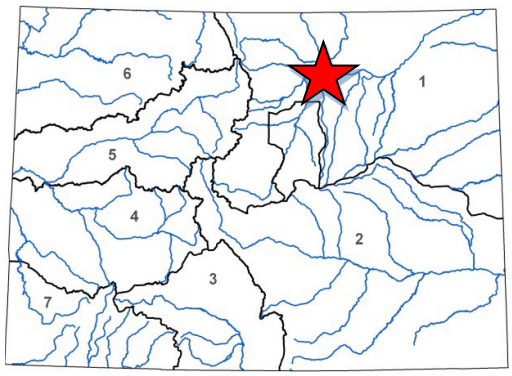
COLORADO
Colorado Water Conservation Board
Department of Natural Resources

North Sand Creek Health & Water Quality
Ducks Unlimited

September 2023 Board Meeting

Water Plan Grant Application



LOCATION	
County:	*Jackson*
Drainage Basin:	*North Platte*

DETAILS	
Total Project Cost:	$77,448.00
Water Plan Grant Request:	$57,634.00
Recommended amount:	$57,634.00
Other CWCB Funding:	$0
Other Funding Amount:	$4,800.00
Applicant Match:	$15,014.00
Project Types:	Study & IPP
Project Category:	Watershed Health and Recreation
Measurable Results: This project will design and monitor activities that, if successful, will result in a phase 2 project to restore stream function on ~20,000 feet of stream, preserve water rights that irrigate ~400 acres of land, and help preserve recreational use of NSH by 20,000 users per year.	

Ducks Unlimited (DU) is a nonprofit with a mission to conserve, restore, and manage wetlands and associated habitats for North America's waterfowl that benefit other wildlife and people. DU is requesting funding to develop a long-term solution to the erosion into North Sand Creek on the State Line Ranch, where sedimentation impedes the diversion of irrigation water. The North Sand Hills (North Sand Creek) is among the CWCB Basin Identified Projects Database. The identified need for this project is, "*N. Sand Hills Erosion Control Project to address tremendous sand load eroding into N. Sand Creek. Mitigate sediment transport into N. Sand Creek on State Line Ranch, where sedimentation impedes the diversion of irrigation water.*" This need for this project is also identified in the 2012 Jackson County Watershed Plan.

The applicant, along with its several partners and stakeholders, intend to develop a plan to mitigate the sand/sediment to improve both agricultural diversions and fisheries in North Sand Creek. Colorado Parks and Wildlife (CPW), the Bureau of Land Management, and the State Land Board are working together to develop a long-term recreational plan for the area, with initial steps including utility task vehicle/all-terrain vehicle trail management, trail re-routing, hardening of ingress/egress at the creek crossing, and addressing unauthorized access to the sand dunes. Sand load is also impacting CPW recreational trail planning. Mitigating sediment will have the added benefit of improving fisheries in N. Sand Creek.

Tasks for this project include: 1) Design and implement long-term monitoring; 2) Design in-stream structures; 3) Create a plan to maintain and enhance revegetation at North Sand Hills; and 4) Stakeholder engagement.

Match funding will be secured from Center for Collaborative Conservation.

Funding Recommendation: This project is recommended for full funding of the $77,448.00 requested.

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Water Plan

Water Project Summary

Name of Applicant	Ducks Unlimited
Name of Water Project	North Sand Creek Health & Water Quality
Grant Request Amount	**$57,634.00**
Primary Category	$57,634.00
Watershed Health & Recreation	
Total Applicant Match	**$15,014.00**
Applicant Cash Match	$15,014.00
Applicant In-Kind Match	$0.00
Total Other Sources of Funding	**$4,800.00**
Center for Collaborative Conservation	$4,800.00
Total Project Cost	**$77,448.00**

Applicant & Grantee Information

Name of Grantee: Ducks Unlimited
Mailing Address: 2114 Midpoint Dr. Suite 1 Fort Collins CO 80525
FEIN: 13,563,799

Organization Contact: Courtney Massey
Position/Title: Biologist
Phone: 971-791-1379
Email: cmassey@ducks.org

Organization Contact - Alternate: John Denton
Position/Title: Colorado Manager of Conservation Programs
Phone: (308) 258-4682
Email: jdenton@ducks.org

Grant Management Contact: Courtney Massey
Position/Title: Biologist
Phone: 971-791-1379
Email: cmassey@ducks.org

Grant Management Contact - Alternate: John Denton
Position/Title: Colorado Manager of Conservation Programs
Phone: (308) 258-4682
Email: jdenton@ducks.org

Description of Grantee/Applicant

Wetland conservation and restoration agency

Type of Eligible Entity

☐ Public (Government)

- [ ] Public (District)
- [ ] Public (Municipality)
- [ ] Ditch Company
- [ ] Private Incorporated
- [ ] Private Individual, Partnership, or Sole Proprietor
- [x] Non-governmental Organization
- [ ] Covered Entity
- [ ] Other

Category of Water Project

- [ ] Agricultural Projects
  Developing communications materials that specifically work with and educate the agricultural community on headwater restoration, identifying the state of the science of this type of work to assist agricultural users among others.
- [ ] Conservation & Land Use Planning
  Activities and projects that implement long-term strategies for conservation, land use, and drought planning.
- [ ] Engagement & Innovation Activities
  Activities and projects that support water education, outreach, and innovation efforts. Please fill out the Supplemental Application on the website.
- [x] Watershed Restoration & Recreation
  Projects that promote watershed health, environmental health, and recreation.
- [ ] Water Storage & Supply
  Projects that facilitate the development of additional storage, artificial aquifer recharge, and dredging existing reservoirs to restore the reservoirs' full decreed capacity and Multi-beneficial projects and those projects identified in basin implementation plans to address the water supply and demand gap.

Location of Water Project

Latitude	40.867178
Longitude	-106.194403
Lat Long Flag	
Water Source	North Sand Creek, which flows into the Canadian River which flows into the North Platte River
Basins	North Platte
Counties	Jackson
Districts	47-North Platte River Basin

Water Project Overview

Major Water Use Type	Agricultural
Type of Water Project	Planning
Scheduled Start Date - Design	8/1/2023
Scheduled Start Date - Construction	

Description

A diverse group of stakeholders have come together to improve stream function and maintain irrigated agriculture in North Sand Creek, a stream adjacent to the BLM’s North Sand Hills (NSH) recreation area in North Park, Colorado, where off-highway-vehicle recreation (OHV) is a primary use. North Sand Creek, an unusual sand-bed creek, begins on forested state land, flows adjacent to the NSH for 2/3rds of a mile, then crosses private land for 3 miles before arriving at the first diversion structure used to irrigate a 400-acre meadow. Beginning around

2010, a combination of increased recreational use of NSH, drought, and high runoff destabilized the stream bed and increased sedimentation. North Sand Creek was listed as a 303d impaired stream (for sediment) in 2015. While research was being done at CSU to better understand sand-bed stream dynamics, the BLM installed fencing in 2019 to reduce OHV impact. The North Sand Creek partnership, which has been meeting since 2021, aspires to build on these important first steps through stakeholder engagement, active revegetation, restoration of in-channel structure, and research and monitoring. This CWP grant, if funded, would allow us to further engage stakeholders, plan restoration actions, monitor conditions, and apply for implementation funding.

Measurable Results

New Storage Created (acre-feet)
New Annual Water Supplies Developed or Conserved (acre-feet), Consumptive or Nonconsumptive
Existing Storage Preserved or Enhanced (acre-feet)
New Storage Created (acre-feet)
Length of Stream Restored or Protected (linear feet)
Length of Pipe, Canal Built or Improved (linear feet)
Efficiency Savings (dollars/year)
Efficiency Savings (acre-feet/year)
Area of Restored or Preserved Habitat (acres)
Quantity of Water Shared through Alternative Transfer Mechanisms or water sharing agreement (acre-feet)
Number of Coloradans Impacted by Incorporating Water-Saving Actions into Land Use Planning
Number of Coloradans Impacted by Engagement Activity

Other

This project will allow us to create plans and beginning monitoring activities that, if successful, will restore stream function on ~20,000 feet of stream, preserve water rights that irrigate ~400 acres of land, and help preserve recreational use of NSH by ~20,000 users per year.

Water Project Justification

This project aligns with the goals of the 2023 Colorado Water Plan (see page 105) and the 2022 North Platte Basin Implementation Plan (see p.12 of the N.P. BIP Volume 1):

Goal 1: Maintain and maximize the consumptive use of water permitted in the Equitable Apportionment Decree and the baseline depletion allowance in Colorado's Plan for Future Depletions. Currently, excessive sediment in North Sand Creek prevents full utilization of water rights water rights, putting these water rights at risk of abandonment.

Goal 3: Continue to restore, maintain, and modernize critical water infrastructure to preserve current uses and increase efficiencies. This goal emphasizes the preservation of infrastructure, including headgates, that enable the use of water rights. While this project will shed further light on the overall system, preliminary work has identified at least one non-functioning headgate that needs to be addressed. However, without addressing the system more comprehensively, infrastructure replacements would have a short lifespan. The planning project encompasses multiple land parcels, including both privately-owned and federally-owned property. We will strive to identify collaborative solutions to the system-wide challenges and also pinpoint specific locations where infrastructure requires improvement or replacement to maximize existing uses.

Goal 4: Maintain healthy rivers and wetlands through the strategic implementation of projects that meet prioritized environmental and recreational needs. This planning project focuses on North Sand Creek, which passes through the significant North Park recreation area known as the North Sand Hills Recreation Area. The project

team aims to identify site-specific, collaborative solutions that serve multiple objectives, including: 1) promoting responsible recreation through the use of Spanish language signage, infrastructure enhancements, and educational initiatives; 2) mitigating downstream impacts of sediment runoff from the North Sand Hills; and 3) ensuring that the North Sand Hills can continue to meet recreation needs while addressing environmental concerns.

Goal 6: Promote water rights protection and management through improved streamflow gaging data. Excessive sediment in North Sand Creek prevents measurement of water use as required by Division 6.

The North Sand Hills (North Sand Creek) is among the North Platte's Identified Projects and Processes:

North Platte BIP Volume 1, page 33, example projects. N. Sand Hills - Erosion Control (NP-2020-0109) This project is intended to develop a long-term solution to the erosion into North Sand Creek on the State Line Ranch, where sedimentation impedes the diversion of irrigation water. Mitigation of the sand/sediment would improve both agricultural diversions and fisheries in North Sand Creek. CPW, the Bureau of Land Management, and the State Land Board are working together to develop a long-term recreational plan for the area, with initial steps including utility task vehicle/all-terrain vehicle trail management, trail re-routing, hardening of ingress/egress at the creek crossing, and addressing unauthorized access to the sand dunes.

CWCB Basin Identified Projects Database, Project 01386, N. Sand Hills Erosion Control. Project to address tremendous sand load eroding into N. Sand Creek. Mitigate sediment transport into N. Sand Creek on State Line Ranch, where sedimentation impedes the diversion of irrigation water. Sand load is also impacting CPW SFSP trail planning. Mitigating sediment will have the added benefit of improving fisheries in N. Sand Creek.

The North Sand Hills (North Sand Creek) is included in the 2012 Jackson County Watershed Plan, Appendix E: Existing 319 Funded Projects, p.191. North Sand Hills has been the target of 319 non-point source funding to "protect aspen, stream from OHV, allow reveg."

Related Studies

Aqua Solutions LLC. 2012. Jackson County, Colorado, Draft Nonpoint Source Watershed Protection Plan. Sponsored by Owl Mountain Partnership.

North Platte River Water Quality Management Plan. 2012. https://nwccog.org/wp-content/uploads/2015/04/Noth-Platte-Watershed-2012-208-Plan.pdf

Ahlbrandt, T.S. and Andrews, S., USGS 1978. Distinctive Sedimentary Features of Cold-Climate Eolian Deposits, North Park, Colorado. Palageogr., Palaeoclimatol., Palaeoecol., 25: 327-351. https://pubs.er.usgs.gov/publication/ofr77145

Grabowski, J., & Wohl, E. (2021). Logjam attenuation of annual sediment waves in eolian-fluvial environments, North Park, Colorado, USA. Geomorphology, 375, 107494. https://doi.org/10.1016/j.geomorph.2020.107494

Bureau of Land Management Kremmling Field Office. (2019). DECISION RECORD North Sand Hills Resource Protection and Area Improvements (DOI-BLM-N020-2019-0005-EA). https://eplanning.blm.gov/public_projects/nepa/120701/175339/212957/DOI-BLM-CO-N020-2019-0005-DR.pdf

Taxpayer Bill of Rights
DU is not aware of any TABOR issues that affect this application.