post-Treatment
Evidence_of_Bank_Erosion?	Y
Evidence_of_Channel_Incision?	Y
Are_there_hazardous_materials?	N
Evidence_of_heavy_livestock_grazing?	N
Evidence_of_damage_incurred_by_crews?	N
Does_the_landowner_participate_in_continued_management?	
Is_the_site_easily_accessible?	
Notes	
Ownership	Arizona Game and Fish
Public_Land	Y

Native Species Drop Down List	
Options:	
big tooth maple	big tooth maple
Arizona alder	Arizona alder
boxelder	boxelder
netleaf hackberry	netleaf hackberry
desert willow	desert willow
velvet ash	velvet ash
Arizona walnut	Arizona walnut
Arizona sycamore	Arizona sycamore
velvet mesquite	velvet mesquite
narrowleaf/coyote willow	narrowleaf/coyote willow
Goodding's willow	Goodding's willow
western soapberry	western soapberry
catclaw acacia	catclaw acacia
cottonwood	cottonwood
other	other unlisted Native spp

Figure B1: Example of the Friends of the Verde River's data intake fields for vegetation monitoring.

Appendix C: Invasive Species Mapping

This information was taken directly from the VWRC – Protocol for Mapping & Monitoring

Date	11/1/17
Ownership	The Nature Conservancy
Data Collector (you)	Elaine Smith
PLANT CODE	TARA
COMMON NAME	SaltCedar
SPECIES NAME	Tamarix Ramosissima Ledeb
COVER	20-30%
Size Class- Diameter of Largest	Over 4 Inches
BANK SLOPE	10-20%
Site Name	Shield Ranch
NOTES	some tamarisk are in the pond
SECONDARY INVASIVE	
Public Land	N
FieldYear	2017-2018
Distance to Water (ft)	5

PLANT CODE/COMMON NAME/SPECIES NAME
drop down options:

ARDO4	ARDO4 Giant Reed- Arundo L donax
ELAN	ELAN Russian Olive - Elanthus Angustifolia
TARA	TARA Salt Cedar- Tamarix Ramosissima Ledeb
AIAL	AIAL Tree of Heaven- Ailanthus altissima

Figure C1: Example of invasive species data intake form for inventory collection.

Verde Watershed Restoration Coalition

2026 Monitoring Plan



Friends
of the
VERDE
RIVER



CONSERVATION
LEGACY

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Introduction

Rapid monitoring will be performed on the Verde River by a two-person Southwest Conservation Corps (SCC) monitoring team in conjunction with Friends of the Verde River (FVR)/Verde Watershed Restoration Coalition (VWRC) field staff. This document outlines the overall plan for the 2026 monitoring season, enabling FVR and VWRC to meet their monitoring objectives.

The VWRC's rapid monitoring program is designed to provide meaningful data across all restored sites to inform management decisions and assess overall restoration success.

Monitoring data is used to determine whether sites meet ecological health goals. VWRC has outlined ecological goals with specific criteria that sites must meet to be considered "meeting restoration criteria". These criteria are as follows:

- Sites where the occurrence of all tamarisk (*Tamarix spp.*) and Russian Olive (*Eleagnus angustifolia*) are reduced to less than 10% of the treatment area AND
- Sites where there are no new populations of giant reed (*Arundo donax*) or Tree of Heaven (*Ailanthus altissima*) AND these species make up less than 20% of the overall vegetative cover on the site AND
- Sites must meet woody passive recruitment threshold (see Passive Recruitment section of this document for details) OR
- Sites labeled as 'NA'; 'Site does not have expected potential to meet cottonwood/willow and mixed broadleaf passive recruitment threshold' BUT has met other land manager objectives. This may be due to small site acreage or river geomorphology.

As is the nature of riparian habitats, site conditions are always changing. When funding allows, we work to monitor all sites to ensure that they continue to meet these criteria into the future.

Monitoring Objectives

Specific objectives inform where monitoring should be conducted and how many sites should be monitored.

2026 Objectives:

- Monitor a total of 12 reaches, encompassing 1,557 riparian acres. Monitoring for all sites includes rapid assessment, invasive species inventory mapping, landmark photo points, and before and after photo points. The crew will additionally complete 4 Sentinel long-term vegetation surveys, using the riparian vegetation monitoring protocol outlined in this document.

Protocols and Methods

Data Collection Method

Rapid monitoring is based on determining relative vegetation cover through ocular estimates. Monitors will walk the entirety of a site before filling out data forms. The goal is to get eyes on the entire site between the two monitors. Each monitor keeps track of and determines their cover estimates while walking the site. Invasive species mapping and photo points are collected while monitors do their

walk-throughs. After their walk-through, monitors discuss their observations and ultimately develop a consensus for cover classes, abundant native species, etc., and fill out an attribute table for each site. Data is recorded with Arc Collector on tablets. Monitors sync data to ArcGIS Online from the downloaded offline maps on their tablets. Monitoring includes rapid assessment, invasive species mapping, before and after photo points, landmark photo points, and native recruitment transects.

See Appendix A for the data collection method for sentinel monitoring.

A two-person monitoring crew from the Southwest Conservation Corps, joined by one FVR/VWRC field staff, will perform the monitoring. The FVR/VWRC field staff will work with the SCC crew for the monitoring season, creating a three to four-person monitoring team.

Rapid Assessment

Rapid assessment includes estimates of relative cover for target invasive species, an estimate of relative cover for all native species, an estimate of absolute vegetation cover, and other information on bank erosion, the presence of hazardous materials etc. Appendix B displays the attribute table of information that monitors collect for rapid assessment of each site.

All estimates of canopy cover are recorded using cover classes, which generally represent ranges of 10%. Table 1 below displays the cover classes.

Cover Classes
0%
1-5%
6-10%
11-20%
21-30%
31-40%
41-50%
51-60%
61-70%
71-80%
81-90%
91-95%
96-100%

Table 1: Cover Classes

Passive Recruitment

VWRC assesses passive recruitment through native species counting within the rapid assessment. A site is deemed to have evidence of passive recruitment if it meets the following threshold:

Native Woody Natural Recruitment Threshold: Over 20 stems of indicator species in the appropriate size class (<1 meter in height) were counted when the rapid assessment occurred and the relative cover of native woody species was measured as greater than 90%.

The indicator species are any of the Native Broadleaf Tree or Shrub species that exist along the Verde River and its tributaries.

Invasive Species Mapping

The invasive species mapping protocol involves the creation of a polygon for each infestation of a target invasive species found in a site. Table 2 is the list of target invasive species. Monitors fill out the monitoring form in Appendix C for each target invasive species polygon. Secondary invasive species will only be mapped based on land manager needs or notable infestation (new infestation, significant invasion, etc.). Table 3 is the list of secondary invasive species.

Salt cedar	Tree of heaven
Russian olive	Giant reed

Table 2: Target Invasive Species

Catalpa	Mexican fireweed / kochia
Himalayan blackberry	Pampas grass
Yellow star thistle	Cheat grass
Malta star thistle	Eurasian watermilfoil
Dalmatian toadflax	Water lily
Yellow sweet clover	Tall fescue
Russian knapweed	Floating water primrose
Spotted knapweed	Red brome

Diffuse knapweed	Fountain grass
Saharan mustard	Siberian elm
Other species as recommended by land managers	

Table 3: Secondary Invasive Species

Photo-Points

Before and After Photos

FVR/VWRC staff identified ten sites where photographs from treatment seasons plan to be continued. Each photograph is a sample of a treatment site showing a stand of invasive species before treatment and after treatment. These areas have been recorded spatially and the photographs can be continued through time to visually measure changes within the treatment area.

Landmark Photos

Photo point locations are established at permanent landmarks, such as bridges and overlooks, from the Tuzigoot Bridge to Beasley Flats on the main stem of the Verde River and from Red Rock State Park to the confluence on Oak Creek. Additional points may be added in the future as needed.

Photo point locations are collected in Field Maps for ArcGIS. These locations and associated data will be integrated into Friends of the Verde River's Dropbox at the end of the season (FVRG Dropbox/GIS/Photos/Monitoring Photos/Landmark_Photo_Sites). Photos will be taken during the growing season (April – June) and all repeat photos will be taken as close to the initial photo date as possible.

For both types of photos, monitors will navigate to the GPS point for each photo and line up their tablet to take the new repeat photo. Photo-point locations will be pre-loaded onto the Field Maps app, so that the crew can easily navigate to the points with their tablets.

Monitoring Locations

Monitoring is conducted on pre- and post-treatment sites. Monitoring is conducted on pre-treatment sites that are scheduled for initial treatment in the upcoming treatment season. Monitoring is conducted on post-treatment sites within two years of initial treatment. Established sites are then monitored on a 3-year rotational schedule based on established stream segments. Table 4 displays the sites to be monitored in 2026. Scheduled sites are subject to change

Work Area	Stream Name	Segment ID	Reach
Cornville Rd - Oak Creek Conf.	Oak Creek: P.S. to confl.	RC_19	OC-5
Mormon Crossing - Cornville Rd	Oak Creek: P.S. to confl.	RC_19	OC-4
Headwaters to Perk	Headwaters to Perk	RC_17	HW-PK
Perk to Syc	Perk to Confl.	RC_18	PK-SYC
Greenway	Verde Tuzigoot RAP to OCC	RC_21	Verde Tuzig - OCC
OCC	Verde O.C.C. to Beaver	RC_22	OCC-I-17
Cloverleaf	Verde O.C.C. to Beaver	RC_22	OCC-I-17
Middle Verde	Verde O.C.C. to Beaver	RC_22	OCC-I-17
Horseshoe Bend	Verde O.C.C. to Beaver	RC_22	OCC-I-17
Parson's Park	Verde O.C.C. to Beaver	RC_22	OCC-I-17
Beaver Creek	Confl WBC/DBC to Confl Verde	RC_09	BC

Table 4: Sites to be monitored in 2026 monitoring season

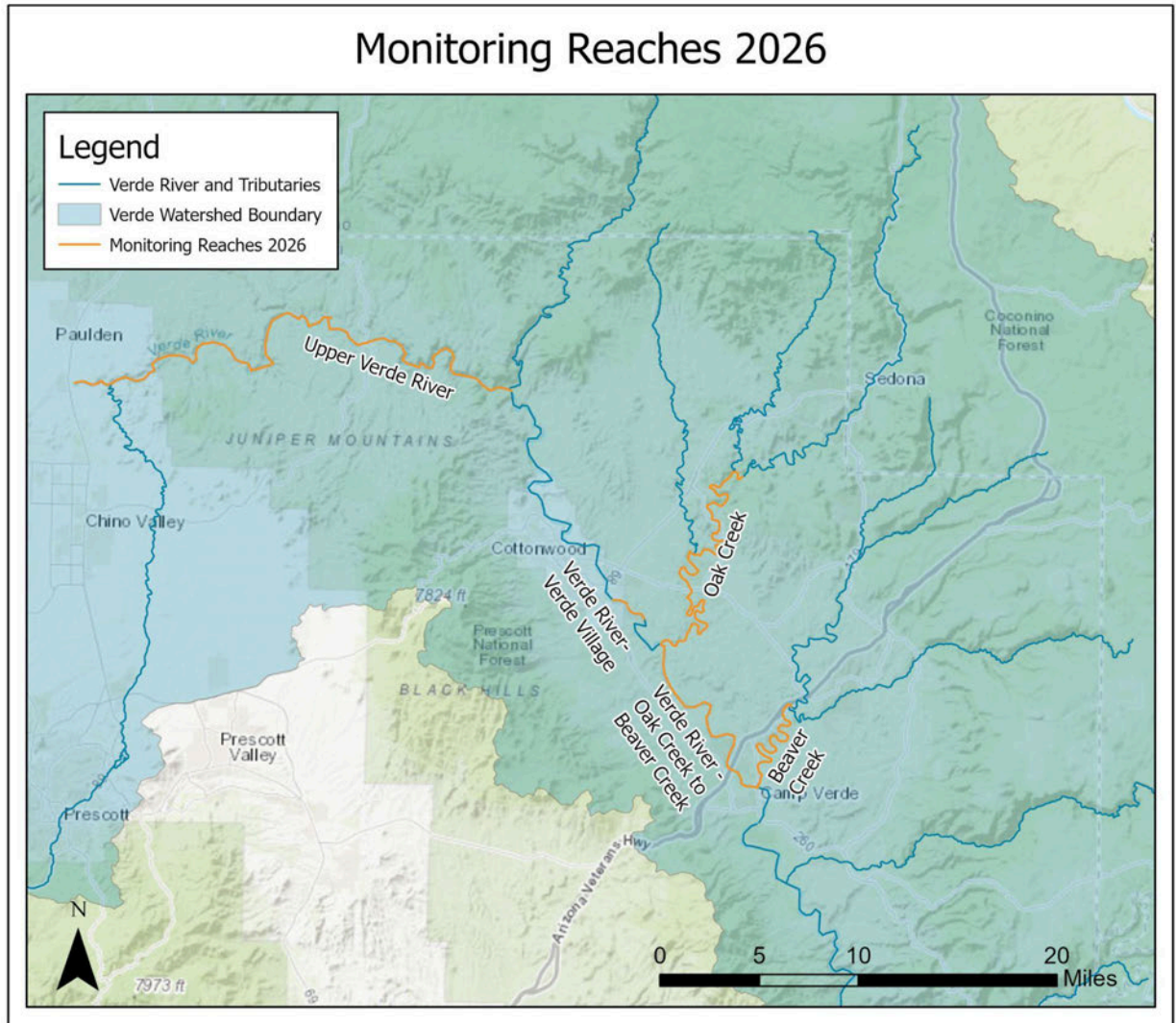


Figure 1: Segments of the Verde River and tributaries to be monitored during the 2026 monitoring season.

Schedule

The SCC monitoring team will spend 12 weeks total collecting monitoring data on the Verde River from **April 14th, 2026 through June 16th, 2026 (10 weeks)** and **October 20, 2026 through October 27, 2026**.

Monitoring data management and transfer is also on a schedule. See Roles and Responsibilities for this timeline.

The SCC crew will work 10-hour days on an 8-day on, 6-day off hitch schedule while working with the VWRC. This may transition to an 8-hour day on a 10-day on, 8-day off hitch schedule with higher heat levels.

Training

Training for the two-person SCC monitoring crew will be provided by both the SCC and FVR staff/ VWRC. It is up to FVR/VWRC to provide specific protocol training and plant identification training that meets the specific needs of their monitoring program.

SCC will provide the following training:

- Crew Leader will come prepared with a Wilderness First Responder
- Leave no Trace Ethics
- Risk Management Training
 - In-Reach Device use
 - SCC's On-Call System
 - Employee Assistance Program
- Driver Training
- ArcGIS Training
 - Use of ArcGIS Field Maps
 - How to Sync Maps
 - How to Download New Maps

FVR Staff/VWRC will provide the following training:

- Background of the project
- Protocol training
 - Ocular estimates of cover
 - How to fill out each attribute table
 - How to perform native recruitment transects
 - How to perform long-term vegetation surveys
 - Photo-point training (Before-After and Landmark)
 - Creating invasive species polygons
- Plant Identification training
 - Focus on key invasive species and important native species

Roles and Responsibilities

FVR staff/VWRC will help the SCC crew with navigation and access to sites in the form of maps, GPS locations, coordination with private landowners, and if needed, guiding them to locations. In the case of emergencies or unforeseen situations, FVR staff/VWRC can assist with logistical support. At least one FVR staff/VWRC will accompany the SCC crew for the entirety of the season and use the SCC vehicle.

The SCC crew will come with a 4-wheel drive, high-clearance vehicle, equipment for car camping, will be prepared for long strenuous hikes, and carry an InReach satellite communication device and med kit with them. The SCC crew will shop for their food at the beginning of every week.

The monitoring field crew is responsible for data collection, with oversight by FVR staff/VWRC. It is the responsibility of both SCC and FVR staff/VWRC to monitor progress and check data for completeness and accuracy. RiversEdge West is responsible for geodatabase management and reporting to the Walton Family Foundation. Figure 2 displays the general flow of monitoring data and who is responsible for it at which stage. FVR staff are responsible for additional reporting requirements to other funders including the Arizona Department of Forestry and Fire Management, Arizona Water Protection Fund, National Forest Foundation, and Coconino and Prescott National Forests.

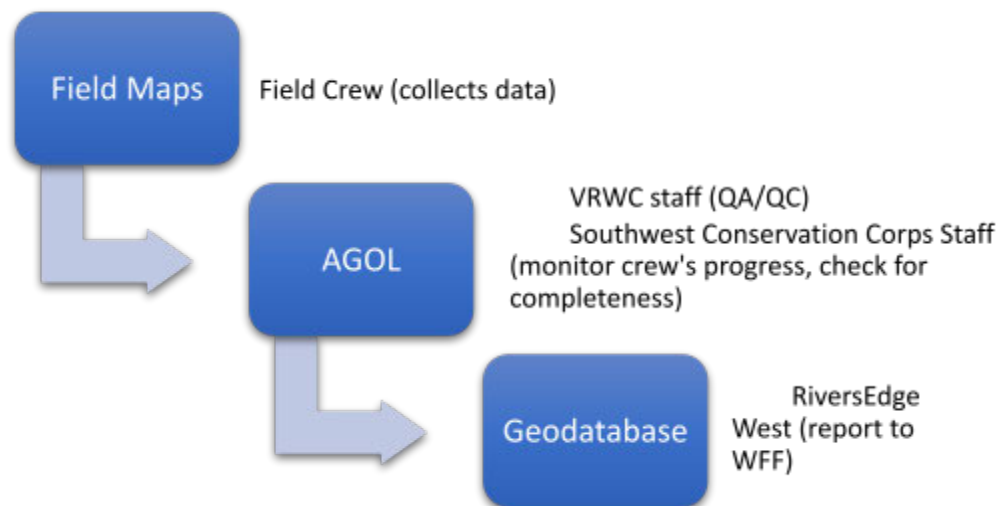
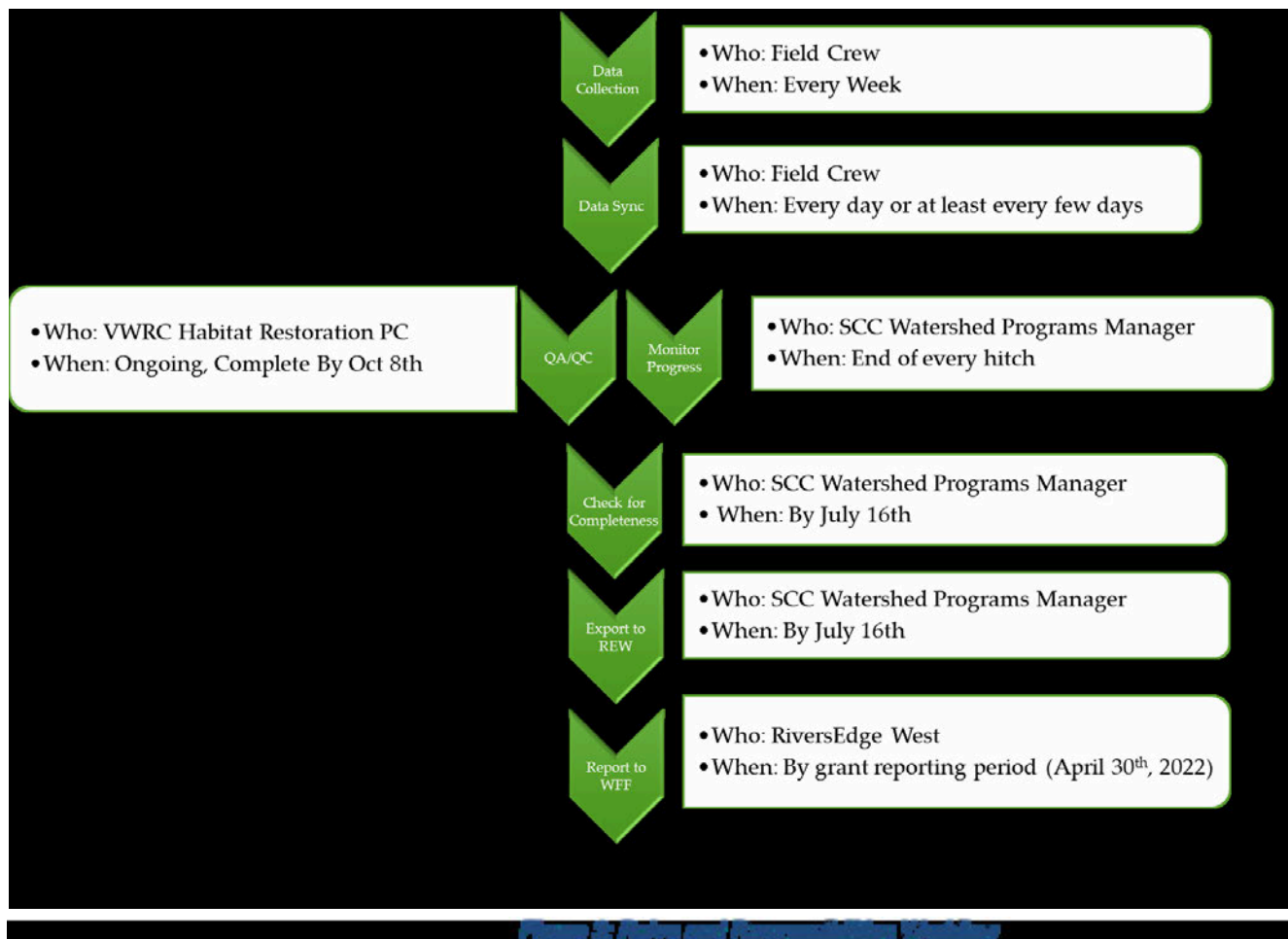


Figure 2: Monitoring Data Flow Diagram

The workflow in Figure 3 lines out the tasks for each person at SCC, RiversEdge West, and FVR/VWRC and their responsibilities for the monitoring program.



Deliverables

The following list clearly defines the deliverables for 2026 VWRC Rapid Monitoring:

- This 2026 Annual Monitoring Plan
 - Submitted to the Walton Family Foundation (WFF) per grant requirements by April 1, 2026
 - Submitted to other FVR/VWRC funders as per grant requirements - additional funders include the Arizona Department of Forestry and Fire Management, Arizona Water Protection Fund, National Forest Foundation, and Coconino and Prescott National Forests
- Monitoring implemented and documented in a WFF geodatabase managed by RiversEdge West. This geodatabase will be provided to WFF annually. Monitoring for each site listed for 2026 in this document includes rapid assessment, invasive species mapping, landmark photo-points, and either native recruitment transects on older sites or plant community composition monitoring (PCCM). There will also be 10 before and after photo point location

Appendix A

RIPARIAN VEGETATION MONITORING PROTOCOLS

September 2020

Prepared by RiversEdge West for Friends of Verde River

Purpose

The purpose of this document is to outline the main steps for collecting monitoring data to describe changes in the Verde River's riparian plant community. The document is in draft form; a work in progress that will be finalized as the methods outlined below are adapted and augmented in the field and during discussions with Friends staff.

Materials

- Tablet
- Data worksheets
- Survey123 Application with downloaded maps for offline use
- GaiaGPS or Earthmate Application for UTM Coordinates (WGS 84 Datum)
- Number Generator app
- Camera
- 1m x 1m PVC quadrant
- Compass
- Two to three 100-m tag lines or measuring tapes
- Cardboard cutouts for 5%, 10%, 15%, 20% then ten percent increments to 90% to allow team to calibrate themselves for estimating vegetation cover in 1m x 1m plots

Terms

- Monitoring site: This is an area along a stream channel that has been selected for monitoring and encompasses transects and monitoring plots.
- Transects: In this monitoring summary for Friends, two types of transects are described: longitudinal transects that run 100 m along the stream channel, which demarcate the backbone of a monitoring site, and latitudinal transects that run perpendicular from the longitudinal transect across the riparian zone (also called riparian transect). Data are not collected along the transects, per se, but serve as the means for establishing the 1m x 1m monitoring plots.
- Monitoring plots: Per methods described, below, are 1m x 1m plots from which percent cover and/or density data are collected.
- Restoration actions: In this document, 'restoration' describes all on-the-ground actions, management initiatives, and other activities that Friends and its partners are conducting to improve hydroecological conditions along the Verde River.

Monitoring Objectives

One of the overarching critical steps that monitoring personnel need to focus on at the onset is to finalize the central questions that they want their monitoring program to answer. Once finalized, these questions can be easily reformatted into monitoring objectives. For example, a key monitoring question might be, how has the arrival of the saltcedar leaf beetle impacted the

density and percent cover of saltcedar? If this question is agreed to by the monitoring team as a key question that they want their monitoring program to answer, then one of potential several objectives of their monitoring program will be: to quantify changes in the percent cover and density of saltcedar as the Verde River's riparian plant community is impacted by the saltcedar leaf beetle.

Main Steps and Methods

Step 1. Define Monitoring Region

As the protocols outlined in this document are designed for the riparian community along a river or stream, the monitoring region defined by Friends will be that portion of the stream corridor associated with the Verde River and its tributaries where restoration actions have taken place or will likely take place. That is, where ecological change is anticipated and needs to be quantified. In addition, the monitoring region may also encompass control sites where no management or restoration actions will take place and, as such, can serve as a comparison to biophysical conditions at sites where restoration actions were implemented.

Step 2. Select Monitoring Sites

Monitoring sites are randomly established within the geographic region defined in Step 1, above. This randomization will be determined by walking to the nearest river mile marker and setting that as the upstream point of the longitudinal transect.

A GPS point will be collected in the center of the channel (or on immediate right or left bank) that will define the upstream end of the monitoring site. Sites are monitored pre-treatment, post-treatment, and every 3 years after primary treatment. Sites visited will be a mix of previously established monitoring sites and newly established sites.

In the case that a survey is being repeated and compared to data collected using the old protocol, the top of the new monitoring area will be established using the GPS coordinates from the in-stream photo point. The new monitoring area should include part of the old PCCM plot if there was one present.

Step 3. Establish Location of Monitoring Plots

A 100m long baseline transect is established longitudinally along the stream channel 100 m downstream of the monitoring point established above (see Figure 1, below). Five perpendicular transects are established along the baseline transect: one at the upstream end of the baseline transect, another at downstream end, and three at equidistant points in between. Only one side of the stream channel is monitored (i.e., the riparian zone on the left side of the stream channel or the right side). The side selected for monitoring can be determined by flipping a coin or by common sense rules that allow monitoring personnel to select the side of the stream channel that is most conducive to

monitoring objectives (e.g., selecting the side of the channel that has diverse alluvial surfaces versus one that is narrow and dominated by bedrock). The five perpendicular transects expand the entire width of the riparian zone, extending from the channel bank or water's edge across primary floodplain surfaces and ending where surfaces transgress from those that are frequently inundated (on average, at least once a year and are part of the active bottomland environment) to those that are not. From this point forward, perpendicular transects are referred to as riparian transects. Two to four 1m x 1m plots are randomly established along the length of each riparian transect such that at least 10 plots are established and measured per monitoring site.

The location of 1m x 1m monitoring plots along the transect are determined by pacing the length of the riparian transect and then selecting the location of the monitoring plots using numbers generated by a random number table. For example, if the riparian transect is 20 paces long, monitoring personnel would go down a selected row of randomly generated numbers and select the first four numbers (if four plots are going to be established along the transect) that fall within the paced length of the transect. As such, plots would be established at 2, 7, 13, and 19 paces from the beginning of the riparian transect if consecutive randomly generated numbers were 65, 13, 43, 21, 2, 82, 19, 2, 88, and 7.

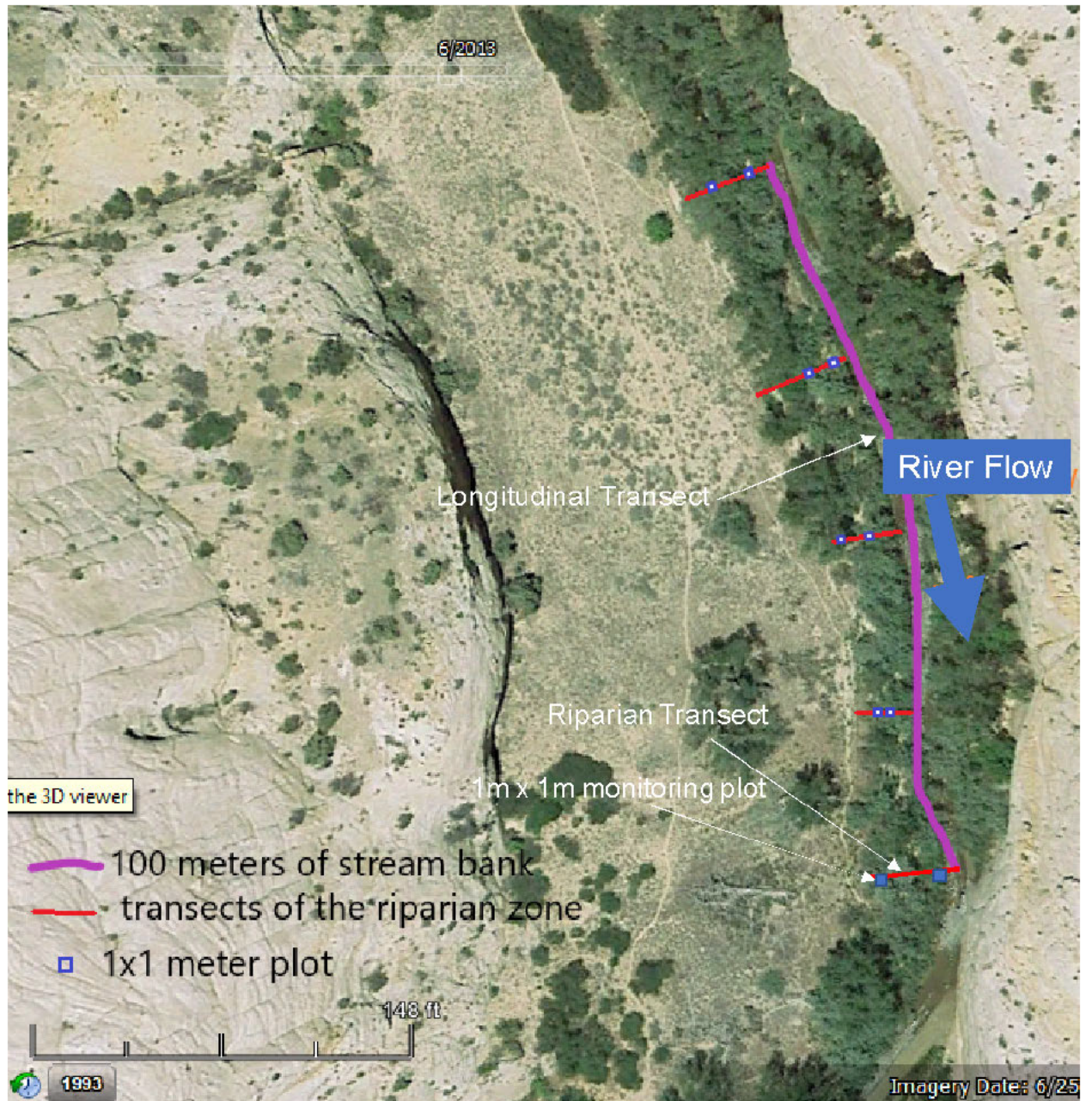


Figure A1. Example of setting up longitude and latitude transects and placement of riparian vegetation monitoring plots at a monitoring site along Escalante River. In this example, 10 monitoring plots were established at this monitoring site.

If the riparian zone is narrow (e.g., just several meters wide), monitoring personnel may want to establish 1m x 1m plots on both sides of the channel in order to obtain an adequate number of monitoring plots for the site being monitored. Regardless of whether one side of the stream channel is being monitored or both, establishing the location of the plots along the riparian transects is accomplished using the same methods that are described above.

Depending on the morphologic characteristics of the stream corridor that passes through the monitoring site, monitoring personnel may want to divide the riparian zone into stratified units. For example, plots may want to be randomly selected and established on channel surfaces that are frequently inundated (e.g., primary floodplain) separately from plots established on secondary or terrace surfaces. Determining the necessity of this will depend on monitoring objectives and will be discussed in more detail in the field.

Step 4. Data Collection

Percent cover is estimated within each 1m x 1m plot by species. The species measured are whichever species identified by monitoring personnel as central to accomplishing monitoring objectives. For example, monitoring objectives may dictate measuring only selected woody species (e.g., saltcedar and a few native trees), or all woody riparian species, or all woody species and herbaceous. No matter what species are included as part of the monitoring program, the percent cover of all vertical layers that intersect the 1m x 1m plot are measured. For example, if the only species of interest is saltcedar, the percent cover of saltcedar quantified for any given 1m x 1m monitoring plot would all vertical layers of saltcedar (seedlings to adult trees) that intersect the plot. Broader monitoring objectives could include everything from the percent cover of bare ground, litter, and all species of herbaceous, shrub, mid-story trees to overstory mature tree canopy that intersect the plot.

Prior to collecting field data, monitoring personnel calibrate themselves using cardboard cutouts that correspond to selected percent cover within a 1m x 1m plot. Cardboard cutouts can be made at 5% increments all the way to a desired amount.

Density data of woody species can also be collected by counting the number of woody stems that fall within the 1m x 1m plot. Stems 'count' when 50% or more of the stem's diameter falls within the monitoring plot.

Survey data are documented in the field using field sheets or tablets. Field sheets are preferable given that electronic tabulation of data can succumb to a variety of technologic glitches. Once your data sheet is filled out, monitoring personnel should take a photo of the field sheet that has been filled out as a backup in case sheets are lost. An example of a monitoring data sheet used to collect riparian vegetation data along the Rio Grande/Bravo is below (see Figure 2, below).

Photo points need to be established, monumented and taken at each monitoring site. The number and location of photo points will be finalized in the field. Examples of potentially critical photo point locations include: on surfaces that overlook the monitoring site, at the upstream and downstream end of the longitudinal transect, at near channel and end of the riparian transects. To the extent possible, photo points should be 'marked' with GPS unit, monumented, and described. Photo points established in the active bottomland environment do not need to be monumented given propensity of stream dynamics to bury, scour, and remove monuments. However, monitoring personnel should try to monument photo points outside the bottomland environment. Descriptions should include the location, direction of the photo and have a sign (often held by a team member) indicating location. For example, a description might be, looking due west toward the channel at end of riparian transect one, monitoring site 11 (with a team member holding a sign that reads 'transect one, monitoring site 11').

Step 6. Organize and Analyze Collected Monitoring Data

Methods for organizing and analyzing collected monitoring data depend on the monitoring objectives and will be finalized during the first stages of implementing the above protocols with Friends. A sample template for organizing and analyzing vegetation monitoring data is on following page and shows several parameters for three monitoring sites that encompass 15 monitoring plots each. Depending on the objectives of the monitoring program, measurements from each plot measured can be grouped by monitoring site or sites with outputs describing average percent cover (with appropriate standard deviations), densities and other for the species selected. Year to year comparisons can then be made with basic statistics conducted to describe the significance of change that has been measured and quantified.

Template for organizing and analyzing veg monitoring data (adapted from Boquillas Canyon Tam Treatment Monitoring data)																
Cell contents: Percent cover by cover category																
*Note: Cobble, Cobble/Gravel Mix, Cobble/Silt Mix, Fine Sand, Gravel, Horse Scat, Sand & Silt columns began in 2009																
			% Cover	% Cover	% Cover	% Cover	% Cover	% Cover	% Cover	% Cover	% Cover	% Cover	% Cover	% Cover		
Monitoring Site	Plot	Year	Bare Ground	BG-Cobble	BG-Cobble/Fine Sand	BG-Cobble/Gravel	BG-Cobble/Silt	BG-Fine Sand	BG-Fine Sand/Gravel	BG-Gravel	BG-Gravel/Silt	BG-Horse Scat	BG-Sand	BG-Sand/Gravel		
1	1	2020														
1	2	2020														
1	3	2020														
1	4	2020														
1	5	2020														
1	6	2020														
1	7	2020														
1	8	2020														
1	9	2020														
1	10	2020														
1	11	2020														
1	12	2020														
1	13	2020														
1	14	2020														
1	15	2020														
2	1	2020														
2	2	2020														
2	3	2020														
2	4	2020														
2	5	2020														
2	6	2020														
2	7	2020														
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3	7	2020														
3	8	2020														
3	9	2020														
3	10	2020														
3	11	2020														
3	12	2020														
3	13	2020														
3	14	2020														
3	15	2020														
Average Percent Cover of Measured Attribute by Monitoring Site																
Monitoring Site 1			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		
Monitoring Site 2			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		
Monitoring Site 3			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		
Etc.																
				Attribute Measured	Monitoring Site	Year										
				Average	1	2014	2015	2016	2017	2018	2019	2020	2021	2022		
				Native	2											
				Woody	3											
					4											
					5											
					6											
					7											
					8											
				Average	1											
				Non-Native	2											
				Woody	3											
					4											
					5											
					6											
					7											
					8											
				Total	1											
				RO	2											
					3											
					4											
					5											
					6											
					7											
					8											

Figure A3: Sample template for organizing and analyzing vegetation monitoring data.

Appendix B: Rapid Assessment Monitoring Form

This information was taken directly from the VWRC – Protocol for Mapping & Monitoring

Invasive_Species_1	TARA
Relative_Cover_Invasive_1	10-20%
Invasive_Species_2	
Relative_Cover_Invasive_2	
Invasive_Species_3	
Relative_Cover_Invasive_3	
Invasive_Species_4	
Relative_Cover_Invasive_4	
Invasive_Species_5	
Relative_Cover_Invasive_5	
Invasive_Species_6	
Relative_Cover_Invasive_6	
Invasive_Species_7	
Relative_Cover_Invasive_7	
Monitoring_Year	2017-2018
Native_Species_1	Goodding's willow
Native_Species_2	
Native_Species_3	
Native_Species_4	
Monitoring_Date	10/31/2017 8:20
Absolute_Veg_Cover	60-70%
Relative_Cover_Native	90-100%
Land_Use	public_land
Initial_Treatment_Year	
Data_Collector_(your_name)	Edith
Form_Type	Post-Treatment
Evidence_of_Bank_Erosion?	Y
Evidence_of_Channel_Incision?	Y
Are_there_hazardous_materials?	N
Evidence_of_heavy_livestock_grazing?	N
Evidence_of_damage_incurred_by_crews?	N
Does_the_landowner_participate_in_continued_management?	
Is_the_site_easily_accessible?	
Notes	
Ownership	Arizona Game and Fish
Public_Land	Y

Native Species Drop Down List	
Options:	
big tooth maple	big tooth maple
Arizona alder	Arizona alder
boxelder	boxelder
netleaf hackberry	netleaf hackberry
desert willow	desert willow
velvet ash	velvet ash
Arizona walnut	Arizona walnut
Arizona sycamore	Arizona sycamore
velvet mesquite	velvet mesquite
narrowleaf/coyote willow	narrowleaf/coyote willow
Goodding's willow	Goodding's willow
western soapberry	western soapberry
catclaw acacia	catclaw acacia
cottonwood	cottonwood
other	other unlisted Native spp

Figure B1: Example of the Friends of the Verde River's data intake fields for vegetation monitoring.

Appendix C: Invasive Species Mapping

This information was taken directly from the VWRC – Protocol for Mapping & Monitoring

Date	11/1/17
Ownership	The Nature Conservancy
Data Collector (you)	Elaine Smith
PLANT CODE	TARA
COMMON NAME	SaltCedar
SPECIES NAME	Tamarix Ramosissima Ledeb
COVER	20-30%
Size Class- Diameter of Largest	Over 4 Inches
BANK SLOPE	10-20%
Site Name	Shield Ranch
NOTES	some tamarisk are in the pond
SECONDARY INVASIVE	
Public Land	N
FieldYear	2017-2018
Distance to Water (ft)	5

PLANT CODE/COMMON NAME/SPECIES NAME
drop down options:

ARDO4	ARDO4 Giant Reed- Arundo L donax
ELAN	ELAN Russian Olive - Elanthus Angustifolia
TARA	TARA Salt Cedar- Tamarix Ramosissima Ledeb
AIAL	AIAL Tree of Heaven- Ailanthus altissima

Figure C1: Example of invasive species data intake form for inventory collection.

August 12, 2025

Arizona Water Protection Fund Commission
1110 W. Washington, Suite 310
Phoenix, AZ 85007

RE: Friends of the Verde River's Arizona Water Protection Fund 2026 Funding Cycle Proposal

Dear Arizona Water Protection Fund Commissioners,

The Town of Clarkdale has worked closely with Friends of the Verde River (FVR) and the Verde Watershed Restoration Coalition (VWRC) for over a decade. Together, the two groups have completed twelve successful riparian restoration field seasons! All of the previous efforts have exceeded management goals.

We understand that FVR and VWRC, are proposing a project to improve riparian habitat near the TAPCO River Access Point on Freeport-owned property, which is leased to the Town of Clarkdale for recreation purposes.

The invasive plants currently growing in this area are a significant source of seeds and propagules that contribute to the spread of invasive species downstream. The proposed project is vitally important for restoring and maintaining healthy, functioning riparian ecosystems in the Verde Watershed. The project benefits both wildlife and people.

Please accept this letter as strong support for FVR's application to the Arizona Water Protection Fund for the Fiscal Year 2025 funding cycle. Thank you for your consideration!

Sincerely,

Francis M. Steward, Jr.

Michael Steward
Freeport Minerals Corporation



Town of Clarkdale

Post Office Box 308

Clarkdale, AZ 86324

Telephone: (928) 639-2400

August 6, 2025

Arizona Water Protection Fund Commission
1110 W. Washington, Suite 310
Phoenix, AZ 85007

RE: Friends of the Verde River's Arizona Water Protection Fund 2026 Funding Cycle Proposal

Dear Arizona Water Protection Fund Commissioners,

The Town of Clarkdale has worked closely with Friends of the Verde River (FVR) and the Verde Watershed Restoration Coalition (VWRC) for over a decade, through twelve riparian restoration field work seasons that exceeded management goals. We understand that the Friends of the Verde River (FVR), as part of Verde Watershed Restoration Coalition (VWRC), is proposing a project to improve riparian habitat near the TAPCO River Access Point on property we own and lease to the Town of Clarkdale.

The invasive plants that exist are a source of invasive plant seeds and propagules for downstream. The proposed project is critically important for restoring and maintaining healthy, functioning riparian lands in the Verde Watershed for both wildlife and people. Please accept this letter of support for Friends of the Verde River's application to the Arizona Water Protection Fund Fiscal Year 2025 funding cycle. Thank you for your consideration.

Sincerely,

DocuSigned by:

Robyn Prud'homme-Bauer
Mayor, Town of Clarkdale

FS Agreement No. 24-PA-11030900-155

Cooperator Agreement No. _____

PARTICIPATING AGREEMENT
Between The
FRIENDS OF THE VERDE RIVER
And The
USDA, FOREST SERVICE
SOUTHWESTERN REGION, PRESCOTT NATIONAL FOREST

This PARTICIPATING AGREEMENT is hereby entered into by and between the Friends of the Verde River, hereinafter referred to as “FVR,” and the United States Department of Agriculture (USDA), Forest Service, Southwestern Region, Prescott National Forest, hereinafter referred to as the “U.S. Forest Service,” under the authority: Cooperative Funds and Deposits Act of December 12, 1975, Pub.L. 94-148, 16 U.S.C. 565a1 – a3, as amended.

Background: The Verde River Cooperative Invasive Plant Management Plan (CIPMP) and the Verde Watershed Restoration Coalition (VWRC) Strategic Plan were developed by a multi-stakeholder group representing Federal and State agencies (including the U.S. Forest Service), non-profit organizations, local businesses, and private landowners. This multi-stakeholder group is called the Verde Watershed Restoration Coalition. The FVR is the lead organization within the Coalition, responsible for submitting grant proposals and accepting funding from various granting agencies and organizations.

As part of the forest-wide Invasive Treatment and Survey Program, this five-year agreement is an expansion of the existing Invasive Plant Control Program partnership with FVR and continues the long-term partnership between the forest and VWRC/FVR to consistently combat invasive weeds on National Forest System (NFS) lands as well as survey for invasive aquatic species such as bullfrogs and crayfish.

Title: Verde River Watershed Invasive Species Treatments and Surveys

I. PURPOSE:

The purpose of this agreement is to document the cooperation between the parties to collaborate on restoration activities in the Verde River Watershed to include riparian invasive plant and invasive aquatic animal management (inventory, treatment, monitoring, reporting).

Other keys aspects of coordination include monitoring of watershed restoration activities and other pertinent science that helps explain watershed conditions.

Lower TAPCO River Access Point Tamarisk Removal and Monitoring

Project Site Work Authorization and/or Project Site Access

Please describe how the applicant will obtain permission for project work and/or access to the project site if they are not the landowner or land manager.

Friends of the Verde River (FVR) has a long standing relationship with the Town of Clarkdale and Freeport Minerals Corporation (FMI). FVR has completed invasive plant removal on land owned by the Town of Clarkdale in the past. We have a signed letter of support from the Mayor, who has been involved in Verde Front and other efforts with Friends of the Verde River. Additionally, FVR has a landowner agreement with the Town of Clarkdale. Since work has not taken place in the past 2 years, the agreement has expired. FVR is confident that the Town of Clarkdale would sign an updated landowner agreement.

FVR also has a history of working with FMI, the landowner. FMI has funded invasive removal in the Clarkdale area in the past and has signed a letter of support for the proposed project. FMI has an agreement with the Town of Clarkdale for the river access point. The Town of Clarkdale is confident in FMI's support and authorization of access. Once this funding is awarded, FVR will work with the Town of Clarkdale and FMI contacts to get an updated signed landowner agreement. FVR has also submitted a funding request to FMI's community grants program to support this project as well.

Agreement for Habitat Improvement

This agreement is made this 25 day of September, 2019 by and between The Town of Clarkdale, ("Landowner") and Friends of the Verde River, an Arizona non-profit corporation having its principal office at 115 S. Main Street, Suite A, P.O. Box 2535, Cottonwood AZ 86326 ("Friends") (jointly referred to herein as the "Parties").

RECITALS

- A. Friends desires to assist Landowner in a Habitat Improvement Project for the purpose of mapping and removing invasive plant species on lands owned by Landowner ("Property").
- B. Landowner desires to participate in a Habitat Improvement Project and is willing to permit entry to the Property by Friends, its agents and assigns, upon the terms and conditions set forth in this Agreement.

AGREEMENT

In consideration of the promises and mutual covenants contained herein, Friends and Landowner hereby agree as follows:

1. SCOPE OF WORK

- a. The Project Description for Landowner's Habitat Improvement Project is attached to this Agreement as Exhibit A.
- b. Friends Scope of Work:
 - i. Initial Work. Friends will provide the following assistance to Landowner at a date and time to be mutually agreed upon with Landowner, between the following dates: November 1, 2019 – March 1, 2020
 - ☒ Invasive Plant Identification
 - ☒ GPS Mapping
 - ☒ Invasive Plant Mechanical/Manual Treatment
 - ☒ Herbicide Application
 - ii. Retreatment and Monitoring Work. Friends will assist Landowner with Invasive Plant Retreatment and Treatment

Effectiveness Monitoring at dates and times to be mutually agreed upon with Landowner between the following dates: March 1, 2019 – July 1, 2023

Note: Retreatment and Monitoring typically occur once each per year for three years following the Initial Work based on funding and crew availability.

c. Landowner Scope of Work:

i. Is the property rented or leased?

☐ Yes (Renter-occupied)

☒ No (Owner-occupied)

1. If property is renter-occupied, Landowner will advise the renter/lessee of this Agreement prior to commencement of the work and gives Friends permission to contact renter/lessee and advise them of impending work activities. Friends will give the renter/lessee 48 hours notice prior to entering property to conduct work.

Lessee Name: _____

Phone: _____

Email: _____

Mailing

Address: _____

- ii. Following initial treatment through this program, Landowner will maintain the Habitat Improvement by performing the following work as pertinent to invasive plant control:

☐ Removal of Invasive Plant Resprouts and Disposal of Biomass

☐ Reporting to Friends on Treatment Effectiveness

- iii. Landowner will not plant or promote the growth of invasive plants in the project area during the term of this Agreement.

2. ACCESS TO PROPERTY

- a. Landowner agrees to allow Friends, its agents and assigns, entry upon the Property at reasonable dates and times and upon reasonable advance notice during the term of this Agreement to the extent such access is necessary for the performance of the Scope of Work as described in this Agreement.

3. ADDITIONAL PERMISSIONS

- a. Landowner authorizes to Friends to:

- ☒ Take photographs of the project area for photo documentation purposes.
- ☒ Share photographs of the project area in Friends' and Verde Watershed Restoration Coalition publications, website, outreach materials, etc.
- ☒ Publish Property Owner's name as a participating stakeholder in Verde Watershed Restoration Coalition publications, outreach materials, etc.

4. UNFORESEEN EVENTS

- a. The Parties recognize that the performance of the Scope of Work as described in this Agreement may be subject to Unforeseen Events, including but not limited to unfavorable weather, equipment breakdown, illness among staff and crewmembers, unexpected loss of funding, and other conditions that may be out of the Parties' control. Upon the occurrence of an Unforeseen Event, the affected Party will timely notify the other Party of any changes to the dates and times mutually agreed upon for the Scope of Work in Section 1 of this Agreement.
- b. If an Unforeseen Event materially affects any provision of this Agreement, this Agreement may be modified pursuant to Section 5 of this Agreement or terminated pursuant to Section 6 of this Agreement.

5. MODIFICATION

- a. Modifications to this Agreement shall be made by mutual consent of the Parties, by the issuance of a written modification, signed and dated by all Parties, prior to any changes being performed. The Parties are not obligated to fund any changes not approved in advance.

6. TERM & TERMINATION

- a. This Agreement shall terminate four years from the date of this Agreement or upon completion of the Scope of Work as described in this Agreement, whichever occurs first.
- b. Either Party may terminate this Agreement upon thirty (30) days' written notice to the other Party. Upon termination, all work performed pursuant to this Agreement shall cease.
- c. In the case that an Unforeseen Event, including but not limited to an unexpected loss of funding, this Agreement may be terminated immediately with written notice to the other party.

7. INDEMNIFICATION

- a. Friends will be responsible for injury to persons or damages to the Property to the extent that such injury or damage is caused by any negligent act or omission of Friends, its agents or employees in undertaking the activities described in the Scope of Work. Friends shall also be responsible for maintaining insurance to cover any injury to its staff, employees, agents, and assigns that may occur during its work on the Property.
- b. Notwithstanding the other provisions of this section, Landowner agrees that the completion of the various restoration activities described in the Scope of Work and Exhibit A of this Agreement, including but not limited to removal of vegetation, earth moving activities, application of herbicides, and all other activities described in the Scope of Work and Exhibit A of this Agreement shall not constitute damages to the Property, and Landowner hereby releases Friends for any claim of loss, loss of value, or damage to Landowner's real or personal property arising from Friends' completion of these described activities. Landowner shall be responsible for removing any personal property or fixtures from the areas in which restoration will be conducted prior to commencement of work, and identifying the location of any underground or overhead utilities, improvements, or other features in the Project area and approved access routes.

In witness whereof, the parties have executed this Agreement as of the date first written above.

FRIENDS OF THE VERDE RIVER

By: 
Name: Nancy Le Steele
Date: 9/2/19
Mailing: Friends of the Verde River
Address: P.O. Box 2535
: Cottonwood, AZ 86326
Phone: (928) 641-6013
Email: nancys@verderiver.org

LANDOWNER

By: 
Name: Tracie Hlavinka
Date: 9/27/19
Mailing: P.O. 308
Address: 39 N. Ninth
: Clarkdale, AZ 86324
Phone: 928-639-2415
Email: tracie.hlavinka@clarkdale.az.gov

Exhibit A - Project Description

Landowner Name

Town of Clarkdale

Landowner Mailing Address

P.O. Box 308, Clarkdale, AZ 86324

Physical Description of Property / Parcel Number(s)

Bitter Creek (400-05-006A, 400-05-017G, 400-06-003B, 400-05-017K),
Big Springs (400-07-002, 400-07-003D)

Complete this section if Property is rented or leased

Lessee Name:

Phone:

Email:

Mailing

Address:

Project Description

This project will treat the four target invasive species present on the property.

Salt cedar, giant reed, tree of Heaven and Russian olive will be removed and treatment
the area will be monitored following treatment to measure success.

Initial Treatment

☒ Invasive Plant Identification

☒ GPS Mapping

- ☒ Invasive Plant Mechanical/Manual Treatment
- ☒ Herbicide Application

Notes:

Timeframe for carrying out the Initial Work:
November 1, 2019 – March, 1 2020

Retreatment and Monitoring

Notes:

Potential volunteer events will be coordinated with Friends and the Landowner.

Timeframe for carrying out the Retreatment and Monitoring Work:
March 1, 2019 – July 1, 2023

Landowner Work

Following initial treatment through this program, Landowner will maintain the Habitat Improvement by performing the following work as pertinent to invasive plant control removal and subsequent retreatment of invasive plant re-sprouts:

- ☐ Removal of Invasive Plant Resprouts and Disposal of Biomass
- ☐ Reporting to Friends on Treatment Effectiveness

Notes:

Timeframe for carrying out the Landowner Work:

Lower TAPCO River Access Point Tamarisk Removal and Monitoring

Evidence of Physical and Legal Availability of Water

Water resources will not be used for the implementation of this project.