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STATE OF COLORADO
DEPARTMENT OF LAW

AGENDA

Colorado Natural Resources Trustees Meeting
August 14, 2023
2:00 pm to 4:00pm

Location:

Ralph L. Carr Judicial Building
1300 Broadway, Denver CO
Room: 1E

Note: A hyperlink to a Microsoft Teams meeting will be emailed to Trustees and staff and will be posted on the Trustee website:
<https://coag.gov/office-sections/natural-resources-environment/trustees/whats-new/>

Open Session

1. Approve Agenda – 1 minute
2. Approval of Minutes from May 11, 2023 Meeting – 5 minutes

Action Item:

- (1) Review and approve minutes from May 11, 2023 meeting

Document:

- (1) Draft minutes from May 11, 2023 meeting

3. Budgets Update – (Jennifer Talbert) - 5 minutes

Action Items: None

Document:

- (1) Budget Spreadsheet

4. Lowry Landfill – (Emily Splitek) – 20 minutes

Action Item:

- (1) Consider USFWS proposal

Documents:

- (1) Memo from Emily Splitek
- (2) USFWS Project Proposal
- (3) Draft Resolution

5. Blue Tee NRD Funds – (David Banas, Jennifer Talbert, Rob Harris) – 10 minutes

Action Item:

- (1) Determine how to allocate recovered funds between CERCLA response costs and NRD restoration

Document:

- (1) Memo from David Banas

6. Vail/Mill Creek – (Jason King) – 10 minutes

Action Item:

- (1) Approve/Deny Settlement Agreement with Vail (if finalized)

Document:

- (1) Settlement Agreement (if finalized)

7. Bonita Peak Mining District – (Emily Splitek) – 5 minutes

Action Items: None

Documents: None

8. California Gulch – (David Banas, Susan Newton) – 5 minutes

Action Items: None

Documents: None

9. Beaver Brook Creek – (Jason King) – 5 minutes

Action Items: None

Documents: None

10. Home Lake State Wildlife Area – (Shelley Hickerson, Mindi May) – 10 minutes

Action Items: None

Documents: None

11. Rocky Mountain Arsenal – (David Banas, Susan Newton, Rob Harris) – 5 minutes

Action Items: None

Documents: None

Executive Session

12. Discuss Legal Questions about Ethics – (Lukas Staks) – 20 minutes

Action Items: None

Documents: None

Open Session

13. Report from Executive Session – (Lukas Staks) – 1 minute

Action Items: None

Documents: None

ITEM #1
NO DOCUMENT

ITEM #2

Colorado Natural Resource Damages Trustees
Meeting Minutes
May 11, 2023
(Approved _____)

In Attendance:

TRUSTEES

Phil Weiser, Attorney General

Ginny Brannon, Director, Division of Reclamation, Mining & Safety, Colorado Department of Natural Resources (DNR)

Trisha Oeth, Director of Environmental Programs, Colorado Department of Public Health and Environment (CDPHE)

TRUSTEE STAFF

Lukas Staks, Senior Assistant Attorney General, Office of the Attorney General, Natural Resources and Environment Section (NRE)

David Kreutzer, First Assistant Attorney General, NRE

David Banas, Senior Assistant Attorney General, NRE

Jason King, Senior Assistant Attorney General, NRE

Emily Splitek, Assistant Attorney General, NRE

Shelley Hickerson, Assistant Attorney General, NRE

Tracie White, CDPHE

Jennifer Talbert, CDPHE

Susan Newton, CDPHE

Melody Mascarenez, CDPHE

Robert Harris, DNR

Ed Perkins, DNR

Mindi May, DNR

OTHER STATE STAFF

Laura Kelly, Paralegal, NRE

FELLOWS AND INTERNS

MacKenzie Herman, Attorney General Fellow

PUBLIC

Cindy Medina, Alamosa Riverkeepers

Open Session

Trustee Weiser called the hybrid meeting (held in Carr Building, 8th Floor Dunbar Room and via Teams) to order at approximately 9:00 a.m. on May 11, 2023. The meeting's purpose was to brief the Trustees on the current status of issues relating to Natural Resource Damages (NRD) projects, and to request direction and/or approval for various actions.

Agenda

Trustee Oeth moved to approve the Agenda. Trustee Brannon seconded the motion, and the motion was unanimously approved.

Minutes

Trustee Weiser presented the minutes from the February 17, 2023, Trustee Meeting. Trustee Oeth moved to approve the February 17, 2023, minutes. Trustee Brannon seconded the motion, and the motion was unanimously approved.

Budgets Update

Jennifer Talbert explained the negative balance for the Shattuck account does not indicate an actual negative balance, but reflects contracts that encumber amounts that could be awarded due to anticipated accrued interest. She added that the current accounting system will prevent any overspending.

Bonita Peak Mining District

Emily Splitek presented a proposed Settlement Agreement with the federal government which would resolve all federal NRD liability in the Bonita Peak Mining District due to EPA's actions at the Gold King Mine in August of 2015. She explained that the settlement includes federal lands owned by BLM and the U.S. Forest Service where historic mine releases have caused natural resource damages. The settlement amount of \$5 million will be combined with other settlement funds to make approximately \$6.8 million available to restore natural resource damages. Ms. Splitek added that Trustee staff hope to issue a Solicitation for Project Proposals by the end of 2023.

AG Weiser noted the significance of this settlement amount compared to other historic NRD settlements. Ms. Talbert reminded the Trustees that this Settlement Agreement covers current mine releases; it does not cover potential new releases. Trustee Brannon moved to approve the execution of the Settlement Agreement by Trustee staff. Trustee Oeth seconded the motion, and the motion was unanimously approved.

On a related matter, David Banas mentioned that the Trustees need to decide how the earlier Blue T settlement will be allocated between remediation activities and NRD projects. Trustee staff will present a proposal for the allocation of those funds to the Trustees at a future meeting.

Summitville

Susan Newton explained that the Summitville NRD funding focused on restoration of the Alamosa River and reconnecting the community to the River. She introduced Cindy Medina of the Alamosa Riverkeepers. Ms. Medina gave a presentation to illustrate the success of NRD projects that restored the terrace reservoir spillway, partially funded an in-stream flow project, and funded "Rediscovering the Alamosa River," which included a fishing program for children. Ms. Medina thanked Susan Newton and the Trustees for the funding that made these projects possible.

California Gulch

David Banas reported that Cal Gulch settlement funds are allocated jointly with the federal government under an MOU and BLM requested \$69,760 be used for the acquisition of 18 mining claims in the upper Arkansas River watershed along Fourmile Creek in Teller County. Mr. Banas explained the parcels (worth approximately \$500,000) are being donated to the BLM and this funding request will be used to administratively process the donations. Trustee staff recommended the Trustees approve the expenditure so the parcels could be acquired and managed to enhance recreation and wildlife habitat.

Trustee Oeth moved to approve the resolution, pursuant to the MOU, supporting the transfer of sufficient funds from the Department of the Interior to the Bureau of Land Management to complete the *Fourmile Creek Acquisition Project*. Trustee Brannon seconded the motion, and the motion was unanimously approved.

Beaver Brook Creek

Jason King reported that a new release into Beaver Brook Creek came to Trustee staff's attention through the CDPHE spill line in August 2022. The Lookout Mountain Water Authority reconstructed a dam on Beaver Brook Creek and when they opened the outlet in May 2022, it released a tannish-white sediment which covered the creek bottom for about five miles killing fish and macroinvertebrates. Mr. King stated that, in addition to elevated calcium, iron and magnesium in the sediment, the pH was high (12 to 9.5, neutral is 7.0). He explained the metals themselves are not hazardous substances and do not appear to be at a toxic concentration, and while the pH is close to being characteristic of a hazardous waste under RCRA (i.e. greater than 12.5), pH concentrations have been coming down. Additionally, Mr. King noted the creek is a tributary to a smaller river, and there is no existing baseline ecological data. The Authority's consultant is writing a report in conjunction with a federal Army Corps of Engineers enforcement action to investigate the cause of the release and potential solutions. Mr. King will continue to monitor the situation.

Annual Trustee Training

Senior AAG, and counsel to the Trustees, Lukas Staks stated that House Bill 98-1198 requires all statutorily-created boards and commissions receive annual training regarding various topics. The Trustees' previous counsel determined the Trustees are not bound by HB 98-1198, but the By-Laws adopted by the Trustees in 2021 require annual training on specific topics. To satisfy that training requirement, Mr. Banas expanded on the first six topics which are: 1) statutory and regulatory framework; 2) Trustee oversight of projects; 3) goals of the NRD program; 4) Trustee staff's information gathering; 5) Trustee staff's communication with Trustees; and 6) coordination with other entities. Mr. Staks continued with training on: 7) conflicts of interest; 8) CORA; and 9) open meetings laws.

Executive Session

Mr. Staks recommended the Trustees make a motion to go into Executive Session to consider Agenda Item #9 on the Trustee Meeting agenda and specific legal questions associated with conflicts of interest. He stated the Executive Session is authorized pursuant to section 24-6-402(3)(a)(II), C.R.S. and other laws that allow the Trustees to enter Executive Session for

specific purposes. At approximately 9:52 a.m., Trustee Brannon moved to begin an Executive Session. Trustee Oeth seconded the motion, and the motion was unanimously approved. The Executive Session was digitally recorded.

At approximately 10:20 a.m., Trustee Brannon moved to end the Executive Session, Trustee Oeth seconded the motion, and the motion was unanimously approved, whereupon Executive Session was ended.

Open Session

Mr. Staks stated that pursuant to statute, the Trustees went into Executive Session to consider Agenda Item #9 and specific legal questions associated with conflicts of interest. The discussion during Executive Session was limited to those items and no formal action was taken.

At approximately 10:22 a.m., Trustee Brannon moved to adjourn the meeting. Trustee Oeth seconded the motion, and the motion was unanimously approved.

ITEM #3

Last modified 7/21/2023

Natural Resource Damages Accounts

| NRD Matter | Bonita Peak | California Gulch | Fountain Creek | Idarado | Lowry | N. St. Vrain |
|---------------------------------|--|--|---|---|--|-------------------------------|
| Total Settlement amount | \$6,600,000.00 | \$10,000,000.00 | \$345,000.00 | \$1,000,000.00 | \$1,606,930.00 | \$245,305.00 |
| Total NRD dollars spent | \$0.00 | \$8,928,044.87 | \$0.00 | \$1,561,412.98 | \$1,257,894.52 | \$0.00 |
| Account Balance as of 6/30/2023 | \$1,642,851.03 | CDPHE DOI \$5,567,735.73 \$1,050,670 | \$368,775.22 | \$205,259.95 | \$691,784.25 | \$249,680.52 |
| Trustee Resolution Date | NONE | 12/10/2021 & 3/17/2022 | 4/23/2019 | 6/24/2019 | NONE | NONE |
| Current Trustee awarded amount | \$0.00 | \$6,306,119.00 | \$368,775.22 | \$287,000.00 | \$0.00 | \$0.00 |
| Current Contract Encumbrances | \$0.00 | \$1,985,639.82 | \$0.00 | \$168,200.00 | \$0.00 | \$0.00 |
| Remaining available funds | \$1,642,851.03 | \$3,582,095.91 \$1,050,670 | \$368,775.22 | \$37,059.95 | \$691,784.25 | \$249,680.52 |
| Settlement Restrictions | YES | YES | NO | NO | YES | NO |
| Type of Restriction | Need to prepare a restoration plan prior to awarding any funding | Funds must be used in accordance with Restoration Plans developed by the State and USFWS | None | None | 2 settlements - both requiring a groundwater nexus to the South Platte | None |
| Interest and explanations | Money received from treasury in July. Additional \$5 will show in the account balance next meeting | Segregated Funds. Interest not earmarked for site. | Interest goes to CPW to include in Chilcott Diversion Project, no remaining funds available | Interest goes to the Governor's Basin Restoration Project, no remaining funds available | | Settlement from December 2022 |

Natural Resource Damages Accounts

| NRD Matter | RMA Recovery Fund | RMA Foundation Fund | Shattuck | Standard Metals | Summitville | Suncor | Uravan |
|----------------------------------|--|---|---|--|--|--|---|
| Total Settlement amount | \$17,400,000.00 | \$10,000,000.00 | \$1,250,000.00 | \$415,368.00 | \$5,000,000.00 | \$1,230,000.00 | \$1,000,000.00 |
| Total NRD dollars spent | \$12,156,006.70 | \$8,697,832.00 | \$1,272,904.00 | \$0.00 | \$5,144,896.92 | \$708,191.40 | \$1,158,798.29 |
| Account Balance as of 06/30/2023 | \$8,551,803.65 | \$1,516,573.93 | \$23,881.37 | \$477,333.62 | \$248,026.72 | \$566,983.10 | \$214,572.17 |
| Trustee Resolution Date | 3/24/2021 | 3/28/2018 | 3/17/2022 | 12/9/2022 | 1/21/2021 | 6/9/2022 | 3/24/2021 |
| Current Trustee awarded amount | \$5,707,087.93 | \$1,388,523.00 | \$30,000.00 | \$0.00 | \$1,171,620.00 | \$1,267,454.00 | \$270,000.00 |
| Current Contract Encumbrances | \$1,314,372.99 | \$550,000.00 | \$30,000.00 | \$0.00 | \$225,396.00 | \$510,353.00 | \$202,938.00 |
| Remaining available funds | \$7,237,430.66 | \$966,573.93 | -\$6,118.63 | \$477,333.62 | \$22,630.72 | \$56,630.10 | \$11,634.17 |
| Settlement Restrictions | NO | NO | NO | NO | YES | NO | NO |
| Type of Restriction | None | Foundation Fund can only be used with NGC | None | Money received through settlement with insurance company - no NRD requirements | All money must be spent in the Alamosa River Watershed | None | None |
| Interest and explanations | Recovery Fund- Trustees agreed to work with NGC for restoration projects | Waiting for Amended Consent Decree to reallocate funds to RMA Recovery Fund | Negative balance is based on contract terms of up to \$30K if available. | \$230K awarded to Coal Creek Watershed; remaining funds for Silverton area | Interest awarded to TU, no remaining funds available | Interest awarded to TU, no remaining funds available | Interest awarded to WEEDC, no remaining available funds |

ITEM #4

PHIL WEISER
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Natural Resources and
Environment Section

July 24, 2023

M E M O R A N D U M

TO: Colorado Natural Resources Trustees

FROM: Emily Splitek, Susan Newton, and Rob Harris

RE: Lowry Landfill NRD Project Recommendation: First Creek Restoration Project, Rocky Mountain Arsenal National Wildlife Refuge

Staff recommends that the Trustees fund the First Creek Restoration Project submitted by the U.S. Fish and Wildlife Service ("FWS") on behalf of the Rocky Mountain Arsenal National Wildlife Refuge ("Refuge"). FWS has requested \$674,999.36 for the project, which would restore and improve First Creek and the First Creek Trail. The project proposal is attached to this memorandum.

BACKGROUND

From 1965 through 1980, Lowry Landfill served as the principal industrial and municipal waste landfill for the Front Range of Colorado, receiving liquid and solid waste from industrial, municipal and other sources throughout this period. From 1980 to 1990, Lowry Landfill operated only as a solid waste disposal site.

In 2010, the State of Colorado settled NRD claims against several defendants who generated or disposed of waste at Lowry Landfill. Approximately \$675,900 remains from the original settlements.

In November of 2022, the Trustees released a Solicitation for Project Proposals. We received two project proposals: this proposal from FWS, and a proposal from Groundwork Denver. Groundwork Denver ultimately withdrew its project proposal.

The First Creek Restoration Project will restore approximately 3.5 miles of First Creek, which is a tributary of the South Platte River.

The project will reduce sediment delivery from streambank erosion, reestablish the natural floodplain of the creek with drop structures and culverts, and maximize habitat value of the area using a heterogeneity of aquatic, wetland, and riparian characteristics. The targeted natural resources benefiting from this project include over 25 species such as bald eagles, willows, cottonwoods, native prairie shrubs/grasses, blue heron, snowy egrets, mallards, mule deer, wild turkey, and beaver.

FWS partners for the project include Mile High Youth Corps, Denver Parks and Recreation, Mile High Flood District, Friends of the Front Range Wildlife Refuges, Environmental Learning for Kids, American Conservation Experience.

Another goal of the project is to expand access to the Refuge, particularly for residents of the Montbello, Green Valley Ranch, and Commerce City neighborhoods bordering the Refuge, where 41% of the population are Hispanic, 28% are African American, 5% Asian, and the remaining is non-Hispanic White. The average renter in Green Valley Ranch is paying about 34% of their income towards housing. These neighborhoods qualify as “disproportionately impacted communities” under Colorado’s Environmental Justice Act.

Staff visited the site on July 17th.

RECOMMENDED ACTION

Staff recommends you award all remaining Lowry Landfill NRD funds (including interest) to FWS for the First Creek Restoration Project. A proposed resolution is attached.

Attachment 1: First Creek Restoration Project Proposal
Attachment 2: Proposed Trustee Resolution

1. Executive Summary

a. First Creek Restoration Project

b. Project(s) Description (including description of target natural resources addressed)

On Earth Day in 2017, Volunteers for Outdoor Colorado conducted their first Grand Milestone event to celebrate their 1,000th outdoor stewardship project which was the construction of the First Creek Trail on the Rocky Mountain Arsenal National Wildlife Refuge (Refuge). As a result of the Grand Milestone event, volunteers built over 6,600 feet of new trail along First Creek. Creation of the First Creek Trail was a milestone for the Refuge as well since it provided a new recreational opportunity in an underutilized corner of the refuge while also establishing a walkable, equitable access point for the nearby Montbello and Green Valley Ranch neighborhoods.

Six years later, residential development has continued to expand along the boundaries of the Refuge. The Refuge is adapting to the shifting demographics and needs as well. First Creek Trail leaves the refuge but extends to the Green Valley Ranch neighborhood of 37,000 residents where 41% of the population are Hispanic, 28% are African American, 5% Asian, and the remaining is non-Hispanic White. The average renter in Green Valley Ranch is paying about 34% their income towards housing. When combining data for the Montbello and Commerce City bordering neighborhoods, there are over 14,000 youth living in poverty and 77% of residents are Latinx and African American. These are residents who traditionally have not engaged with the Refuge in large numbers. Fewer wildlife dependent recreation opportunities are available and accessible to these groups due to lack of neighborhood access and minimal access to transportation (*Larson, Green, and Cordell, 2011*¹). RMA's vision is to ensure that every young person – wherever they live and regardless of income –has abundant opportunities to connect with the outdoors and be in wilderness areas in ways that are inspirational and meaningful to them.

RMA is one of seven nationally designated Urban Flagship Refuges, upholding the urban flagship program's Standards of Excellence. One such Standard is building stronger connections with urban neighbors so that they can explore and benefit from the wildlife refuges around them. The heart of the Standards of Excellence Program is that by engaging with the Refuge neighbors—providing them with good experiences and opportunities to explore—that these steppingstones of engagement will foster a sense of stewardship. RMA must reach beyond the boundaries of its wildlands if it wants to be a visionary for the Nation's conservation values, ethics, and priorities. Towards this goal, RMA will partner with the Mile High Youth Corps, Environmental Learning for Kids, and area volunteers on riparian habitat restoration, willow plantings, and trail restoration to ensure long-term viability of the natural resources of First Creek.

In summary, the First Creek Restoration Project is a two-year collaborative effort between Mile High Youth Corps, Denver Parks and Recreation, Mile High Flood District, Friends of the Front Range Wildlife Refuges, Environmental Learning for Kids, American Conservation Experience, and the Rocky Mountain Arsenal National Wildlife Refuge for implementing a designed restoration and infrastructure improvement project to First Creek and First Creek Trail. The project will repair flood damage through any number of means such as installing grade control structures like biotechnical bank treatments and/or check structures, restoring a seep, removing invasive species, and restoring native riparian, wetland, and transitional shrub habitat along First Creek which is a tributary of the South Platte River. The project will result in improvements to First Creek Trail that runs parallel to the Creek by enhancing the safety and recreational experience of trail users. The goal of the entire project is to reduce sediment delivery from streambank erosion, reestablish the natural floodplain of the creek with drop structures and culverts, and maximize habitat value of the area using a heterogeneity of aquatic,

wetland, and riparian characteristics. The First Creek Restoration Project also holds special significance as it is the site of an active Bald Eagles' nest.

¹ Larson, L. R., Green, G. T., & Cordell, H. K. (2011). *Children's time outdoors: Results and implications of the national kids survey*. *Journal of Park and Recreation Administration*, 29(2)

c. *Project Offeror: Rocky Mountain Arsenal National Wildlife Refuge*

d. Teresa Crane, Grants Management Specialist
Colorado Front Range NWR Complex
6550 Gateway Rd, HQ
Commerce City, CO 80022
(303)729-2273
teresa_crane@fws.gov

e. *Total Project Cost: \$1,268,117.30*

f. *Amount of NRDA Funding Requested: \$674,999.36*

g. *Match*

| Match Source | Type (Cash or In-Kind) | Value | Status |
|-------------------|------------------------|-------------------------|-----------------------|
| FWS staff time | In-Kind | salary | Not started |
| Youth Corps crews | In-Kind | time | Not started |
| Volunteers | In-Kind | time | Not started |
| Use of Equipment | In-Kind | equivalent cost to rent | Not started |
| FWS/MHFD | Cash | time | Received |
| FWS | Cash | quantity of seed | Received, not started |
| ELK | In-Kind | time | Proposed |

h. *Signature of the Authorized Offeror*

 **DAVID LUCAS** Digitally signed by DAVID LUCAS
Date: 2023.07.25 12:21:14 -06'00'

David Lucas
Refuge Manager

2. *Scope of Work, including maps*

a. *Describe Nature and Substance of Project (general overview)*

The Rocky Mountain Arsenal National Wildlife Refuge (RMA) includes 15,000 acres of short and mixed grass prairie and is home to more than 330 species of wildlife including bald eagles, bison, the endangered black footed ferrets, pelicans, coyotes, and burrowing owls. In 2023 approximately one million people will visit the Refuge complex. Entry is free and open to the public daily from sunrise to sunset, closing for only three days out of the year. The refuge system's mission is to conserve, protect and enhance fish, wildlife, plants and their habitats for the continuing benefit of the American People.

There are 20 trails that are open to visitors at the Rocky Mountain Arsenal National Wildlife Refuge, one of which is the First Creek Trail which was built by volunteers in 2017. At 1.6 miles long, the trail runs parallel to First Creek which is within the South Platte River watershed. The First Creek Trail is one of the most remote and scenic trails in the entire Refuge and includes a wildlife viewing lookout area. And although it is several miles from the Visitor Center and the more popular trails around the lakes, it

can be reached on foot by the Montbello neighborhood to the South and Denver Open Space to the East. Despite its remote location, it happens to be a very popular trailhead for hikers and bikers.

The Montbello community has a total population of about 37,000 people where 64% of the population is Hispanic and 19% of the population is Non-Hispanic Black. The Montbello community has been identified as a disadvantaged neighborhood within the Justice40's Climate and Economic Justice Screening tool (defined as when household income is less than or equal to twice the federal poverty level). In one tract within the neighborhood, 66% of people are low income and 42% of people who are 25 years and older have less than a high school diploma. This project will improve the habitat, wildlife, and recreational experience for those at the Refuge, and will contribute to the mental, physical, and social health benefits for those closest to the Refuge within the Montbello neighborhood who can now more easily access the Refuge.

The issue with the existing site is that in the early 1900s, portions of First Creek where the current trail exists were channelized and straightened by homesteaders who occupied the area for farming. The Creek's historical alignment was altered by human activities to the extent that the natural alignment and landscape characteristics have been lost, including removal of native vegetation, increased runoff in the drainage basin, and continued erosion which has resulted in a very unstable creek corridor.



Figure 1. Erosion along First Creek Corridor, Dec 2023

Over the next 30 years it is anticipated that the upstream First Creek watershed will continue to urbanize, and the flow regime of First Creek will be significantly changed. Base flows will increase, as will the frequency and duration of higher flows resulting from storms, contributing to more road closures and flooding in nearby residential areas. The latest surge happened on May 12th when Denver International Airport—adjacent to RMA—received 2.92 inches of rain, breaking a daily record for most rain set back in 2011 (NOAA). Heavy rain in Aurora led to flooding at RMA resulting in trail and road closures again, demonstrating the urgency for improvements at First Creek (flooding in Figures 2 & 3). Degradation in the channel will get worse and more costly if steps are not taken to curb these trends.



Figure 2. First Creek - extremely high flows. Future drop structures & revegetation will help mitigate. May 2023

This project will help to maintain the Creek's function as a wildlife corridor, control erosion of the channel banks, and establish native vegetation through restoring the original flood plain that will increase the biodiversity within the Bald Eagle Shallows area and downstream. Restoring the original flood plain will also help to reduce the base flow as it allows the water in the flood area soak in and refill the water table at the Refuge. This will have a positive impact on the Refuge's bison herd by giving them more consistent water access throughout the year since First Creek is an important water source for the bison. It would also contribute towards the broader Refuge goal of returning First Creek to its original flow patterns prior to its human cultivation condition.

For the Trail portion of this grant project, Refuge staff will lead three youth corps crews and – pending other funding—the Environmental Learning Kids urban rangers to remove

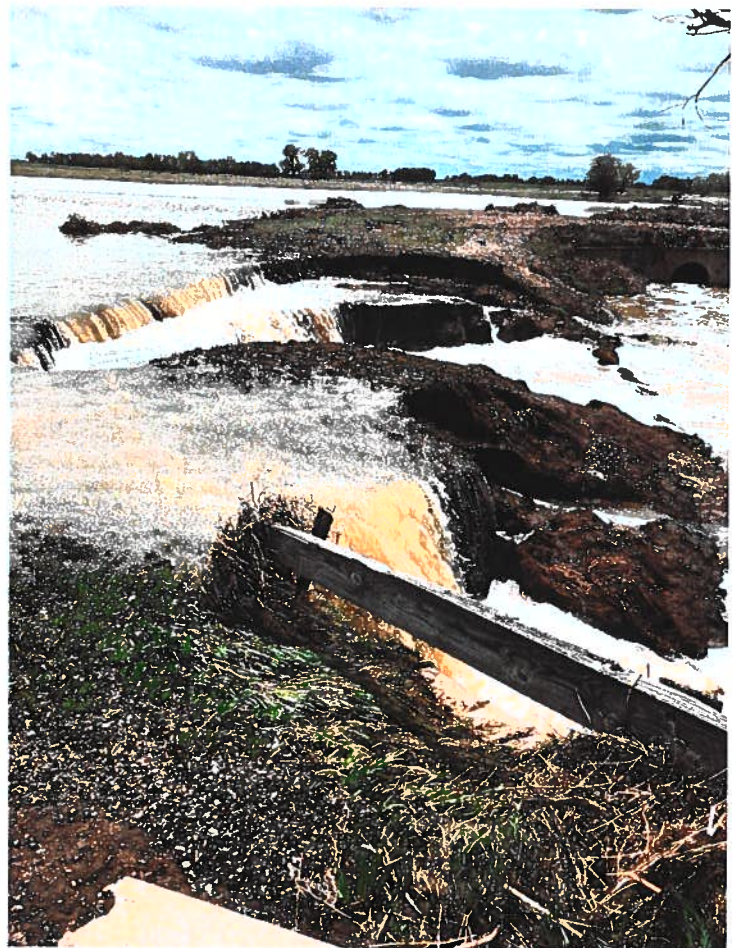


Figure 3. First Creek - significant soil erosion where bank stabilization & revegetation will assist on future events. May 2023

State listed noxious weeds, conduct trail maintenance, and build enclosures around sensitive plant species for protection until established. For the Creek portion of this project, Mile High Youth Corps will remove State listed noxious weeds, cut and prepare willow poles for planting, plant willow shrubs and hackberry/cottonwood trees in the riparian corridor, and spread seed. Mile High Flood District has already begun drafting a Design Plan to be completed by September that will guide the installation of water flow control structures along the Creek within the Refuge. Part of the plan is federal cash match while the MHFD is contributing \$30,000 of its own funds toward the plan. The Refuge will also use its own funding to incorporate drop structures according to the plan, guided by Mile High Flood District's technical expertise in the field so that the structures will cause water to backfill and smooth out the steep/exposed stream bank. As a matching contribution RMA staff will use its own equipment to implement the recommendations for the built structures, invasive species removal, and seed planting.

After Mile High Flood District completes the design, the Refuge will use contractors to install potential structures such as a Texas Crossing at 64th Avenue and First Creek as part of its cash match contribution. If needed, a coffer dam could be built which will temporarily divert the base flow of water to an existing culvert just West of the site. Including structures such as a vented ford would have the following benefits:

- lower construction and long-term maintenance costs
- less channel and flood plain blockage
- usefulness in watersheds that have experienced severe disturbances
- enables passage of aquatic organisms, protects endemic species from invasive competitors
- better grade control

Additionally, these funds will cover major water quality improvements to First Creek guided by recommendations from 1994 and 1997 environmental engineering reports completed for RMA. While the reports will guide efforts, they have become outdated. Over the last 30 years flow rates at First Creek have changed with the construction of large residential developments resulting in more than 2,000 new homes located along the borders of RMA that will impact the boundaries of the 100 year floodplain. According to climate research study commissioned by Denver², if current trends continue this area is projected to have an increase in severe storms with significant rain or snow. By 2050 hotter temperatures are expected, increasing from the current average of 5 days where temperatures are 95+ degrees to 35 days per year when temps are 95+ degrees. Given the climate disruptions and the changes happening around RMA, a new Design Plan with computer modeling will produce more accurate flow rates and flood plain boundaries so that restoration measures will be more effective and keep pace with the changing climate of this cold semi-arid local steppe region.

Recommended improvements include both built structures and natural systems. Three biotechnical bank treatments and three check structures are proposed between 64th and 72nd Avenues to remediate the erosion and head-cutting. Additional rerouting of the creek channel may be required in which case equipment rental will be utilized to expand the project downstream beyond 72nd past 88th Avenue. Equipment rental may also be used to fix an impaired seep - a wet area where water is reaching the surface from an underground aquifer - along First Creek.

To help stabilize the bank, improvements will also include restoring native vegetation through four gallery/riparian communities, six transitional shrub communities, and three cottonwood galleries for a total of roughly 1,500 trees and shrubs. The vegetation will be planted by volunteers, staff, two American Conservation Experience interns, ELK, and youth corps crews. An extensive native prairie mix will be seeded on approximately 1,000 acres in the uplands between 64th and 88th Avenues which covers the 100-year flood plain area. As a result of these improvements, it can be reasonably assumed that significant damage by a major event along the main channel will be reduced.

The Friends of the Front Range Wildlife Refuges will engage additional volunteers to raise awareness of the project and to do more willow plantings, conduct invasive species removal, and perform trail maintenance as needed. The Friends will also be the Refuge's ambassadors to the public, youth such as Environmental Learning for Kids (ELK) and volunteers at the site by explaining the historical context, the value of re-establishing the original floodplain, and how their actions are a significant contribution towards these long-term wildlife benefits.

² Saunders, Stephen & Easley, Tom & Mezger, Melissa. (2017). *A report to Denver Environmental Health. Future Extreme Heat in the Denver Metro Area.*

b. *Target Natural Resource(s)*

i. *Describe how the proposal will improve and restore water quality in the South Platte River in Denver and Arapahoe Counties.*

First Creek is an East bank tributary of the South Platte River that begins in Arapahoe County and generally flows Northwest through Denver and Adams Counties before reaching the South Platte River. First Creek enters RMA from the Southeast corner flowing approximately five and a half miles across short and mid-grass prairie to where it exits the Northern border near 96th Avenue and Peoria Street. First Creek has had flooding problems in the past which have left it with an unstable creek corridor and has caused road closures to 96th Avenue. Bridge culverts that cross the creek help to control the volume of water as it flows through the Refuge. However, in September of 2013 a major flooding event eroded the channels of these structures, damaging habitat and native plants along the banks of the Creek in an area referred to as the Bald Eagle Shallows (see *Figure 7. Bald Eagle Shallows, existing conditions*).

The first goal of this project is to restore water quality in First Creek by reducing the sediment load and by re-establishing the natural flood plain of the Creek. To accomplish this goal, RMA has met with Mile High Flood District to layout a strategic approach to replacing a washed-out culvert with structures such as a vented ford, re-rounding multiple small culverts, repairing a road slump between two box culverts, and adding drop structures to reduce the cut bank along First Creek. In addition to these structural repairs, this project would specifically support stream and riparian habitat restoration activities from the Bald Eagle Shallows area downstream to 88th Avenue. The proposed restoration would take place along three and a half miles of the Creek and three-quarters of a mile of trail adjacent to Buckley Road. These repairs to the First Creek channel will improve water flow, reduce downstream erosion, create a safer and more resilient infrastructure to reduce future repair costs, establish more wetlands, and will benefit wildlife and water quality by removing invasive species and replacing with native vegetation and seeds. It will also control increased flows associated with upstream development of First Creek and its watershed within Denver County such as the Denver International Airport and residential development, ensuring compatibility with the need for future water detention on First Creek.

Another problem to be addressed includes a historic "seep" which is located on the eastern side of First Creek approximately half of the way through the Refuge. This seep was channelized by the US Army. To restore this seep, existing channels will be removed, and the seep will be placed back to its historic location. This area will be reseeded as wet meadow providing additional wetland habitat for migratory shorebirds and so-called "secretive" marsh birds including Virginia and sora rails.

High densities of weeds reduce the overall success of restoration sites and damage the integrity of remnant prairies, reducing the biological diversity needed to provide resilient habitat for wildlife species. Weeds also outcompete the native species which provide high quality forage needed to

sustain large herbivores such as bison. By improving these habitats, the Refuge will be conserving the unique and declining prairie and the wildlife that depends on them.

In September of 2022 the Community College of Denver conducted a survey of the various species in the Bald Eagle Shallows, specifically at the pond upstream of the existing washed-out culvert. *Figure 4* below contains a chart with their findings. Their stationed cameras captured several wildlife species, two of which are shown in *Figures 5 and 6*.

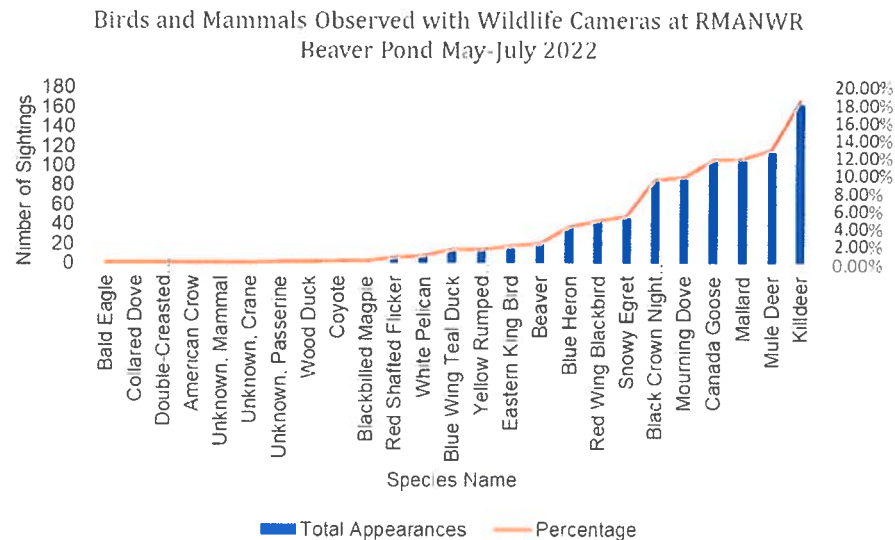


Figure 4. Birds and Mammals Captured on Wildlife Camera



Figure 5. Western Kingbirds

(*Pimephales promelas*) and the brook stickleback (*Culaea inconstans*) were two species of small fish living in the pond.

To summarize, the targeted natural resources benefiting from this project include over 25 species such as bald eagles, willows, cottonwoods, native prairie shrubs/grasses, blue heron, snowy egrets, mallards, mule deer, wild turkey, and beaver. Improved riparian habitat along the banks will increase the number and diversity of invertebrates from the existing lentic-dwelling macroinvertebrate species that exist there currently like snails, slugs, and beetles which are a food source for fish.

The beavers at the pond are an important finding when looking at Cooke and Zach's (2008)² study on species diversity in correlation to beaver activity. They found that the presence and size of beaver dams benefited riparian species faster than non-riparian species. A separate study by Aznar and Desrochers (2008)³ found that the presence of beaver structures correlates with high diversity rates in riparian species, and that ponds with active beaver sites tend to experience up to five times the amount of bird diversity than ponds that have been abandoned. In addition to the birds and mammals noted above, Community College of Denver also found that the fathead minnow



Figure 6. Pelicans

² Cooke, Hilary A., and Steve Zack. "Influence of Beaver Dam Density on Riparian Areas and Riparian Birds in Shrubsteppe of Wyoming." *Western North American Naturalist*, vol. 68, no. 3, Sept. 2008, pp. 365–373, 10.3398/1527-0904(2008)68[365: iobddo]2.0.co;2.

³ Aznar, Jean-Christophe, and André Desrochers. "Building for the Future: Abandoned Beaver Ponds Promote Bird Diversity." *Écoscience*, vol. 15, no. 2, 1 June 2008, pp. 250–257, 10.2980/15-2-3107. Accessed 28 Jan. 2022.

ii. *Provide a detailed description of the area (acreage, linear footage, etc.) of natural resources addressed by the proposal.*

First Creek can be described as a losing stream as it discharges water to the groundwater as it flows, resulting in a narrow riparian corridor. The stream bottom is often five feet below the existing top of bank. The Bald Eagle Shallows has various habitat communities consisting of a sand sagebrush (*Artemisia filifolia*) community that runs along the west side of First Creek. Smooth brome (*Bromus inermis*) has invaded the area of the sand sagebrush community.

Cottonwood Galleries are also present which are a monotypic stand of mature cottonwood trees which are historically common through the Plains region. A mature stand not only provides bank stabilization with extensive root system but also has historically been the habitat of choice of bald eagles on the arsenal, currently hosting one nesting pair. The current cottonwood galleries adjacent to First Creek likely established following the 1933 flood event and are more than 85 years old. These trees, which currently are used by nesting and roosting bald eagles, will likely begin to die within 20-25 years and new cottonwoods are not surviving to replace these trees. This is likely due to a combination of factors, including channelization of the creek in the 1940's and 1950's that produced steep cut-banks and construction of upstream stormwater retention basins to minimize large water inflows. Collectively, these alterations have eliminated flood events that are necessary to create bare mineral substrate necessary for germination of cottonwood seedlings. With this funding, 309 Cottonwood, 94 Hackberry trees, and 141 Peachleaf Willows (from cuttings at the Refuge) will be planted by MHYC, ELK, and other volunteers along the Creek corridor downstream of the pond. The recommended shrub composition is suggested because of its capability to withstand various hydrological conditions.

Although urbanization surrounding RMANWR is expected to increase flows in First Creek, most of the increased runoff created during significant rain events will be trapped and caught upstream.

Consequently, the increased flow will probably result only in a temporary rise of the groundwater table near streams like First Creek for short periods, rather than larger peak stream flows or “pulses” necessary to create the scouring conditions at the proper time for natural cottonwood regeneration. Therefore, restoring the natural floodplain of the creek will help to improve conditions for new cottonwood growth.

Five state listed priority invasive weed species will be removed from the site:

- houndstongue (*Cynoglossum officinale*)
- Canada thistle (*Cirsium arvense*)
- musk thistle (*Carduus nutans*)
- Scotch thistle (*Onopordum acanthium*)
- common mullein (*Verbascum thapsus*)

Planting native vegetation will help to prevent invasives from re-establishing and will improve riparian habitat along three and a half miles of the Creek and three-quarters of a mile of trail. The restoration will have spillover benefits on the remaining mile of the Creek before it exits the Refuge. About 1,500 trees and shrubs will be planted, mostly concentrated between 64th and 80th Avenues resulting in four gallery/riparian mixes, six transitional shrub mixes, and five cottonwood galleries. Shrub species must be native to the region, adapted to specific moisture regimes within each micro-habitat, have high survival rates, and plant sizes must maximize survivability yet be cost efficient. Shrubs will include Winterfat, Woods Rose, Sandcherry, Skunkbush Sumac, Snowberry, and Wild Plum. Approximately 6,000 pounds of native seed will be planted across 600 acres. The new galleries and native seeding will improve the diversity and coverage of native habitat for wildlife such as mule deer, beavers, Great blue heron, snowy egrets, mallards, and waterfowl, as well as improving invertebrate habitat that benefits the fish.

Replacing the washed-out culvert and adding several drop structures along two miles of the Creek will enhance the natural flood plains thereby reducing the pressure of strong water flows coming from developments upstream.

iii. *Provide a map of the area.*

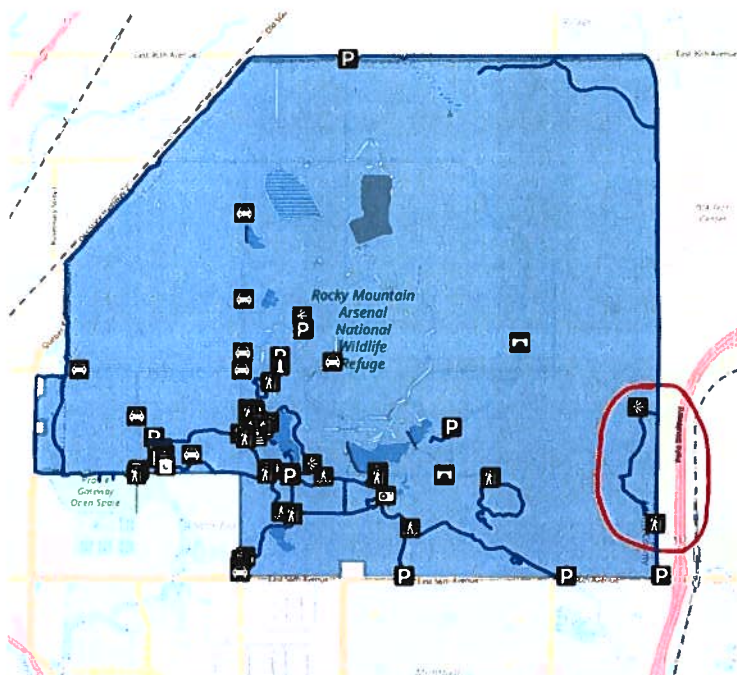


Figure 7. Rocky Mountain Arsenal National Wildlife Refuge, First Creek Trail

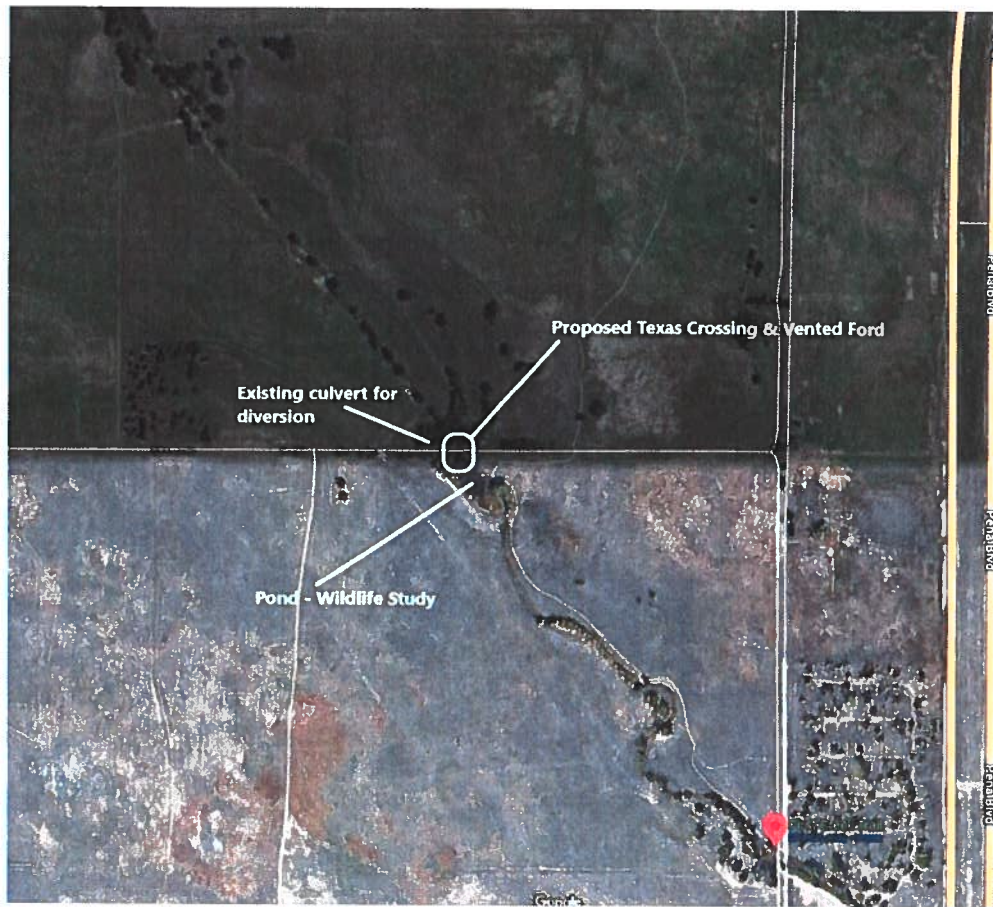


Figure 8. Project Site. First Creek Trailhead as it enters the Refuge. View of Bald Eagle Shallows & First Creek.



Figure 9. Stream restoration site along First Creek between 64th and 72nd Avenues



Figure 10. Stream restoration site along First Creek between 72nd and 88th Avenues. Seep to be addressed, more wetlands created.

c. Objectives: Provide clear, measurable, realistic, time-phased, objective(s) for the work proposed.

Objectives for this two-year project include:

1. Solicit a Design Plan for the project (match, by Sept 1, 2023)
2. Begin FWS contracting process (Sept 2023 – Mar 2024)
3. Implement the Design recommendations through installation of vented fords or other identified structures along First Creek (match, by Nov 30, 2024)
4. Three youth corps crews will complete work on the following for two weeks each in 2023, 2024 and 2025:
 - a. provide weed control efforts designed to eradicate or reduce five state listed priority invasive weed species found in Bald Eagle Shallows and downstream
 - b. provide three-quarters miles of trail maintenance and repairs on First Creek Trail
 - c. install control structures as needed along three and a half miles of First Creek between 64th and 88th Avenues.
 - d. participate in over two and a half miles of riparian habitat restoration work along First Creek to result in 6,000 pounds of native seed planted across 600 acres.
5. Refuge staff will support Region 6 U.S. Fish and Wildlife Priorities:
 - a. Engaging youth and developing the next generation of lifelong conservation stewards
 - a) One ELK youth tree planting event (Fall 2024)
 - b) Give ELK overview of human impacts along First Creek and the vision for its long-term viability as steppingstones of engagement; priority of the Urban Standards of Excellence.
 - b. Engagement with non-traditional audiences to build a new conservation constituency
 - a) Volunteer outreach in nearby neighborhoods to engage in at least one restoration project
6. Uphold Urban Standards of Excellence:
 - a. Strengthen relationships with the five partners involved in this project.

- d. *Operational Plan: Submit an operational plan that describes the proposal.*
i. *Describe in detail how the work will be implemented.*

The project will take place in four phases over two years.

The **Planning** phase has begun as Refuge staff have met with the Mile High Flood District to describe the scope, challenges and goals of the First Creek project. Mile High Flood District will draft a design plan by September 30, 2023 that will guide the structures to be put in place. During this time Refuge staff will meet with the Denver Regional Manager of the Mile High Youth Corps to discuss corps composition, recruitment, and activities for the three youth corps crews that will be implementing the Creek and Trail restoration projects. Any environmental clearances will be sought such as the NEPA requirements, and seed and supplies will be ordered by January 2024. Heavy equipment will be ordered for construction of the control structures and any rechanneling that is needed.

The project will begin to **Launch** after review of the Design when Refuge staff will be able to identify the culverts/structures for the projects and a contractor selection based on those structures and work (matching contribution). During this time mowing will take place to begin to control the invasive species in Bald Eagle Shallows, as will other manual invasive species removal and trail repairs such as the adding a medium called crusher fine to the path (grant supported).

Next the **Construction** Phase will launch with the Wildlife Refuge Specialist overseeing relocation of bison fence and the building of a coffer dam (if required), the contractor installing the structures such as a Texas crossing and/or pre-cast concrete pipes, installation of drop structures, and finally removal of the coffer dam (matching contribution). Biotechnical bank treatments and check structures will also commence during this time based on the recommendations from the Design Plan.

Finally, **Restoration** along the Creek can begin including MHYC, ELK, and Refuge volunteers planting native seeds, restoring the riparian habitat, planting willows, and any other design elements included in the plan. U.S. Fish and Wildlife staff will lead three youth crews (one corps each in 2023, 2024, and another corps in 2025) to do this work. Trail restoration will be concluded by Sept 30, 2025.

- ii. *Describe with whom the Offeror will collaborate to accomplish the scope of work. Provide letters of support from those entities and any other letters of support as an appendix to the proposal.*

Rocky Mountain Arsenal National Wildlife Refuge will collaborate with five key partners on this project including the City and County of Denver Parks and Recreation, the Mile High Youth Corps, Friends of the Front Range Wildlife Refuges, Environmental Learning for Kids (ELK), Mile High Flood District. Organizational missions and roles are described as follows:

RMA has a longstanding partnership with the **City and County of Denver Parks and Recreation** from past projects such as opening access points along 56th Street to the Montbello neighborhood. This has been value added for each partner and for the shared communities that both serve. This project would be an opportunity to build upon that longstanding relationship as Denver Parks and Recreation has recently expanded the Open Space adjacent to the Refuge near the First Creek Trailhead to over 580 acres. Due the shared boundary of this Open Space and the RMA, it is imperative that RMA continues to partner with Denver Parks and Recreation to ensure safe access for the community to these shared spaces, and to provide project engagement points along First Creek and the Denver Parks and Recreation trail system.

The Refuge will collaborate with the **Mile High Youth Corps** in recruiting the manual work crews who will help with trail improvements, invasive species removal, native plantings such as willows, and other restoration within the riparian buffer. Mile High Youth Corps works in 23 counties across the state to promote the development of youth ages 18-24. MHYC has long-term impacts on individuals, communities, and the environment for over 30 years by combining meaningful paid service opportunities in career pathways with education and personal exploration to help young adults discover their strengths and learn to lead. Refuge staff will provide training to the crews, identify projects within the schedule, and oversee safety.

The Friends of the Front Range Wildlife Refuges (FFRWR) will collaborate with the partners on this project to identify and coordinate volunteers to participate in restoration along First Creek. FFRWR is a non-profit that supports the Rocky Mountain Arsenal National Wildlife Refuge to conserve and restore native habitat and wildlife, as well as to provide meaningful opportunities for the public to experience wildlife near a major metropolitan area.

Since 2014 **Environmental Learning for Kids (ELK)** has supported year-round field experiences, summer employment programs, and general community outreach to offer environmental education programs to public and private schools as well as community groups around the RMA. ELK's Urban Rangers program provides leadership opportunities for youth to guide field experiences at RMA. ELK is planning for their Urban Rangers to lead a one-day event (willow/cottonwood plantings or another hands-on restoration project) with their youth and volunteers. Their activity would not be covered by the grant and instead would be counted towards cost share.

Established by the Colorado legislature in 1969 to assist local governments with multi-jurisdictional drainage and flood control challenges, **Mile High Flood District (MHFD)** provides services such as planning studies, capital improvement projects, flood hazard mapping and warning systems, and stream rehab to the 41 local governments in the Denver region. For this project MHFD will work with RMA to provide a design plan for restoring First Creek's original flood plain on the Refuge and provide technical expertise in the field as the control structures are put into place (matching contribution).

American Conservation Experience (ACE) is a non-profit organization dedicated to providing rewarding environmental service opportunities that harness the idealism and energy of a volunteer labor force to help restore America's public lands. ACE is grounded in the philosophy that cooperative labor on meaningful conservation projects fosters cross-cultural understanding and operates on the belief that challenging volunteer service unites people of all backgrounds in common cause. The Refuge will onboard two emerging professionals from ACE whose primary responsibilities will be to participate in restoration efforts and ensure ongoing maintenance for long-term project success.

iii. *Describe the type and name(s) of donors and what they are contributing in equivalent dollar amount of match if in-kind or actual dollar amount if cash.*

| | | | |
|------------------------|---------|-------------|-------------------------|
| FWS staff time | In-Kind | \$70,962.94 | salary |
| Youth corps crews | In-Kind | \$17,160 | 2023 thru spring 2024 |
| Volunteers | In-Kind | \$2,995 | 29.95/hr/person, 100hr |
| Use of Equipment | In-Kind | \$20,250 | equivalent cost to rent |
| FWS – MHFD Design | Cash | \$30,000 | contractual |
| FWS- Control Structure | Cash | \$350,000 | contractual |
| FWS - seed | Cash | \$91,750 | seed |
| ELK | In-Kind | \$10,000 | restoration |

*iv. Provide construction designs and drawings, if applicable, maps of proposed restoration location(s), and a schedule and/or timeline for the completion of major project components. For proposals that require an engineering design, prior to construction final design documents must be submitted with appropriate professional engineer stamp or certification of design documents. Following construction as-built survey documents will be required. The submittals shall be provided in electronic *.pdf format.*

Please refer to the maps shown in Figures 6-9 of the proposed restoration location, and to the Project Schedule in section ix. for the major project components.

v. Describe to what degree the proposal matches the goals of environmental restoration.

The U.S. Fish and Wildlife Service is the only agency in the federal government whose primary responsibility is the management of fish and wildlife for the continuing benefit of the American people. Towards this end the Refuge will utilize this project to align with the following goals of environmental restoration:

1. repair flood damages to reestablish the natural floodplain of the Creek
2. restore native riparian habitat along First Creek
3. reduce sediment delivery from streambank erosion through drop structures and culverts
4. maximize habitat along First Creek using a heterogeneity of aquatic, wetland, and riparian characteristics
5. enhance critical Bald Eagle for nesting and roosting

The Refuge's Habitat Management Plan states that by 2027, the Refuge will provide a gallery forest at least one mile in length that has a canopy closure of 20-50% and is dominated (>75%) by cottonwoods a minimum of 60 feet in height to provide habitat for bald eagle. The cottonwood plantings within this grant project would support that goal.

Taking on a project of this scope will lead to a higher degree of environmental restoration because structurally changing the flow of First Creek will have long-term impacts that will be more self-sustaining. As an example, when the Creek floods due to a major flooding event it will once again create the substrate that best promotes new growth of cottonwoods and other native plant species.

vi. Describe how the proposal will be coordinated with complimentary, similar existing, or other proposed projects in the area, if any.

The Friends of the Front Range Wildlife Refuges has submitted a grant proposal seeking support for an ELK program where ELK Urban Rangers will be trained to lead groups of urban youth and volunteers around recreational, educational, and hands-on improvement projects on four different federal/city/private land sites of their choice. One of those sites includes the Bald Eagle Shallows at the Refuge where there will be both a Hispanic-led birding event and a willow/cottonwood planting restoration activity as a matching contribution for this project. The partnership with ELK also allows the Refuge to introduce the slightly older cohort of the Mile High Youth Corps to the Urban Rangers and ELK youth as well as they work on the Creek restoration together.

vii. Describe the operation, maintenance and monitoring (OMM) requirements and the entity(ies) accepting those responsibilities for the duration of the project and a minimum of 10 years thereafter, if applicable. Describe the plans or methods and schedule for how the project will be monitored to evaluate whether it is successful in achieving the restoration objectives. Describe the 6 and 12 month warranty inspections which are required following substantial completion of the proposed project. Detail the funding source, cost, and entity responsible for conducting the long- term operation, maintenance and monitoring. This shall include an Annual Report documenting the OMM.

Any construction such as with the control structures will include the federal government's 12 month warranty. Grassland restoration will be surveyed annually under the Refuge's rapid grassland assessment protocol which will monitor success or failure of discrete parcels.

This project is on U.S. Fish and Wildlife Service property and therefore by law the U.S. Fish and Wildlife Service has the responsibility to monitor its restoration efforts. The Refuge uses a Comprehensive Conservation Plan that was developed in 2013 which outlines Refuge priorities. Furthermore, a Habitat Management Plan (HMP) was also created based on relevant Service laws and policies, including the RMANWR Act of 1992 (PL 102-402), the National Wildlife Refuge System Improvement Act of 1997 (Improvement Act), and the Service policy on Biological Integrity, Diversity, and Environmental Health (BIDEH) (U.S. Fish and Wildlife Service 2001). The RMANWR Act stipulates eight purposes for establishment of the Refuge, the Improvement Act mandates the environmental health of refuge lands be evaluated and analyzed to "ensure that biological integrity, diversity, and health of the System are maintained for the benefit of present and future generations of Americans." BIDEH directs managers to employ management that "restores or mimics natural ecosystem processes or functions to achieve Refuge purposes." Collectively, these and other documents stipulate that refuge managers should implement the most appropriate management actions to restore degraded systems to the extent possible and prevent further degradation of systems, which will depend on many factors including funding and staffing. Funding for this project will fill that gap for restoration needs along First Creek.

Given the 15-year lifespan of the Refuge's HMP (which went through a public comment process), the principles of adaptive management will be used to evaluate and modify management strategies following completion of all restoration efforts for the 10 years following this project. The HMP identifies important wildlife resources on the Refuge and the management strategies that will be implemented to help ensure the appropriate life-cycle needs of these species are met at the appropriate spatial scale. The existing bridge culvert that crosses the creek at Bald Eagle Shallows which has damage and is proposed to be replaced through the larger project is also identified as a priority in the Refuge's Water Management Plan.

Invasive species will be removed manually by youth corps crews and mechanically through mowing so that native seed can be planted. Noxious weed populations and other invasive species are routinely monitored and mapped as part of constant vigilance to determine the extent of infestations. Monitoring is achieved by simple stem counts of small or woody infestations and by using GPS equipment to measure the acreage of a weed population and to map infestations throughout the Refuge. This is done annually, especially examining areas that are near and in spots that were previously sprayed to prevent a chance of reoccurrence.

The tree and shrub plantings will be kept watered after planting for the first season through the use of a water truck to the site or if there is a lack of access, use of a water pump. Hiring two ACE interns covering two years will ensure that the plants survive and that crews are mobilized for the activities listed below. This will help to ensure that not only is the fencing monitored but that the larger saplings will have a higher survival rate.

viii. Permits/Approvals/Certifications: Describe all permits, licenses, approvals, professional engineers stamps of engineering design and as-built documents that will be required to complete the project and describe current status/progress towards obtaining these permits/approvals.

The Refuge will submit required pesticide use permits and reports if the integrated pest management activities warrant them. Within the spirit and intent of the Council on Environmental Quality's regulations for implementing the National Environmental Policy Act and other statutes, orders, and

policies that protect fish and wildlife resources, any environmental clearances will be sought as required by this project.

ix. Project Schedule: Provide a timeline which identifies project phases, milestones, midpoint and pre-final inspections.

It is anticipated that the First Creek Project would take two years. The proposed period of performance is October 1, 2023 through Sept 30, 2025. A timeline of phases (in blue), grant activities (gray), and milestones (in bold) are as follows.

x. Monthly Invoice and Status Report: Describe which activities in the operational plan will be tracked, how they will be counted, and how they will be reported in the monthly invoice.

The activities which will be tracked for this project include the following:

- weekly record of the youth corps crew activity resulting in acreage or mileage of trail or creek impacted
- weed control efforts that will track progress in reducing the five, state listed priority invasive weed species found in Bald Eagle Shallows
- riparian habitat restoration work along First Creek will also be tracked by pounds of native seed planted and number of willows/cottonwoods planted
- number of volunteers and youth involved in restoration at the site

| Activity | Role | Date |
|---|--|---|
| Planning Phase | | |
| Design Plan Complete | MHFD | Sept 1, 2023 |
| Initiate Contracting – Texas Crossing, ACE | Project Leader, Deputy Project Leader | Oct 1, 2023 |
| Meet with MHYC's Denver Regional Manager to plan youth corps crews | Grants Specialist, Deputy Project Leader | Sept 30, 2023 |
| Trail & Creek Restoration: order native seed, crusherfine, supplies | Wildlife Refuge Specialist, Administration Officer | Dec 31, 2023 |
| Launch Phase | | |
| Clear invasive vegetation, prevent seed spread through mowing. | Wildlife Refuge Specialist | Dependent on species, mostly year-long. |
| Invasives removal, improving path with crusherfine | Mile High Youth Corps | March 1, 2024 – Nov 30, 2024 |
| Willow and Cottonwood prep and plantings, native seeding | MHYC, ELK youth, Urban Rangers, Friends Volunteer Coordinator, Refuge Volunteers/Staff | March 1, 2024 – Nov 30, 2024 |
| Deliverable 1: Invasive Species Removed | MHYC, FWS staff, youth corps | Sept 30, 2025 |
| Construction Phase | | |
| Install Drop Structures | FWS staff, Mile High Youth Corps, Contractor | 3 months |
| Build biotechnical bank treatments | Equipment Operator, MAT | Sept 30, 2025 |
| Repair seep | Equipment Operator, MAT | Sept 30, 2025 |
| Deliverable 2: Plant Willows/Cottonwoods | MHYC, ELK youth and Urban Rangers, Friends Volunteer Coordinator, Refuge Volunteers | Nov 30, 2024 |
| Restoration Phase | | |
| Deliverable 3: Trail Restoration Complete | MHYC, FWS staff | Nov 30, 2024 |
| Deliverable 4: Creek Restoration Complete, seed planted | MHYC, FWS staff | Sept 30, 2025 |
| Deliverable 5: multiple control structures built | Equipment Operator, MAT | Sept 30, 2025 |

The likely activities from the above list that will be included in a monthly invoice include any progress of the major deliverables such as the pounds of seed planted and youth corps accomplishments.

xi. *Project Documentation and Deliverables: Provide a list of documentation and deliverables that will be supplied for the proposed project and throughout the duration of the project including the OMM phase.*

A copy of the Design Plan from Mile High Flood District will be supplied as well as the following deliverables with photos.

Deliverable 1: Area of Invasive Species Removed

Deliverable 2: 403 Cottonwood/Hackberry trees and 141 Peachleaf Willows (from cuttings) planted; four gallery/riparian communities, six transitional shrub communities, and three cottonwood galleries installed for a total of roughly 1,500 trees and shrubs.

Deliverable 3: 3/4 Miles of First Creek Trail Restoration Complete

Deliverable 4: 3.5 miles of First Creek Restoration Complete - 6,000 lbs native seed planted

Deliverable 5: multiple control structures built based off Design Plan but likely to include biotechnical bank treatments and check structures

3. *Budget Spreadsheet: Describe the total dollar amount requested for the project. Break out the total amount requested by budget categories (personnel, fringe benefits, travel, equipment, supplies, contractual, and operating expenses). Detail those costs that will be claimed as in-kind match, including but not limited to engineering, planning and administration. A budget spreadsheet shall be supplied separately for each substantially different proposal component. (For example, land acquisition costs will be presented separately from habitat restoration costs.)*

Within the proposal, describe and justify what will be obtained with the funds. List key staff members that will be assigned to the proposed work, how much time they will work on the project (how many hours per week), and brief descriptions of duties. Describe all private and public (local, state, and federal) funds by budget category that may be expended in the completion of this proposal. Detail the type, donors and dollar equivalent of matching funds obtained to complete or compliment this proposal, if applicable.

| Grant Project Budget | | | | | |
|-----------------------------------|-----------------------------------|---------------------------|--------------|--------------|----------------------|
| Position | % of Time | Annual Salary | Time Period | Total Cost | |
| wildlife refuge specialist | 30% | \$ 74,734.40 | 2 yrs | \$ 44,840.64 | |
| equipment operator | 30% | \$ 86,171.34 | 2 yrs | \$ 51,702.80 | |
| | | Description | Unit Cost | Quantity | Total Cost |
| Materials & Supplies | | | | | |
| | native seed | prairie wetland mix | \$70/lb | 1500 lbs | \$ 105,000.00 |
| | native seed | sandyland mix | \$14.50/lb | 2000 lbs | \$ 29,000.00 |
| | cottonwood/hackberry | 2" diameter | \$295/tree | 403 | \$ 118,885.00 |
| | shrubs | mult varieties, avg price | \$21/shrub | 1045 | \$ 21,945.00 |
| | fencing and tree stakes | protects from beaver/deer | | | \$ 10,000.00 |
| | check structures | 3 structures proposed | | | \$ 25,000.00 |
| | biotechnical bank treatment | 3 major sections | | | \$ 35,000.00 |
| | seep | restoring wetland | | | \$ 25,290.00 |
| | equipment rental | | \$10,466/mo | 6 mo | \$ 62,796.00 |
| Other Direct Costs | | | | | |
| | American Conservation Experience | covering 2 yr period | \$810/wk | 104 weeks | \$ 128,790.00 |
| | FWS Maintenance Action Team (MAT) | heavy equip operators | \$7,125/week | 4 weeks | \$ 28,500.00 |
| | Mile High Youth Corps | general stwdshp crew | \$9,080/week | 4 weeks | \$ 36,320.00 |
| SUBTOTAL DIRECT COSTS | | | | | \$ 626,526.00 |
| NICRA PASS-THROUGH RATE 5% | | | | | \$ 25,636.80 |
| NICRA STANDARD RATE 22% | | | | | \$ 48,473.36 |
| GRANT TOTAL | | | | | \$ 674,999.36 |

\$674,999.36 is requested for this project. This funding would allow for the purchase of 350 acres of native seed to be planted across this section of the Refuge. Another 250 acres will be covered by the U.S. Fish and Wildlife Service as match. Over 400 larger Cottonwood/Hackberry saplings would be planted along the Creek Corridor which will stabilize the bank and reap bald eagle roosting habitat which is declining in the area. The trees will be purchased through the federal contracting process and will be planted with the help of volunteers and youth corps crews, and ACE interns, furthering in-kind and community ownership of the effort. The costs mostly fall under materials and supplies with other direct costs containing the labor to support staff given the accelerated two-year schedule. The U.S. Fish and Wildlife Service's federally negotiated indirect cost rate is 22% applied on all costs except for the costs of the larger contracts that will have the 5% pass through rate applied (ACE, MHYC, plants/stakes, equipment rental). Key staff includes the Refuge's Project Leader (match, Deputy Project Leader (match), and Wildlife Refuge Specialist (direct). Their duties include contractor oversight, project management, implementation mechanical invasive species control efforts, heavy equipment operation, location of bison herd during projects, installation of drop structures, and longevity of project outcomes after the life of the grant. The private and public funds to be expended are located within the match table.

Match/Cost Share Project Budget - Oct 1, 2023 - Sept 30, 2025

| Position | Project Tasks | % of Time | 1 Yr - Fully Loaded Rate | Total Cost | Source federal, private |
|---------------------------------|---|----------------------|---------------------------------|----------------------|--------------------------------|
| Project Leader | project oversight | 3 | \$ 234,374.40 | \$ 14,062.46 | federal |
| Deputy Project Leader | project oversight | 3 | \$ 161,616.00 | \$ 9,696.96 | federal |
| Wildlife Refuge Specialist | project support | 10 | \$ 123,219.20 | \$ 24,643.84 | federal |
| Grants Specialist | grant admin, reporting | 3 | \$ 126,880.00 | \$ 7,612.80 | federal |
| Term Wildlife Refuge Specialist | seeding, supervisor leading seasonals | 10 | \$ 74,734.40 | \$ 14,946.88 | federal |
| PERSONNEL SUBTOTAL | | | | \$ 70,962.94 | |
| Contracts | Description | | | Total Cost | |
| Mile High Flood District | First Creek Design Plan | | | \$ 30,000.00 | federal |
| Contractor | Texas Crossing, Vented Ford | | | \$ 350,000.00 | federal |
| CONTRACTS SUBTOTAL | | | | \$ 380,000.00 | |
| Other Direct Costs | Description | Per Unit Cost | Quantity | Total Cost | |
| Travel | | | | | |
| Equipment | | | | | |
| tractor | mowing | 150/day | 90 | \$ 13,500.00 | federal |
| work trucks | to and from site | 75/day/truck | 90 | \$ 6,750.00 | federal |
| Materials & Supplies | | | | | |
| crusher fine | | | | \$ - | federal |
| native seed | prairie wetland mix | 70/lb | 1000 | \$ 70,000.00 | federal |
| native seed | sandyland mix | 14.50/lb | 1,500 | \$ 21,750.00 | federal |
| Other Direct Costs | | | | | |
| volunteers | invasives removal, native plantings | 29.95/hr | 100 | \$ 2,995.00 | private |
| youth corps (fall '23 - Mar'24) | invasives removal, native plantings, trail maintenance, drop structures | \$8,580/wk | 2 | \$ 17,160.00 | federal |
| ELK | 3 hours | plantings | 1 | \$ 10,000.00 | private |
| OTHER DIRECT SUBTOTAL | | | | \$ 142,155.00 | |
| MATCH TOTAL | | | | \$ 593,117.94 | |

4. Public Communication Strategy: Describe the process that will be used to demonstrate inclusiveness, communication, and opportunities for public input over the course of the project.

The public communications strategy initially will be targeted to specific partners that are involved in the First Creek Restoration Project and will broaden to Refuge visitors and volunteers. Progress will be shared through social media outlets along with photos at the site. The Refuge is seeking outside counsel from experienced stormwater and watershed management professionals to ensure that the actions taken to improve the infrastructure of First Creek under this project will produce the intended results. MHFD has a high degree of credibility and solid reputation so their involvement in this project will broaden partner and public confidence in the restoration of First Creek. Their Design Plan can be used to gain future support as efforts are expanded downstream from Bald Eagle Shallows after the grant period.

ELK and Mile High Youth Corps (MHYC) both work with underserved youth and reflect the diversity of the urban neighborhoods that surround the Refuge. As they comprise the next generation of stewards for the Refuge, the Friends of the Front Range Wildlife Refuges (Friends) will provide an orientation for both groups with the history of the Creek and prairie, the impact of the restorative actions that they will take, and the ecosystem services that these changes will provide. Staff and partners on this project will give ELK and MHYC the training to enable them to talk about their involvement with this project, further developing their leadership skills. ELK self-selected to be a part of this project as funding allows (proposed under a separate grant). Their involvement is important to the Refuge as well, as their interests and needs shape how the Refuge approaches its own programming and outreach. Friends will incorporate the First Creek Restoration Project into the menu of options that volunteers can select from at the Refuge for meaningful participation. As such, the Friends will include orientations for the volunteers that choose to be a part of the project to raise awareness of the benefits that a healthy riparian area provides. Social media would also be utilized to communicate and demonstrate progress to the public along First Creek.

5. Relationship to the Ranking Criteria: Provide a summary of how this project meets each of the objectives indicated by the Screening and Ranking Criteria contained in Section VI.B.1 and VI.B.2 below.

The First Creek Restoration Process meets the a-j Screening and Ranking Criteria in the following ways.

- a. The Refuge is on federal property which carries with it more stringent operating standards and public input and transparency for the conservation plans under which it is managed. The Refuge's master plan called the Comprehensive Conservation Plan is written through input from Refuge partners and is made publicly available on the website and the Habitat Management Plan which prioritizes restoration areas such as First Creek must go through a public comment period. The surrounding neighborhoods that are negatively impacted by major flood events and its residents that use the trail as a connection to the Refuge will directly benefit through this proposal. All five partners on this project have expressed enthusiastic support as well. The planning process, neighborhood connections, and partnerships all point towards strong public support for this proposed project.
- b. This proposal contains five ambitious, measurable objectives that are tied to Creek and Trail design, construction, and restoration activities which are listed in question 2(c). Additionally, the benchmarks and plan are laid out in the project schedule in 2(d)(ix) with a description as to what will be tracked monthly answered under question 2(d)(x) and the plans that show monitoring responsibilities detailed in 2(d)(vii). Major deliverables are shown in question 2(d)(xi) while the individuals instrumental to this project and the organizational experience are reflected in Appendices A and B.
- c. The project will be vetted through several processes including the professional Mile High Flood District. It is informed by multiple plans including the Comprehensive Conservation Plan and Habitat

Management Plan. The Wildlife Refuge Specialist who is one of the lead personnel on this project has over 23 years of natural resource experience in invasive species management, riparian restoration and management, construction supervision and management, and infrastructure design. The Refuge itself has a successful track record of implementing projects such as this one including installation of Texas Crossings and vented fords throughout its history of existence. If the project is not technically feasible and procedurally sound, then it will not be approved internally by the U.S. Fish and Wildlife Service.

d. This project will affect two federally prioritized species including the Bald Eagle and the American Bison. It will also result in removal of five state listed priority invasive weed species. Twenty-five other species such as willows, blue heron, snowy egrets, mallards, mule deer, beaver will benefit from the riparian habitat improvements. It will also boost the diversity of invertebrates from the existing lentic-dwelling macroinvertebrate species that exist there currently like snails, slugs, and beetles which are a food source for fish. Ultimately the restoration project is a landscape scale improvement to a section of remnant native short and mixed grass prairie.

e. *Time to Provide Benefits – The time it takes for benefits to be provided to the target ecosystem or public.*

- **Immediate:** trail improvements will make it easier to hike without weeds along path and with the improved trail surface.
- **Short-Term:** 3 months – 4 years
 - Invasive weed removal will allow new native seeds and plants to grow better, continual monitoring and treatment will greatly reduce invasive species numbers over time, and the restored trail surface will enhance recreational experience for visitors.
 - Willow and Cottonwood plantings will help to prevent erosion and reduce sediment loadings which will reduce the need to dredge under downstream culverts.
 - Riparian habitat seeding will attract more and diverse macroinvertebrates.
 - Texas crossing, vented ford, and drop structures' benefits will be realized with more stable natural stream flows which should help with reduced down-cutting.
 - Restoring the natural floodplain will capture more water that will seep into underground water tables and will give the bison herd better access to water.
- **Mid-Term:** 5-10 years - after major flooding events the floodplain changes should mitigate the severe flooding in developments along the Refuge border, result in less road closures, and prevent washout of the road.
- **Long-Term:** 10-25 years – restoring natural floodplain will (1) create a better substrate after major flooding for which cottonwoods and other native species can grow, and (2) mitigate the impacts of climate change on and off the Refuge. Trees will provide shade and bank stabilization, and nesting areas for bald eagles.

f. *Duration of Benefits - The expected sustainability and duration of benefits from the proposed project. Long-term benefits are the objective.*

The First Creek Restoration Project is a landscape level project that is designed to achieve long-term benefits and has been 30 years in the making. Returning First Creek to its original flow patterns will provide long-term support to key Refuge species such as the bison herd and bald eagles. It will reduce erosion along the channel banks, sediment loads downstream, and base flows that can result in permanent property damage for neighboring communities. The Texas Crossing and vented ford lifespan is expected to be 50 years. Planting the larger 4" diameter trees will increase their survival rate, achieving an 80-100 year lifespan.

g. Match to NRD funds is a ratio of 1:4, well above the required 1:1. Sources consist of a mix of cash

and in-kind services as outlined in the responses to questions 1(g) and 2(iii)(d).

- h. Wildlife conservation is at the heart of the National Wildlife Refuge System and it drives the management decisions by the U.S. Fish and Wildlife Service over these lands and waters. Staff – with support from partners – are working for wildlife to continuously ensure that these natural resources are conserved for current and future generations to enjoy. With the First Creek Restoration Project taking place on federal property, it is protected under the 1992 Rocky Mountain National Wildlife Refuge Act which specifically calls for conservation and enhancement of land and water to conserve and enhance the natural diversity of fish, wildlife, plants, and their habitats. The benefits that result from this project will be protected in perpetuity.
- i. The First Creek Restoration Project aligns with multiple resource plans such as the Habitat Maintenance Plan and Water Management Plan that are described under question 2(d)(vii) which feed up into the Refuge's larger Comprehensive Conservation Plan.
- j. Visitors to the Rocky Mountain Arsenal National Wildlife Refuge have free entrance and the Refuge is open to the public daily from sunrise to sunset, closing for only three days out of the year. The public has full access to the Refuge.

Appendices

- A. Description of the Offeror's Organization
- B. Standards of Responsibility
- C. Budget
- D. Application/Assurances
- E. Letters of Support

**COLORADO NATURAL RESOURCE TRUSTEES
RESOLUTION AUGUST 14, 2023
CONCERNING LOWRY LANDFILL NRD RESTORATION**

WHEREAS, the Colorado Natural Resource Trustees (“Trustees”) are responsible for the management and direction of Colorado’s natural resource damages program;

WHEREAS, the Trustees are responsible for administering State funds to restore, replace or acquire the equivalent of injured natural resources;

WHEREAS, the Lowry Landfill natural resource damages (“NRDs”) settlement in 2010 established a fund to be used to restore water quality in the South Platte River in Denver and Arapahoe Counties;

WHEREAS, approximately \$675,900 remains in the fund;

WHEREAS, the Trustee Council developed a Solicitation of Project Proposals to identify additional restoration projects;

WHEREAS, the Trustee Council received and evaluated a project proposal from the United States Fish and Wildlife Service for the First Creek Restoration Project at the Rocky Mountain Arsenal National Wildlife Refuge, included in Appendix A.

NOW THEREFORE, the Colorado Natural Resource Trustees resolve as follows:

The Trustees do hereby approve the First Creek Restoration Project in the amount of \$675,900 plus all accrued interest in the Lowry Landfill NRD account. The U.S. Fish and Wildlife Service must enter into a contract to perform the work identified in its proposal within two years of the date of this resolution and the work must be completed within five years of entering in the contract to perform the work.

Philip J. Weiser
Colorado Attorney General

Date

Colorado Natural Resources Trustees Resolution #2023-08-14-01

Jill Hunsaker Ryan,
Executive Director, CDPHE

Date

Dan Gibbs, Executive Director, DNR

Date

DRAFT

ITEM #5

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STATE OF COLORADO
DEPARTMENT OF LAW

August 14, 2023

M E M O R A N D U M

TO: Colorado Natural Resources Trustees
FROM: David Banas, Senior Assistant Attorney General
RE: Division of Recovered Funds

BACKGROUND

In 2018, the Trustees and CDPHE joined a multi-state settlement resolving the State's CERCLA claims against the Blue Tee Corporation and related defendants, stemming from the defendants' liabilities for both natural resource damages (NRDs) and CERCLA response costs across numerous mining sites in and around the Bonita Peak Mining District (BPMD) near Silverton and Ouray. The settlement requires defendants to pay the State \$478,000, to be paid over five years, with the final instalment due October 2024. Rather than immediately allocate these funds between CDPHE's CERCLA Remediation Program and the Trustees' NRDs Program, the Trustees and CDPHE decided to delay this decision until settlement was reached with other defendants for NRDs in the BPMD. In three recent settlements – one with Sunnyside Gold, one with the United States, and the other with Standard Metals – the Trustees received approximately \$7 million to be used to restore natural resources in the BPMD (other NRDs funds from Standard Metals will be spent near Crested Butte). In May 2023, the Trustees and CDPHE asked staff to recommend a plan to allocate the Blue Tee funds between the two respective programs to allow the Trustees to solicit proposals for projects using money from all four settlements.

UPDATE

Staff met in July 2023 to discuss allocation of the Blue Tee funds. Various allocations were discussed, ranging from allocating 100% to the CDPHE Remediation Program on one end, to allocating 100% to the NRDs Program on the other. Staff also discussed a 50/50 split of the funds. Ultimately, staff recommends that the funds be split 50/50 between the two programs, with the interest going to the Remediation Program. This allocation makes sense because the NRDs Program intends to allocate its funds in the very near future, while the Remediation Program will incur costs in perpetuity.

RECOMMENDATION FOR ACTIONS

Staff recommends the Trustees allocate the funds as described above.

ITEMS #6-12
NO DOCUMENTS