



## Wildlife Heritage Account Project Proposal Form

### APPLICANT INFORMATION

Person Submitting Proposal/Project Manager: Matt Glenn

Organization/Agency: Nevada Department of Wildlife

Date: 4-8-20

Address: 60 Youth Center Rd

City: Elko

State: NV

Zip Code: 89801

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Fax:

NDOW Monitor (if the project would be managed by someone other than a NDOW employee):

Caleb McAdoo

### PROJECT INFORMATION

Project Title: Middle Rock Creek Restoration Project

State Fiscal Year(s) Wildlife Heritage Account Funds are Needed: FY21

Project Location: Izzenhood, Sheep Creek, and Snowstorm Mountains

Amount of Funds Requested from Heritage Account: \$125,000.00

Is a Project Map Attached? Yes  No

(a map must include the project title, map scale, date map was created, and a north arrow)

#### Purpose of the Project:

The primary objective of this project is to improve compromised crucial winter habitat for the area six mule deer herd. The potential of this herd was observed in the 1960s when the estimated population was approximately 30,000; this was a period when most, if not all, winter range was intact and fully functioning even in difficult winter conditions. Since the 1960s a slow but steady decline has been observed throughout the western states and area six herd is no exception with a current estimated population of 7-9,000 (approx. 20,000 decline). Many variables are contributors to this decline; however, habitat loss and degradation are thought to be the primary drivers.



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Between the years of 1999 and 2018, over 2 million acres of habitat have burned in MA 6, much of it important transition and winter range. Unfortunately, the Middle Rock Creek area has burned several times over that time period, severely impacting the recovery of sagebrush and other important shrub species that provide both forage and thermal cover. Middle Rock Creek has burned in the mid-1980's, in 2001 in the Hot Lake wildfire, again in the 2006 Sheep wildfire, and more recently in the 2016 Hot Pot and 2017 Rooster's Comb wildfires. The entirety of the proposed restoration site (4,608 acres) burned in one or both of these recent fires, and about 70% (2,781 acres) was aerially seeded after both fires with a mix of sagebrush and yarrow. Monitoring information showed that seeded sagebrush and yarrow were having good success prior to the 2006 Sheep Fire, however monitoring that has occurred since 2006 shows that very little sagebrush successfully established due to the area burning again soon after the rehab effort.

Mule deer require a robust brush component on their winter range in order to flourish or even survive. Without active restoration, most of the area six mule deer herd will migrate over 100 miles from summer range only to arrive to a sea of cheatgrass where they have historically sought forage and thermal cover in crucial winter months. Intact sage brush communities where mule deer would normally select for are virtually non-existent on the landscape, which in turn translates to lesser body condition and a significantly reduced recruitment rate.

In the implementation of this project the Nevada Department of Wildlife will work to restore a crucial stop over site at Middle Rock Creek and map the areas of winter range that require similar project work to restore crucial habitats. The importance of the Middle Rock Creek site cannot be overstated in regards to this mule deer herds' health. On heavy snow load years this is an important stop-over site on their way to the Izenhood Mountains, and on light snow load years a large proportion of the deer select to stay here throughout the winter. Approximately one-third (2-3,000 deer) of the area-six mule deer herd will utilize this site in any given year, which only amplifies the importance of the area when considering this herd is amongst the largest in the state.

In this migration from summer range, continuity of forage and thermal cover becomes of critical importance when deer are arriving in lesser body condition due to a large portion of summer range having been denuded of forage by recent catastrophic wildfire events on summer range. A landscape picture of available resources (thermal cover and forage) provided by remote sensing mapping allows land managers to surgically implement project work to directly benefit mule deer in this migration and prioritize limited resources for restoration activities. As resources and capacity are limited, the ability to pinpoint important areas employing collar data in concert with this mapping product allow for a far more efficient process so that benefits for deer can be realized.

**Detailed Description of Project (include any development plans such as vegetation removal, planting, seeding, or installation of structures; also include the schedule for obtaining any necessary permits, completing NEPA compliance, etc.):**

Project implementation at the Middle Rock Creek site was initiated in the fall of 2019 with application of pre-emergent herbicide to 2,000 acres of crucial winter range. The pre-emergent herbicide controls and prevents the germination of cheatgrass which presents a window to establish desirable plant materials like sagebrush and forage kochia. The window to establish desirable plant materials is provided by the residual effect of the pre-emergent herbicide which also necessitates a year of fallowing. The site will be fallowed until the fall of 2020 when an aerial seeding of sagebrush and Snowstorm Forage Kochia will be applied augmented by future sagebrush seedling planting.

In this project remote sensing techniques will be used to analyze high-resolution imagery and provide cover estimates of five landcover components (Forage Kochia, cheatgrass, perennial grass, sagebrush & bare ground) for the 587,495-acre project area. This analysis utilizes NAIP imagery to produce a continuous coverage product for each of the identified vegetation groups and of their relative densities in an ArcMap shape file format.



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In order to collect the best and most useful data set for land management, the optimum resolution of mapping is ~0.5m per pixel. This resolution is congruent to the scale of land management based on the needs of project planning, wildlife/vegetation selection analysis, and range restoration progress monitoring. For example, when planning an aerial seeding or herbicide project sub-centimeter resolution is excessive however a 0.5m per pixel resolution still provides very useful data set that helps guide our restoration/rehabilitation efforts.

NEPA for this project was completed in the 2009 Tuscarora Sagebrush Habitat Restoration Initiative Environmental Assessment.

**How Would this Project Help with “the protection, propagation, restoration, transplantation, introduction and management of any game fish, game mammal, game bird or fur-bearing mammal in this State; or the management and control of predatory wildlife in this State”?** (See NRS 501.3575)

As the Area six mule deer herd continues to face adversity, primarily in loss of habitat, it becomes more important for NDOW and land management agencies to increase effectiveness and efficiency in the rehabilitation of crucial habitats for the herd. As one of the state’s largest mule deer herds that has real potential to rebound and grow to provide an even greater resource for the sportsmen of Nevada, projects such these are congruent This project, and it’s on the ground benefits aligns well with mission and objectives of the intended use of Wildlife Heritage Trust Account as defined in NRS 501.3575.

**Legal Description of the Property on Which the Proposed Project is to be Located** (must include the property address, access roads, township, range and section):

The project area can be most easily accessed by heading north from Battle Mountain, NV on SR 806/Izzenhood Road for 19 miles, then northeast along the Rock Creek Ranch Road for approximately 7 miles.

**Middle Rock Creek Restoration**

Polygon	Township	Range	Sections
Middle Rock Creek 1	T37N	R46E	1,12, and 13
		R47E	6,4,5,7,8,9,16,17 and 18
Middle Rock Creek 2	T37N	R46E	14,15,16,17,20,21,22,27,28, and 29

**Remote Sensing:**

Polygon	Townships	Ranges	Sections
Area 6 Remote Sensing Project	T33N	R45,46 & 47E	
	T34N	R45,46,47 & 48E	
	T35N	R45,46,47,48 & 49E	
	T36N	R45,46,47,48 & 49E	
	T37N	R45,46,47,48 & 49E	
	T38N	R45,46,47, 48 & 49E	

**Does this Project Have Additional Funding Sources Other than Your Wildlife Heritage Account Request?** Yes  No

**Does this Project Involve Habitat Restoration and Improvement of a Long-term or Permanent Nature?**



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Yes  No **Please Describe in Detail the Reason Why You Need Wildlife Heritage Account Funding to Fund this Project:**

As with most range restoration projects, the process can be both difficult and expensive. Most, if not all phases of this project require contract labor, herbicide, seed, seedlings, etc. that all have significant costs associated with them. When working to improve a large enough tract of range land that will have real value for mule deer costs become an obstacle, and it is important to NDOW as well as sportsman that no one group bear the brunt of this funding burden.

The Area 6 mule deer herd has been severely impacted over the last 20 years and their winter habitat has taken the largest share of these negative impacts. Fire, cheatgrass invasion, and then drought have kept winter range from responding in a productive manner that provides utility and viable habitat to the heard. It's the generosity of the groups and committees like the Heritage Commission that allow for well-placed and implemented restoration on Nevada's range land to maintain healthy sustainable mule deer populations.

**Project Duration:** one year  two years  three years  more

**Estimated Start Date:** Fall 2019

**Estimated End Date:** Fall 2021



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## PROJECT FUNDING

The funding breakdown below should cover the total funding needs of the project. While projects may be extended beyond the fiscal year for which money was awarded, such an extension must be due to unusual circumstances and be approved by the Wildlife Commission (see NAC 501.340). Double click on the table to activate the embedded spreadsheet.

1. Amount of Heritage Account Funds Being Requested		<b>\$ 125,000.00</b>
2. Other Cash Funding Sources for this Project		
a. National Fish and Wildlife Foundation		\$ 158,000.00
b. Habitat Conservation Fee		\$ 20,000.00
c.		
d.		
e. Total Other Cash Funding Sources (lines a - d)		<b>\$ 178,000.00</b>
3. In-kind Services for this Project		
a. Volunteer Time		
b. Equipment		
c. Materials		
d.		
e.		
f.		
g.		
h. Total Donations/In-kind Services (lines a - g)		\$ -
4. Total Project Funding	<b>\$ 303,000.00</b>	



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**PROJECT COSTS**

The cost breakdown below should cover the total costs of the project you are seeking funding for. NOTE: THE HERITAGE ACCOUNT CANNOT BE USED TO PAY INDIRECT COSTS. Double click on the table to activate the embedded spreadsheet.

	<b>Heritage Costs</b>	<b>All Other Costs</b>
1. Land Acquisition		
2. Personnel (NDOW employee costs can't be included in the Heritage column)		
3. Travel (NDOW travel costs can't be included in the Heritage column)		
a. Per diem		
b. Mileage		
c. Total Travel Costs (lines a & b)	\$ -	\$ -
4. Equipment Items		
a.		
b.		
c.		
d. Total Equipment Costs (line a - c)	\$ -	\$ -
5. Materials		
a. Seed and Seedlings	\$ 75,000.00	
b. Herbicide		\$ 12,500.00
c.		
d.		\$ -
e. Total Material Costs (lines a - d)	\$ 75,000.00	\$ 12,500.00
6. Miscellaneous Costs		
a. Remote Sensing	\$ 50,000.00	\$ 35,000.00
b. Herbicide Application		\$ 17,000.00
c. Seed Application		\$ 20,000.00
d.		
e. Total Miscellaneous Costs (lines a - d)	\$ 50,000.00	\$ 72,000.00
<b>7. Total Heritage Costs Only</b> (add lines 1, 2, 3c, 4d, 5e, 6e)	<b>\$ 125,000.00</b>	
<b>8. Total All Other Costs</b> (add lines 1, 2, 3c, 4e, 5e, 6e)		<b>\$ 84,500.00</b>
<b>9. Total Project Costs</b> (add lines 7 & 8)	<b>\$ 209,500.00</b>	
(Note: total project funding from previous table must match total project costs)		



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Are There Going to be Any Ongoing Costs for This Project? Yes  No

If There are Ongoing Costs Associated with This Project, is There an Anticipated Funding Source for These Costs? Yes  No

**Do You Anticipate Needing Additional Wildlife Heritage Account Funds Beyond the Upcoming Fiscal Year? If So, Please Describe What You Think Your Funding Requirements will be and for What Purposes (As noted above, extensions beyond the first fiscal year must be due to unusual circumstances and approved by the Wildlife Commission.):**

No additional funding will be necessary for the Area Six Mule Deer Winter Habitat Improvement Project.

**How Will You Give Credit to the Wildlife Heritage Account and Other Funding Sources?**

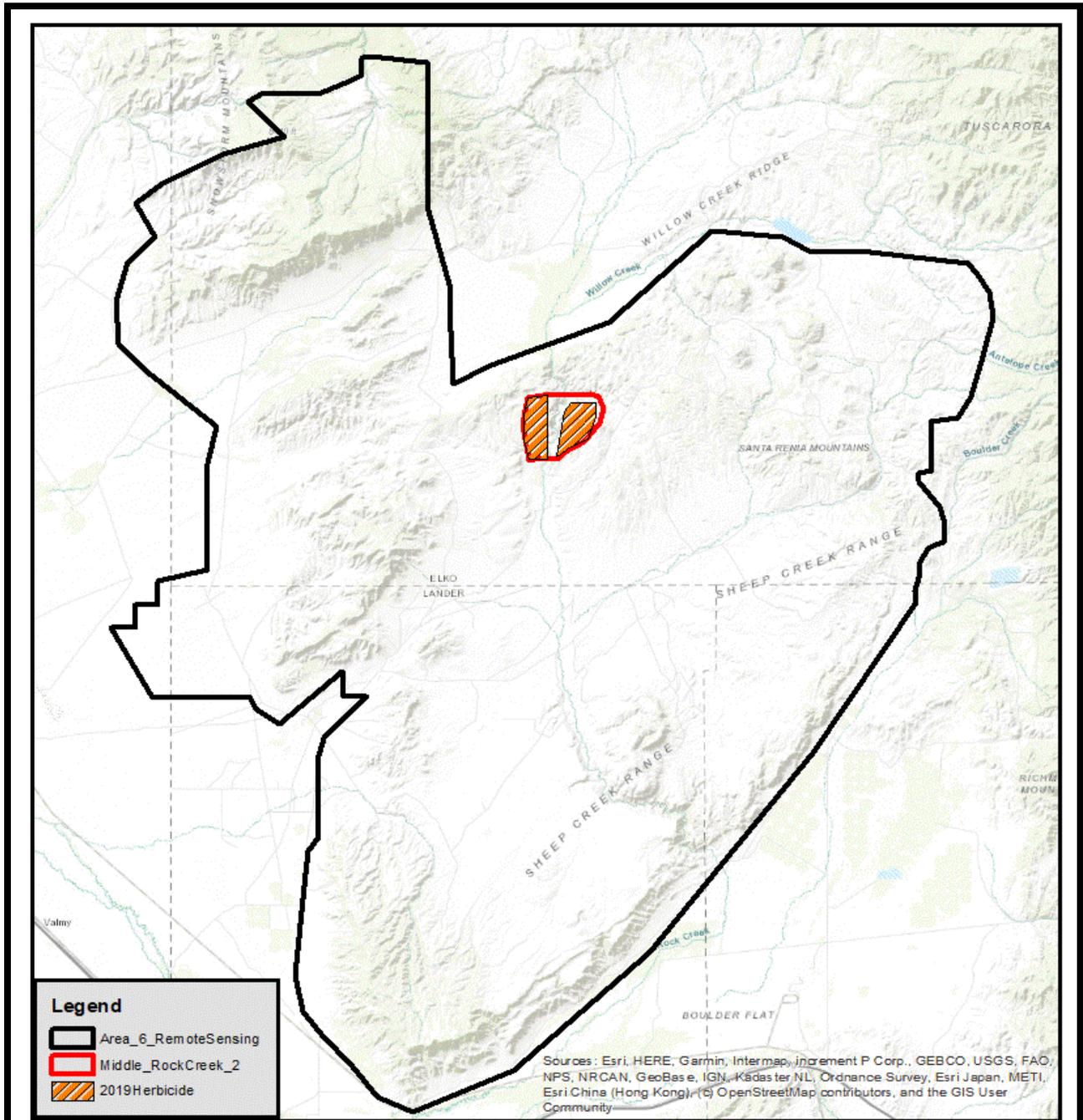
It will be the privilege of the project proponent to identify all funding donors of Middle Rock Creek Restoration Project in any publications, signage, media releases, presentations, or the like.

Authorizing Signature:

A handwritten signature in cursive script that reads "M. L. Davis".

Review Date: 4/10/2020

Map:



## Area Six Mule Deer Winter Habitat Improvement Project

April 9, 2020

Projection: UTM Zone 11 North, NAD83

No warranty is made by the Nevada Department of Wildlife as to the accuracy, reliability, or completeness of the data for individual use or aggregate use with other data.

