



# The Nebraska Environmental Trust

*preserving NATURAL NEBRASKA™ for future generations*

## ***2018 PRELIMINARY SUMMARY OF APPLICATIONS***

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The Nebraska Environmental Trust entered the 2018 grant cycle receiving 112 applications. Applications were either submitted via the new web portal, e-mailed or postmarked by September 5th to meet the deadline. Requests in this twenty-fifth year of grants totaled \$42,320,516. The Trust will announce recommendations for funding these applications in February, 2017 and will award grants in April, 2018.

A summary overview of each proposal, as composed by the applicant, is provided for you. Very few editorial changes were made in this information, which was submitted in the application form in response to the question, “Provide an overview of the project for which you seek funding.” Project names were assigned by the applicants. Project numbers are assigned by the Trust to facilitate record keeping.

The summaries are presented in alphabetical order by project sponsor name. The nearest town is also shown to indicate the approximate location of each project in the state.

The amount requested and the proposed term of each project is also noted in each summary. The Trust is authorized to fund a project for up to three years under one application review. The review group to which the application has been assigned is also noted in each summary.

In 2017 the Trust issued statements of intent to 39 projects, indicating continued funding for these projects on the basis of the 2016 and 2017 applications. Those projects are included in these descriptions. The project numbers of these applications begin “16” or “17” and end with a dash 2 (17-101-2) or dash 3 (16-101-3) to indicate the second or third year request.

An index of applications by project number is also included with the materials presented in this booklet.

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**Sponsor Name:** AirLift Environmental **Nearest Town:** Lincoln  
**Project Name:** Developing Innovative Treatments for Contaminated Groundwater in Nebraska **Project No:** 18-156  
**Amount Requested:** \$40,711 **Term of Project Request:** 1 **Review Group:** Water

Water quality is one of the biggest issues related to public health in the United States. Few situations incite more public outcry than when a community learns that their drinking water has become tainted. Given that roughly 82% of Nebraskans use groundwater as their major source of drinking water, protecting this vital resource is one of the major goals of Nebraska's Department of Environmental Quality (NDEQ). While numerous safeguards and regulations have been implemented to protect Nebraska's water resources, the inadvertent and sometimes deliberate release of chemicals into the environment has created a myriad of contaminated sites across Nebraska. In the past decade, significant efforts have been devoted to developing innovative remedial technologies to treat contaminated groundwater. One technology that is relatively mature is the injection of liquid oxidants into contaminated aquifers or in situ chemical oxidation (ISCO). In theory, ISCO works by injecting a chemical oxidant that reacts with a contaminant and renders it harmless by turning it into carbon dioxide. AirLift Environmental and the University of Nebraska have significantly improved ISCO by developing slow-release oxidant candles (i.e., oxidant-wax cylinders) that, when inserted into groundwater, slowly dissolve and degrade the contaminants over months to years. In addition, our remedial system bubbles air at the base of the candle; this injected air "lifts" the oxidant up while greatly facilitating its horizontal distribution. Results from this technology have been very promising and AirLift is currently collaborating with the University of Nebraska, NDEQ, and the Cities of Sargent, Cozad, Beatrice, and Lincoln by performing multiple field-site demonstrations. This Nebraska Environmental Trust application will complement our currently Federally-funded research by allowing us to expand our field-scale demonstrations, continue to monitor ongoing field sites at a much lower cost, and increase our capacity to detect and remediate groundwater contaminants throughout the state of Nebraska.

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**Sponsor Name:** Angels on Wheels, Inc **Nearest Town:** Omaha  
**Project Name:** Electronic Recycling **Project No:** 18-148  
**Amount Requested:** \$123,968 **Term of Project Request:** 1 **Review Group:** Waste Management

The funds from this grant will be used towards the cost of managing 33 electronic collection events and to process the collected items in a manner that conforms with our zero landfill policy. The collection events will be open to the public and will be strategically placed in the Omaha metro area and the surrounding areas. We collect out-of-service electronics including computers, consumer electronics, large appliances, automobiles and other out-of-service household or industrial equipment. Personal computers and other items that have useful life are fully refurbished for continued use. Items that do not have any useful life are dismantled by hand and the materials are sorted into like commodities and sold. Our program assures that these items do not reach landfills and toxic materials such as mercury, lead, copper and other hazardous substances do not contaminate our ground. Angels on Wheels, Inc is a non-profit corporation that operates the Cross Training Center (CTC) where we provide work experience and vocational training for disadvantaged and under educated youth and adults. Our recycling and refurbishing program provides direct hands-on work experience for our clients and any proceeds from commodities or products are used to support the mission.

**Sponsor Name:** Bird Conservancy of the Rockies **Nearest Town:** Scottsbluff  
**Project Name:** Expanding Environmental Literacy and Habitat Stewardship through Outreach and Education in the Nebraska Panhandle **Project No:** 18-161  
**Amount Requested:** \$26,903 **Term of Project Request:** 1 **Review Group:** Education

Bird Conservancy of the Rockies’ mission is to conserve birds and their habitats through science, education and land stewardship. To advance our mission in Nebraska, we partner with the Nebraska Game and Parks Commission to deliver conservation education programs throughout the Panhandle. With your support we will increase environmental literacy and promote good land stewardship in the Nebraska Panhandle, reaching 1,550 Nebraska residents. Bird banding stations and Bioblitzes will reach school children and families across the Panhandle, and will take place in two Panhandle-based Biologically Unique Landscapes (BULs). Environmental Service Learning (ESL) Programs will reach local school children in elementary and middle school. Landowner workshops will provide large-acreage landowners with tools and training to enhance habitat on private lands. Our request to the Nebraska Environmental Trust (NET) is \$26,903.00, which represents just 41% of the project’s \$64,770.00 cost. Your support will fund direct project expenses, and Bird Conservancy and NGPC will provide funds for salaries, benefits and operating costs. NET’s cost for providing Nebraska residents with professional, high-quality environmental education opportunities will be just \$17 per person. Program costs are low thanks to collaboration with and support from our partners: Chadron State College, North Platte Natural Resources District and the Nebraska Game and Parks Commission. Our programming fulfills an unmet need for environmental education programs and services in the Nebraska Panhandle. Through Bird Conservancy’s free programs, Nebraska residents will be empowered to care for and improve local private and public lands. By providing these unequaled experiences in nature to local youth, we will inspire the next generation of conservation stewards for western Nebraska.

**Sponsor Name:** Board of Regents, University of Nebraska **Nearest Town:** Grant  
**Project Name:** Winter canola and field peas for water conservation in dryland and irrigated cropping systems **Project No:** 18-185  
**Amount Requested:** \$11,327 **Term of Project Request:** 1 **Review Group:** Soil Management

Implementing alternative crops such as winter canola and field peas can intensify and diversify dryland and irrigated cropping systems of semiarid SW NE while enhancing water conservation, soil health, and economic viability of the producer. Our main objectives are: (1) To quantify grain yield and crop water use efficiency (CWUE – grain yield produced per unit of water used) of dryland and irrigated canola and field peas; and (2) To investigate the impact of key agronomic practices for successful establishment, growth and grain harvest of dryland and irrigated winter canola and field peas; and (3) To provide education on benefits that diversified cropping systems may have on stewardship of the land and water conservation in SW Nebraska. Total of 4 field demonstrations will be conducted for each of the 4 cropping systems: (1) Dryland canola (replicated on-farm study comparing 2 winter canola varieties planted at 2 planting dates); (2) Irrigated canola (replicated study comparing of 2 winter canola varieties irrigated to 100% or potential evapotranspiration (ET) demand); (3) Dryland field peas (unreplicated comparison of different tillage, in-furrow fungicides, and seeding rates on field pea grain yield); (4) Irrigated field peas (replicated study that will compare 4 irrigation treatments on field pea grain yield: no-irrigation, and irrigating 50%, 75% and 100% of potential crop ET). Soil moisture sensor and ET gauges will be installed after crop emergence and utilized to monitor soil moisture and quantify water use for each of the 4 cropping systems. Educational opportunities and dissemination of the data will be done through field days, timely newspaper articles, extension e-news (Crop Watch), twitter posts, and radio interviews. This project is designed in response to increased demand in specialty grain markets that provides NE with the unique opportunity to grow crops that benefit our state’s environment and economy.

**Sponsor Name:** Board of Regents, University of Nebraska **Nearest Town:** Lincoln  
**Project Name:** Pilot-scale production of protein fibers and apparels from waste garments and poultry feathers **Project No:** 18-116  
**Amount Requested:** \$211,885 **Term of Project Request:** 3 **Review Group:** Waste Management

We aim to develop high-quality protein fibers from waste garments and poultry feathers for industrial applications via an ecofriendly approach. Protein fibers, mainly wool and silk, have un-parallel performance properties, such as hand, moisture transmission, thermal insulation and luster, are sold at high prices, but have limited availability. Wool and poultry feathers are inedible waste protein resources with annual availability, abundance, low cost and limited usages, and thus, could be alternative resources for protein fiber production. Successful conversion of waste wool-containing apparels and feathers into high-profit industrial products could decrease generation and disposal of textile and feather wastes, add considerable values to textile recycling and poultry industries, as well as create jobs for local people by establishing small business. However, to the best of our knowledge, no efficacious method has been developed to produce regenerated keratin fibers, despite global efforts during the last two decades. In this project, in order to obtain regenerated keratin fibers with performance properties close to wool fibers and good potential for industrial applications, we plan to develop low-cost and efficient aqueous solvent to de-crosslink and dissolve keratin simultaneously, while preserving protein backbones, study the rheological properties of keratin solution to improve its spinnability first on lab scale. Subsequently, we will produce keratin fibers and yarns on pilot scale, cooperate with US apparel and fashion industry for incorporation of keratin fibers into apparels, and develop garments fusing yarns containing keratin fibers.

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**Sponsor Name:** Board of Regents, University of Nebraska **Nearest Town:** Omaha  
**Project Name:** Estimation of Municipal Solid Waste Settlement and Landfill Gas Emission based on Cone Penetration Test (CPT) with Hydraulic Pressure Tool (HPT) and Membrane Interface Probe (MIP) **Project No:** 18-194  
**Amount Requested:** \$330,000 **Term of Project Request:** 2 **Review Group:** Waste Management

A modern Municipal Solid Waste (MSW) landfill is exposed to an extreme environment coupled with the thermal, mechanical, hydraulic, chemical, and biological (THMC/B) process. MSW settlement and landfill gas (LFG) emission, strongly influenced by those processes, have been estimated by constrained laboratory and surface monitoring tests far different from the in-situ condition, which contains considerable uncertainty. As an alternative, a direct injection logger including a cone penetration test (CPT) with a hydraulic profiling tool (HPT) and membrane interface probe (MIP) can be used to accurately estimate MSW settlement and LFG emissions. However, there is limited research on the hands-on methodology based on the CPT with HPT and MIP results. The objectives of this research are as follows. 1) A large column test simulating the in-situ condition of the landfill will be setup and conducted to evaluate the MSW behavior coupled with THMC/B process. 2) Evaluate LFG emissions and THMC/B variables of MSW obtained from CPT with MIP and HPT. 3) By using MSW parameters obtained from the column test, a 3-D multi-phase and multi-physical numerical modeling of the landfill will be conducted to predict accurate MSW settlement and LFG transport in a landfill. 4) Develop and validate a methodology to accurately predict MSW settlement and LFG emissions as compared to field data monitored from a landfill. The methodology developed in this project will allow for the accurate and rapid prediction of MSW settlement and LFG emissions in a landfill, contributing to the effective management of a landfill, direct financial benefit for landfill owners, and protection of air quality. This effectiveness provides not only financial benefit but also much-improved sustainability for multiple stakeholders (Nebraska landfill owners and managers, regulators and local/county/district governments, impacted communities proximate to landfills, and nongovernmental organizations (NGO) associated with landfill siting and operations).

**Sponsor Name:** Board of Regents, University of Nebraska **Nearest Town:** Lincoln  
**Project Name:** Cost-effective detection, mapping, and remediation of soil compaction in Nebraska **Project No:** 18-202  
**Amount Requested:** \$240,381 **Term of Project Request:** 3 **Review Group:** Soil Management

The overarching goal of the project is toward cost-effective detection, mapping and remediation of soil compaction in Nebraska. Soil compaction is a complex and challenging environmental problem caused by a number of factors including overuse of heavy machinery, intensive cropping and animal grazing, and inappropriate soil management. There are three supporting objectives. First, we will use a new instrumented soil penetrometer to collect field data regarding soil compaction in 12-16 representative fields in NE. Second, we will elucidate the relationships among soil compaction, inherent soil physical and chemical properties, and soil management practices; and develop and validate statistical models to delineate the occurrence of deep-layer soil compaction for cost-effective remediation (localized ripping instead of entire field ripping). Last, we will develop extension/education materials and activities to reach NE stakeholders, including growers, landowners, and state government agencies. The immediate environment benefits of the project will include (1) improved habitats for soil micro- and macro-fauna, and (2) reduced soil erosion, surface runoff, and surface/ground water contamination attributable to soil compaction in Nebraska. New knowledge will be gained on the associations between soil compaction, intrinsic soil properties, and soil management practices. New preventive and remedial measures for soil compaction will be developed and tested. Through a dedicated extension and outreach program which we will develop with this grant, it is expected that both the environmental and socioeconomic benefits of this project will have broad, state-wide impacts on farmers, landowners, and stakeholders.

**Sponsor Name:** Board of Regents, University of Nebraska **Nearest Town:** Lincoln  
**Project Name:** Transforming Manure and Cedar Mulch from "Waste" to "Worth" **Project No:** 18-203  
**Amount Requested:** \$329,299 **Term of Project Request:** 3 **Review Group:** Waste Management

**Purpose.** The underlying rationale for the project is that transforming management of manure and eastern red cedar from “waste” to “worth” will deliver natural resource benefits to Nebraska. **Process.** We will equip farmers and their advisors with knowledge and skills to identify “win-win” opportunities for recycling animal manures and cedar mulch as soil amendments. An on-farm research initiative will be replicated on six Nebraska farms to document agronomic, soil health, environmental and economic benefits of these soil amendments. It will also engage farmers and their advisors in an educational initiative to demonstrate these benefits and will engage high school students in educational experiences addressing soil health and implementation of an on-farm research process for evaluating proposed practice change. **Impacts.** Improved understanding and acceptance among farmers of positive impacts on soil, crops, and farm profitability from manure and cedar mulch application to cropland are expected to improve soil health properties for Nebraska soils, reduce nutrient losses to Nebraska water resources, and reduce eastern red cedar tree encroachment on Nebraska’s pasture and grassland resources.

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**Sponsor Name:** Board of Regents, University of Nebraska **Nearest Town:** Lincoln  
**Project Name:** Novel approaches for controlling nitrate leaching and protecting Nebraska ground water **Project No:** 18-204  
**Amount Requested:** \$164,306 **Term of Project Request:** 3 **Review Group:** Water

Nitrate is the most common contaminant affecting ground water quality worldwide and a frequent compliance issue in public drinking water supplies throughout the United States and Nebraska. Though much effort has been directed at nitrogen and irrigation water management, few alternatives exist to treat nitrate lost from the crops. This project will demonstrate how subsoil injection of an abundant carbon source (recycled sawdust and wood shavings) will establish a biologically active layer for interception and removing dissolved nitrate after it has left the crop root zone. Bench tests will be conducted to evaluate the best recycled wood sources, proper depth to intercept leaching nitrate, and be followed with a 2-year pilot study on three to four cooperator fields in Nebraska, and the information collected will permit a cost/benefit analysis to determine the economic feasibility of utilizing this practice to treat nitrate-N in recharge water beneath fertilized crop land. The overall goal is to offer a cost-effective method for producers and Nebraska natural resource districts for reducing nitrate-N leaching beneath fertilized cropland in areas that are most vulnerable to ground water contamination. Extension and outreach efforts will be directed toward increasing adoption of this and related management practices to control nitrate leaching across Nebraska. We have leveraged data and programs from Nebraska natural resources districts, and previous NET projects to help create a product that can fill a gap in protecting Nebraska ground water resources.

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**Sponsor Name:** Board of Regents, University of Nebraska **Nearest Town:** Lincoln  
**Project Name:** Impact of cover crops and grazing on soil health and system economics **Project No:** 18-179  
**Amount Requested:** \$149,848 **Term of Project Request:** 2 **Review Group:** Soil Management

Cover crops have the potential to improve soil health and sustainability of cropping operations. Incorporating cover crops into cropping systems incur economic costs that may discourage some producers from adopting this practice. Using cover crops as a forage source can be a way to offset the economic costs and generate additional revenue. The limited data available suggests that grazing of cover crops may not negate the soil health benefits. Therefore, the duality of economic and soil health incentives may be present for crop producers to incorporate grazing of cover crops into their system. However, there is little information regarding the effects of grazing cover crops in Midwestern cropping systems. The objectives of this project are to 1) evaluate the impacts of incorporating cover crops and grazing on soil health in corn silage-soybean, corn grain-soybean, and corn grain-soybean-wheat rotations in eastern Nebraska, 2) conduct a systems analysis and determine economic impact, and 3) inform Nebraska crop and cattle producers of these impacts and the potential for incorporating cover crops and grazing into their system.

**Sponsor Name:** Board of Regents, University of Nebraska **Nearest Town:** Lincoln  
**Project Name:** Nebraska Master Naturalist Program: Volunteers in Action **Project No:** 17-152-2  
**Amount Requested:** \$68,073 **Term of Project Request:** 3 **Review Group:** Statement of Intent

The Nebraska Master Naturalist (MN) Program provides Nebraska citizens an opportunity to contribute to natural resource conservation through meaningful science-based volunteer experiences. The MN Program began in 2009 through a public and private partnership that recognized Nebraska's conservation agencies and organizations have limited resources and capacity for proactively managing natural resources. Over the last seven years, the MN Program has established a highly motivated workforce of 336 volunteers, or Certified Master Naturalists, that are actively contributing to at-risk species conservation, restoring native habitats, preventing degradation of waterways, and improving waste management. Their impact has been substantial. Master Naturalists have contributed 40,148 hours to conservation action on over 2800 projects in Nebraska which translates to a value of \$945,886 in salary savings to natural resource agencies and organizations. The Master Naturalist Program's positive reputation and workforce is growing and Master Naturalist volunteers are experiencing increasing requests for their service. Currently the demand for volunteer services far exceeds current volunteer capacity. The goals of this proposal are to increase number of new certified master naturalists by 90 over the next three years; support the established Master Naturalist Community through continuing education on advanced topics; empower local, coalesced workforces to conserve Nebraska's natural resources by providing at least 7,500 hours of volunteer service that support at least 20 conservation organizations or agencies, and reach over 15,000 individuals by informing and educating citizens about natural resource conservation; and increase program sustainability. THIS PROJECT WAS FUNDED \$68,560 IN 2017 WITH THE INTENT TO FUND UP TO \$68,073 IN YEAR TWO PENDING AVAILABLE FUNDS AND SATISFACTORY PROGRESS. THIS IS THE SECOND YEAR REQUEST.

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**Sponsor Name:** Board of Regents, University of Nebraska **Nearest Town:** North Platte  
**Project Name:** UNL-Testing Ag Performance Solutions (UNL-TAPS) **Project No:** 18-183  
**Amount Requested:** \$373,553 **Term of Project Request:** 3 **Review Group:** Education

A Nebraska Extension program titled "University of Nebraska Lincoln – Testing Ag Performance Solutions" (UNL-TAPS, [www.TAPS.unl.edu](http://www.TAPS.unl.edu)) was developed by Daran Rudnick, Matt Stockton, Chuck Burr, and Rodrigo Werle in partnership with the Nebraska Water Balance Alliance (NEWBA). This unique program was developed in the fall of 2016 to enhance the engagement of agricultural producers at a high level, including resource use efficiency and profitability, by providing a common platform for peer-to-peer learning with participation by University scientists and industry personnel. The program hosts an annual farm management competition, where producers and UNL scientists compete against each other for: 1) most profitable farm, 2) highest input (water and nitrogen) use efficiency, and 3) greatest grain yield. Through the competition, producers are introduced to and are able to use new and developing technologies, tools, methods and other resources without exposing their whole operation to unknown results. This program provides a touch stone where ideas and people can observe and use new ideas, test conventional wisdom, and discover better ways to do business in an environment of friendly competition. Funding is requested to expand the UNL-TAPS program to various crops, management decisions, and locations as identified by Nebraska growers to aid in their efforts to identify appropriate strategies to address modern day challenges.

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**Sponsor Name:** Board of Regents, University of Nebraska **Nearest Town:** Statewide  
**Project Name:** Field to Market - Nebraska Field Sustainability Assessment **Project No:** 16-187-3  
**Amount Requested:** \$15,510 **Term of Project Request:** 3 **Review Group:** Statement of Intent

National Ag Statistics Service lists Nebraska farms accounting for 91% of Nebraska's land with farms covering 43.2 million acres. With such a large amount of land controlled by farmers the sustainability on these acres is critical to overall sustainability. A first step toward a more sustainable agriculture sector is to quantify the sustainability of the supply chain. A diverse group of 80 private and public stakeholders have cooperated to develop the Field to Market sustainability initiative for commodity crop production including a tool to aid in quantifying sustainability from crop fields. From this effort came the Fieldprint calculator tool. We want to work with farmers to use the tool with a goal of increased sustainability. We will use the tool with farmers, individually and in groups. The tool will enable farmers to quantify and visualize the sustainability of their fields. The Fieldprint Calculator assesses sustainability in the areas of land use, conservation, soil carbon, irrigation water use, water quality, energy use, and greenhouse gas emissions. We will use this information to help farmers enact change in farming practices which reduce inputs and increase sustainability. The tool enables farmers to compare their sustainability metrics with peers using local, state and national averages. Farmers have noted value in completing this tool as a way to visualize the abstract idea of sustainability. This grant will provide funding for three undergraduate interns (one per year for three years) who will work directly with producers in data acquisition and then follow through with data processing and communication of results. The results will be presented to farmers at a one day workshop as well as in personal communication. Our previous work with the Fieldprint Calculator has provided excellent results with 45-85% of participating farmers planning to change their practices in the areas assessed to improve sustainability. THIS PROJECT WAS FUNDED \$15,587 IN 2016 WITH THE INTENT TO FUND UP TO \$15,185 IN YEAR TWO AND \$15,510 IN YEAR THREE PENDING AVAILABLE FUNDS AND SATISFACTORY PROGRESS. THIS IS THE THIRD YEAR REQUEST.

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**Sponsor Name:** Board of Regents, University of Nebraska **Nearest Town:** Lincoln  
**Project Name:** Enhancing Soil Ecosystem Services with Cover Crops **Project No:** 16-189-3  
**Amount Requested:** \$84,825 **Term of Project Request:** 3 **Review Group:** Statement of Intent

Enhancing soil ecosystem services is becoming more important than before to meet the increasing demands for food, feed, fiber, and fuel production. One of the strategies to enhance such services could be the use of cover crops. Yet, the potential multi-functionality of cover crops under different cropping systems and soil types, particularly in Nebraska has not been widely studied. Thus, the objectives of this project are to quantify soil ecosystem services of cover crops and determine whether or not cover crops ameliorate negative effects of crop residue removal for livestock or biofuel on soil services in rainfed and irrigated croplands in Nebraska. We will conduct this project at two UNL research sites and one farmer's field in eastern, southeastern, and south central Nebraska. Two sites are rainfed and one is sprinkler irrigated. Treatments at the research sites include 5 corn residue removal rates (0, 25, 50, 75, and 100%) and three rye cover crop treatments (control, early and late termination dates) under no-till continuous corn. The treatments at the on-farm site are control and winter rye, oats, radish, and turnip cover crops under no-till corn-soybean-winter wheat rotation. We will measure wind and water erosion potential, water quality parameters, compaction, soil structural quality, hydraulic properties, soil temperature, soil biological and chemical quality and fertility, gas fluxes, soil carbon sequestration, cover crop biomass, and crop yields. We will also analyze economics of cover crop use. This project will contribute to a better understanding of cover crop benefits on soil ecosystem services in both rainfed and irrigated systems in Nebraska. It will benefit farmers, livestock producers, researchers, environmental agencies, and others because it has agronomic, environmental, social, and economic implications. We will also monitor and evaluate the impacts of the project and disseminate results through conferences, field days, extension publications, and journal articles. THIS PROJECT WAS FUNDED \$84,607 IN 2016 WITH THE INTENT TO FUND UP TO \$83,039 IN YEAR TWO AND \$84,825 IN YEAR THREE PENDING AVAILABLE FUNDS AND SATISFACTORY PROGRESS. THIS IS THE THIRD YEAR REQUEST.

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**Sponsor Name:** Board of Regents, University of Nebraska **Nearest Town:** Statewide  
**Project Name:** Know Your Well: A Program for Agricultural Education and FFA Students **Project No:** 16-190-3  
**Amount Requested:** \$137,216 **Term of Project Request:** 3 **Review Group:** Statement of Intent

“Know Your Well” is a program designed for assessing the quality of drinking water derived from rural domestic wells. We propose a “crowd sourced” study utilizing this program, in which four high school Agricultural Education programs and FFA (previously known as Future Farmers of America) chapters will be selected to conduct a water sampling program for rural domestic wells in the first year and covering all 12 districts (16 schools in total) during the three years of the project. Each of the chapters will be given a test kit for measuring water parameters and will be trained on how to use them. The students and teachers also will be trained on collecting information about the well and various anthropogenic parameters that might influence the quality of water from those wells. Some of these parameters include type of well, status of the seal of well at land surface, topographic position of the well, distance of the well from cropland, types of crops grown and chemicals applied, and presence of animals within the property, etc. A customized mobile app will be developed for ease of data entry and visualization. The information will be stored and analyzed at a University of Nebraska-Lincoln (UNL) secure server. The collected water samples will be analyzed for Nebraska specific pesticides, nitrate and coliform bacteria by faculty and staff at UNL collaborating laboratories. The researchers will analyze the gathered data and the well testing results to determine parameters that seem to have most effects on well water quality. Annual workshops will be conducted at UNL to provide FFA students and teachers with feedback, updates, interaction with UNL faculty and staff, and project results. Once the project is finalized, the potential application of the method to other school districts with verification sampling will be explored in the next phase. THIS PROJECT WAS FUNDED \$127,546 IN 2016 WITH THE INTENT TO FUND UP TO \$134,118 IN YEAR TWO AND \$137,216 IN YEAR THREE PENDING AVAILABLE FUNDS AND SATISFACTORY PROGRESS. THIS IS THE THIRD YEAR REQUEST.

**Sponsor Name:** Board of Regents, University of Nebraska **Nearest Town:** Statewide  
**Project Name:** Integrating the vadose zone for improved management of Nebraska’s ground water quality **Project No:** 16-200-3  
**Amount Requested:** \$107,414 **Term of Project Request:** 3 **Review Group:** Statement of Intent

In Nebraska, most of the rural population on farms, cities and towns, rely on ground water for drinking. Unfortunately, nitrate concentrations in ground water in many parts of the state are rising. In addition to nitrate, some pesticides and even uranium and other metals may be found to be increasing across the state. While the state and local agencies have conducted regular ground water monitoring, very little work has been done to characterize the vadose (unsaturated) zone. The vadose zone acts like a “skin” of the earth, regulating recharge and chemical movement. Contaminants present in the vadose zone may eventually appear in the underlying aquifers. If found in public water supplies, a utility must either treat the water or find an alternative supply should these contaminants exceed the maximum contaminant levels. While there have been ad hoc approaches to characterize nitrate in shallow soils and even in deeper vadose zone, little has been done to coordinate contaminants occurrence and movement in the vadose zone, which can be hundreds of feet thick. We propose here an integrated and on-line program using GIS mapping and database of quality assessed data from past and ongoing studies of Nebraska’s vadose zone. This publicly assessed database will be used by numerous state and local entities for decision making and preparation for future changes in water quality. The quality assessed data will contain chemical and hydraulic properties of the cores taken from the vadose zone. Linkages to existing databases, such as the quality-assessed agricultural chemical database, will permit water managers and others to make correlations with occurrence with what is present in the vadose zone. We have leveraged resources from various entities and the NET funding help put individual efforts to a robust product for wide use in Nebraska. THIS PROJECT WAS FUNDED \$146,000 IN 2016 WITH THE INTENT TO FUND UP TO \$130,213 IN YEAR TWO AND \$107,414 IN YEAR THREE PENDING AVAILABLE FUNDS AND SATISFACTORY PROGRESS. THIS IS THE THIRD YEAR REQUEST.

**Sponsor Name:** Board of Regents, University of Nebraska **Nearest Town:** Omaha  
**Project Name:** Improving Air Quality and Health in Omaha with Better Automotive Repair Cleaners **Project No:** 18-106  
**Amount Requested:** \$15,000 **Term of Project Request:** 1 **Review Group:** Air Quality

Automotive repair shops use brake cleaners that contain high amounts of volatile organic compounds (VOCs) which contribute to ground-level ozone (smog) and high amounts of Hazardous Air Pollutants (HAPs), which are deleterious to health and habitat, especially for the workers that are exposed daily to these chemicals and the habitat near the shops. Safer, affordable, brake cleaners that work are available. Automotive mechanics may not be aware of the hazards of current products they use, nor aware of alternatives. This project replicates work done by the University of Minnesota's Technical Assistance Program (MnTAP) in Duluth and Minneapolis. It utilizes the extensive chemical analysis conducted by MnTAP to determine safer brake cleaners available from auto parts stores. It will also replicate their successful methodology of achieving behavior change. The project will be delivered to automotive repair shops in Douglas and Sarpy counties, where ground-level ozone is a concern. It provides education and technical assistance to small businesses that otherwise may be unaware of choices available to them for a safer, healthier workplace and environment. It connects the dots of chemicals used to health and the environment, including air quality and habitat. The reduction in VOC and HAPs that result from shops changing to safer cleaners will be measured and reported.

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**Sponsor Name:** Board of Regents, University of Nebraska **Nearest Town:** Lincoln  
**Project Name:** Increasing Awareness of Soil Health Improvement Resulting from No-Till Practices **Project No:** 18-115  
**Amount Requested:** \$177,727 **Term of Project Request:** 3 **Review Group:** Soil Management

Soil health is important to farmers, the environment and society. A healthy soil is critical for maintaining productivity, regulating and partitioning of water and solute flow, filtering and buffering against pollutants, and storing and cycling nutrients. Although farmers are aware of the general benefits of no-till, many do not know whether their current tillage practices are maintaining, enhancing or degrading soil health. The aim of this project is to increase awareness of soil health improvement from implementing no-till practices through monitoring procedures that involve farmers' participation. The project proposes to involve 80 no-till farmer cooperators in conducting a regular soil tests to assess current soil health conditions, record changes in soil health, record crop yield, and compare fields and management practices. The results will be used in outreach programs to provide data driven information that will increase awareness of soil health improvement from implementing no till practices. We will use the NRCS soil quality test kit to assess the soil health status. The project results will be analyzed to track changes of soil health parameters over time, compare soils under different years of continuous no-till practice, and demonstrate the effects of no-till practices on soil health. The results will be disseminated through several outlets including scientific manuscripts, education and outreach publications, and presentations at local, state, and professional national meetings. The project objective is aligned with the Nebraska Environmental Trust mission to improve environment through responsible stewardship of the natural resources.

**Sponsor Name:** Board of Regents, University of Nebraska **Nearest Town:** Lincoln  
**Project Name:** Connecting low-impact wastewater treatment to soil fertility management - rethinking application of biochar **Project No:** 18-170  
**Amount Requested:** \$179,309 **Term of Project Request:** 3 **Review Group:** Soil Management

Food, energy and water (FEW) are prerequisites for human lives. Growing population, climate change and shortage of arable land are placing significant stress on the critical resources of FEW. To address this issue, synergizing environmental sustainability to agriculture practice can be a solution. Hereby, we are proposing to use biochar-based microbial fuel cells (MFCs) as the platform technology to treat household wastewater and to recover bioelectricity and nutrient compounds simultaneously. To be more specific, organics in wastewater can be degraded in MFCs with recovery of bioelectricity and nutrient compounds (e.g. N, P), which can be reused as sustainable soil conditioners via land-application of biochar.

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**Sponsor Name:** Board of Regents, University of Nebraska **Nearest Town:** Lincoln  
**Project Name:** Protecting the terns and plovers of Nebraska and mentoring the next generation of conservationists **Project No:** 18-158  
**Amount Requested:** \$83,183 **Term of Project Request:** 3 **Review Group:** Education

Species protection and habitat management for ESA-threatened Piping Plovers (*Charadrius melodus*) and ESA-endangered Interior Least Terns (*Sternula antillarum athalassos*) must often be done in areas used by people for jobs, housing, and recreation. Balancing the competing needs of people and these legally protected species is a difficult challenge that all too often results in conflicts between private citizens, property owners, industry, and birds. Bridging the gap between birds and people by engaging all concerned parties is what the Tern and Plover Conservation Partnership (TPCP) does best. We work with terns, plovers, and people at sand and gravel mines, lakeshore housing developments, and dredging operations along the lower Platte, Loup, and Elkhorn rivers and cooperate with organizations working elsewhere in the state. The work of the TPCP is critical—the persistence, recovery, and eventual delisting of these birds depends on the reproductive output of birds nesting at mines and housing developments along the lower Platte River. The work of the TPCP depends on a small, dedicated team of experienced biologists and student interns implementing our protection and monitoring efforts. The TPCP is uniquely positioned to immerse students in the conservation situations they will experience in their careers and teach them how to bridge the divide between legally protected species and people. The continued presence and efforts of the TPCP will help ensure the survival of these two remarkable species and the success of the people who share the landscape with them. The TPCP is a valuable member of the conservation community; there is a continuing need for the presence of the TPCP in protecting people, terns, plovers, and their habitats, as well as in training the next generation of conservation professionals. We are asking NET to help us continue our work by supporting our student interns for three years.

**Sponsor Name:** Board of Regents, University of Nebraska **Nearest Town:** Lincoln  
**Project Name:** Improving Natural Resources Through Invasive Species Outreach & Management **Project No:** 18-162  
**Amount Requested:** \$129,073 **Term of Project Request:** 3 **Review Group:** Education

Invasive species are a current and growing threat to Nebraska’s natural resources and economy, and have widespread impacts. The proposed program will target Eastern redcedar (ERC) and other invasive species of concern to the Nebraska Invasive Species Advisory Council. The proposed program will be instituted by the Nebraska Invasive Species Program, a grant funded program that is a partnership of state and federal resource agency partners. This program will: 1) Decrease the risk of invasive species introduction by targeted messaging, training and outreach across multiple user groups, 2) Evaluate landowner management of ERC across the state, 3) Conduct a minimum of 3 ERC landowner management workshops and outreach and 4) Increase local and regional collaboration in the prevention and control of invasive species. Deliverables include interpretive displays, printed materials, attendance and presentations at state and regional meetings, booths at events, new content on the program’s website, landowner surveys on ERC management efforts and a minimum of 3 ERC land manager workshops in various locations of the state. This program will increase momentum towards preventing the spread of invasive species into and across Nebraska. We are initiating a multi-institutional program that will, in the long run, save millions of dollars and help to preserve Nebraska’s natural resources. The program goals engage the Trust Board funding category on habitat, and compliments the surface and ground water and soil management categories. The Nebraska Game and Parks Commission has provided funding for the Nebraska Invasive Species Program, which includes match for this proposal. The University of Nebraska-Lincoln will provide funds via a waiver of indirect costs (32.5%). Additional funds have been provided to the University of Nebraska - Lincoln to help manage ERC in the state; these funds will leverage the activities described in this proposal.

**Sponsor Name:** Board of Regents, University of Nebraska **Nearest Town:** Lincoln  
**Project Name:** A Low-cost Biological Odor Treatment Using an Adsorption/ Desorption Concentrator Unit for Reducing Sulfur Emission in Nebraska **Project No:** 18-160  
**Amount Requested:** \$220,979 **Term of Project Request:** 3 **Review Group:** Air Quality

To help ensure the public welfare of Nebraskans, the state has an ambient air quality standard for total reduced sulfur (TRS), which consists primarily of hydrogen sulfide (H2S). Records of TRS monitoring show ambient concentrations up to 90% of the standard in Nebraska. This application proposes the design and testing of an economical odor treatment system that will contribute to lower ambient H2S and other gas phase pollutants within the state. The novelty of this project is in the concentrator, which has the potential for new patents and broad implementation. Using adsorption/desorption processes, concentrated H2S will result in a smaller reactor volume for a reduced direct and operational costs in a bio-trickling filter (BTF). Tripling the H2S concentration will result in about 40% of the biological treatment price tag. The project is divided into a series of laboratory experiments to develop the concentrator and field demonstrations at a food composting facility to test efficacy. The laboratory experiments will examine the cyclic adsorption and desorption rates of H2S by evaluating raw zeolite and activated carbon manufactured from bituminous and coconut sources in granular, powder, and fibrous forms. Regeneration of H2S will be tested by water and air; water will be introduced at different temperatures, pHs, and flowrates. Similarly, air will be introduced at different temperatures, airflow rate and moisture contents. Laboratory results will be used to develop and optimize the innovative concentrator. H2S will be introduced to a BTF at a much higher concentration. The concentrator will consist of three-adsorption-beds for (1) adsorbing the contaminant, (2) desorbing the loaded bed, and (3) drying the adsorbing bed. Field demonstration will take place at the food composting facility of Prairieland Dairy Farm, which will be examined against the concentrator performance. Partial flow will be drawn into the concentrator system followed by a BTF.

**Sponsor Name:** Board of Regents, University of Nebraska **Nearest Town:** Omaha  
**Project Name:** Reduction of Landfill Gas Emission through an Interim Cover with Co-Extruded EVOH Geomembrane in Nebraska Landfills **Project No:** 18-166  
**Amount Requested:** \$311,965 **Term of Project Request:** 2 **Review Group:** Air Quality

Landfill gas (LFG) is not only the third largest source of Greenhouse gas in the US but also includes hazardous and strong odorous gas to often upset landfill neighbors, resulting in strained relationships with the community, regulatory actions, and, in some cases, costly litigation. As a solution, innovative co-extruded GMs with an Ethylene Vinyl-alcohol (EVOH) layer sandwiched between two polyethylene (PE) layers have been introduced to reduce the flux of organic contaminants in barrier systems. However, there are still latent and critical issues such as the applicability and validation of the effectiveness of using co-extruded EVOH GM for an interim cover at the field site and the impact related to multiple stakeholders and regional community. Therefore, the proposed project has the following four objectives:(1) Evaluate field emission of LFG from composite interim cover constructed with typical cover soils and co-extruded (EVOH) geomembrane (GM) in operating landfills in Nebraska. (2) Compare the relative release rates of LFG including major greenhouse gases [i.e., methane (CH<sub>4</sub>) and carbon dioxide (CO<sub>2</sub>)] and odoriferous gas [i.e., hydrogen sulfite (H<sub>2</sub>S)] through composite interim cover profiles constructed with co-extruded EVOH GM against the release rates of cover profiles constructed with conventional polyethylene (PE) GMs. (3) Conduct gas transport modeling to provide realistic predictions of reduced emission of LFG from interim cover in practical conditions.(4) Enhance community engagement in the project process and assess the impact of the proposed approach in the community context. At the completion of the project, the effectiveness of installation of interim covers with the co-extruded EVOH GM will be assessed based on the measure of LFG emissions. The feasibility of applying the EVOH GM as an interim cover in the landfill to reduce LFG in Nebraska will be evaluated. The community engagement will be integrated into landfill site management.

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**Sponsor Name:** Board of Regents, University of Nebraska **Nearest Town:** North Platte  
**Project Name:** Improving the Cedar Canyon Demonstration Forest: Water, Soil and Habitat **Project No:** 18-173  
**Amount Requested:** \$103,283 **Term of Project Request:** 3 **Review Group:** Rural Habitat

Cedar Canyon Demonstration Forest was established for the purposes of improving soil conservation, rangeland, timberland, fish and wildlife habitat, maintenance of natural plant species and ecology of the area, and aesthetics. This project seeks to 1) improve the land, soil and water management at the site by conducting a subsurface investigation in and around the property to better understand the local hydrogeology, 2) install a solar stock well to improve water supply and limit livestock traffic on steep slopes, 3) build a wind and fire model to better manage woodland and pasture acreage, and 4) collect temporally robust water data to better understand seasonal variations in groundwater in the region. The information learned from the hydrogeology will be used to design and install a solar well in an optimal location to augment water supplies and limit disturbance and erosion of soils on the steep slopes of the canyon land. All work will be used to help ensure the efficient use of water in locations optimized to best management practices of multi-use forests and grazing lands in western Nebraska. The information learned will also provide valuable insight into the temporal relationship between groundwater discharging to the Platte and Republican River watersheds in a reach that is not well understood. The results of this study will be promoted through publications at Conservation and Survey Division through the Maps and More publications outlet, as well as on the Nebraska Forest Service webpage, and to further inform and educate local stakeholders by holding public workshops at the site.

**Sponsor Name:** Board of Regents, University of Nebraska **Nearest Town:** Lincoln  
**Project Name:** Improving Water quality and Fish Health in the Platte River and Tributaries **Project No:** 18-176  
**Amount Requested:** \$442,781 **Term of Project Request:** 3 **Review Group:** Water

This project is designed to understand the impact of biological and physical factors on water quality in the Platte River and its tributaries. We believe, pollutants including antimicrobial compounds entering the Platte River are influencing water quality and fish health. Microbes found in the Platte River and in the gut of fish acts as biological filters removing most of the toxic compounds found in the river similar to how a wastewater treatment facility cleans the water. It is possible that the antimicrobial compounds entering the Platte River increases the antibiotic resistant microbial population within the Platte River basin. This change likely leads to a decreased biological filtering capacity and increase levels of toxic compounds in the water leading to poor water quality and poor living conditions to the fish. Especially concerning is the idea that the compositional changes in the microbiota in the river and fish gut can lead to negative effects on fish health and reproduction, including the endangered fish species. With no such study being performed to evaluate the impact of antimicrobial contaminants and microbial communities and its impact on water quality on the Platte River biological filters (the microbes), we believe a knowledge gap exists that could help inform the current "Platte River Recovery Program" planning process to develop new strategies to increase water quality and fish health. Therefore, the goal of this project is to identify biological factors that influence water quality including microbial populations and the antibiotic genes in the Platte River and its tributaries.

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**Sponsor Name:** Board of Regents, University of Nebraska **Nearest Town:** Lincoln  
**Project Name:** Home as Habitat: Transforming Community Landscapes thru pollinator-friendly planting **Project No:** 18-177  
**Amount Requested:** \$379,419 **Term of Project Request:** 2 **Review Group:** Urban Habitat

Home as Habitat is a two-year initiative with the primary goal of increasing the diversity and abundance of insect pollinators in Nebraska communities. The ecological health of community landscapes will be improved via greater use of native plants, promotion and planting of pollinator-friendly habitat, promotion of sustainable management techniques, and through extensive outreach and education. Specific objectives include:

- The planning and implementation of up to 50 publicly-accessible pollinator-friendly landscape projects in partner communities at schools, parks, fairgrounds, and other public places.
- Development and distribution of plants through an innovative Bloom Box approach.
- Raising public awareness about the benefits of biodiverse and ecologically healthy community green spaces including the importance of pollinators and sound resource management practices.
- Partnering with schools, individuals, and organizations across the state in pollinator conservation activities.
- Implementation of projects in at least 20 communities. All partner communities will achieve designation as "Greener Nebraska Towns" requiring ongoing outreach and activities related to ecologically-sound community greening.
- Evaluation activities will gauge effectiveness of the work and to inform others about how best to conduct future endeavors.
- Research on education/outreach strategies for engaging communities in native habitat plantings and the effectiveness of habitats on pollinator diversity and abundance.

Measured outcomes:

- 20+ partner communities will be involved and over 8,000 of people of all ages will be reached via education and outreach efforts.
- Educational materials, including new websites, videos, and educational publications will be created.
- Pollinator-oriented education and outreach partnership will be established with at least 20 key nurseries and landscape professionals across the state.
- Up to 50 demonstration landscape projects implemented, utilizing thousands of native, pollinator-friendly plants.
- Strategies will be identified to improve the effectiveness of pollinator habitats to promote pollinator diversity and abundance.
- 100 volunteers will be identified, trained and utilized to help with local outreach and implementation.

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**Sponsor Name:** Board of Regents, University of Nebraska **Nearest Town:** Lincoln  
**Project Name:** Natural Legacy Exhibits and Virtual Field Trip Outreach for Morrill Hall, Trailside, and Ashfall **Project No:** 16-114-3  
**Amount Requested:** \$175,000 **Term of Project Request:** 3 **Review Group:** Statement of Intent

The University of Nebraska-Lincoln requests \$425,000 to complete the \$11.4 million “Cherish Nebraska” project to redevelop the fourth floor of the University of Nebraska State Museum (UNSM)’s historic Morrill Hall. Funding is requested for the “Nebraska Natural Legacy Project (NNLP): Ecoregions and Biodiversity” exhibits which – coupled with other new science education galleries featuring weather and climate, water and soils, parasitology, and paleontology – will use state-of-the-art interactive exhibit technology and visualizations to engage visitors in understanding Nebraska’s habitats, Biologically Unique Landscapes, and biodiversity through time. An additional \$574,000 is requested for related educational programming, including installation of new connectivity to link the UNSM’s branch museums at Ashfall and Trailside to Morrill Hall and to schools via the Network Nebraska-Education telecommunications network. The sites will serve as platforms for live two-way videoconferencing for Virtual Field Trips (VFTs) linking UNSM’s attractions and research collections to schools across Nebraska, and fiber optic connectivity at Ashfall will make possible streaming video feeds showing fossil excavation in real time. VFTs from the UNSM’s three locations will be offered on a fee basis through the Center for Interactive Learning and Collaboration, through which schools and providers worldwide can post and request distance learning content – further expanding educational audiences for Nebraska’s unique, world-class natural history attractions. Because the NNLP, Platte Basin Timelapse Project, and Cedar Point Biological Field Station will feature prominently in the Cherish Nebraska exhibits, this proposal offers an unprecedented opportunity to showcase products of previous Trust-funded projects in public museum exhibits designed to be of Smithsonian quality, and to have them incorporated in VFTs aligned with state education standards. The expected outcome is that by helping visitors appreciate our remarkable inheritance of ecosystems and biodiversity, we expect to encourage habitat stewardship today to ensure this legacy can be passed to the care of future generations. THIS PROJECT WAS FUNDED \$233,000 IN 2016 WITH THE INTENT TO FUND UP TO \$591,000 IN YEAR TWO AND \$175,000 IN YEAR THREE PENDING AVAILABLE FUNDS AND SATISFACTORY PROGRESS. THIS IS THE THIRD YEAR REQUEST.

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**Sponsor Name:** Board of Regents, University of Nebraska **Nearest Town:** Grand Island  
**Project Name:** Planning an Interactive Educational Experience at the Nexus of Conservation and Food Production **Project No:** 18-165  
**Amount Requested:** \$163,500 **Term of Project Request:** 1 **Review Group:** Education

The University of Nebraska-Lincoln’s Nebraska Extension, in collaboration with Nebraska Game and Parks, propose a one-year planning project to develop a detailed master plan for installing a new interactive exhibit that connects two existing outdoor learning experiences on the Nebraska State Fairgrounds: Nebraska Extension’s Raising Nebraska and Nebraska Game and Parks’ Outdoor Encounter Exhibit. The team will also develop detailed plans for implementing wrap-around educational programming that will bring the learning experiences of the exhibit to youth and adult audiences throughout Nebraska. The proposed exhibit (i.e., the Nebraska Ecosystem Services Corridor) and educational programming will be designed to educate Nebraska audiences about the interrelatedness of food production – a major contributor to Nebraska’s economy and way of life – and natural resources conservation, as well as how they can make decisions in their own lives that contribute to high-integrity ecosystems and environmental stewardship. Given the complexity of these topics, a range of expertise around the topics of food production and natural resource conservation is needed to ensure that the exhibit and educational programming result in impactful learning and behavioral outcomes for Nebraskans. This planning project will bring together such expertise to develop a robust and detailed plan for bringing the exhibit and educational programming to fruition. The project will follow a systematic and iterative process for refining the overall project framework, establishing key learning and behavioral outcomes for audiences, selecting and designing content for both the exhibit and the educational programming, planning the construction and installation of the exhibit, and developing an implementation plan for reaching diverse Nebraskan audiences with educational programming. The process will involve regular planning meetings of the project team, who bring distinct and complementary content knowledge expertise; input from relevant stakeholders (including a formal Advisory Committee); and consultation with exhibit development specialists and vendors.

**Sponsor Name:** Board of Regents, University of Nebraska **Nearest Town:** Lincoln  
**Project Name:** Biocidal Treatment Module for Reverse Osmosis Membrane **Project No:** 18-178  
**Amount Requested:** \$80,882 **Term of Project Request:** 1 **Review Group:** Water

We present our broadly applicable and preventive method for sustaining the clean water supply in Nebraska through imparting anti-biofouling properties to the RO modules. This method, which utilizes biocidal copper coatings, is safe and cheap, and the proposed work can be used for plant-scale, communities, and other RO units. Our simple, nano-technologically-enabled surface treatment method can have a long-lasting benefit statewide—with no negative environmental impact and in line with the safe drinking water act—thus improving the quality of the potable water in Nebraska. Considering this unique need; the opportunity for the deployment of our low-cost, effective, and easy-to-operate process; and the broad societal impact of our work—financially, environmentally; and health-wise—we propose to integrate our cleaning module with the currently installed RO modules. It is conceivable that the success of this project will lead to the development of a process with dramatically reduced energy, maintenance, and monitoring costs for the newly constructed water purification facilities in Nebraska and elsewhere.

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**Sponsor Name:** Board of Regents, University of Nebraska **Nearest Town:** Lincoln  
**Project Name:** Assessment of CO2 storage resources in the Nebraska Panhandle in order to improve air quality **Project No:** 18-169  
**Amount Requested:** \$217,257 **Term of Project Request:** 2 **Review Group:** Air Quality

Carbon capture and storage (CCS) enables industry to continue to operate whilst emitting fewer greenhouse gases, making it a powerful tool for mitigating anthropogenic CO2 in the atmosphere. In agreement with the Paris climate accord, major countries in the world, including North America, Australia, and countries in Europe and Asia are attempting to expand their CCS programs to commercial scale. Accordingly, there is an urgent need in Nebraska to keep pace with these efforts. Our long-term goal is to develop effective strategies for promoting clean air techniques, including greenhouse gas reductions in the atmosphere, supported by our project objective to assess CO2 storage resources in the Nebraska Panhandle. Our central hypothesis is that the Nebraska Panhandle contains promising carbon storage resources in the form of saline formations and oil/gas reservoirs that are either exhausted or nearing the end of production. We propose to test our central hypothesis objectively by pursuing two aims: (1) identify the stratigraphic horizons and structures suitable for CCS in the Nebraska Panhandle (geologic investigation), and (2) determine petrophysical and mechanical properties of units deemed suitable for CCS in the Nebraska Panhandle (geomechanical investigation) to determine the CO2 storage capacity. This project will function as a stepping stone that can facilitate sustainable use of coal and natural gas, which will also help support continuous economic growth in Nebraska. Moreover, this project will support the sustainable operation of ethanol plants, fertilizers, and other agricultural processing in Nebraska. More importantly, this project supports the nation-wide efforts to address climate changes by encouraging the storage of captured CO2 in suitable underground formations. Therefore, society will benefit from this project because it aims to facilitate greenhouse gas reduction, which will lead to a better quality of life not only environmentally but also economically.

**Sponsor Name:** Board of Regents, University of Nebraska - Kearney      **Nearest Town:** Kearney  
**Project Name:** Initiating the Nebraska Conservation Apprenticeship Program (NE CAP)      **Project No:** 18-113  
**Amount Requested:** \$264,211      **Term of Project Request:** 2      **Review Group:** Education

Having tools to communicate with stakeholders is an important component of conservation work. Students are seeking ways to learn skills to creatively share information, such as through photography, writing, web design, and graphical art that add to their training in other fields like wildlife biology, natural resource management, and agricultural sciences. Our project aims to provide opportunities for college students and early-career professionals to practice communicating about habitat conservation and gain experience managing prairies and wetlands. We are starting the Nebraska Conservation Apprenticeship Program (NE CAP), a collaboration among universities, conservation partners, and landowners, with a mission to support research and communication about connections among natural resources. We seek support from the Nebraska Environmental Trust (NET) to formalize NE CAP in central Nebraska to provide training in communication tools and on-the-ground habitat management and research; strengthen relationships among students and the conservation community; and share outcomes of habitat management creatively and broadly. These foundational efforts include partnerships among the University of Nebraska at Kearney, the Platte Basin Timelapse Project and the University of Nebraska - Lincoln, The Nature Conservancy, Crane Trust, and U.S. Fish and Wildlife Service Rainwater Basin Wetland Management District. Projects will focus on central Nebraska spanning the Biologically Unique Landscapes of the Rainwater Basin, Central Platte River, Upper Loup Rivers and Tributaries, and Middle Niobrara River. Overall, we expect 20-30 students and young professionals will receive training and mentoring, directly contribute to habitat management activities, and create a variety of communication products (such as website content, art displays, articles, interpreted time-lapse sequences, and videos) to share publicly to inform and educate about native habitats, water resources, and their management.

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**Sponsor Name:** Board of Regents, University of Nebraska - Omaha      **Nearest Town:** Bennington  
**Project Name:** Glacier Creek Preserve: North Tract Initiative      **Project No:** 18-117  
**Amount Requested:** \$880,000      **Term of Project Request:** 2      **Review Group:** Rural Habitat

The Glacier Creek Preserve: North Tract Initiative is a request for \$ 880,000 (\$440,000 in each of 2018 and 2019) to purchase the remaining 101+ acres adjacent to Glacier Creek Preserve, a watershed and ecosystem-level education and research center for eastern Nebraska. This proposal is part of a broader project involving support from the Papio-Missouri River NRD, the University of Nebraska at Omaha, Creighton University, and the Audubon Society of Omaha. The North Tract contributes both long- and short-term benefits critical to maintaining a functioning ecosystem into the future, one that connects a metropolitan population to its rural heritage through education, research, and personal experience. Additional funding is being sought through (1) grants from the Peter Kiewit Foundation, with initial discussions indicating the proposal as a strong effort and (2) the USDA, ASEP-ALE easement program designed to protect farmland. A private donor will provide additional funds needed to complete the purchase. Principal long-term benefits of the North Tract include (1) protection of the sub-surface hydrology that maintains the Preserves creeks, springs, and seeps and the wildlife they support, (2) expansion of both the habitat diversity and the size of the preserve to meet the growing use of the preserve by a diversity of public and educational and other groups, organizations, and (3) providing a critical buffer to facilitate active management of the land, including prescribed burning and future cattle grazing. Additional benefits include connecting the preserve to historic wetlands and expansion of upland adjacent to that on which Native American artifacts were recently found. Less tangible benefits include improvement of water quality, reduced soil and flood control. This submission supplements NET's 2013 Grant (No. 14-140). Importantly, the acquisition of the North Tract variously meets all five of the NET's Feature Program criteria.

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**Sponsor Name:** Boy Scouts of America - Longs Peak Council      **Nearest Town:** Chadron  
**Project Name:** Chadron State Park Tree Plant      **Project No:** 16-163-3  
**Amount Requested:** \$15,000      **Term of Project Request:** 3      **Review Group:** Statement of Intent

The Boy Scouts of America, Longs Peak Council will provide the manpower and program to educate youth and volunteers in the replanting of trees to areas of Chadron State Park which sustained damage and loss to the trees due to a forest fire in the summer of 2012. Our goal is to plant 3000 trees each year for five years. We are looking at a better than expected turnout for this first year, so we are requesting funding for the remaining four years to meet our five year commitment. THIS PROJECT WAS FUNDED \$15,000 IN 2016 WITH THE INTENT TO FUND UP TO \$15,000 IN YEAR TWO AND \$15,000 IN YEAR THREE PENDING AVAILABLE FUNDS AND SATISFACTORY PROGRESS. THIS IS THE THIRD YEAR REQUEST.

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**Sponsor Name:** CAFÉ LLC      **Nearest Town:** Lincoln  
**Project Name:** DoCAV (Documentation of Clean Air Verification)      **Project No:** 18-111  
**Amount Requested:** \$495,000      **Term of Project Request:** 1      **Review Group:** Air Quality

The internal combustion engine has been an invention that revolutionized the world. Providing forces for development of power sources to move people and things throughout the planet. As we see today, those same engines have emissions that cause irreparable damage to those same people. This DoCAV (Documentation of Clean Air Verification) proposes to test and then retrofit engines in automobiles and trucks to reduce "dirty" emissions by 30%. Our proposal is to construct a building and install DYNomite Dynamometer equipment in order to test vehicles for emissions, then to retrofit those vehicles with alternate fuel systems, with an end result in "cleaner" emissions and a safer and cleaner environment.

**Sponsor Name:** Carson+Co Global **Nearest Town:** Lincoln  
**Project Name:** Hear Nebraska's Lincoln Calling Sustainability Initiative **Project No:** 18-206  
**Amount Requested:** \$57,380 **Term of Project Request:** 3 **Review Group:** Education

Lincoln Calling is committed to environmental sustainability. In partnership with Carson+Co Global and Lincoln Mayor Chris Beutler's Office, and with support from dozens of volunteers as well as venue collaboration, Lincoln Calling in 2016 captured 1.25 tons of recycled materials from venues over three days, as well as offered a special bus route to encourage mass transit. The initiative continues in 2017, with festival dates scheduled for September 28-30, 2017. Several additional activities beyond waste reduction and recycling have been added in 2017, including mobile hydration, pedicabs, sustainability educational installations, bike transportation. This year we will be incorporating more sustainability initiatives into the festival, specifically tackling two key areas: transportation and waste diversion. With the addition of the Night Market, we want to continue to provide attendees with a variety of sustainable options. Within transportation, we will offer another special bus route (provided by StarTran) that is adjusted to begin at the Night Market and ends at The Bay. This route will be in rotation every fifteen minutes and will also have live music. Other transportation options include free Pedicabs (provided by Pedal Pushers, sponsored by LES) and bike storage (provided by Bike UNL). For waste, we are proud to have recycling options (provided by the City of Lincoln's Solid Waste Management, sponsored by Carson+Co Global) at every venue covering single-stream recyclables as well as glass. In addition to recycling, we are placing mobile hydration units (provided by Springo, sponsored by The Nature Conservancy) in the Night Market to encourage attendees to bring water bottles and discourage the use of plastic water bottles. In addition to these sustainability initiatives, we will offer educational materials at our Night Market and workshops for attendees to learn how to lead a sustainable lifestyle.

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**Sponsor Name:** Conservation Blueprint LLC **Nearest Town:** St. Paul  
**Project Name:** Pollinator and Wildlife Fire Education **Project No:** 18-118  
**Amount Requested:** \$14,800 **Term of Project Request:** 2 **Review Group:** Education

The creation and distribution of Video Habitat Tips throughout the state is a project that began with NET support in 2014. The video series that were created and distributed produced a unique opportunity to inform the public, land managers, resource professionals and media outlets via social media, email distribution, press articles and websites. Each Video Habitat Tip is designed with a specific message that produced a significant positive impact in the management, understanding, promotion and establishment of pollinator and wildlife habitat in the state. This application seeks to continue and expand that process under a new partnership using the same Habitat Tip host, director and video production that has successfully been in place for several years. NET funding would be limited to the video production costs and equipment and the costs for Habitat Tip development, distribution, production, video equipment and travel would be covered by Conservation Blueprint, LLC. While NET funding support with a Private For-Profit business is not common, this project would support the continuation of a well-developed, highly successful and accepted series of educational tools that will be missed in the state if they are not continued. Video Habitat Tips will focus its message on the important topics of establishing and managing pollinator habitat, the safe and effective use of prescribed fire, available conservation programs, pollinator species profiles, etc. Understanding the importance of pollinator species and their habitat needs is increasingly important as more pollinator species are being considered for and designated as threatened and endangered species. Endangered species designations could produce ramifications that have significant impacts on agriculture and land management in the state. Providing more tools to help the public, land managers and resource professionals better understand and promote wildlife habitat will provide a key service to the wildlife, land, air and water of the state.

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**Sponsor Name:** Cook Grow Sew, LLC**Nearest Town:** Lincoln**Project Name:** Fostering Soil Health through Waste Diversion, Composting, Research, and Education**Project No:** 18-152**Amount Requested:** \$199,715**Term of Project Request:** 1**Review Group:** Waste Management

Diverse ecosystems, healthy plants and animals, enhanced water and air quality, and increased productivity are all indicative of healthy soil. Big Red Worms provides innovative solutions to foster soil health by managing organic waste streams and providing outreach and education for the youth in Nebraska. Big Red Worms is seeking funding to increase the composting capacity and diversion rates of organic materials from Nebraska landfills. Through partnerships with Lincoln Public Schools, various local businesses and corporations, Big Red Worms will increase its diversion rates of organic waste by 50 yards per month in 2018 to 100 yards per month, perform research and outreach about soil health and waste diversion with composting, and supply local agriculture with products to improve soil health. The organic waste material converted through composting and vermicomposting, is a tested and proven soil additive that will dramatically increase soil health. Returning this high quality compost to the soils will increase the organic matter, microbial activity, water holding capacity, reduce erosion and fertilizer needs. The funds from the Environmental Trust will be used to purchase key equipment for materials handling, supplies to increase access to organic hauling services, perform site improvements which will increase our composting capacity, marketing, and educational outreach for our community.

**Sponsor Name:** Countryside Community Church**Nearest Town:** Omaha**Project Name:** Bridging Faith and the Environment - church campus as a restored, biodiverse plains ecosystem**Project No:** 18-136**Amount Requested:** \$125,000**Term of Project Request:** 1**Review Group:** Education

Countryside Community Church is an identified environmental leader with members and church leaders engaged with such organizations as Interfaith Power and Light, the Citizens Climate Lobby, and EcoAmerica, where our Senior Minister sits on its Board of Advisors. Due to Countryside's involvement with Omaha's Tri-Faith site at 132rd & Pacific Streets, national environmental leaders see a unique opportunity in Omaha to make a strong statement to the world that environmental care is not just a political or economic issue, but a faith issue. Because of the widespread publicity of the Tri-Faith Initiative, both presently and which is expected well into the future, environmental leaders recognize that the environmental movement can leverage Countryside's environmental example with Tri-Faith publicity on behalf of the environment. From 1924 to 2010, the Tri-Faith site (Tri-Faith Commons) was part of an 18-hole golf course. Given that history, the site's existing condition does little to aid biodiversity, sustain ecological health, or improve water quality in this watershed. With an emphasis on connection of the three faiths and connection with creation, a landscaping master plan was developed to simultaneously unify the 35-acre site and invite all members of the public to take in its visual messaging, walk along its inviting paths, and learn about the elements included in its restored plains ecosystem. This project involves the implementation of a sustainable landscape plan on Countryside's portion of the Tri-Faith Commons. The plan includes water conservation, storm water management, native plants, and improved habitat and soil health. In addition, the project will educate and inform people about landscape stewardship, including members of the three Tri-Faith congregations, residents of greater Omaha community, and anyone who wants to visit from across the state and nation. We would prioritize funding for a portion of the plants and a portion of the signage, if limited.

**Sponsor Name:** C-Pap Easy Clean, LLC**Nearest Town:** Kearney**Project Name:** Water conservation in nursing homes**Project No:** 18-150**Amount Requested:** \$452,000**Term of Project Request:** 1**Review Group:** Water

C-Pap Easy Clean will provide ten UVC light cleaning devices to more than 200 nursing homes in Nebraska to conserve water an expected 6 million gallons of water and reduce waste by as much as 50,000 pounds per year. Utilizing this cleaning device instead of the traditional water cleaning method will reduce water usage by an estimated 1,095 gallons of water per breathing apparatus cleaned per year! The device will also minimize degradation of the breathing tubes and equipment, reducing landfill waste. More effective than using water, the device kills 99.9% of all germs and bacteria to reduce infections. More than 19 million American's require the use of a breathing device which takes an average of 3 gallons of water to clean each day. In each Nebraska nursing home, at least 25 people use breathing devices such as CPAP, Bi-Pap, or nebulizers. By using the UVC cleaning device instead of water, the water, sewer and waste savings will be substantial for Nebraska! By providing education along with efficient and innovative ways to effectively clean the devices at scale, millions of gallons of water could be conserved each year, landfill waste can be reduced, and staff time lessened, all while promoting better health.

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**Sponsor Name:** Craig, Village of**Nearest Town:** Craig**Project Name:** Old Craig School Demolition**Project No:** 18-174**Amount Requested:** \$15,000**Term of Project Request:** 1**Review Group:** Waste Management

We want to tear down the old Craig School, preserving the abutting school gym, and clean up the site before someone gets hurt. We want to do this in an environmentally and economically sound manner, but need extra help. We are applying under the Waste Management category for a Recognition Grant. Your money would help fund the final stage, which would be to clean out the basement, fill the hole, grade the area with dirt from the 2 acre site, then seed the area.

**Sponsor Name:** Ducks Unlimited, Inc. **Nearest Town:** Grand Island  
**Project Name:** Rainwater Basin Protected Land Restorations **Project No:** 18-195  
**Amount Requested:** \$68,242 **Term of Project Request:** 1 **Review Group:** Rural Habitat

Ducks Unlimited (DU) is requesting funding from the Nebraska Environmental Trust (NET) to restore wetland habitat on two Rainwater Basins (RWB) in Nebraska. Ducks Unlimited protects, restores, and manages wetlands and its associated habitats for the benefit of the public, waterfowl and other wetland dependent wildlife. Wetlands that lie within the RWB of Nebraska are some of the most critically endangered ecosystems located within the Central Flyway. Ducks Unlimited is committed to restoring RWB wetlands on the Kohtz and Godtel Tracts, owned by DU. These two basins are in desperate need of rehabilitation to restore wetland functions. Both tracts contain a large historic basin footprint that have lost their hydrologic functions due to sedimentation build up, encroachment of undesirable vegetation, and reuse pits, berms, and ditches impounding water. Restoration activities will address each of these sources of degradation and will include sedimentation removal, installation of culverts, vegetation control, and filling ditches and pits. Uplands adjacent to the wetlands will also be restored to a high diversity local ecotype native grassland. DU realizes the importance of partnerships to accomplish conservation goals within the Rainwater Basin. The Rainwater Basin Joint Venture is one of the leading conservation organization in the Rainwater Basin and are a partner on this project. Project components will address the conservation goals of DU, RWBJV, and NET to meet habitat restoration objectives of each organization. The proposed restoration efforts will restore the ecological and hydrologic function to these ephemeral wetlands to provide optimal habitat to migrating waterfowl, shorebirds, wading birds, resident game animals, and numerous rare and endangered species. In addition to the flora and fauna benefit, this project will provide benefits to the public by creating green space for the public to enjoy as well as providing flood abatement and improving surface and groundwater quality.

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**Sponsor Name:** Ducks Unlimited, Inc. **Nearest Town:** Melbeta  
**Project Name:** Melbeta Habitat Complex Expansion and Restoration **Project No:** 18-191  
**Amount Requested:** \$220,000 **Term of Project Request:** 1 **Review Group:** Rural Habitat

The Melbeta Habitat Complex Expansion and Restoration proposal represents the next phase in an on-going effort to restore and perpetually protect wetland habitat in a continentally important landscape. The North Platte River landscape is a priority area in all four major bird plans, North American Waterfowl Management Plan, U.S. Shorebird Conservation Plan, Partners in Flight bird plan and the North American Waterbird Conservation Plan. Additionally, the restoration work included in this proposal will address terrestrial communities of concern for the Nebraska Game and Parks Commission and the U.S. Fish and Wildlife Service. Through the actions undertaken with this proposal 85 acres of wetlands on two adjacent properties will be restored. Additionally, these properties will soon be protected with working lands conservation easements. The acquisition of the 390 acre Petko conservation easements is being shown as match in this proposal. This easement will protect 390 acres including, 206 acres of emergent marsh, 26 acres of riverine wetland, over 1.3 miles of North Platte River channels, and 158 acres of upland habitat. No NET funds will be used in securing conservation easements. Grant and partner funds will be used to restore degraded palustrine emergent marsh and riverine habitat, remove invasive tree species (Russian Olive and Salt Cedar), install water control structures/rock checks, and restore disturbed areas with a high diversity native grass and forb mixture. The wetlands to be restored are former backwater sloughs that have become disconnected from the river and have filled with sediment. The sediment will be excavated from the former wetlands, reconnecting the soil surface to the shallow water table. With the use of rock checks and excavation, hydrological function will be restored to these wetlands. This proposal is an opportunity to showcase how working with numerous landowners in close proximity can make a real landscape level impact.

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**Sponsor Name:** Ducks Unlimited, Inc. **Nearest Town:** Grand Island  
**Project Name:** Loup River Public Wetland Restoration II **Project No:** 18-189  
**Amount Requested:** \$110,456 **Term of Project Request:** 1 **Review Group:** Rural Habitat

This is a continuation of Ducks Unlimited, Inc. (DU) and Nebraska Game and Parks Commission (NGPC) working in the Loup River wetland ecosystem from last year's awarded NET proposal. The 5 projects from the previous grant are to be surveyed and designed the fall and winter with spring construction anticipated. The 3 projects in this proposal were left out of the previous proposal since their restorations were slightly more complex and needed additional planning by DU and NGPC. The Loup River is an underserved area of Nebraska as it pertains to wetland restoration for the benefit of wildlife, the public, and the environment. The Loup River watershed is a major tributary of the Platte River in central Nebraska, and the Loup and its tributaries, including the North, Middle, and South Loup rivers, comprise over 1,800 miles of streams draining approximately one-fifth of Nebraska. The Loup Rivers are a critical link between the Rainwater Basin, Platte River, and Sandhills of Nebraska, but the river wetlands have been altered and degraded resulting in wetland loss. The purpose of this proposal will be to restore and enhance roosting and foraging habitat along the backwaters of the Loup River for spring migrant bird species that depend on the resources available in the central Nebraska region each year on 3 state wildlife management areas (WMA) while also benefitting Tier 1 At-risk species. The restored wetlands will improve water quality, increase flood storage, and re-charge groundwater. The restoration techniques used to restore the ephemeral wetlands and remnant channels on these sites are proven and have achieved an instant increase in use by wildlife and the public along the Platte River. This proposal is matched at greater than 1:1 by DU and its partner, NGPC.

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**Sponsor Name:** Ducks Unlimited, Inc. **Nearest Town:** Melbeta  
**Project Name:** Alkali Wetland and Wet Meadow Protection and Restoration **Project No:** 18-190  
**Amount Requested:** \$130,000 **Term of Project Request:** 1 **Review Group:** Rural Habitat

Ducks Unlimited, Inc. protects, restores, and manages wetlands and its associated habitats for waterfowl and wetland dependent wildlife in North America. Given that over 97% of land in Nebraska is in private ownership, we must work with private landowners to achieve goals and benefit wildlife and the environment. The Lind property is a prime example of protecting and restoring habitat on private land for the benefit of all. This property is of special significance because it borders the DU and Platte River Basin Environments (PRBE) "Douglas and Allison Frey Wetlands" project near Bridgeport, Nebraska that was partially purchased using NET funding. Furthermore, it is within a mile of another property owned by DU. Creating this complex of restored and protected habitat is critical in providing waterbirds the needed resources to complete their annual cycle in perpetuity. This easement will protect public recreation on the DU and PRBE properties by not allowing development that could impact use of the public area. No Nebraska Environmental Trust (NET) funds will be used for acquiring a working lands conservation easement on the 175 acre Lind tract, but DU is requesting funding from NET to assist with the restoration of wetlands and wet meadow habitat located on the property. The proposed restoration project will increase the capacity of this property to provide wildlife habitat benefits with over 70 acres of emergent wetland habitat restored via installation of water control structures and small earthen embankments. Additional values of the project include increased water quality, groundwater recharge, and local economic benefits by improving recreational opportunities on adjacent lands open to the public. Providing quality habitat with less hunting pressure, provides refugia to keep birds in the area. This is an example of DU working with private landowner to benefit wildlife while providing recreational opportunities for the public.

**Sponsor Name:** Ducks Unlimited, Inc.**Nearest Town:** Grand Island**Project Name:** Restoring Protected Habitat on the Lower Platte River**Project No:** 18-192**Amount Requested:** \$39,678**Term of Project Request:** 1**Review Group:** Rural Habitat

The Lower Platte River provides unique habitat to a suite of flora and fauna, many of which are of conservation concern and are of continental importance to migratory birds. The shallow riverine wetlands and sandbars provide habitat to millions of shorebirds, waterfowl, and wading birds. However, extensive habitat loss has occurred along the Lower Platte River due to water diversions, flood control efforts, wetland drainage activities, extensive invasive species problems, and also due to on river gravel pits and residential developments. The Lower Platte River is a prime example of human's tendency to tame and alter native habitats, especially along water bodies. This project aims to provide habitat in one of the last undeveloped areas along the North Bend stretch of river. In 2015, a perpetual conservation easement was placed on the 168-acre property ensuring protection of our restoration investment on the property into the future. Prior to this proposal, the habitat has been improved via invasive timber removal by DU and the landowners, but sedimentation and hydrologic alteration over time have degraded the remnant backwater sloughs. DU, landowner, and Nebraska Environmental Trust funds would be used to restore historic wetlands on this property via excavation of remnant channels where timber removal has occurred allowing this project to sustain the vulnerable flora and fauna on a stretch of the Platte River under constant threat of development. The Dodge County refuge designated by the State of Nebraska covers the river frontage and island on this property providing safe harbor for migratory birds and wildlife viewing opportunities to the public in a densely populated area. In a landscape where wildlife habitat is continually becoming more fragmented and isolated, restoring degraded habitat is the best method for maintaining connectivity of habitat along the fauna rich Lower Platte River.

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**Sponsor Name:** Ericson Lake Corporation**Nearest Town:** Ericson**Project Name:** Jetty Rehabilitation and Extension**Project No:** 18-103**Amount Requested:** \$137,500**Term of Project Request:** 1**Review Group:** Lake Rehabilitation

The proposed jetty rehabilitation and extension project will consist of deepening the existing lake depths and using the excavated material to rehabilitate and extend the existing jetty structure. Among the project goals are to increase the existing lake depths to improve aquatic habitat values; enhance wading and migrating bird habitat; enhance reservoir fisheries with spawning and rearing habitat; increase native vegetation in disturbed areas; protect previously restored lake: inform and educate about habitats and nature. The key components of the proposed project include: (1) Excavating the south end of Lake Ericson to increase open water depths to a minimum of eight feet and a maximum of twelve feet to provide enhanced aquatic habitat including increasing fish spawning and rearing habitat; (2) Raising low sections and widen narrow sections for reinforcement of the existing jetty; (3) Building and reinforce a new approximately 1,000 foot long extension of the existing jetty to further protect previously restored lake depths and the herein proposed lake enhancements from river borne sediment and nutrients; (4) Using excavated sediment to augment bank stabilization efforts on the Cedar River; (5) Replanting native plant species (i.e. milkweed) on disturbed areas for pollinator, waterfowl and bird nesting, and terrestrial community benefits

**Sponsor Name:** Firstar Fiber Corporation / GreenFiber LLC **Nearest Town:** Omaha  
**Project Name:** Nebraskans Investing in Communities' Economies/Environmental Wellbeing **Project No:** 18-205  
(NICE2)  
**Amount Requested:** \$125,080 **Term of Project Request:** 1 **Review Group:** Waste Management

Firstar Fiber Corporation, in partnership with Green Fiber, LLC, is seeking funding support to develop a three-part training and coaching system using our extensive knowledge base, collective strengths and offerings as a large material recovery facility (MRF) processor and end market to improve the vitality of recycling within Nebraska's rural communities. Through our partnership proposal to the Nebraska Environmental Trust, we represent Nebraskans Investing in Communities' Economies/Environmental wellbeing, that is, the NICE2 training program. Community and rural recycling programs frequently report being faced with barriers that prevent their programs from being sustainable or ultimately successful. These barriers often include difficulty in establishing reliable end markets for the collected materials and maintaining economic feasibility. These programs are often driven by volunteers from outside of the waste management sector with limited industry experience. The proposed 3 part training program seeks to address these barriers by 1) Providing training designed to help communities broaden the knowledge and understanding of the industry, information sources and options that are available across a host of recycling topics, 2) provide one-on-one training and coaching, needs assessment and community engagement, and 3) provide support and delivery assistance to the communities based on the needs assessment including provision of reliable end markets and development of sustainable programs. The NICE2 program is designed to help communities recycling programs become more sustainable and economically feasible, create a cleaner environment and greater landfill diversion, support local jobs and economics, and reduce the direct disposal costs, and environmental and social costs associated with landfilling wastes.

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**Sponsor Name:** Five Rivers Resource Conservation and Development, Inc. **Nearest Town:** Tecumseh  
(RC&D)  
**Project Name:** Native Grassland Protection Against Invasive Weeds III **Project No:** 16-223-3  
**Amount Requested:** \$56,580 **Term of Project Request:** 3 **Review Group:** Statement of Intent

Native prairies are the most threatened ecosystem in North America. Losing native prairies, oak woodlands, and plant diversity is resulting in significant impacts to our valuable native wildlife habitat, soil quality, water quality, and economic sustainability. Today less than one percent of tall-grass prairie remains in the continental United States. Approximately two percent of Nebraska's tall-grass prairie remains mostly as remnants less than eighty acres in size. With the increase of invasive species present in the area, we see its negative impacts on these remaining landscapes and losses to our other grazing lands and native habitat. The lack of control reduces the production, profitability and sustainability of grasslands and causes economic hardships. This has resulted in some grasslands being converted to row crop production because of difficulties and costs of controlling invasive weeds. Invasive species are severely threatening the ecoregion's biological diversity. Smooth brome, Kentucky bluegrass, reed canary grass, purple loosestrife, Eurasian phragmites, Sericea lespedeza, garlic mustard, Caucasian bluestem, and other species have competitively excluded native plants and degraded habitat for fish and wildlife. The introduction of carp, zebra mussels, emerald ash borer, and other species have altered habitats and increased competition for native species. In the past three years, the WMA has assisted in combatting troublesome weed species on approximately 3,000 acres and educated over 300 landowners through workshops, conferences, and weed walks. The WMA continues to educate landowners and managers and continually receives inquiries along with new applicants seeking aid in controlling troublesome weed species. Extending the program for an additional three years will allow the WMA to continue providing additional educational workshops, conferences, and weed walks further educating the general public on the importance of protecting our native prairies. THIS PROJECT WAS FUNDED \$56,579 IN 2016 WITH THE INTENT TO FUND UP TO \$56,579 IN YEAR TWO AND \$56,580 IN YEAR THREE PENDING AVAILABLE FUNDS AND SATISFACTORY PROGRESS. THIS IS THE THIRD YEAR REQUEST.

**Sponsor Name:** Five Rivers Resource Conservation and Development, Inc. (RC&D) **Nearest Town:** Multiples  
**Project Name:** Southeast Nebraska Household Hazardous Waste Collections **Project No:** 16-222-3  
**Amount Requested:** \$54,446 **Term of Project Request:** 3 **Review Group:** Statement of Intent

According to the EPA, each person in the United States produces an average of 4 pounds of household hazardous waste each year for a total of about 530,000 tons/year. The average U.S. household generates more than 20 pounds of household hazardous waste per year. As much as 100 pounds can accumulate in the home, often remaining there until the residents move out or do an extensive cleanout. Reduction and recycling of HHW conserves resources and energy that would be expended in the production of more products. Proper disposal prevents pollution that could endanger human health and the environment (EPA, 2014). The Nemaha NRD, Five Rivers RC&D, the Lower Big Blue NRD, as well as the cities and counties located in the southeastern Nebraska region have received numerous requests for additional household hazardous waste collections from concerned residents. The events will be conducted in each county in the Five Rivers eight-county area and will give all citizens an opportunity to help protect the environment and their own families from possible exposure to toxic materials once a year over the course of three years. We expect our participation to be similar to other regional collection events. For example, the NRD partnered with Five Rivers RC&D and collected and recycled 61,490 pounds of HHW and 30,600 pounds of batteries in 2007 and Five Rivers RC&D collected and recycled over twelve tons of household hazardous waste materials and an additional 804 pounds of batteries in 2010 as well as over thirteen tons of hazardous materials and 960 florescent light bulbs in 2015. The events will not only provide citizens with a safe disposal site, but will educate residents on the hazards of improper disposal and the negative effects of that waste entering our soil, water, and air. THIS PROJECT WAS FUNDED \$54,446 IN 2016 WITH THE INTENT TO FUND UP TO \$54,446 IN YEAR TWO AND \$54,446 IN YEAR THREE PENDING AVAILABLE FUNDS AND SATISFACTORY PROGRESS. THIS IS THE THIRD YEAR REQUEST.

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**Sponsor Name:** Fontenelle Forest **Nearest Town:** Bellevue  
**Project Name:** Woodland, Savanna and Prairie Habitat Restoration **Project No:** 18-188  
**Amount Requested:** \$427,900 **Term of Project Request:** 3 **Review Group:** Urban Habitat

Fontenelle Forest (FF) manages over 2000 acres of unique oak woodlands, prairies and wetlands located near a large urban setting (Omaha). This landscape provides valuable green space for wildlife, in addition to providing a "quiet wild" for the public. The restoration of Fontenelle Forest's degraded oak savannas and woodlands is vital not only for improving biological diversity; it also has important implications for people. Humans are connected to savannas from a historical perspective but, they also connect psychologically and physiologically as well in a restorative capacity. In 2013, FF received a 3-year NET grant in partnership with the U.S. Fish and Wildlife Service, Nebraska Game and Parks Commission, and individual donors, to begin the restoration of oak woodlands, savannas, and prairies. We have made huge strides in habitat conservation during the first phase of restoration but have many more hurdles to overcome. Our goals for the next phase of restoration are: 1. Enhance and expand habitat conservation on FF and surrounding landowner properties to create a healthy heterogeneous landscape through the use of prescribed fire (on at least 950 acres), thinning, and invasive species control. 2. Build local capacity by highlighting the importance and relevance to the communities of Bellevue and Omaha of sustaining a healthy, fully functioning oak woodland/prairie ecosystem in and near urban settings through research, interpretation and targeted outreach. 3. Increase capacity for prescribed fire in eastern Nebraska by mobilizing a prescribed fire crew and equipment. In order to continue our critical habitat work, we are requesting \$ 427,900 in NETF dollars for the next phase of habitat restoration. Committed partners providing cash match are Douglas County West Chapter of Pheasants Forever (\$7,500), Audubon Society of Omaha (\$7500), NGPC (\$23,350), U.S. FWS (\$11,100), National Wild Turkey Federation (\$1,500), Green Bellevue (\$1,500), and three private donors/landowners (\$48,000).

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**Sponsor Name:** Friends of Heron Haven, Inc. **Nearest Town:** Omaha  
**Project Name:** Environmental Education at Heron Haven Wetland Sanctuary **Project No:** 16-218R-3  
**Amount Requested:** \$2,700 **Term of Project Request:** 3 **Review Group:** Statement of Intent

Friends of Heron Haven requests three years of funding to maintain and strengthen two environmental education programs presently supported by the Trust (13-175-3). The first of these programs consists of Guided Nature Study programs that primarily involve walking nature trails and observing natural phenomena of various kinds in the company of one or more experienced volunteer naturalists or, during inclement weather, that may involve watching educational shows, listening to talks, or engaging in activities related to natural history. These programs are tailored to meet the needs of several different target audiences. The second environmental education program is the annual Heron Haven Wetland Festival, a one day event that provides visitors of all ages with an opportunity to learn about local wildlife, including mammals, birds (especially raptors), butterflies, aquatic organisms and plants, as well as a variety of exotic mammalian and reptilian species. The goals of these two basic environmental education programs are to acquaint interested members of the public and their families with the freely accessible natural assets of the Heron Haven Wetland Sanctuary and with the enjoyment and restorative effects that even brief immersion in natural environment can produce. It is hoped that such positive experiences would cause our visitors to appreciate this natural site and perhaps, to make donations to, or to become members of, Friends of Heron Haven, which provides essential support for our organization. THIS PROJECT WAS FUNDED \$7,290 IN 2016 WITH THE INTENT TO FUND UP TO \$2,700 IN YEAR TWO AND \$2,700 IN YEAR THREE PENDING AVAILABLE FUNDS AND SATISFACTORY PROGRESS. THIS IS THE THIRD YEAR REQUEST.

**Sponsor Name:** Grand Island Area Clean Community System **Nearest Town:** Grand Island  
**Project Name:** Electronic Recycling including CRT TV's **Project No:** 18-149  
**Amount Requested:** \$11,000 **Term of Project Request:** 1 **Review Group:** Waste Management

For multiple years now Clean Community System (CCS) has incorporated electronic recycling into their Household Hazardous Waste grant applications. CCS has had a magnitude of success conducting one-day electronic recycling events where we have collected 48,800 pounds in April of this year; 19,750 pounds (259 TV's) in October of 2016; 7,000 pounds in April 2016 (no TV's); and 17,000 pounds in November 2015 which included TV's. With the ever increasing amount of HHW that this facility continues to accept it has become apparent that we do not have the funding to support an electronic recycling day where we might collect over 31,000 pounds of TV's. It is next to impossible to project how many TV's are still out in the communities we serve. Currently this facility serves, Hall, Hamilton, Howard, Merrick and Adams, a population base of 120,000. However we outreach and assist other communities besides the aforementioned. We assist York, Buffalo, Clay, Sherman, Polk, and Greeley. This grant would allow us to market the opportunity for other counties to participate in two (2) one-day collections consisting of TV's, CRT monitors, keyboards, hard drives, power cords and various other electronic devices. CCS works closely with a local company called E-Strayed. They supply us with cargo trucks, forklift, trailers, and manpower at no charge. However they have to charge us a small fee related to the TV's.

**Sponsor Name:** Grand Island Area Clean Community System      **Nearest Town:** Grand Island  
**Project Name:** Household Hazardous Waste Facility      **Project No:** 16-101-3  
**Amount Requested:** \$163,900      **Term of Project Request:** 3      **Review Group:** Statement of Intent

The Grand Island Area Clean Community System (CCS) is seeking a grant for the continued operation of the Household Hazardous Waste (HHW) facility for proper and safe disposal of HHW and recyclable products. CCS is a regional facility serving approximately 114,607 residents of Hall, Adams, Howard, Hamilton and Merrick counties as well as other citizens living in out-state Nebraska. It contains an education area and two employees to teach children and adults about HHW, the environment and recycling. Another part of our facility is designated to what we call our "Swap Shop" or reusable products area. Swap Shop collects large quantities of materials which we offer at no charge, for reuse. By doing so, we reduce the amount of waste. According to numerous studies, permanent facilities tend to collect more HHW than other collection methods. We currently are accepting large volumes of HHW, bulk liquids, paint, insecticides, fertilizer, and household cleaning items. Over the next grant period, we are anticipating having a hazardous waste disposal service at our facility no less than seven times annually at an estimated cost of \$8,000/load. Over the past few years, CCS has had multiple directors. Most recently, Denise McGovern-Gallagher was hired as the Executive Director. She has over 35 years of office management with 12+years of grant writing. Denise is a Grand Island native with a passion for her community and the area. Many changes have taken place in the relatively short time since her hiring. Most of the changes are in handling HHW including the acceptable of household paint. She is well known, respected, and sits on numerous boards in the community. CCS staff consist of a Certified Hazardous Waste Technician, Keep America Beautiful Coordinator and the Executive Director. We are a 501C3 corporation. Our board consists of six members who are devoted to CCS and the community. THIS PROJECT WAS FUNDED \$158,900 IN 2016 WITH THE INTENT TO FUND UP TO \$160,700 IN YEAR TWO AND \$163,900 IN YEAR THREE PENDING AVAILABLE FUNDS AND SATISFACTORY PROGRESS. THIS IS THE THIRD YEAR REQUEST.

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**Sponsor Name:** Green Recycling Enterprises, LLC dba Second Nature Public Recycling      **Nearest Town:** Omaha  
**Project Name:** Recycling on the Go!      **Project No:** 18-200  
**Amount Requested:** \$287,000      **Term of Project Request:** 2      **Review Group:** Waste Management

Second Nature provides recycling containers at public events. During the previous seven years, SN has been providing recycling for events, municipalities and other locations. SN has been successful in diverting trash from landfills by providing our program. These entities haven't had recycling or can't recycle for a number of different reasons. There is a strong demand for public recycling containers as we will conduct over 120 events in 2017. SN wants to continue providing our services with the Recycling on the Go campaign. Our challenge is that the business model of the program has not created enough advertising/sponsorship dollars to continue without the help of Nebraska Environmental Trust. Over the last several years, we have determined that most events and businesses won't pay for recycling. Events don't have the funds. They simply can't provide the service. Their time and resources are limited. They love our program, but won't pay for the service. We have had some success in obtaining advertisers/sponsors, but many companies don't want to be on trash/recycling containers. Moving forward, we have to adjust our model downward in terms of sales and revenue. In evaluating our model, we see that the company has had more success this year with smaller companies. Our new model involves incorporating small fees for setup and delivery at events. We also want to establish a joint sale and partnership program with our event partners. This will allow an increased motivation for them to jointly promote and sell advertising packages with us. We would like to propose continuing our partnership for an additional 2 years. This will allow us the necessary time to implement our program providing our services to divert all the recycling material from the landfill.

**Sponsor Name:** Habitat for Humanity of Lincoln ReStore **Nearest Town:** Lincoln  
**Project Name:** Habitat Lincoln ReStore Donation Program **Project No:** 18-197  
**Amount Requested:** \$53,295 **Term of Project Request:** 1 **Review Group:** Equipment

Habitat for Humanity of Lincoln ReStore respectfully requests funding from the Nebraska Environmental Trust for support of its ReStore program, specifically of its donation pick up program through the purchase of a new donation truck. Habitat for Humanity ReStores are nonprofit home improvement stores and donation centers that sell new and gently used furniture, appliances, home accessories, building materials and more to the public at a fraction of the retail price. Habitat ReStores accept small and large donations of new or gently used furniture, appliances, housewares, building materials and more. Habitat ReStores divert hundreds of tons from landfills each year, accepting hard-to-dispose-of items including new and used furniture, appliances and surplus building materials. In many cases, pickup service is provided for large items. Proceeds from the sales of these items help Habitat's work in our community and around the world. Habitat Lincoln ReStore has been in business for three years and has seen an increase in the number of large item donations over the last year, requiring heavy use of the donation truck. The current Habitat Lincoln ReStore donation truck is no longer efficient, or reliable, for the donations being received or for the donations that are being offered and at time being turned down because of the current vehicle situation. Habitat for Humanity of Lincoln is requesting support for the purchase of a larger, more efficient, and reliable donation truck that will allow for growth of the number and size of donation pick-ups and in turn, more items diverted from the landfill.

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**Sponsor Name:** Habitat for Humanity of Omaha ReStore **Nearest Town:** Omaha  
**Project Name:** Deconstruction Program Phase 2 **Project No:** 17-130-2  
**Amount Requested:** \$180,000 **Term of Project Request:** 3 **Review Group:** Statement of Intent

HFHO demolishes 50 blighted houses annually in an effort to "fight-the-blight" and stabilize neighborhoods. HFHO provides the expertise to acquire properties, many with complex title issues. HFHO's project management team coordinates the demolitions utilizing a competitive bid process to ensure an effective use of our funds. Our success is extremely gratifying through the numerous benefits realized by the removal of blighted houses within our community's neighborhoods; however, we believe that more can be done to improve the outcomes. Each demolition produces an average of about 10,000 cubic feet of debris to local landfills. HFHO is disheartened to recognize that much of those materials can be recycled or repurposed; however, the additional costs to fully deconstruct a house and divert salvageable materials away from the landfills, versus a typical demolition, have stymied efforts to enhance our demolition program. HFHO seeks to continue the Deconstruction Program, by annually completing 5 full deconstruction projects on blighted houses and "soft strip" partial deconstructions for an additional 100 houses in our current demolition program or from third party renovation projects. Anticipating that it will take 3-5 years for our Deconstruction Program to self-sustaining, we seek funding for the next three years to continue the program. Deconstruction includes selectively dismantling a house and reusing, recycling, or upcycling the maximum materials possible, thereby diverting them from the landfill. Typically, 60% of a house can be salvaged, in some cases over 75%. Materials that can be recycled or repurposed include: plywood, dimensional lumber, hardwood flooring, bricks, windows, concrete, fixtures, doors and knobs, hinges, paneling, insulation, stairs and railings, trim, lathe, cabinets and countertops. In addition to the environmental benefit of decreasing landfill use, a second goal is to reduce the need for raw materials by making salvaged materials available for use in new and rehabilitation construction projects. A peripheral benefit of the program is to facilitate the marketability for salvaged dimensional and old-growth lumber and other reusable building materials, thereby decreasing the future subsidies. HFHO's demolition funding partners will provide base funds for the cost of a typical demolition. We request that NET fund the delta between the cost of demolition and cost to deconstruct. THIS PROJECT WAS FUNDED \$180,000 IN 2017 WITH THE INTENT TO FUND UP TO \$180,000 IN YEAR TWO PENDING AVAILABLE FUNDS AND SATISFACTORY PROGRESS. THIS IS THE SECOND YEAR REQUEST.

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**Sponsor Name:** High Plains Weed Management Association      **Nearest Town:** Scottsbluff  
**Project Name:** North Platte River Invasive Species Control Project (Phase 4)      **Project No:** 18-157  
**Amount Requested:** \$500,000      **Term of Project Request:** 2      **Review Group:** Rural Habitat

The High Plains Weed Management Association is requesting \$500,000 for two years towards existing projects which need to be completed and for future projects to restore the waterways of the North Platte and South Platte Rivers and its tributaries. For the last four years over 4,000 acres of Russian Olive, Salt Cedar and Phragmites have been removed in watersheds. Over the last 50 years, invasive species have invaded riparian areas of the Platte Rivers. At the present time, the High Plains Weed Management Association has more than \$200,000 in existing projects covering 1,223 acres to be completed. Our invasive species eradication and control projects targets a total of 123 miles along the North Platte River and nine miles if the South Platte River. During the last four years, the High Plains Weed Management Association in partnership with the USDA, NRCS, the eight weed management superintendents in the project counties have been working to restore the habitat along the Platte Rivers and its tributaries. With the help of the Nebraska Environmental Trust, and our partners, we hope to complete these existing projects to the best of our ability.

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**Sponsor Name:** Iain Nicolson Audubon Center at Rowe Sanctuary      **Nearest Town:** Wood River  
**Project Name:** Discovery Centers for Rowe Sanctuary      **Project No:** 18-186  
**Amount Requested:** \$300,000      **Term of Project Request:** 1      **Review Group:** Education

Iain Nicolson Audubon Center at Rowe Sanctuary (Rowe Sanctuary) is dedicated to the conservation of Sandhill Cranes, Whooping Cranes, and other migratory birds, and their habitat along the Platte River. Rowe Sanctuary's work includes habitat protection and restoration, collaborative leadership on basin-wide solutions, community outreach, and education. Rowe Sanctuary seeks funding to create Discovery Stations to replace current viewing blinds. The increased interest in spring crane migration on the Platte River and years of use have left the existing viewing blinds obsolete. The new Discovery Stations will 1) create state-of-the-art viewing opportunities for an increasing and diverse audience; 2) allow expansion of outreach and education programs while protecting migrating cranes at their most vulnerable time; and 3) create greater economic benefit for local communities. This project will help protect and restore the Platte River ecosystem and the birds and wildlife that depend on it by instilling a conservation ethic in a greater number of Nebraskans and people world-wide. Rowe Sanctuary will work with professional designers with oversight from partners on our steering committee to create an innovative and cost-effective design for the Discovery Stations and interpretive exhibits. These stations will serve as important program spaces during crane season and throughout the year, expanding opportunities for outdoor education and recreation on the Platte River. The Discovery Stations are an integral part of Rowe Sanctuary's 50-year vision and master site plan created in 2015 after celebrating our 40th anniversary. The design of the stations is inventive and will redefine standards of excellence for viewing stations and outdoor education spaces. We intend to share this new concept throughout the conservation community and have tools in place to assess the impact and success of the project. Our partners on the project include U.S. Fish and Wildlife Service, Kearney Visitors Bureau, and private funders.

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**Sponsor Name:** Keep Alliance Beautiful **Nearest Town:** Alliance  
**Project Name:** 2018-2019 Recycling Center Operations and Education Program **Project No:** 18-104  
**Amount Requested:** \$79,814 **Term of Project Request:** 1 **Review Group:** Waste Management

Keep Alliance Beautiful (KAB) Board of Directors and Staff wish to continue our recycling and education programs in Box Butte County, Nebraska. We will continue to operate and accept recyclables at the recycling center and in trailers stationed in Alliance and Hemingford, Nebraska. KAB will continue to send the bulk of our commodities to Western Resources Group in Ogallala, Nebraska with the exception of glass being sent to Momentum Recycling in Broomfield, Colorado. To minimize transportation costs of gathered recyclables, KAB ships the commodities via Nebraska Transport Company in Gering, Nebraska. KAB has diverted 348,406 lbs. of waste from the local landfill during the first seven months of 2017. Grant funding is essential in sustaining the recycling center operations and in furthering KAB's mission to educate, empower, and inspire Box Butte County residents to take greater responsibility for enhancing their community and the environment. Keep Alliance Beautiful is a Keep America Beautiful affiliate in good standing with access to their materials and programs. KAB will continue school programs such as KAB Black OPS, Recycling Ambassadors, and a newly established KAB Club at the Alliance Middle School for the 2018-2019 school year. The newly-formed KAB Kids summer group completed anti-litter projects this year, and will do so again in 2018. KAB will encourage students to reduce, reuse, and recycle through school presentations and community art classes that utilize recyclable items. KAB will continue the innovative Seniors/Shut-ins recycling program into 2019. With the continued financial support of the City of Alliance, Box Butte County, private donations, and grant funds, KAB is able to accomplish our mission and projects by partnering with area businesses, community leaders, local government, and neighbors to work together to create a clean and safe place to live and work for future generations.

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**Sponsor Name:** Keep Omaha Beautiful, Inc. **Nearest Town:** Omaha  
**Project Name:** Trees for Omaha / Trees for Nebraska: Planting Native Trees in Response to Emerald Ash Borer **Project No:** 18-201  
**Amount Requested:** \$150,000 **Term of Project Request:** 1 **Review Group:** Urban Habitat

Trees for Omaha / Trees for Nebraska is a tree planting program that is designed to counteract the negative impact of the invasive emerald ash borer (EAB). This Asian beetle has killed millions of ash trees in 30 U.S. states over the past 15 years, and was discovered in Nebraska at an Omaha park in June 2016. Foresters estimate that 14% of Omaha's public trees are ash and will succumb to EAB over the next few years. To counter the substantial loss to the city's tree canopy, the program will plant up to 1,800 diverse, native trees in Omaha parks and right-of-way areas as part of the initial phase. The program is focused on employing innovative, best practices regarding how trees are sourced, grown, planted, and cared for during the establishment period to significantly increase the growth and survival rate of trees planted in urban areas. This helps ensure that all environmental, economic, societal, and public health benefits connected to healthy, mature trees are fully actualized and enjoyed by generations of Nebraskans for years to come. As part of this program, Keep Omaha Beautiful (KOB) will work with the Nebraska Forest Service, Omaha's Parks & Recreation Department, local tree suppliers/installers, neighborhood groups, and community volunteers. When completing quality control reviews of planting projects, program personnel will use the City's GIS platform and i-Tree software to map the location of trees, calculate environmental benefits, and compare program trees (grown and planted using confirmed best practices) to non-program trees that are conventionally produced and installed. The program will also integrate service-learning opportunities for school youth. After a successful first phase, KOB will secure additional funding and expand the program, as well as work with NFS to share the program model and resources with other Nebraska communities that will need to address EAB.



**Sponsor Name:** Lincoln Children's Zoo **Nearest Town:** Lincoln  
**Project Name:** Lincoln Children's Zoo Expansion **Project No:** 17-157-2  
**Amount Requested:** \$235,000 **Term of Project Request:** 3 **Review Group:** Statement of Intent

Improved habitat of endangered species, efficient and effective use of surface water, and reduction of greenhouse gasses are all critical environmental elements included in the upcoming expansion planned for Lincoln Children's Zoo. This project is a dynamic partnership with the city of Lincoln, Lancaster County, Lincoln Public Schools and philanthropic support from corporations, individuals and foundations. Lincoln Children's Zoo respectfully asks the Nebraska Environmental Trust to consider funding for the following project elements within the five-acre expansion area. Funding the elements included in this proposal will result in clear environmental benefits matching the priorities which the Trust has established as important to the state of Nebraska, including:

- **Habitats:** The Zoo plans to add five new animal habitats, including the Black-footed ferret, an endangered species native to Nebraska. The Zoo plans to increase capacity in its propagation efforts of the Salt Creek Tiger Beetle, another endangered species. In addition to a focus on animals, the Zoo plans to create spaces that are placed with drought-resistant plant species, many native to our state, that will be utilized to assist pollinator insects and birds in performing their valuable service to nature.
- **Surface and Ground Water:** Rain gardens, bio-retention cells and permeable pavers are planned in the project to ensure rainwater is absorbed and managed prior to flowing into Antelope Creek, which is a critical piece of the city's Antelope Creek Watershed Management Plan.
- **Air Quality:** The Zoo plans to utilize the most efficient HVAC and lighting in new buildings to reduce its carbon footprint in addition to preserving and adding additional woody plantings to assist in the long-term absorption of CO<sub>2</sub> and for nature water filtration and purification.

THIS PROJECT WAS FUNDED \$494,000 IN 2017 WITH THE INTENT TO FUND UP TO \$235,000 IN YEAR TWO PENDING AVAILABLE FUNDS AND SATISFACTORY PROGRESS. THIS IS THE SECOND YEAR REQUEST

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**Sponsor Name:** Lincoln Parks & Recreation Department **Nearest Town:** Lincoln  
**Project Name:** Emerald Ash Borer Intervention Project **Project No:** 18-142  
**Amount Requested:** \$100,000 **Term of Project Request:** 1 **Review Group:** Urban Habitat

Lincoln Parks & Recreation Department (LPRD) requests \$100,000 to help fund ash tree replacement to assist in maintaining the public tree canopy in Lincoln, NE as ash trees are lost due to the impending Emerald Ash Borer (EAB) infestation. The EAB has been identified in Greenwood, NE near Lincoln. EAB kills all ash trees. Twelve percent of Lincoln's public street and park trees are ash. Unlike Dutch elm disease from decades ago, ash trees do not merely die, but become public health and safety hazards because the trees become brittle with EAB infestation, and have been known to topple over at the root system without warning. Dead ash trees also will shatter like glass, destroying cars, houses and imperiling lives. In response to the inevitable EAB infestation, the City has established an EAB response and recovery program. The program has hired a Community Outreach Forester to lead educational efforts and develop public-private partnerships, dedicated \$950,000 annually in City funds to the program, and has worked with community groups to develop solutions. **Project Goals:** To remove and replace public ash trees, maintaining and diversifying the public tree canopy. To educate the public about EAB, ash trees, and the proper care of newly planted trees. Develop replicable EAB intervention program that can be used by other Nebraska communities. **Objectives:** I. Educate the public about EAB, ash trees and tree replacement. II. Remove and replant 500 ash trees in partnering neighborhoods. III. Magnify project impact and sustainability.

**Sponsor Name:** Lincoln, City of **Nearest Town:** Lincoln  
**Project Name:** Eastern Saline Wetlands Project - 2016 **Project No:** 16-116-3  
**Amount Requested:** \$265,000 **Term of Project Request:** 3 **Review Group:** Statement of Intent

The Eastern Saline Wetlands Project 2016 will conserve the most imperiled natural community in Nebraska. The eastern saline wetlands ecosystem is located primarily in the Salt Creek watershed in northern Lancaster and southern Saunders counties. Conserving these wetlands protects the fauna and flora which survive in these saline wetlands unique to this limited area of the state including the Salt Creek tiger beetle and saltwort plant. Approximately 4,700 acres of saline wetlands still exist and these acres are only partially conserved. Conservation would be afforded the saline wetlands in four ways: 1. By restoration and management work on the saline wetlands. 2. By acquiring the wetlands and adjoining buffer and connective tracts in fee simple or purchase of permanent conservation easements from willing sellers. 3. Implementing activities identified in Upper Little Salt Creek Saline Wetlands Planning Project (2015) 4. By continuing to retain a full-time Saline Wetlands Coordinator. Future wetland restoration projects were identified through the Upper Little Salt Creek Saline Wetlands Planning Project (2015), which was funded through the City of Lincoln 2012 NET grant. The plan developed a spatial analysis tool to evaluate existing conditions of the saline wetlands to assist the Partnership in prioritizing future conservation projects. Land acquired or conserved is largely left in its natural state or used for limited agricultural purposes. The saline wetlands exist in the flood plains of the streams. The conservation of them provides a permanent measure of flood control along the waterways and protects the quality of water from typical urban and agricultural pollutants. With the Saline Wetlands Conservation Partnership and a Coordinator focused on the project, the partners will implement the Planning Project; a framework for effective and higher-leverage conservation of the eastern saline wetlands. We feel the Eastern Saline Wetlands Project 2016 qualifies for the feature program bonus. THIS PROJECT WAS FUNDED \$265,000 IN 2016 WITH THE INTENT TO FUND UP TO \$265,000 IN YEAR TWO AND \$265,000 IN YEAR THREE PENDING AVAILABLE FUNDS AND SATISFACTORY PROGRESS. THIS IS THE THIRD YEAR REQUEST.

**Sponsor Name:** Lincoln, City of **Nearest Town:** Lincoln  
**Project Name:** StarTran CNG Bus Fueling Station **Project No:** 18-164  
**Amount Requested:** \$1,100,000 **Term of Project Request:** 1 **Review Group:** Air Quality

StarTran requests \$1,100,000 to install a CNG bus fueling station at 3301 West O Street, Lincoln, NE. Lincoln Wastewater System (LWWS) is completing their \$7.5 million replacement of its anaerobic digestion system cogeneration facilities. The facility will produce Renewable Natural Gas (RNG), which can be used like Compressed Natural Gas (CNG) in fueling buses and other vehicles. To capture the benefit of LWWS's new anaerobic digestion system, StarTran will utilize Renewable Identification Number (RIN) credits. RIN is a serial number assigned to a batch of biofuel for the purpose of tracking its production, use, and trading. RIN credits are valued at approximately 80 cents to \$1.00 per gallon of CNG, and are provided to encourage use of biofuels for vehicular transportation. Estimates place StarTran's RIN credits at \$400,000/year. The new CNG fueling station will be part of StarTran's relocation of its 710 J Street facilities (bus maintenance and storage) to 3301 West O Street. A federal Bus & Bus Facilities Program grant is pending. We anticipate award notification in late October 2017. Administrative offices at 710 J Street will be moved to a site near StarTran's 11th & N transfer station. The CNG fueling station will be used to fuel StarTran buses and paratransit vehicles and other City-owned vehicles. Benefits: Reduce GHG tailpipe emissions by 16%. Reduce PM emissions by 97%. Eliminate flaring of methane from the LWWS treatment plant of approximately 70,000 SCF daily by capturing and converting 95.4% to 97.8% of GHG into RNG/CNG fuel. Cost savings allow StarTran to expand public transit, resulting in improved waste management, habitat, surface and groundwater, soil management and air quality. Eliminate traveling 20 miles, round trip, to a commercial fueling station. Additional cost savings of 35% over diesel fuel.

**Sponsor Name:** Lincoln, City of **Nearest Town:** Lincoln  
**Project Name:** Lincoln Bike Share Expansion **Project No:** 18-211  
**Amount Requested:** \$405,888 **Term of Project Request:** 1 **Review Group:** Air Quality

The City of Lincoln has been a recipient of CMAQ funds and will be launching the first phase of the bike share program in April 2018. The first phase of the bike share program located eighteen stations in the downtown area and on University of Nebraska - Lincoln campuses. Before the initial launch, there has been an expressed need to expand the footprint of the program in the community. The goal of the second phase of the program is to install twelve additional stations, two hundred and fifty (250) bike racks throughout the community, and add one hundred and twenty-five (125) bikes to the program. For phase two of the bike share program, the City of Lincoln will purchase the BCycle 2.0 station and bikes from the BCycle Dash system. The BCycle Dash product is a smart bike that can be locked up at a station or a standard loop bike rack. By incorporating the BCycle Dash bikes and the installation of new bike racks throughout the city, we can extend the reach and flexibility of the program in the community. This expansion serves to increase the bike share system's ability to function as a transit extender and last mile solution for bus commuters. Nebraska Environmental Trust (NET)'s financial support and public partnership would help implement the vision of the second phase by providing critical matching funds and capital costs for the program. With NET's investment, the City of Lincoln estimates this equipment could reduce 849,270 kg of pollution over the equipment's 10 year useful life. As a critical funder of this project, the Trust would be recognized prominently on the 125 bikes that are a part of this grant; helping to educate the public on air quality issues.

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**Sponsor Name:** Lincoln, City of - Parks and Recreation Department **Nearest Town:** Lincoln  
**Project Name:** Prairie Corridor Phase II **Project No:** 16-122-3  
**Amount Requested:** \$150,000 **Term of Project Request:** 3 **Review Group:** Statement of Intent

Vision: To manage and enhance tallgrass prairie, riparian habitat and wetland areas, linking two premier environmental education centers, Pioneers Park Nature Center and Spring Creek Prairie Audubon Center, with a 10-mile trail traversing the length of the corridor, and trail segment connecting to Conestoga Lake State Recreation Area. Visitors will be able to experience and learn from the Prairie Corridor, exploring a diversity of habitats and species. Since the initiation of Phase I, the project has protected an additional 492 acres of prairie and other natural resources through the purchase of land and conservation easements for a total of 5,020 acres of conserved prairie, and has reestablished 38 acres of tallgrass prairie. Phase II Components: Conservation - Purchase of fee simple and conservation easements from willing property owners. Habitat - Prairie land management, enhance existing native seeding, manage saline wetlands, replant riparian areas, and tree removal. Research - To increase the knowledge regarding tallgrass prairie management and investigate the rapid decline of pollinators, UNL's School of Natural Resources will partner with LPRD to investigate the following: Pollinators: Research will look at how to increase pollinator species in design and management of prairie reconstruction, or conduct monitoring to document trends in species abundance and richness to help identify potential causes of change. Habitat Diversity within the Urban/Rural Nexus: Research will look at how composition, size and shape of various prairie areas from virgin prairie to Conservation Reserve Program (CRP) grasslands, to reconstructed prairie on agricultural ground, to the rough in the Pioneers Park golf course contribute to diversity, resiliency and species richness, and how the Prairie Corridor can best be designed and managed to further this diversity. Trail/Economic Development will increase recreational opportunities and tourism, enhancing the economies of the City of Lincoln and the Village of Denton. THIS PROJECT WAS FUNDED \$305,000 IN 2016 WITH THE INTENT TO FUND UP TO \$305,000 IN YEAR TWO AND \$150,000 IN YEAR THREE PENDING AVAILABLE FUNDS AND SATISFACTORY PROGRESS. THIS IS THE THIRD YEAR REQUEST.

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**Sponsor Name:** Little Blue Natural Resources District**Nearest Town:** Minden**Project Name:** Puddles under the Pivots**Project No:** 16-111-3**Amount Requested:** \$208,870**Term of Project Request:** 3**Review Group:** Statement of Intent

Activities outlined in this proposal will restore wetlands and provide compatible solutions that will compliment agriculture operations. Grant funds will be leveraged with significant funding from a Natural Resources Conservation Service's (NRCS) Wetlands Reserve Easement Partnership (WREP) grant. Annually, NRCS requests proposals to develop WREP Special Initiatives. These Special Initiatives focus on innovative approaches that enable tracts, enrolled in the Wetlands Reserve Program, to "fit" into local agriculture operations. This year the Rainwater Basin Joint Venture (RWB JV) submitted a 1,200 acre proposal focusing on programmatic flexibility necessary to ensure producers could retain the right to pass the pivot over enrolled acres. In the past, landowners were hesitant to enroll because it would inhibit their ability to complete full rotations if the pivot had to travel over program acres. The \$626,600 of Nebraska Environmental Trust funding will be used for wetland restoration, pivot modification, and establishment of grazing infrastructure. A variety of pivot modifications could be utilized, like moving the pivot point, integration of track systems, and/or low pressure tires to name a few. These modifications will eliminate any impact to the restored wetlands and ensure the pivot can pass over the enrolled acres. Grazing infrastructure (perimeter fence, pivot gates, livestock well, etc.) will be established to ensure the restored acres can be seamlessly transitioned from flood prone cropland to forage production. Grazing will maintain the working nature of the lands and maximize habitat conditions. Three of Nebraska's largest pivot manufacturers (Lindsay, Reinke, and Valmont) have signed on as corporate partners. These companies have committed to develop a cost-share program for pivot modifications and assist with outreach and marketing through their diverse pivot dealer network. These dealers will be able to identify a multiple producers that will be a good fit for this program and ensure implementation success. THIS PROJECT WAS FUNDED \$208,865 IN 2016 WITH THE INTENT TO FUND UP TO \$208,865 IN YEAR TWO AND \$208,870 IN YEAR THREE PENDING AVAILABLE FUNDS AND SATISFACTORY PROGRESS. THIS IS THE THIRD YEAR REQUEST.

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**Sponsor Name:** Little Blue Natural Resources District**Nearest Town:** Davenport**Project Name:** Little Blue NRD Oxbow Reconnections for Groundwater Recharge**Project No:** 18-181**Amount Requested:** \$127,820**Term of Project Request:** 1**Review Group:** Water

The Little Blue Natural Resources District (LBNRD) is requesting Nebraska Environmental Trust (NET) funds to support wetland restoration and monitoring aspects of three oxbow reconnections, and one site using in-stream weirs, for groundwater recharge. Groundwater declines and degradation of stream systems are two ongoing natural resources challenges facing the LBNRD. In addition to providing an estimated 200 acre-feet of groundwater recharge, reconnecting relic streamside oxbows will provide extensive fish and wildlife benefits through the re-establishment of a contiguous riparian corridor and a more natural hydrologic regime. Oxbow reconnections will restore six acres of former wetlands which will result in improved habitat and nesting for multiple species of birds. Two of the sites are within the Rainwater Basin Wetland Complex, while two others are both less than one mile away. These projects will restore stability, function, and dynamic processes of the floodplain to a more natural, less degraded condition. An important aspect of this project is the quantification and evaluation of benefits for each site. Project evaluations will also be used as a basis for determining replicability across the basin. Specifically, the NET funding would support aspects of the project related to wetland restoration and installation of twelve monitoring wells and equipment. The LBNRD will be the lead agency and responsible party. Constructing these projects helps the LBNRD work towards several goals that are documented within the 2015 Little Blue Basin Water Management Plan. The LBNRD intends to utilize each site as an opportunity for the public, in addition to other NRDs and resource agencies, to see firsthand the multiple benefits and functionality of an artificial groundwater recharge project. Monitoring data and reporting, as well as visual observations on habitat improvement and wetland functionality, will be shared through the NRD's newsletters and discussed at future conferences.

**Sponsor Name:** Loess Canyon Rangeland Alliance, The      **Nearest Town:** Curtis  
**Project Name:** Grassland Stewardship with Prescribed Fire      **Project No:** 17-212-2  
**Amount Requested:** \$160,000      **Term of Project Request:** 3      **Review Group:** Statement of Intent

The Loess Canyons is a 338,000-acre mosaic of largely unfragmented mixed-grass prairie and wooded canyons. Due to its deep, fertile soils, this landscape is a valuable forage resource in the region. The land and cattle support family-owned ranches and an associated land stewardship ethic. In return, 29 species of concern thrive in the prairies over which these landowners steward. The Loess Canyons has been identified as a Biologically Unique Landscape by the Nebraska Natural Legacy Project and as a focus area for the USFWS Partners for Fish and Wildlife Program. Eastern red cedar invasion and the consequences of such for Nebraska's grasslands are well-documented and alarming. This hardy tree, which is easily killed by fire, thrives in the deep soil and semi-arid environment of the Loess Canyons. Some properties are over 70% covered by cedars. The "Grassland Stewardship with Prescribed Fire" project plans to build on the success of landowners and burn associations to restore ecological resiliency and rangeland productivity in the Loess Canyons. This will be accomplished by empowering landowners with the knowledge, funds, and technical assistance to remove cedars, create firebreaks, defer grazing, and work with local burn associations to return fire to the ecosystem. Timing will be critical to maintain the current synergy between landowners, burn associations, and resource professionals as they aspire toward the goal of burning 33,000 acres per year. The Loess Canyons Rangeland Alliance (LCRA), private landowners, NGPC, USFWS, Twin Platte NRD, NRCS, and others have an effective and successful partnership in place to restore grasslands within the Loess Canyons. The LCRA seeks to expand this partnership and use \$480,000.00 in grant and matching funds to do over \$1,000,000.00 worth of restoration activities. This is expected to result in over 4,000 acres of invasive trees removed and to facilitate 30,000 acres of prescribed fire.

THIS PROJECT WAS FUNDED \$180,000 IN 2017 WITH THE INTENT TO FUND UP TO \$160,000 IN YEAR TWO AND \$140,000 IN YEAR THREE PENDING AVAILABLE FUNDS AND SATISFACTORY PROGRESS. THIS IS THE SECOND YEAR REQUEST

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**Sponsor Name:** Loup Basin Resource Conservation and Development Council      **Nearest Town:** Ericson  
**Project Name:** Cedar River Corridor Project III      **Project No:** 18-119  
**Amount Requested:** \$92,849      **Term of Project Request:** 2      **Review Group:** Bank Stabilization

The Cedar River Corridor Project III is a regional project covering more than 100 miles along Cedar River that runs through five counties and six communities (Figure 1). This project addresses the Environmental Trust's priorities: Habitat and Surface and Groundwater. This is a follow up to the Cedar River Corridor Projects I and II that stabilized 32 streambanks from 2002-2005. The streambanks were stabilized to reduce surface water degradation and sedimentation loading of the river system, improve the aquatic habitat through riparian buffers and increased vegetation, decrease the amount of sediment and chemicals entering the river and reverse the loss of prime cropland and rangeland. Very little post monitoring has been conducted to determine the success of the two previous projects. An extreme flow event occurred following the 2010 failure of Lake Ericson Dam (Figure 2), potentially causing many of the stabilized streambanks to fail. A study to evaluate the various treatment alternatives implemented, their success and function, and their cost-effectiveness would be important for future similar efforts, and could save thousands of dollars on future stabilization projects, in the Cedar and other Nebraska Rivers. This proposed project will evaluate the effectiveness of the 32 stabilized streambanks, installed in 2002-2005 on Cedar River, that were partially funded by the Environmental Trust. The primary goals are to: 1) quantify the stream bank erosion rates with and without stabilization prior to and after dam failure; 2) assess the current stability of streambanks with and without stabilization; and 3) quantify the cost effectiveness of the various practices used for streambank stabilization. This project will be a collaboration, between the Loup Basin RC&D (Outreach), University of Nebraska-Lincoln (technical assistance), Nebraska Department of Environmental Quality (monetary assistance) and landowners in the watershed (transportation and accessibility to study sites). Funding from the NET and NDEQ will provide funds for field data collection and graduate student support.

**Sponsor Name:** Lower Elkhorn Natural Resources District      **Nearest Town:** Norfolk  
**Project Name:** Lower Elkhorn Real-Time Monitoring Well Network Telemetry Project      **Project No:** 18-182  
**Amount Requested:** \$65,720      **Term of Project Request:** 2      **Review Group:** Water

The Lower Elkhorn Natural Resources District (LENRD) is committed to the conservation of groundwater and recognizes the significant value a reliable groundwater source has for its constituents. In its efforts to proactively manage and conserve groundwater, the LENRD proposes the Lower Elkhorn Real-Time Monitoring Well Network Telemetry Project. This project will result in real-time access to groundwater level data by any individual with internet access. The ability to utilize real-time data when making management decisions is necessary for the LENRD to proactively manage the groundwater supply in northeast Nebraska. The Eastern Nebraska Water Resources Assessment (ENWRA) and the University of Nebraska Conservation and Survey Division (CSD) fully support this effort, and are committed to providing assistance to the LENRD for this project. Nebraska Environmental Trust support of this project will enable the LENRD to install telemetry equipment on its established groundwater well monitoring network at 45 well sites. In return, the LENRD will install and maintain all components of the project, including all staff time and travel costs and any subscription fees or web platform development fees. The LENRD will also purchase 14 replacement transducers. These transducers have reliably provided data to the LENRD, but require periodic replacement to ensure that accurate data continues to be collected. ENWRA will purchase and install one telemetry system and purchase two replacement transducers for the nested well site, as well as assisting the LENRD with data processing and evaluation. CSD will contribute staff time and resources to evaluate well sites and provide a detailed aquifer description. The partnership between the LENRD, NET, ENWRA, and CSD will result in an innovative method of collecting and disseminating vital groundwater level data to all entities and individuals that can utilize the information when making management decisions.

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**Sponsor Name:** Lower Loup Natural Resources District      **Nearest Town:** Hazard  
**Project Name:** Cover Crop Impact Study      **Project No:** 18-110  
**Amount Requested:** \$284,000      **Term of Project Request:** 3      **Review Group:** Soil Management

Cover crops have several positive impacts on the environment, such as improved soil health, reduced soil erosion, increased soil organic matter development, and better water quality through the sequestration of nitrogen. Although these benefits are well-documented, there has been limited research about the impacts of cover crops on water availability and groundwater quantity. Cover crops use some amount of soil moisture to grow; this study's hypothesis is that cover crop water use is offset by increased infiltration through reduced runoff and reduced evaporation through protection of the soil surface. The objective of this project is to quantify the influence of various cover crops on soil moisture balance, groundwater recharge, and movement of nitrate vertically through and below the root zone. To quantify the effects of cover crops on groundwater, soil moisture sensors will be installed within four different agricultural fields through three cropping seasons. Soil moisture at multiple depths, soil temperature, and rainfall will be collected remotely using an innovative technology to study the impacts of cover crops through the root and vadose zone. Soil samples will also be collected for laboratory analysis of nitrate, moisture content, and texture. The study area for this project is the areas in Sherman, Custer, Howard, and Buffalo counties that have experienced groundwater declines. The LLNRD and CPNRD are charged with managing groundwater quantity and quality within their boundaries, and have already expended resources to conduct a rigorous Literature Review and develop a focused Study Design. Data from this project would help the NRDs understand if cover crops reduce, increase or have no effect on water use and groundwater recharge. The study results will also help water managers across Nebraska make informed decisions in the best interest to their constituents and increase the longevity of groundwater resources for future generations.

**Sponsor Name:** Lower Republican NRD **Nearest Town:** Alma  
**Project Name:** Lower Republican NRD Rural Water Project **Project No:** 18-187  
**Amount Requested:** \$27,715 **Term of Project Request:** 1 **Review Group:** Water

Lower Republican NRD serves rural water customers in parts of Franklin, Webster, and Nuckolls Counties. In just the past four years, over five million (5,000,000) gallons of water have been lost due to undetected water leaks. Presently, customers read their own meters and compute their water usage. Some customers read only once or twice a year-not monthly. This has led to large amounts of water loss through undetected/not reported leaks on properties where meters are not read regularly. This project seeks to provide new remote read water meters to 186 Lower Republican NRD rural water customers. With new remote-read digital meters and associated support equipment, the Lower Republican NRD's Rural Water superintendent can drive the entire system in one day and read the meters monthly. In completing this project, water usage monitoring is enhanced and millions of gallons of water conserved.

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**Sponsor Name:** Metropolitan Area Planning Agency **Nearest Town:** Omaha  
**Project Name:** Little Steps Big Impact **Project No:** 18-146  
**Amount Requested:** \$55,000 **Term of Project Request:** 1 **Review Group:** Education

Little Steps Big Impact is an ozone awareness and education campaign coordinated by the Metropolitan Area Planning Agency (MAPA) that is an umbrella for several projects that help improve air quality. The Omaha metro is the only area in Nebraska near non-attainment for ground-level ozone or violating the federal air quality standards. The campaign aims to create awareness of the air quality situation and move residents to take small actions to help improve it. MAPA is requesting the Nebraska Environmental Trust fund the outreach/public relations, non-advertising portion of the campaign. Outreach efforts include: advertising on local television and radio stations, advertising and posts on social media platforms such as Facebook and Twitter, outreach to large employers, neighborhood groups, and at events such as Earth Day fairs and other community events. In our school ozone monitoring program we sponsor air quality curriculum brainstorming sessions with educators. Teachers supplement their classroom lessons with use of MAPA's handheld ozone monitors. The Douglas County Health Department, City of Omaha, OPPD, Live Well Omaha, and the Nebraska Ethanol Board share our information as project partners. We believe the Little Steps Big Impact campaign will have the following outcomes: Increasing awareness among residents and creating behavioral changes that help reduce ground-level ozone in the Omaha metro and improve overall air quality, while maintaining public health and helping the region continue to meet federal air quality standards. We evaluate the program's progress through several means including, an online and phone survey that ranks respondents' ozone awareness and behavior changes, the number of trips switched from travel by oneself in a vehicle to those taken by bus, biking, walking or carpooling, and the pollutants not produced because participants used active transportation and chose cleaner-burning ethanol blends instead of regular gasoline.

**Sponsor Name:** Middle Niobrara Natural Resources District      **Nearest Town:** Valentine  
**Project Name:** No-Till Drill 2017-2018      **Project No:** 18-163  
**Amount Requested:** \$32,000      **Term of Project Request:** 1      **Review Group:** Equipment

The Middle Niobrara NRD (MNNRD) is seeking to purchase a no-till drill. The MNNRD feels that by having a second no-till drill available we will better accommodate demands of the drills. Over the past 3 years the MNNRD has had many requests to have a no-till drill that is capable of inter-seeding smaller areas. By having a smaller drill this would open up the opportunity for our 10' drill to be used for the larger plantings giving us the flexibility to keep allowing plantings to occur during the most prevalent times. This drill is especially needed since the number of drills for rental in the area has decreased by two, due to the age of drills. If funded the new drill would service Cherry, Keya Paha, Brown & Rock counties, with the drill being housed at the MNNRD office in Valentine.

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**Sponsor Name:** Middle Niobrara Natural Resources District      **Nearest Town:** Ainsworth  
**Project Name:** Long Pine Creek Watershed - Phase II Implementation Project      **Project No:** 18-175  
**Amount Requested:** \$602,040      **Term of Project Request:** 2      **Review Group:** Bank Stabilization

The Long Pine Creek Watershed Plan and associated Sand Draw Creek Restoration Plan evaluated 13 subwatersheds and identified the causes of water quality impairments in the area. The plans outline a long term, comprehensive, and phased approach at addressing the causes, not just the symptoms, of watershed problems using proven management actions. These plans were finalized in 2016; and through a robust public engagement process the following four subwatersheds were identified as high priority: Sand Draw Creek, Middle Bone Creek, Willow Creek, and Middle Long Pine Creek. Priority locations for stream restoration practices and grade control structures were identified along the lower reach of Sand Draw Creek. These actions will improve grade control, enhance stream bank stability, reduce down cutting, improve water quality, and enhance aquatic habitat. The Middle Niobrara NRD is requesting NET assistance to continue progress made in Phase I of this multi-phased watershed restoration initiative. Phase II will continue BMP implementation within the priority watersheds to reduce nonpoint source pollution, improve irrigation management, and will also focus on the construction of a priority stream grade control structure on Sand Draw Creek that was designed during Phase 1. Grade stabilization and restoration structures have been designed and will be installed on a stretch of Sand Draw Creek facing serious erosion from ongoing stream bed degradation. This degradation damages aquatic habitat, causes groundwater levels to decline, degrades water quality, threatens the stability of the entire stream network, and will eventually threaten critical infrastructure systems. Design of the structures is nearly complete and a preapplication meeting has been held with the USACE to obtain guidance in receiving a Section 404 permit. A wetland delineation has already been performed. Installation of this structure is critical to watershed health and has been held up as a priority by landowners, residents, and public officials.





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**Sponsor Name:** National Wild Turkey Federation **Nearest Town:** Chadron  
**Project Name:** Forest Stand Restoration on Pine Ridge Wildlife Management Areas **Project No:** 18-120  
**Amount Requested:** \$105,445 **Term of Project Request:** 2 **Review Group:** Rural Habitat

The NWTF, NGPC, and NFS are proposing a continuation of their partnership to continue forest restoration efforts in the Pine Ridge area of Nebraska through forest stand improvement (FSI) projects on four wildlife management areas (Bordeaux Creek WMA, Chadron Creek Ranch WMA, Gilbert Baker WMA, and Ponderosa WMA). This project is designed to mitigate against the potential impacts of large-scale moderate to high severity crown fires. This is especially important as over 60% of the Pine Ridge forest resources were severely impacted by such fires in 2006 and again in 2012. In addition to reducing wildfire risk, planned forest restoration projects will enhance biological diversity through restoration of pine woodlands to more natural, pre-settlement conditions. Plans are for 360 acres to be directly treated over two years and will build upon and complete projects that were previously supported with NET Funds. This project will include creation of strategically located fuel-breaks thinnings along access roads and highways within the wildlife/urban interface allowing for more effective and safe wildfire suppression and prescribed burning efforts in the future. This will impact the area at the landscape scale, allowing for increased prescribed burning efforts to reduce ponderosa pine regeneration and meadow encroachment, thus reducing overall forest management costs. The NWTF and NGPC currently have a partnership supporting a cooperative forester, an NWTF employee, working out of the U.S. Forest Service office in Chadron, NE. The NWTF will continue its support of this position and will budget 25% of the position's time and travel for implementation of this project, with the approval of NGPC. We are seeking financial assistance from the NET to assist with implementation of needed forest management practices to restore the function and resiliency of this biologically unique landscape in Nebraska. Matching funds will be provided through the NWTF, NGPC, and NFS.

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**Sponsor Name:** Nebraska Academy of Sciences, Inc., The **Nearest Town:** Lincoln  
**Project Name:** Nebraska Environmental Public Information and Education Minigrant Program **Project No:** 17-101-2  
**Amount Requested:** \$57,600 **Term of Project Request:** 3 **Review Group:** Statement of Intent

The Nebraska Environmental Public Information and Education Minigrant Program will award a total of \$51,000 each year for the next three years, in Minigrants of up to \$3,000 each, to support the presentation and dissemination of information and perspectives that will stimulate enhanced environmental stewardship in any category eligible for Nebraska Environmental Trust (NET) funding. These categories are habitat, surface and ground water, waste management, air quality, and soil management. The grants seek to expand dialogue on important current conservation topics and to provide information on emerging or highly useful conservation methods. All Nebraska individuals, private organizations, and public entities are eligible to apply for these funds. This program will be administered by the Nebraska Academy of Sciences. THIS PROJECT WAS FUNDED \$57,600 IN 2017 WITH THE INTENT TO FUND UP TO \$57,600 IN YEAR TWO PENDING AVAILABLE FUNDS AND SATISFACTORY PROGRESS. THIS IS THE SECOND YEAR REQUEST.

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**Sponsor Name:** Nebraska Cattlemen **Nearest Town:** Statewide  
**Project Name:** Leopold Conservation Award Video Project **Project No:** 16-134-3  
**Amount Requested:** \$10,000 **Term of Project Request:** 3 **Review Group:** Statement of Intent

In his influential book, A Sand County Almanac, Aldo Leopold called for an ethical relationship between people and the land they own and manage. This land ethic lives on in farmers and ranchers across Nebraska and nationwide who are committed to the enhancement of the land, water and wildlife in their care. Since 2006, Nebraska Cattlemen and Sand County Foundation have presented the Leopold Conservation Award (LCA) to families who internalize this land ethic and are dedicated to leaving their land better than they found it. Since 2010, the LCA Program has benefited from the announcement of the award recipient by the Nebraska Governor at the State Capitol on Earth Day. The governor's involvement has increased media interest in the award, including three Nebraska television stations, both major Nebraska newspapers, and numerous other print and online publications. The Associated Press picked up the Omaha World Herald's story for the past several years, expanding its reach to media outlets as far away as The Connecticut Post. The LCA Video Project seeks to capture the landowners' ethic in their own words, giving recipients an opportunity to share their story. Visual media are essential for not only archival purposes, but also for educating the general public on conservation practices occurring every day in Nebraska. Aside from actually setting foot on these operations, these videos are the best way to experience the exceptional efforts of these agricultural families. The project involves a full day of crew time interviewing the landowner and filming their conservation practices. The video will be professionally produced first as a stand-alone piece to be shown during speaking engagements, conventions, the Nebraska State Fair and trade shows, and second as a piece to be placed on the Foundation's YouTube channel, award partner and sponsor websites, and other online video outlets. THIS PROJECT WAS FUNDED \$10,000 IN 2016 WITH THE INTENT TO FUND UP TO \$10,000 IN YEAR TWO AND \$10,000 IN YEAR THREE PENDING AVAILABLE FUNDS AND SATISFACTORY PROGRESS. THIS IS THE THIRD YEAR REQUEST.

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**Sponsor Name:** Nebraska Cattlemen **Nearest Town:** Lincoln  
**Project Name:** Wildlife Habitat Improvement Through Prescribed Grazing: A Private/Public Partnership **Project No:** 18-210  
**Amount Requested:** \$200,000 **Term of Project Request:** 2 **Review Group:** Rural Habitat

The objective of this project is to improve wildlife habitat on private and public lands by installing fencing and watering facilities to allow for prescribed grazing management. The environmental outputs will be improved lake, stream, wetland, and prairie habitat on 5,895 acres and improved water quality by encouraging best management practices on surrounding lakes, streams, and wetland areas. Partners in this project include private landowners, the Nebraska Game and Parks Commission, the Natural Resources Conservation Service, and Nebraska Cattlemen. These partners will provide match exceeding 1:1. This project is a continuation of a partnership that received Nebraska Environmental Trust in the past (04-169, 05-176, 08-144, and 12-142) when the Nebraska Game and Parks Commission was the applicant. All four grants have all been successfully completed, and a summary of the results is provided in the narrative.

**Sponsor Name:** Nebraska Community Energy Alliance **Nearest Town:** Lincoln  
**Project Name:** Connecting Nebraska Communities Driving America's Fuel III **Project No:** 18-196  
**Amount Requested:** \$566,514 **Term of Project Request:** 1 **Review Group:** Air Quality

The Nebraska Community Energy Alliance (NCEA) requests \$566,514 from the Nebraska Environmental Trust (Trust) at a 50 percent cost share to lease-purchase electric vehicles and ChargePoint charging stations for NCEA grant partners and a public rebate program for electric vehicles and home charging stations in the Omaha/Douglas County area. 2018 grant partners requesting NET funding are Cities of Fremont (\$59,620), Bellevue (43,620), Nebraska City (\$25,000), Hastings (\$32,000) and Metro Community College (\$39,310), UNL (\$50,000) and ETP (\$41,964) for public education and grant administration. The rebate program will apply only to residents of the City of Omaha/Douglas County, a federally-designated non-attainment area at risk for ozone attainment designation. The residents must have registered a battery electric or plug-in hybrid electric vehicle in Douglas County. The rebate will be applied on a first come, first served basis to residents who are willing to participate in NCEA data sharing research for the grant term, showing proof of purchase or lease of an all-electric or plug-in hybrid electric vehicle that is registered in Douglas County. \$200,000 is requested for EV rebates and \$75,000 is requested for ChargePoint Home charging stations. At the end of the third year of NCEA's Connecting Nebraska Communities Driving America's Fuel! initiative, data collected and analyzed indicate the total environmental and economic benefits proved since data collection started in November, 2014 to June, 2017 are 84.97 tons of CO<sub>2</sub> and other harmful emissions and saved \$20,781.28. Data specific to this initiative is reported monthly in detail. -- June, 2018 NCEA Monthly Data Analysis. <http://engineering.unl.edu/e-vehicle>. July Report attached document.

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**Sponsor Name:** Nebraska Community Energy Alliance **Nearest Town:** Lincoln  
**Project Name:** Nebraska Flyway Community Solar Project II **Project No:** 18-154  
**Amount Requested:** \$729,970 **Term of Project Request:** 2 **Review Group:** Air Quality

Utility-scale solar power generation reduces CO<sub>2</sub> and other harmful emissions on the first day, benefits communities economically long after the project is paid off, and protects municipalities from the rising cost of conventionally-powered generation (5.6% annual increases). NCEA is requesting \$729,970 from the NET in cost share to defray the expense of three utility-scale solar installations in three different Nebraska communities and one small-scale solar-electric vehicle charging project at Allen Schools. The city of Gothenburg requests \$150,000 on a \$600,000 local match; the city of Fremont requests \$300,000 on a \$1.2M local match; the city of Superior requests a \$170,000 match on a \$2M local match, and Allen Schools requests a \$7,750 match on a \$7,750 local match. The NET request includes \$50,000 with a \$50,000 in-kind match for UNL research and \$50,220 for grant administration and public education to Electric Transportation Partners, from which all expenses will be paid. The total carbon reduction associated with the four project combined is 2,446,990 lbs, 56,202 tons over 25 years.

**Sponsor Name:** Nebraska Community Foundation **Nearest Town:** Ord  
**Project Name:** Loup River Prescribed Fire Training Exchange **Project No:** 18-121  
**Amount Requested:** \$342,000 **Term of Project Request:** 2 **Review Group:** Rural Habitat

Within the past century and a half, strong sentiments regarding wildfires led to the suppression and prevention of naturally occurring fires across Nebraska. The consequent absence of fire as a regular part of Nebraska's grassland ecosystems has significantly altered habitat for native wildlife and has undermined the productivity of the livestock economy in Nebraska. At 1.4 million acres, the Central Loess Hills Biologically Unique Landscape is the largest BUL in the Mixed-grass Prairie Ecoregion. Currently, over 11 percent of the Central Loess Hills BUL grasslands are invaded by eastern redcedar, and without intervention, this invasion is expected to grow exponentially. Even though prescribed fire has been one of the most rapidly adopted contemporary grassland management tools in Nebraska, most prescribed fires are less than one hundred acres in size. Larger prescribed fires will be needed to mitigate tree invasion and limit future tree encroachment in order to secure grassland habitat for at-risk wildlife and a strong livestock economy in the Central Loess Hills BUL. The Fire Learning Network's Prescribed Fire Training Exchange Program has been operating in the Central Loess Hills BUL and Loup River watershed since 2010 and provides training to wildland firefighters during live prescribed fire scenarios on private land. Since 2010, the Loup River Prescribed Fire Training Exchange has delivered over 29,000 acres of safe and effective prescribed fire in the Central Loess Hills BUL. With the assistance of the Nebraska Environmental Trust, the Loup River Prescribed Fire Training Exchange will be able to assist in compensating landowners to rest their grass prior to the prescribed fire in order to increase the ecological effectiveness of our fires. We will deliver 8,000 acres of large-scale prescribed fire within 2 years through the Loup River Prescribed Fire Training Exchange. In addition, financial assistance from the Nebraska Environmental Trust will also allow us to offer incentives for private landowners who are already burning to increase the size and impact of their prescribed fires. Through this incentive and the formal Loup River Prescribed Fire Training Exchange Program, we anticipate we will deliver a total of 13,000 acres of meaningful prescribed fire over the two years. Nebraska Environmental Trust assistance will also augment our equipment needs for prescribed fires by providing necessary fire line equipment.

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**Sponsor Name:** Nebraska Community Foundation **Nearest Town:** Aurora  
**Project Name:** Rainwater Basin Watershed Restoration Initiative **Project No:** 18-122  
**Amount Requested:** \$315,000 **Term of Project Request:** 3 **Review Group:** Rural Habitat

The Rainwater Basin Joint Venture (RWB JV) is a conservation partnership of agencies (state, federal, and local), conservation organizations, and private landowners who work together to implement wetland habitat conservation in Nebraska's 6,100 mi<sup>2</sup> Rainwater Basin (RWB) landscape. This grant's objective is to fill at least 21 abandoned irrigation reuse pits in the watersheds of public or private wetlands enrolled in conservation programs. In 1975, Nebraska legislation was passed to regulate groundwater irrigation. This law required producers to manage groundwater irrigation so adjacent properties were not impacted. As a result over 10,000 irrigation reuse pits were excavated. These features increased irrigation efficiency and reduced runoff. Today many of the fields that were gravity irrigated with irrigation reuse pits have been converted to pivot irrigation. As a result, many of the irrigation reuse pits are not used. Unfortunately, the abandoned irrigation reuse pits, in the watersheds of conserved wetlands, fill with water before runoff from precipitation events can reach the wetlands. Filling abandoned irrigation reuse pits provides a "win-win" for producers and wildlife. When an irrigation reuse pit is filled the producer eliminates an obstacle in the field and acquires additional farmable acres. Removing the pit also restores wetland hydrology and watershed function, by facilitating runoff to the wetland on a regular basis. Functional RWB wetlands are critical especially during spring migration when ~8.6 million waterfowl, 500,000 shorebirds, and the federally endangered whooping crane stage in this area to rest and replenish nutrient reserves. To maximize project effectiveness, emphasis will be on irrigation reuse pits closest to the wetlands with large storage capacities. Since RWB wetlands are major recharge sites to the underlying Ogallala Aquifer, grant activities will also benefit local residents and area producers. In summary grant activities will support a sustainable aquifer, wildlife habitat, and productive agriculture operations for generations.

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**Sponsor Name:** Nebraska Community Foundation **Nearest Town:** Multiple  
**Project Name:** Wetlands Reserve Enhancement Partnership Special Initiative **Project No:** 17-113-2  
**Amount Requested:** \$158,550 **Term of Project Request:** 3 **Review Group:** Statement of Intent

Funding from this grant will be leveraged to restore 300 acres of wetlands and associated upland. In addition to habitat work, grant (\$475,650) and match funds (\$1.5 million) will be used to modify pivot irrigation systems to eliminate impacts to the restored wetland and establish grazing infrastructure to seamlessly transition the tract into the producers operation. Annually, NRCS requests proposals to develop Wetland Reserve Enhancement Partnerships (WREP). These partnerships focus on developing innovative approaches that allow tracts enrolled in the Wetlands Reserve Easement to "fit" into agriculture operations. This year the Rainwater Basin Joint Venture (RWB JV) was awarded a 300 acre WREP focusing on programmatic flexibility to allow producers to retain the right to pass pivot irrigation systems over enrolled acres. In the past, landowners were hesitant to enroll because they could not pass the pivot over enrolled acres and complete full rotations to effectively irrigate adjacent cropland in the field. To ensure the pivot can cross the restored wetlands a variety of pivot modifications will be used, including moving the pivot point, track systems, and/or replacing pneumatic tires with low pressure tires. These modifications will eliminate impact of the pivot to the restored wetlands and ensure pivot passage over enrolled acres. Grazing infrastructure (i.e. perimeter fence, pivot gates, livestock water) will be established to seamlessly transition the flood-prone cropland to forage production. Grazing will maintain the tract as working lands and maximize habitat conditions. Nebraska's three largest pivot manufacturers (Lindsay, Reinke, and Valmont) have signed on as corporate partners. These companies have committed to technical assistance and financial assistance through a cost-share program for pivot modifications. They will also assist with outreach and marketing through their dealer networks. These dealers will be able to identify multiple producers that will qualify for this program, ensuring implementation success.

THIS PROJECT WAS FUNDED \$158,550 IN 2017 WITH THE INTENT TO FUND UP TO \$158,550 IN YEAR TWO AND \$158,550 IN YEAR THREE PENDING AVAILABLE FUNDS AND SATISFACTORY PROGRESS. THIS IS THE SECOND YEAR REQUEST.

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**Sponsor Name:** Nebraska Conservation Education Fund **Nearest Town:** Statewide  
**Project Name:** NCEF Common Ground Program **Project No:** 18-198  
**Amount Requested:** \$176,218 **Term of Project Request:** 2 **Review Group:** Education

The quality of Nebraska's natural environment is dependent upon its people. The places in this world with the greatest biodiversity, cleanest air and water, and most sustainable practices are places where the local people have determined that conservation and environmental protection are important. It is people who improve local sustainability through the practices they use on their own land, donating financial resources or volunteering their time, or ensuring that their community and state prioritize conservation. This means that the most dynamic and systematic way to ensure bountiful and thriving natural resources is to develop a strong conservation ethic in the residents of Nebraska. The Nebraska Conservation Education Fund's Common Ground Program instills the value of environmental stewardship in its participants and empowers Nebraskans to conserve and protect their natural resources through locally-led education efforts, service learning, and community conservation projects. NCEF just finished Common Ground's pilot year (2016 – 2017), during which we were present in six communities in Nebraska, engaged more than 750 people, and involved community members in 7 conservation projects. Starting in the fall of 2017, NCEF will have the support of 10 full-time AmeriCorps members, and will expand our Common Ground Program to 25 communities. NCEF is requesting support from the Nebraska Environmental Trust to support this program expansion in 2018 and 2019. With the support of the NET, we will increase knowledge of environmental stewardship and improve conservation behavior among participants in all 25 communities. By the end of 2019, we will have conducted 600 educational events, provided training to 175 community leaders, reached 10,000 people, and leveraged more than 1,000 volunteers. Through partnership with the UNL Public Policy Center, robust evaluation and research will be a key component of our program expansion.

**Sponsor Name:** Nebraska Department of Environmental Quality      **Nearest Town:** Lincoln  
**Project Name:** UNL and NARD Liaison      **Project No:** 18-168  
**Amount Requested:** \$132,348      **Term of Project Request:** 1      **Review Group:** Waste Management

The NDEQ would like to fund two liaisons, one with University of Nebraska Cooperative Extension (UNCE) and other with the Nebraska Association of Resources Districts (NARD). The liaison partnerships with these partner agencies is mutually beneficial. The UNCE liaison is very valuable for communication and coordination of projects between NDEQ, the University of Nebraska and other partner agencies. Specializing in communication and outreach, this liaison will work with individual NRDs on writing meaningful communications strategies and goals-objectives for basin and watershed management plans. When communicating to groups about nonpoint source pollution issues, a liaison from the University is often seen as a more neutral messenger than NDEQ. In small and large ways, this liaison helps to bridge the University-Agency gap through personal connections. The NARD liaison is extremely valuable for working with NRDs on both 9-element plans and implementation projects. We will rely heavily on this liaison to help with the review and revision of Basin and Watershed management plans, including the Bazile Groundwater Management Area Plan, and now to develop a Basin plan for Lewis and Clark NRD. In addition, our NARD liaison represents our nonpoint source program at NRD functions such as the Manager Meetings. This liaison works with NRDs on 319 final reports and other project administration duties as well as filling program needs as they arise.

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**Sponsor Name:** Nebraska Department of Natural Resources      **Nearest Town:** Statewide  
**Project Name:** Integrated Water Management Action Initiative      **Project No:** 18-107  
**Amount Requested:** \$9,900,000      **Term of Project Request:** 3      **Review Group:** Water

This application is submitted pursuant to LB331, 2017, codified at Neb. Rev. Stat. § 61-218(7)(c), which states: "It is the intent of the Legislature that the department apply for ... an additional three-year grant that would begin in fiscal year 2017-18 if the criteria established in subsection (4) of section 81-15,175 are achieved." All funds obtained through the allocation will be used for the purposes of the WRCF as set out in Neb. Rev. Stat. § 61-218(7). The WRCF was established to fund the State's contingent water resources remediation needs in fully and overappropriated basins. It has funded various projects since its inception in 2007, including the Platte Basin Habitat Enhancement Project (PBHEP), also funded with NET dollars, and the "Platte Basin Water Management Action Initiative", which evolved from PBHEP, expanding on other water projects and shifting focus from easements to other projects that achieve the same goal. The purpose of this current Initiative is to plan, implement, and monitor activities that result in more effective water management and remediation for current depletions caused by past actions. The Initiative will assist the Department and the Natural Resources Districts (NRDs), in cooperation with other partners, in providing clear, direct benefits to habitat and surface and groundwater resources by: optimizing timing and efficiency of water uses, enhancing streamflows and groundwater recharge, reducing water consumption, and enhancing wildlife habitat in fully and overappropriated areas. The Initiative described in this application is a portion of the currently intended uses for the WRCF. Other projects will be carried out under the auspices of the WRCF with available funds as well. In-progress and new projects include: surface water storage projects, groundwater retiming, leasing or purchasing water, conjunctive management of water, conservation easements, and other water use efficiency measures to optimize water use in the basin.

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**Sponsor Name:** Nebraska Game and Parks Commission **Nearest Town:** Omaha  
**Project Name:** Pollinator and Monarch Butterfly Habitat Restoration on the Cowboy Trail & State Park Areas **Project No:** 16-127-3  
**Amount Requested:** \$50,000 **Term of Project Request:** 3 **Review Group:** Statement of Intent

A 4,000 acre stretch of grassland adjacent to the Cowboy Trail (CBT) has potential to provide habitat for at-risk species while providing Nebraskans the unique opportunity to appreciate and contribute to conservation in multiple biologically unique landscapes (BULs). This corridor of grassland and on lands in 13 State Parks is in need of restoration and/or enhancement to provide the needed resources to a variety of wildlife species with special attention directed toward pollinators and the Monarch Butterfly. Conversion of low quality grasslands to high diversity prairie plantings will be tailored to pollinators using ecotype seed to produce nectar plantings along the trail and in the state park areas over a three year period. Local community volunteer groups will be guided by educators from the Nebraska Game and Parks Commission and the University of Nebraska, Department of Entomology to participate in the restoration process by both planting specific plants and evaluating the restoration and species response. The habitat quality is significantly improved with the Nebraska Department of Roads as a partner on this project to restore and enhance 200 miles of Highway right-of way adjacent to the CBT to high quality pollinator habitat. The Prairie Plains Resource Institute (PPRI) will also partner in the project and participate in the teaching and monitoring efforts with the local community volunteers. Many at risk upland terrestrial wildlife and plant species listed in the Nebraska Natural Legacy Plan including the Monarch Butterfly are expected to benefit from these proposed improvements to more than 1,600 acres of ROW grasslands and parklands. THIS PROJECT WAS FUNDED \$50,000 IN 2016 WITH THE INTENT TO FUND UP TO \$50,000 IN YEAR TWO AND \$50,000 IN YEAR THREE PENDING AVAILABLE FUNDS AND SATISFACTORY PROGRESS. THIS IS THE THIRD YEAR REQUEST.

**Sponsor Name:** Nebraska Game and Parks Commission **Nearest Town:** Statewide  
**Project Name:** Nebraska Natural Legacy Plan: Terrestrial and Aquatic Implementation for Biodiversity Conservation **Project No:** 16-140-3  
**Amount Requested:** \$260,000 **Term of Project Request:** 3 **Review Group:** Statement of Intent

The Nebraska Natural Legacy Project (Legacy Project), the state's first comprehensive Wildlife Action Plan, was federally approved in 2005 and revised in 2011. The habitat-based plan identified at-risk species, threats to those species, conservation actions to address threats, and 39 Biological Unique Landscapes (BULs) for effectively conserving Nebraska's biological diversity. Legacy partners have worked with hundreds of private landowners to implement conservation in 21 BULs that enhanced over 300,000 acres of at-risk species habitat. The primary goal of "Nebraska's Natural Legacy Project: Terrestrial and Aquatic Implementation for Biodiversity Conservation" is to continue and expand implementation of our ongoing conservation actions throughout the state by improving over 100,000 acres of habitat over the next three years. These actions, on both private lands and conservation lands will improve the ecological condition of Nebraska's native plant communities thus benefitting at-risk and other native species. Habitat projects are delivered collaboratively with partners, using voluntary, incentive-based strategies when working on private lands. Project ranking, monitoring, and evaluation procedures are established. Our project provides economic benefits to farmers and ranchers, promotes sustainable land and water management, and enhances outdoor recreational opportunities for Nebraskans. This project also includes a biodiversity education and outreach component. The primary Legacy Project partners for this grant include the Nebraska Game and Parks Commission, US Fish and Wildlife Service, Natural Resources Conservation Service, Northern Prairies Land Trust, Pheasants Forever and the Bird Conservancy of the Rockies. We are requesting \$950,000 of NET funds for this three-year project. The project partners will provide \$1,425,000 in match. Participating private landowners will provide additional cash or in-kind match. We believe this project qualifies for the Feature Program Bonus Points for the reasons listed in the narrative section. THIS PROJECT WAS FUNDED \$430,000 IN 2016 WITH THE INTENT TO FUND UP TO \$260,000 IN YEAR TWO AND \$260,000 IN YEAR THREE PENDING AVAILABLE FUNDS AND SATISFACTORY PROGRESS. THIS IS THE THIRD YEAR REQUEST.

**Sponsor Name:** Nebraska Game and Parks Commission **Nearest Town:** Minden  
**Project Name:** Rainwater Basin Wetland Management **Project No:** 16-141-3  
**Amount Requested:** \$75,000 **Term of Project Request:** 3 **Review Group:** Statement of Intent

The Rainwater Basin Joint Venture (RWBV) rigorously pursues opportunities to maximize wildlife habitat in the Rainwater Basin (RWB), which is a privately owned and row-crop dominated landscape in south-central Nebraska. This landscape provides habitat for ~8.6 million waterfowl, 500,000 shorebirds, and the federally endangered whooping Crane. Grant funds will be used to implement 10,000 acres of intensive management over the next three years. Herbicide applications and mechanical disturbance will be targeted at dense, monotypic stands of reed canary grass, river bulrush, cattail, trees, and common reed. These vegetation communities provide limited habitat for wetland dependent migratory birds and outcompete desired vegetation. Grant and partner funds will be used to hire contractors to disk, apply herbicide, complete prescribed burns, and conduct mechanical tree removal. The RWBV has a solid record of implementing these projects. Over the last five years, the RWBV partners have bundled treatments to maximize impact and reduce cost. To complete the project, both private and public lands treatments are bundled into a single bid package. Numerous contractors are provided the opportunity to bid on these projects. This bundling approach has resulted in herbicide application costs going from \$65/acre to \$13/acre. Over 20,000 acres have been treated using this approach. As a result, waterfowl carrying capacity has increased by ~ 1.5 million duck-use-days, or in other words, sufficient habitat to provide ~7% of the needed foraging resources based on the RWBV Implementation Plan objectives. The RWBV Implementation Plan, approved by the Management Board, recognizes the social and economic issues associated with conservation. Therefore, the Board identified intensive management as a key strategy to achieve RWBV Implementation Plan objectives, especially on public lands and private lands enrolled in conservation programs. If habitat values are maximized on these lands, fewer acres will need to be targeted for future enrollment to achieve habitat objectives. THIS PROJECT WAS FUNDED \$75,000 IN 2016 WITH THE INTENT TO FUND UP TO \$75,000 IN YEAR TWO AND \$75,000 IN YEAR THREE PENDING AVAILABLE FUNDS AND SATISFACTORY PROGRESS. THIS IS THE THIRD YEAR REQUEST.

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**Sponsor Name:** Nebraska Game and Parks Commission **Nearest Town:** Louisville  
**Project Name:** Schramm SRA Interactive Exploration Center **Project No:** 17-106-2  
**Amount Requested:** \$300,000 **Term of Project Request:** 2 **Review Group:** Statement of Intent

The \$5.6 million Interactive Exploration Center at Schramm State Recreation Area (SRA) will provide families and visitors an inspirational environmental educational experience that engages all of the senses. The Center is part of the Outdoor Venture Park concept that encompasses four parks in eastern Nebraska (Mahoney State Park, Platte River State Park, Schramm State Recreation Area and Louisville State Recreation Area) that reaches over one million residents within 60 miles. This complex will encourage people to venture outdoors and discover the wonders of Nebraska's natural legacy. The Center will reinvent the existing Ak-Sar-Ben Aquarium, dramatically expand the nature center area, and add valuable classroom space to further Nebraska Game and Parks' mission. The updated aquarium will focus on three of Nebraska's aquatic ecosystems- river, lake, and stream. This system will better illustrate how Nebraska's surface waters interact. In addition to common fish species, other Nebraska rare and at risk species will be showcased. The nature center will be entirely reimagined and enlarged to include interactive features such as live animals, touch stations and interactive technology. This will allow for the provision of quality learning for all ages and abilities using current educational techniques. The existing building will be enlarged and renovated to include a new educational classroom, new office space for staff and support facilities for the aquarium. The existing theater will be transformed into a part of the nature center. The Interactive Exploration Center will be a premier learning center in Eastern Nebraska to educate future generations about Nebraska's natural resources including water, wildlife and ecology. THIS PROJECT WAS FUNDED \$975,000 IN 2017 WITH THE INTENT TO FUND UP TO \$300,000 IN YEAR TWO PENDING AVAILABLE FUNDS AND SATISFACTORY PROGRESS. THIS IS THE SECOND YEAR REQUEST.

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**Sponsor Name:** Nebraska Game and Parks Commission **Nearest Town:** Aurora  
**Project Name:** The Nebraska Oak Woodland Alliance II **Project No:** 18-167  
**Amount Requested:** \$350,000 **Term of Project Request:** 2 **Review Group:** Rural Habitat

Eastern Nebraska oak woodlands are one of our state's most threatened ecosystems. They have been degraded by lack of fire, proliferation of shade-tolerant trees, invasion by exotic plants, and lack of oak regeneration. In 2014, the Nebraska Oak Woodland Alliance (NOWA), an affiliation of organizations dedicated to enhancing our state's oak woodlands, received a NETF grant for work on private- and conservation lands. The past three years, through this grant NOWA partners have implemented prescribed fire on 11,275 acres of oaks woods (grant goal was 6,000 acres), conducted thinning of shade-tolerant and invasive trees on 3,622 acres (grant goal was 3,200 acres) and implemented invasive weed control on 3,800 acres (grant goal 4,000 acres). To continue this successful project a \$350,000 two-year NETF grant is being submitted. The partners will provide \$372,500 in cash match and \$42,000 in in-kind match. Primary project partners include Nebraska Game and Parks Commission (NGPC), Northern Prairies Land Trust, National Wild Turkey Federation, U.S. Fish and Wildlife Service, Natural Resource Conservation Service, Nebraska Forest Service, Girl Scouts Spirit of Nebraska, and several Natural Resource Districts. The NGPC will be the project sponsor and administer the grant. Grant goals include implementing prescribed fire on 10,000 acres of oak woods, mechanical and chemical tree thinning on 1,200 acres, and invasive plant control on over 4,000 acres on both private and conservation lands. Field tours and seminars will be held to educate others regarding methods of oak woodland management. Detailed evaluation programs are in place to determine the effectiveness of our management practices and these will be expanded. This project will fulfill several Nebraska Natural Legacy Project objectives within ten Legacy Project Biologically Unique Landscapes and qualifies for the Geographic Bonus Points since work will occur along the Niobrara River in the North Central District.

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**Sponsor Name:** Nebraska Game and Parks Commission **Nearest Town:** Lincoln  
**Project Name:** Trout in the Classroom **Project No:** 17-122-2  
**Amount Requested:** \$34,940 **Term of Project Request:** 3 **Review Group:** Statement of Intent

Trout in the Classroom (TIC) is an environmental education program that provides students the opportunity to learn about aquatic resources within a framework of hatching and raising trout. Nebraska's TIC program was initiated in 2013 with three pilot schools and has expanded to include 60 schools statewide with the assistance of NET funding. Participating students monitor growth as their trout hatch and develop, and they take ownership of caring for their trout by feeding, testing water quality and cleaning the aquarium. Throughout the program, students participate in activities that cover topics like aquatic habitat, water quality, ecosystem interactions, food webs, life cycles and Nebraska fish species. Students learn firsthand how all aspects of a trout's life cycle, food web and habitat are interconnected and impacted by the environment. Nebraska's TIC curriculum has interdisciplinary applications in science, social studies, mathematics, language arts, fine arts and physical education. The curriculum targets 4th- and 5th-grade learning objectives, but is being utilized in 2nd-grade through high school classes. With a second NET grant, we are seeking to fund a staff assistant position to help coordinate TIC. This position will continue to support the existing program by coordinating with teachers to plan for classroom visits, field trips, training workshops and trout egg deliveries. Additionally, this position will assist with the development of a middle- and high-school TIC curriculum package, will aid new applicants in grant writing to obtain the necessary funding for equipment and will build and administer an equipment grant fund for new applicants. This grant is essential to the continued growth of, and meeting demand for, this popular aquatic education curriculum program. THIS PROJECT WAS FUNDED \$34,900 IN 2017 WITH THE INTENT TO FUND UP TO \$34,900 IN YEAR TWO AND \$34,900 IN YEAR THREE PENDING AVAILABLE FUNDS AND SATISFACTORY PROGRESS. THIS IS THE SECOND YEAR REQUEST.

**Sponsor Name:** Nebraska Grazing Lands Coalition **Nearest Town:** Statewide  
**Project Name:** Soil Health and Water Conservation Through Grazing Cover Crops **Project No:** 16-103-3  
**Amount Requested:** \$99,066 **Term of Project Request:** 3 **Review Group:** Statement of Intent

Based on the theory of "Teach a man to fish," this project focuses on grazing cover crops on highly erosive row crop acres that are part of routine row crop plant rotations and/or targeted for reseeding to pasture and range grasses for grazing purposes. On row crop acres that are part of routine crop rotations, grazing cover crops enhances soil health and conserves water through reduced wind and rain erosion. On row crop acres targeted for cool season or native grass reestablishment, the use of cover crops is a logical first step to enhance soil health. This is a three-year project, with the goal of conducting a cover crop grazing demonstration each year in each of the eight NGLC districts statewide. However, the scope of the Soil Health and Water Conservation Through Grazing Cover Crops Project has potential for greater awareness of the importance of soil health and water conservation throughout Nebraska. THIS PROJECT WAS FUNDED \$99,066 IN 2016 WITH THE INTENT TO FUND UP TO \$99,066 IN YEAR TWO AND \$99,066 IN YEAR THREE PENDING AVAILABLE FUNDS AND SATISFACTORY PROGRESS. THIS IS THE THIRD YEAR REQUEST.

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**Sponsor Name:** Nebraska Public Power District **Nearest Town:** Gothenburg  
**Project Name:** River Flow Augmentation Delivery Structures **Project No:** 18-151  
**Amount Requested:** \$170,890 **Term of Project Request:** 1 **Review Group:** Water

The problem that will be solved by the project is that Nebraska Public Power District's (NPPD) Gothenburg Canal and Dawson County Canal current irrigation diversion structures and gates were not designed to pass the small amounts of flow as required with transfers of water in an accurate manner. Accuracy associated with the existing radial gates is as low as +/- 30-50% at low flows due to turbulence. The purpose for the project is to build meter gates to ensure that the proper amount of water is bypassing the river diversion structures and can be accurately measured; for instream enhancement purposes for threatened and endangered species for the Platte River Recovery Implementation Program (PRRIP) in the near future and potentially other beneficial uses in the farther future. The benefit of the project is to provide meter gates that will accurately measure water bypassing the river diversion structures for instream uses while ensuring adequate water delivery for NPPD's irrigation canals. The project will provide measurement accuracy of 5% or better. In a water-scarce area, this improvement in accuracy is significant. Each meter gate provides control, measurement, and documentation of water flows less than 100 cubic feet per second (cfs) from water to be provided for instream beneficial uses, likely either from the canals themselves or from upstream canals. These instream flows improve the hydrologic system that benefits habitat for aquatic life and other species that use the river, including endangered species. This project could also be used as a pilot for allowing the Nebraska Department of Natural Resources to more accurately measure water passing river diversions, increasing knowledge necessary for real time water administration throughout the state.

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**Sponsor Name:** Nebraska Recycling Council **Nearest Town:** Lincoln  
**Project Name:** Recycling Equipment Grants and Consultation **Project No:** 18-145  
**Amount Requested:** \$866,680 **Term of Project Request:** 3 **Review Group:** Waste Management

Nebraska Recycling Council (NRC) requests support for a three-year renewal of the Recycling Equipment Grant program that has funded smaller grants of up to \$15,000 each for 16 of the previous 19 years under the Nebraska State Recycling Association. This year, we propose to increase the limit for individual equipment grants to up to \$20,000 to account for inflation. We propose to continue with our consultation and information gathering efforts that began in the last grant cycle. New this cycle, we also propose to initiate a scoring matrix for grant applications that provides extra points for hub and spoke or collaborative recycling programs, and to track down equipment from previous years' equipment grants and record their location, usage and condition. The funding request will cover equipment grant funds, plus salaries for grants administration, travel to verify equipment purchases, locate grant-funded equipment and provide consultation, and a portion of operating costs and supplies for the NRC.

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**Sponsor Name:** Nebraska State Irrigation Association **Nearest Town:** Lincoln  
**Project Name:** Water Leaders Academy **Project No:** 18-102  
**Amount Requested:** \$217,144 **Term of Project Request:** 3 **Review Group:** Education

The Nebraska State Irrigation Association developed the Water Leaders Academy to give early to mid-career professionals the chance to learn about the complexities of managing Nebraska's surface and groundwater. The curriculum draws upon experts from technical and social disciplines and includes a strong leadership component. The Academy's goal is to teach future water resources decision makers to work together to solve problems. The Academy accepts applicants from across Nebraska who have an interest in water and natural resources. Since inception, 102 participants from 37 communities have completed the program. The 2018 class has eight persons on the wait list, a first for the Academy and an indication of positive experiences. The Academy offers six 1.5-day sessions over a 12-month period at locations across the state. Sessions include field trips and discussions ranging from urban water systems to irrigation development, management and integrated operations in crop production, fish, wildlife, ecotourism and recreation activities. As a group, participants complete a hands-on project designed to prepare them for future community education, involvement, and policy decisions in water protection and conservation. NET funding was essential in the 2011 Water Leaders Academy launch and its growth. So, as we seek a third round of funding, please remember that the water community is facing a major demographic shift. According to a Water Research Foundation report: "Boomer retirement began about five years ago and is estimated to continue over the next 10-15 years. The estimates place the anticipated loss of current utility employees at between 30 to 50 percent within the next 10 years." These retirees will include current water leaders and decision makers; we must prepare the next generation to take on these roles. Academy prepared water leaders will be critical to meet the NET mission to conserve, enhance and restore the natural environments of Nebraska.

**Sponsor Name:** Nebraska Statewide Arboretum **Nearest Town:** Statewide  
**Project Name:** Greener Nebraska Towns: More Resilient, Biodiverse and Waterwise **Project No:** 18-172  
**Amount Requested:** \$498,971 **Term of Project Request:** 2 **Review Group:** Urban Habitat

The Nebraska Statewide Arboretum (NSA) requests \$498,971 in NET funds to continue the highly successful Greener Nebraska Towns Initiative (GNT) that was funded by NET in 2015. GNT is a multi-partner, statewide initiative designed to dramatically improve the resiliency and environmental sustainability of community green spaces. The initiative addresses several environmental issues now impacting communities including poor ecological function, low biodiversity, high water use, stormwater problems, invasive plants, degraded soils, extreme weather events and looming insect threats. GNT will help make Nebraska communities greener and more resilient through the implementation of sustainable, public-oriented landscape projects that demonstrate the value of native plants, water conservation, stormwater bioretention, improved habitat and better soil management. In addition, the initiative will educate and inform Nebraskans about landscape stewardship and how sustainable practices can be implemented at the homeowner scale. The initiative will advance NET's funding priorities of Habitat, Water, and Soil Management by greatly expanding the use of native and ecologically appropriate plantings that provide food and shelter for important insects, birds and other community wildlife and by demonstrating and promoting landscape practices that measurably conserve water, reduce stormwater runoff and help build/conservate healthy soil. Measurable outcomes will include: •Up to 100 projects in at least 30 partner communities will be implemented across the state. At least 35,000 live plants, 500 pounds of native seed and at least 800 trees and shrubs will be planted. •Water use will be reduced by more than 80% over traditional landscaping on project sites. •At least 5,000 Nebraskans will be informed toward better environmental awareness and greater involvement in sustainable landscape practices.

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**Sponsor Name:** Nebraska Statewide Arboretum **Nearest Town:** Lincoln  
**Project Name:** Trees for Nebraska Towns (TNT)-Increasing the resiliency of Nebraska's community forest **Project No:** 18-171  
**Amount Requested:** \$767,305 **Term of Project Request:** 3 **Review Group:** Urban Habitat

Trees for Nebraska Towns (TNT) is a statewide, three-year initiative aimed at reversing the decline of Nebraska's community forests by promoting and investing in intensive tree planting, sound resource management, community capacity building and public education. Inventories reveal that Nebraska has lost up to 50% of its community tree resource in recent decades due to weather events, diseases, insects and human neglect. Replanting has not kept up with the loss and the very real potential exists for a generational loss of canopy and associated benefits. The Nebraska Statewide Arboretum, Inc. (NSA) is requesting \$767,305 to fund the Trees for Nebraska Towns (TNT) Initiative. TNT will provide funding and technical assistance for tree planting, public education and sustainable community forest management in participating communities. Specifically, the program will enable at least 100 different projects in 50 different communities; plant up to 10,300 large-maturing trees (with eventual annual benefits of up to \$1,360,000); educate at least 4,000 Nebraskans about proper tree planting and management practices; improve the long-term viability of over 2,500 trees and engage and empower at least 1,000 volunteers and resource professionals in proper planting. Ultimately the program will provide innovative programs that will increase the resiliency of Nebraska's community forests. The program will be a multi-partner collaborative including NSA, the Nebraska Forest Service, NSA citizen volunteers, Nebraska's green industry and participating communities statewide. If funded, the program will leverage up to \$780,965 in matching funds from a wide-variety of sources and partners. The program will advance each of the Trust's funding priorities with a special emphasis on Urban Habitat, Surface and Ground Water and Air Quality.

**Sponsor Name:** Nebraska Trout Unlimited Chapter 710 **Nearest Town:** Mitchel  
**Project Name:** Dry Spotted Tail Creek and Wetland Project **Project No:** 18-108  
**Amount Requested:** \$275,000 **Term of Project Request:** 2 **Review Group:** Rural Habitat

Dry Spotted Tail Creek, is a 13.3 mile perennial coldwater stream tributary to the North Platte River with a long history of supporting recreationally important trout and native fish communities. Over time, the high volume and velocity of irrigation return flows have straightened and incised the lower reaches, thereby lowering the water table and adversely impacting adjacent prairie and wetland communities. Devoid of in-stream habitat (e.g., overhanging cover, current breaks, and coarse substrates), the current channel flows prevent upstream passage for many aquatic life forms, especially small bodied fishes. Even trout who are especially strong swimmers, no longer reside in this stretch and now move quickly through this featureless area rather than use it as holding habitat. We are requesting NET funding assistance to rehabilitate approximately 0.75 miles of the lower reach of Dry Spotted Tail Creek, which lies within the North Platte River Biologically Unique Landscape recognized in Nebraska's "Natural Legacy Project". This project will restore natural hydrology to the confluence of the North Platte River and Dry Spotted Tail Creek and surrounding areas by returning groundwater levels to pre-incised conditions on 140 acres and installing stream sinuosity with the in-stream habitat features needed to sustain healthy aquatic, riparian and wetland communities. Planned construction will; improve water quality, balance sediment transport, stabilize stream banks, install a protected buffer strip and riparian corridor, increase groundwater recharge, raise the local water table, restore historical wetlands, create in-stream habitat for trout, improve passage for native fishes and support an economically important recreational fishery with easy access to the public. Additionally this project will serve as an educational tool and demonstration site illustrating the beauty of Nebraska's coldwater streams and our responsibility to restore and protect these important resources.

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**Sponsor Name:** Nebraska Water Balance Alliance **Nearest Town:** Chadron  
**Project Name:** PRECIP (Panhandle Region Evaluation & Conservation Irrigation Partnership) **Project No:** 18-123  
**Amount Requested:** \$300,000 **Term of Project Request:** 3 **Review Group:** Water

The Panhandle is the headwaters of our state's water supply. Conservation and effective management in western Nebraska echoes across the state and beyond. It is also the most volatile part of the state in terms of water sustainability. Variable rainfall and climate patterns challenge this part of the state more than any other and the results of this uncertainty have magnified ramifications economically, ecologically and socially. Working together to maximize conservation and minimize impact is imperative for the future of the region. The Nebraska Water Balance Alliance (NEWBA) through its Aquamart project is joining with the Upper Niobrara/White NRD (UNWNRD, the North Platte NRD (NPNRD), and the South Platte NRD (SPNRD) to launch the Panhandle Region Evaluation & Conservation & Integration Partnership (PRECIP) The goal of PRECIP is to generate sustainable and measurable improvement to Nebraska's water resources by providing value at all levels to all stakeholders. PRECIP will over the next 3 years: Establish 6 demonstration sites across the panhandle to demonstrate agricultural management systems; Host a series of peer to peer field days and learning networks to answer questions and promote understanding about adoption, implementation, and evaluation of all water related management practices at farm scale and their relationship to watershed health; Solicit greater understanding and involvement from: Technology providers; Natural resource regulators; Research and extension; Non-farm water stakeholders; Promote producer led monitoring systems; Illustrate the interaction between farm based conservation and other water uses demonstrate the economic value of improved water management at all levels; Integrate farm scale water conservation into large conservation frameworks; Identify knowledge gaps and research priorities in farm water management. Increase adoption and integration of farm water management into watershed sustainability planning across the three NRD's for the benefit of all Nebraskans

**Sponsor Name:** Nebraska Weed Management Area Coalition **Nearest Town:** Kearney  
**Project Name:** NEWMAC Counties Work Together on Invasive Species Control **Project No:** 17-125-2  
**Amount Requested:** \$42,500 **Term of Project Request:** 3 **Review Group:** Statement of Intent

The Nebraska Weed Management Area Coalition (NEWMAC) is made up of 9 Weed Management Areas (WMAs) that bring together landowners, agencies and organizations in a geographical area to coordinate efforts and expertise against newly recognized invasive weed species. Members of NEWMAC who are participating in this grant include: Panhandle Research Integration for Discovery Education (PRIDE), Middle Niobrara Weed Awareness Group (MNWAG), Sandhills Weed Management Area (SWMA), Platte Valley Weed Management Area (PVWMA), and West Central Weed Management Area (WCWMA). This covers 28,156,800 acres in 36 Nebraska counties. In 2015, 1.5 million acres of Nebraska were infested with the State Listed noxious weeds. NEWMAC recognizes the need to ensure these noxious species continue to be treated. However, they also recognize the need for continued surveying and management of additional species that have the potential to become widespread problems. NEWMAC is seeking funding to accomplish three objectives that assist in preserving and enhancing Nebraska's native biodiversity and natural beauty. 1) By using on-going research conducted in northwest Nebraska and communicating those results to private landowners and partners, we will initiate treatment of small yellow flag iris infestations along other rivers and creeks. 2) Continue publication and distribution of The Weed Watch that provides information pertaining to invasive weeds and the importance of control to over 100,000 homeowners in 48 counties. This publication provides information on identification, prevention and control of invasive species. 3) NEWMAC partners will monitor for Invasive Plant Watch List species (A list developed by the Nebraska Invasive Species Council). This proactive approach will allow for detection and control of these species before they become established and therefore more difficult and expensive to control. When new, small infestations are treated quickly, native plant communities can recover, providing quality forage and habitat for local wildlife species. THIS PROJECT WAS FUNDED \$54,500 IN 2017 WITH THE INTENT TO FUND UP TO \$42,500 IN YEAR TWO PENDING AVAILABLE FUNDS AND SATISFACTORY PROGRESS. THIS IS THE SECOND YEAR REQUEST.

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**Sponsor Name:** Nebraska Wildlife Federation **Nearest Town:** Lincoln  
**Project Name:** Establish Demonstration Sites for Innovators in Wildlife, Water Quality, Grazing and Soil Health Across Nebraska **Project No:** 18-132  
**Amount Requested:** \$250,554 **Term of Project Request:** 3 **Review Group:** Education

The Nebraska Wildlife Federation will select forty-six innovators and/or adopters (actively participate in the ranch and/or farm) over two years whom will develop demonstration sites for wildlife, water quality, grazing and soil health (WWGS). One participant will be selected from each of the twenty-three, Natural Resource Districts of Nebraska in year one. This will be repeated in year two so that the unique nature of Nebraska's environment and wildlife is addressed. Participants will be identified through Nebraska's NRD new program to recognize stewards of NE resources which was instituted in 2017. The participants at each site will establish a minimum of four acres to enhance wildlife, water quality, grazing and soil health. The cohorts will complete training at least twice/year and hold sharing days. The selectees will represent two main groups—either innovators whom lead environmental change or others whom may want to improve the resources at their ranch and/or farm but for a variety of reasons are “middle to late adopters.” By pairing participants representing both spectrums, the grant can sustain its impact and form lasting relationships. The teams will then be grouped into six regions which is based upon geographic proximity and the groupings by the NE Natural Resources Conservation Service. This pairing and cohort approach replicates the systemic and long-term effective pairing of experienced and beginning teachers in the K-12 educational system. The Nebraska Wildlife Federation will support training on how to effectively champion and improve participants' wildlife, water quality, grazing and soil health. The project is adapted from the National Wildlife Federation's Champions program which trained 24+ producers, 2013-2016, in the Upper Mississippi River Basin. Our training will include drone technology which will detail the progress of demonstration sites, provide digital images for educational purposes and assist with project evaluations.

**Sponsor Name:** Nemaha Natural Resources District **Nearest Town:** Tecumseh  
**Project Name:** Nemaha Basin Critical Aquifer Assessment Project **Project No:** 18-124  
**Amount Requested:** \$169,000 **Term of Project Request:** 1 **Review Group:** Water

The Nemaha Natural Resources District (NNRD) is requesting that the Nebraska Environmental Trust (NET) support the Nemaha Basin Critical Aquifer Assessment (Project), an effort to better understand three critical aquifers that support drinking water supplies and agriculture in the Nemaha River Basin. The project has three primary components and includes several partner communities and resource agencies and will be led by the NNRD. The monitoring well component includes the installation of at least 20 monitoring wells that along with the long-term water monitoring benefits will provide the NNRD with the information needed to refine and/or establish new GWMA's or sub-areas for better groundwater management, particularly in areas with marginal well yields and poor development potential. The Public Water System Well Enhancement Component will provide pressure transducers for system wells to collect continuous water level data and assist with well management. Historically public water suppliers have relied on periodic manual measurements of the groundwater level in their wells. The NNRD goal is to encourage greater use of continuous read monitoring equipment and to build a stronger working relationship with all public water suppliers through education. The Little Nemaha River Alluvial Aquifer Recharge Component, involves partnering with Auburn, Nebraska to install monitoring wells, collecting data and assessing alternatives for groundwater recharge utilizing excess flows in perennial streams and enhancing wetlands. This component will focus on the alluvial aquifer along the Little Nemaha River that supplies the communities 11 wells. Total cost of the Project is \$318,000 and the NNRD is requesting \$169,000 from the Trust with the balance being provided by the District, Auburn and ENWRA. This project will be completed in one year.

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**Sponsor Name:** North Platte Natural Resources District **Nearest Town:** Multiple  
**Project Name:** DAMP Project **Project No:** 16-176-3  
**Amount Requested:** \$126,277 **Term of Project Request:** 3 **Review Group:** Statement of Intent

The North Platte Natural Resources District (NRD) has always striven to collect the best available data to inform water management decisions. Similarly, the NRD has seen from past projects that landowners make demonstrably better farm-management decisions when they have their actual water-use data available to them. Because of time and distance to wells, both NRD staff and producers must expend considerable resources to gather this information manually. The telemetry project would expand the Data Access and Monitoring Partnership (DAMP), a partnership between the District and the Nebraska Department of Natural Resources, which incorporated a telemetry pilot project to determine the viability of telemetry as both a water management and data gathering tool. The AMCi MeterEye telemetry units offer to all parties a technology that will provide a reliable, accurate way to receive crop water use data while eliminating the man hours and resource expenditures previously needed to retrieve the data. The data will in turn be used by the NRD to improve the Western Water Use and Management Model (WWUMM). WWUMM is used by the District in evaluating if water management decisions in comparison to its Integrated Management Plan (IMP). THIS PROJECT WAS FUNDED \$52,342 IN 2016 WITH THE INTENT TO FUND UP TO \$571,381 IN YEAR TWO AND \$126,277 IN YEAR THREE PENDING AVAILABLE FUNDS AND SATISFACTORY PROGRESS. THIS IS THE THIRD YEAR REQUEST.

**Sponsor Name:** North Platte Natural Resources District**Nearest Town:** Scottsbluff**Project Name:** NPNRD Geothermal Greenhouse**Project No:** 18-155**Amount Requested:** \$31,883**Term of Project Request:** 1**Review Group:** Education

The North Platte NRD proposes to erect a geothermal greenhouse with an additional teaching facility. This facility is modeled on a successful geothermal greenhouse in Alliance, Nebraska, which has been operating for over 25 years. The greenhouse will be approximately 126' x 16' and will have a 14' interior height. It will be wheelchair accessible. The design specifications call for constructing the base of the greenhouse at approximately four feet below grade. A geothermal ground air exchanger will supply heating/cooling to the greenhouse. Tubes will be placed 8 feet below ground surface; the ground is a constant 52° Fahrenheit (F) at that depth, and air from the tubes comes up into the pump to be distributed throughout the greenhouse keeping it warm in the winter. Automated fans will be installed at both ends of the building to pump hot air out in the summer. The greenhouse will maintain year-round growing temperatures between 32° and 90° F and will support many varieties of citrus trees and vegetables. All food grown will be donated to the local Veterans Administration; excess produce beyond the veterans' needs will be donated to local food pantries in Scotts Bluff, Garden, Morrill and Banner Counties. Landscaping on the 1.6 acres outside the greenhouse will include 70 plots of different varieties of native and introduced grasses, with signs listing the variety or mixtures of grasses planted. Students from area schools will be able to view each individual grass to improve range judging skills and knowledge of local plant ecology. Plots of native mixtures used by Farm Service Agency for the Conservation Reserve Program will be planted. This will include CP-1, CP-2, CP-4A, and CP-25 mixtures, as well as examples of several different grass mixtures best suited for wildlife, haying, or grazing.

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**Sponsor Name:** North Platte, City of**Nearest Town:** North Platte**Project Name:** North Platte Tree Shredder**Project No:** 18-180**Amount Requested:** \$615,000**Term of Project Request:** 1**Review Group:** Equipment

The City of North Platte and Bio Ag Solutions have entered into a partnership to create compost that is being used on farms and home gardens. The City of North Platte provides yard waste and mulch and Bio Ag Solutions provides the remainder of the process including manure, processing, and shipping. A tree grinder is needed to keep up with the demand of the tree waste and the mulch needed to keep up with the demand of producers. In addition, the mulch is used by local households for landscaping and by ranchers for animal bedding. A total of 180 tons per month is being ground for compost – with additional 50 tons per month potential that could be ground with a machine that could keep up with demand. Bio Ag Solutions is providing a product that is in high demand. The City of North Platte keeps yard waste out of the landfill that has an end use that is good for the local community and businesses.

**Sponsor Name:** Northeast Nebraska Resource Conservation & Development Council Inc. **Nearest Town:** Plainview

**Project Name:** Early Detection and Integrated Management of Invasive Plants **Project No:** 18-143

**Amount Requested:** \$98,560 **Term of Project Request:** 3 **Review Group:** Rural Habitat

Invasive species are cited frequently as significant threats to biological diversity in Nebraska’s Natural Legacy Project planning document (NNLP) and to address those issues NNLP recommended development of collaborative conservation efforts to seek effective control measures, increase awareness of biological diversity, and implement strategies addressing specific issues in biologically unique landscapes (BUL’s). The Northeast Nebraska Weed Management Area (NNWMA), established in 2004, seeks innovative, collaborative, and effective means to reduce ecological and economic impacts of invasive and noxious weed infestations. NNWMA has a diverse group of partners. Their area covers 8 counties and 4,610,212 acres of private, public, and tribal land. NNWMA has technical support from the Northeast Nebraska RC&D, a local non-profit. Beginning in 2018 NNWMA will help protect the Elkhorn River in Antelope County and its tributaries from Yellow flag iris (YFI) plants that may inhibit flows, impact native vegetation, and/or impact native wildlife. This invasive species has the potential to negatively impact BUL’s by competing with or reducing native vegetation, invading areas not typically vegetated, and reducing water flows in small channels. They will also conduct Salt cedar "search and destroy" surveys, acquire biological control agents (insects) to control noxious weeds on ecologically sensitive sites, and conduct annual education and outreach events. Insect releases will be prioritized and targeted at places where herbicide use is not desired (i.e. high diversity grasslands, wetland/riverine habitats, rangeland with organic designations or sensitive/endangered species, etc.). Targeted plants are Yellow flag Iris, Spotted knapweed, Purple loosestrife, Leafy spurge, Salt cedar, and non-native Phragmites.

**Sponsor Name:** Northern Prairies Land Trust **Nearest Town:** Multiple

**Project Name:** Expanding the Tallgrass Prairie Partnership **Project No:** 16-115-3

**Amount Requested:** \$191,000 **Term of Project Request:** 3 **Review Group:** Statement of Intent

Prairies are among the most threatened ecosystems in North America. Most remaining prairies are privately owned, making cooperation between landowners and conservationists essential for their conservation. In 2002, Northern Prairies Land Trust (NPLT) entered into a cooperative relationship with the Nebraska Game & Parks Commission (NGPC) to implement habitat improvement projects on privately owned prairies. Our initial work was focused in areas that are now called the Sandstone Prairies Biologically Unique Landscape (BUL) and Southeast Prairies BUL in southeast Nebraska. We subsequently extended our prairie-focused work to the Verdigris-Bazile, the Middle Niobrara River Valley, and Keya Paha Watershed BULs in northeast Nebraska. Over the past thirteen years, using primarily NET, USFWS Landowner Incentive Program (LIP) and State Wildlife Grant (SWG) funds, NPLT worked with 273 landowners to enhance nearly 70,000 acres of grassland, primarily through implementation of invasive tree clearing, prescribed fire, planned grazing and reseeding prairie. Additional NET funds are critical to continued success of our now well-developed initiative. This project directly fulfills the objectives of the Nebraska Natural Legacy Project for the BULs listed above. We are seeking \$723,000 from NET for this three-year project. Participating landowners will provide approximately \$300,000 in match, and the project partners will provide \$490,000 in cash match. The project partners include NPLT, NGPC, and USFWS. Northern Prairies Land Trust will lead the project and NGPC will conduct funds management and reporting. NET funds will be used to enhance 20,000 acres of prairie on private lands through tree clearing, prescribed fire, etc. Through matching Pittman-Robertson funds we will also enhance prairie quality on NGPC Wildlife Management Areas which will improve public hunting and other recreational opportunities. We will also continue our Annual Tallgrass Prairie Management Seminar where nearly 100 landowners and conservationists learn innovative prairie and rangeland management methods each year. THIS PROJECT WAS FUNDED \$281,000 IN 2016 WITH THE INTENT TO FUND UP TO \$251,000 IN YEAR TWO AND \$191,000 IN YEAR THREE PENDING AVAILABLE FUNDS AND SATISFACTORY PROGRESS. THIS IS THE THIRD YEAR REQUEST.

**Sponsor Name:** NuStyle Development **Nearest Town:** Omaha  
**Project Name:** The Landing **Project No:** 18-125  
**Amount Requested:** \$373,000 **Term of Project Request:** 2 **Review Group:** Water

The Landing Redevelopment Project is a project that will convert the former Creighton University Medical Center Hospital to a mixed used facility serving Creighton students, staff and others. Due to its proximity and connections to the Creighton Campus, a pedestrian bridge will be constructed to cross over Nebraska State Highway 75 to the east of the project. To help enhance the building conversion the existing impervious site will be redeveloped to include a variety of on-site amenities such as: volleyball and basketball courts; outdoor gathering and seating areas; and a water quality lake. The proposed water quality lake will collect and treat on-site stormwater runoff and reduce peak flow rates in the downstream collection system. The lake will be open to the public for recreation and be an environmental amenity. During the conceptual design of the water quality lake, it was determined that off-site storm water could be redirected into the lake to provide additional localized flood control and downstream sewer relief. The lake would also provide the City of Omaha (City) the flexibility to reduce combined sewer overflow (CSO) volume as part of future separation projects. In the Long-Term this will help control the number of overflows from combined sewer outfalls, ultimately improving the water quality of both the Papillion Creek and Missouri River. After reviewing the public benefits of the projects, the City and Nustyle have agreed to a unique public/private partnership on the project. This effort will be the first significant public/private partnership using green infrastructure to assist with the City's CSO program. This project can help set precedent and procedures for potential future public/private partnerships to assist the City in achieving the goals of the CSO Long-Term Control Plan.

**Sponsor Name:** Omaha Bikes **Nearest Town:** Omaha  
**Project Name:** Omaha Metro Major Events and Destination Bike Parking **Project No:** 18-144  
**Amount Requested:** \$54,903 **Term of Project Request:** 3 **Review Group:** Air Quality

The core objective of this project is to address air quality in the Omaha Metropolitan (Metro) area by providing free bike parking at major events and generating bicycle-friendly destinations throughout the community. The monies requested would be utilized to match funding from a federal Congestion Mitigation and Air Quality (CMAQ) grant to purchase high quality modular bike racks with the NET logo, rent fencing and storage for our bike parking equipment, acquire additional materials to support bike parking, implement electronic user check in process, and fund a portion of a program coordinator position. This position would execute free bike parking for 40 days at 20 major events as well as create and promote 20 bicycle-friendly destinations by coordinating with existing local funding streams to install permanent bicycle-friendly amenities such as permanent bike parking and bike fix-it stations. The objective of this project is to reduce greenhouse gases through education, encouragement, and by challenging individuals in the Omaha Metro area to bicycle rather than drive to major events and destinations. The goal is to expand bike parking from twelve events to over twenty major events annually and create twenty bicycle-friendly destinations with the intention of increasing this further in the future. The final results should also reflect an increased awareness around bicycling, and the investment in the equipment will have a lasting impact in the Metro area for years to come.

**Sponsor Name:** Omaha Children's Museum **Nearest Town:** Omaha  
**Project Name:** Forever Forest Nebraska Tour in Summer 2018 **Project No:** 18-128  
**Amount Requested:** \$87,302 **Term of Project Request:** 1 **Review Group:** Education

In the summer of 2018, Omaha Children's Museum wishes to take our brand-new nationally touring environmental exhibit "Forever Forest" to the Kearney Area Children's Museum in Kearney and the Children's Museum of Central Nebraska in Hastings. The exhibit will premiere here at Omaha Children's Museum from October 2017 through April 2018, and then would tentatively be in Kearney in May & June of 2018, and then in Hastings in July & August of 2018, before embarking outside of our state on a nation-wide tour planned to last eight to ten years. Visitors to this unique exhibit will step into the world of trees and learn how this resource plays a large role in all of our lives. The Forever Forest Exhibition will bring a unique and playful opportunity to young families, teaching them about how this resource plays a role in all of our lives and how it is our responsibility to keep it healthy. Omaha Children's Museum will be seeking funds from the Nebraska Environmental Trust to fund the summer 2018 tour of the exhibit to the children's museums in NEBRASKA in Kearney and Hastings ONLY.

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**Sponsor Name:** Omaha, City of **Nearest Town:** Omaha  
**Project Name:** Thomas Creek Improvements - Phase 1 **Project No:** 18-209  
**Amount Requested:** \$595,000 **Term of Project Request:** 3 **Review Group:** Water

The Thomas Creek watershed in Douglas and Washington Counties is becoming increasingly urbanized. As with most urbanized areas, modifications to the stream and an increase in impervious surfaces have led to an increase in runoff volume and velocities. These changes have destabilized the stream and introduced greater amounts of pollution. As a result, habit and water quality have degraded. Changes are so severe that the Nebraska Department of Environmental Quality has listed Thomas Creek on its 303(d) impaired waters list for Aquatic Life and identified it as a nonpoint source area of interest. Within Douglas County, the City of Omaha has identified multiple areas where sanitary sewer is exposed and poses a risk to the environment and public should it fail. Due to funding constraints, these infrastructure risks tend to be fixed with small scale, "band-aid" approaches that do little to address water quality, habitat, and the mechanisms causing stream degradation. This grant will enable the City of Omaha to implement a plan with multiple, long-term benefits: (1) increased stream stability to protect current infrastructure, (2) improved water quality and (3) enhanced habitat. Funding assistance will be applied to Phase I of a multi-phased plan that will address impacts from urban runoff and the mechanisms that degrade the stream and continuously endanger infrastructure, water quality and habitat through the following measures: •Introduction of natural meanders and floodplain benching to improve functionality of the stream •Implementation of low-profile rock riffles, a low-profile rock grade control structure, that will stabilize the stream bed, introduce bed variability, and allow fish passage in a cost-effective manner •Use of bioengineering techniques to help protect erosive stream banks and improve habitat •Public-private partnerships with surrounding landowners to develop stormwater best management plans to control and reduce runoff, nutrients, and pollution from their properties.

**Sponsor Name:** Omaha, City of - Heartland Bike Share      **Nearest Town:** Omaha  
**Project Name:** Heartland B-cycle Transit Oriented Expansion      **Project No:** 16-219-3  
**Amount Requested:** \$36,583      **Term of Project Request:** 3      **Review Group:** Statement of Intent

Heartland B-cycle, a program of Live Well Omaha, is the recent receipt of a \$930,327 federal grant to fund 80% of an expansion of 36 stations and 152 bikes and is seeking matching funds for these dollars. With this funding, Heartland B-cycle is positioned to expand the system by adding bikes and stations in spring of 2017, 2018, and 2019. The goal of this expansion is to increase the bike share system's ability to function as a transit extender and last-mile solution for bus commuters. By making alternative modes of transportation easier for commuters, we seek to increase the number of commuters using bike sharing as an active mode of transportation, thus decreasing car use, and improving air quality. Large-scale bike sharing systems are a viable, accessible, and sustainable transportation option that improves air quality and public health by reducing the vehicle miles travelled (VMT) among existing car users. A widely available network of stations allows users to use a bike instead of a car for all or part of their trip. Even with tremendous use to date Heartland B-cycle's 31 station system needs a larger footprint to help drive more ridership and adequately benefit all willing users in the metro area. Nebraska Environmental Trust (NET)'s financial support and public partnership helps make this vision a reality by providing critical matching funds for the expansion grant received in partnership with Metropolitan Area Planning Agency (MAPA). With NET's investment, MAPA estimates this equipment could reduce 609,790 kg of pollution over the equipment's 10-year useful life. As a critical funder of this project the Trust would be recognized prominently on the 36 stations and 152 bikes that are part of this grant, helping to educate the public on air quality issues, and providing a visible and lasting legacy for our state. THIS PROJECT WAS FUNDED \$292,667 IN 2016 WITH THE INTENT TO FUND UP TO \$109,750 IN YEAR TWO AND \$36,583 IN YEAR THREE PENDING AVAILABLE FUNDS AND SATISFACTORY PROGRESS. THIS IS THE THIRD YEAR REQUEST. Board approved sponsor transfer to the City of Omaha, August 2016

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**Sponsor Name:** Pheasants Forever - Dodge County      **Nearest Town:** Fremont  
**Project Name:** Dodge County PF No-Till Drill      **Project No:** 18-199  
**Amount Requested:** \$30,000      **Term of Project Request:** 1      **Review Group:** Equipment

This grant application seeks funding from the NET to purchase a no-till grass drill to be used by landowners to establish wildlife habitat. Currently, there are few no-till drills available in the area and those that are available are owned and rented out by private businesses. A no-till grass drill made available to interested landowners would increase both the quantity and quality of wildlife habitat established. Significant increases in wildlife habitat plantings in the area through programs like: Conservation Reserve Program, Conservation Reserve Enhancement Program, Continuous Conservation Reserve Program, Corners For Wildlife, Open Fields and Waters, Environmental Quality Incentives Program, etc., have greatly increased the need for this type of specialized equipment. Matching NET moneys with that of the Dodge County Pheasants Forever chapter would purchase the no-till drill. The purchase price of a no-till grass drill is approximately \$40,750. Dennis Stumpe of Scribner, NE will oversee the operation, maintenance and rental of the drill. A fund will be set up to pay for routine maintenance of the drill as well as any repairs needed to keep the drill in top operating condition. The drill will be available for any landowner in the area to use at a nominal fee. A no-till grass drill is needed to handle the fluffy seeds associated with many warm-season grasses, wildflowers and legumes. These fluffy seeds are not effectively or efficiently planted with conventional drills. By increasing the amount of habitat and enhancing the quality of habitat provided by these seed mixtures, wildlife will benefit.

**Sponsor Name:** Pheasants Forever, Inc. **Nearest Town:** Multiple  
**Project Name:** Grassland Improvement Program **Project No:** 16-217-3  
**Amount Requested:** \$150,000 **Term of Project Request:** 3 **Review Group:** Statement of Intent

Nearly every wildlife partnership and management plan in the state calls for the increased use of prescribed fire to reach their management and partnership goals. Despite those management plans, prescribed burning continues to be a challenging and difficult management option to apply on private lands in the state. Four primary factors are identified as limiting its use on the landscape: 1) Access to prescribed burn equipment; 2) Prescribed burn training; 3) Man-power to conduct prescribed burns; and 4) Adequate fuel loads to conduct proper prescribed burns. This application seeks to continue a unique, proven and successful partnership called the Grassland Improvement Program that has changed the culture of prescribed burning on private lands in the regions it has been offered in the past. The program works to improve grassland health and vigor by creating a synergy that overcomes these limiting factors and increases the use of prescribed burning on the landscape of Nebraska. A lynch pin to being able to conduct prescribed burns on grasslands that is capable of controlling invasive tree and cool-season grasses is the ability to have a high enough fuel load. Adequate fuel loads are only attainable if the grassland is deferred from grazing for at least one full season. The Grassland Improvement Program will offer landowner grazing deferment incentives, access to prescribed burn equipment, biologists to write burn plans, landowner prescribed burn training, guide the formation of local prescribed burn associations, help provide assistance to conduct prescribed burns, experience conducting prescribed burns and follow-up with a monitor and evaluation program on projects. The unique synergy created through this partnership will help develop additional biologically important regions of the state where prescribed burning is increasingly used on the landscape, significant environmental benefits are obtained and the objectives of the Nebraska Natural Legacy Project are implemented. THIS PROJECT WAS FUNDED \$150,000 IN 2016 WITH THE INTENT TO FUND UP TO \$150,000 IN YEAR TWO AND \$150,000 IN YEAR THREE PENDING AVAILABLE FUNDS AND SATISFACTORY PROGRESS. THIS IS THE THIRD YEAR REQUEST.

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**Sponsor Name:** Pheasants Forever, Inc. **Nearest Town:** Grand Island  
**Project Name:** Corners for Wildlife **Project No:** 18-138  
**Amount Requested:** \$585,000 **Term of Project Request:** 2 **Review Group:** Rural Habitat

This application continues a partnership funded by the Trust from 1995 to 2017. The program successfully partners money from the Trust, Pheasants Forever, Inc., Pheasants Forever (PF) and Quail Forever (QF) chapters, Natural Resource Districts, Nebraska Game & Parks Commission and Landowners throughout the state to establish permanent wildlife habitat. In the 22 years the program has been offered, this partnership has established 12,614 acres of habitat on private lands involving 45 PF and QF chapters and 15 Natural Resource Districts across the state. With "in-kind" contributions included, the level of financial partnership being combined with Trust funds currently exceeds \$9.2 million. Landowners receive a rental payment for a five-year contract to establish and maintain high diversity wildlife habitat on center pivot irrigation field corners. Materials to establish cover practices are cost-shared 75% by PF and QF chapters with landowners responsible for 25% of the material costs. In some cases, the cover practices are established with a 100% cost share by the participating Natural Resource Districts and Pheasants Forever chapters. Every year the program has been offered, there has been more interest in enrollment than the program can fund. Projects are specifically designed to meet the Nebraska Natural Legacy Project, Nebraska's Berggren Plan, as well as several state and national pollinator goals. Establishment includes high quality nesting, brood-rearing and pollinator habitat for wildlife species of concern. Seeding includes native grass and wildflower species; local ecotype species chosen when available. Native shrubs are commonly used for enhanced wildlife cover, specifically for bobwhite quail and certain songbirds of concern. Eastern red cedar is not allowed due to its invasive nature. This program has been highly popular and successful over the last 22 years and provides an economic option to farmers who want to conserve water, improve soil health, and provide wildlife habitat.

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**Sponsor Name:** Pheasants Forever, Inc.**Nearest Town:** Statewide**Project Name:** Habitat Share**Project No:** 18-184**Amount Requested:** \$137,500**Term of Project Request:** 1**Review Group:** Rural Habitat

This application is for a unique, highly efficient partnership between Pheasants Forever, Inc. and the Nebraska Game and Parks Commission (NGPC) called 'Habitat Share'. This partnership enhances the public benefit and use opportunities on state-owned lands when manpower and equipment is limited. This program completes new projects by matching federal funds and non-federal funds at a 3:1 ratio to have local contractors complete new and critical habitat efforts throughout the state. With this partnership, more acres are managed for wildlife. As a result, public hunting and birdwatching opportunities increase benefitting the local and rural community economy. All of the projects completed in the Habitat Share partnership are in addition to the projects completed by NGPC staff on an annual basis. NGPC manages 289 Wildlife Management Areas throughout the state totaling 182,826 acres. Thirty-two full time staff are tasked with management, depredation calls, invasive species control, public events, etc. By assigning new and additional specific management activities to contractors for completion, more acres of eastern red cedar are cut, more smooth brome is sprayed, and more high quality mixtures are planted. Contractors are able to complete more projects as they have the equipment and time. This partnership is a high priority within NGPC's 'Berggren Plan' with a specific goal of managing 35,734 acres on 17 priority WMAs over a 5-year period. This program will also help deliver two National Pollinator Goals: 1) Enhance 3.5 million acres of pollinator habitat on public lands and 2) plant 1.4 billion milkweed stems to increase monarch population. Since 2010, the Habitat Share Program has impacted 24,004 acres of additional habitat on 108 Wildlife Management Areas in Nebraska. We continue to work with an increasing number of statewide contractors with a list of over 450 names to ensure competitive bids.

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**Sponsor Name:** Platte River Basin Environments, Inc.**Nearest Town:** Scottsbluff**Project Name:** North Platte River Valley Habitat Restoration and Enhancement Partnership II **Project No:** 17-108-2**Amount Requested:** \$120,000**Term of Project Request:** 3**Review Group:** Statement of Intent

In 2012, the Platte River Basin Environments, Inc. (PRBE) joined with the Nebraska Game and Parks Commission and the U.S. Fish and Wildlife Service to implement a highly popular and biologically successful partnership for habitat restoration work on private lands along the North Platte River. The partners, with crucial funding support from the NET, spent over \$967,000 in grant and matching funds to restore over 4.5 miles of wetland slough through removal of sediment, and invasive vegetation; restore 994 acres of cottonwood savannah through invasive tree removal; plant 158 acres of diverse native prairie; enhance and manage 299 acres of wetland habitat through invasive herbaceous vegetation removal; and install livestock grazing infrastructure to facilitate grazing on over 2,400 acres of floodplain grassland. The success of PRBE's efforts has resulted in high demand for habitat restoration activities. Additionally, the biological need for habitat restorations remains urgent and ever increasing due to degrading factors such as invasive species and diminished hydrology. The project partners propose to expand their partnership both in funds available and in geographic scope in order meet landowner requests and biological needs. By implementing habitat restoration activities along the North Platte River and tributaries within the watershed, PRBE will work with landowners to restore, enhance, and manage the wetland and associated upland habitat values on lands within the entire watershed and will find win-win solutions for integrating wildlife habitat into land management operations. Project goals will be achieved by (1) providing financial assistance for habitat activities on wetlands and associated uplands on private and privately owned conservation entity properties, (2) providing education and technical assistance to landowners in the restoration and long-term management of habitats and integration projects into land management operations, and (3) using demonstration sites to exhibit the numerous environmental, wildlife, and economic benefits of wetlands. THIS PROJECT WAS FUNDED \$121,000 IN 2017 WITH THE INTENT TO FUND UP TO \$120,000 IN YEAR TWO PENDING AVAILABLE FUNDS AND SATISFACTORY PROGRESS. THIS IS THE SECOND YEAR REQUEST.

**Sponsor Name:** Platte River Whooping Crane Maintenance Trust, Inc. now Crane Trust, The      **Nearest Town:** Wood River

**Project Name:** Big Bend of the Platte River Partnership for Habitat Preservation      **Project No:** 18-130

**Amount Requested:** \$201,000      **Term of Project Request:** 3      **Review Group:** Equipment

The Crane Trust, with support from multiple conservation agencies and in partnership with local landowners, proposes the purchase of adaptable, reliable, and efficient equipment to preserve and restore critical habitat throughout the Big Bend Reach of the Platte River for threatened, endangered migratory birds and species of concern. The Crane Trust is requesting funds to purchase and operate a tractor and shredder to be used with existing discing equipment to significantly increase the number of acres to be cleared annually. Left unattended, woody and dense vegetation, eastern red cedar trees, and human activity impede water flow in the Platte River and within channels, degrading the amount and quality of vital habitat required for roosting and breeding of migratory birds. River clearing and riverine habitat restoration efforts are further challenged by aging equipment that regularly breaks down, limited discing seasons between summer rain and fall freeze, and suspended work days to meet Whooping Crane protocols. This project will benefit all water users of the Platte River in the region, species of concern, eco-tourism efforts related to Crane Migration, partner conservation agencies, and landowners. Crane Trust manual techniques for restoring and preserving open channel habitat is scientifically and research-based. This project is replicable and uses sound channel management practices that may be duplicated. It aligns with the Nebraska Legacy Project of the Nebraska Game and Parks Commission. Crane Trust efforts to maintain adequate migratory bird habitat through ongoing river clearing has a direct public impact on Nebraska tourism, public and private hunting and fishing, reduced out-of-bank flood damage, and ground-water recharge. This project is regional in nature, based on sound resource management practices that are used community education, combines support from public and private entities, and contributes to community and economic values through conservation and preservation of valuable habitat.

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**Sponsor Name:** Platte River Whooping Crane Maintenance Trust, Inc. now Crane Trust, The      **Nearest Town:** Wood River

**Project Name:** Restoration and Monitoring Program (RAMP) Eastern Red Cedar Control      **Project No:** 18-129

**Amount Requested:** \$88,800      **Term of Project Request:** 3      **Review Group:** Rural Habitat

The goal of RAMP (Restoration and Monitoring Program) is to "ramp up" efforts to restore eastern redcedar (*Juniperus virginiana*) woodlands to tallgrass prairie and cottonwood savanna habitats and study the impacts of differing techniques in producing desired outcomes. Only 3% of the historic tallgrass prairie once present in eastern and central Nebraska is still in existence. Research indicates that in the absence of fire, tallgrass prairie can be converted to eastern redcedar forest in as little as 40 years. Fire suppression, in addition to the appropriation of the Platte River, has resulted in large expanses of riverine woodland that conservation organizations have been working to restore to prairie for over 30 years. The Crane Trust manages one of the largest parcels of tallgrass prairie left in central Nebraska and our goal is to expand upon it by restoring 60 acres of closed canopy woodland to prairie and cottonwood savanna. Although a great deal of prairie restoration work has been completed in central Nebraska, little of it has been critically evaluated through scientific research. Restoration practices along the central Platte River are often guided by science conducted in other areas of the country and a systematic investigation of the impacts of restoration techniques on the biological community would further clarify best practices regionally. From 2015 to 2017 the Crane Trust implemented a monitoring program which systematically documented the biological community at over 60 sites and 6,000 acres of prairie and woodland. This baseline data in conjunction with funding from the Nebraska Environmental Trust would allow us to critically evaluate restoration techniques in their ability to promote native, biodiverse, prairie habitats. We are seeking funds for restoration work including tree clearing, targeted seeding efforts, and prescribed fire as well as support for entry level staff in order to implement RAMP.

**Sponsor Name:** Quail Forever**Nearest Town:** Statewide**Project Name:** Mobile Prescribed Burn Unit & Education Outreach**Project No:** 18-139**Amount Requested:** \$96,600**Term of Project Request:** 1**Review Group:** Education

This application seeks to continue the process of supporting prescribed burning on private lands in the state, forming prescribed burn associations, conducting landowner education outreach events, producing landowner education materials, promoting habitat management techniques, and increasing the use of prescribed burning on the landscape. Nearly every wildlife partnership and management plan in the state calls for the increased use of prescribed burns and expanded education regarding conservation programs to reach management and partnership goals. Despite those management plans, prescribed burning continues to be a difficult management option to apply. Quail Forever is working closely with the Nebraska Natural Legacy Project (NNLP) to implement its management goals and employs 19 Biologists in the state with Pheasants Forever that are working directly with the plan. The creation of Mobile Prescribed Burn Units (MPBU) and expanding educational outreach is directly benefiting the NNLP by creating a set of tools and events that can be quickly directed to whichever NNLP Biologically Unique Landscape was the focus. The unique aspect of MPBU's is that the necessary prescribed burn equipment could be available in any region of the state in less than a day. Quail Forever identified the limitations of prescribed burning on private lands and is working to overcome them. Six different scenarios are outlined in this continuing partnership that are specifically working to expand outreach education to private landowners and increase the use of prescribed burning on the landscape. The requested funds will be matched with those of Quail Forever, Pheasants Forever, Nebraska Game & Parks Commission, Natural Resources Conservation Service, Farm Service Agency and the US Fish & Wildlife Service to purchase, maintain and administer MPBU's and continuing education equipment in strategic locations, develop prescribed burn associations and provide expanded landowner educational events and materials across the state.

**Sponsor Name:** Rainwater Basin Joint Venture**Nearest Town:** Minden**Project Name:** Strategic Conservation of Rainwater Basin Wetlands and Upland Buffers**Project No:** 16-112-3**Amount Requested:** \$300,000**Term of Project Request:** 3**Review Group:** Statement of Intent

The grant provides an opportunity for Rainwater Basin Joint Venture partners to find the win-win opportunities that integrate Rainwater Basin Wetlands into farm operations and maximize habitat on publically owned wetlands. On private lands, this project will implement programs that will integrate restored wetlands into local operations for haying/grazing. The 2012 drought highlighted the importance of reliable forage resources to maintain Nebraska's cattle industry. Grazing is also beneficial for the millions of migratory birds and resident species by promoting desired habitat conditions. Public lands make up less than 1% of the landscape, but they can contribute to over 50% of the available habitat for migratory birds, if intensively managed. To facilitate desired habitat conditions on-site restoration and active management against invasive species will be implemented. In addition, supplemental water infrastructure (groundwater wells, pipelines, etc.) and watershed restoration actions will also be pursued to increase flooded acres. Beyond habitat for wetland dependent birds, a recent University of Nebraska – Lincoln study highlighted that public lands in the Rainwater Basin are some of the most used, in the state, by hunters and other outdoor recreation enthusiasts. Rainwater Basin wetlands are also important to a suite of at-risk, threatened, and endangered species. Whooping Cranes, Buff-breasted Sandpipers, King Rails, and nearly 20 other priority species identified in Nebraska's Natural Legacy Plan are found here. The Rainwater Basin wetlands and associated uplands do not just provide habitat and recreational opportunities. These wetlands benefit all Nebraskans through the ecosystem services provided by playa wetlands. Research by University of Nebraska - Lincoln has documented groundwater recharge, nutrient cycling, carbon sequestration, and flood storage. Actions funded through this grant will help ensure that we will continue to have reliable groundwater for both agriculture and municipal uses. To successfully implement this project, Joint Venture partners have leveraged \$900,000 in matching funds. THIS PROJECT WAS FUNDED \$250,000 IN 2016 WITH THE INTENT TO FUND UP TO \$350,000 IN YEAR TWO AND \$300,000 IN YEAR THREE PENDING AVAILABLE FUNDS AND SATISFACTORY PROGRESS. THIS IS THE THIRD YEAR REQUEST.

**Sponsor Name:** Recycling Center Inc**Nearest Town:** Falls City**Project Name:** Update equipment**Project No:** 18-212**Amount Requested:** \$151,800**Term of Project Request:** 1**Review Group:** Equipment

Recycling Center Inc. is a business that is located in far southeast Nebraska and has been in business since 1992. We are the only "full service" recycling center in this entire region. We feel it is important to continue to take all recyclables irregardless of the market. Recycling Center Inc. is requesting funds to upgrade equipment of a baler and conveyer and the additional purchase of a Kwik Magnet and a Tuffman Sorting System. Our Horizontal baler and conveyer are 20 years old and were purchased through a Nebraska Environmental Trust grant 97-240 and have been consistently used almost daily since then. They are wearing out and we are in need of equipment that can handle larger and stronger recyclables. An in-pit conveyer will eliminate one step of putting recyclables on the belt. A Kwik magnet is requested as an attachment to the skid loader to pick up small metals. The Tuffman Sorting Line is requested to make the labor costs more efficient as labor costs are by far our largest expense. Also as we have developmentally delayed sorting employees and it would make their job easier, more efficient and safer. The business has grown through the years. We have a 24/7 drop site in which we take glass, all colors, plastics #1 and #2, cardboard, magazines, newspapers, metal aluminum and tin, shredded paper. Also at our manned shop just down the hill from the dropsite is open from 8-12 M-F to assist cars to unload, to buy cans or assist with heavier objects. We also do rounds daily within the city of Falls City to pickup up cardboard, shredded paper and other recyclables. We believe it is important to constantly recycle and have 20 years of success with the Nebraska Environmental Trust.

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**Sponsor Name:** Sandhills Journey Scenic Byway Visitor/Interpretive Center**Nearest Town:** Mullen**Project Name:** Sandhills Journey Scenic Byway Pollinator Garden Project**Project No:** 18-207**Amount Requested:** \$189,095**Term of Project Request:** 3**Review Group:** Education

The goal of this project is to increase pollinator populations and create public awareness of the importance of pollinator habitats in communities along the 272 mile Sandhills Journey Scenic Byway (SJSB). According to USDA Farm Service Agency, "pollinators are an essential link in agriculture. Animal pollinators, especially bees, are critical for producing more than one-third of our food products. In fact, bee-pollinated commodities account for \$20 billion in annual U.S. agricultural production and \$217 billion worldwide. In addition to bees, other pollinators, including butterflies and moths, beetles, flies, wasps, birds, and bats are necessary for pollinating more than 80% of plants in nature." This grant will: 1) Educate local residents and visitors on the importance of pollinators and their role in a healthy ecosystem. 2) Provide technical assistance as butterfly/pollinator gardens are developed to attract and sustain pollinators. 3) Add ecotourism opportunities to local communities. 4) Develop educational materials patterned after the successful Loup Rivers Scenic Byways pollinator project including educational programs and outreach; youth involvement; and a strong media promotion to encourage participation and visitation by tourists traveling the byway. The goal over the three year life of the grant will be to expand and/or develop 20 pollinator gardens and train 15 new Master Gardeners. Participants will receive education and stipends for garden establishment and when completed, will be given the opportunity to become a Certified Butterfly Garden. Partners in the project will be the Loup Basin RC&D, Sandhills RC&D, UNL Extension, local master gardeners, and other experts in the field. The project will result in increased pollinator populations, enhanced economic development, and education on the importance of pollinator populations.

**Sponsor Name:** Sandhills Task Force**Nearest Town:** Arthur**Project Name:** Sandhills Wetland/Grassland Conservation Partnerships II**Project No:** 17-215-2**Amount Requested:** \$125,000**Term of Project Request:** 3**Review Group:** Statement of Intent

The Sandhills Task Force (STF) is a grassroots nonprofit organization that has a 24-year history of assisting private landowners complete conservation projects on their land that benefits wildlife, waterfowl, water quality, healthy native plant communities, functional wetlands, and more. These projects were completed in partnership with other organizations and agencies that have provided technical and financial contributions. The Nebraska Environmental Trust (NET) has been a valuable partner to the STF; NET funds have been used in STF projects throughout the Sandhills to apply conservation practices and conduct educational events for many years that are positively impacting the landscape. The Sandhills of Nebraska are one of the largest in-tact native grasslands left in the world. Even though the Sandhills is still a highly functioning rangeland-wetland ecosystem, stressors are present. The main threats at the current time are invasive species, overgrazing, and impaired wetlands, streams, and lakes. The Sandhills Wetland/Grassland Conservation Partnership Project II will help the STF implement projects on private lands to help address these concerns. Also, events will be held to educate the public and landowners about innovative conservation tools and management plans that can help them improve their land resource. During the three-year grant, an estimated 30 conservation projects will be completed. Each project will be implemented on a willing landowner's property and it will be field inspected and evaluated according to its resource value and feasibility. Qualifying projects will be surveyed, designed, and completed using matching partnership funds from landowners, Federal and State agencies, and non-profit organizations. Each project will have at least a 10-year agreement with the landowner and other participating partners. In addition, the STF and matching partners remain committed to monitoring the biological effects of each project. THIS PROJECT WAS FUNDED \$275,000 IN 2017 WITH THE INTENT TO FUND UP TO \$125,000 IN YEAR TWO AND \$20,000 IN YEAR THREE PENDING AVAILABLE FUNDS AND SATISFACTORY PROGRESS. THIS IS THE SECOND YEAR REQUEST

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**Sponsor Name:** Save Our Monarchs Foundation**Nearest Town:** Overton**Project Name:** NPPD Cottonwood Ranch and Brownville Pollinator Habitat Restoration**Project No:** 17-139-2**Amount Requested:** \$9,535**Term of Project Request:** 2**Review Group:** Statement of Intent

Nebraska sits in the heart of the Monarch butterfly flyway, and is a significant reproductive and migratory area for these iconic insects. An enormous amount of Monarch-supporting milkweed and other pollinator plants have been eradicated in Nebraska since 2008, with approximately one million acres of habitat lost. The Save Our Monarchs Foundation (SOM) works to reverse this trend by implementing more appropriate vegetation management techniques and by introducing these plants back into the landscape. This project will create several viable pollinator habitats on Nebraska Public Power District (NPPD) properties and right-of-ways that will provide benefits for all native invertebrate species. The applicants have assessed several parcels of land owned by NPPD in two Nebraskan biologically unique landscapes where habitat restoration of native forbs and grasses would have a significant impact on pollinator population stability. On these properties encompassing 2,200 acres, SOM will provide an inventory of plant species, target alien plants for removal, and plant native forbs and grasses to encourage healthy pollinator habitat. Examples of advanced integrated vegetation restorations are needed in Nebraska to educate land owners about the long term savings and environmental improvements they can realize to improve Nebraska's ecosystems. SOM will document its research findings from the monitoring of these restored sites, and share with other property owners and conservationists the methods, means, results, economic savings and environmental benefits of this project, with the aim of securing commitments for three more new entities to commit to change their land and vegetation management to include pollinator habitat within their primary objectives. The Save Our Monarchs Foundation seeks funding from the Nebraska Environmental Trust to purchase seeds and plants needed and assistance with labor, equipment and travel costs associated with implementing this restoration work. In-kind assistance is provided by NPPD staff, SOM staff, project consultants, and volunteer monitors. THIS PROJECT WAS FUNDED \$38,947 IN 2017 WITH THE INTENT TO FUND UP TO \$9,535 IN YEAR TWO PENDING AVAILABLE FUNDS AND SATISFACTORY PROGRESS. THIS IS THE SECOND YEAR REQUEST.

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**Sponsor Name:** Sidney, City of **Nearest Town:** Sidney  
**Project Name:** Solid Waste System Conversion **Project No:** 18-127  
**Amount Requested:** \$1,085,000 **Term of Project Request:** 1 **Review Group:** Equipment

The City of Sidney Solid Waste Department would like to purchase a new shredder, a full-drum landfill trash compactor, and an auto tarp system for shredding solid waste materials, that would include but not limited to, tires, wood waste, trees, and construction and demolition (C&D) materials. Currently, we have a bailer which is 24 years old. It is considered obsolete which leads to issues with finding parts, and some major maintenance problems. Thus, we would like to switch the operations from bailing to shredding to:

- 1) Save a couple of years on the life on the bailer that would be able to be used in emergency backup situations only;
- 2) Save the cost of maintenance from the issues that arise from using the older equipment;
- 3) Add an additional 7 years of life to the use of the current bailfill cell by achieving a 40% to 45% higher compaction density rating from the shredding and compacting system;
- 4) Eliminate the cost of the future construction and demolition cell because it would no longer be separated from the bailfill cell waste;
- 5) Eliminate the cost of the monitoring test on the construction and demolition cell; and
- 6) Lessen the need for future additional acres for the landfill.

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**Sponsor Name:** Southwest Weed Management Area **Nearest Town:** Benkelman  
**Project Name:** Western Republican River Healthy Habitat Project **Project No:** 18-131  
**Amount Requested:** \$215,500 **Term of Project Request:** 1 **Review Group:** Rural Habitat

This project will continue to build upon the successful work of the Western Republican Riparian Improvement Project. It will also continue to compliment the work completed on eastern half of the Republican River by the Twin Valleys Weed Management Area. With the completion of the URRNRD and NCORPE Augmentation pipelines, as well as the continued use of Colorado's Republican River Augmentation pipeline, preservation and restoration of our vital river corridors becomes even more important. SWWMA plans on continuing to restore the riparian corridor to a condition better suited for increased biologic diversity and water conservation. With increasing demands being made for dwindling water supplies, invasive species continue to place stress on our already fragile river systems. SWWMA plans to continue removing invasive species from the channel of the Republican River as well as its tributaries. Southwest Weed Management will continue to follow a top down approach with an eye towards solving problems before they can float downstream. As in previous years, SWWMA will continue to use best management practices including mechanical, chemical, and biological control methods where applicable. SWWMA was formed in 2006 and includes as members: county weed superintendents, the Upper and Middle Republican NRDs, NRCS field office personnel, and other agencies and private land owners. The group coordinates and assists efforts to identify and control noxious weeds and invasive plants.

**Sponsor Name:** The Groundwater Foundation **Nearest Town:** Lincoln  
**Project Name:** Recharging Groundwater Education: Tools for Community Action and Engagement **Project No:** 18-141  
**Amount Requested:** \$120,000 **Term of Project Request:** 2 **Review Group:** Education

"Until this activity I did not understand why or how water moved underground in aquifers. I now comprehend what drives the movement and I feel as though I could teach someone else." This, stated by one of our participants, is exactly what the Groundwater Foundation strives to achieve in all of its programs. Why? Because understanding groundwater and its unique connection to all of us is arguably the most important factor in its management. Effective groundwater management today and in the future depends on educating the next generation of leaders. The Groundwater Foundation has developed the Recharging Groundwater Education program in response to this need. The program will train approximately 300 educators to use proven educational tools which directly involve thousands of students in problem-solving and critical thinking around local threats to their water supply. The lessons learned will be reinforced with a mentoring program to introduce students to water-related careers and/or opportunities to take action in students' local communities. The Groundwater Foundation has aligned a strategic network of partners from the private and public sector, and secured 2/3 of the funding to successfully implement the program. The program furthers the mission of the Trust, and aligns with the Trust's funding category of surface and groundwater, specifically supporting actions to inform and educate about water, fostering understanding and adoption of best management practices, and encouraging effective water management by providing adequate water resource education to our next generation of leaders. Funding from the Trust will ensure successful completion of the program. Specifically, funding will be used to hire a program coordinator and to implement critical updates to the educational tools. The updates will facilitate classroom use of the educational tools and ensure they can be used well past the time frame of the grant.

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**Sponsor Name:** The Nature Conservancy **Nearest Town:** Johnstown  
**Project Name:** Fire Training Exchange in Nebraska **Project No:** 16-147-3  
**Amount Requested:** \$42,770 **Term of Project Request:** 3 **Review Group:** Statement of Intent

Millions of acres of land and thousands of communities are at risk from damaging wildfires and related threats. There, too, is a widespread and urgent need to improve Nebraska's grasslands, employing proactive tactics such as prescribed burning, tree thinning, controlling invasive species, and developing community plans. The Nature Conservancy requests three years of support for prescribed fire training exchanges at the Niobrara Valley Preserve (NVP). Fire training exchanges are collaborative, hands-on training experiences that build capacity for integrated fire management. We seek to advance the conservation of grasslands, forests and the human communities they support. Fire practitioners gain experience, learn about conservation, and receive position task book evaluations. Private contractors, ranchers, and landowner associations engage in events that meet national safety standards, gaining skills to work more safely and effectively. Landscapes get the management they need, resulting in improved habitats for wildlife, including threatened and endangered species. To conduct the kinds of burns that Niobrara Valley needs – given its complex terrain and complex fuels – we need the size and efficiency gained at a training exchange scale. We will hold three spring exchanges, training roughly 120 personnel and burning approximately 21,000 acres, depending on weather conditions. TNC will also lead three 'partnership burns'. There is a need and desire to implement safe fire at other times of the year and the NVP is the perfect spot to complete late summer and fall burns. These partnership burns will focus on bringing together local partners – volunteer fire departments, U.S. Fish and Wildlife Service, National Forest Service, National Parks Service, and local landowners for single events. By hosting partnership burns we not only improve grasslands and remove invasive cedars, we also demonstrate how partners can accomplish a safe burn by working together. This approach can then be implemented by other private landowners. THIS PROJECT WAS FUNDED \$66,462 IN 2016 WITH THE INTENT TO FUND UP TO \$66,962 IN YEAR TWO AND \$42,770 IN YEAR THREE PENDING AVAILABLE FUNDS AND SATISFACTORY PROGRESS. THIS IS THE THIRD YEAR REQUEST.

**Sponsor Name:** The Nature Conservancy **Nearest Town:** Johnstown  
**Project Name:** Making a Place for Monarchs **Project No:** 16-148-3  
**Amount Requested:** \$42,843 **Term of Project Request:** 3 **Review Group:** Statement of Intent

Populations of monarch butterflies, honey bees, and other pollinators are declining at alarming rates. Pollinator conservation is critically important for both economic and ecological reasons. The key habitat attributes needed by pollinators (plant diversity and a wide range of habitat conditions) also cover the conservation needs for most wildlife species and for ecological health. The challenge is to figure out how to manage grasslands to meet those needs while still meeting the various objectives of landowners and land managers. The Nature Conservancy has broad expertise in grassland management for plant diversity, pollinators, and wildlife, and proposes to improve management on approximately 30,000 acres of its own land in the Platte and Niobrara River valleys. We will carefully evaluate the impacts of various management treatments to identify key management principles that can be applied elsewhere – within a variety of existing management regimes. In addition, we will use our data to create simple but effective metrics that private landowners can use to assess the habitat quality of their land. This proposal complements and strengthens two other programs funded by the Nebraska Environmental Trust: Learning from the 2012 Fire and the 2014 grant Building a Learning Community. These previously funded actions –to better understand the ecological impacts of the wildfire and to enhance our visitor and classroom facilities and to accommodate more field days and demonstration events – are important foundations from which the proposed activities work. This grant will allow us to continue to improve habitat conditions on TNC land, better evaluate and distill key principles from successful management actions, and then share those principles with interested landowners/managers who would like to improve pollinator and wildlife conditions on their land. THIS PROJECT WAS FUNDED \$57,184 IN 2016 WITH THE INTENT TO FUND UP TO \$41,907 IN YEAR TWO AND \$42,843 IN YEAR THREE PENDING AVAILABLE FUNDS AND SATISFACTORY PROGRESS. THIS IS THE THIRD YEAR REQUEST.

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**Sponsor Name:** The Nature Conservancy **Nearest Town:** Johnstown  
**Project Name:** North Central Fire Coordination **Project No:** 18-133  
**Amount Requested:** \$345,000 **Term of Project Request:** 3 **Review Group:** Rural Habitat

The Nature Conservancy, in partnership with Nebraska Game and Parks Commission, Pheasants Forever, the U.S. Fish and Wildlife Service, and the Nebraska Forest Service, will advance the practice of prescribed fire on public and private lands and coordinate interagency efforts in the North Central region of Nebraska. A Burn Boss, headquartered at the Niobrara Valley Preserve, will spend three years increasing prescribed fire capacity among federal and state agencies, other nonprofits, volunteer fire departments, and private landowners (groups and individuals). He/she will have the 'people' skills to lead effectively, earn trust, and build a collaborative network of shared expertise. Individual efforts are simply not adding up fast enough to address the problem. Coordination is needed to get to scale and more efficiently deploy the resources of several partners. More prescribed fires will be conducted on landscapes that need it for ecological health. Woody encroachment by Eastern red cedar is severely impacting our grassland, forest, water and wildlife resources on a very large scale. It means a loss of native habitat for grassland nesting birds and other wildlife species associated with grasslands. It causes a reduction in biological diversity in grasslands and forests, with potentially negative impacts to threatened and endangered species. In partnership with ranchers, we will also promote the economic benefits of invasive woody species removal on rangeland, given the loss of productivity it causes. Grass health, availability, vigor, and species diversity are all diminished by the spread of cedar. This project will help reduce the risk of catastrophic loss of life and property and large economic losses due to wildfires, avoiding the devastation of wildfires like the one in 2012 which resulted in \$112 million in negative economic impacts.

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**Sponsor Name:** The Nature Conservancy **Nearest Town:** Johnstown  
**Project Name:** Demonstrating Energy Efficiency at the Niobrara Valley Preserve **Project No:** 18-134  
**Amount Requested:** \$175,000 **Term of Project Request:** 2 **Review Group:** Air Quality

We have come to an energy crossroads around the world - between continued reliance on fossil fuels and a cleaner energy future. This future will have more renewables, greater energy efficiency, and new technologies that reduce greenhouse gas emissions while still meeting the energy needs of a growing population. Nebraska is behind other states in adoption of energy efficiency practices. The Nature Conservancy has been working on planning and constructing new buildings at the Niobrara Valley Preserve (NVP) in Johnstown to expand research, learning, and training opportunities. The NVP is a 56,000-acre ecological jewel where we demonstrate best practices in land and water conservation and grassland management for the region. But moving forward, we must also demonstrate how to tackle climate change and promote cleaner energy. The NVP is in a very rural setting where energy efficiency practices may be less common than in the urban setting, which gives us a chance to prove what's possible. We are asking the Nebraska Environmental Trust for a grant to install solar panels as key part of a suite of environmentally sensitive, energy-saving techniques we are completing (and submitting as match). This project reduces waste through increased adoption of low-cost and no-cost efficiency products and practices and by promoting the results. It is our goal to reduce energy use from fossil fuels and its associated greenhouse gas emissions while demonstrating long-term financial savings. We will demonstrate in words, pictures, and graphics: 1. How the technologies were planned; 2. Cost of installation/ongoing maintenance; 3. The economic and environmental impacts of having renewable technology and greener design in our buildings; and 4. The user experience in these buildings. We will share those lessons with NVP visitors, in member communications, on our website, on social media, and through placement in newspapers, magazines, radio and television.

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**Sponsor Name:** The Nebraska Land Trust Incorporated **Nearest Town:** Lincoln  
**Project Name:** Lower Platte Preservation Partnership II **Project No:** 18-109  
**Amount Requested:** \$650,000 **Term of Project Request:** 2 **Review Group:** Rural Habitat

The Lower Platte Valley is a braided ribbon of river, wetlands, woodlands, bluffs, prairie and farmland winding through our most populous region. It sustains wildlife in a Biologically Unique Landscape and families in agriculture. The Valley also sustains 1,000,000 Nebraskans with drinking water and opportunities to enjoy nature near our two largest cities. Unfortunately, the Valley and its natural resources are uniquely threatened in a region projected to have 2,000,000 people by the year 2050. Despite several state parks, its future is largely in private hands creating a challenge for permanent land conservation. The Nebraska Land Trust (NLT) has been meeting this challenge since 2002 through voluntary agreements known as conservation easements. To date, the NLT and private landowners have permanently protected 3,384 acres in the Valley, through 14 agreements in three counties. The Nebraska Environmental Trust (NET) has been a key partner since 2008, providing \$2,222,913 in three grants to purchase eight of these easements, which attracted \$3,089,875 in matching funds from the NRCS, landowners and others. NRDs and NGPC have provided in-kind services and financial support for administrative costs. Stakeholders have been consulted for input on project selection. It is a proven formula for success. The NLT seeks to build upon this success, through involvement of a new, broad-based advisory committee and by obtaining a minimum 1:1 match for NET funds to purchase conservation easements in the Lower Platte Valley. In 2017, the NET approved \$350,000 for this purpose over one year. This application is a resubmission of that multi-year request, asking for an additional \$650,000 over two years. It will give us the financial flexibility we need to apply for NRCS funds and pursue multiple projects that could buffer state parks from development, protect watersheds, conserve wildlife habitat, preserve scenic views and maintain productive soils for agriculture!



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**Sponsor Name:** United Methodist Ministries- Missouri River District      **Nearest Town:** Omaha  
**Project Name:** Giving Grove Demonstration Orchard      **Project No:** 18-193  
**Amount Requested:** \$10,000      **Term of Project Request:** 1      **Review Group:** Urban Habitat

The Big Garden respectfully requests that the Trustees of the Nebraska Environmental Trust consider making a \$10,000 grant in support of an innovative demonstration project to improve Omaha's soil health, air and water quality and improve nutrition by educating communities to grow fresh fruit in sustainable community orchards. Grant funds will allow The Big Garden to work with a Kansas City-based partner, The Giving Grove, to develop a demonstration orchard at The Big Garden campus at 5602 Read Street in north-central Omaha. The Big Garden's Giving Grove Demonstration Orchard will use regenerative soil health practices to restore a balanced biological system to our city's urban soil; incorporate native plantings and micro-irrigation systems such as drip or micro-spray to conserve water; and will become a training site for teaching hands-on sustainable orchard management practices to neighborhood and community leaders committed to developing their own community orchard sites. Nebraska Environmental Trust grant funds will be used to purchase fruit trees, berry plants, soil amendments, mulch, native plants to attract pollinators, and drip irrigation supplies to conserve water for the demonstration orchard, as well as educational materials for orchard stewards attending hands-on pruning and sustainable orchard care workshops at the demonstration orchard.

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**Sponsor Name:** Upper Loup Natural Resources District      **Nearest Town:** Thedford  
**Project Name:** Learning Center      **Project No:** 18-101  
**Amount Requested:** \$68,000      **Term of Project Request:** 1      **Review Group:** Education

The Upper Loup Natural Resources District (ULNRD) is a governmental agency that is dedicated to conserving and protecting our natural resources. Environmental education is just one of the many critical components of the services we offer. The Upper Loup NRD, with help from the Environmental Trust, would like to create an educational facility that will provide a comfortable, safe and well-equipped location where we can educate, train, inform and empower both youth and adults to be knowledgeable stewards of our waters, lands and wildlife. The proposed location is at the center of our District and will serve producers, schools, organizations in all 8 counties, as well as be available to the general public for functions. In addition, having such a space will help us in achieving many of our educational and outreach goals of our joint Integrated Management Plan with the Department of Natural Resources. The Upper Loup NRD is requesting funds from NET to aid in remodeling current facilities and as a match the NRD would construct a new building to replace the space being remodeled as the learning center.

**Sponsor Name:** Upper Republican Natural Resources District      **Nearest Town:** Imperial  
**Project Name:** URNRD Stream and Aquifer Protection Program      **Project No:** 18-208  
**Amount Requested:** \$750,000      **Term of Project Request:** 3      **Review Group:** Rural Habitat

Over the next three years, stream flows within the Republican Basin are at risk of being reduced by the resumption of groundwater irrigation on a significant number of acres near the Republican River and its tributaries. From 2018-2020, more than 9,600 high-stream flow-impact acres in the Upper Republican NRD (URNRD) that have not been irrigated for the past 10-15 years could exit an irrigation-retirement program, the Conservation Reserve Enhancement Program (CREP). To help sustain river flows, reduce groundwater depletions, maintain fish and wildlife habitat, and preserve water for future agricultural uses both within and downstream of the URNRD, the URNRD proposes using its funds and NET grant dollars to incentivize re-enrollment of some of these lands in CREP and permanently retiring them from irrigation after the CREP contract expires. An analysis of market conditions and recent experience permanently retiring cropland from irrigation within the URNRD suggests that payments of approximately \$750 per acre will encourage the re-enrollment of land in CREP and the permanent retirement of the land after the expiration of the CREP contracts. The requested grant of \$750,000 over a three-year period from NET and matching expenditures of the same amount by the URNRD would ensure the continued and permanent retirement of 2,000 acres within the URNRD.

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**Sponsor Name:** Urban Bird and Nature Alliance      **Nearest Town:** Omaha  
**Project Name:** Replace Our City Trees (ROCT) & Community Urban Forestry Education Initiative      **Project No:** 18-137  
**Amount Requested:** \$226,728      **Term of Project Request:** 2      **Review Group:** Urban Habitat

Replace Our City Trees (ROCT) & Community Urban Forestry Education Program is a comprehensive program designed to meet an enormous tree need in Omaha's landmark neighborhoods. The program will advance the trust goals in the specific areas of habitat, surface and ground water, waste management and air quality. ROCT will engage, educate and empower at least 6 historic neighborhood associations that have lost or stand to lose the most dense tree coverage in neighborhood right of ways and nearby parks. Neighborhood Association residents, students, adults and youth volunteers will learn about best practices for tree planting, replacement tree species selection, tree care and maintenance. The program will not only engage and educate residents but will call to action a hands-on approach to collaboratively making decisions and choices pertaining to replacement trees in neighborhood right of ways and parks. One thousand trees will be planted over two years where tree loss is greatest, as understory trees become established before loss, and in tree barren areas that have never known shade trees. Diverse mature native shade tree species will be planted for full canopy coverage to reduce the heat island effect and to gain all the benefits that trees offer. A component for reclaimed wood utilization will be addressed. Trolley Tree Tours will showcase project results to the community and public at large expanding on education and community engagement. ROCT partners include 7 diverse in-kind organizations and agencies; Omaha Urban Planning Department, HDR, Inc., UNO/UNL College of Engineering, ONE Omaha, South Omaha Neighborhood Alliance, Midtown Neighborhood Alliance and Great Plains Nursery. The Program will continue to make available and include all neighborhood associations seeking to participate in ROCT.

**Sponsor Name:** York Area Solid Waste Agency

**Nearest Town:** York

**Project Name:** Baler replacement

**Project No:** 18-153

**Amount Requested:** \$101,490

**Term of Project Request:** 1

**Review Group:** Equipment

The baler we currently use at the York Area Solid Waste Agency, was put in the recycling center 20+ years ago. It has been put through its paces and is now to the point that it is not safe to use much longer, due to areas of the machine starting to crack and get very costly to repair. A new baler would give us the opportunity to recycle more products than we currently have the ability to and at the size of bale that our buyers want. Currently, our local company that picks up our products, has to re-bale some of our products, due to our current baler not working properly. It is also a concern, that if the baler we are currently using, should become completely unusable, the city will want to sub out the recycling to a private entity, due to the cost of a new machine. Mosaic has five full time employees and 17+ clients, that currently handle the sorting and baling of the recyclables that come to YASWA. We receive recyclables from 15+ towns serving 6+ counties that have brought in nearly 1400 tons of recyclables in the past two years.

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