Invasive Tree Removal along the Arkansas River Trail

City of Pueblo Parks and Recreation

Final Report

Prepared for:
Colorado Watershed Restoration Program

November 4, 2021

Mile High Youth Corps
Grant Amount: $29,920
Prepared by: CJ Runge

MILE HIGH YOUTH CORPS

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Introduction

Mile High Youth Corps (MHYC) worked with the City of Pueblo Parks and Recreation staff to address the invasive tree infestation along the Arkansas River. The work completed benefitted the nearby communities while also responding to a region-wide problem. The Arkansas River Watershed is the largest in Colorado. The river itself is plagued with invasive tree species like Russian olive and tamarisk crossing through eight different counties in Colorado. Eradication of these species is crucial to control the spread downriver and in surrounding areas. Collaborative effort and consistent treatment between organizations and municipalities are required to manage invasive species effectively. The Arkansas River Trail, owned by the City of Pueblo Parks and Recreation, is a frequently traveled trail connecting many communities around the city. This trail has become overgrown with woody species, including Russian olive and tamarisk, which has made the trail unsafe and even inaccessible at some points.

MHYC and City of Pueblo Parks and Recreation have worked together over the years to address invasive species along this trail and throughout several areas in Pueblo, benefitting the watershed as a whole. The focus of this project involved removing Russian olive trees between the Arkansas River and the Arkansas River Trail to manage invasive species while simultaneously providing safer access and use of the Arkansas River Trail.

Russian olive often out-competes native species such as Cottonwood, Willow, native sedges, rushes, and Mesic grasses found in moist soil along stream banks. Once the invasive species are removed, native vegetation will have access to more water, sunlight, and nutrients found within the soil. The most effective way to combat invasive species is persistent and frequent treatment. Funding this project allowed MHYC to continue the collaborative and region-wide battle against woody invasive plants found within the Arkansas River Basin while also improving trail accessibility.

Background

Mile High Youth Corps has partnered with the City of Pueblo Parks and Recreation to complete a total of nineteen weeks of project work from the 2018 project season through the 2021 project season. One project week consists of a crew of 7-9 people working a minimum of 320 project hours. These projects have focused on invasive species removal within the Arkansas River Watershed. In order for this work to have the most significant impact, land management agencies and organizations must continue to address high-priority areas close to valuable native vegetation, historical and archeological sites, campgrounds, and trail systems. The Arkansas River Trail is one of these high-priority areas. With the help of the Colorado Watershed Restoration Program, MHYC was able to address a large infestation found along the Arkansas River.

The Arkansas River Trail is a multi-use trail that connects multiple communities of Pueblo, such as Pueblo West, the west side of Pueblo, Pueblo's South Side, Downtown Pueblo, the East Side of Pueblo, Pueblo's North Side and the Colorado State University at Pueblo. The western edge of the trail starts at Lake Pueblo State Park and continues downstream to Runyon Lake Recreation Area, the eastern edge. The entire length of the trail has become overgrown with invasive vegetation.

In the summer of 2019, the Pueblo Parks Department maintenance staff evaluated the entire 28-mile river trail system that runs along the Arkansas and Fountain Rivers. This extensive

evaluation concluded that the 9.8 miles of trail along the Arkansas River from Lake Pueblo to Runyon Lake is the area that requires the most attention due to the overgrowth along the trail.

Objectives

Over a six-week period, MHYC Corpsmembers will restore and clear heavily infested, woody invasive species found in the riparian habitat along six miles of the Arkansas River trail. Corpsmembers will treat the stumps to prevent re-growth and improve accessibility for trail users. Additionally, Corpsmembers will revegetate areas where invasive species have been removed.

Methods

There are many strategies involved in invasive species removal and control. Some of these strategies include but are not limited to biological control, aerial foliar herbicide spraying, root plowing and raking, mechanical removal through excavators and mulching, and hand removal. There are some areas, like along the Arkansas River, where the only option of removal or control is hand removal using chainsaws or hand saws. Narrow corridors along river banks may be along rugged terrain, tough to access with mechanized equipment, and have frequent human interaction.

The removal of invasive species along the Arkansas River is not a task that can be completed in a short time period. This is why MHYC has done continuous work within the Arkansas River Basin to remove infestations of species, especially Russian olive and tamarisk. For this project, the City of Pueblo Parks and Recreation worked with a MHYC chainsaw crew for four weeks to address the invasive growth along the Arkansas River.

In the summer of 2020, MHYC completed two weeks of this project through the support of the Colorado Healthy Rivers Fund. These funds were used as match for the four-week project supported by the Colorado Watershed Restoration Program. A separate report was submitted for that project. The accomplishments completed in the two-week timeframe include:

- 3 acres improved
- 40 large Russian olive trees removed
- 40 trees chipped
- 40 stumps removed from the ground

This year, from June 1-4, June 7-10, June 14-17 and June 22-25, MHYC's chainsaw crew focused on a portion of land between the Arkansas River and the Arkansas River Trail (*reference Appendix A*). This area was identified by the City of Pueblo's Parks and Recreation staff as a high priority section. This area was completely overgrown with large Russian olive trees and access to the river from the trail was not possible. Before starting this project, MHYC and Pueblo Parks and Recreation staff did a site walkthrough to discuss the logistics associated with the project.

The tasks outlined in the Colorado Watershed Restoration Program application are listed below:

TASK 1 - Cut, stump, treat, and chip Russian olive and tamarisk species along the Arkansas River trail

Description of Task

Over a four-week period, trained MHYC Corpsmembers will work in pairs to cut and remove invasive species along the Arkansas River Trail. All slash will be chipped, and herbicide will be applied to all stumps.

Figure 1: MHYC Corpsmember limbing a large Russian olive

Results

This invasive species removal project along the Arkansas River was successful. The crew effectively cleared and removed invasive species from 40.2 acres of land between the Arkansas River and the trail. The length of trail improved was approximately 4 miles.

Qualitative accomplishments from this four week period include:

- 40.2 acres improved
- 4 miles of trail improved
- 604 Russian olives, Siberian elms and tamarisk trees removed
- 604 trees chipped
- 582 stumps removed from the ground
- 22 trees low-stumped and treated with herbicide
- 72 ounces of herbicide applied

Removing these woody species will allow for regular mowing, trash cleanup, and a safe, more accessible trail for all users. The removal will also have direct benefits on the local ecosystem by increasing the biodiversity of native species.

This project was executed as planned except for applying herbicide to all of the stumps. The City of Pueblo acquired new equipment in 2020 that allows for the complete removal of the stumps. Parks staff preferred to remove the stumps this way instead of herbicide application. They have found that this method has had the highest success in preventing re-growth. This is also a more effective method when temperatures are too high for the herbicide to be effective.

Figure 2: MHYC Corpsmember working along the Arkansas River

Figure 3: Before Removal

Figure 4: After Removal

Conclusion

We are excited to conclude that the goals and objectives of this project were met and that the project was executed safely. The City of Pueblo Parks and Recreation staff were very impressed with the work completed by the crew.

Park staff plan to keep up on re-growth. For the remaining amount of trail to be cleared of invasive species, the City of Pueblo Parks and Recreation and MHYC will continue to explore other grant opportunities. Once the entire trail has been eradicated of invasive species, Pueblo Parks and Recreation staff will have more time to address re-growth and mow along either side of the trail where accessible. Completing this project will allow the area to be much more manageable in the future.

These objectives would not have been possible without support from the Colorado Watershed Assembly's Healthy Rivers Fund and the Watershed Restoration Program grant. Without this funding, the City of Pueblo Parks and Recreation and MHYC would not have addressed this huge infestation. The City of Pueblo does not have the resources to complete projects like these on its own and will heavily rely on external funding to support a MHYC crew in the future.

MHYC is very thankful for the opportunity to partner with the City of Pueblo Parks and Recreation and the Colorado Water Conservation Board. Many of the issues we face today in natural resources cannot be accomplished without collaboration and teamwork. Together, we are making significant impacts on the watershed's health, local ecosystems and biodiversity.

Budget

Task	Description	CWCB Funds	Other Funding In-Cash*	Other Funding In-Kind*	Total
1	Over a 6-week period, MHYC chainsaw crew will cut, stump, treat and chip Russian olive and tamarisk species along the Arkansas River trail	$26,400.00	$26,400.00	$34,675.20	$87,475.20
	10% Project Mgmt.	$3,520.00			
	TOTALS	**$29,920.00**	**$26,400.00**	**$34,675.20**	**$90,995.20**

Colorado Water Conservation Board

$8,800 x 3 weeks = $26,400 (MHYC chainsaw crew)	$26,400.00
10% Project Management based on 3 weeks of project work	$3,520.00
TOTAL GRANT REQUEST	$29,920.00

Match:

Cash

$17,600 = Colorado Healthy Rivers Fund	$17,600.00
$8,800 = Mile High Youth Corps	$8,800.00
TOTAL CASH MATCH	**$26,400.00**

In-Kind

City of Pueblo Parks and Recreation

In-Kind

Bare root/cotton wood whips - 50 @ $10.50/whip	$525.00
6 weeks of crew supervision @ $1,500.80/week	$9,004.80
6 weeks of porta-potty rental @ $125/week	$750.00
6 weeks of Hi-Ranger truck and chipper use @ $1,814.70/week	$10,888.20
6 weeks of 2 full-time staff @ $2,251.20/week	$13,507.20
TOTAL IN-KIND	**$34,675.20**

Appendix

Appendix A: Project Area Overview

References

- RiversEdge West Resource Center: https://riversedgewest.org/resource-center/russian-olive
- Arkansas River Watershed Invasive Plants Plan (ARKWIPP) Strategic Plan: https://riversedgewest.org/sites/default/files/images/ARKWIPP%20Plan.pdf


Appendix A: Project Area Overview
6/1-2: The crew will spend working near the new suspension bridge
From 6/3 onward, the crew will start near the dam/spillway and move east
Legend
Project Start Locations
Pueblo Parks and Rec Office
Tree Removal and Pruning
N Pueblo Blvd
Tuxedo Blvd
W 18th St
45
6/3 and onward
Pueblo Parks and Rec Office
6/1-2 Project Location
W 4th St
N Elizabeth St
Dittmer Ave
Goodnight Ave
Mc Clelland Ave
Collins Ave
W Adams Ave
Calla Ave
Arthur St
Marilyn Pl
Harrison St
Tyler St
Harvard Ave
Idaho Ave
Van Buren St
Jackson St
Nuckolls Ave
Thatcher Ave
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