



Cost-Share Proposal Form for NorthWestern Energy (NWE) Project 2188 TAC Funds

Project Title: Restoring Rowe Coulee: Utilizing Low-Tech Process-Based Restoration

Date: 9/15/2023

Explain how this Project addresses a specific Project 2188 License Article(s):

License Article 423 focuses on developing a vegetation and wildlife monitoring and enhancement plan that includes specific goals, objectives, and standards to enhance native plants and wildlife populations on the lands and waters associated with the project. The proposed project on Rowe Creek will utilize a Low-Tech Process-Based Restoration (LTPBR) method to restore a two-mile stretch of degraded stream. Low-tech restoration methods will raise the water table, reduce stream bed incision, and dissipate stream energy at peak flows. The footprint of Rowe Creek will be increased, allowing seasonal wetlands and mesic meadows to form and retain water in the system longer into the growing season, thereby creating more wildlife habitat in critical riparian areas. Additionally, the project will include creating and implementing a monitoring protocol for identified aquatic and terrestrial species and their habitats. The project's structure will meet License Article 423 goals and ultimately assist in restoring a degraded intermittent tributary of the Missouri River and enhancing the quality of aquatic and terrestrial habitat throughout the treated reaches.

Provide justification for Priority 1, 2, or 3:

The Rowe Coulee restoration project is classified as a priority two project as Rowe Coulee is a direct tributary to the Missouri River through intermittent flows. The project will occur on the downstream end of Rowe Coulee just before the confluence into the Missouri River (**See Figure 3 on pg. 7**). Overall, the project will focus on increasing fish and wildlife populations by enhancing their habitat through low-tech process-based restoration (LTPBR).

Project Sponsor (s): Montana Conservation Corps (Applicant), Montana Fish Wildlife and Parks (Sponsor), Tall Grass Ranch, LLC (Sponsor), Ducks Unlimited (Sponsor), U.S Fish and Wildlife Service (Potential Sponsor)

Location of Proposed Project:

- **Narrative:** The proposed project will take place on the Tall Grass Ranch southwest of Loma, MT, in Choteau County to rehabilitate a two-mile stretch of Rowe Creek upstream from its confluence with the Missouri River. Rowe Creek is an intermittent stream with high spring flows that provides seasonal habitat for numerous migratory and nonmigratory birds, mule deer, white-tailed deer, bats, fish, and amphibians, including several Montana Species of Concern (**See Appendix C**).
- **Geocode:** 19-3620-27-1-01-01-0000, 19-3620-28-01-01-0000
- **Lat, Long:** 47.89388, -110.44848

Total Project Cost: \$153,440.89

TAC Funds (Cost-Share) Requested for Project: Three Years of Funding (2024,2025,2026) **\$29,449.498** per year. Totaling \$88,348.49

- I. Introduction; brief statement of project to be completed with pertinent background information. Rowe Coulee flows through a U-shaped valley encompassing additional ephemeral drainages and springs. The flow source for Rowe Coulee is derived from snow melt and high precipitation events, resulting in annual, intermittent flows. Approximately two miles of Rowe Coulee flows through Tall Grass Ranch, LLC before it empties into the Missouri River. The project area is divided into two parcels (1.3 stream miles .7 stream miles), with portions of Rowe Coulee also flowing through DNRC State Lands and neighboring private lands (**See Figure 3**). The landowner has contacted the neighboring private lands in anticipation of the project and gained

support. The project sponsors will communicate with DNRC about the potential to combine restoration efforts for a more significant landscape-level impact on Rowe Coulee.

Tall Grass Ranch, LLC, has partnered with the Montana Audubon and Avian Science Center at the University of Montana and has established Riparian and Avian transects and Point Count data on this property. The established avian transects provide an essential baseline for future avian and riparian monitoring. Annual audio surveys are conducted for Yellow and Black-billed Cuckoos on the ranch and have produced results documenting that Black-billed Cuckoos have been using the riparian habitat on Rowe Coulee. A goal of this project would be for the landowner and partners to continue working with Audubon and the University of Montana to coordinate and conduct future avian and riparian monitoring surveys in the project area and along the Missouri River.

Tall Grass Ranch, LLC acquired the property 10 years ago and has since been proactive in implementing grazing management practices and new riparian fences. This has created limited disturbance and allowed time for the system to rest and recover from previous overgrazing and poor land management. Rowe Coulee has shown signs of self-improvement over the years, with soil aggregation where rock run-downs are present and new inset floodplains forming with intact riparian vegetation. However, despite the recent land management changes, the prior years of degradation have left Rowe Coulee unable to sustain its natural process and manage its energy effectively throughout most of the system. (**See Figure 1**). The main channel has been incised and disconnected from its floodplain and needs more sinuosity and connectivity, with upland vegetation encroaching into the riparian area.

The property and immediate area support several documented terrestrial and aquatic Species of Concern that are likely to benefit from this restoration work, including long-billed curlew, Townsend's big-eared bat, spiny softshell, blue sucker, and pallid sturgeon. Other native species, including mule deer, white-tailed deer, ducks, and sharp-tailed grouse, will also benefit from this work. Initial monitoring efforts will focus on structure performance and their ability to restore system processes and overall function. Although the use of low-tech restoration has increased markedly in recent years, the long-term effects that these structures have on measurable habitat characteristics such as vegetative production, structure, or composition still need to be discovered. To date, only two research studies have investigated these effects (Silverman et al. 2019, Sutton et al. 2022). While both pointed toward positive effects of these structures regarding increased vegetative production, canopy cover, and diversity, long periods are often needed to see effects at the landscape scales that these studies were conducted at. The proposed work in Rowe Coulee offers a different opportunity to evaluate these structures at a much finer scale and a volume of structures much higher than the other studies. The initial monitoring plan will include data collection before, during, and following restoration efforts that will be quantitative (i.e. bird point counts, stream depth and width measurements, plant productivity) and illustrative (i.e. photo time series of treated reaches). These different data collection methods will add to our growing understanding of low-tech restoration and its effect on wildlife habitat and provide an opportunity to evaluate low-tech restoration in a new way.

The project design for Rowe Coulee was completed via field assessments during the Summer of 2023. It was identified that the current impairments of Rowe Coulee would benefit from a low-tech process-based restoration (LTPBR) method. Process-based restoration is defined as protecting, enhancing, and/or restoring normative rates and magnitudes of physical, chemical, and biological processes that sustain river and floodplain ecosystems (**For**

more information, see Appendix A). The project will focus on implementing LTPBR by building a series of low-tech structures, totaling approximately 150 +/- 10 low-tech structures throughout the 2 miles of Rowe Coulee. Two primary structures will be utilized for the project; Beaver-Dam Analogs (BDA's) and Post-Assisted Log Structures (PALS) (**See Attached Appendix B**). The structures will address the stream impairments by decreasing water velocity in Rowe Coulee during spring runoff, thus promoting sediment deposition to reduce stream incision. Over time, these structures will raise the water table and increase the historic mesic/wetland footprint of the stream, improving stream habitat quality and increasing the diversity and quality of fish and wildlife habitat for Rowe Coulee. For examples of completed project work on similar stream systems, refer to **Appendix D, Figures 1-3.**

The restoration project on Rowe Coulee will include a multitude of partnerships. Montana Fish Wildlife and Parks (MTFWP) will contribute to the project by offering technical assistance and potential funding opportunities through their Migratory Bird Wetland Program. Montana Ducks Unlimited (MTDU) will contribute by funding project materials and offering in-kind technical assistance. Additionally, the United States Fish and Wildlife Service (USFWS) Partners Program has expressed interest in supporting the project.



Figure 1: (Left) An indication of a lowered water table is made present by the encroaching upland vegetation into the floodplain/riparian area. (Right) The main channel of Rowe Coulee is disconnected from its floodplain via narrow and straight incised channels.

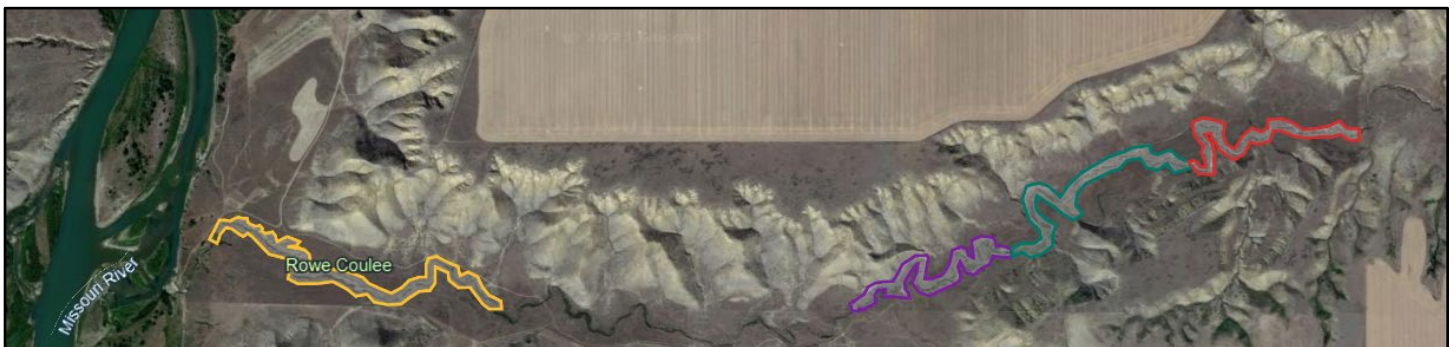
II. Objectives; explicit statement(s) of what is intended to be accomplished.

The following objectives have been developed for the Rowe Coulee restoration project in conjunction with the project partners and landowner:

- Raise the water table within the system
- Reconnect the historical floodplain
- Induce stream channel complexity and connectivity

- Slow the rate of erosion
- Increase woody vegetation recruitment and overall plant diversity in the riparian area
- Enhance and increase fish & wildlife habitat (aquatic and terrestrial species)
- Monitor the project for future project management and measurable outcomes
- Conduct maintenance of the low-tech structures to ensure the best possible outcomes

The project lead and partners will complete the pre-construction notifications necessary to apply for the Nationwide 27 Section 404 permit with the Army Corps of Engineers. The 2 miles of stream work on Rowe Coulee will occur over three years (2024-2026) by working in four identified project reaches (**See Figure 2**). The low-tech structures will be constructed using locally sourced natural materials, such as; willow, conifer, sod, rock, and wood posts. Each low-tech structure will be placed strategically within the stream to address the impairment and promote natural processes. The MCC Restoration Field Crew led and trained by MCC staff, will be the primary and most efficient source for addressing the labor demands of low-tech structure installation and maintenance (**See Appendix D, Figure 4**).



IV. Schedule; when the Project work will begin and end.

V. Personnel; who will do the work? Identify Project leader or principal investigator.

- **Autumn Holzgen - Montana Conservation Corps** - Autumn has worked closely with various stakeholders throughout the proposed project area over the last four years. She has received training in wet meadow/mesic restoration activities and has participated in 400+ hours of similar projects in the area. She has spent the last 5+ years working with landowners and local groups to implement restoration projects by writing project plans and securing the necessary permits and maintenance agreements. Autumn will be the project leader responsible for; partner communication, project planning/permitting, implementation, and monitoring, as well as volunteer coordination.
- **Montana Conservation Corps - Restoration Field Crew** - The Restoration Field Crew is a part of the Montana Conservation Corps (MCC) long-standing field crew program. The field crew comprises four adult AmeriCorps members who are managed and trained by MCC staff in specific leadership and technical skills. The field crew will have the necessary vehicles, tools, and equipment to implement the restoration project. Additionally, the crews will be trained to obtain the knowledge required to implement LTPBR projects.
- **Shane Petch - Montana Fish Wildlife and Parks** - Shane is the Stanford Area Wildlife Biologist responsible for managing wildlife populations and habitat in Judith Basin and portions of Fergus, Choteau, and Cascade counties. Shane will provide technical assistance with project planning, communication, implementation, and monitoring.
- **Robert Hazlewood - Tall Grass Ranch, LLC (Landowner)** - landowner of Tall Grass Ranch, LLC, retired as Senior Staff Biologist from the U.S. Fish and Wildlife Service, Ecological Services Division. Rob has an extensive background working with migratory birds and their habitats, restoring, protecting, monitoring, and enhancing natural wetlands and riparian habitats in the Western United States as well as on an international level. Rob will assist with project planning, implementation, and monitoring.

VI. Project Budget:

Restoring Rowe Coulee: Utilizing Low-Tech Process-Based Restoration		
Project Materials		
Purpose	Calculation	Total Amount
Purchased Untreated Wood Posts	192 posts x \$6 per post x 3 years	\$3,456.00
Coir Fabric (4ft x 8ft Roll)	1 roll x \$200 per roll x 3 years	\$600.00
Project Materials Subtotal:		\$4,056.00
Project Labor		
Purpose	Calculation	Total Amount
MCC - Restoration Field Crew	4 weeks per year x \$6,000 per week x 3 years	\$72,000.00
Project Labor Subtotal:		\$72,000.00
Technical Assistance		
Purpose	Calculation	Total Amount
MCC Staff: Autumn Holzgen	\$35.69 per hour x 40 hours per year x 3 years	\$4,282.80
Technical Assistance Subtotal:		\$4,282.80
Project Match		
Purpose	Calculation	Total Amount
Donated Untreated Posts Purchased by Ducks Unlimited	111 posts x \$6 per post x 3 years	\$1,998.00
Local Volunteers Recruited by MCC	10 volunteers per year x \$31.80 per hour x 8 hours x 3 years	\$7,632.00
MCC - Restoration Field Crew In-kind Match	4 weeks per year x \$2,510 per week x 3 years	\$30,120.00
MCC Staff: Autumn Holzgen In-kind	\$35.69 x 40 hours per year x 3 years	\$4,282.80
Tall Grass Ranch, LLC: Robert Hazlewood (Landowner)	\$31.80 per hour x 80 hours per year x 3 years	\$7,632.00
*MTFWP Migratory Bird Wetland Funding Program-Project Labor	2 weeks per year x \$6,000 per week x 1 year	\$12,000.00
*MTFWP: Migratory Bird Wetland Funding Program-Technical Assistance	\$35.69 per hour x 40 hours per year x 1 years	\$1,427.60
Project Match Subtotal:		\$65,092.40
Admin Rate		
Purpose	Calculation	Total Amount
Project Labor Subtotal + Technical Assistance Subtotal	\$72,000 + \$4,282.80	\$76,282.80
MCC Federally Approved Admin Rate	10.50% x (\$76,282.80)	\$8,009.69
Notes: *Pending Final Approval*. Volunteer hourly rate is determined using the Independent Sector Volunteer Rate. MCC Crew in-kind match is based on national service participant living stipend subtracted from the Independent Sector Volunteer Rate for each year (which is currently accepted as in-kind match by the USFS, BLM, NPS, BoR, USFWS and NRCS).		
Total Requested Funds:		\$88,348.49
Total Project Match:		\$65,092.40
Project Total:		\$153,440.89

VII. Deliverables; describe work product (reports, habitat restoration, etc.) which will result from this Project. How will “success” for this project be monitored or demonstrated?

Over time, low-tech restoration structures will raise the water table and increase the historic mesic/wetland footprint of Rowe Creek, increasing the diversity and quality of aquatic and terrestrial habitat in Rowe Coulee. Low-tech restoration efforts can promote the formation of mesic meadows and ephemeral wetlands that retain soil moisture later in the growing season and support a diversity of plant, invertebrate, and animal species. The property and immediate area support several documented Species of Concern, such as the great blue heron, long-billed curlew, sage thrasher, hoary bat, townsend’s big-eared bat, eastern red bat, and spiny softshell. Blue sucker, pallid sturgeon, sauger, and sturgeon chub, all of which have been observed in the main stem of the Missouri River within three miles of the confluence with Rowe Creek. **(See Appendix C, Environmental Summary).** The proposed work will also positively affect the confluence of Rowe Creek and the Missouri River, where a large backwater forms and provides seasonal habitat for various shore birds, amphibians, and fish species. Willow and cottonwood regeneration has begun at the confluence, and further regeneration will occur in Rowe Coulee by slowing future high runoff events and raising the water table.

Project deliverables will include the following:

- A yearly progress report documenting completed work plans for future work, and the performance of existing structures.
- Yearly monitoring will include the following:
 - Photo series taken from set points along treated reaches to document conditions before and after restoration efforts.
 - Plant ID and classification using Daubenmire frames (or similar methods) at set points along treated reaches
 - Point-count bird surveys performed along treated reaches
 - Audio surveys currently underway for identified bird species will continue
 - Measurements of stream bed depth and width at set points along treated reaches

VIII. Cultural Resources. Cultural Resource Management (CRM) requirements for any activity related to this Project must be completed and documented to NWE as a condition of any TAC grant. TAC funds may not be used for any land-disturbing activity, or the modification, renovation, or removal of any buildings or structures until the CRM consultation process has been completed. Agency applicants must submit a copy of the proposed project to a designated Cultural Resource Specialist for their agency. Private parties or non-governmental organizations are encouraged to submit a copy of their proposed project to a CRM consultant they may have employed. Private parties and non-governmental organizations may also contact the NWE representative for further information or assistance. Applications submitted without this section completed, will be held by the TAC, without any action, until the information has been submitted. Summarize here how you will complete requirements for Cultural Resource Management:

A new fence funded by the BLM and NWE was constructed on the property in 2013 just south of and parallel to Rowe Creek. A CRM was conducted for the construction of the fence. If further CRM documentation is required for the proposed work on Rowe Creek, we will ensure it occurs.

IX. Water Rights. For projects that involve development, restoration or enhancement of wetlands, please describe how the project will comply with the Montana DNRC’s “Guidance for Landowners and Practitioners Engaged in Stream and Wetland Restoration Activities”, issued by the Water Resources Division on 9 March 2016.

Summarize here how you will comply with Montana water rights laws, policies and guidelines:

The use of low-tech structures, such as Beaver Dam Analogs (BDA’s), has been written into the [*Montana DNRC’s Guidance for Landowners and Practitioners Engaged in Stream and Wetland Restoration Activities*](#) document, under Stream Restoration Projects #3 - Beaver Dam Analogs. Within this statement, it is stated that “So long as beaver analogs do not use control gates, culverts, headgates, ditches, or pipelines, they typically do

not require a water right.” The Rowe Coulee Restoration project will comply with this statement by following the guidelines of the Natural Resource Conservation Service document for properly installing BDA’s and PALS (**Appendix B**). Additionally, all low-tech structures will comprise natural materials and be strategically placed by a trained project manager and implemented through a trained Restoration Field Crew. The landowner and field crew will also conduct routine maintenance on the low-tech structures so that they continue to function correctly.

Figure 3: Project Vicinity and Location Map

