Yampa River Forest Restoration Project

Final Report

Prepared for:
Colorado Watershed Restoration Program
Water Supply Reserve Fund Yampa-White-Green Basin Roundtable
Attn: Chris Sturm and Steve Hinkemeyer
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City of Steamboat Springs and Yampa Valley Sustainability Council
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Prepared by: Tim Sullivan, Resilient Land and Water Program Director,
Yampa Valley Sustainability Council

City of Steamboat Springs

YAMPA VALLEY SUSTAINABILITY COUNCIL

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Introduction

This project grew out of the findings and recommendations contained in the Yampa River Health Assessment and Streamflow Management Plan developed by the City of Steamboat Springs in 2018. The Plan evaluated a 12.5 mile stretch of the Yampa River above, through, and below the city limits, and made recommendations for priority actions to address issues affecting the health of the river. One of the priority recommendations for actions from the SMP was to: Establish a native riparian revegetation program for implementing the identified revegetation projects along the Yampa River through Steamboat.

The Yampa Valley Sustainability Council (YVSC) has been organizing an annual community tree planting event since 2010 called ReTree. The City of Steamboat Springs and YVSC partnered to build on the success of ReTree to create the Yampa River Forest Restoration Project to advance the goals and recommendations of the Steamboat Springs Stream Management Plan.

Background

The 2018 Yampa River Health Assessment and Streamflow Management Plan (aka The Stream Management Plan) found that the riparian forest is degraded on the reach of the Yampa River above the Chuck Lewis State Wildlife Area, through town and to the Wastewater Treatment Plant and that improving the quality of the vegetation, particularly the shading canopy cover, will lead to improvements in stream temperature and water quality on the Yampa River. The 3-year project covered in this grant report was identified as a top priority action item in the Stream Management Plan. Restoring riparian forests, in addition to providing water quality benefits, will also help to improve aquatic and terrestrial habitat and stabilize the river channel, thus making it more resilient to floods, droughts, or human impacts. The full Stream Management Plan and supporting documents can be found at: https://steamboatsprings.net/587/Yampa-River-Health-Streamflow-Management

The Land and Stream Restoration Opportunities Report, an appendix to the Steam Management Plan analyzed and prioritized opportunities to conduct on-the-ground restoration projects to meet the Plan's management objectives. Many of these projects were for riparian revegetation. These projects could help improve aquatic life, channel form and process, and water quality. In addition, the Water Temperature Management Opportunities Report indicated that riparian shading could help to reduce water temperatures warming due to sunlight. YVSC's ReTree Program, and other efforts had coordinated successful riparian plantings in the past and were to be leveraged to implement a larger-scale, targeted riparian plant restoration effort beginning with and expanding on the restoration opportunities identified in the Steam Management Plan.

The long-term goals for the Yampa River Forest Restoration Project (for this grant period and beyond) are to advance the following goals from the Stream Management Plan.

1. Maintain or improve natural river form and processes
2. Maintain or improve riparian vegetation extent and condition
3. Maintain compliance with State stream temperature standards

4. Establish and implement a long-term program for riparian vegetation restoration, protection, monitoring and stewardship
5. Foster a culture of shared stewardship of the Yampa River among community members, especially youth

More specifically, the project aims to increase the amount of riparian area in the reach of the Yampa River from Lake Catamount to the Elk River with vegetative cover that provides shading of the river in critical summer months. Assessments conducted as part of this grant, indicate that it would take adding vegetative cover that shades the width of the river on an additional 18 acres of land (in a 20m buffer from river's edge) to meet the short-term goal in the Stream Management Plan (goal of 20% of mapped acres with sufficient vegetative cover). The work in this grant was intended to undertake the first three years of a longer-term plan to meet the goal, to test methods of efficiently planting cottonwood trees, and to develop recommendations for how to achieve the goal over the long term. Further, the project aimed to accomplish the on-the-ground goals by building community support and capacity and to increase education about river health issues.

The objectives for this grant, were to:

1. Develop and implement a short-term (3-year) plan for riparian vegetation protection and planting
2. Develop a long-term plan for riparian forest restoration
3. Develop and execute a procurement plan for riparian vegetation materials
4. Coordinate volunteer groups and educate about river health

The short-term implementation plan objective focused on tree planting in the Chuck Lewis State Wildlife Area in Routt County just south of the City of Steamboat Springs (Figure 1) and in the City of Steamboat Springs' Rotary Park (Figure 2). Plantings in Chuck Lewis SWA occurred in the area marked as Lower Chuck Lewis in Figure 1. Figure 3 is map of specific tree planting locations in Rotary Park. The complete short-term plan is attached as Appendix A.

The "*Long-Term Implementation Plan for The Yampa River Forest Restoration Project*" outlines opportunities for meeting the goals of the Stream Management Plan and identifies specific locations for future planting projects, outlines methods for securing sufficient riparian vegetation materials and successfully planting and maintaining those trees, and suggests approaches for engaging private landowners in planting projects and for securing long-term funding. The complete long-term plan is attached as Appendix B.

Figure 1. Project Area in Chuck Lewis State Wildlife Area

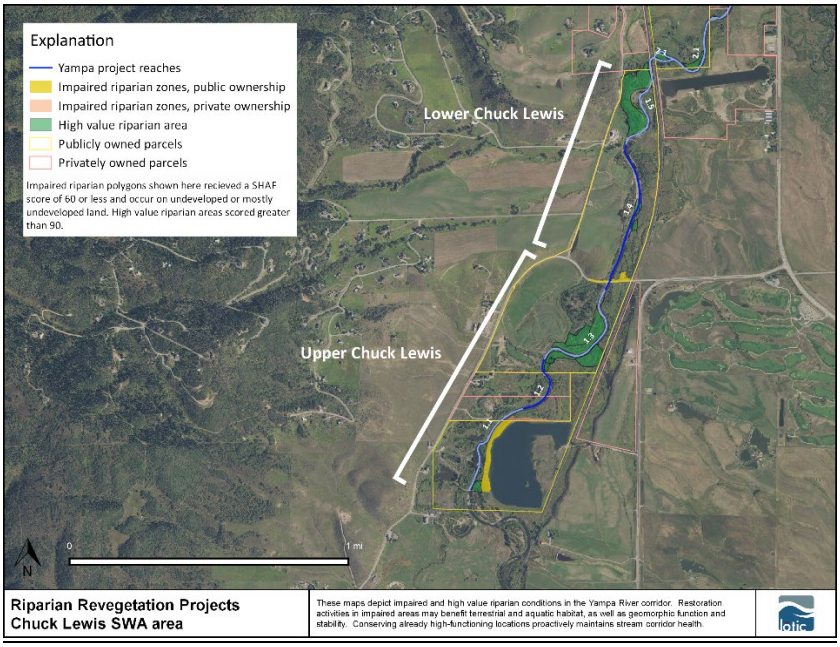

Figure 2. Project Area in Rotary Park

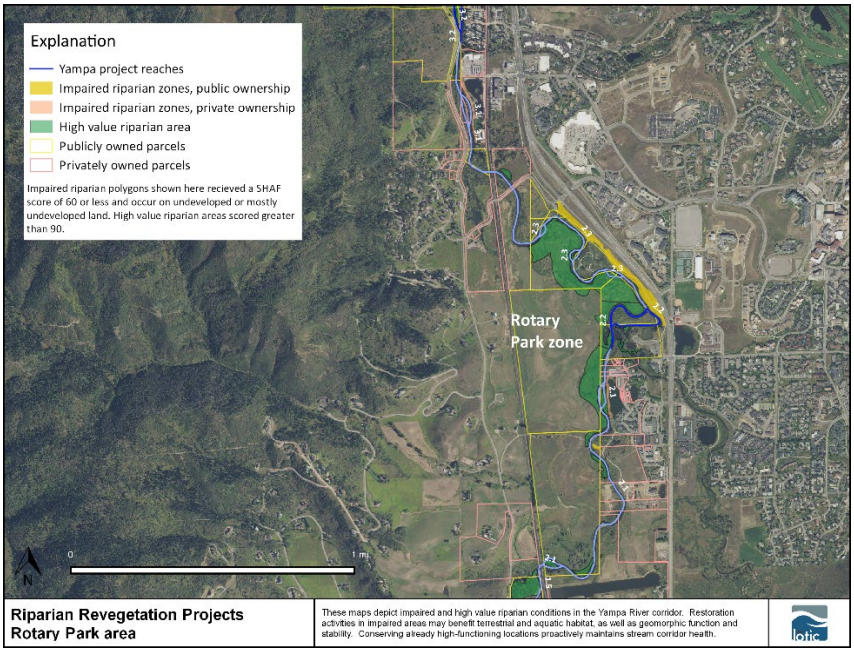

Figure 3. Location of 2019-2021 plantings from first phase of Yampa River Reforestation Project in Rotary Park, Steamboat Springs

Methods

Task 1 - Convene a project team

The core project team for this grant included representatives from Yampa Valley Sustainability Council (Project Manager), City of Steamboat Springs Public Works Department, City of Steamboat Springs Parks and Recreation, Colorado State Forest Service, and Colorado Parks and Wildlife. The individuals representing some of these organizations changed over the course of the project, but all organizations remained directly involved in planning and implementation. Other key groups involved through the project, but not on the core team, include the Natural Resources Conservation Service, Colorado Cattlemen's Agricultural Land Trust, CSU Extension, Confluence Resources Management, and Friends of the Yampa.

Task 2 - Develop and implement a short-term (3-year) plan for riparian vegetation protection and planting

During 2019, 2020, and 2021, the team planned and implemented planting projects in the City of Steamboat Springs Rotary Park parcel (Figure 2). And in 2019, the project worked with CPW to plant 200 trees at Chuck Lewis SWA (Figure 1). Planting events in 2020 and 2021 in Chuck Lewis were postponed due to COVID concerns. Those areas will be planted in 2022 and 2023. A total of 1100 cottonwoods were planted in 17 plots at Rotary Park (Figure 3). The plots varied in distance to the river, irrigation method, arrangement of planting holes and number of trees per hole. Prior to the first plantings, the team installed groundwater monitoring wells near potential planting sites and developed test plots comparing relative effectiveness of different reed canary grass (*Phalaris arundinacea*) control methods.

The key methods developed in this project that should guide future plantings are as follows (note that some of these recommendations may change as trees age in the next few years, so these are initial guidance):

1. Seedling selection: The project worked with the Colorado State Forest Service Nursery to develop the following protocol for growing native Yampa valley stock of narrowleaf cottonwood. Cuttings from mature trees, with active same year growth on terminal ends and branchlets, are collected in the Steamboat area after full dormancy has set in (late November-early December). The Nursery prepares cuttings for rooting individual trees in early Spring and start them in D40 deepot tubes (2"x10" size). D40 pots offer the best balance of price, ease of handling, and good root production. Seedlings are raised in a greenhouse until late summer and then moved to outside shade structures for hardening before transport. Trees are either transported to the Yampa Valley at the end of the first year of growth or held over until second planting season. Depending on the amount of time between transport and planting, trees can be stored in Yampa Valley provided they can be watered every 2nd or 3rd day and protected from browsing.

2. Planting locations and preparation: The initial three years of planting were all in similar vegetation and bank condition. 2019 included planting some trees more than 60 feet from the river to simulate a larger gallery forest. Those plantings consistently fared worse than trees closer to the river (likely due to depth to groundwater) and they are less likely to provide shading benefits to the river. Going forward, the team recommends planting within 60 feet of the river channel, unless the site is in a regularly inundated floodplain and there is value in a wider forest canopy. For ease of irrigation and fencing, a series of rows of planting parallel to the river provide the most potential shading. All current sites were accessible with a skid steer-mounted 12-inch augur that could drill 3-foot-deep holes prior to planting. For sites where skid steer access is possible, this is the recommended approach. In less accessible sites, a handheld augur is recommended. In sites with shallow depth to groundwater, hand dug holes may be acceptable, though not recommended as the auger can loosen soil more effectively. Spacing between planting holes should be 6-8 feet. If sufficient planting stock is available, planting two trees per 12-inch hole allows for shared irrigation emitters and provides redundancy to account for tree mortality. In smaller than 12-inch holes, one tree per hole is recommended.

3. Weed control: Most riparian areas without mature canopy cover in the stretch of the Yampa targeted for this project are covered with either smooth brome (*Bromus inermis)* or reed canary grass (*Phalaris arundinacea*). Both are non-native grasses that create dense mats and can compete for water and sun with small seedlings. Of the non-chemical control methods tested by the project team (mechanical cutting, mulching, and black plastic) only the plastic controlled regrowth successfully, but at the cost of preventing precipitation from reaching plantings. Heavy mulch was successful at preventing regrowth for at least one growing season. In sites where herbicide use is not feasible (e.g. designated open space), the best method of control appears to be mechanical clearing (with a weed-whacker) prior to planting, application of heavy mulch out to one to one and half feet from tree stems, and annual weeding and re-mulching when needed of grass resprouts in the irrigation zone near seedlings. Landscape fabric extending beyond the mulched area might be indicated in heavily infested locations (particularly for reed canary grass), though at higher cost and with uncertain results due to the aggressive growth of the invasive grass. After three years of growth, seedlings should be tall enough, with deep roots to be able to outcompete grasses.

4. Fencing: All planting sites to date have been enclosed with 6-foot tall 12-gauge woven wire fence with T-posts spaced in 6-foot increments. This fencing approach is designed to protect against both ungulate browsing and beaver predation. The main ungulate pressure in this reach of the river is from moose, where density is low. If large wildlife fencing is unwieldy based on site conditions, the project will use beaver cages for individual trees made from 3-foot high fencing. In areas with active cattle grazing, the taller wildlife fence is the best treatment. In addition to new planting, there are areas along the entire study stretch of the Yampa with young (3—10 foot tall) naturally generating cottonwoods. Protecting these trees from beaver predation is a high priority, particularly in spots along the river that provide high shading benefits. The project team worked with Confluence Resources Management to develop a

protocol for caging young trees that even young volunteers (such as the Service Learning Crew of Rocky Mountain Youth Corps) can implement.

5. Irrigation: Irrigating seedlings until they have developed roots deep enough to access groundwater (three to four years, particularly in sites with high banks) will be necessary to ensure success. In two of the three years monitored at the initial planting sites, three-foot-deep groundwater wells showed no groundwater presence by June of each year. These were years without significant spring over-bank flooding. Given recent trends and future projections, it seems more likely that we will continue to see multiple years without overbank flows. Going forward, all plantings will have irrigation. At the present site, the irrigation system that is proving the most efficient involves running 3/4" pipes to the planting area with 1/4" hoses connected from 2 gallon per hour emitters to a drip stake at each tree. Future sites will require specific assessment of irrigation needs, but this configuration is the basis for initial planning.

6. Monitoring and Data Collection: We are collecting data on location and number of all trees planted in a geospatial database. The data show location of enclosures and planting holes, along with initial number of seedlings, and surviving numbers at the end of each growing season. Additionally, we will record the location of any trees protected with beaver cages to allow regular inspection. We have found numerous trees planted perhaps a decade ago where the trees had grown into the cages. If the City ever proposes to develop an alternative action to meet its water quality requirements by increasing shading, data on new trees planted and surviving will be necessary.

Task 3 - Develop a long-term plan for riparian forest restoration

The project team developed a long-term plan for riparian forest restoration over the three years of the project (Appendix B). The process included consultation with public land managers on the schedule of proposed restoration projects in the next ten years, collaboration with the Yampa/White/Green Basin Roundtable as it developed an Integrated Water Management Plan for the entire Yampa (members of the project team serve on the Riparian work group of the IWMP), and establishment of a work group focused on opportunities for engaging private landowners along the river (focused mostly on NRCS projects). Project team members also worked with The Freshwater Trust to complete an analysis of the potential of tree planting to reduce solar loading on the river to help address water temperatures (the report from this work is available upon request from the City of Steamboat Springs, but is not included in the scope of this project other than in how it informed the long-term plan).

To better understand current riparian forest cover and to identify the potential for new reforestation projects, YVSC conducted an analysis of cottonwood site suitability along the Yampa River from Lake Catamount to the confluence with Elkhead Creek (59 river miles) and on the Elk River from Clark to the confluence with the Yampa (26 river miles). While this area is larger than covered by the SMP, it includes the major river segments included in the potential water quality trading program analyzed by the Freshwater Trust for the City of Steamboat Springs.

A full description of the methodology for the YVSC site suitability analysis is included as an appendix to the attached long-term plan. Sites were analyzed for their frequency of flood return, existing woody vegetation, vegetative class, and slope. The sites with the highest potential (most suitable) were those that had frequent flood return intervals, supported natural vegetation, but did not have any current trees above .5m tall and were mostly flat. We also scored sites as suitable (but needing more field evaluation) if existing vegetation was between .5m and 4m. Sites with dense vegetation above 4 m were considered to have "mature cottonwood" cover.

The Routt County tax parcel map was overlaid on the suitability map to identify land ownership, including public versus private ownership. We then further used the Colorado Ownership Management and Protection (CoMap) database to identify parcels with a conservation easement or other restrictions to development. Parcels were ranked by the amounts of river frontage with contiguous suitable habitat to identify areas where trees could be planted in larger groupings (to simplify projects for irrigation and site preparation).

The result is a map that can identify locations to prioritize field verification, and to support outreach to private landowners. Figure 4 is a sample of the model outputs and the full map and outputs can be viewed at: https://yvsc.maps.arcgis.com/apps/webappviewer/index.html?id=c79dda9d0974496d9b141e09a29da1bc YVSC initially ran the analysis on the Yampa running from Lake Catamount to the confluence with Elkhead Creek and on the ElK River downstream from Clark. The full extent of the analysis helps identify parcels, particularly those in private ownership, outside the range of the SMP area that could be useful to evaluate if there are not sufficient suitable parcels in the river reach closer to the City of Steamboat Springs.

Figure 4. Overview of Cottonwood Suitability Site map with ranked parcels.

Task 4 - Develop and execute a procurement plan for riparian vegetation materials

The project team negotiated a service agreement with the Colorado State Forest Service Nursery in Ft. Collins to grow cottonwoods from cuttings taken in the Yampa Valley. The methodology developed is described above under Task 2.

The project team evaluated options for creating local capacity for a seedling nursery to potentially increase the number of trees available on an annual basis. The bottleneck for seedling production is the early stages of growth where a heated greenhouse is required (the State Nursery has adequate space for holding trees outdoors once they are established). The cost of acquiring and staffing a new greenhouse in the Steamboat area is far more than the cost of working with the State Nursery. Given the ability to meet current rates of planting from the Nursery and potential for the Nursery to increase production with advance notice, the team decided it was not prudent to pursue development of a new nursery. Temporary holding of trees prior to planting will continue to be needed, but the requirements for this are not hard to meet. Currently, the small outdoor nursery area at Chuck Lewis SWA meets the needs for planting projects. Seedling production requires planning two years in advance, so this is an issue that the project team will continue to monitor.

Task 5 - Coordinate volunteer groups and educate about river health

Most of the labor for this project was contributed by community volunteers. This greatly increased the value of the project as a tool to educate about river health, climate change/drought, and the importance of riparian areas. The focus for volunteer engagement was an annual ReTree event. Since this is a community event running for over a decade, it has great visibility in the community and attracts media attention and community sponsors. Local artist Jill Bergman has been developing a poster each year to celebrate ReTree, and for this project built on the theme of trees benefitting river health. Volunteers at ReTree receive t-shirts with the annual poster image, and the unique shirts have become a reason to attend each year. The City of Steamboat Springs passed a resolution in 2021, designating the day of the ReTree event as the official Arbor Day in Steamboat, as part of its process to gain designation as a "Tree City USA."

The project team recruited individuals, businesses, community groups and schools as volunteers to harvest, maintain, plant, and care for the seedlings and to build cages for beaver mitigation. The project developed a partnership with the Rocky Mountain Youth Corps, supported by funding from the urban forestry program of the US Forest Service. Over each of the three years, Service Learning Corps groups (ages 11-13) made multiple trips to the tree planting sites to help with maintenance and with beaver mitigation. As a result of the success of volunteer engagement in this project, in 2021, YVSC created a new Yampa Valley Climate Crew to engage volunteers in natural resource projects throughout the Yampa Valley, focusing in its first year on assisting the Yampa River Forest Restoration Project.

CWCB funding was used to support each of the tasks. The main uses of CWCB funds were for project management, including overseeing all of the tree planting and maintenance, recruiting and managing volunteers, communications around the project, and production of the short and long term plans and grant reports. CWCB funds also helped with procurement of materials, including tree seedlings and fencing, and allowed hiring of contractors to help with heavy equipment operations.

Results

The results from this project fall into three main categories: trees planted and amount of riparian area improved (including measures of survival); development of a long-term plan and generating sustained funding for the work; and community engagement and awareness.

On-the-ground results

Table 1 Planting results over the three years of the project

Year/Site	Trees (spp.)	Acres-60ft. buffer	River length in ft.
2019 Chuck Lewis	200 (willow/alder)	0.9	675
2019 Rotary Park	250 (cottonwood)	.72	525
2020 Rotary Park	350 (cottonwood)	1.35	980
2021 Rotary Park	500 (cottonwood)	1.6	1132
Totals	1300	4.57	3312

Since a key goal of the project is to reduce solar input to the river that is contributing to increasing water temperatures, it is possible to roughly calculate what the benefit of the planted trees (when at maturity) would be in terms of solar load. Using the results from an analysis performed by The Freshwater Trust for the City of Steamboat Springs, the Rotary Park sites if fully stocked could reduce average August daily solar loading by 21.3 million kcal/day.

In addition to the new trees planted, the project also installed beaver mitigation (cages) at four sites along the Yampa: downstream from 9th St. bridge; around Snake Island/Rich Weiss Park; Rotary Park (on east side of river across from new plantings; and River Creek Park. The project did not track specific numbers of trees or areas protected with beaver mitigation. Going forward, it will be part of project protocol to document beaver mitigation in a spatial database to allow for ongoing monitoring and tracking.

YVSC is tracking seedling survival by year for the Rotary Planting sites. First year survival (2019 to 2020) was approximately 70%; survival from 2020-2021 (including both first- and second-year trees) was 50%. The lower survival in the second year is most likely due to drought conditions early in the growing year of 2021 as discussed below.

Long-term plan and funding

The project team was able to identify, through the cottonwood suitability analysis described in the methods section, approximately 68 acres of potentially suitable planting sites on City or State-owned land in the project area. Field verification identified twelve medium to large sized high priority planting sites on those lands. Based on projections of river construction projects, it appears feasible to plant on all the sites within the next ten years. A schedule for completing planting on the sites is documented in the long-term plan included as Appendix B in this report. The Cottonwood Suitability GIS analysis is also

a lasting product from this grant. It will help guide outreach to private landowners and to identify additional planting opportunities on the full reach of the Yampa and Elk Rivers.

A key result of the work under this grant has been to develop new and likely sustainable sources of funding for tree planting in the years ahead. Most significant, was the receipt of a new three-year $150,000 grant from the Colorado River District's Community Funding Partnership for the initial implementation of the three-year plan. Receipt of that grant would not have been possible without the demonstrated success of the initial planning and on-the-ground work supported by this CWCB grant. Additionally, during the period of the grant, the project was awarded two grants from the newly established Yampa River Fund to support maintenance of initial plantings beyond the period of the CWCB grant, and to implement the first priority project of the long-term plan in reforestation on Snake Island within the City limits (a priority site identified in the Stream Management Plan). New funding for on-going work is also being provided by the US Forest Service specifically for ongoing youth engagement in riparian conservation. YVSC has received new direct contributions for this work from the VF Corporation and other private donors. In 2021, Colorado Lottery became a sponsor of the program, seeing it as a way to extend and publicize their impact on conservation in the state. The addition of these new donors allows the project team the ability to immediately continue and expand the work begun under the CWCB grant.

Community Engagement and Awareness

As discussed under methods, the primary engagement tool for this project is volunteer work days planting and maintaining trees. Over the three-year period, the project involved 535 volunteers in half to full work days. In 2019, 146 volunteers participated in plantings at Chuck Lewis and Rotary Park as well as in beaver mitigation projects. In 2020, 100 volunteers joined ReTree at Rotary Park in the fall, and 80 Rocky Mountain Youth Corps members volunteered in tree maintenance during the summer. In 2021, 130 volunteers joined ReTree at Rotary Park, 60 Rocky Mountain Youth Corps volunteers helped with maintenance at Rotary and Chuck Lewis, and 19 Yampa Valley Climate Crew volunteers helped with site prep and maintenance. See Appendix C for a collection of photos that demonstrate the volunteers at work.

All volunteer days included a presentation by YVSC staff on the objectives of the forest restoration work and the benefits of healthy riparian areas to the Yampa River. The Rocky Mountain Youth Corps teams received more intensive information about riparian ecology. For ReTree, volunteers are broken into crews led by members of the project team are others with long experience working in restoration. These crew leaders can engage with the volunteers over the half day of tree planting to further explain the benefits of the project.

The project gained good media coverage locally all three years. Appendix D has a list and links to stories featured in the *Steamboat Pilot* and elsewhere about the project. In 2021, *Yale Climate Communications* featured the project in a national story about responses to drought in the Colorado River basin and produced a radio segment about the project. For the 2021 ReTree event, Colorado

Lottery hired a professional videographer to produce a video about the project, speaking with some of the project leaders, and highlighting the true community spirit of the event.

Conclusions and Discussion

The objectives of this project were fully met. The short-term implementation plan was executed, and a long-term plan completed with significant steps made towards funding its implementation. We have grown community engagement year over year in the project, even during the COVID pandemic. However, the long-term goal of the project will only be met if the trees planted during this grant survive until maturity. The project team has obtained funding to continue irrigation and other needed maintenance (weeding, fencing, etc.) for at least the next three years, at which point all remaining trees should be able to survive without supplemental water. As part of the long-term plan, YVSC has build a spatial database to collect and maintain monitoring data on tree survival. The City of Steamboat Springs is developing a stream temperature monitoring program through which we will be able to measure the impact of shading from trees as they reach maturity.

The two biggest challenges to the project in the past three years have been drought conditions and the COVID pandemic. In both 2020 and 2021 peak runoff was below average and the summers were abnormally hot and dry—among the hottest and driest ever recorded. Particularly in 2021, when there was no overbank flooding, groundwater receded quickly. In 2021, the project team was late to have irrigation functional and in the month of June when groundwater should have been sufficient to sustain plantings, there was a higher rate of tree mortality than in prior years. The team responded to this by engaging volunteers to deep water trees by hand, which sustained trees until irrigation was fully functional. Going forward the project will be ready to begin irrigation as early as June each year in the absence of flood flows and will continue to supplement the drip irrigation with periodic deep watering by volunteers.

COVID had less of an effect on the project than drought but did force some changes. Instead of having volunteers work at both Chuck Lewis and Rotary Park, we only did large volunteer days at the latter. The sites that were to be planted at Chuck Lewis are now scheduled for 2022 and 2023 and funding is in hand to complete that work. Due to COVID, we kept volunteers in smaller work groups and did not have a period when all volunteers were gathered in the same spot. This made the planting less of a social occasion and required training and educational presentations to happen multiple times to small groups. In many ways, having a chance for people to engage in a community project in a safe setting was more special during these unprecedented times. We heard from numerous participants how pleased they were that we continued with the project and the volunteer opportunities.

This project was designed from the start to set up a long-term project to meet the goals of the Stream Management Plan. The long-term plan lays out multiple years of continuing work, and all members of the core team are committed to continuing the project. The fact that new funders have stepped up to support the work going forward helps guarantee the project continuance. And the lessons learned in

the first three years will be extremely valuable at improving and streamlining the process of obtaining outcomes. We expect continued growth in the amount of land and river restored on a yearly basis.

Actual Expense Budget

The actual budget including all cash match is provided in Table 2. In-kind funding was not included in the original budget. However, there was significant additional contribution of YVSC staff time, City staff time, volunteer time, and donated supplies.

Table 2 Actual project budget 2019-2021

Task	Description	CWCB Funds CWRP	CWCB Funds WSRF Basin	City of Steamboat Springs Cash	Other Funding Cash	Other Funding In-Kind	Total
1	Convene a Project Team	$0.00	$0.00		$0.00	$0.00	$0.00
2	Develop and Implement a short-term plan for current riparian vegetation protection and planning	$14,597.50	$12,000.00	$48,402.50	$40,000.00	$0.00	$115,000.00
3	Develop and implement long-term plan for riparian forest restoration	$19,727.17	$2,529.00			$0.00	$22,256.17
4	Develop and execute a procurement plan for riparian vegetation materials	$10,132.33	$4,014.00	$1,597.50	$3,912.00	$0.00	$19,655.83
5	Coordinate volunteer groups and educate youth about river health	$5,543.00	$6,457.00		$20,000.00	$0.00	$32,000.00
	TOTALS	**$50,000.00**	**$25,000.00**	**$50,000.00**	**$63,912.00**		**$188,912.00**

The actual budget for individual tasks varied from the estimated budget. The original Task 4 budget anticipated the need to find or build a local facility to support plant materials that were not available from the CSFS nursery. The project team worked with the CSFS nursery over the period of the grant to establish a cost-effective, reliable procedure for propagating and raising to planting stage locally sourced cottonwoods and an additional facility was not needed. In addition, the project received a Colorado Lottery Fund grant to pay for the cost of seedlings in 2021. Thus, the Task 4 expenses were less than budget. However, Tasks 2, 3, and 5 expenses were more than budgeted. The cost overruns were

covered through additional grant funding and in-kind contributions. In addition to the $50,000 from the City of Steamboat Springs, the other cash funding included the original match of $50,000 from the Valerie Gates Foundation, and additional funding from the VF Foundation in 2020 ($10,000) and the Colorado Lottery Fund in 2021 ($3,912).

Appendices

Appendix A - Short Term Implementation Plan

Appendix B - Long Term Implementation Plan

Appendix C – Media Coverage ReTree 2019-2021

Appendix D - Photos from ReTree volunteer days 2019-2021