Environment and Natural Resources Trust Fund

2021 Request for Proposal

General Information

Proposal ID: 2021-375

Proposal Title: Reintroduction of Bison to Spring Lake Park Reserve

Project Manager Information

Name: Tom Lewanski

Organization: Dakota County

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Email: tom.lewanski@co.dakota.mn.us

Project Basic Information

Project Summary: Dakota County, in partnership with the Minnesota Bison Conservation Herd, will reintroduce American plains bison (Bison bison) to the prairie of Spring Lake Park Reserve.

Funds Requested: $659,000

Proposed Project Completion: 2024-06-30

LCCMR Funding Category: Methods to Protect, Restore, and Enhance Land, Water, and Habitat (F)

Project Location

What is the best scale for describing where your work will take place?

Region(s): Metro

What is the best scale to describe the area impacted by your work?

Statewide

When will the work impact occur?

During the Project and In the Future

Narrative

Describe the opportunity or problem your proposal seeks to address. Include any relevant background information.

The tall-grass prairie is one of Minnesota's most threatened ecosystems. Fire is often used as a practical and cost-effective means of prairie restoration and management. However, it is well documented that repeated use of fire, even on longer intervals, often results in an overabundance of graminoids and a reduction in forbs, to the detriment of floral and faunal diversity.

Increasingly, grazing is being used to restore and maintain native grasslands because of physical and behavioral attributes. There is a no more suitable grazer than the native American bison, having evolved with prairie ecosystems for millennia. Bison had profound impacts, primarily through their habit of feeding selectively on grasses and grazing in patches. Forbs, that are otherwise suppressed, are released. Grasses recover between grazing events and persist in non-grazed areas. Re-establishment of bison grazing has been shown to reverse the loss of biodiversity from prairies with frequent burning regimes. Management that incorporates both fire and bison grazing have also been successfully implemented, resulting in a more heterogeneous landscape with improved ecosystem resiliency.

While there has been an increase in re-introduced bison onto the natural landscape, they are very small scattered herds, and there are few bison without detectable cattle DNA .

What is your proposed solution to the problem or opportunity discussed above? i.e. What are you seeking funding to do? You will be asked to expand on this in Activities and Milestones.

Dakota County, in partnership with the Minnesota Bison Conservation Herd, will reintroduce bison to 150 acres of native and re-constructed prairie within Spring Lake Park Reserve along the Mississippi River near Hastings. By introducing bison, without cattle genes, the plant community will become more diverse and will likely enhance ecosystem function and overall stability via niche complementarity. Research data from grassland experiments at Cedar Creek Ecosystem Science Reserve show that grassland diversity bolsters productivity that resists expected changes due to climate extremes. Resistance to change complements resilience (recovery from change) to maintain ecosystem function through time.

In addition to increasing plant diversity, the County is also increasing faunal diversity by reintroducing species that once lived in the area, such as bull snakes and regal fritillaries, in addition to bison, but which are no longer present. Arthropods, which play an important role in prairie ecosystems, benefit from the presence of bison. Grassland bird species benefit from increased food supply that include those arthropods, but also from the resulting landscape diversity created by grazing. These bison would be available for park visitors to view, serving as a conduit to learning about the prairie ecosystem as part of a new park master plan.

What are the specific project outcomes as they relate to the public purpose of protection, conservation, preservation, and enhancement of the state's natural resources?

- This project will increase biodiversity, landscape heterogeneity and ecosystem resiliency by reintroducing the primary historic prairie grazer in Minnesota, the American plains bison.
- Dakota County will assist the Minnesota Zoo and the Minnesota DNR's goals of increasing the size of the Minnesota Bison Conservation Herd, which is an effort to establish a herd of bison that are free of detectable cattle mitochondrial DNA.
- Design and implement interpretive modalities to educate park visitors about bison, about the prairie ecosystem in which they live, and the indigenous heritage of the land and bison.

Activities and Milestones

Activity 1: Design and construct a humane Bison Handling Facility

Activity Budget: $376,000

Activity Description:
The handling facility will be used for an annual roundup of bison for genetic testing, animal transfers to manage genetic diversity and carrying capacity, micro-chip placement for animal ID and disease prevention and management. It will be designed using Grandin's humane livestock handling principles and will be similar to the handling facility at Minneopa State Park. It will include gathering/holding pens, a curved passageway and squeeze chute.

Activity Milestones:

Description	Completion Date
Design handling facility	2021-10-31
Prepare bid documents, review proposals and select construction contractor	2022-01-31
Construct handling facility	2022-09-30

Activity 2: Design and construct infrastructure required for bison herd management

Activity Budget: $112,000

Activity Description:
Dakota County will design and construct all infrastructure required for the bison. This will include perimeter fences, gates, water provision, storage shed, and all other structures required to keep the bison contained, healthy and safe. The range, approximately 150-acres in size, will be designed to maximize the benefits to the prairie as well as provide opportunities for the public to view and learn about the bison. The containment fence will be constructed of five strands of high tensile wire.

Activity Milestones:

Description	Completion Date
Finalize design of range, prepare bid and construction documents	2021-09-30
Review proposals and select construction contractor	2022-01-31
Construct/install bison related infrastructure, storage shed and waterers	2023-09-30

Activity 3: Design and develop bison education and interpretive modalities

Activity Budget: $171,000

Activity Description:
Dakota County is committed to connecting visitors to the bison, prairie ecology and the indigenous heritage of the land through interpretative programs and self-guided experiences. Grant dollars dedicated to interpretation will be spent in supporting programming for schools, organizations and the public by providing for a gathering space, or outdoor classroom. Self-guided experiences would be developed including interpretive panels and optical viewers on all viewing towers and/or platforms, an interactive and family friendly interpretive walk from main parking area to viewing areas, and an audio tour accessible by cell phone which would provide interpretation for those driving along Pine Bend Trail to view the bison. For those unable to visit the park, we would invest in a bison camera to be utilized at all times throughout the year, or as bison are present. Interpretation would utilize the National Association for Interpretation's

best practices and be accessible. Dakota County would seek to develop interpretation in partnership with Dakota communities, and ensure that interpretation is relevant to all visitors, including those underserved by the park system currently, by conducting outreach and involving stakeholders in the design process.

Activity Milestones:

Description	Completion Date
Finalize design of interpretive modalities	2022-01-31
Complete construction of physical interpretive infrastructure	2023-01-31
Go live with audio tour, bison cam and interpretive programming	2023-10-31

Project Partners and Collaborators

Name	Organization	Role	Receiving Funds
Jay Biedny	Dakota County	Will Coordinate the construction of project related infrastructure.	No
Autumn Hubbell	Dakota County Parks	Coordinating the planning and implementation of the educational/interpretive components of the project.	No
Joe Walton	Dakota County Parks	Will lead the ecological monitoring, both pre and post treatment, to document the impacts that the bison are having on the prairie.	No
Ed Quinn	Minnesota Department of Natural Resources	As a representative of the Minnesota Bison Conservation Herd, Ed has served and will continue to serve as an adviser to the Dakota County project. The Minnesota Bison Conservation Herd may also provide excess bison, culled from the existing herd, to start a herd at Spring Lake Park Reserve.	No

Long-Term Implementation and Funding

Describe how the results will be implemented and how any ongoing effort will be funded. If not already addressed as part of the project, how will findings, results, and products developed be implemented after project completion? If additional work is needed, how will this be funded?

Dakota County acknowledges that there will be operational and maintenance expenses beyond the timeframe of the grant and is fully committed to providing the funding required to meet these expenses. This project is part of a larger effort by the Minnesota Department of Natural Resources and the Minnesota Zoo to establish a bison herd that contain no detectable cattle genes, in the State. As a member of this partnership, Dakota County will have access to the expertise and assistance of these organizations. County natural resource staff will oversee the management of the bison and the management of the prairie.

Project Manager and Organization Qualifications

Project Manager Name: Tom Lewanski

Job Title: Natural Resource Manager

Provide description of the project manager's qualifications to manage the proposed project.

Dr. Lewanski's academic degrees are in biology and public administration. He has been in the land conservation/natural resource field for over 25 years. During this time, he has overseen numerous land protection and habitat restoration projects in the Twin Cities metro region. He has managed numerous ENRTF and OHF grants, resulting in thousands of acres restored and protected. At Dakota County, he leads a natural resource team of 6 that have expertise in natural resource restoration and management and wildlife management.

Organization: Dakota County

Organization Description:

Located in the southeast corner of the seven-county Minneapolis-St. Paul area, the Dakota County Park System serves the state's third most populous county. With more than 5,000 acres and a rapidly-growing network of greenways, Dakota County Parks is a nature-based system that exists to help meet the needs of over 400,000 county residents. Dakota County Parks has an active and professional natural resource program that is restoring, maintaining and enhancing hundreds of acres of prairie, forest and woodland.

Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineligible	% Benefits	# FTE	Classified Staff?	$ Amount
Personnel								
							Sub Total	**-**
Contracts and Services								
TBD	Professional or Technical Service Contract	Construction of bison containment and management infrastructure. This includes fencing, waterers, gates, cattle guards, etc. Costs include materials and supplies.				0.2		$112,000
TBD	Professional or Technical Service Contract	Design and develop bison education and interpretive modalities				0.16		$171,000
TBD	Professional or Technical Service Contract	Construct bison handling facility within the bison range at Spring Lake Park Reserve				0.4		$376,000
							Sub Total	**$659,000**
Equipment, Tools, and Supplies								
							Sub Total	**-**
Capital Expenditures								
							Sub Total	**-**
Acquisitions and Stewardship								
							Sub Total	**-**
Travel In Minnesota								

							Sub Total	**-**
Travel Outside Minnesota								
							Sub Total	**-**
Printing and Publication								
							Sub Total	**-**
Other Expenses								
							Sub Total	**-**
							Grand Total	**$659,000**

Classified Staff or Generally Ineligible Expenses

Category/Name	Subcategory or Type	Description	Justification Ineligible Expense or Classified Staff Request

Non ENRTF Funds

Category	Specific Source	Use	Status	Amount
State				
			State Sub Total	**-**
Non-State				
Cash	Dakota County	These funds will be used throughout the project including the construction of the bison fencing, handling facility and the interpretive improvements.	Pending	$164,000
			Non State Sub Total	**$164,000**
			Funds Total	**$164,000**

Attachments

Required Attachments

Visual Component

File: 8ee645be-662.docx

Alternate Text for Visual Component

Bison range map (concept one) at Spring Lake Park Reserve

Board Resolution or Letter

Title	File
Dakota County Board Resolution	2af483cd-8f7.docx

Optional Attachments

Support Letter or Other

Title	File
Invitation letter for Dakota County to join the Minnesota Bison Conservation Herd	b9e06187-32e.pdf

Administrative Use

Does your project include restoration or acquisition of land rights?

No

Does your project have patent, royalties, or revenue potential?

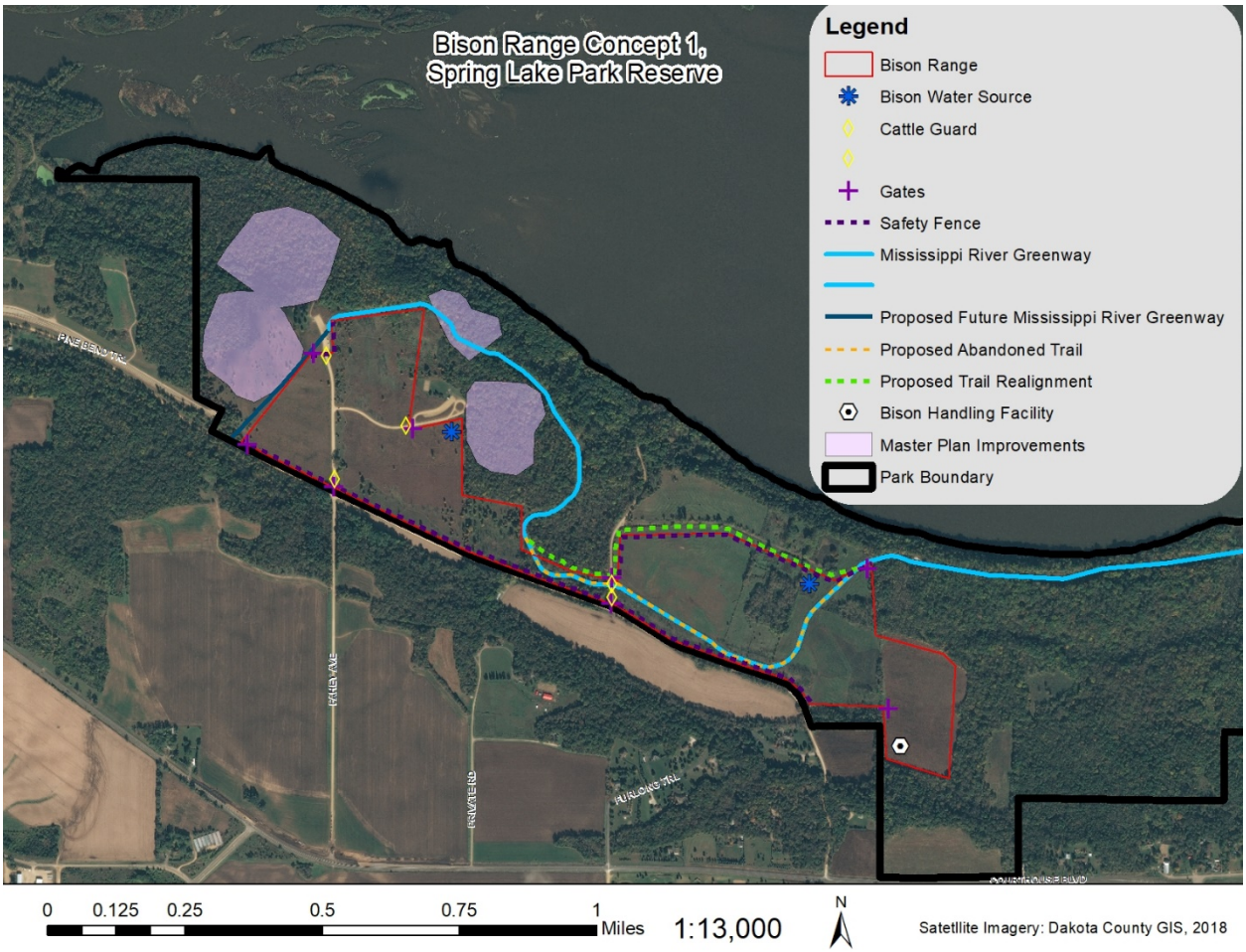
No

Does your project include research?

No

Does the organization have a fiscal agent for this project?

No


Bison Range Concept 1,
Spring Lake Park Reserve
Legend
Bison Range
Bison Water Source
Cattle Guard
Gates
Safety Fence
Mississippi River Greenway
Proposed Future Mississippi River Greenway
Proposed Abandoned Trail
Proposed Trail Realignment
Bison Handling Facility
Master Plan Improvements
Park Boundary
PINE BEND TRL
RIVER RD
HURLBUT TRL
0
0.125
0.25
0.5
0.75
1
Miles
1:13,000
N
Satetllite Imagery: Dakota County GIS, 2018