Cover Sheet

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Organization Name: Walker Basin Conserva				· · · · · · · · · · · · · · · · · · ·	Office Use Only				
Organization Type: 501(c)(3) EIN# 47-1989228Governmental entity? Y(N)					Date received:				
30 1(C)(3) Entity 47-1909220Governmental entity?					Project #				
Address: 615 Riverside Dr., STE C Reno, NV 89503					Grant Amount:				
Project Name: Walker migration corridors	Basin Conse	rvancy	seed o	orchard to support habitat restorat	ion in priority mule de	er			
Is this proposal being submitted as an Emergency funding request? (Circle one) Yes / No									
Amount requested:			Web	Website: https://www.walkerbasin.org/					
Project start date (mn	n/yyyy): 9/20	22	Proj	ected completion date (mm/yyy	y): 4/2024				
This funding will be u	sed to (com	plete th	is sen	tence with a max of 2 sentences	s): Establish a 3.5 ac	re native			
shrub orchard compose	ed of species	importa	ant for	mule deer habitat that will produc	e 10,000-45,000 lbs				
		1		deer migration corridors in Nevada	à				
Key People:	Director:	Peter S	Stanto	on (Executive director)					
	Board Chair:	Sudee	p Cha	ndra					
	Project	Nam	e:	Dash Hibbard					
	Contact:	Posi	tion:	Stewardship Manager					
		Phor	ne:	(615) 631-9810					
	1	Fax:							
		Emai	il:	dash.hibbard@walkerbasin.org					
	<u> </u>								
				ancy is leading the effort to res ntal, and recreational interests					
Basin.	,	,		,					
Project is on (check a	ill that apply)	F	Public	X_Private land.					
Are anyonement parmits or desicion desuments peeded for the project?									
Are government permits or decision documents needed for the project?Yes_X_No If so, are those permits and decision documents already secured?Yes_No									
If permits and decision documents are needed but not yet secured, in #4 of the Narrative Requirements									
provide a list of permits and documents needed and a schedule for securing them.									
Has your	If yes,								
organization Date awarded:									
received other grant	(S Desire	ct # & titl				-			
Fund Yes No (use additional pages to									
						_			
			le:						
list ALL funded project	•	nt of Aw							

DESCRIPTION OF PROJECT UNDER CONSIDERATION

Indicate the description that best fits the project you are proposing. Mark no more than three categories:	
X A. Projects that improve, protect, or restore habitat	
X B. Projects that embrace unique opportunities for advancing the mission of wildlife conservation	ı in
Nevada	
C. Projects that address emergent needs	
D. Other projects that meet the evaluation criteria	

NARRATIVE REQUIREMENTS

Provide answers for all sections below; use the numbers and topics (in **bold**) to label each section in your response. Your application is limited to 5 narrative pages, including the cover sheet. Your budget is page 6. **All projects are required to have measurable outcomes:**

1. Specific project goals and measurable outcomes. How do these tie to the project description?

The goal of this project is to establish a three and a half acre shrub orchard composed of four species (Table 1; Wyoming big sagebrush, antelope bitterbrush, winterfat, and fourwing saltbush) that are important components of mule deer habitat. Once established, this orchard will provide roughly 10,000-45,000 lbs of seed over its lifetime (15-30 years) that can be used in habitat restoration projects. In response to the 2018 Department of the Interior Secretarial Order 3362: "Improving Habitat Quality in Western Big-Game Winter Range and Migration Corridors", Nevada Department of Wildlife (NDOW) created an action plan that identifies the top three priority migration corridors for mule deer in Nevada and outlines habitat conservation needs in each area. One of the major conservation needs identified in the plan is habitat restoration in areas burned by wildfire.

Large-scale wildfires and the invasion of exotic grasses throughout the Western U.S. have created an unprecedented demand for restoration and a critical shortage of native plant materials for these efforts. Our project would help facilitate restoration in priority mule deer habitat by 1) establishing a reliable supply of seed for key mule deer browse species that is genetically appropriate for restoration in priority mule deer migration corridors, and 2) developing and sharing agronomic practices to assist other organizations producing native seed. In the long-term, this project will benefit mule deer and other wildlife by helping to ensure that native seed and plant materials are available for large-scale habitat improvement and restoration projects in Nevada. Seed orchards are particularly necessary as locations for wildland seed collection are lost to wildland fire and other types of habitat loss.

2. Project location.

The project would take place on floodplain farmland owned by the Walker Basin Conservancy in Smith Valley, Lyon County, NV.

3. **Project description**. Include site map and aerial photos if applicable/possible. Maps and photos must fit on 8-1/2" x 11" paper and may be attached at the end of your proposal after the budget.\

We will use seed provided by NDOW, or available commercially, collected from seed zones appropriate for restoration in priority mule deer migration corridors in northeastern Nevada (NDOW 2020), to propagate seedlings that we will plant in a three and a half acre shrub orchard. The orchard, composed of over 3,750 plants, is expected to produce roughly 650-1500 lbs of seed annually (Table 1). We selected species that are important browse for mule deer (Table 1; Pierce et al. 2004, 2012, Ogle 2009, Schuyler et al. 2021) and that are in high demand for restoration projects (Taylor et al. 2018). We will plant one acre each of Wyoming big sagebrush, fourwing saltbush, and antelope bitterbrush, and a half acre of winterfat, because it is planted at a higher density than the other species. We will plant the orchard on WBC owned property in Smith Valley, NV (Figure 1).

We will propagate the seedlings used to plant the shrub orchard the Walker Basin Conservancy native plant nursery, which has the capacity to produce over 150,000 seedlings annually. Propagation will begin in fall 2022, with the goal of having all seedlings ready to plant in fall 2023. We will prepare the field for planting during the summer of 2023, which includes discing the soil and treating weeds, laying weed mat, and assembling a drip irrigation system. Once planted, we expect the shrubs to reach maturity (full production capacity) within five years and the plants to continue producing for

several decades, although established research on these species' longevity in seed orchards does not exist.

Throughout the process of propagating the seedlings and planting the shrub orchard, we will collect information on what methods are most effective and realistic expectations for germination rates, seedling survival, and costs (labor, materials, etc.) associated with establishing the orchard (from germination through planting). We will share this information with relevant organizations (e.g., Nevada Native Seed Partnership, NDOW, etc.) to support other groups establishing native shrub orchards.

Species	Acres	Plants	Seed Yield (lbs/year)	Initial Seed Source
Wyoming Big sagebrush (Artemisia tridentata ssp. wyomingensis)	1	680	100-300	NDOW
Fourwing Saltbush (Atriplex canescens)	1	680	200-600	NDOW
Winterfat (Krascheninnikovia lanata)	0.5	1745	200-400	Commercial
Antelope bitterbrush (Purshia tridentata)	1	680	150-200	NDOW

Table 1. List of target species, area planted of each species, number of plants, expected seed yield once plants are mature, and seed source for propagating seedlings.

Literature Cited

- Nevada Department of Wildlife. 2020 Nevada Action Plan, Implementation of Department of the Interior Secretarial Order 3362: "Improving Habitat Quality in Western Big-Game Winter Range and Migration Corridors"
- Pierce, B. M., V. C. Bleich, K. L. Monteith, and R. T. Bowyer. 2012. Top-down versus bottom-up forcing: evidence from mountain lions and mule deer. Journal of Mammalogy 93:977–988.
- Ogle, D. and B. Brazee. 2009. Estimating initial stocking rates. Range Technical Note No. 3. USDA-NRCS. Boise, Idaho. 39p.
- Pierce, B. M., R. T. Bowyer, and V. C. Bleich. 2004. Habitat selection by mule deer: Forage benefits or risk of predation? Journal of Wildlife Management 68:533–541.
- E.M. Schuyler, L.M. Ellsworth, D.M. Sanchez, and D.G. Whittaker 2021. Forage Quality and Quantity in Migratory and Resident Mule Deer Summer Ranges, Rangeland Ecology & Management, 79: 43-52,
- Taylor, M.H, Bartholet, R.D., & Banerjee, S. 2018. Recommendations for increasing the supply and lowering the cost of native plant materials in Nevada through strategic support of the native plant materials industry. Technical Report. University Center for Economic Development University of Nevada, Reno. 42 p.
 - 4. Permitting. Provide a permitting schedule for your project along with your plan for getting the required permits and decision documents. Be sure to include the cost of permitting/decision documents as a line item in your budget.

NDOW will provide the seed needed to grow seedlings used to plant the orchard and the orchard will be established on property owned by Walker Basin Conservancy, so no permits will be needed for this project.

5. If future phases of the project will be needed, identify anticipated sources of funding.

The Walker Basin Conservancy's on-going operational funds, in combination with future charitable donations and grants, will fund the management of the shrub orchard for seed production after the completion of this project.

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

Dash Hibbard, Stewardship Manager Shannon Swim, Nursery Manager Jessica Abbott, Conservation Science Manager

7.	Number of staff positions involved in project: Fulltime	Part-tim3	8-13	("Fulltime"
	means 100% of their staff position will be dedicated to this proje	ct; "part-time	' means	only a portion of
	Community Foundation of Northern Nevada	1		
	50 Washington Street, Suite 300, Reno, NV 89503 // p: 775-333-5499 // f: 775	-333-5487 www.r	evadafund	Ore

their staff position will be dedicated to this project)

The three principals listed above will be involved with this project part-time, overseeing project implementation, data collection, and reporting. Five to ten additional staff and AmeriCorps members will work part-time on the project to carry out the on-the-ground work associated with the project. All personnel costs will be covered by matching funds.

8. Number of volunteers involved in project and an estimated number of volunteer hours.

None

 Timeline of Project. List key dates and include project milestones. Note: Be realistic in your estimate of dates and milestones. List any factors that may cause a delay in implementing and/or completing the project.²

Fall 2022: Initiate seed stratification/germination prep

Early spring 2023: Germinate seeds and transfer seedlings to greenhouse

Spring/summer 2023: Prepare field for planting

Fall 2023: Plant seedlings in orchard

April 2024: Prepare report on successes, lessons learned, and costs associated with establishing the orchard.

The most likely set back would be low germination or early survival rates leading to lower numbers of seedlings than desired for establishing the shrub orchard. We will aim to propagate more seedlings than needed to meet our acreage goals to provide a buffer should germination or survival be lower than expected.

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

We will consider the project successful if we plant the desired acreage for each species following the timeline established above.

- 11. Grant match. All applicants must provide a match of at least 25 percent for dollars requested. The match may be with funding and/or in-kind services. Complete the Grant Match section of the application.
- 12. **Project budget** (see Sample Budget Template on page 5 of this RFP). Provide detail on line-item expenditures and show which costs are to be paid for by the Dream Tags Charitable Fund grant, which expenses will be paid by other sources of funding, and which will be paid for with in-kind services. **Project budget must be on its own on page 6.**
 - Note: Indirect/overhead expenses cannot exceed 25 percent

Grants from the Dream Tags Charitable Fund are paid on a reimbursable basis for actual expenditures only. Craft your budget in such a way that requests for reimbursement correspond to the original budget.

Funding will not be provided for work performed prior to grant approval.

Grant Match

Match amoun provided:	t to be	\$ 47,855			
Match details:		ovide the form of your matching funds. If match is made up of both cash d, fill in both sections.			
	Cash \$ 5,500				
	In-kind	\$ 47,855 Note: Provide an itemized breakdown of volunteer match in your budget with rationale.			
	For the cash portion of your match, is the funding already being held by the applicant for this project? YesNo				
Description of matching funds/in- kind donations:					

REQUIRED ATTACHMENTS

Submit the following attachments via email. Clearly label each file with your organization's name.

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

Governmental entities submit:

Departmental budget in lieu of audited financial statements

SAMPLE BUDGET TEMPLATE

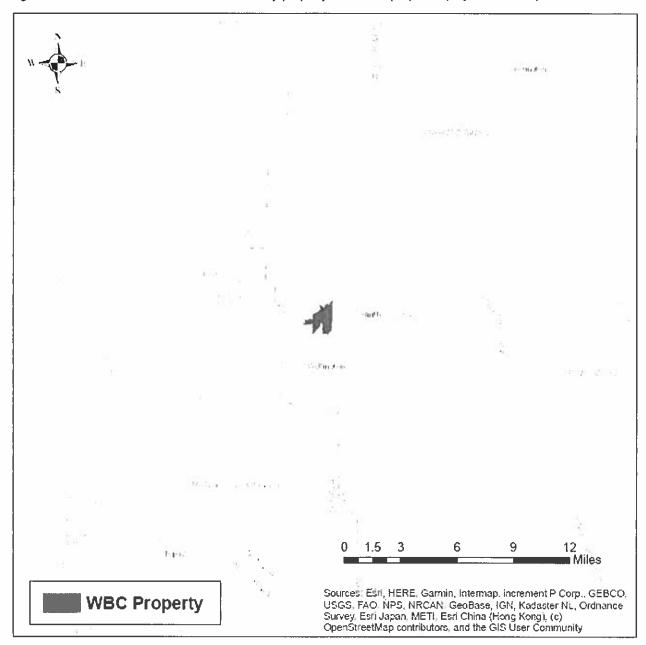
	ORIGINAL	. PROJECT BUD	OGET		REIMBURSEMENT REPORT		
Budget Item Description*	DT \$	Other Funding Name**	Match \$	Total	Expenditures to date DT	Expenditures to date (other sources)	
Laborpaid		WBC	\$33,667	\$33,667	+		
Laborpaid		AmeriCorps	\$14,218	\$14,218			
Materials	\$15,500	NDOW	\$5,500	\$21,000			
Equipment	\$8,000			\$8,000			
Overhead (12%)	\$2,820			\$2,820			
TOTAL	\$26,320			\$79,705			

Materials costs include drip irrigation supplies, weed barrier/mat, seedling propagation supplies, and winterfat initiation seed purchase costs.

Equipment costs would cover a plastic mulch layer for installing weed mats.

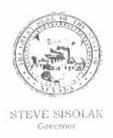
Matching funds cover staff and AmeriCorps personnel cost.

Figure 1. Location of Walker Basin Conservancy property where the proposed project will take place.





State of Nevada



DEPARTMENT OF WILDLIFE

6980 Sierra Center Parkway, Suite 120 Reno, Nevada 89511 (775) 688-1500 • Fax (775) 688-1595

February 4, 2022

TONY WASLEY

Director

BONNIE LONG

Deputy Director

JACK ROBB Deputy Director

Dash Hibbard Stewardship Manager Walk Basin Conservancy

Re: Establishment of Shrub Seed Orchard

Dear Mr. Hibbard,

The Nevada Department of Wildlife (NDOW) is pleased to support the proposal for the establishment of a shrub seed orchard managed by the Walker Basin Conservancy. Research and field trials have identified that locally adapted native shrub seed improves the reliability and likelihood of success of shrub establishment compared to using seed sold in the seed market and grown outside the Great Basin; however, locally grown seed is mostly unreliable and unavailable. This project will help fill the gap by increasing locally grown native shrub seed for use in wildfire rehabilitation and habitat restoration efforts across the state, specifically antelope bitterbrush, Wyoming big sagebrush, winterfat, and fourwing saltbush.

We support this effort as it will expand upon existing management tools by improving seed availability of locally adapted native shrub species that wildlife depends upon, and we are pleased to be a partner in this joint effort. Shrub orchards have several benefits over wildland collected seed that will make them more reliable for seed production because they are not reliant on the increasingly volatile climatic conditions that determine seed production of wildland stands and the availability of collection permits. Also, shrub orchards do not face the same risk of being lost to wildfire as wildland collection sites. Furthermore, shrub orchards do not adversely affect the seed output of wildland populations, which can be burdened by repeated seed collection. Lastly, shrub orchards are more efficient sources of seed once established.

The NDOW has already dedicated more than \$5,000 to this effort and is in full support of the Walker Basin Conservancy's Dream Tag Fund proposal to initiate the development of a seed orchard program in Nevada that can be used to improve habitats throughout Nevada. This project will also help guide future development of seed production capacity in Nevada. We look forward to providing support through technical advising, feedback and review, and development of the framework.

Sincerely,

Tony Wasley

Director

Nevada Department of Wildlife