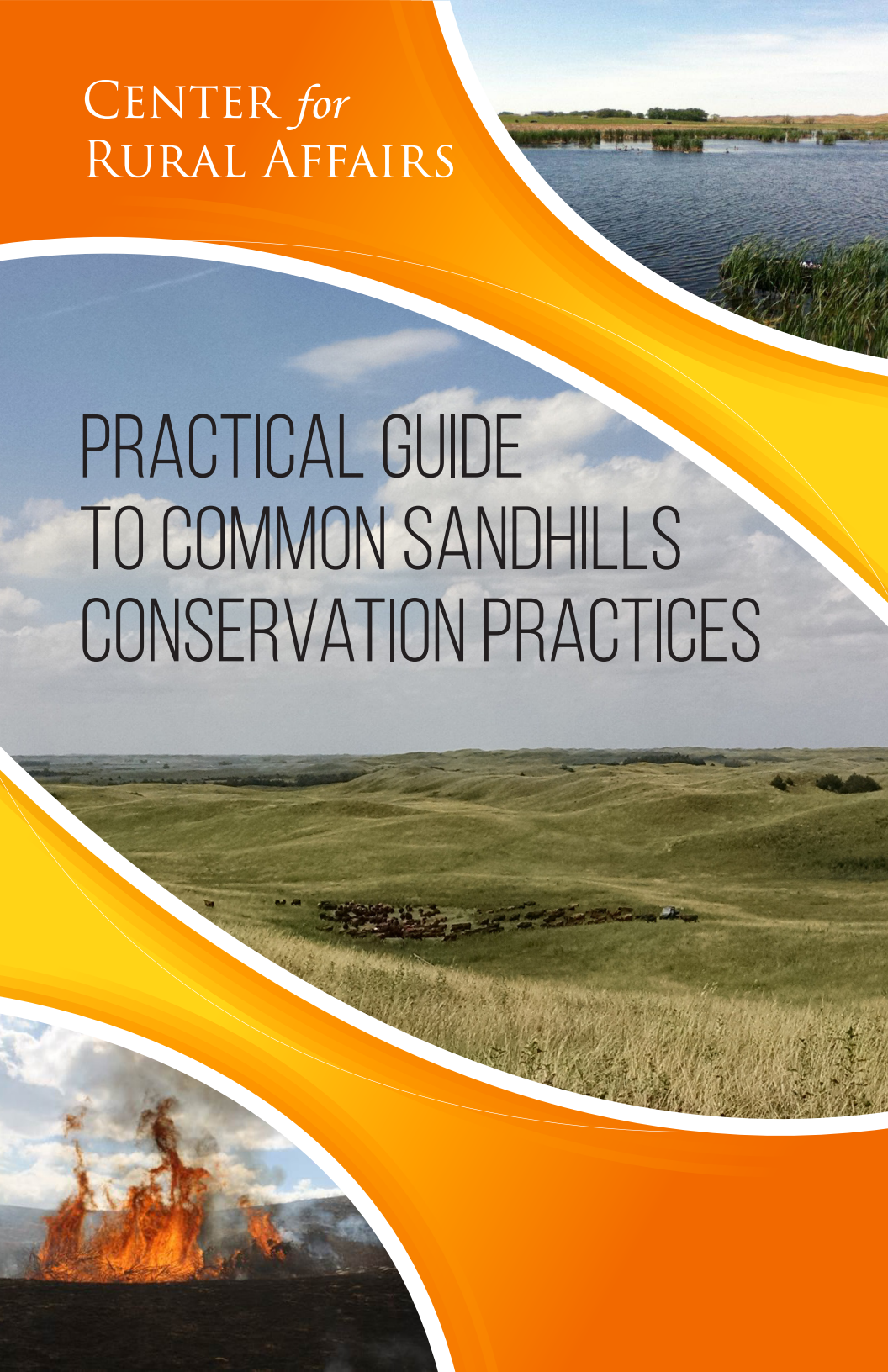


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RURAL AFFAIRS

PRACTICAL GUIDE  
TO COMMON SANDHILLS  
CONSERVATION PRACTICES



# PURPOSE OF THIS GUIDE

This guide is a simple tool for landowners in the Sandhills region of Nebraska. It provides information on the most common conservation practices used by landowners in Nebraska’s Sandhills; the general benefits of such practices for landowners, grassland birds and other species; as well as some funding sources for such practices.

The grassland prairie in Nebraska’s Sandhills is home to a significant community of bird and other species, including many species at risk. The management practices set forth in this guide are practices that Sandhills landowners can implement on their properties to benefit species at risk while also creating benefits to the landowner.

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# COMMON CSP PRACTICES IN THE NEBRASKA SANDHILLS

The Conservation Stewardship Program (CSP) is a financial and technical assistance program of the United States Department of Agriculture Natural Resources Conservation Service (USDA NRCS). CSP helps agricultural producers maintain and improve their existing conservation systems and adopt additional conservation activities to address priority resource concerns. Participants earn CSP payments for conservation performance – the higher the performance, the higher the payment. Some of the most common CSP practices implemented by agricultural producers in the Sandhills include deferment to improve wildlife habitat, monitoring nutrition, monitoring grazing, edible buffer landscapes, pollinator habitat and wildlife escape ramps.

## DEFERMENT TO IMPROVE WILDLIFE HABITAT

**What Is It?:** Commonly known as the “one-third deferment,” using this practice, ranchers do not use one-third of their grazing land each year from May 1 to July 15 to allow for nesting birds and fawning deer.

**USDA NRCS Title:** Grazing Management to Improve Wildlife Habitat (ANM09)

**USDA NRCS Description:** Implement a grazing management plan that will allow for rest periods to provide adequate residue for nesting and fawning cover and increase diversity of vegetation structure to benefit a variety of wildlife species.

**Summary of Benefits:** Not using a portion of land for a short period of time provides conditions for healthy wildlife populations on working ranch lands by creating food and cover for nesting, fawning, loafing and roosting, as well



Figure 1: A male prairie chicken “puffing” during mating season on a lek (or mating ritual site) in Nebraska’s Sandhills. | Photo by Wyatt Fraas

as travel and escape from predators and harsh weather. This practice benefits a variety of wildlife, including song birds, quail, turkey, pheasants, deer and rabbits, among others. This practice also assists with increasing populations of grassland birds – especially the greater prairie chicken – which have shown widespread population declines over the past 50 years.

# MONITORING NUTRITION

**What Is It?:** Ranchers use an online tool to look at their animals' diet and see how it stacks up to recommended nutrition guidelines. Ranchers collect forage or fecal samples and send them to a lab for analysis.

**USDA NRCS Title:** Monitoring nutritional status of ruminant livestock using the NUTBAL system (ANM65)

**USDA NRCS Description:** Use the NUTBAL online application to determine if the current diet is sufficient to meet ruminant livestock nutritional needs and develop a least cost nutrition management plan. This requires the collection and laboratory analysis of forage or fecal samples to determine the nutritional value of grazing forages.

**Summary of Benefits:** This practice provides landowners with the tools to better understand and balance the ani-



Figure 2: Cattle grazing in Nebraska's Sandhills. | Photo by Wyatt Fraas

mals' nutritional needs by allowing the landowner to (1) select the most cost efficient feed to meet his/her performance objectives, (2) evaluate feedstuff values with regard to the animal's nutrient deficiency or desired gain, and (3) monitor the quality of grazeable forage throughout the year, which in turn enhances wildlife habitat on the property.

# MONITORING GRAZING

**What Is It?:** Monitoring grazing allows ranchers to analyze and, if necessary, adjust their overall grazing management by recording information observed on small sample grazing areas on their land. This practice utilizes techniques such as taking measurements of forage plants before and after grazing.

**USDA NRCS Title:** Monitor key grazing areas to improve management. (Plant Enhancement Activity [PLT] 02)



Figure 3: Mixed-grass prairie managed with cattle. | Photo by Wyatt Fraas

## CONTINUED – MONITORING GRAZING

**USDA NRCS Description:** Adjust grazing management based on monitoring data. Monitor key grazing areas to determine if current grazing management is meeting goals and objectives. A key grazing area is a small area of a grazed field that is identified as being representative of the entire field.

**Summary of Benefits:** Monitoring grazing is a tool to help Sandhills

ranchers make informed decisions about whether their current grazing management actions are creating the desired outcomes on natural resources. It also enables ranchers to confirm their management strategies are effective, or adjust them if necessary. Proper grazing management maintains and improves vegetation and soil conditions, as well as water quality and quantity, and thus, enhances habitat for Sandhills wildlife.

## EDIBLE BUFFER LANDSCAPES

**What Is It?:** An edible buffer landscape can be established in buffer areas (strips of land that are in permanent vegetation and not used for production) by planting trees and shrubs, which provide food for both humans and wildlife, as well as shade and shelter.

**USDA NRCS Title:** Increasing on-farm food production with edible woody buffer landscapes (PLT18)

**USDA NRCS Description:** This enhancement is for the enhancing of windbreaks, alley croppings, silvopasture or riparian forest buffer systems with trees and shrubs that produce edible products for human or wildlife consumption.

**Summary of Benefits:** An edible landscape is planted with trees and shrubs, such as berry bushes or fruit and nut trees, that produce food for humans and wildlife. Trees and shrubs can be



Figure 4: Plums growing in an edible woody buffer landscape. | Photo by Wyatt Fraas

used to provide shade, protect crops or lessen the impact of environmental issues like air pollution. In an edible landscape, trees and shrubs provide a protective structure, and become sources of food by producing nutritious fruits and nuts, increasing household food security, and providing critical habitat for pollinators and wildlife.

# POLLINATOR HABITAT

**What Is It?:** A pollinator is an animal that causes plants to make fruit or seeds by moving pollen, which fertilizes the plant. A pollinator habitat can be established by planting nectar and pollen producing plants in non-cropped areas, which increases the number of pollinators and beneficial insects, improves productivity per acre, and can reduce the need for pesticides.

**USDA NRCS Title:** Establish pollinator and/or beneficial insect habitat (PLT15)

**USDA NRCS Description:** Seed or plug nectar and pollen producing plants in non-cropped areas such as field borders, vegetative barriers, contour buffer strips, grassed waterways, shelterbelts, hedgerows, windbreaks, conservation cover, riparian forest and herbaceous buffers.



Figure 5: A painted lady butterfly resting on red clover in pollinator planting. | Photo by Wyatt Fraas

**Summary of Benefits:** Increased habitat for pollinators will increase productivity per acre, as well as the variety of plants and animals in the area, and the food base for many wildlife species in the Sandhills. The increased plant diversity will enhance wildlife habitat and attract beneficial insects, like ground beetles, which eat slugs, cutworms and other pests, and may reduce the need for pesticides.

# WILDLIFE ESCAPE RAMPS

**What Is It?:** Wildlife escape ramps are a simple addition of grippable material, such as metal grating, which is added to troughs and tanks. These escape ramps can save wildlife from drowning and improve livestock performance.

**USDA NRCS Title:** Retrofit watering facilities for wildlife escape and enhanced access for bats and bird species (Animal Quality Enhancement [ANM] 38)



Figure 6: Existing water troughs can easily be fitted with escape ramps. | Photo by Kat Shiffler

## CONTINUED – WILDLIFE ESCAPE RAMPS

**USDA NRCS Description:** Retrofit all existing water facilities (troughs, tanks, etc.) to allow for the escape of wildlife that become trapped while trying to drink and to remove obstructions above the watering facility such as boards and wires. Selection of this enhancement requires the activity to be planned concurrently on all eligible land use acres.

**Summary of Benefits:** Using wildlife escape ramps eliminates dead wildlife in the water supply, assures clean water, and translates into improved live-stock performance while reducing injury or death to grassland birds, bats and other Sandhills species.



Figure 7: Homer Buell is the fourth generation of Shovel Dot Ranch with his brother, Larry. The fifth generation has taken over the day-to-day management of the operation. The family uses several parts of Environmental Quality Incentives Program (EQIP) and the Conservation Stewardship Program (CSP) to help the productivity and health of their land. Homer was just one of a handful of ranchers who provided information for this guide. See his story and the stories of four other ranches at [www.cfra.org](http://www.cfra.org). | Photo by Kat Shiffler

# COMMON EQIP PRACTICES IN THE NEBRASKA SANDHILLS

The Environmental Quality Incentives Program (EQIP) is a financial and technical assistance program of the USDA NRCS. EQIP provides landowners with conservation assistance to address natural resource concerns on their property and deliver environmental benefits, such as improved water quantity and quality, reduced soil erosion and sedimentation, and improved or created wildlife habitat.

## PRESCRIBED GRAZING

**What Is It?:** Ranchers use specific grazing techniques to meet their landscape goals, such as improving or maintaining key plant species, providing cover and food for wildlife, positively impacting water quality, reducing erosion or improving soil health.

**USDA NRCS Title:** Prescribed Grazing Conservation Practice Standard (CPS 528)

**USDA NRCS Description:** Prescribed grazing is applied as part of a conservation system to accomplish one or more of the following: improve or maintain health and vigor of key species and maintain a stable and desired plant community; provide or maintain food, cover and shelter for animals of concern; maintain or improve water quality and quantity; and reduce soil erosion and maintain or improve soil condition for resource sustainability.

**Summary of Benefits:** Prescribed grazing benefits landowners by maintain-



Figure 8: Cattle grazing in Nebraska's Sandhills. | Photo by Wyatt Fraas

ing or improving water quantity and quality, creating healthy vegetation for grazing, and building better soil structure, which is essential given the Sandhills' sandy and fragile soils.

Prescribed grazing also benefits Sandhills wildlife by providing or maintaining food, cover and shelter for animals of concern and at-risk species. This is particularly true when it comes to grassland birds, which require different grass habitat at different times in their life cycle.



# FENCING

**What Is It?:** Fencing divides up land into several pastures, allowing for the landowner to more accurately control the movement of livestock and improve grazing distribution.

**USDA NRCS Title:** Fencing (CPS 382)

**USDA NRCS Description:** Fencing is a practice that may be applied on any area where control of animal or people movement is needed. Fences are not needed where natural barriers will serve the purpose. Cross fence may be barbed, electric, woven or portable for intensive grazing management. Considerations include wildlife movement needs; livestock management, including handling, location, adequate watering and feeding facilities; soil erosion potential when constructing a fence on steep slopes; and improving forage quantity and quality to meet livestock demand.



Figure 9: Cross fencing on a Sandhills ranch. | Photo by Becky Keim

**Summary of Benefits:** Fencing assists landowners in accomplishing their conservation objectives by providing a way to control the movement of animals. Using cross fencing, ranchers can divide pastures into smaller parcels for better grass utilization, as well as increased plant diversity, forage production and available wildlife habitat.

# PIPELINE

**What Is It?:** Pipe is installed underground to deliver water from the source to selected areas of the ranch for livestock use.

**USDA NRCS Title:** Livestock Pipeline (CPS 516)

**USDA NRCS Description:** Pipelines are used to deliver water from a source of supply to points of use for livestock or wildlife to facilitate a prescribed grazing plan. For livestock water, the installation should have a capacity to



Figure 10: Pipeline installation in Thedford, Neb. | Photo by Don Earl

## CONTINUED – PIPELINE

provide seasonal high daily water requirements of 30 gallons per day for a cow/calf pair. Installation of a pipeline provides water to watering facilities, facilitates implementation of a grazing system, and provides water to livestock out of riparian zones.

**Summary of Benefits:** Installing pipeline allows livestock to access the entire

ranch and allows landowners to better control how livestock use the land. Pipelines not only make water available for cattle, but also for wildlife.

Water facilities (page 11), pipeline and fencing (page 9) are also important and complementary parts of prescribed grazing practices (page 8).

## WINDBREAKS/SHELTERBELTS

**What Is It?:** Windbreaks and shelterbelts are plantings of trees and/or shrubs that, among other things, protect plants and reduce erosion caused by wind.

**USDA NRCS Title:** Windbreak / Shelterbelt Establishment (CSP 380)

**USDA NRCS Description:** Windbreaks or shelterbelts are single or multiple rows of trees or shrubs in linear configurations. Purpose: reduce soil erosion from wind; protect plants from wind-related damage; alter the microenvironment for enhancing plant growth; manage snow deposition; provide shelter for structures, animals and people; enhance wildlife habitat; noise screens and visual screens; improve air quality; delineate property; increase carbon storage in biomass and soils; reduce energy use.



Figure 11: A row of cedars planted as part of a windbreak. | Photo by Wyatt Fraas

**Summary of Benefits:** Windbreaks and shelterbelts improve air quality by reducing dust and debris, as well as chemicals and odors. In addition, they release oxygen into the air, trap carbon monoxide, reduce erosion, provide shelter for structures or livestock, and reduce wind speeds in the immediate area.

# WATERING FACILITIES

**What Is It?:** Watering facilities provide livestock access to water at selected locations, improve grazing distribution, and protect streams and ponds from livestock contamination.

**USDA NRCS Title:** Watering Facility (CPS 614)

**USDA NRCS Description:** A watering facility (tank, trough or other water-tight container) provides water access at selected locations for livestock or wildlife. Watering facilities can be used on all land uses where there is a need for new or improved facilities. This facility protects and enhances vegetative cover through proper distribution of grazing, controls erosion through better grassland management, and protects streams and ponds from livestock contamination.



Figure 12: Cattle gather at a watering tank. | Photo by Wyatt Fraas

**Summary of Benefits:** Proper placement of watering facilities protects and enhances grasses and controls erosion through proper grazing distribution, as animals will overuse sites near water facilities rather than walk further distances to better forage. Proper water facility placement also protects streams and ponds from livestock contamination.

# WATER PUMPS

**What Is It?:** Water pumps are equipment used to pump groundwater to the surface for livestock use.

**USDA NRCS Title:** Pumping Plant (CSP 533)

**USDA NRCS Description:** A facility that delivers water at a designed pressure and flow rate. Includes the required pump(s), associated power unit(s), plumbing, appurtenances, and may include on-site fuel or energy sources and protective structures.

**Summary of Benefits:** Water pumping plants make it easier for livestock and area wildlife to use and access water. In addition, such pumps can deliver water for irrigation, water facilities, wetlands

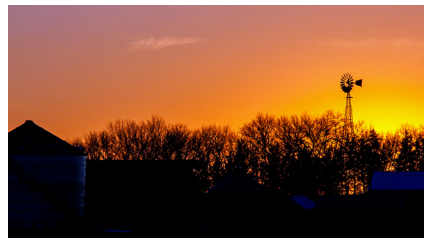


Figure 13: Windmills are traditionally used to pump water. Now many ranchers use pumping plants with electrical or solar-powered pumps where electricity is not available or practical. | Photo by Wyatt Fraas

or fire protection; remove excessive subsurface or surface water; provide efficient use of water on irrigated land; transfer animal waste; and improve on-ranch energy use.

# RESOURCES

For more information about conservation strategies in Nebraska's Sandhills ecoregion, funding and partnership opportunities, or how you can contribute to Sandhills conservation efforts, contact the Center for Rural Affairs ([www.cfra.org](http://www.cfra.org)), the USDA Natural Resources Conservation Service office ([www.nrcs.usda.gov](http://www.nrcs.usda.gov)), Rainwater Basin Joint Venture ([www.rwbjv.org](http://www.rwbjv.org)), Nebraska Game and Parks ([www.outdoornebraska.gov](http://www.outdoornebraska.gov)), Audubon Nebraska ([www.ne.audubon.org](http://www.ne.audubon.org)) or the Sandhills Task Force ([www.sandhillstaskforce.org](http://www.sandhillstaskforce.org)).



Photo by Wyatt Fraas

*The Center for Rural Affairs is a non-profit organization whose mission is to establish strong rural communities, social and economic justice, environmental stewardship and genuine opportunity for all while engaging people in decisions that affect the quality of their lives and the future of their communities. The Center has provided conservation education and demonstration programs for farmers and ranchers for over 40 years. Visit us at [www.cfra.org](http://www.cfra.org).*



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