TRUCKEE RIVER FUND

Enhancing and protecting our water resources

TRUCKEE RIVER FUND ADVISORY COMMITTEE

AGENDA

Friday, February 17, 2023, 8:30 a.m.

Community Foundation of Northern Nevada

50 Washington Street, Suite 300

Reno, NV 89503

Meeting Via Teleconference ONLY

MEMBERS OF THE PUBLIC MAY ATTEND VIA THE WEB LINK, OR TELPHONICALLY BY CALLING THE NUMBER, LISTED BELOW.
NO PHYSICAL LOCATION IS BEING PROVIDED FOR THIS MEETING
(Be sure to keep your phones on mute, and do not place the call on hold)

Please click the link below to join the meeting:
https://us02web.zoom.us/j/8785686516?pwd=K29WZlN1a0Q2Wm1YbnpIR1l1SzJUUT09
Zoom Meeting ID: 878 568 6516
Password: CFNN

NOTES:

1. The announcement of this meeting has been posted in compliance with NRS 241.020(3) at: Truckee Meadows Water Authority (1355 Capital Blvd., Reno), at https://truckeeriverfund.org/meetings/, and NRS 232.2175 at State of Nevada Public Notice Website, https://notice.nv.gov/.
2. In accordance with NRS 241.020, this agenda closes three working days prior to the meeting. We are pleased to make reasonable accommodations for persons who are disabled and wish to attend meetings. If you require special arrangements for the meeting, please call (775) 834-8002 at least 24 hours before the meeting date.
3. Staff reports and supporting material for the meeting are available on the Truckee River Fund website at https://truckeeriverfund.org/meetings/ or you can contact Sonia Folsom at (775) 834-8002 or sfolsom@tmwa.com. Supporting material is made available to the general public in accordance with NRS 241.020(6).
4. The Committee may elect to combine agenda items, consider agenda items out of order, remove agenda items, or delay discussion on agenda items. Arrive at the meeting at the posted time to hear item(s) of interest.
5. Asterisks (*) denote non-action items.
6. Public comment is limited to three minutes and is allowed during the public comment periods. To request to speak, please use the "raise hand" feature or press *9 to "raise your hand" and *6 to unmute/mute your microphone. Pursuant to Directive 006, public comment, whether on action items or general public comment, may be provided without being physically present at the meeting by submitting written comments online by email sent to lrenda@nevadafund.org prior to the Committee opening the public comment period during the meeting. In addition, public comments may be provided by leaving a voicemail at (775)834-0255 prior to 4:00 p.m. on August 19th. Voicemail messages received will either be broadcast on the telephone call during the meeting or transcribed for entry into the record. Public comment is limited to three minutes and is allowed during the public comment periods. The Committee may elect to receive public comment only during the two public comment periods rather than each action item. Due to constraints of the videoconference system, public comment must be provided by voicemail, email, or online comment as indicated above.

1. Roll Call*
2. Public comment (limited to no more than three minutes per speaker)*
3. Approval of the agenda (**for possible action**)
4. Approve the November 2022 summary meeting minutes (**for possible action**)
5. Fund balance report*
6. Review grant proposals to Truckee River Fund and select projects to be recommended for funding (**for possible action**)
7. Review completed projects*
    a. **#252 Truckee Meadows Parks Foundation**: Dog Waste Awareness Campaign, $60,775 (Jim)
    b. **#253 One Truckee River**: River-Friendly Landscaping Program Expansion, $48,000 (Terri)

c. **#254 One Truckee River**: Broadhead Park Restoration Project: Phase 1, $69,724 (Don)

d. **#255 KTMB**: 2022 Great Community Cleanup, Truckee River Cleanup, Adopt-A-River Program, & Adult and Community Education Program, $82,880 (Jim)

e. **#261 Friends of Nevada Wilderness**: Mount Rose Noxious Weed Monitoring, Treatment, and Re-Seeding #10, $23,250 (Brian)

f. **#267 Sierra Nevada Journeys:** Watershed Education Initiative, $30,542 (Michael)

8. Review meeting calendar*
9. Committee and staff comments*
10. Next meeting: May 19, 2023 at 8:30am (**for possible action**)
11. Public comment (limited to no more than three minutes per speaker)*
12. Adjournment **(for possible action)**

MEETING MINUTES
(TRANSCRIPT SUMMARY)

TRUCKEE RIVER FUND ADVISORY COMMITTEE
MEETING OF NOVEMBER 18, 2022

(Meeting via Zoom and teleconference)

The following meeting minutes is a summary of the certified transcript for the Truckee River Fund Advisory Committee meeting held at 8:30 a.m., Friday, November 18, 2022, via Zoom and teleconference.

Those Present: Committee Members: Brian Bonnenfant, Vice Chair; Mike Brisbin; Michael Cameron; Don Mahin; Jim Smitherman; Terri Svetich. Also: Lauren Renda, Community Foundation of Western Nevada; Sonia Folsom & John Enloe, TMWA; Members of the Public: none.

* Committee member arrived after roll call
** Committee member left meeting before adjournment

Agenda Item #1: Roll Call: Roll call was taken. A quorum was noted.

Agenda Item #2: Public comment: There was no public comment at this time.

Agenda Item #3: Approval of the agenda (for possible action): The agenda was unanimously approved.

Agenda Item #4: Approve the February summary meeting minutes (for possible action): The Meeting Minutes (Transcript Summary) for August 19, 2022 was unanimously approved.

Agenda Item #5: Approve proposed language changes to Governing Rules document: The language regarding rotating Chair and Vice-Chair Officers was revised to read more concisely. The motion to revise the language as presented was unanimously approved and the Governing Rules have been updated effective November 18, 2022.

Agenda Item #6: Election of Officers for 2023 - 2024: Janet Phillips has stepped down as Chair. Brain Bonnenfant agreed to take over the Chair position, leaving the Vice-Chair position open.

A motion to elect Jim Smitherman as the new Vice-Chair was unanimously approved, and Jim accepted the position.

Michael Cameron is also looking to stepdown from the Committee but plans to attend the February meeting to close-out his tenure.

Both Janet and Michael leaving the Committee leaves two open spots to fill from the City of Reno. Lauren will ask the City to post the open positions, and she will distribute the notice to other outlets in hopes of recruiting Committee Members from currently unrepresented stakeholders.

Agenda Item #7: Review completed projects:

TRF#256 from Washoe County: River Stewards Program, $232,000 (Brian):

Brian Bonnenfant reported that the County ended up spending only $160,000 of the total amount granted to fulfill their goals, including the Karma Box Project, Homeless on the River, trash collection along the river, sharps clean-up along the river, homeless assistance (including employment & housing opportunities) and management of Portland Loos (with a new installation at John Campion Park expected to be completed by the end of the year). Going forward, the County is interested in having a non-profit to take over the Karma Box Project.

Agenda Item #8: Review tentative 2023 meeting calendar: The tentative 2023 meeting calendar was unanimously approved.

Agenda Item #9: Committee and staff comments: none

Agenda Item #10: Next meeting: February 17, 2023 at 8:30am; consideration for in-person meeting (for possible action): The next meeting is set for February 17, 2023 at 8:30am. No action was taken.

Agenda Item #11: Public comment (limited to no more than three minutes per speaker): There was no public comment.

Agenda Item #11: Adjournment (for possible action): The meeting was adjourned at 8:59 am. No action was taken.

COMMUNITY FOUNDATION of Northern Nevada | TRUCKEE RIVER FUND Enhancing and protecting our water resources | TRUCKEE MEADOWS WATER AUTHORITY

Cover Sheet **Date:** January 13, 2023

Organization Name:	Great Basin Outdoor School		
Type:	**501(c)(3) EIN#** 88-0396516	**Governmental entity? Y/N** No	
Address:	1000 Bible Way, #53, Reno, NV 89502		
Project Name:	Youth Watershed Education and Protection Projects		
Amount requested: $13,211.22	**Website:** https://www.greatbasin-os.org		
This funding will be used to (complete this sentence with a max of 2 sentences):	GBOS will collaborate on Snapshot Day, annual Truckee River water sampling, and provide youth watershed education and projects.		

Key People:	**Director:**	Board Chair Sue Jacox currently acts as Director.
	Board Chair:	Sue Jacox
	Project Contact:	**Name:** Derik Knak
		Position: Development Coordinator
		Phone: 530-949-4975
		Fax: n/a
		Email: development@greatbasin-os.org
Organization Mission:		

Has your organization received other grants from the Truckee River Fund?
Yes X No
(use additional page if necessary)

If yes,

Date awarded:	March 2021
Project title:	Lower Truckee Snapshot Day, Spring & Summer Day Camp Watershed Education Initiative
Amount of Award:	$15,925.36
Date awarded:	
Project title:	
Amount of Award:	
Date awarded:	
Project title:	
Amount of Award:	

DESCRIPTION OF PROJECT UNDER CONSIDERATION

Indicate the description that best fits the project you are proposing. Mark no more than three categories:

- ☐ A. Projects that improve bank or channel stabilization and decrease erosion.
- ☐ B. Structural controls or Low Impact Development (LID) projects on tributaries and drainages to the Truckee River where data supports evidence of pollution and/or sediments entering the Truckee River.
- ☐ C. Projects that remove pollution from the Truckee River.
- ☐ D. Projects that remove or control invasive aquatic species or terrestrial invasive plant species that are adverse to water supply.[3]
- ☒ E. Other projects that meet the evaluation criteria.

[3] For proposals related to weed control/eradication, contact Lauren Renda at the Community Foundation of Northern Nevada for additional criteria. lrenda@nevadafund.org; 775-333-5499.




Great Basin Outdoor School

"Hands-on Discovery in the Outdoor Classroom"

"Youth Watershed Education and Protection Projects"

Narrative:

1. **Project goals and measurable outcomes and how you will report them**

The health of our Truckee River watershed, both now and in the future, depends on an active informed community starting with our youth. It is Great Basin Outdoor School's goal to connect young people and families to our Truckee River watershed through education and stewardship projects. We help involve the Reno-Sparks community in Snapshot Day, an annual citizen science event collecting and reporting data along the Truckee River and its tributaries to help monitor water quality over time. During Great Basin Outdoor School's Adventure Day Camps and school science camps, students learn about our watershed right in the Truckee River and on a research boat on Lake Tahoe and volunteer on stewardship projects such as revegetating with native plants and covering bare ground with mulch to reduce erosion and sedimentation into Lake Tahoe and collecting and auditing litter along the Truckee River to help protect water quality.

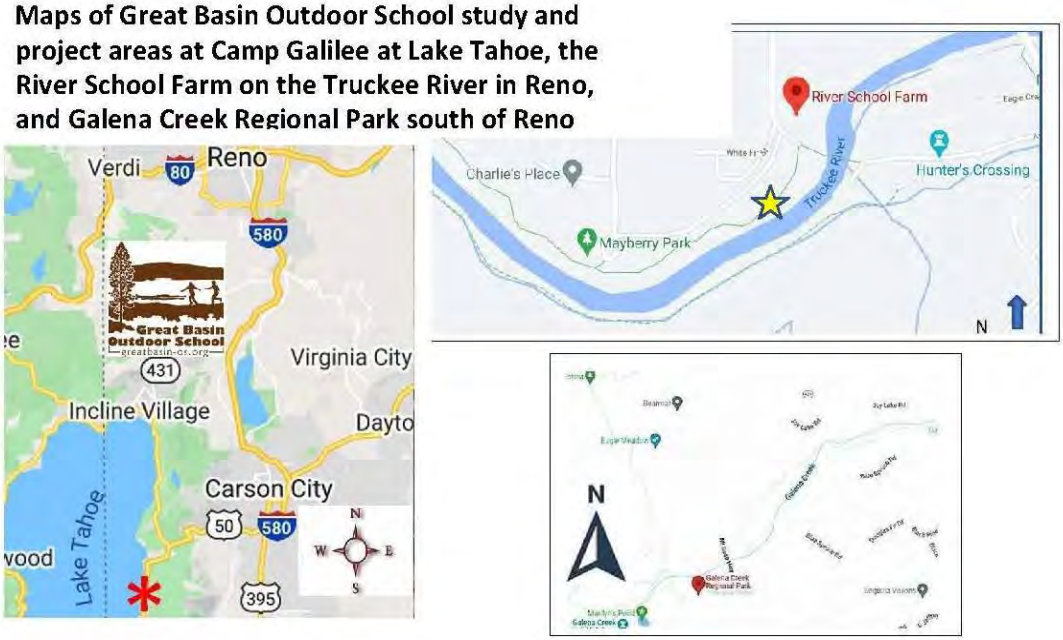
Our expected outcomes are serving approximately 500 participants during spring and summer 2023, completing student-appropriate stewardship projects, and that at least 75% of surveyed participants will show knowledge gain and an understanding of and connection to our watershed. Outcomes are measured with pre- and post-assessments, programs and projects are documented with photos, numbers served are recorded, and all will be included in our quarterly reports.

2. **Project location**

Snapshot Day water sampling occurs at multiple sites mostly at parks and interested schools sited within easy walking distance of the Truckee and its tributaries. School break Adventure Day Camps are held on (and in!) the Truckee River at the River School Farm and Mayberry Park in Reno. All overnight school science camps are held right on the Nevada shore of Lake Tahoe in the Glenbrook area at Camp Galilee with field studies at Spooner Lake and aboard a research boat on the lake, and most day field studies for schools are held at Galena Creek Regional Park.

3. Project description

Maps of Great Basin Outdoor School study and project areas at Camp Galilee at Lake Tahoe, the River School Farm on the Truckee River in Reno, and Galena Creek Regional Park south of Reno



Truckee River Fund support will help fund Great Basin Outdoor School's continued watershed education and protection projects for Nevada students and families. We will co-host citizen science water sampling activities with a Reno-area school during Snapshot Day at Whites Creek in May and participate in planning and preparations for Snapshot Day sampling at other sites. Spring and summer Adventure Day Camps at the River School Farm on the Truckee River in Reno for six to twelve-year-olds includes water studies by the river, ecology, litter collection, art and crafts with recycled materials, and frequent guest presenters on science topics. During our science camps for school groups on the shore of Lake Tahoe, activities incorporating watershed education will supplement instructional content delivered by naturalist educators and study aboard a Tahoe research boat. For instance, during the Project WET activity "Drop in a Bucket," students identify the sources of water on Earth, their proportion to one another, and the total amount of water on Earth. Students build watershed models of the Lake Tahoe Basin and Tahoe-Truckee watershed to visualize the movement and direction of water from freshwater to endorheic basin. Bioassessment of aquatic macroinvertebrates is a favorite activity both at day camp and science camps for schools. Projects such as revegetating with native plants and mulching to reduce erosion promote lifelong stewardship values and environmental awareness of the Tahoe-Truckee watershed.

4. Grant priorities

Projects requesting support meet multiple grant priorities of the Truckee River Fund, fulfilling priority VII. Priority I on aquatic invasive species is supported by our teaching aboard the research boat on Tahoe and student projects to remove invasive Eurasian water milfoil washed up on the beach to prevent it from washing back into the lake and repopulating. Priority II for watershed improvements is supported by the spreading of mulch to reduce sediment erosion on affected soils and excess water drainage into Lake Tahoe. Priority III, local stormwater improvements, is supported by watershed protection projects to mitigate runoff from Highway 50 through Camp Galilee which drains directly into the lake. For priority IV, students will help with re-vegetation of native plants at Camp Galilee to provide resiliency to upland soils that are vulnerable to destruction from future wildfires and excess runoff. As an educational nonprofit, all our programs teach stewardship and environmental awareness, priority VI. Children learn about our watershed, do Project WET activities, dipnet for aquatic macroinvertebrates as indicators of water quality,

and do river clean-ups and the projects already mentioned promoting environmental literacy and values of stewardship and protection of the Tahoe-Truckee watershed. Stakeholder assets and participation, priority VIII, are leveraged from other nonprofits and natural resource agencies for program support, guest presenters, research boat, program sites, etc. for watershed education and protection projects.

5. Permitting

All youth watershed education and protection projects requesting support will take place on established properties and no permits are necessary.

6. Future land use

All youth watershed education and protection projects requesting support will take place on established properties and no changes to land use or future development plans are expected.

7. Future phases

Watershed education and protection projects requesting support will be completed in 2023. Great Basin Outdoor School will continue watershed protection and education in our traditional established year-round programming.

8. Principals involved

Great Basin Outdoor School Board President Sue Jacox is a retired Washoe County teacher and will oversee implementation of youth watershed education and protection projects. Education Director Emily Baldwin will lead school groups in watershed protection projects at Camp Galilee at Lake Tahoe and at Galena Creek. Emily has previous camp management experience and graduated from the University of Nevada, Reno with a degree in wildlife ecology. Day Camp Director Karrie Wilhite will oversee watershed education in Spring and Summer Day Camps, bringing similar expertise in her role and teaching experience with the Washoe County School District. Development Coordinator Derik Knak will co-host water sampling activities during Snapshot Day and participate in training with the City of Sparks Environmental Control Section and also supports all other Great Basin Outdoor School educational programs for local students.

9. Staff positions involved

Projects requesting support will require the time of one volunteer board member, three full-time program managers, and three part-time naturalist educators.

10. Volunteers involved

We will assist the City of Sparks in recruiting volunteers for the Snapshot Day event. Guest presenters from local organizations and research institutes will volunteer time during Spring and Summer Day Camps. Overnight programs at Camp Galilee rely on parent cabin leader chaperones acting as project volunteers. For all projects, we estimate enlisting about 50 volunteers for an estimated total of about 600 volunteer hours.

11. Timeline

- March 2023: Spring Day Camp staff training; two weeks of Spring Day Camp and projects
- April 2023: Snapshot Day training and volunteer recruiting; staff training for science camps
- May 2023: Watershed education/protection projects at overnight science programs at Tahoe
- May 2023: Snapshot Day (tentatively May 19th)
- June-July 2023: Summer Day Camp staff training; six weeks of Summer Day Camp

12. Success

Great Basin Outdoor School will document successful completion of proposed projects. Qualitative data of the Truckee River will be collected and recorded during Snapshot Day and reported. Stewardship projects at Lake Tahoe with students planting native species and covering exposed soils with mulch to minimize sediment erosion caused by runoff will be shared in photos. Along the Truckee River students will conduct litter audits and aquatic macroinvertebrate bio-assessments as indices of water quality. In total, Great Basin Outdoor School will reach approximately 500 students during spring and summer programs, with at least 75% of students surveyed indicating knowledge gain on post-program assessments and results will be reported.

13. Collaboration

Youth watershed projects will occur at Camp Galilee, a lakefront camp that offers volunteer stewardship opportunities for students attending Great Basin Outdoor School overnight science programs. Research boat excursions on Lake Tahoe to survey water clarity are led in partnership with Marine Research & Education. Participation in Snapshot Day will involve collaborative efforts between Great Basin Outdoor School and other local partners, including the City of Sparks, Nevada Division of Environmental Protection, and Keep Truckee Meadows Beautiful. Implementation of watershed education activities will require collaboration with regional stakeholders. During Spring and Summer Day Camps, Great Basin Outdoor School will feature guest presenters from a host of professionals specialized in watershed education and protection. The organization will coordinate with the Nevada Division of Environmental Protection and UC Davis Tahoe Environmental Research Center to schedule presentations that emphasize the science of water quality research and deep-water clarity in the Lake Tahoe Basin. The incorporation of learning outcomes during Spring and Summer Day Camps held at the River School Farm will benefit from the facility's proximity to the Truckee River.

14. Grant Match

<table>
<tr><td>Match amount to be provided:</td><td>$ 9,800.00</td></tr>
<tr><td>Match details:</td><td>Please provide the form of your matching funds. If match is made up of both cash and inkind, fill in both sections.

Match is:
<table><tr><td>Cash</td><td>$ 9,800.00</td></tr><tr><td>In-kind</td><td>$ 0.00

Note: Volunteer and in-kind hours may be calculated at a maximum rate of $20/hour per individual. Indirect cost may not be counted as match.</td></tr></table>
For the cash portion of your match, is the funding already being held by the applicant for this project? Yes __X__ No ___</td></tr>
<tr><td>Description of matching funds/in-kind donations:</td><td>Match for educator time will come from other grants and donations that have already been secured and from student program fees.</td></tr>
</table>

Project Budget:

"Youth Watershed Education and Protection Projects"

Truckee River Fund, February 2023

Budget Narrative: The Truckee River Fund can support Great Basin Outdoor School's role in Snapshot Day in May, an annual water quality event, in which citizen scientists learn about our watershed through hands-on sampling.

We also seek support for our watershed education and projects for local youth along the Truckee River, on the shore of Lake Tahoe, and at Galena Creek during spring and summer 2023. Match for educator time will come from other grants which have already been secured and from student program fees.

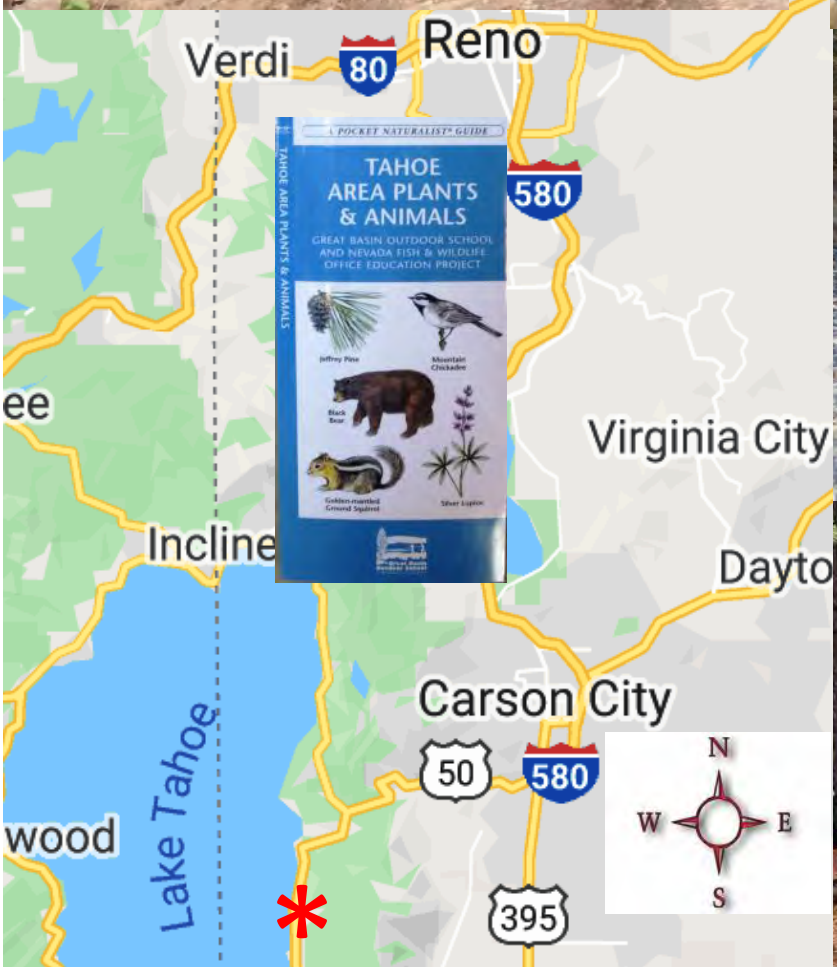
Budget Item Description	Calculation	Amount Requested from TRF	Match	Total
Truckee River Snapshot Day Labor Costs: educator hours spent planning, preparing, training, hosting, and wrapping up.	4 days prep x $170/day + Event day = 1 day/$170 day + Wrap Up = 1 day/$170 day	**$1020.00**		**$1020.00**
50% of School Break Spring and Summer Day Camps on the Truckee River for Watershed Education & Projects Educator Labor Costs	Director $170/day x 20 days + Lead Naturalist $170/day x 20 days + 3 Naturalists 120/day x 20 days	**$7000.00**	**$7000.00**	**$3400.00**
50% of overnight science camps on the shore of Lake Tahoe in May for school classes Watershed Education & Projects Labor Costs	Director $170/day x 8 days + Lead Naturalist $170/day x 8 days + 3 Naturalists 120/day x 8 days	**$2800.00**	**$2800.00**	**$5600.00**
Educator Labor Total		**$10,820.00**		
Fringe	11% for FICA, UI, Workers Comp, etc.	**$1190.20**		**$1190.20**
Subtotal		**$12,010.20**		**$12,010.20**
Indirect Expenses	10% x subtotal	**$1201.02**		**$1201.02**
TOTAL		**$13,211.22**	**$9800.00**	**$24,421.42**

Great Basin Outdoor School, 1000 Bible Way #53, Reno, Nevada 89502, suejacox@nvbell.net, 775-849-1890

Great Basin Outdoor School
“Youth Watershed Educa on and Prot n Projects”
For the Truckee River Fund 2023

Students learn about our watershed right in the Truckee River and on a research boat on Lake Tahoe. They record Snapshot Day data and volunteer on stewardship projects such as covering bare ground with mulch to reduce erosion and sedimenta on and collec ng and audi ng li er along the river to help protect water quality.

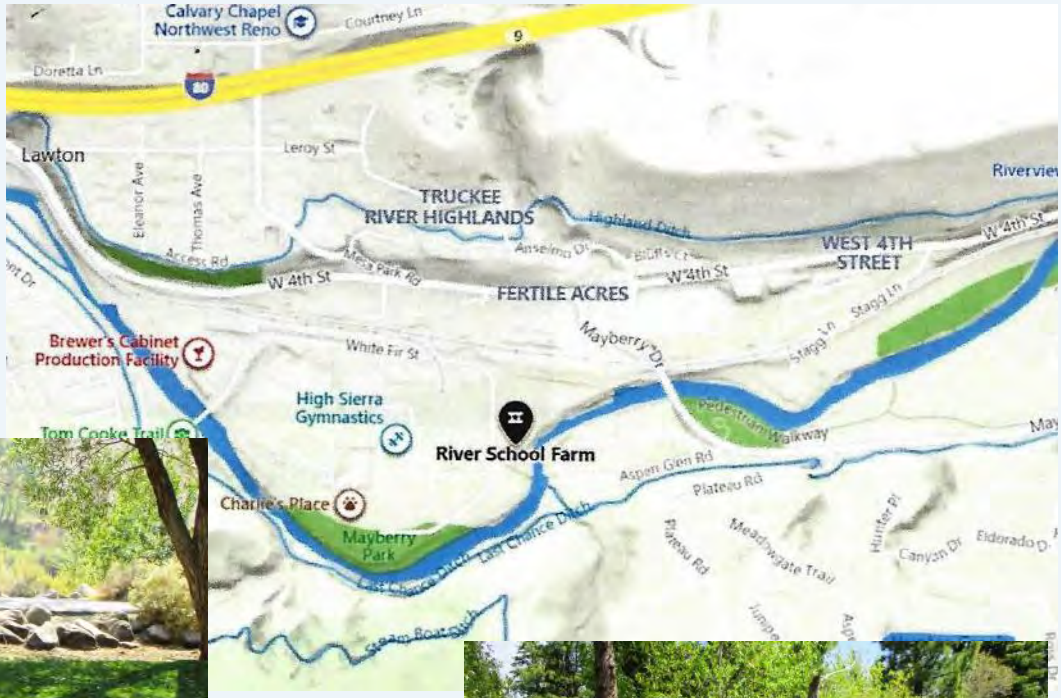
Great Basin Outdoor School
“Youth Watershed Educa on and Prot n Projects”
For the Truckee River Fund 2023



Students stabilize bank with na ve plants to reduce sedimenta on run draining directly to Lake Tahoe and remove invasive Eurasian water milfoil from beach to keep it from washing back into the lake and repopula ng at our science camps at Camp Galilee.

More Maps: RIVER SCHOOL FARM DAY CAMP SITE & GALENA CREEK FIELD STUDY SITE

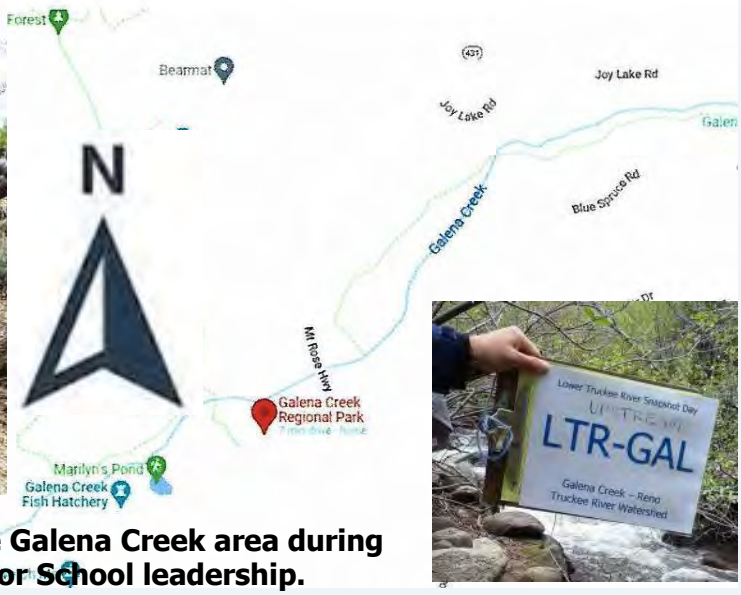
Great Basin Outdoor School
greatbasin-os.org



Day camp students collect and audit litter along the Truckee River in Mayberry Park in Reno.

Students from a very low-income Reno area school collect and identify aquatic macroinvertebrates for bioassessment of water quality at Galena Creek.

Galena Creek Regional Park



Volunteers conduct water quality tests in the Galena Creek area during Snapshot Day 2021 under Great Basin Outdoor School leadership.


Great Basin Outdoor School

"Hands-on Discovery in the Outdoor Classroom"

Great Basin Outdoor School Board of Directors

SUE JACOX, President
Washoe County School District Educator, retired
775-250-1894
suejacox@nvbell.net

CALEB S. JENSEN, CPA, Treasurer
Certified Public Accountant
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caleb@pangborncpa.com

LEILANI KONYSHEV
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907-242-3111
Leilani.konyshev@washoeschools.com

DR. RICHARD VINEYARD
Science Education Consultant
775-560-8434
Rvineyard7@gmail.com

Internal Revenue Service

Date: December 26, 2006

GREAT BASIN OUTDOOR SCHOOL
% SUE JACOX
5125 ESCUELA WAY
RENO NV 89502-6706 250

Department of the Treasury
P. O. Box 2508
Cincinnati, OH 45201

Person to Contact:
David Harry ID# 31-08704
Customer Service Representative
Toll Free Telephone Number:
877-829-5500
Federal Identification Number:
88-0396516

Dear Sir or Madam:

This is in response to your request of December 26, 2006, regarding your organization's tax-exempt status.

In September 1998 we issued a determination letter that recognized your organization as exempt from federal income tax. Our records indicate that your organization is currently exempt under section 501(c)(3) of the Internal Revenue Code.

Our records indicate that your organization is also classified as a public charity under sections 509(a)(1) and 170(b)(1)(A)(vi) of the Internal Revenue Code.

Our records indicate that contributions to your organization are deductible under section 170 of the Code, and that you are qualified to receive tax deductible bequests, devises, transfers or gifts under section 2055, 2106 or 2522 of the Internal Revenue Code.

If you have any questions, please call us at the telephone number shown in the heading of this letter.

Sincerely,

Janna K. Skufca

Janna K. Skufca, Director, TE/GE
Customer Account Services

Form **8879-TE**

Department of the Treasury
Internal Revenue Service

IRS e-file Signature Authorization for a Tax Exempt Entity

For calendar year 2021, or fiscal year beginning _____, 2021, and ending _____, 20___

▶ **Do not send to the IRS. Keep for your records.**

▶ **Go to www.irs.gov/Form8879TE for the latest information.**

OMB No. 1545-0047

2021

Name of filer
THE GREAT BASIN OUTDOOR SCHOOL

EIN or SSN
88-0396516

Name and title of officer or person subject to tax
CALEB JENSEN
TREASURER

Part I Type of Return and Return Information

Check the box for the return for which you are using this Form 8879-TE and enter the applicable amount, if any, from the return. Form 8038-CP and Form 5330 filers may enter dollars and cents. For all other forms, enter whole dollars only. If you check the box on line **1a, 2a, 3a, 4a, 5a, 6a, 7a, 8a, 9a,** or **10a** below, and the amount on that line for the return being filed with this form was blank, then leave line **1b, 2b, 3b, 4b, 5b, 6b, 7b, 8b, 9b,** or **10b,** whichever is applicable, blank (do not enter -0-). But, if you entered -0- on the return, then enter -0- on the applicable line below. **Do not** complete more than one line in Part I.

1a	**Form 990** check here ▶	[X]	**b Total revenue,** if any (Form 990, Part VIII, column (A), line 12)	1b	187,250.
2a	**Form 990-EZ** check here ▶	[ ]	**b Total revenue,** if any (Form 990-EZ, line 9)	2b	
3a	**Form 1120-POL** check here ▶	[ ]	**b Total tax** (Form 1120-POL, line 22)	3b	
4a	**Form 990-PF** check here ▶	[ ]	**b Tax based on investment income** (Form 990-PF, Part V, line 5)	4b	
5a	**Form 8868** check here ▶	[ ]	**b Balance due** (Form 8868, line 3c)	5b	
6a	**Form 990-T** check here ▶	[ ]	**b Total tax** (Form 990-T, Part III, line 4)	6b	
7a	**Form 4720** check here ▶	[ ]	**b Total tax** (Form 4720, Part III, line 1)	7b	
8a	**Form 5227** check here ▶	[ ]	**b FMV of assets at end of tax year** (Form 5227, Item D)	8b	
9a	**Form 5330** check here ▶	[ ]	**b Tax due** (Form 5330, Part II, line 19)	9b	
10a	**Form 8038-CP** check here ▶	[ ]	**b Amount of credit payment requested** (Form 8038-CP, Part III, line 22)	10b	

Part II Declaration and Signature Authorization of Officer or Person Subject to Tax

Under penalties of perjury, I declare that [X] I am an officer of the above entity or [ ] I am a person subject to tax with respect to (name of entity) _____, (EIN) _____ and that I have examined a copy of the 2021 electronic return and accompanying schedules and statements, and, to the best of my knowledge and belief, they are true, correct, and complete. I further declare that the amount in Part I above is the amount shown on the copy of the electronic return. I consent to allow my intermediate service provider, transmitter, or electronic return originator (ERO) to send the return to the IRS and to receive from the IRS **(a)** an acknowledgement of receipt or reason for rejection of the transmission, **(b)** the reason for any delay in processing the return or refund, and **(c)** the date of any refund. If applicable, I authorize the U.S. Treasury and its designated Financial Agent to initiate an electronic funds withdrawal (direct debit) entry to the financial institution account indicated in the tax preparation software for payment of the federal taxes owed on this return, and the financial institution to debit the entry to this account. To revoke a payment, I must contact the U.S. Treasury Financial Agent at 1-888-353-4537 no later than 2 business days prior to the payment (settlement) date. I also authorize the financial institutions involved in the processing of the electronic payment of taxes to receive confidential information necessary to answer inquiries and resolve issues related to the payment. I have selected a personal identification number (PIN) as my signature for the electronic return and, if applicable, the consent to electronic funds withdrawal.

PIN: check one box only

[X] I authorize PANGBORN & CO., LTD to enter my PIN 99009

ERO firm name

Enter five numbers, but do not enter all zeros

as my signature on the tax year 2021 electronically filed return. If I have indicated within this return that a copy of the return is being filed with a state agency(ies) regulating charities as part of the IRS Fed/State program, I also authorize the aforementioned ERO to enter my PIN on the return's disclosure consent screen.

[ ] As an officer or person subject to tax with respect to the entity, I will enter my PIN as my signature on the tax year 2021 electronically filed return. If I have indicated within this return that a copy of the return is being filed with a state agency(ies) regulating charities as part of the IRS Fed/State program, I will enter my PIN on the return's disclosure consent screen.

Signature of officer or person subject to tax ▶ Date ▶

Part III Certification and Authentication

ERO's EFIN/PIN. Enter your six-digit electronic filing identification number (EFIN) followed by your five-digit self-selected PIN. 88013033033

Do not enter all zeros

I certify that the above numeric entry is my PIN, which is my signature on the 2021 electronically filed return indicated above. I confirm that I am submitting this return in accordance with the requirements of **Pub. 4163,** Modernized e-File (MeF) Information for Authorized IRS *e-file* Providers for Business Returns.

ERO's signature ▶ MICHEL P. AURNAGUE, CPA Date ▶ 11/15/22

ERO Must Retain This Form - See Instructions
Do Not Submit This Form to the IRS Unless Requested To Do So

COMMUNITY FOUNDATION of Northern Nevada

TRUCKEE RIVER FUND
Enhancing and protecting our water resources

TRUCKEE MEADOWS WATER AUTHORITY
Quality. Delivered.

Cover Sheet **Date: February 1, 2023**

Organization Name:	**Sierra Nevada Journeys**	
Type:	**501(c)(3) EIN# 01-0881587**	**Governmental entity? N**
Address:	Physical Address: 190 E. Liberty Street Reno, NV 89501 Mailing Address: PO Box 1631 Reno, NV 89505	
Project Name:	Watershed Education Initiative	
Amount requested: $32,891	Website: www.sierranevadajourneys.org	
This funding will be used to (complete this sentence with a max of 2 sentences):	Deliver high-quality and experiential watershed education programs, based on water quality issues and invasive species along the urban Truckee River corridor, to empower youth to take action for the protection and enhancement of Truckee River water quality. Sierra Nevada Journeys will provide this education program through hands-on, experiential lessons and activities.	

Key People:	**Director:**	Sean Hill, CEO
	Board Chair:	Malena Raymond
	Project Contact:	**Name:** Alyssa Wagner
		Position: Program Director
		Phone: 775-355-1688
		Fax: 775-329-1689
		Email: alyssaw@sierranevadajourneys.org
Organization Mission:	**To deliver innovative, outdoor, science-based education programs for youth to develop critical thinking skills and to inspire natural resource stewardship.**	

Has your organization received other grants from the Truckee River Fund?
Yes X **No** (use additional page if necessary)

If yes,

Date awarded:	September 2022
Project title:	Watershed Education Initiative for the Urban Truckee River Corridor
Amount of Award:	$30,542
Date awarded:	March 2022
Project title:	Watershed Education Initiative
Amount of Award:	$30,055
Date awarded:	September 2021
Project title:	Watershed Education Initiative
Amount of Award:	$30,055

DESCRIPTION OF PROJECT UNDER CONSIDERATION

Indicate the description that best fits the project you are proposing. Mark no more than three categories:

- ☐ A. Projects that improve bank or channel stabilization and decrease erosion.
- ☐ B. Structural controls or Low Impact Development (LID) projects on tributaries and drainages to the Truckee River where data supports evidence of pollution and/or sediments entering the Truckee River.
- ☐ C. Projects that remove pollution from the Truckee River.
- ☐ D. Projects that remove or control invasive aquatic species or terrestrial invasive plant species that are adverse to water supply.[3]
- ☒ E. Other projects that meet the evaluation criteria.

[3] For proposals related to weed control/eradication, contact Lauren Renda at the Community Foundation of Northern Nevada for additional criteria. lrenda@nevadafund.org; 775-333-5499.

1. Specific project goals and measurable outcomes and how you will measure and report them:
Sierra Nevada Journeys (SNJ) proposes an innovative, culturally relevant program for Washoe County area youth that includes a comprehensive approach to watershed education through the Watershed Education Initiative (WEI). The WEI had been an ongoing component of our programs since 2011, made possible thanks to the generous and ongoing support of the Truckee River Fund.

Through WEI, students are able to touch, feel and experience their watershed, providing a foundation of interest and understanding as they continue their education journey and their lives. WEI will successfully meet the following objectives:

Outputs	Outcomes
Deliver WEI to 700 K-8th grade students within the Truckee River Watershed All students receive first-hand experience with the local watershed through a field-study on the Truckee River or one of its tributaries, or, in the case of a distance learning model, a virtual field trip or case study of the Truckee River. Provide 26 teachers with WEI extension lessons	100% of students participating in "Hands in the River" will be able to draw and describe the Truckee River Watershed.
	100% of students participating in "Hands in the River" curriculum will complete water quality testing at/on the Truckee River to assess the health of their local watershed.
	90% of students participating in "Hands in the River" will be able to identify the function of storm drains and name three ways they can help reduce the amount of pollution entering the storm drain.
	80% of students participating in "Hands in the River" will feel comfortable in nature following their field study
	95% of teachers will report that the program is helping to build critical thinking skills among their students.

Methods to measure outcomes: To accurately measure program success and content proficiency, Sierra Nevada Journeys instructors administer pre- and post-assessments to all students. This method of measurement models end-of-year state testing for schools, used to measure national expectations for learning. In addition to student pre- and post-assessments, classrooms teachers are given surveys.

Methods to measure outputs: Sierra Nevada Journeys' Education Team manages an internal database that tracks details on participating students, schools, parents and volunteers.

2. Project location:

The classrooms component of WEI will take place at schools within the Washoe County School District. The program's field sites are located within and downstream of the urban corridor of the Truckee River like Oxbow Nature Study Area, Galena Creek Regional Park and the McCarran Ranch Preserve. Field site locations are convenient and close to home for local students, increasing their sense of ownership, place, awareness and comfort in these nature areas. The program highlights regions along the Truckee River that are impacted by urban growth and development.

3. Project Description:

Students have been mentally impacted due to the COVID-19 pandemic. According to a poll conducted in 2021 by the University of Michigan, 46% of parents say their teenagers' mental health has worsened

during the pandemic. More alarmingly, a report by the CDC found that the proportion of 12 to 17-year-olds visiting emergency rooms for mental health reasons rose 31% in 2020 compared to 2019.[1] During the last two years, Sierra Nevada Journeys' education team has observed lower attention spans, patterns of students giving up faster and increased insecurities. There is a critical need to incorporate activities that increase connectedness and a sense of belonging among students. For our new generation of engineers, scientists and environmentalists, developing skills like teamwork, self-awareness and resiliency are integral to their future success.

Research shows that outdoor experiences enhance learning and promote mental wellbeing in young people. In her book, *The Nature Fix*, author Florence Williams writes that our connection to nature, even small amounts of exposure to the living world, can decrease one's stress level, accelerate healing from an injury or illness, and increase one's ability to focus - even in children with attention-deficit/hyperactivity disorder. Furthermore, Williams discusses that time spent outdoors is essential to our humanity. This exposure is especially important to young children. Continued research shows time and time again that positive childhood experiences in nature impact environmental behaviors and attitudes later in life.[2] In the aftermath of a global event that has left children traumatized, a robust outdoor education curriculum is a critical part of the recovery process.

The benefits of Environmental Education go beyond the mental health benefits. A study from the North American Association for Environmental Education showed that feelings of connectedness to nature are important predictors of environmental behaviors, and that connectedness for children was significantly enhanced through field trips. As children become increasingly alienated from the outdoors it is imperative to create opportunities for them to connect to nature.[3] Through the Watershed Education Initiative, Sierra Nevada Journeys provides local youth with opportunities to have an interactive experience outdoors, increasing their likelihood to cherish nature, engage with it and become stewards of their natural resources continuing into adulthood.

Sierra Nevada Journeys' Watershed Education Initiative is a dynamic education program intentionally designed to build understanding of student's local watershed, including human impacts on the watershed, water quality, and issues surrounding watershed protection. Conducted over a four-week period, The program begins with an orientation for new participating teachers to give an overview of the content and format of the program. fter the teacher orientation, our educators go into classrooms and teach two lessons. Each lesson fosters students' interest in science by using hands-on activities like creating a watershed model.

The program culminates with a 3-hour field study at a local nature site to apply what they've learned in a real-world context. For the Watershed Education Initiative, field sites include Oxbow Nature Study Area, Galena Creek Regional Park or the Nature Conservancy's McCarran Ranch Preserve. Students explore, assess, and collect data about the health of the Truckee River Watershed by observing the river, collecting macroinvertebrate species for study, and discussing how we can use the data to make a determination of health. The program also embeds opportunities to build critical thinking skills and social emotional learning.

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[1] Mott Poll Report, How the Pandemic has Impacted Teen Mental Health, 2021. https://mottpoll.org/reports/how-pandemic-has-impacted-teen-mental-health

[2] Williams, Florence. *The Nature Fix: Why Nature Makes Us Happier, Healthier, and More Creative*. First edition. New York, W.W. Norton & Company, independent publishers since 1923, 2017.

[3] NAAEE, The Importance of Age and Duration of Exposure in Outdoor Education Programs, 2017 https://naaee.org/eepro/research/library/connecting-students-nature-%E2%80%93-how

While in-class and field-based lessons reach students, WEI's additional outreach components serve to support teachers, engage families and reach community volunteers. Through extension lessons, Sierra Nevada Journeys supports teachers in getting their students back on track after distance learning and extending watershed learning beyond the Sierra Nevada Journeys-led learning experiences. Classroom teachers receive additional materials covering watershed exploration and our instructors work one-on-one with classroom teachers during orientation to identify strategies that deepen student learning. We also engage families through a follow-up email that includes questions for guardians to discuss with their students, a link to photos from their field day, and information about the field site so they can visit together. We also engage parents as chaperones during our programs field trips to support student learning and bolster family engagement and excitement about learning objectives.

Sierra Nevada Journeys believes that science and nature are for everyone. We prioritize partnerships with schools that primarily serve youth who have historically been denied access to high-quality science education and outdoor learning experiences. With this funding, Sierra Nevada Journeys will serve 700 students in approximately 26 classrooms in the Truckee River Watershed. Students served with this grant will be those who have the highest financial and learning needs, ensuring we address the science and outdoor equity gap.

In Summary, the Watershed Education Initiative includes:

- The school-based component includes two in-class lessons (three) hours of in class instruction. Students participate in hands-on lessons that incorporate the Truckee River watershed, point and non-point source pollution, invasive species, sources and impacts of erosion, water conservation and stewardship.
- The field-based component includes one day of outdoor science education as students hike along the Truckee River Watershed. Students seek clues related to the health of the watershed and determine water quality by collecting and identifying macro-invertebrates or conducting chemical tests such as pH, dissolved oxygen, or turbidity. Students use evidence to make a conclusion about the health of the Truckee River Watershed.
- SNJ provides five ready-to-use classroom extension lessons for teachers that help students prepare for and review learning objectives, as well as extend and reinforce each SNJ-directed lesson.
- To encourage family engagement, SNJ provides teachers with a template to email parents with a summary and pictures of their child's experience after each unit along with information for family-based discussion of the curriculum
- The volunteer component of the program builds our capacity to involve the local community and broadens accessibility to our programming for low-income schools by helping to keep costs low.

4. Grant priorities:

WEI is an education program that addresses water, water quality and watershed protection for K-8th grade students, directly aligning with grant priority VI: *Stewardship and Environmental Awareness.* Students gain first-hand experience determining water quality, explore human impacts on their water source, and obtain skills, knowledge and a field experience to connect them to their local river. The overall long-term program impacts include:

- Students understand important science concepts related to the Truckee River watershed and can articulate how their actions affect the Truckee River watershed and local ecosystems.
- Teachers use extension lessons and implement more hands-on exploration of the watershed. Parents and community members engage in watershed education directly through WEI volunteer.
- Health of the Truckee River watershed and local ecosystems improves as students and their families adopt environmental stewardship practices that help reduce water pollution and human impacts.

5. Permitting. - N/A

6. Future land use. – N/A

7. If future phases of the project will be needed, identify anticipated sources of funding. - N/A

8. Principals involved:

Credentialed science educators on the SNJ staff will be directly responsible for coordination and delivery of watershed education programs. Alyssa Wagner, Program Director and Project Contact, is a former elementary school teacher and holds a Bachelor of Science in education from the University of Nevada, Reno, and a Masters in Curriculum and Instruction from Concordia University, Portland, Oregon.

9. Number of staff positions involved in project: Fulltime **5** Part-time **4**

10. Number of volunteers involved: If the project runs in-person, approximately **50** volunteers (including field educators and parent volunteers) will donate time during WEI's field-study portion of the program, increasing parents and community member access to watershed education.

11. Time Line of Project.

Deliverables	2023 Jan	Feb	Mar	Apr	May	Jun
Recruitment/Scheduling: SNJ outreach efforts are continuous. Outreach is now underway for the spring semester. SNJ targets schools that participated in watershed programming in the past and new schools that have not received WEI.	→	→	→			
Program Delivery: SNJ instructors will deliver engaging watershed education lessons to 700 students through school-based and field-based programs.			→	→	→	
Evaluation: SNJ staff will compile student assessment data throughout the grant period. These results will inform any changes to the curriculum to ensure effective programming in the future.			→	→	→	→
Final Report: Submit the final report to the Community Foundation of Western Nevada. This report will include a summary of the work completed, student assessment data, and a budget update.						→

12. Success. Tell the committee how we will know you succeeded in what you proposed to do.

Success will be found through the delivery of the Watershed Education Initiative to 700 students in grades K-8th. All students receive first-hand experience with the local watershed through a field-study on the Truckee River or one of its tributaries. Provide 26 teachers with WEI extension lessons. Through the Watershed Education Initiative, students will:

- Be able to draw and describe the Truckee River Watershed;
- Complete water quality testing at/on the Truckee River to assess the health of their local watershed;
- Be able to identify the function of storm drains and name three ways they can help reduce the amount of pollution entering the storm drain;
- Feel more comfortable in nature following their field study; and
- Report that the program is helping to build critical thinking skills among their students.

13. Collaboration: List partnerships or collaborations with other entities in relations to your proposal if any

We routinely share ideas and partner with organizations for curriculum and program development. We collaborate with Better Environmental Education, Teaching, Learning & Expertise Sharing (BEETLES) methodology through the Lawrence Hall of Science at UC Berkeley, for training in outdoor science education best practices. We also partner with Project Learning Tree, Project WET, NatureBridge, and the Mountain Maidu Tribe for curriculum and program development, and we collaboratively share ideas with the Desert Research Institute, and the University of Nevada, Nevada Teach program.

Additionally, several other partner agencies make our field experiences possible like The Nature Conservancy, Washoe County Regional Parks and Open Space, the City of Reno, and the Nevada Department of Wildlife.

14. Grant Match:

<table>
<tr><td>Match amount to be provided:</td><td>$10,964 (25% of requested funds)</td></tr>
<tr><td>Match details:</td><td>Match is:
<table>
<tr><td>Cash</td><td>$10,964</td></tr>
<tr><td>In-kind</td><td>Note: Volunteer and in-kind hours may be calculated at a maximum rate of $20/hour per individual. Indirect cost may not be counted as match.</td></tr>
</table>
For the cash portion of your match, is the funding already being held by the applicant for this project? Yes __ No _X_</td></tr>
<tr><td>Description of matching funds/in-kind donations:</td><td>$10,964 from the Nevada Division of Environmental Protection</td></tr>
</table>

14. Project Budget

Program Budget for Classrooms Unleashed – Watershed Education Initiative

Item	Description	Per Student Expense	Total Expense	SNJ Match 25%	Total Request
Compensation & Related Expenses	Includes Education Personnel like Instructors, Program Directors and Coordinators	$48.86	$34,202	$8,551	$25,651
Program Costs	Direct program expenses, such as: magnifying glasses, water containers, field day health supplies, printing and paper, uniforms, etc.	$5.71	$3,997	$999	$2,998
Outside Contract Services	External evaluation services, DEI consultant, etc.	$1.64	$1,148	$287	$861
Occupancy Expenses	Rent and utilities	$2.48	$1,736	$434	$1,302
Operating Expenses	Such as office supplies, postage/shipping, telephone, internet, equipment rental and maint., licenses and membership dues	$2.86	$2,002	$501	$1,501
Travel and Meetings	Conferences, travel for educator, professional development, etc.	$0.43	$301	$75	$226
Other Misc Expenses	Staff recruitment, advertising/marketing expense, banking fees, merchant proc. fees	$0.67	$469	$117	$352
	Total Expenses	**$62.65**	**$43,855**	**$10,964**	**$32,891**

ATTACHMENTS

You may be asked to submit the following attachments via email. If you are asked to submit the attachments, clearly label each file with your organization's name. If you do not have the ability to email them, place each of the items listed below on a separate page and submit just one copy.

Nonprofits submit:

- ☐ Last audited financial statements if your organization has been audited
- ☐ List of Board of Directors
- ☐ Copy of agency's IRS 501(c)(3) Tax Determination Letter
- ☐ Copy of the agency's most recent IRS Form 990

Grant application to the *Truckee River Fund*
From: *Truckee River Watershed Council*

Coldstream Canyon – Cold Creek Streambank Stabilization

Date: February 2, 2023

Organization Name:	**Truckee River Watershed Council**	
Type:	**501(c)(3)** EIN# 91-1818748	**Governmental entity?** No
Address:	PO Box 8568, Truckee CA 96162	
Project Name:	Coldstream Canyon – Cold Creek Streambank Stabilization	
Amount requested: $126,000	**Website: https://www.truckeeriverwc.org/**	
This funding will be used to (complete this sentence with a max of 2 sentences):	Fill critical funding gaps in restoring a one-mile section of degraded stream channel in Coldstream Canyon. This project will support the Truckee River TMDL by reducing excess sedimentation and improving hydrologic connectivity and watershed function.	

Key People:

Director:	Lisa Wallace
Board Chair:	Tony Lashbrook

Project Contact:

Name:	**Eben Swain**
Position:	**Project Director**
Phone:	**530-550-8760 *7**
Fax:	**NA**
Email:	**eswain@truckeeriverwc.org**

Organization Mission:	**Our mission is to bring the community "Together for the Truckee" to protect, enhance and restore the Truckee River watershed.**

Has your organization received other grants from the Truckee River Fund?

Yes (use additional page if necessary)

If yes,

Date awarded:	Fall 2022
Project title:	Lower Hoke Meadow and State of Donner Lake
Amount of Award:	$206,000
Date awarded:	Spring 2022
Project title:	Donner Creek Confluence and Boca Unit Restoration
Amount of Award:	$55,700
Date awarded:	Fall 2021
Project title:	Prosser Basin Sediment Reduction Plan
Amount of Award:	$44,000

DESCRIPTION OF PROJECT UNDER CONSIDERATION

Indicate the description that best fits the project you are proposing. Mark no more than three categories:

- ☒ A. Projects that improve bank or channel stabilization and decrease erosion.
- ☐ B. Structural controls or Low Impact Development (LID) projects on tributaries and drainages to the Truckee River where data supports evidence of pollution and/or sediments entering the Truckee River.
- ☒ C. Projects that remove pollution from the Truckee River.
- ☐ D. Projects that remove or control invasive aquatic species or terrestrial invasive plant species that are adverse to water supply.[1]
- ☐ E. Other projects that meet the evaluation criteria.

Grant application to the *Truckee River Fund*
From: *Truckee River Watershed Council*

Coldstream Canyon – Cold Creek Streambank Stabilization

1. Project goals and measurable outcomes and how you will measure and report them.

The primary goal of the Coldstream Canyon – Cold Creek Streambank Stabilization Project is to reduce extensive stream bank erosion occurring in Cold Creek, a key tributary of the Truckee River. The project will take place along Cold Creek, in Coldstream Canyon, located just west of the Town of Truckee. The one-mile reach of degraded stream channel proposed for restoration is located approximately 3 miles above the confluence with Donner Creek. Erosion control and sediment reduction within the Coldstream Canyon Watershed will lead to improved water quality and will provide further implementation of the Truckee River TMDL. A secondary goal will be to enhance adjacent riparian habitat by restoring areas impacted by railroad development and logging activities in Coldstream watershed. Coldstream is in the top three producers of excessive sedimentation (LRWQCB 2008).

The Middle Truckee River watershed is listed under the Clean Water Act (303)d as impaired for sediment by the U.S. EPA, with an approved TMDL (Lahontan Water Board, 2008). The Truckee River is the primary source for delivering water supply for the Reno/Sparks metropolitan area via the Truckee Meadows Water Authority.

Current conditions within the project reach show vertical and lateral streambank failure resulting in continuous erosion and high transfer of sediment loads (~ 219 tons per year). Stream bank erosion within the project reach currently spans over a combined length of 1,300' on both the right and left banks, with some of the exposed banks exceeding 8' in height.

The goal of this project will be achieved through the following objectives:

- Create floodplain terraces to reduce flow velocities, and reduce streambank erosion and excessive sediment transfer to downstream waterbodies;
- Stabilize actively eroding streambanks along the degraded reach to prevent further migration of large episodic sediment pulses to the lower undisturbed reaches;
- Reduce channel incision in this severely degraded reach of Cold Creek to increase groundwater levels and reconnect channel/floodplain interaction; and
- Provide additional riparian and in-stream wildlife habitat by enhancing the vegetation along the newly created floodplain terraces and increasing complexity within the stream channel to restore ecosystem integrity.

Anticipated project outcomes are:

- Removal of 4,378 tons of sediment from eroding streambanks, which is estimated to translate to an annual load reduction of 219 tons through the life of the project;
- Lower and re-grade 1,300 linear feet of steep eroding streambanks to re-establish stream channel/floodplain connectivity;
- Re-establish or enhance riparian vegetation and habitat across 2.9 acres.

2. Project location. Please see attached location maps.

3. Project description.

The Coldstream Canyon Restoration Project is a partnership between TRWC and California Department of Parks & Recreation. The Coldstream drainage encompasses multiple tributaries to form the main-stem of Cold Creek, which flows into Donner Creek and eventually into the Truckee River, which is listed as impaired for sediment (LRWQCB, 2008). Similar to the entire Truckee River Watershed, Coldstream

Canyon has a long history of human disturbance including logging, railroad construction, gravel mining, stream realignment, and urbanization.

The watershed is still impacted by the past disturbances and has been identified as a significant source of sediment loading to the Truckee River by the TMDL Report (LRWQCB 2008). Coldstream Canyon is a major contributor of suspended sediment load in the Truckee River watershed, ranging from 380 to 2,253 tons annually depending on water year and flow events.

In a single flood event documented in the Coldstream Canyon Watershed Assessment (TRWC 2007) estimates of fine sediment contribution from streambank erosion on December 31, 2005 were noted to be in excess of 600 tons, or 61% of the total sediment contribution to downstream waterbodies, including the 303d listed Truckee River.

As documented in the Truckee River TMDL (LRWQCB 2008), the Truckee River is at or above its limit to assimilate sediment and still protect aquatic life and water supply beneficial uses. Excess sediment is the primary water quality problem in the Middle Truckee watershed. Factors contributing to excessive sediment delivery to the Truckee River include heavy streambank erosion, legacy land-use impacts and urban development.

The Coldstream Canyon Restoration project is planned for construction in 2023. However, contractor bids are over the available funding. Funding from the Truckee River Fund could close the funding gap. Significant funding for this project is already secured from the California Wildlife Conservation Board ($1,380,000) and the California Water Board ($792,000). Again, funding from TRF would close the funding gap and provide sedimentation reduction along the one-mile reach of Cold Creek including bank stabilization, floodplain creation, and revegetation.

Specific work tasks for this project, and as related to TRF funding, include Project Management, and Project Implementation. Project implementation will include grading of steep erosive streambanks, re-creation of floodplain terraces and installation of boulder weirs to maintain channel grade.

4. Grant priorities.

II. Watershed Improvements: The project will decrease sedimentation and support attainment of the 303(d) listed TMDL pollutant to Truckee River. This project also enhances watershed function and habitat within the Middle Truckee watershed by stabilizing eroding streambanks, creating floodplain terraces to reduce velocity and increase inundation longevity and significantly enhancing riparian vegetation. Coldstream is in the top three producers of excessive sedimentation (LRWQCB 2008).

V. Support to Rehabilitation of Local Tributary Creeks and Drainage Courses: The project will restore a one-mile section of degraded stream channel in a key tributary that is a known contributor of sediment to the Truckee River. This project will improve watershed function and reduce sediment transfer to the Cold Creek and to Donner Creek, as well as to the main stem of the Truckee River.

VI. Stewardship and Environmental Awareness: The project will include outreach to community members through newsletters, email updates and project site tours. Outreach will be designed to increase understanding and importance of stream and habitat restoration and reduction of sediments and other pollutants within the watershed. Volunteers will also support the project on TRWC's annual Truckee River Day.

VII. Meet Multiple Objectives: The project meets the three objectives listed above. The project also benefits meadow, riparian, and in-stream habitat, as well as the aquatic, terrestrial and human communities who rely on healthy watersheds.

VIII. Leverage Stakeholder Assets and Participation: Stakeholder prioritization of sediment reduction associated with erosive stream bank stabilization is documented in the CCWA (TRWC 2007) and in the Truckee River TMDL (LRWQCB, 2008). This project also leverages California State funding in the amount of approximately $2 million dollars.

5. **Permitting**.
   The proposed work for this project will require additional regulatory permits from the Regional Water Quality Control Board (401/NPDES) and from California Department of Fish and Game (1600 LSA Agreement). TRWC and CDPR will secure all necessary permits for project implementation.

Environmental Permit	Status	Anticipated Completion Date
CEQA	Complete	June, 2020
Lahontan 401 Water Quality Certification	Submitted/In process	March, 2023
U.S. Army Corps Nationwide 27	Submitted/In process	March, 2023
California Department of Fish & Wildlife	Submitted/In process	March, 2023
State Water Board General Construction Permit	Not yet submitted	June, 2023

6. **Future land use**. The project is implemented on lands within Donner Memorial State Park and will be protected into perpetuity by the State of California. Improvements made to Cold Creek and adjacent habitat areas will be managed and maintained by State Parks staff in accordance with the standards established by California Department of Parks and Recreation

7. **Future phases**.
   Future phases of the project will include post-project monitoring, revegetation and determination of the necessity of implementing any adaptive management actions. Funding is provided by the State of California and by California State Parks to complete all necessary actions and future phases of project implementation.

8. **Principals involved**
   Eben Swain, Project Director with TRWC, will be the lead staff person from TRWC and will handle all project management and grant administration tasks for this grant agreement. Lisa Wallace, Executive Director, will provide additional support and oversight as needed.

9. Number of **staff positions involved** in project: (Part-time) Eben Swain, and Lisa Wallace (TRWC) will dedicate a portion of their time to these projects, with additional support from CDPR personnel.

10. Number of **volunteers involved** in project and an estimated number of volunteer hours. Volunteers will assist with revegetation of newly created floodplain terraces and will assist with additional stabilization of re-graded streambanks. Anticipated tasks will include willow staking, re-seeding and mulching. 20 volunteers will contribute a total of 90 hours.

Grant application to the *Truckee River Fund*
From: *Truckee River Watershed Council*
Coldstream Canyon – Cold Creek Streambank Stabilization

11. Timeline of Project.

Task	Start Date	Completion Date
Coldstream Canyon Restoration Construction	August 2023	October 2023
Project Management and Reporting	March 2023	October 2023

12. Success. We will collect post project data and will conduct an analysis to determine estimated sedimentation reduction, increased groundwater and seasonal inundation, increased availability of aquatic habitat and increased density and vigor of riparian vegetation. Post project data analysis will be compared to current conditions to determine success of the project and improvements in overall watershed health and resiliency.

13. Collaboration. The key stakeholder in the Coldstream project is California Department of Parks and Recreation. We will work closely with CDPR to develop the work plan, hire a construction contractor, implement the restoration actions, monitor project success, and communicate the results. The Coldstream Project will also be shared with TRWC's larger, established watershed stakeholder group via project presentations and site tours, allowing other watershed stakeholders a chance to learn about the project and provide input.

14. Grant match.

Match amount to be provided:	**$31,500.00**
Match details:	Please provide the form of your matching funds. If match is made up of both cash and in-kind, fill in both sections. Match is: Cash: **$31,500.00** For the cash portion of your match, is the funding already being held by the applicant for this project? Yes
Description of matching funds/in-kind donations:	The matching funds are from the California Wildlife Conservation Board – Grant Agreement # 2022020: Coldstream Canyon Restoration for $1,380,000.

ATTACHMENTS

A. Extended list of past TRWC projects funded by the Truckee River Fund
B. Coldstream Canyon Project Location Map
C. Project Photos

Documents noted below are available and can be submitted upon request.

☒ Last audited financial statements if your organization has been audited.
☒ List of Board of Directors
☒ Copy of agency's IRS 501©(3) Tax Determination Letter
☒ Copy of the agency's most recent IRS Form 990

Grant application to the *Truckee River Fund*
From: *Truckee River Watershed Council*
Coldstream Canyon – Cold Creek Streambank Stabilization

15. Budget

Item	**TRF $**	**Other Funding Name**	**Match $**	**Total**
Project Management & Reporting	$3,200.00			$3,200.00
Project supplies (Plants, seed, amendment, etc)	$3,400.00			$3,400.00
Construction/Restoration	$119,4000.00	California Wildlife Conservation Board	$31,500.00	$150,150.00
Totals:	**$126,000.00**		**$31,500.00**	**$157,500.00**

Attachment A
Continued list of grants to TRWC from the Truckee River Fund

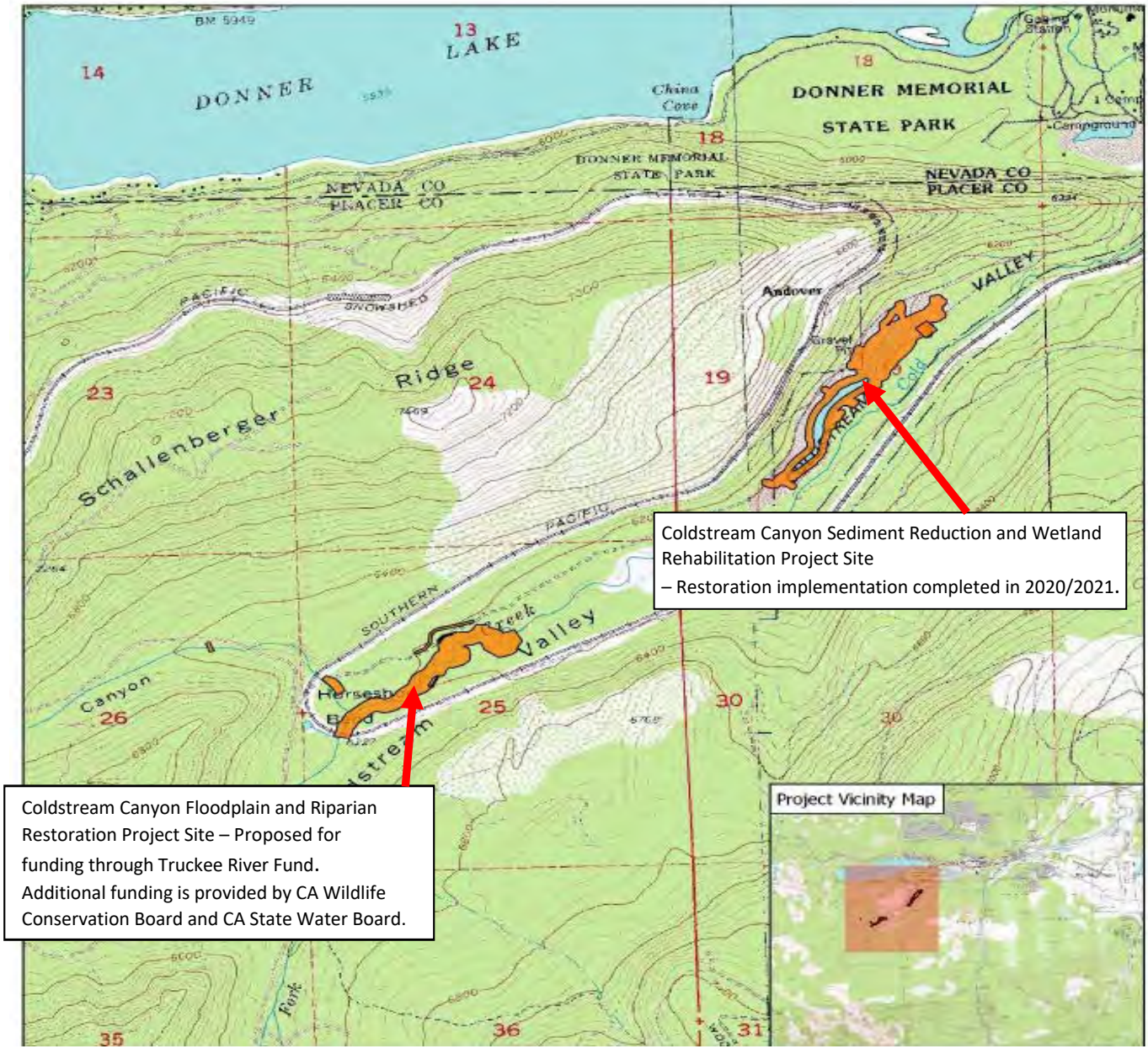
Date awarded:	March 2021
Project title:	Bear Creek Lower Meadow Restoration Project – Phase 2 Construction
Amount of Award	$51,250
Date awarded:	September 2020
Project title:	Restoration for Coldstream Canyon
Amount of Award	$86,500
Project title:	McIver Dairy Meadow Restoration Project
Amount of Award	$161,000
Date awarded:	October 2018
Project title:	Truckee River Water Quality Monitoring Program
Amount of Award	$25,000
Date awarded:	October 2018
Project title:	Restoration Projects: Donner Creek and Dry Creek Meadow
Amount of Award	$92,000
Date awarded:	March 2018
Project title:	Truckee Meadows Restoration Project – Phase 2 Construction
Amount of Award	$30,000
Date awarded:	October 2017
Project title:	Truckee River Tributaries Sediment Reduction Project
Amount of Award	$165,000
Date awarded:	March 2017
Project title:	Big Chief, F4M Restoration Culvert Outflows
Amount of Award	$50,000
Date awarded:	September 2016
Project title:	Donner Creek Bank Stabilization Downstream of Railroad Culvert Final Design
Amount of Award	$90,000
Date awarded:	March 2017
Project title:	F4M Restoration Culvert Outflow
Amount of Award	$50,000
Date awarded:	September 2016
Project title:	Donner Creek Concept Designs
Amount of Award	$40,000
Date awarded:	September 2016
Project title:	Donner Creek Bank Stabilization
Amount of Award	$92,000
Date awarded:	April 2016
Project title:	Johnson Canyon West #2
Amount of Award	$67,000
Date awarded:	October 2015
Project title:	Johnson Canyon West #1
Amount of Award	$25,000
Date awarded:	September 2014

Project title:	Donner Lake Watershed Assessment
Amount of Award	$70,000
Date awarded:	March 2014
Project title:	Truckee Wetlands Restoration – Phase 3,4, & 5 – Design
Amount of Award	$50,000
Date awarded:	October 2013
Project title:	Truckee River Big Chief Corridor –Restoration
Amount of Award:	$150,000
Date awarded:	March 2013
Project title:	Truckee River Big Chief Corridor – Implementation
Amount of Award	$11,000
Date awarded:	March 2013
Project title:	Middle Martis Wetland Restoration – planning and design
Amount of Award:	$120,000
Date awarded:	August 2012
Project title:	Phase 2 Coldstream Canyon Floodplain Restoration
Amount of Award:	$196,000
Date awarded:	March 2012
Project title:	Lacey Creek and Meadow Assessment
Amount of Award	$50,000
Date awarded:	March 2012
Project title:	Negro Canyon Restoration – pre-project monitoring
Amount of Award:	$25,000
Date awarded:	October 2010
Project title:	Coldstream Canyon Floodplain Restoration Project
Amount of Award:	$135,000
Date awarded:	August 2010
Project title:	Truckee Wetlands Restoration Project – Phase 2
Amount of Award:	$40,000
Date awarded:	July 2006
Project title:	“This Drains to the Truckee River” Storm Drain Stenciling Pilot Project
Amount of Award:	$9,300

Coldstream Canyon: Restoration Project

Coldstream Canyon Project Boundary

The map below depicts the project boundary areas for two separate restoration projects in Coldstream Canyon. The western most project boundary is the floodplain and riparian restoration project being proposed for funding via the Truckee River Fund, while the eastern polygon depicts an boundary area where legacy gravel mining operations have degraded natural meadow and wetland habitat and has been restored through funding previously provided by California State Water Board and Truckee River Fund.



Township 17 North; Range 15 East; Sections 24,25 & 26
Township 17 North; Range 16 East; Sections 19 & 30
USGS Norden 7.5 Quad; USGS Truckee 7.5 Quad

Project Photos

Truckee River Fund - Grant Application
Applicant: Truckee River Watershed Council
Project: Coldstream Canyon - Cold Creek Bank Stabilization

1. Photo above shows a portion of the degraded stream reach showing heavily eroded stream banks and lack of floodplain connectivity/riparian vegetation. Flow is completely sub-surface – Sept, 2020.

2. Photo above shows the reference reach maintaining late-season baseline flows with elevated water table, well-connected floodplains and extensive riparian vegetation – Sept, 2020.

3. Photo looking downstream along degraded stream bank showing episodic erosion due to channel instability, lack of floodplain connection and continued aggradation/degradation – May, 2019.

4. Photo looking downstream is just above the reference reach (photo 2 above) showing insufficient flow levels and greatly denuded floodplain/riparian habitat – Sept, 2019.

COMMUNITY FOUNDATION of Northern Nevada | TRUCKEE RIVER FUND Enhancing and protecting our water resources | TRUCKEE MEADOWS WATER AUTHORITY

Cover Sheet **Date:** 2/2/2023

Organization Name:	U.S. Fish and Wildlife Service-Lahontan National Fish Hatchery Complex	
Type:	**501(c)(3) EIN#**	**Governmental entity? (Y)/N**
Address:	710 Hwy 395, Gardnerville, NV 89410	
Project Name:	Lower Truckee River Carp Management	
Amount requested: $32,320	**Website:**	
This funding will be used to (complete this sentence with a max of 2 sentences):	Fund efforts to remove and manage Common Carp, an invasive species in the Truckee River, in order to benefit native fishes and water quality,	

Key People:	**Director:**	Lisa Heki (Project Leader LNFHC)
	Board Chair:	
	Project Contact:	**Name:** Thomas Bland
		Position: Fish Biologist
		Phone: 608-317-0656
		Fax:
		Email: thomas_bland@fws.gov
Organization Mission:		

Has your organization received other grants from the Truckee River Fund?
Yes **(No)**
(use additional page if necessary)

If yes,

Date awarded:	
Project title:	
Amount of Award:	
Date awarded:	
Project title:	
Amount of Award:	
Date awarded:	
Project title:	
Amount of Award:	

DESCRIPTION OF PROJECT UNDER CONSIDERATION

Indicate the description that best fits the project you are proposing. Mark no more than three categories:

- ☐ A. Projects that improve bank or channel stabilization and decrease erosion.
- ☐ B. Structural controls or Low Impact Development (LID) projects on tributaries and drainages to the Truckee River where data supports evidence of pollution and/or sediments entering the Truckee River.
- ☐ C. Projects that remove pollution from the Truckee River.
- ☑ D. Projects that remove or control invasive aquatic species or terrestrial invasive plant species that are adverse to water supply.[3]
- ☐ E. Other projects that meet the evaluation criteria.

[3] For proposals related to weed control/eradication, contact Lauren Renda at the Community Foundation of Northern Nevada for additional criteria. lrenda@nevadafund.org; 775-333-5499.

Lower Truckee River Carp Management

Truckee River Fund Proposal Submission

Thomas Bland

U.S. Fish and Wildlife Service

Lahontan National Fish Hatchery Complex

2-2-2023

Introduction

The Common Carp (*Cyprinus carpio*) is a fish native to Europe and Asia, specifically the Black, Caspian, and Aral Sea basins. Carp were the first fish ever to be domesticated, and have been deliberately introduced into aquatic habitats around the world. In North America, introductions were made in the late 1800's under the belief that Carp were a valuable, high-yielding, food source for the expanding population of humans. This was deliberately done by the U.S. Commission on Fish and Fisheries, the predecessor of the USFWS. In many parts of Europe, Carp are considered a highly prized game species. Today, however, Carp have become a nuisance species in many of the areas where they are non-native. The species has been listed as one of the worlds "100 worst" invasive species (Lowe et al. 2000), and control/eradication efforts are quite common (Weber and Brown 2009).

Common Carp are a fast growing and highly fecund species that can quickly become the most abundant fish in a river or lake system, and are ecologically adaptable to a wide range of aquatic environments. In some parts of Australian rivers, biomass of carp is estimated to be 90% off all fish biomass (Harris and Gehrke 1997). The ecological impacts of Common Carp invasions are well documented and can be very damaging to native species. Carp are omnivorous generalists, but most frequently consume macroinvertebrates and plant matter. When Carp are abundant, there are documented declines to macroinvertebrate communities (Weber and Brown 2009), which consequently negatively affect native fishes reliant on those invertebrates as a food source (Howell et al. 2014). Common Carp have also been documented feeding on eggs of Lake Trout (*Salvelinus namaycush*), as well as larval Razorback Sucker (*Xyrauchen texanus*) (Marsh et al. 2003).

The method by which Carp feed is also problematic. Carp will essentially vacuum up soft substrates, filter out the macroinvertebrates, and return the sediment back into the water column. This resuspension of fine particles leads to increases in water turbidity, but also to nutrient cycling. Carp feeding activities have been associated with increases in phosphorus, nitrogen, and ammonia (Weber and Brown 2009). This has significantly altered aquatic food webs and eutrophication is often a result of a Carp invasion. The presence of Carp has also had a documented negative effect on communities of native macrophytes. Even when Carp are not feeding directly on the macrophytes, disruptions to the sediment can be very damaging. To

make matters worse, increased turbidity and increased nutrient loading, shift the balance from aquatic macrophytes towards algal growth (Weber and Brown 2009).

The U.S. Fish and Wildlife Service's Lahontan National Fish Hatchery Complex (LNFHC) performs electro-fishing surveys regularly on the Truckee River. Common Carp have been documented from sections through Reno, all the way to Pyramid Lake. The amount of Carp biomass has not been quantified, but is quite significant, particularly in the reaches downstream of Derby Dam. Relative abundance data from electro-fishing surveys indicates that Carp are the most abundant species in the lower Truckee River, where Endangered Species Act listed Threatened Lahontan Cutthroat Trout, and Endangered Cui-ui (*Chasmistes cujus*) spawn. The presence of Common Carp in these spawning areas is concerning due to possible predation on eggs or larvae, competition for food sources, and decreases in water quality.

Narrative Requirements

1: Specific project goals and measurable outcomes and how you will measure and report them. The primary project goal is to catch and remove Common Carp from areas of the Truckee River where Lahontan Cutthroat Trout and Cui-ui spawn, prior to spawning season. This will be measured by reporting total number of Carp removed, average length, average weight, total weight, and catch per unit effort (CPUE). Long-term success may be assessed by decreases in average Carp weight, length, and CPUE. Using length we will also be able to analyze proportional stock density (PSD), to assess any shifts in population size/age over time (and also compare to other systems).

2: Project location. Truckee River, within Pyramid Lake Paiute Tribal boundary, near Nixon, NV.

3: Project description. The LNFHC already conducts removal of non-native fish species on sections of the Truckee River existing with the boundary of the Pyramid Lake Paiute Tribe Reservation. The surveys are conducted by use of electro-fishing raft, and currently target non-native Rainbow Trout (*Oncorhynchus mykiss*) and Brown Trout (*Salmo trutta*). Those removals are conducted without any assumption of any reduction in populations of those species, but are thought to reduce non-native trout densities in known spawning areas, reducing the chances of hybridization and predation. This same philosophy would be applied to Carp, as other efforts have demonstrated the difficulty of reducing populations by mechanical means.

Our carp removal efforts would be completed in conjunction with existing non-native species removals. Grant funds would be used to expand the time period of removal efforts, and to add additional people on the surveys dedicated to handling the Carp. Non-native removals are currently conducted from November to January, but would be expanded to start in October. This would also have the added benefit of capturing and removing more Rainbow Trout and Brown Trout. Crew size would expand from three to five persons. Two extra crew members would be piloting a raft, following close behind the electrofishing raft. Carp remain immobilized from the electric current for an extended period of time. The second raft, will be able to collect the

stunned Carp while maintaining a safe distance behind the electrofishing raft, using gaff hooks. That raft would also be outfitted with several bins for carcass storage. Carp will be euthanized with a lethal dose of MS-222, a commonly used fish anesthetic Each carp will be weighed and measured. Carcasses would be transported to Reno Rendering Co. and disposed of. We will also further investigate the possibility of donating carcasses to the PLPT for use in field fertilizer.

4: Grant priorities. This project will satisfy the requirements of priority I, aquatic invasive species (AIS). Although definitions of aquatic invasive species vary by location and agency, the USFWS and PLPT view Common Carp as an invasive species in the Truckee River.

5: Permitting. Land access and sampling permission to be granted by Pyramid Lake Paiute Tribe

6: Future land use. There is no known or foreseeable zoning, land use, or development plans that may affect the project.

7: Future phases. Project may be repeated annually, dependent on funding

8: Principals involved.

Thomas Bland, will be coordinator for this project. Fish Biologist, LNFHC. Thomas_bland@fws.gov

Lisa Heki, LNFHC Project Leader, lisa_heki@fws.gov

Roger Peka, LNFCH Truckee River research coordinator, roger_peka@fws.gov

9: Staff positions involved. Zero full-time positions, seven employees will be involved with the project part-time. We will also work on a cooperative agreement with PLPT to possibly fund their labor contributions.

10: Number of volunteers involved. PLPT Fisheries and AIS programs may provide volunteers for field work

11: Project timeline. Project will begin in October 2023 and end in January 2024. Could be extended to future Oct-Jan time periods if funding allows.

12: Success. Project success will be judged primarily by catching and removing significant amounts of Carp prior to spawning season. Secondarily, success may be judged by decreases in average Carp length, weight, and CPUE. Long term success will include improvements in water quality if Carp suppression is maintained. PLPT currently monitors water quality, and long-term changes to turbidity can be assessed from the USGS Nixon gauging station data.

13: Collaboration. Approval will need to be given by the Pyramid Lake Paiute Tribe, and the PLPT Fisheries and AIS programs will likely contribute volunteers to the project.

14: Grant match. 25% of project costs will be covered by the LNFHC.

References

Harris, J. H., and P. C. Gehrke. Fish and rivers in stress: The NSW Rivers Survey. NSW Fisheries Office of Conservation and the Cooperative Research Centre for Freshwater Ecology, Cronulla and Canberra, Australia (1997).

Howell J. M, Weber, M.J. & Brown, M.L. Evaluation of trophic niche overlap between native fishes and young-of-the-year common carp. The American Midland Naturalist. 2014;172(1):91-106.

Lowe S., Browne M., Boudjelas S., De Poorter M. (2000) 100 of the World's Worst Invasive Alien Species A selection from the Global Invasive Species Database. Published by The Invasive Species Specialist Group (ISSG) a specialist group of the Species Survival Commission (SSC) of the World Conservation Union (IUCN), 12pp. First published as special lift-out in Aliens 12, December 2000. Updated and reprinted version: November 2004.

Marsh PC, Pacey CA, Kesner BR. Decline of the razorback sucker in Lake Mohave, Colorado River, Arizona and Nevada. Transactions of the American Fisheries Society. 2003;132(6):1251-1256

Weber, M.J. & Brown, M.L. (2009). Effects of common carp on aquatic ecosystems 80 years after "Carp as a Dominant": ecological insights for fisheries management. Reviews in Fisheries Science 17, 524 – 537.

Project Budget

Item Description	TRF $ Amount	LNFHC $ Match	Total $
Gear: 4 gaff hooks	$150	$50	$200
Gear: 6 storage bins (31 gallon)	$90	$30	$120
Rendering Plant fees	$750	$250	$1000
Labor (approx. 720 total hrs)	$18,750	$6250	$25,000
Overhead	$4500	$1500	$6000
Total	**$24,240**	**$8080**	**$32,320**

P.O. Box 915
400 Dorla Court
Zephyr Cove, Nevada 89448
Phone (775) 586-1610
www.ntcd.org

February 3, 2023

Truckee River Fund Advisory Board
Community Foundation of Northern Nevada
50 Washington Street, Suite 300
Reno, NV 89503

Re: Truckee River Fund Grant Application – Lower Rosewood Creek Aquatic Organism Passage Project

Truckee River Fund Advisory Board:

Enclosed please find the Truckee River Fund Grant application for the Lower Rosewood Creek Aquatic Organism Passage Project. The Project aims to remove and replace two (2) fish barriers with fish friendly passages that will enable native salmonids to move upstream from Lake Tahoe to above Northwood Blvd via Third or Rosewood Creeks without any manmade obstructions.

Additionally, the grading and channel work necessary downstream and upstream from each replacement to make up for the rapid elevation drop from the existing standpipes will alleviate sediment buildup within the streambed and behind Incline Way, creating potential new sediment and nutrient sinks to continue improving Rosewood Creek's water quality.

I look forward to the possibility of working together on this project.

Please contact me at (775) 230.8419 or via email at dfellers@ntcd.org if you have any questions regarding the application.

Sincerely,

Domi Fellers
Environmental Scientist
Nevada Tahoe Conservation District

COMMUNITY FOUNDATION of Northern Nevada

TRUCKEE RIVER FUND
Enhancing and protecting our water resources

TRUCKEE MEADOWS WATER AUTHORITY

Cover Sheet **Date:**

Organization Name:	**Nevada Tahoe Conservation District (NTCD)**	
Type:	**501(c)(3) EIN# 33-1044148**	**Governmental entity? Y/N**
Address:	**PO Box 915, Zephyr Cove, NV 89448**	
Project Name:	**Lower Rosewood Creek Aquatic Organism Passage**	
Amount requested: $217,000	**Website: www.ntcd.org**	
This funding will be used to (complete this sentence with a max of 2 sentences):	**Remove two manmade obstacles restricting fish from moving upstream. Removal will open 1.5 miles of creek for Lahontan Cutthroat Trout and native fish to travel/spawn.**	

Key People:	**Director:**	**Meghan Kelly, P.E.**
	Board Chair:	**Cary Sarnoff**
	Project Contact:	**Name:** **Domi Fellers** **Position:** **Environmental Scientist** **Phone:** **775.230.8419, 775.586.1610 x26** **Fax:** **775.586.1612** **Email:** **dfellers@ntcd.org**
Organization Mission:	**To promote the conservation and improvement of the Lake Tahoe Basin's natural resources by providing leadership, education, and technical assistance to all basin users.**	

Has your organization received other grants from the Truckee River Fund?
Yes X No (use additional page if necessary)

If yes,

Date awarded:	10/22/2015
Project title:	Rosewood & Third Creek Invasive Weed Removal (TRF#162)
Amount of Award:	$7,350
Date awarded:	
Project title:	
Amount of Award:	
Date awarded:	
Project title:	
Amount of Award:	

DESCRIPTION OF PROJECT UNDER CONSIDERATION

Indicate the description that best fits the project you are proposing. Mark no more than three categories:

- ☐ A. Projects that improve bank or channel stabilization and decrease erosion.
- ☐ B. Structural controls or Low Impact Development (LID) projects on tributaries and drainages to the Truckee River where data supports evidence of pollution and/or sediments entering the Truckee River.
- ☐ C. Projects that remove pollution from the Truckee River.
- ☐ D. Projects that remove or control invasive aquatic species or terrestrial invasive plant species that are adverse to water supply.[3]
- ☐ E. Other projects that meet the evaluation criteria.

[3] For proposals related to weed control/eradication, contact Lauren Renda at the Community Foundation of Northern Nevada for additional criteria. lrenda@nevadafund.org; 775-333-5499.

Lower Rosewood Creek Aquatic Organism Passage Project

1. Project Goals and Measurable Outcomes

The Lower Rosewood Creek Aquatic Organism Passage (AOP) Project will be implemented to improve fish passage and enhance aquatic habitat. Project partners will be notified for opportunities to collaborate on potential water quality and recreation improvements. Specific project goals are presented below.

GOAL #1: Improve Fish Passage

Fish passage barriers within the project would be replaced with fish friendly structures that will enable native salmonids to move upstream from Lake Tahoe to above Northwood Blvd via Third and Rosewood Creeks without any manmade obstructions.

GOAL #2: Enhanced Aquatic Habitat

Stream channel morphology and structures within the project will be improved to enhance physical habitat for potential resident fish and benthic macroinvertebrates. These improvements will upgrade fish habitat in the stream from 'resident marginal' to 'resident good' as designated by TRPA and will also improve food production in the project area to benefit aquatic species downstream.

GOAL #3: Collaboration and Coordination

The fourth goal is to collaborate where appropriate and coordinate with other public agencies on opportunities to improve fish passage, water quality and recreation within the project area.

GOAL #4: Complete TRPA EIP #01.01.01.0093

The Lower Rosewood Creek Aquatic Organism Passage Project is on the Tahoe Regional Planning Agency 5-year list as EIP #01.01.01.0093 as an unfunded project. Project progress will be tracked in TRPA's EIP Tracker to confirm completion of the project.

Measurable Outcomes

Measurable outcomes will include staying on budget and meeting project tasks within the schedule presented (*9. Timeline*). The project will be successful upon the complete installation of two new arched concrete open bottom structures that allow for the passage of native salmonids, along with revegetation along Rosewood Creek to mitigate project disturbance.

2. Project Location

The Project is in Incline Village, Nevada predominately on Incline Village General Improvement District (IVGID, public) property. The area encompasses Rosewood Creek, starting at Incline Way upstream 425 feet (see attached maps- Figures 1, 2 and 3).
The project area is approximately 1.3 acres.
Rosewood Creek in project area: -119.945281, 39.244974

3. Project Description

Rosewood Creek is a tributary to Third Creek and has undergone multiple restoration projects in the past 13 years. In the summer of 2003, a completely new channel was constructed for Lower Rosewood Creek (between State Route 28 and Lakeshore Blvd.) in an attempt to mitigate sediment and nutrient loading to Lake Tahoe by creating a functioning Stream Environment Zone (SEZ). In 2015, the reach of Rosewood Creek determined to be the most unstable and actively degrading was restored; Rosewood Creek Area A SEZ Restoration Project constructed 2,200 linear feet of new channel in the middle reach of Rosewood Creek from 100 feet upstream of Northwood Boulevard to State Route 28 and installed a fish friendly concrete box culvert at the Northwood Blvd crossing. The Rosewood Creek Continuation Restoration Project installed willow debris structures in 2018 to restore the portion of creek between the Area A and Lower Rosewood Creek Restoration Projects. Unfortunately, in 2003, native fish passage was not a priority and the obstructions located within the Lower Rosewood Creek Aquatic Organism Passage Project were not removed and replaced.

This Project proposes to remove two metal standpipe culvert crossings installed in the 1990s and replace them with arched concrete open bottom structures that allow for the passage of native salmonids. The first standpipe and culvert replacement would occur just below Incline Way, and the second standpipe and culvert replacement would occur at an existing multi-use path. Additional grading and channel work may be necessary downstream and upstream from each replacement to make up for the rapid elevation drop from the existing standpipe. Substantial restoration and water quality work has occurred upstream resulting in a decreased sediment load to this reach compared to when the drop culverts were originally installed. Grading upstream and downstream from both culvert replacements will permanently sequester the captured fine sediments from the past degradation. The new streambed will consist of clean streambed material and robust riparian vegetation that has less potential for sediment discharge resulting in improved water quality. Additionally, the project has the potential to coincide with desired pedestrian and cyclist improvements on Incline Way in Incline Village.

Removing and replacing these obstructions with fish friendly passages will enable native salmonids to move upstream from Lake Tahoe to above Northwood Blvd via Third and Rosewood Creeks without any manmade obstructions. According to Travis Hawks, Nevada Division of Wildlife (NDOW) biologist, trout preferentially utilize Rosewood Creek in the spring, which is the spawning season for the native Lahontan Cutthroat Trout (LCT), due to the smaller and lower elevation watershed resulting in spring temperatures that are warmer than Third Creek. If the barriers were removed, there are no other

barriers between the downstream end of Rosewood all the way through the Area A restoration and upstream to Village Blvd. Roughly 1.5 miles of Rosewood Creek would be accessible to LCT and other native fish.

Project funds requested are scalable.

4. Grant Priorities

II. Watershed Improvements- Substantial restoration and water quality work has occurred upstream resulting in a decreased sediment load to this reach compared to when the standpipes were originally installed. Grading upstream and downstream from both standpipe and culvert replacements will permanently sequester the captured fine sediments from the past degradation. The new streambed will consist of clean streambed material and robust riparian vegetation that has less potential for sediment discharge resulting in continued improved water quality.

VII. Leverage Stakeholder Assets and Participation- The substantial restoration and water quality work afore mentioned supports the Keep Lake Tahoe Blue slogan and Lake Tahoe TMDL mandate to reduce fine sediment and nutrients entering Lake Tahoe, thus improving the water quality. This project will keep the water quality benefits and provide the native LCT with improved spawning and habitat access. Supporting this project will leverage the Nevada Division of State Lands (NDSL) Tahoe Bond Act funds and potentially enhance or effect the NDOW's ongoing LCT research efforts at the Third Creek outlet to Lake Tahoe. Because Rosewood Creek discharges to Third Creek a couple hundred feet above Lake Tahoe and because NDOW has stated LCT may prefer Rosewood Creek over Third Creek for spawning purposes due to warmer water temperatures, NDOW may see more fish activity in Rosewood Creek once the fish barriers are removed, thus supporting species enhancement.

5. Permitting

Due to working in the waters of the US, both Army Corps of Engineers and Nevada Division of Environmental Protection permits will be needed. Permission from IVGID will be obtained prior to implementation.

Agency	Permit	Timeline
Army Corps of Engineers	Section 404 Permit, Nationwide Permit Summary 27: Aquatic Habitat Restoration, Establishment, and Enhancement Activities	With construction in 2024, adequate time to secure environmental documentation and regulatory compliance & permitting is scheduled: March 2023 – March 2024
Nevada Division of Environmental Protection	Section 401 Permit, Temporary Working in Waters Permit	
FEMA	Flood Map Adjustments	
TRPA	Grading Permit	
Washoe County	Grading Permit	
Washoe County	Dust Control Permit	

6. Future Land Use

No future land use adjustments are anticipated, the IVIGD owned land adjacent to the creek is currently utilized as a disc golf course, exercise course and walking path open to the public.

7. Future Phases

No future phases are anticipated.

8. Principles Involved

Domi Fellers
Environmental Scientist
Nevada Tahoe Conservation District
dfellers@ntcd.org
(775) 586-1610 x 26, (775) 230-8419

9. Staff Positions Involved

There will be no full-time positions and 5 part-time positions dedicated to this Project.

10. Volunteers Involved

Unfortunately, this project is mostly design, permitting, construction and revegetation, with no opportunity for volunteers.

11. Timeline

Project Phases and Tasks	Dates
Project Scoping and Funding	**March 2023 – February 2024**
Planning	**March 2023 – March 2024**
Surveying & Mapping	**April 2023 – May 2024**
Stakeholder Facilitation & Public Participation	**March 2023 – February 2024**
Environmental Documentation	**March 2023 – March 2024**
Regulatory Compliance & Permitting	**March 2023 – March 2024**
Design	**April 2023 – March 2025**
Design (50% and 90%)	**April 2023 – March 2024**
Construction Plans, Specifications, & Estimates	**April 2023 – February 2024**
Advertise and Bid	**February 2024 – April 2024**
Construction	**April 2024 – December 2024**
Construction	**May 2024 – October 2024**
Construction Management	**April 2024 – December 2024**
Project Management/Coordination	**March 2023 – March 2025**
Register Lake Clarity Credits	**August 2024 – February 2025**
Project Closeout	**October 2024 – March 2025**

12. Success

Success will be gauged upon the successful installation of two new arched concrete open bottom structures that allow for the passage of native salmonids, along with revegetation along Rosewood Creek to mitigate project disturbance. NTCD will follow up with the NDOW, as they conduct a fish study at the mouths of Third and Rosewood Creek recording the number, type and size of fish that swim upstream during spawning season. Perhaps the records will show an increase in fish utilizing Rosewood Creek.

13. Collaboration

The Project involves a collaboration between the IVGID, Washoe County and NTCD as the project will impact IVGID's property and traffic along Washoe County's Incline Way street. Additionally, the project will enhance the NDOW's efforts to restore the native LCT to Lake Tahoe and expand its spawning and habitat access.

14. Grant Match

Match amount to be provided:	$650,000	
Match details:	Cash:	$650,000
	In-Kind:	$0
	For the cash portion of your match, is the funding already being held by the applicant for this project? Yes ___ No _X_	
Description of matching funds/in-kind donations	We have applied for $650,000 of the cash match from the Nevada Division of State Lands.	

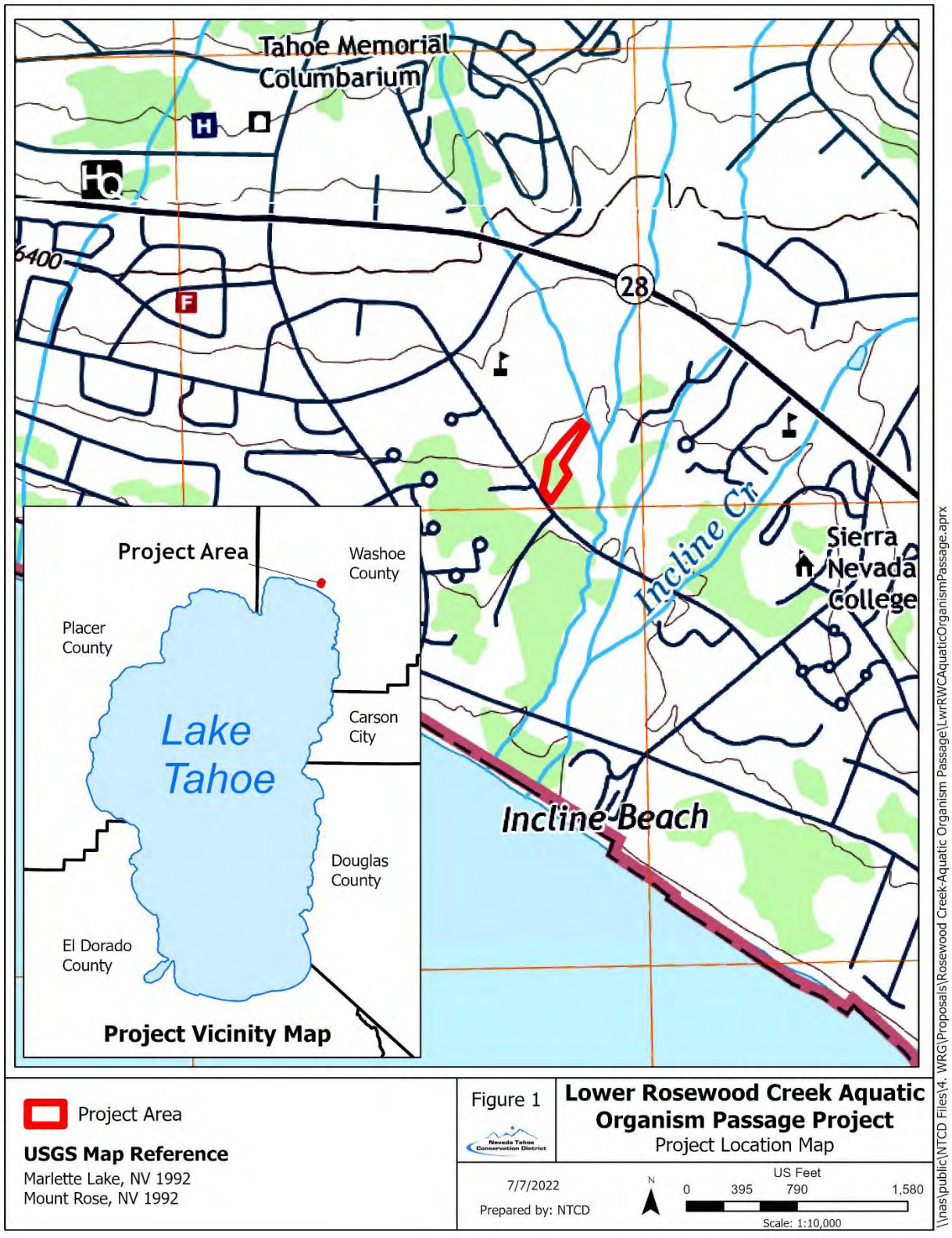
15. Project Budget

ITEM DESCRIPTION	PROJECT BUDGET			
	TRF	NDSL*	TOTAL $	Total
1. Project Management	$3,500	$5,000	$8,500	$8,500
2. Planning & Permitting	$9,400	$30,000	$39,400	$39,400
3. Design	$8,000	$31,398	$39,398	$39,398
4. Construction	$8,000	$25,000	$33,000	$33,000
Travel (NV State Rate - $0.585 per mile)	$500	$1,200	$1,700	$1,700
Equipment and Supplies	$1,000	$3,000	$4,000	$4,000
Sub Total	$30,400	$95,598	$125,998	$125,998
In-Direct Charges/Administrative (25% TRF, 34.94% NDSL)	$7,600	$33,402	$41,002	$41,002
Sub-Contracts (construction)	$164,000	$520,000	$684,000	$684,000
Sub-Contracts (permitting)	$10,000		$10,000	$10,000
Sub-Contracts (materials testing)	$5,000	$1,000	$6,000	$6,000
Total	**$217,000****	**$650,000**	**$867,000**	**$867,000**

*NDSL funding application has been submitted. If funding not approved, NTCD will continue to apply for grant funds through other sources

**Project funds requested are scalable

Map


Tahoe Memorial Columbarium
H
HQ
6400
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Incline Cir
Sierra Nevada College
Incline Beach
Project Area
Washoe County
Placer County
Carson City
Lake Tahoe
Douglas County
El Dorado County
Project Vicinity Map
Project Area
USGS Map Reference
Marlette Lake, NV 1992
Mount Rose, NV 1992
Figure 1
Lower Rosewood Creek Aquatic Organism Passage Project
Project Location Map
7/7/2022
Prepared by: NTCD
N
US Feet
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1,580
Scale: 1:10,000
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Area A
Rosewood Creek
Northwood Blvd
Third Creek
Continuation
Southwood Blvd
Tahoe Blvd (SR28)
Aquatic Organism Passage
Incline Way
Incline Creek
Lower
Rosewood Creek
Third Creek
TRPA, Maxar, Microsoft
Streams
Aquatic Organism Passage
Lower Rosewood Creek Restoration (2003)
Rosewood Creek Continuation (2018)
Rosewood Creek Area A (2015)
Figure 2
Nevada Tahoe Conservation District
Lower Rosewood Creek Aquatic Organism Passage Project
Background Information
7/5/2022
Prepared by: NTCD
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US Feet
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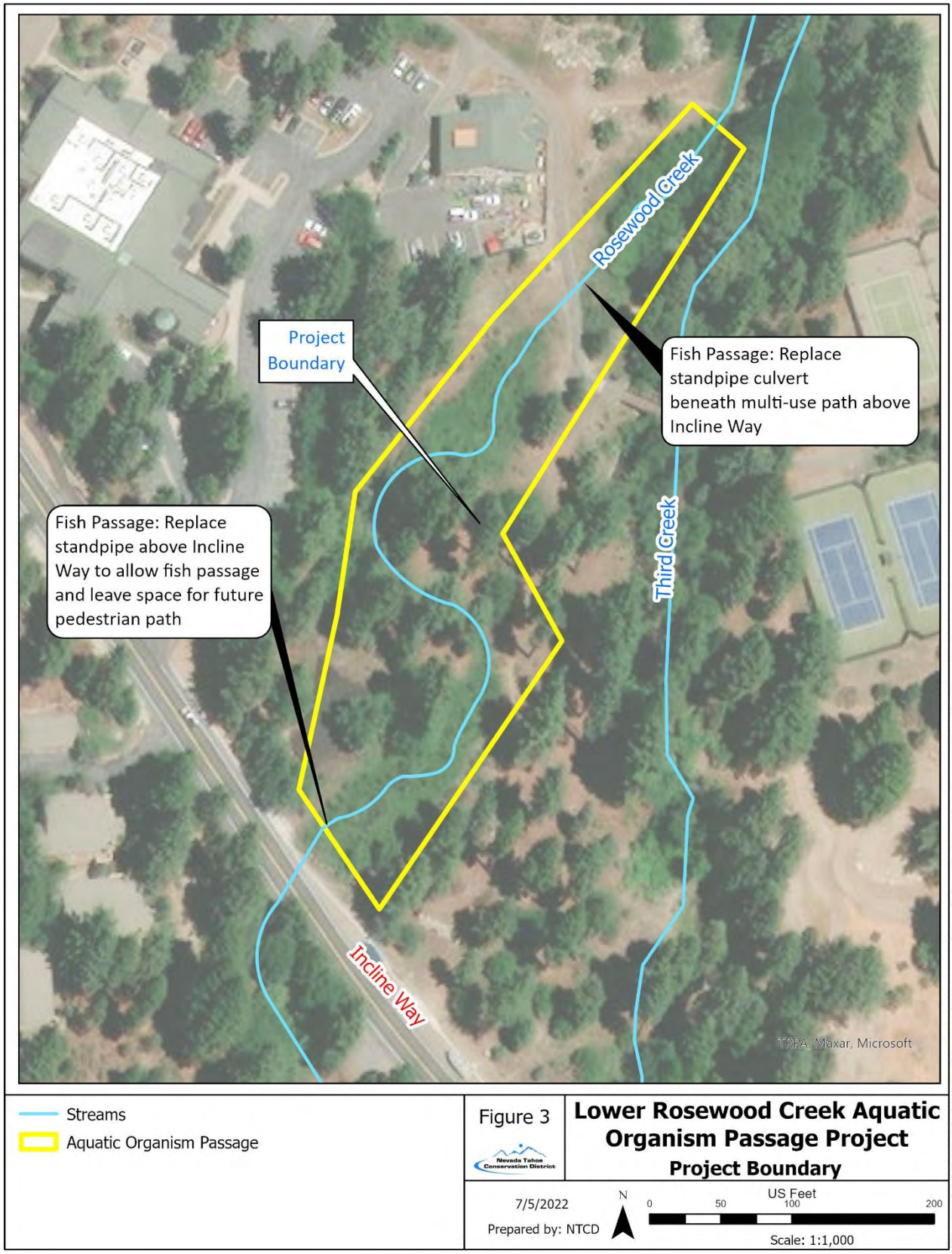
Rosewood Creek
Project Boundary
Fish Passage: Replace standpipe culvert beneath multi-use path above Incline Way
Fish Passage: Replace standpipe above Incline Way to allow fish passage and leave space for future pedestrian path
Third Creek
Incline Way
TRPA, Maxar, Microsoft
Streams
Aquatic Organism Passage
Figure 3
Nevada Tahoe Conservation District
Lower Rosewood Creek Aquatic Organism Passage Project
Project Boundary
7/5/2022
Prepared by: NTCD
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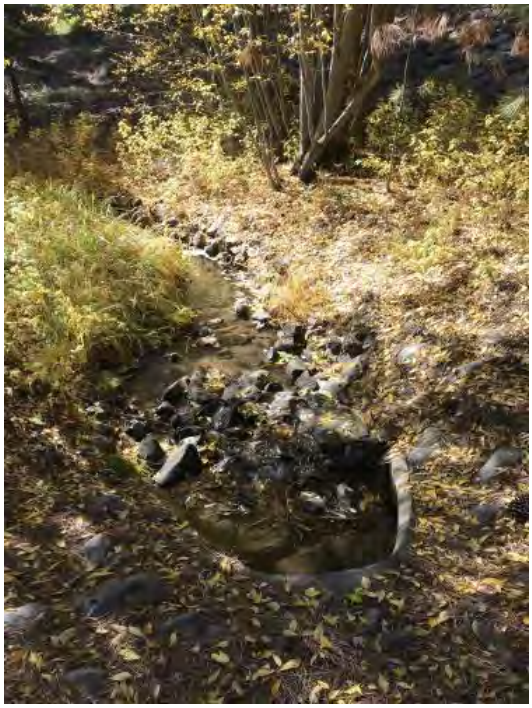
Photos of Project Area

Standpipe blocks fish passage near bike path upstream from Incline Way

Standpipe blocks fish passage upstream from Incline Way



Downstream of Incline Way, biologists often find tagged trout that cannot swim farther upstream due to barriers

COMMUNITY FOUNDATION of Northern Nevada

TRUCKEE RIVER FUND

TRUCKEE MEADOWS WATER AUTHORITY

Cover Sheet **Date:**

Organization Name:	Healing Waters Institute	February 3, 2023	
Type:	**501(c)(3) EIN#** 88-0425570	**Governmental entity? Y/N** NO	
Address:	PO Box 411, Nixon, NV 89424		
Project Name:	River Justice		
Amount requested: $95,717		**Website:**	
This funding will be used to (complete this sentence with a max of 2 sentences):	Monitor and clean up lower Truckee River, host tour & training on same		

Key People:

Director:	Autumn Harry	
Board Chair:	TBD March 2023	
Project Contact:	**Name:**	Beverly Harry
	Position:	Principal
	Phone:	775-857-8750
	Fax:	
	Email:	nobearhunting@gmail.com

Organization Mission: To support Indigenous communities with the Nation building of water and land protection for communities in Pyramid Lake and Reno/Sparks through education, mutual aid projects, and accessing activities on the land and water; and advocating on policy issues that preserve and enhance water throughout the Truckee River system and the Great Basin.

Has your organization received other grants from the Truckee River Fund?
Yes **No**
(use additional page if necessary)

No

If yes,

Date awarded:	
Project title:	
Amount of Award:	
Date awarded:	
Project title:	
Amount of Award:	
Date awarded:	
Project title:	
Amount of Award:	

DESCRIPTION OF PROJECT UNDER CONSIDERATION

Indicate the description that best fits the project you are proposing. Mark no more than three categories:

- ☐ A. Projects that improve bank or channel stabilization and decrease erosion.
- ☐ B. Structural controls or Low Impact Development (LID) projects on tributaries and drainages to the Truckee River where data supports evidence of pollution and/or sediments entering the Truckee River.
- ☒ C. Projects that remove pollution from the Truckee River.
- ☐ D. Projects that remove or control invasive aquatic species or terrestrial invasive plant species that are adverse to water supply.[3]
- ☐ E. Other projects that meet the evaluation criteria.

Healing Waters Institute Truckee River Fund Grant Proposal: River Justice
February 3, 2023

1. Project goals and measurable outcomes

The Healing Waters Institute (HWI) requests $95,718 from the Truckee River Fund (TRF) to support our work on three projects:

- Establish an Indigenous-led river-condition monitoring program to survey and assess the health and stewardship needs of the Truckee River on the Pyramid Lake Paiute Reservation.
    - Success will be measured by acquisition of drones for aerial surveys, development of survey protocol and data-management system to inform future projects and share with the Truckee River Dashboard being developed by One Truckee River and Truckee Meadows Tomorrow.
- Complete 6 clean ups along 32 miles of lower Truckee River, located on the Pyramid Lake Paiute Reservation, from Wadsworth to the mouth of the river at Pyramid Lake. Locations will be determined by data collected by the monitoring surveys above.
    - Success will be measured by events completed, volunteers recruited, pounds of litter removed, and future needs identified.
- Convene a tour and training for all Truckee River managing stakeholders to share the impacts of upstream activities on the wildlife and people of the lower Truckee River, and share best practices regarding cultural sensitivity in communicating and collaborating with Indigenous Peoples.
    - Success will be measured by completion of the event, participation by Truckee River stakeholders, archived presentation, and after-event survey sent to all participants.

2. Project Location

This grant supports stewardship of the final 32 miles of the lower Truckee River, between Wadsworth and the mouth of the river at Pyramid Lake, all on the Pyramid Lake Paiute Reservation.

3. Project Description

Healing Waters Institute (HWI) is submitting this grant in pursuit of River Justice. Indigenous Peoples of the Pyramid Lake Paiute Tribe (PLPT) are leading river protection efforts, because the river cannot speak for itself. Massive amounts of litter, other solid waste, and chemical nonpoint pollution enter the Truckee River from Reno, Sparks, other upstream communities, Interstate 80, and other uses. Much of this pollution ends up in the Reservation-portion of the river, threatening the health and survival of the endemic and federally endangered cui-ui (*Chasmistes cujus*), as well as the federally threatened Lahontan cutthroat trout (*Oncorhynchus clarkii henshawi*).[1][2] This pollution is also an environmental justice issue, because it impacts the cultural and human rights of downstream Indigenous Peoples.

Every day, Native people connect with water and continue to protect water. Their everyday struggle to maintain traditional, cultural, and spiritual connections to land, air, and water is being threatened. This grant will support the above projects in order to achieve the long-term health of the waters, wildlife, and communities of the lower Truckee River.

[1] https://www.sciencedirect.com/science/article/pii/S0048969722039559
[2] https://www.epa.gov/trash-free-waters/learn-about-aquatic-trash

Surveys and Monitoring

HWI will build a ground and aerial monitoring program in cooperation with the Pyramid Lake Paiute Tribe's Natural Resources and Fisheries departments, SWCA Environmental Consultants and One Truckee River (OTR). Our data and survey methods will be designed to conform to the Truckee River Dashboard being developed by SWCA and OTR.

This grant will allow HWI to acquire two drones for aerial surveys and hire Indigenous interns, who will learn accurate and effective survey methods, create a monitoring database for long-term trend monitoring (consistent with the Truckee River Dashboard), and be able to teach others these methods. This monitoring program will identify impacts and bring attention to aquatic invasive weeds, noxious weeds, erosion, sediment discharges, and restoration, revegetation, and other stewardship needs along the lower Truckee River, all of which will help the PLPT and other stakeholders identify and plan for future work to improve river health.

Site Clean Ups

Data collected by our monitoring team will inform the planning of 6 clean ups along the lower Truckee River. This grant will support the recruitment and management of tribal and non-tribal volunteers, the renting of up to (12) 40-yard dumpsters, gloves and other tools for the clean ups, and a storage shed to organize and store the tools for future events. See report of our past projects below, after section 14.

River Justice Tour and Training

The upper stretches of the Truckee received abundant management and stewardship attention from numerous agencies, municipalities, nonprofits, and other organizations. However, these organizations and agencies pay little attention to the health of the lower Truckee River, despite the fact that all trash and pollution not captured by these upstream efforts (or diverted by Derby Dam) flow to the lower Truckee River and Pyramid Lake.

To help all stakeholders better understand the impacts of our collective failure to control litter and pollution upstream, HWI will coordinate with Pyramid Lake Paiute Tribal Council, the PLPT Interdisciplinary Team, and other stakeholders to offer a tour of lower Truckee River values and impacts. This tour will include a facilitated conversation about the social and cultural impacts of poor river management on Indigenous Peoples. These events will help all stakeholders to better understand the natural and cultural values of the lower Truckee River and Pyramid Lake. Ultimately, it will foster better understanding of how we can all work together to better care for lands, waters, wildlife, and people living together in the Truckee River watershed.

Given the uncomfortable nature of some topics that will likely come up during the discussions, we request $1,000 to hire a 3rd party facilitator to support positive outcomes.

This grant includes support for both principals to attend one environmental stewardship conference and one environmental justice conference to learn best practices to incorporate into HWI's work.

This grant will support HWI's goal to build an Indigenous-led stewardship program to address the needs of the lower Truckee River, and to foster stronger relationships and coordination between the PLPT and other stakeholders managing the river. Our commitment is to continue to educate all those who drink, bathe, recreate, work, eat, and pollute upstream, so we can all work together to heal and sustain a healthy Truckee River.

4. Grant Priorities

Our monitoring program will help identify challenges such as aquatic invasive weeds (I), terrestrial invasive and noxious weeds (not enumerated by TRF), erosion and sediment discharges (II), and restoration/

revegetation needs (IV). Our clean up projects will further stewardship and environmental awareness (VI). Our tour and training will build collaboration and coordination in order to leverage better stakeholder assets and participation (VIII). Perhaps most important, this grant will support the health of the Truckee River's federally threatened and endangered species.

5. Permitting

No permits will be required for any work supported by this grant.

6. Future Land Use

This grant will not be affected by any future changes in land use, zoning, or jurisdiction.

7. Future Funding

Until upstream communities stop polluting the Truckee River and learn to respect its life-giving waters, habitats, and downstream communities, this program will need to continue. Future funding will be necessary, which is why HWI is pursuing formal nonprofit status. This grant will help HWI build an Indigenous-led program and culture of reciprocity and stewardship in the Truckee River watershed by strengthening and deploying the leadership, wisdom, and traditional knowledge of the Northern Paiute People of Pyramid Lake. It will allow the Tribe to guide HWI's initiatives and work.

HWI is currently in the process of formalizing its 501(c)(3) status. This will allow HWI to receive future funding from the federal government, the State of Nevada, local municipalities, charitable foundations, and individual donors. Our work is just beginning.

8. Principals

The founding members of HWI and principals responsible for fulfilling this grant are Beverly Harry and Autumn Harry. We will finalize our Board of Directors and Board Chair in March, 2023.

HWI is an Indigenous-led organization based on the Pyramid Lake Paiute Reservation. We plan to obtain nonprofit 501(c)(3) status by 2024. Until that time, HWI is submitting this application under the fiscal sponsorship of the Indigenous Peoples Council on Biocolonialism (EIN: 88-0425570).

9. Staff Positions

This grant supports 2 principal staff positions at 0.27 FTE each and two interns at 0.23 FTE.

10. Volunteers

We conservatively estimate we will recruit 300 volunteers to our river clean ups; ~180 of whom will come from Reno/Sparks; ~120 will come from the reservation.

11. Timeline of Project

The grant period will be March 1, 2023 to February 28, 2024

12. Success

HWI will share a six-month and final grant report to Truckee River Fund, including metrics and documentary photos. We will also share with you all earned and social media coverage.

13. Collaboration

In submitting this grant, HWI plans to join the many organizations and agencies already working together to steward the Truckee River, including Pyramid Lake Paiute Tribe, Washoe County, City of Reno, City of Sparks, Storey County, Truckee Meadows Water Authority, Sierra Pacific Power Company, Nevada Energy, US Fish & Wildlife Service, US EPA Region 9, Nevada Department of Wildlife, University of Nevada @Reno, Tahoe Regional Planning Agency, Tahoe Research Environmental Program (UCDavis), Waste Management, Reno-Sparks Indian Colony, Bureau of Land Management, Keep Truckee Meadows Beautiful, and One Truckee River, Desert Research Institute, and others.

14. Grant Match

HWI conservatively estimates we will match the TRF financial support with $39,276 in-kind value from volunteer hours and miles (see here for calculations). This is a 41% match, exceeding the 25% requirement.

Report of Past Projects

Since February 4, 2021, Healing Waters Institute has completed 8 clean ups along the Truckee River, which have attracted more than 600 volunteers total, filled 16 40-yd dumpsters with trash and generated $72,000 of in-kind value to the river. Here are a few examples:

99 volunteers at Vista clean up on Dec, 4, 2021.

A local volunteer works along the river.

125 volunteers meet on May 2021 at 2nd Street Walmart.

Volunteers fill up dumpsters at Vista location.

15. Project Budget

Item	Details	Cost/Value	Hours/miles	Total
2 Staff positions	0.27 FTE each	$30/hour	560 hours	$33,600
2 Interns	0.23 each	$15/hour	480 hours	$14,400
Drones w/GPS and camera	2	$1,000		$2,000
Dumpsters	2 per clean up	$1,000		$12,000
Snacks for volunteers	$100 per event	$600		$600
Gloves, trash bags, tools, SWAG	Misc.		n/a	$8,000
Storage Unit for tools		$5,800		$5,800
Meeting expenses	Rooms, AV, food, etc.			$3,000
Tour/Training Facilitator				$1,000
Staff/intern miles reimbursement		$0.655/mile	940 miles	$616
Principal Conference Travel		$1,500 each per conference		$6,000
IPCB Admin fee (10%)				$8,702
Total Request				**$95,718**
Match				
Volunteer time and miles				$39,276
Match percentage:				41.03%

Details available here.

FRIENDS of NEVADA WILDERNESS

Cover Sheet **Date: 02/03/2023**

Organization Name:	**Friends of Nevada Wilderness**	
Type:	**501(c)(3) EIN#** 88-0211763	**Governmental entity? N**
Address:	1360 Greg St. #111 Sparks Nevada 89431	
Project Name:	Mount Rose Noxious Weed Monitoring, Treatment, and Re-seeding 2023	
Amount requested: $26,343	**Website:** www.nevadawilderness.org	
This funding will be used to (complete this sentence with a max of 2 sentences):	Remove noxious weeds from the Hunter Creek watershed and reseed treated areas with native seeds to protect the water quality of the Truckee River and its watershed. We will host 6 removal projects, 3 reseeding projects, and monitor known weed sites.	

Key People:
Nora Richter
Chris Cutshaw
Meg Tait
Darcy Shepard

Director:	Shaaron Netherton
Board Chair:	Roger Scholl
Project Contact:	

Name:	Chris Cutshaw
Position:	Stewardship Manager
Phone:	775-324-7667
Fax:	775-324-2677
Email:	chris@nevadawilderness.org

Organization Mission: Friends of Nevada Wilderness is dedicated to preserving all qualified Nevada public lands as Wilderness, protecting all present and potential Wilderness from ongoing threats, educating the public about the values of and need for wilderness, and improving the management and restoration of wild lands.

Has your organization received other grants from the Truckee River Fund?
Yes X **No _** (use additional page if necessary)

If yes,

Date awarded:	March 2022
Project title:	TRF #248 Mount Rose Noxious Weed Monitoring, Treatment, and Re-seeding #10
Amount of Award:	$23,250
Date awarded:	March 2021
Project title:	TRF #248 Mount Rose Noxious Weed Monitoring, Treatment, and Re-seeding #9
Amount of Award:	$16,445
Date awarded:	March 2020
Project title:	TRF #234 Mount Rose Noxious Weed Monitoring, Treatment, and Re-seeding #8
Amount of Award:	$28,549
Date awarded:	March 2019
Project title:	TRF #219- Mt Rose Noxious Weed Monitoring and Treatment #7
Amount of Award:	$24,094
Date awarded:	March 2018
Project title:	TRF #196- Mt Rose Noxious Weed Monitoring and Treatment #6

Amount of Award:	$23,500
Date awarded:	March 2017
Project title:	TRF #185- Mount Rose Noxious Weed Monitoring and Treatment #5
Amount of Award:	$22,405
Date awarded:	April 2016
Project title:	TRF #168- Mount Rose Noxious Weed Monitoring and Treatment #4
Amount of Award:	$21,002

DESCRIPTION OF PROJECT UNDER CONSIDERATION

Indicate the description that best fits the project you are proposing. Mark no more than three categories:

- ☐ A. Projects that improve bank or channel stabilization and decrease erosion.
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- ☐ C. Projects that remove pollution from the Truckee River.
- **X** D. Projects that remove or control invasive aquatic species or terrestrial invasive plant species that are adverse to water supply.
- ☐ E. Other projects that meet the evaluation criteria.

NARRATIVE

1. **Specific project goals and measurable outcomes and how you will measure and report them.**

The goal of the 2023 Mount Rose Wilderness Noxious Weed Monitoring, Treatment, and Re-Seeding project is to remove noxious weeds from the Hunter Creek watershed and reseed treated areas with native seeds to protect the water quality of the Truckee River and its watershed. With the help of volunteers, we will battle the spread of the noxious weed musk thistle (*Carduus nutans*), an invasive plant which once established can spread rapidly, quickly changing the composition of a meadow to a monoculture of musk thistle, due to high seed production (as much as 120,000 seed per plant). We have been working with local volunteers for 10 years in the Hunter Creek watershed and have seent the significant benefit these projects offer to the wilderness and watershed. The projects began as a few small events each year, but with support from the Truckee River Fund, it has grown into a well-established program, that is both accessible and popular with volunteers, while accomplishing a significant amount of weed control.

Measurable goals include monitoring known weed sites in the Hunter Creek area for any changes, removing at least 15,000 musk thistle, and re-seeding at least 10 acres where weeds have been removed with a mix of native grass and flower seeds. With funding from the Truckee River Fund we will host six volunteer weed removal events, three monitoring trips, and two re-seeding volunteer projects. With matching and other funds, we will host another two volunteer projects. Our project sites have been identified from years of monitoring and direction from the Carson Ranger District.

Weed removal projects will average 8 volunteers for about 6 hours of on-the-ground work each, and on each re-seeding project we plan to average 4 volunteers for about 6 hours of on-the-ground work each. We will also use matching and other funds to complete at least two additional weed removal projects with 8 volunteers for 6 hours each, and we anticipate removing at least another 5,000 weeds.

Our methods include monitoring/scouting in the spring, direct removal with significant support from local volunteers, and re-seeding with native seeds in the fall. During the spring, Friends of Nevada Wilderness (FNW) staff will monitor known weed sites to assess outcomes and monitor changes in known populations.

Weed removal will take place during May and June before plants have gone to seed using mainly shovels and gloves. FNW currently has all the shovels and gloves needed for volunteers to safely complete these projects. Re-seeding events with volunteers will take place in the fall throughout at least 10 acres of the affected watershed with a USFS Botanist- approved mix, purchased by FNW, with pollinator-attracting perennial forbs.

These projects will not only engage and educate volunteers but will give citizens a chance to take part in the stewardship of their watershed. To date we have removed over 250,000 weeds from the Truckee River Watershed, resulting in a decrease in density of noxious weeds, and we hope to continue our momentum by augmenting these weed treatments with the reseeding of native bunch grasses and perennial forbs.

2. **Project location**: Project locations are in or adjacent to the northern section of Mount Rose Wilderness and are located within Hunter Creek area of the Truckee River watershed. All of the identified noxious weed locales are within 0.5-4 miles from the Truckee River. Most locations are directly adjacent to the heavily used Hunter Creek and Steamboat Ditch Trails. Areas of concern for monitoring are the helicopter loading points used by the Carson City Ranger District to fight the Hunter Falls Fire of 2014 and the Hunter Creek Fire of 2017, which we will continue to monitor closely for any further invasive weed developments. Musk Thistle can easily spread downstream so treatment of these locations directly improves water quality downstream.

3. **Project description**.
Friends of Nevada Wilderness staff will monitor known weed sites during April and May, tracking spread of plants and efficacy of the previous year's treatment and reseeding. Our main target species for removal is musk thistle (*Carduus nutans*), we will also be looking for weeds including perennial pepperweed (*Lepidium latifolium*), and medusahead (*Taeniatherum caput-medusae*) in order to provide additional information for the Forest Service.

During May and June, staff will lead volunteers to noxious weeds sites and remove them with shovels and by hand. Though we plan to remove the plants before they have produced seed, if plants have produced flowers, we will clip the seed heads and pack them out to be safely disposed of. In the fall, staff will lead volunteers to sites treated in the spring to disperse native seeds by hand. Some snacks, additional water, training, education, and all necessary tools and personal protective equipment will be provided by FNW. Please see map, included on page 7.

4. **Grant priorities**.
The proposed projects are in line with multiple grant priorities, specifically priority #2 (Watershed Improvements), priority #4 (Re-Forestation and Re-Vegetation Projects:) priority #6 (Stewardship and Environmental Awareness), and priority #7 (Meet Multiple Objectives). Musk thistle and other noxious weeds are a serious threat to the health of the Truckee River Watershed. The proposed volunteer removal projects will improve the health of the Truckee River Watershed by removing noxious weeds and replacing them with seeds of native plants. All of the proposed actions are recommended by the Forest Service botanists and best practices for musk thistle control. Reducing the number of weeds in the Hunter Creek area (a main tributary to the Truckee River) will improve the water quality, reduce soil erosion, and slow the spread further downstream, as well as enhance the recreation qualities of the Hunter Creek Trail. This program actively engages and educates the public on the importance of noxious weed management and provides them opportunities to steward our local watershed while learning. After just one project, volunteers have a basic understanding of the negative effects of noxious weeds and the importance of controlling them as related to the habitat and greater watershed. They also understand specifically, how our watershed is affected by weeds. By educating the public on these issues, we can inspire more stewardship and awareness of the entire watershed and our water supply.

5. **Permitting**. This project does not require any special permits, and we will be taking direction from our Carson Ranger District contacts with the U.S. Forest Service.

6. **Future land use**. Our program sites are all within public land managed by the US Forest Service and the majority of the sites are within the Mt Rose Wilderness. There are no foreseeable zoning or development plans that will affect this project.

7. **Future Phases:** Invasive weed management is an important, long-term project which requires consistency in order to achieve results. At sites we have treated for many years, we are seeing a reduction in the annual number of plants and some of these sites now only require one annual visit to get the few plants left. We hope to build on this success through continued treatment and re-seeding efforts this year.

   Musk thistle create dense monocultures, drive out native plants and animals, disrupt the local ecology, degrade the soil, and increase erosion. A single Musk Thistle flower can produce over 1,200 seeds and can stay dormant in the soil for up to 15 years, resulting in a need for continued management. For these reasons, the success of invasive weed management in the Truckee River corridor is dependent upon continued annual removal and monitoring.

   Friends of Nevada Wilderness has consistently outperformed our goals, using funding from the Truckee River Fund to effectively leverage volunteers, and matching funds from other sources, to help control invasive weeds at these sites and slowly reducing numbers. The volunteers and matching funds, included in the overall budget, allow us to increase the impact and sustainability of the program. Our long-term knowledge of this portion of the watershed is invaluable to its long-term health. We will continue working with the Forest Service to build upon our successes and move the program forward. The Truckee River Fund has generously supported these efforts in past years and, hopefully, will continue to be a part of this program for years to come.

8. **Principals Involved:** Stewardship Manager, Chris Cutshaw, will oversee coordination with the Forest Service, planning and scheduling projects, reporting, and staff training. Stewardship Coordinator Meg Tait will be performing much of the monitoring and leading the volunteer projects in the field. Grants and Operations Manager, Nora Richter, will oversee the grant and financial reporting. We will be coordinating with and taking direction from the USFS Carson District Recreation Officer, Botanist, and Invasive Weeds Specialist.

9. **Staff Positions Involved:** Fulltime **0** Part-time **4**

10. **Volunteers Involved:** We anticipate involving 56 or more volunteers, who will donate approximately 336 hours of volunteer time. We will host 6 volunteer weed removal projects with an average of 8 volunteers per project, and 2 re-seeding projects with an average of 4 volunteers per project using Truckee River Fund funding. We will host 2 additional weed removal projects with an average of 8 volunteers per project using matching funds. We will continue working with Patagonia employees, REI employees, the Midtown Rotary Club, Keep Truckee Meadows Beautiful, and reach out to other potential partners including high school students pursuing the Nevada Promise Scholarship. We will also reach out to other businesses, UNR clubs, local Meetups, the Reno Hiking Group, Keep Truckee Meadows Beautiful, and the Truckee Meadows Weed Coordinating Group during our quarterly meetings. We use a variety of outreach methods to recruit volunteers including our monthly e-newsletter, tabling, flyer placement, social media, and volunteer recruitment websites such as www.volunteermatch.com and www.idealist.org. We also have a large number of dedicated volunteers eager to join these projects already. It's important to us that this program is attracting new volunteers and new groups of people, every year, so that more people have the opportunity to learn and volunteer.

11. **Timeline:** Outreach to partner groups will start immediately upon project approval along with volunteer recruitment. Scheduling of projects will begin in March and monitoring will begin in April. Our first weed

treatment project will be part of the Great Community Clean Up with Keep Truckee Meadows Beautiful on April 29th, 2023. The other weed removal projects will be held May-June. We will host 2 re-seeding projects in November and possibly early December. The native seed mix is most effective when spread before a rain or snow with freezing overnight temperatures, so the projects will be scheduled a week or two beforehand when the weather is looking favorable. Additional monitoring may occur in the fall/winter to see how effective spring treatments were. Final reporting will occur in early 2024.

12. **Success**: We will inform the Truckee River Fund committee of our successes with written quarterly reports, high quality photographs, and copies of any earned press. We consider our program successful if deliverables are completed safely, we reach our target number of weeds removed, and the volunteers finish the projects with an understanding of the importance of invasive weed management and its relation to the Truckee River Watershed. We will communicate the work of the volunteers and funding from the Truckee River Fund to the general public and our more than 10,000 supporters through press releases, bi-annual newsletters, monthly E-newsletters, and social media.

13. **Collaboration:** Each year, we collaborate with Keep Truckee Meadows Beautiful (KTMB) to accomplish 1 to 2 weed removal projects. They assist with volunteer recruitment and provide extra tools while we also recruit volunteers and lead the projects. This allows us to hold larger weed removal events. Other partners who provide employees or members as volunteers include Patagonia Inc., REI, International Gaming Technologies (IGT), Midtown Rotary, NV Energy, UNR, and TMCC. Imbibe Brewery, Eclipse Pizza, and other national companies have provided free or discounted food products as part of our volunteer appreciation efforts. And of course, the US Forest Service collaborates with us to accomplish all of these projects. They provide guidance, oversight, approval, and on-going monitoring.

14.

Grant Match

<table>
<tr><td>Match amount to be provided:</td><td>$11,792</td></tr>
<tr><td>Match details: We have secured a grant from the Charles H Stout Foundation to support and enhance the Mt. Rose Wilderness noxious weed program.
We will also contribute $5,760 in-kind from on-the-ground volunteer labor.</td><td>Please provide the form of your matching funds. If match is made up of both cash and in-kind, fill in both sections.

Match is: $11,792
<table><tr><td>Cash</td><td>$5,072</td></tr><tr><td>In-kind</td><td>$6,720

Note: Volunteer and in-kind hours may be calculated at a maximum rate of $20/hour per individual. Indirect cost may not be counted as match.</td></tr></table>
For the cash portion of your match, is the funding already being held by the applicant for this project? Yes _X_ No __</td></tr>
<tr><td>Description of matching funds/in-kind donations:</td><td>Cash match from the Charles H Stout Foundation and NV Energy Foundation will be used to support and enhance the Mt. Rose Wilderness noxious weed program. This primarily includes staff time for planning and volunteer recruitment, transportation costs, tools, and other volunteer supplies.

The in-kind match will be met with volunteer labor donations during on-the-ground weed removal and re-seeding projects.</td></tr>
</table>

FRIENDS of NEVADA WILDERNESS

BUDGET

Budget Item Description	Truckee River Fund	Match Source	Match Amount	Total
Payroll Expenses	$19,500	Charles H Stout Foundation, NV Energy Foundation	$3,500	$23,000
Volunteer Labor (336 hrs at $20/hr)	$0	In-Kind Volunteer Labor	$6,720	$6,720
Project Supplies	$4,000		$0	$4,000
Training Expenses	$150	Charles H Stout Foundation	$500	$650
Vehicle Travel (160 miles at $0.655/mile)	$98		$0	$98
Volunteer Food	$200		$0	$200
Subtotal	$23,948		$10,720	$34,668
Overhead (at 10%)*	$2,395		$1,072	$3,467
		Cash Match Total	*$5,072*	
TOTAL	**$26,343**	**TOTAL**	**$11,792**	**$38,135**

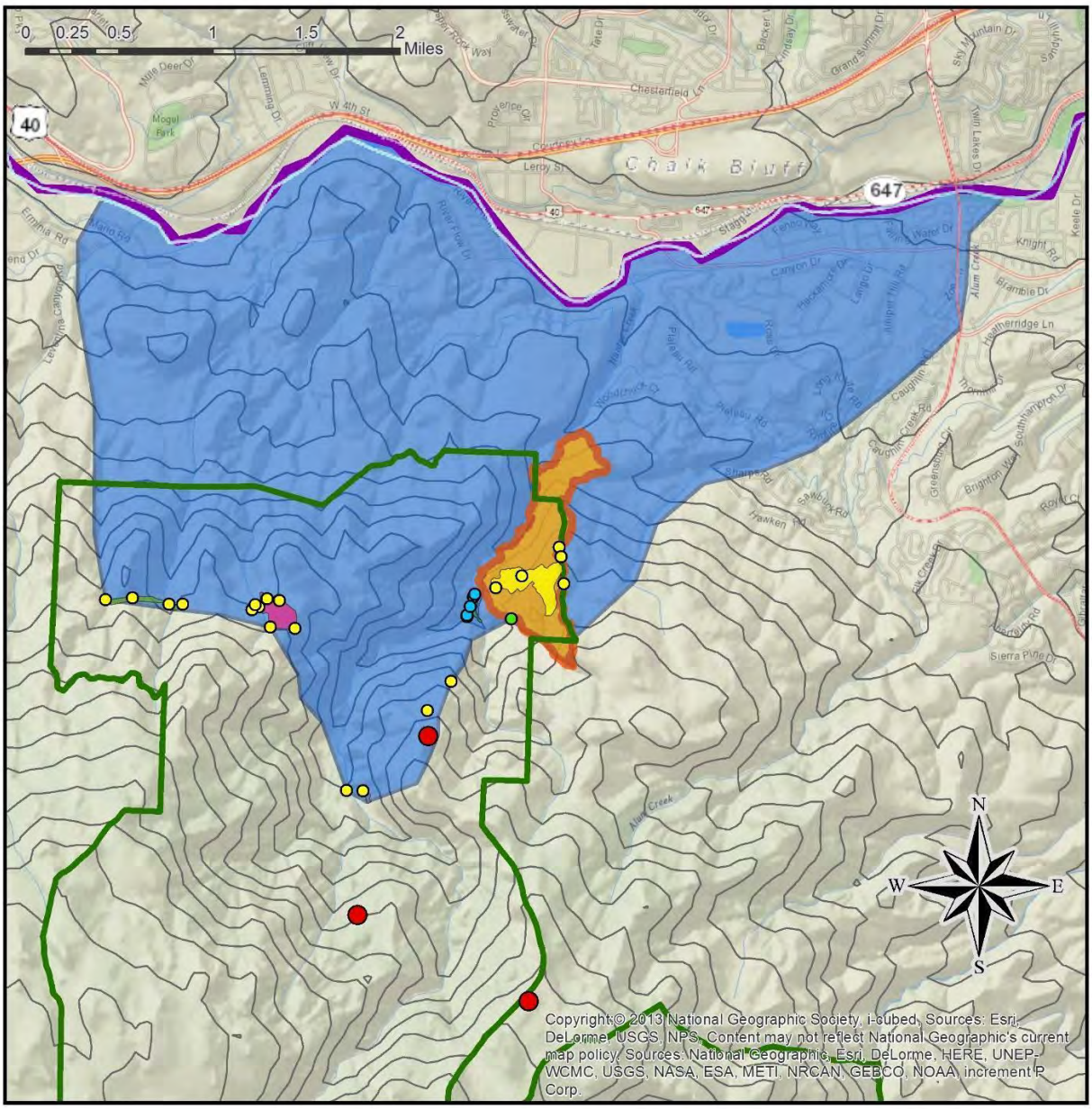
BUDGET NARRATIVE

Payroll Expenses: Payroll expenses include all project planning, facilitation, data entry, program oversight, as well as follow up, volunteer recruitment, outreach and communications, GIS, and Truckee Meadows Weed Coordinating Group meetings.
Volunteer Labor: 6 volunteer weed removal projects with 8 volunteers each for 6 hours at $20 in-kind/hr; 2 volunteer re-seeding projects with 4 volunteers each for 6 hours at $20 in-kind/hr. Total of 56 volunteers. Total 336 volunteer hours.
Project Supplies: Used to purchase native seed mix and help cover costs of routine gear replacement for first aid kits, tool/supply updates and maintenance, etc.
Training Expenses: This will cover relevant classes and conferences, including a portion of the Wilderness First Aid training for our staff. In addition, we will continue to update our invasive weed reference materials for staff/volunteers.
Vehicle Travel: This portion accounts for the use of a company vehicle as well as mileage reimbursement for distances driven with personal vehicles.
Volunteer Food: Accounts for volunteer food such as trail snacks and our end of season volunteer appreciation event.

***Overhead:** Our overhead costs are billed across all of our grants at a 10% de minimis rate. These costs are used to pay for rent, utilities, storage costs, small office supplies and subscriptions (Microsoft, Adobe, Google, etc), and safety equipment, such as our Garmin In-Reach service. These costs are essential to the functionality of all of our programs, and are not used to pay for any employees or programmatic supplies.

FRIENDS of NEVADA WILDERNESS

Mt. Rose Wilderness Noxious Weed Monitoring and Treatment Project: Impacted Watershed



- Medusahead
- Musk Thistle
- Pepperweed
- Aviation Sites
- Truckee River
- East Fork Monitoring Site
- East Slope Monitoring Site
- Above Waterfall Monitoring Site
- Belli Front East Monitoring Site
- Belli Front West Monitoring Site
- Mt. Rose Wilderness Boundary
- Hunter Creek Fire
- Impacted Watershed ~ 5,582 acres
- 200ft Contour

FRIENDS of NEVADA WILDERNESS

USDA United States Department of Agriculture | Forest Service | Humboldt-Toiyabe National Forest | Carson Ranger District
1536 South Carson Street
Carson City, NV 89701
775-882-2766

File Code: 1580
Date: February 2, 2023

Truckee River Fund
Community Foundation of Western Nevada
50 Washington St. Suite #300
Reno, NV 89503

To whom it may concern,

On behalf of the Carson Ranger District, Humboldt-Toiyabe National Forest, I am expressing my support of Friends of Nevada Wilderness' (FNW) proposed projects in and around the Mt. Rose Wilderness. FNW has been working closely with the Carson Ranger District for over 10 years to treat invasive plants. As a result of this work, we have seen a direct benefit to the habitat and ecosystem of the Truckee River Watershed. I highly value our partnership which goes beyond invasive weed treatment and monitoring to include education projects, solitude monitoring, impact monitoring, trail maintenance, and other projects. FNW has a track record of effectively executing many grants from a variety of sources. I am confident that FNW will do the same with this funding.

Please accept this letter in support of the proposed projects, and we thank you for your generous consideration and support of these important restoration efforts. If you have additional questions, please contact Brian Hansen, Recreation Officer, at brian.c.hansen@usda.gov or 775-224-9960.

Sincerely,

MATTHEW D. ZUMSTEIN
District Ranger

COMMUNITY FOUNDATION of Northern Nevada | TRUCKEE RIVER FUND Enhancing and protecting our water resources | TRUCKEE MEADOWS WATER AUTHORITY Quality Delivered

Cover Sheet **Date:** 2/3/23

Organization Name:	Truckee Meadows Parks Foundation	
Type:	**501(c)(3) EIN#** 45-4837735	**Governmental entity? Y/N**
Address:	50 Cowan Drive, Reno, NV 89509	
Project Name:	Confluence: Stream Science, Handwriting and Urban Curbs	
Amount requested: $33,300	**Website:** www.tmparksfoundation.org/confluence-art-project	
This funding will be used to (complete this sentence with a max of 2 sentences):	Confluence is an interactive art installation using texts along sidewalks to describe how water shapes land, how ecologists study streams, and how we learn about the places we're in. Installed for a year and a half, and meant to be read in pieces, the prose-poem follows the flow of water to and along the Truckee River for almost a mile through Reno.	

Key People:

Director:	Heidi Anderson
Board Chair:	Jill Richardson
Project Contact:	

Name:	Todd Gilens
Position:	Project Director
Phone:	415-309-3584
Fax:	
Email:	todd@toddgilens.com

Organization Mission: The Parks Foundation protects and enhances our communities' livability through public engagement, education, and the sustainability of our parks, open spaces, and trails.

Has your organization received other grants from the Truckee River Fund?
Yes **No**
(use additional page if necessary)

If yes,

Date awarded:	8/9/2021
Project title:	Dog Waste Awareness Campaign
Amount of Award:	$60,775.00
Date awarded:	10/2/2019
Project title:	Truckee Meadows Nature Study Area First - Year (TRF 226)
Amount of Award:	$101,526
Date awarded:	3/26/2019
Project title:	Truckee Meadows Nature Study Area (TRF 215)
Amount of Award:	$61,400

DESCRIPTION OF PROJECT UNDER CONSIDERATION

Indicate the description that best fits the project you are proposing. Mark no more than three categories:

- ☐ A. Projects that improve bank or channel stabilization and decrease erosion.
- ☐ B. Structural controls or Low Impact Development (LID) projects on tributaries and drainages to the Truckee River where data supports evidence of pollution and/or sediments entering the Truckee River.
- ☐ C. Projects that remove pollution from the Truckee River.
- ☐ D. Projects that remove or control invasive aquatic species or terrestrial invasive plant species that are adverse to water supply.[3]
- ☒ E. Other projects that meet the evaluation criteria.

education and community engagement

[3] For proposals related to weed control/eradication, contact Lauren Renda at the Community Foundation of Northern Nevada for additional criteria. lrenda@nevadafund.org; 775-333-5499.

Confluence: Stream Science, Handwriting and Urban Curbs

Submitted by the Truckee Meadows Parks Foundation and Todd Gilens

1. Specific project goals and measurable outcomes and how you will measure and report them.

Confluence uses the novelty of an environmental artwork to connect people to watershed dynamics, increase understanding of ecosystems, and highlight the continuity of short and long-term, local and regional scales. The project links two critical processes: how we experience nature in the urban landscape, and the role of water in shaping land. We expect the project will draw more people to the Riverwalk and adjacent areas, invite them to linger, and provide both informal and structured learning opportunities for schools and adults.

Over the year and a half that the project will be in place, viewers can:

- Better understand their place in the Truckee River watershed
- Connect water in streets and gutters to the Truckee River and its tributaries
- Notice water's myriad roles in shaping land, vegetation, and culture
- Recognize the relevance of ecological science in daily life
- Acknowledge the importance of stewardship within the watershed

Impacts of this project can be quantified in numbers of people exposed to the work and the time they take with it. We will have data from Downtown Reno Partnership, utilizing Placer.ai, that includes visitor numbers, time spent, and origins (by regional location or outside the region). Interactions with the public made by project personnel during installation, monitoring, and removal will provide direct responses from individuals. One-on-one exchanges between project personnel and the community can be especially meaningful. Educational programing will be reported in number of offerings and attendees.

Media coverage both locally and nationally will be another measure of project impacts. Sales and reviews or comments about the project book will measure interest in the project beyond the site itself. The project will provide a valuable educational and creative experience for the participants: suppliers, fabricators, design, installation, and monitoring teams. Project activities, including press, on-site responses, tours and reviews, will be archived with the Nevada Museum of Art, Art + Environment program and accessible in perpetuity at their publicly-accessible study center. Results will be shared with funders in narrative project reports. Influences on future environmental art projects and other public events may be longer-term and less easily tracked but an important project result.

2. Project location. Sidewalks and pathways from Idlewild Park to City Hall. (See attached diagram)

3. Project description.

Urbanization transforms both local and regional ecosystems, changing our ability to recognize natural processes. But everyday urban spaces also express ecosystem dynamics and can communicate the relationships of the complex systems on which we depend. *Confluence* is an interactive art installation using texts on sidewalks to engage the public about how water shapes land, how ecologists study streams as living systems, and how we understand the places we live. A prose-poem of over four-thousand words will be presented in bright yellow

cursive script, running continuously for almost a mile through Reno, following the flow of water and structured by block lengths into twenty themed sections. Project layout has been designed to mimic a stream system with converging tributaries linking neighborhoods to the Truckee River and to each other. In 2015, distances were measured to the inch, giving a character count for each section. Section themes correspond to physical or cultural character of each area. For example, by the Lear Theater, chemistry is the focus; and adjacent to the Keystone overpass wall, it's channel shapes.

The texts are written by Todd Gilens, drawing on four years of field work assisting ecologists in the Sierra, research on water engineering and personification in the ancient Mediterranean, and the water history of the Reno area. Lettering will be cut from slip-resistant, self-adhesive material in a font made specifically for this project from the handwriting of Claude Dukes, Federal Water Master for the Truckee watershed (d. 1984), whose papers are housed at the University of Nevada Special Collections Library. Using software technology, the font guides a cutter to create the calligraphy placed on the sidewalks. The project will be installed in fall 2023 and removed in spring 2025. During this year and a half, *Confluence* will be an attraction to visitors and become a familiar amenity to locals, turning walkways into speaking characters and readers into active participants as they encounter and leave the work on their way through the city.

In 2016 and 2020 year-long materials tests were installed on Reno curbs, with assistance from local artists and students from the UNR Art Department. Early in 2022 the Reno Arts Council voted their support and partial funding. We are now finalizing the text, which will be typeset and cut in summer, 2023, and installed by the project director and a team of Reno residents in early fall. Six circular graphics at key points on the pathways will orient viewers to the work, acknowledge supporters, and provide web links for further inquiry. The work will be monitored for damage each month, and sections repaired or removed as appropriate.

Following installation, photographs and the full text will be gathered in a printed book, along with two commissioned essays. William L. Fox, noted author and director of Art + Environment program at the Nevada Museum of Art, will place the project within the active field of environmental art. A second essay, by University of Nevada, Reno, political scientist Elizabeth Kobele, will link water, public perception, and governance.

Programming will be developed with the Truckee Meadows Park Foundation (TMPF), and the University of Nevada, Reno. TMPF strengthens bonds between community members and their parks, cultivating awareness, appreciation, and stewardship. Current programs include guided nature and historical walks led by interpretive professionals, a community-sourced rephotography/phenology project, teaching STEAM education at local schools using nature, and restoring the Rosewood Nature Study Area. *Confluence* will add a unique dimension to TMPF's parks walks and education programs. At the University of Reno, we are developing co-programming and project support through the UNR Knowledge Center, Special Collections, and the Black Rock Press.

An innovative use of public space, *Confluence* will stand out as a unique and memorable experience. Regional and national publicity will bring themes of water and land conservation into unusual sectors, such as the sign fabrication industry, humanities studies, and the arts. We will also collect social media posts in an ongoing archive of project publicity.

Our central goal is to engage citizens and visitors by celebrating multiple ways of knowing and connecting to the Truckee River watershed. Art repays our attention with fresh perspectives and information, encourages critical thinking, creative responses, and ongoing curiosity. If we see how processes connect, we can better recognize our own roles and responsibilities.

4. Grant priorities. Explain how the proposed project advances the TRF's grant priorities

Priority VI, Stewardship and Environmental Awareness Understanding water in simple, everyday circumstances is critical for understanding more complex systems. Likewise, attention to water's role in the environment is essential to adopting stewardship practices and making environmentally wise choices. *Confluence* provides memorable experiences in both informal and directed learning for a wide range of demographics, in the places people already spend time, and will connect them more fully with that environment. As an innovative project, *Confluence* will invite interest across arts, signage, and education communities.

Priority VIII, Leverage Stakeholder Assets and Participation We utilize existing urban structures – the sidewalks and pathways that guide both human and water circulation – to invite attention, inform and educate. Common infrastructure is promoted from hidden necessity to celebrated amenity. Curb and gutter, swales, and pathways, can be recognized for their functions in water's movements, and more broadly, as part of regional natural systems and management choices. Furthermore, *Confluence* has leveraged community members and organizations from a breadth of disciplines willing to contribute time and funding for the project including the Nevada Museum of Art, University of Nevada – Reno, City of Reno, Downtown Reno Partnership, and Nevada Humanities. The commitment from these community members and organizations goes beyond a one-time engagement. They believe in the project enough to develop programming and documentation of the project for future use.

5. Permitting. Permission from the City of Reno has been obtained.

6. Future land use. Project materials will be removed with surfaces undamaged.

7. If future phases of the project will be needed, identify anticipated sources of funding. Not applicable.

8. Principals involved in leading or coordinating the project or activity.

Project Director, Todd Gilens; on-site coordinator, Scott Oliver

9. Number of staff positions involved in project

Three contract assistants during installation; four during removal.

10. Number of volunteers involved in project and an estimated number of volunteer hours. None

11. Timeline of Project. List key dates and include project milestones.

February-April 2023	fund raising; content editing and finalizing (remeasure locations to assure text conforms to available length and surfaces are sound)
May-June	typesetting, signage design, materials ordering; publicity outreach to quarterlies and monthlies
July-August	Fabrication; shipping to site; installation assistants hiring; website and social media development; publicity outreach (to continue through project end)

September-October	Installation, approximately 30 days; documentation and monitoring (both to continue through project end)
October-December	essays due; book design
January, 2024	book to printer
March, 2024	book release, distribution
May, 2025	removal, archiving, grants reporting

12. Success. Tell the committee how we will know you succeeded in what you proposed to do.
The writing installed along Reno's sidewalks will complete the main phase of our efforts. As many other projects have shown, an artwork can become an experience to be shared, photographed, and talked about (think Christo meets poetry slam). The project will accumulate readers over its eighteen months duration and success in reaching them can be recognized in numbers of people and the time they take reading and noticing. Placer.ai data will show visitor numbers and length of stay, and we can compare the project period to previous years, and we can infer engagement from rising numbers. For the twelve month period of November 1, 2021-22, the project area received 245.5k visitors with an average dwell time of seventy-five minutes. Already robust, we'll consider the project successful if these numbers rise by 7,300 visitors (three percent) or five minutes (seven percent). Social media (postings and shares) will also reflect interest. We will manually collect this data (e.g. key word search, location tags).

Interest from the media will attest and amplify the project's value. As a benchmark, Gilens' 2021 installation, a National Forest Foundation commission at the USFS Taylor Creek Visitor Center in South Lake Tahoe, received two long-form print articles (regional and national distribution), and five short-form articles, including with the California Native Plant Society and Landscape Architecture Magazine; it was also a featured cover and on-line interview for Graphics Pro Magazine. *Confluence* media coverage will be successful by exceeding these numbers, especially in regional reporting.

13. Collaboration. List partnerships or collaborations with other entities in relation to your proposal, if any.
Key project partners and contributors include:

Truckee Meadows Parks Foundation (fiscal sponsorship, educational programming)
Office of Arts and Culture (community liaison, permitting and coordination with City of Reno)
Nevada Museum of Art, Art + Environment Program (project advocacy and archiving)
University of Nevada, Reno, Special Collections (historic handwriting)
Landmark Graphix (fabrication)
Herbst Lab/Sentinel Streams Project (field work)
University of California Natural Reserve System (field work; Sagehen Creek, SNARL and Yosemite field stations)

We have solicited and incorporated feedback on the concept from the Reno Public Art Council and Ward 1 Community Group, the Downtown Reno Partnership and Riverwalk District leaders, Arts and Culture Directors in the City Manager's Office, and staff at the Nevada Museum of Art and Artown.

CONFLUENCE - BUDGET

ITEM DESCRIPTION	TRF $	OTHER FUNDER NAME	MATCH $	TOTAL	NOTES
Installation materials*	$5,500	Continental Grafix, USA	$3,000	$8,500	in-kind from manufacturer
CNC cutting**	$0	Landmark Grafix	$5,000	$5,000	fabricator
Materials shipping	$200		$0	$200	
Typesetting	$0	Nevada Humanities	$3,000	$3,000	
Surfaces cleaning	$2,500		$0	$2,500	
Installation assistance †	$4,600	Nevada Humanities, EL Cord Foundation•	$5,000	$9,600	
Monitoring	$2,000	EL Cord Foundation	$1,600	$3,600	
Removal assistance ‡	$2,000	EL Cord Foundation	$560	$2,560	
Artist's fee	$10,000	Nevada Humanities, City of Reno, EL Cord Foundation	$15,000	$25,000	
Marketing/PR	$2,000		$0	$2,000	
Fundraising	$1,000	City of Reno, EL Cord Foundation	$3,000	$4,000	
Transportation, lodging, perdium ▲	$0	EL Cord Foundation and Foothill Partners	$3,840	$3,840	partial in-kind
Web media design and implementation	$0	City of Reno	$1,000	$1,000	
Insurance	$0	City of Reno, EL Cord Foundation	$2,300	$2,300	
Documentation and archiving	$500	EL Cord Foundation	$500	$1,000	
Catalogue ◊	$0	MultiCam	$6,000	$6,000	
Administrative fee ♦	$3,000	EL Cord Foundation	$2,130	$5,130	
Contingency 5%	$0	EL Cord Foundation	$2,565	$2,565	
TOTALS	**$33,300**		**$54,495**	**$87,795**	

*$1200/4x100'roll x 7

**$1/ft + tests

† 21 days x 3 assistants @ $20/hr

‡ 4 days x 2 assistants @ $20/hr

▲ 32 days @$120/day

◊ essay, design, printing; 200 copies c.60 pages

♦ 10% of income

• The EL Cord foundation has expressed interest if additional support is found. A request for $20,000 will be sent once more funding is committed.

Megan Berner
Arts & Culture Manager
Office of the City Manager

(775) 326-6333
bernerm@reno.gov
www.reno.gov

"Creating a community that people are proud to call home."

June 8, 2022

To whom it may concern,

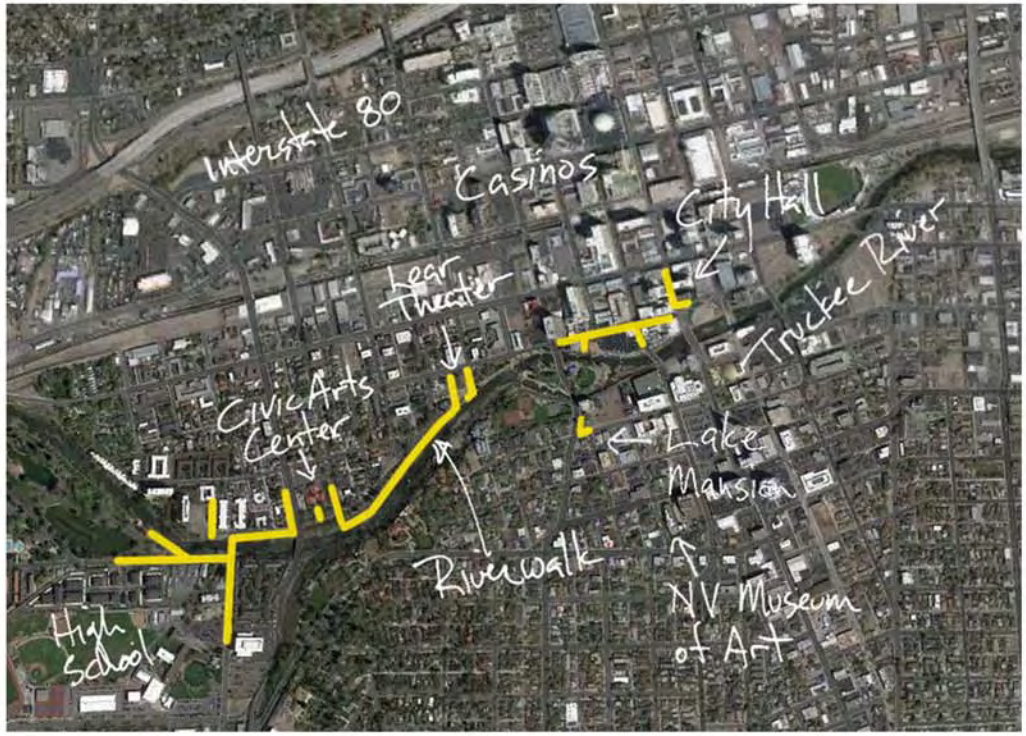
The Reno Arts & Culture Commission approved the recommendation of the Public Art Committee to provide funding in the amount of $10,000 for the temporary public art project *Confluence* by artist Todd Gilens on January 24, 2022.

The Public Art Committee of the Reno Arts & Culture Commission reviewed the project and made a recommendation of funding based on the condition that the artist finds additional funding to complete the project budget.

Sincerely,

Megan Berner

Megan Berner
Arts & Culture Manager



Installation locations in Reno for texts, running downstream from Idlewild Park (left) to City Hall. Twenty sections vary from sixty-two to nine hundred-forty eight feet; total length is 4,473 feet (36,392 characters with spaces).

Twenty-three foot long materials test made in Reno, 2016-17. The full text reads: *If sidealks are riverbeds for feet we may feel all the shapes and experiences of stream life as we tread the water's channel downhill.*

PROVISIONAL LAYOUT

Alleyways, walkways and curbs proposed as installation sites for Confluence art project
listed roughly from west to east, uphill to dowr

REF.	LOCATION	LEGNTH (IN FEET, MEASURED 10-18-15)	CHARACTER COUNT, *DukesIV* (6.2/ FOOT)	PLACEMENT	THEME
IDYL	Idlewild Drive along Idlewild Park between Booth and Cowan Drive	683	4235	back of sidewalk, north side of street	sunlight, earth patterns, place, description
LATI	Latimore (walkway in Idlewild Park) from junction with sidewalk to culvert bridge	297	1841	south side of path; note surface VERY uneven	embankment and flood
BOOT	Booth St north of Foster to Riverside Dr	183.83/73.33	1594	back of sidewalk, west side of street	boulder cobble pebble sand
BRIG	Booth St Bridge, east side from south expansion joint to meet RVR1 at corner	156.75	972	Top of curb	meet without mixing
JONE	Alley between Jones St and Riverside Dr west of Boyd PL	364.75	2261	center of alley	draw; low spots, low-slope channels, landscape network
KEYS	Keystone Ave (street) from south of textured paving to curb cut at Riverside	180.75/57.25	1476	top of curb to red zone then back of curb	channel shapes
RVR1	Riverwalk from Booth St bridge to Keystone Ave bridge	447.5	2775	north side of path	seasons
MCKN	McKinley Arts and Culture Center walkway	97.83	607	east side of path	tributary
VINE	Vine St south of Jones to Riverside	141	874	top of curb, west side of street	inquiry
RVR2	Riverwalk from opposite Mknly to alley wall E of Washington (start of wall)	948	5878	north side of path	survey methods
RVR3	Riverwalk from start of wall to Centennial Park entrance; inc. jog as curved text	899	5574	base of wall	stories and streams
LEAR	Alley east of Lear Theater	226.33	1403	center of alley	seasonal, intermittent
RALS	Ralston from red zone to curb cut at Riverside	119.75	742	top of curb, west side of street	chemistry, taste
FST1	First St from N. Arlington to West St	275.92/49.84	2020	stamped conc, south side of street	groundwater: speed pulsing, temperature nutrients
FST2	First St from West St to Sierra, interrupted by pots	55.41/21.66/32.75/33.41/32.84/33.66/21/21/4.75	1590	stamped conc, south side of street	Habitats: shelter-building; riffle; pool; hyporeic; eddy; intermittence; temperature; gravel; coarse woodfall; winter temperature; shallows; light…
ARLG	Arlington Ave from entrance to Frisch Hse around corner at Court St	91.91	570	S edge of sidewalk, then curving around corner	springs
SIER	North Sierra St from First St toward Riverwalk	47.66/101	922	stamped conc & diamondplate, back of curb, west side of street	confluence of streams
FIR3	West First Street from N Sierra to N Virginia	???		stamped conc, back of curb, south side of street	invertebrate habitats
VIRG	North Virginia St from building expansion joint south of the corner at 2nd st to corner of E 1st St	309	1916	back of sidewalk, east side of street	ephemeral: seasonal, intermittent, vulnerable
EFIR	East First Street along base of plinth at City Hall	62.5	388	back of sidewalk, north side of street	confluence
TOTAL		**4472.82**	**35333**		

ARLG 570 characters

Note: the installed version will be a continuous single line; line breaks here invoke a reading/walking pace.

Lightly on a slope of cracked stone
a trickle sounds and some
small, flying insects sip and celebrate
the drop of temperature,
moisture, puffs of moss in
hand-sized pools enough
as the cracks conduct
past centuries of snow
from reservoirs
within the mountain rock.

The slope chimes gently,
a liquid earth flows
beneath the dry,
but here and there
they cross revealing things
that we call moisture, spring,
brook, river, flow,
another chance to name
and know what surfaces can hide
or clarify, and what goes on below.

Grant Match

Match amount to be provided:	$ 54,495
Match details: City of Reno, $10,000, promised (matching); Nevada Humanities, $7,500, received; MultiCam and EL Cord Foundation, under consideration. In-kind: Continental Grafix, discounted materials, promised; Landmark Grafix, fabrication, received/promised; Foothill Partners, housing, promised.	Please provide the form of your matching funds. If match is made up of both cash and in-kind, fill in both sections. Match is: Cash: $ 44,000 In-kind: $ 10,495 Note: Volunteer and in-kind hours may be calculated at a maximum rate of $20/hour per individual. Indirect cost may not be counted as match. For the cash portion of your match, is the funding already being held by the applicant for this project? Yes ☑ No ☑
Description of matching funds/in-kind donations:	City of Reno, $10,000 (secured); Nevada Humanities, $7,500 (secured); MultiCam and EL Cord Foundation (pending). In-kind: Continental Grafix, discounted materials (secured); Landmark Grafix, fabrication (secured); Foothill Partners, housing (secured).

ATTACHMENTS

You may be asked to submit the following attachments via email. If you are asked to submit the attachments, clearly label each file with your organization's name. If you do not have the ability to email them, place each of the items listed below on a separate page and submit just one copy.

Nonprofits submit:

- ☐ Last audited financial statements if your organization has been audited
- ☐ List of Board of Directors
- ☐ Copy of agency's IRS 501©(3) Tax Determination Letter
- ☐ Copy of the agency's most recent IRS Form 990

Governmental entities submit:

- ☐ Departmental budget in lieu of audited financial statements

Truckee River Fund Grant Proposal Project

COMMUNITY FOUNDATION of Northern Nevada

TRUCKEE RIVER FUND
Enhancing and protecting our water resources

TRUCKEE MEADOWS WATER AUTHORITY

Cover Sheet **Date:**

Organization Name:	Invasive Species Foundation	https://invasivespeciesfoundation.org	
Type: nonprofit public benefit corporation	**501(c)(3) EIN#** 88-3710870	**Governmental entity? Y/N** No	
Address:	3333 Victoria Place, Davis, CA		
Project Name:	Truckee River Asian Clam, New Zealand mud snail, Zabra and Quagga Mussel Eradication Project		
Amount requested: $82,350	**Website:**		
This funding will be used to (complete this sentence with a max of 2 sentences):	To determine if Asian Clams, New Zealand mud snails, Zebra and Quagga mussels in the Truckee River system could be controlled or eradicated.		

Key People:

Director:	Jim Boyd
Board Chair:	Pam Marrone
Project Contact:	

Name:	Jim Boyd
Position:	CEO
Phone:	415-306-2945
Fax:	none
Email:	jim@ invasivespeciesfoundation.org

Organization Mission: To discover and promote environmentally responsible solutions to control the spread and impact of invasive plant, animal and bacterial species that are causing some of our most pressing environmental

Has your organization received other grants from the Truckee River Fund?
Yes **No**
(use additional page if necessary)

If yes,

Date awarded:	
Project title:	
Amount of Award:	
Date awarded:	
Project title:	
Amount of Award:	
Date awarded:	
Project title:	
Amount of Award:	

DESCRIPTION OF PROJECT UNDER CONSIDERATION

Indicate the description that best fits the project you are proposing. Mark no more than three categories:

- ☐ A. Projects that improve bank or channel stabilization and decrease erosion.
- ☐ B. Structural controls or Low Impact Development (LID) projects on tributaries and drainages to the Truckee River where data supports evidence of pollution and/or sediments entering the Truckee River.
- ☐ C. Projects that remove pollution from the Truckee River.
- ☒ D. Projects that remove or control invasive aquatic species or terrestrial invasive plant species that are adverse to water supply.[3]
- ☐ E. Other projects that meet the evaluation criteria.

[3] For proposals related to weed control/eradication, contact Lauren Renda at the Community Foundation of Northern Nevada for additional criteria. lrenda@nevadafund.org; 775-333-5499.

1. **Project goals and measurable outcomes and how you will measure and report them**

Phase 1.

Zequanox® is comprised of inactive cells of the bacterium *Pseudomonas fluorescens* strain CL45A with commercial efficacy against zebra and quagga mussel invasive species and high safety to 15 native fish, 12 native molluscs and 6 native aquatic crustaceans or insects. The product was developed by Marrone Bio Innovations in Davis, CA and is now licensed to the Invasive Species Corporation and Invasive Species Foundation, founded by Pam Marrone and Jim Boyd (former CEO and President, respectively of Marrone Bio). At higher than labeled doses for zebra and quagga mussels, we found that Zequanox also had activity against snails. Therefore, we propose laboratory and in situ testing to determine if Zequanox® is effective against Asian clams and New Zealand mud snails. Local testing at up to six agreed upon locations on the river will also be conducted. Bioboxes with an identified number of mussels or clams in them will be placed at the various locations, the product will be applied in a scientifically documented and repeatable manner, and the number of dead mussels/clams counted to determine effectiveness. There are seasonality conditions we must take into consideration but if they are not restrictive, we would begin work in our lab in Davis in March 2023 and conduct local tests on the Truckee River in June and July of 2023 and summarize the results in a written report to the TMWA, the CMNN and other interested parties would be anticipated in the August 20230timeframe.

Phase 2.

Assuming that Phase 1 results in a successful outcome, Phase 2 would be to develop a plan to eradicate or limit the population any current infestations of Zebra/Quagga mussels, mud snails and Asian clams along the Truckee River. Three biobox tests at up to three independent infestation site locations will be conducted under conditions similar to those conducted in Phase 1 and success measured as in Phase 1. Eradication or effective control of any known site would take place in a Phase 3 that would involve a new grant, presumably in 2024 and would be dependent on jointly arriving at an acceptable cost and application process. If lab results and early Truckee River biobox results look promising, it is anticipated that local site testing would begin simultaneously with Truckee River testing in Phase 1 above, in June but may extend into August and September. It is anticipated that local application procedures and methodology would be worked on during this same timeframe but may extend out into late in 2023.

Phase 2 would also include the development of a quick response plan to eradicate any new discovery of invasive mussels and/or clams that might occur in the future to eliminate permanent establishment in the Truckee River. Processes and application methodology given the physical and geographic limitations would be recommended and a cost estimate provided. Our goal would be to present our final recommendations on an eradication plan for any existing infestation sites and a quick response eradication plan for any possible future introductions by the end of 2023.

2. **Project Location**

Based on our current knowledge, the only existing location for clams on the Truckee River was clams at on the lower Truckee River near Clark, NV and NZ mud snails near Reno in 2013. However, if this project could be extended to include Donner Lake and Lake Tahoe as well as other nearby lakes and tributaries maybe other existing infestations and organizations could be included as part of the project description. We welcome extending its reach and impact.

3. **Project description**

Individual biobox locations as well as other scientific aspects of the project will be jointly determined with local agencies and potential local collaborators such as the UC Davis Tahoe Environmental Research Center. The founders of our Foundation have a long history of working with UC Davis and we are located in Davis, California. We seek out and embrace working with collaborators who can expand the knowledge of invasive species.

Studies that support our project are as follows (there are many more if you Google Zequanox).

1. Lake Michigan (Sleeping Bear Dunes) Trial (2019)
https://www.mlive.com/news/2020/12/experimental-project-successfully-removes-invasive-mussels-near-sleeping-bear-dunes.html

2. Zebra mussel (*Dreissena polymorpha*) eradication efforts in Christmas Lake, Minnesota
https://minnehahacreek.org/sites/minnehahacreek.org/files/attachments/Zebra%20mussel%20%28Dreissena%20polymorpha%29%20eradication%20efforts%20in%20Christmas%20Lake%2C%20MN_0.pdf

3. Deep Quarry Lake Treatment: An evaluation Zequanox® efficacy and application strategies for targeted control of zebra mussels in shallow-water habitats in lakes
https://www.reabic.net/journals/mbi/2015/1/MBI_2015_Whitledge_etal.pdf

http://www.aquaticnuisance.org/wordpress/wp-content/uploads/2009/01/Zequanox-2012-Deep-Quarry-Treatment-Report_FINAL-2012.pdf

4. The Zequanox Story https://www.ifound.org/files/1214/0293/7215/Zequanox_Background_Paper.pdf

5. USGS studies on safety of Zequanox on nontarget species: https://www.glc.org/wp-content/uploads/2016/10/IMC-Steering-Committee-Meeting-Overview-of-ongoing-research-and-technology-development-Mark-Gaikowski-pdf-1.pdf

4. **Grant priorities**

Zebra and Quagga mussels and Asian clams have a devastating impact on our lake and river freshwater ecosystems, recreational areas, irrigation systems, power utilities, and water plants. They have caused the near extinction of many native species in our lakes and rivers, avian botulism and toxic algal blooms. Congress estimates the cost of mitigating and managing Zebra and Quagga mussel invasions at $5 billion since they entered the US, $3 billion by power companies alone. Their impact to The Truckee River system, Lake Tahoe, Lake Donner and other tributaries would be immeasurable because once they are established, they generally are transported through any connected water way. Their spread has caused irreversible damage and very heartfelt concern and disappointment throughout the country.

Our product Zequanox is a highly selective molluscicide for Zebra and quagga mussels that was derived from a soil bacterial microbe species that is naturally present in North American freshwater ecosystems. Extensive and available ecotoxicity studies demonstrate that the application of Zequanox has no negative impact on any other aquatic species. It has been shown to be 90%+ effective in multiple applications over 10 years of commercial deployment. Zequanox has been registered as an organic product with the EPA and various state agencies including California and Nevada for open water and closed pipe (i.e., water and electric utility facilities) usage.

5. **Permitting**

Because of Zequanox's use over a 10 Year+ period and existing EPA and state registrations, no new permitting of the product or the project is anticipated, except for permits for moving and retaining invasive species for testing. However local permits to access the sites and to locate the bioboxes may be required. We will make sure we have checked thoroughly and would ask collaborators and participants to help us by alerting us to any possible local requirements.

6. Future land use

There are no land use, zoning or development issues or implications to this project.

7. Future Phases of the Project

- **Phase 1** – lab testing of Zequanox on New Zealand mud snails, Asian clams, to determine efficacy and dosages; test environmental sensitivities further on Truckee River
- **Phase 2** – develop eradication/mitigation plan for any known infestations of Zebra, Quagga, Asian clams and/or New Zealand mud snails as directed by involved parties; develop quick response plan for any future introduction of mussels, clams and or snails at a specific location to prevent any possible future establishment.
- **Possible Phase 3** in 2024 – a completely independent and new grant = eradicate any known infestations on the Truckee River that the involved parties direct.

See #1 for greater detail of Phase 1 and 2

8. Principals Involved

Pam Marrone is a serial entrepreneur in Davis, CA who started and led three companies dedicated to biologicals for controlling pests and plant diseases. Jim Boyd has four decades of financial and general management experience, most recently as CFO and President of Marrone Bio Innovations. Both founders, our Executive Chairman and chief science visionary, Marrone, as well as the CEO Boyd, will be directly and daily involved in the project. Zequanox and Piscamycin (for control of invasive carp) demonstrate our technology, our mission and our commitment to the environment and society.

9. Number of Staff Positions Involved in Project

We anticipate one R&D Manager level and one R&D technician positions will be required part time but a majority of their time will be utilized. One intern will probably use most of his/her time managing a lab that maintains mussels/clams/snail populations in Davis to conduct the tests. We believe that up to six interns may be involved in the placement, maintenance and retrieval of bioboxes and the recording of data in the field.

10. Number of volunteers involved

We envision using interns and not volunteers. Many people may think of college interns as volunteers but the founders have typically paid their interns a competitive wage for their contribution and have written, specific and clear duties and goals to make their internship with us a meaningful part of their educational experience. We also believe that this approach typically results in a better outcoe and higher success rate for the project.

11. Timeline of Project

See #1 above for details.

12. **Success**

The mussels/clams in the bioboxes die and data will be recorded, which will make success or failure easy to determine and the plan for eradications/population control will be fairly straightforward.

13. **Collaboration**

At this point in time, we do not have any third-party collaborators involved, although we have had many collaborators in the past to test and treat Zequanox and determine the safety on nontarget species (e.g., USGS). Zequanox is a mature product with a well-known and documented history. However, controlling many other aquatic invasive species with biologicals is an undeveloped concept. We intend to seek out collaborators to spread the knowledge base that environmentally friendly, sustainable invasive species control solutions can be developed. We are especially interested in getting the UC Davis Tahoe Environmental Research Center involved as well as other local academic institutions. We would welcome your recommendations on who else might be interested in participating.

14. **Grant match**.

The ISF will contribute at least 25% in matching in-kind service. The founders are contributing their time and receive no wage or compensation for the work they do for the Invasive Species Foundation. In addition, a R&D manager in California makes close to $100,000 per year and a R&D technician makes between $50,000 to $70,000. The interns will work part time but will make approximately $30 per hour. During the biobox studies we would anticipate Interns will put in 40 hours per week for probably for several months. Those expenses will make up the majority of the in-kind services expenses.

Invasive Species Foundation

2023 Truckee River Fund Grant Proposal Project

Asian Clam, New Zealand mud snails, Zebra and Quagga Mussel Eradication Study

2023 Project Budget

February 3, 2023

				Match Details		
					In-kind Detail	
	TRF $	Match $	Total	Cash	In-kind $	Hrs. @ $20?hr.
Phase 1						
Design Lab Test Procedures		$ 8,000	$ 8,000		$ 8,000 *	400
Set up appropriate lab space for Phase 1		5,000	5,000	$ 2,000 **	3,000 *	150
Lab equipment acquisition budget		5,000	5,000	5,000 **		
Set Up Aquariums To Grow and Maintain Test Population - Clams	$ 2,000		2,000			
Set Up Aquariums To Grow and Maintain Test Population - New Zealand mud snails	2,000		2,000			
Set Up Aquariums To Grow and Maintain Test Population - Other Possible Clams/Mussels	2,000		2,000			
Obtain base population in wild for lab - Clams	5,000		5,000			
Obtain base population in wild for lab - New Zealand mud snails	5,000		5,000			
Obtain base population in wild for lab - Other Clams/Mussels	5,000		5,000			
Perform lab tests/work to determine if ZQ is effective against local Asian Clams/NZ mud snails	6,800	1,200	8,000		1,200 *	60
Perform lab work to determine at what dosages ZQ is effective against local Asian Clams/NZ mud snails	6,800	1,200	8,000		1,200 *	60
Perform work to set out bioboxes, retrieve them and analyze results	21,250	3,750	25,000		3,750 *	188
Write summary of project and recommendations	5,000		5,000			
Meet with local agencies, the TMWA, the CMNN and other interested parties to present results		1,500	1,500	1,500 **		
Subtotal Phase 1	$ 60,850	$ 25,650	$ 86,500	$ 8,500 **	$ 17,150 *	858
	70%	30%				
Phase 2						
Perform work to set out bioboxes, retrieve them and analyze results	12,500		$ 12,500			
Write plan and develop recommendations for a quick response eradication of any future infestations	4,500	3,000	$ 7,500		3,000 *	150
Write plan and develop recommendations for eradication of any existing infestations	4,500	3,000	$ 7,500		3,000 *	150
Meet with local agencies, the TMWA, the CMNN and other interested parties to present results		1,500	$ 1,500	1,500 **		
Subtotal Phase 2	$ 21,500	$ 7,500	$ 29,000	$ 1,500 **	$ 6,000 *	300
	74%	26%				
Grand Total ISF	$ 82,350	$ 33,150	$ 115,500	$ 10,000 **	$ 23,150 *	1,158
	71%	29%				
		Total Match $		Cash Matching	In-kind $	

* Currently, and it is anticipated throughout 2023, the executive Chairperson, the CEO and the CTO are all contributing their time and effort to the ISF and are thus in essence volunteers to the foundation and the project. The number of hours they are anticipated to put in is calculated at the stipulated $20 per hour rate and built in to the in-kind investment in the project. It is also anticipated that interns will make more than the stipulated $20 per hour which was used in our budget.

**Currently, all cash required by the Foundation is being contributed by the founders, the executive Chairperson and the CEO. We plan to raise money, in the form of donations to fund some of the operations of the Foundation during 2023. Its operations in 2023 are planned to include discovery and development of control solutions for various forms of algae and aquatic weeds.

Organization Name:	U.S. Fish and Wildlife Service Lahontan National Fish Hatchery Complex		
Type:	**501(c)(3) EIN#**	**Governmental entity? Y/N Yes**	
Address:	1340 Financial Blvd Reno, NV 89502		
Project Name:	Truckee River Water Temperature Monitoring		
Amount requested: $14,315		**Website: https://www.fws.gov/fish-hatchery/lahontan**	
This funding will be used to (complete this sentence with a max of 2 sentences):	This funding will be used to conduct two years of water temperature monitoring in the Truckee River		
Key People:	**Director:**	Project Leader Lisa Heki	
	Board Chair:		
	Project Contact:	**Name:**	Derek Bloomquist
		Position:	Fish Biologist
		Phone:	775-861-6315
		Fax:	
		Email:	Derek_bloomquist@fws.gov
Organization Mission:			
Has your organization received other grants from the Truckee River Fund? **Yes No X** (use additional page if necessary)	If yes, Date awarded: Project title: Amount of Award: Date awarded: Project title: Amount of Award: Date awarded: Project title: Amount of Award:		

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Truckee River Temperature Monitoring

Truckee River Fund Proposal Submission

U.S. Fish and Wildlife Service

Lahontan National Fish Hatchery Complex

2-2-2023

Introduction

The temperature characteristics of a river play an important role in the overall health of the system. Anthropogenic effects can modify the thermal regime of rivers and, as a result, can affect fisheries and aquatic resources. Many biological factors and conditions, as well as stream productivity, are strongly linked to stream water temperature. Seasonal and daily variations of water temperatures are important determinants for the distribution of aquatic species.

Water temperature variability can occur naturally or as a result of anthropogenic perturbations, such as thermal pollution, deforestation, flow modification and climate change. The thermal regime of rivers is highly influenced by meteorological and river conditions as well as by their geographical setting. River temperature is arguably one of the most important parameters which determines many aquatic habitat attributes and the general health of river ecosystems. Both the study of natural stream water variability and changes due to anthropogenic perturbations are also important for environmental assessment as well as assessing future climate scenarios on fish habitat.

Global warming is becoming an important source of aquatic thermal pollution. In recent years, climate change has been identified as an important source of aquatic disturbance or thermal pollution on a large to global scale. The effect of global changes can be especially significant in river areas below reservoirs and dams. Depending on its severity, the global warming could lead to the extinction of some aquatic species or dramatically modify their distribution within river systems, as pointed out in recent studies. In many parts of North America, fish are already experiencing their upper lethal limit in water temperature. It has been estimated that climate change could result in an overall loss of juvenile Atlantic salmon habitat in the order of 4%. This study noted that the smoltification age could decrease by 8–29%, depending on the geographical area and the increase in temperature.

Instream biological rates are related to water temperature, with biological activity typically doubling for every 10°C increase in water temperature. This increase in biological rates (and associated oxygen consumption) can become problematic where dissolved oxygen is already depleted due to high water temperature. Consequently, high stream temperature can adversely affect fisheries by limiting fish habitat and increasing mortality. Water temperature between 23 and 25°C affects the mortality of trout.

Coldwater areas or patches are very important river ecosystems and can generally be classified as: (i) coldwater tributaries; (ii) lateral seeps; (iii) deep pools; and (iv) cold alcoves (or backwater areas). Deep pools (with a coldwater source) have been shown to be important thermal refuges

for trout, even when dissolved oxygen content is low. In fact, when faced with a choice, trout seems to prefer cool water, even if it is low in oxygen.

A reduction in suitable habitat of approximately 50% is predicted with an associated increase in air temperature of 3°C. Overall, it is essential to have a good understanding of the thermal regime of rivers for effective fisheries management as well as for determining the environmental impact of external factors.

Narrative Requirements

1: Specific project goals and measurable outcomes and how you will measure and report them.

The primary project goal is to extend and expand the river wide Truckee temperature monitoring program.

2: Project location.

Truckee River from the Lake Tahoe outflow to Pyramid Lake

3: Project description.

USFW has twenty-six water temperature monitoring sites that have been collecting data since 2008. This project will replace aging temperature monitors and add four more monitors in the lower river between Reno and Pyramid Lake. Labor will involve downloading the monitors quarterly for two years.

4: Grant priorities.

Projects that remove pollution from the Truckee River

5: Permitting.

No permitting will be needed

6: Future land use.

Future land use is not expected to impact this project

7: Future phases.

Project is expected to continue yearly, dependent on funding

8: Principles involved.

Derek Bloomquist, Fish Biologist, U.S. Fish and Wildlife Service, Lahontan National Fish Hatchery Complex (LNFHC)

9: Staff positions involved.

Two employees will be involved on a part-time basis

10: Number of volunteers needed.

None

11: Project timeline.

Project will begin in July of 2023

12: Success.

Successful collection of water temperature profiles at 30 sites on the Truckee River from July of 2023 through July of 2025

13: Collaboration.

Work will be conducted by the LNFHC

14: Grant match.

25% of project costs will be covered by the LNFHC.

<table>
<tr><td colspan="2">Match amount to be provided:</td><td>$ 4,773</td></tr>
<tr><td>Match details:</td><td colspan="2">Please provide the form of your matching funds. If match is made up of both cash and in-kind, fill in both sections.

Match is:
<table><tr><td>Cash</td><td>$2,273</td></tr><tr><td>In-kind</td><td>$2,500

Note: Volunteer and in-kind hours may be calculated at a maximum rate of $20/hour per individual. Indirect cost may not be counted as match.</td></tr></table>
For the cash portion of your match, is the funding already being held by the applicant for this project? Yes X No</td></tr>
<tr><td>Description of matching funds/in-kind donations:</td><td colspan="2">Matching cash funds will pay for 25% of the materials and overhead, in-kind labor by FWS staff will account for the rest.</td></tr>
</table>

Project Budget

Description	TRF Cost	LNFHC Match	Total
30 “HOBO” temperature loggers	$3,577	$1,193	$4,770
Misc. hardware	$375	$125	$500
Labor (160 hours)	$7,500	$2,500	$10,000
Overhead	$2,863	$955	$3,817
Total	$14,315	$4,773	$19,088