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Pine Ridge Landscape Restoration

Environmental Assessment

Forest Service

Nebraska
National Forests and
Grasslands

Pine Ridge
Ranger District

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Cover photos:

Top: Photo at close range showing hazardous fuel, grassland and forest conditions. John K. Lee

Bottom: Photo of broad landscape hazardous fuel, grassland and forest conditions. John K. Lee

Contents

List of Tables

List of Figures

About this Document

We prepared this environmental assessment to determine whether implementation of the proposed Pine Ridge Landscape Restoration project may significantly affect the quality of the human environment and thereby require preparation of an environmental impact statement. By preparing this environmental assessment, we are fulfilling agency policy and direction to comply with the National Environmental Policy Act (NEPA).

Project Location—Summary Description

The Pine Ridge Landscape Restoration project is located on national forest system lands in Dawes County, Nebraska, immediately south of Chadron. It is roughly bisected by the Highway 385 corridor (figure 1).

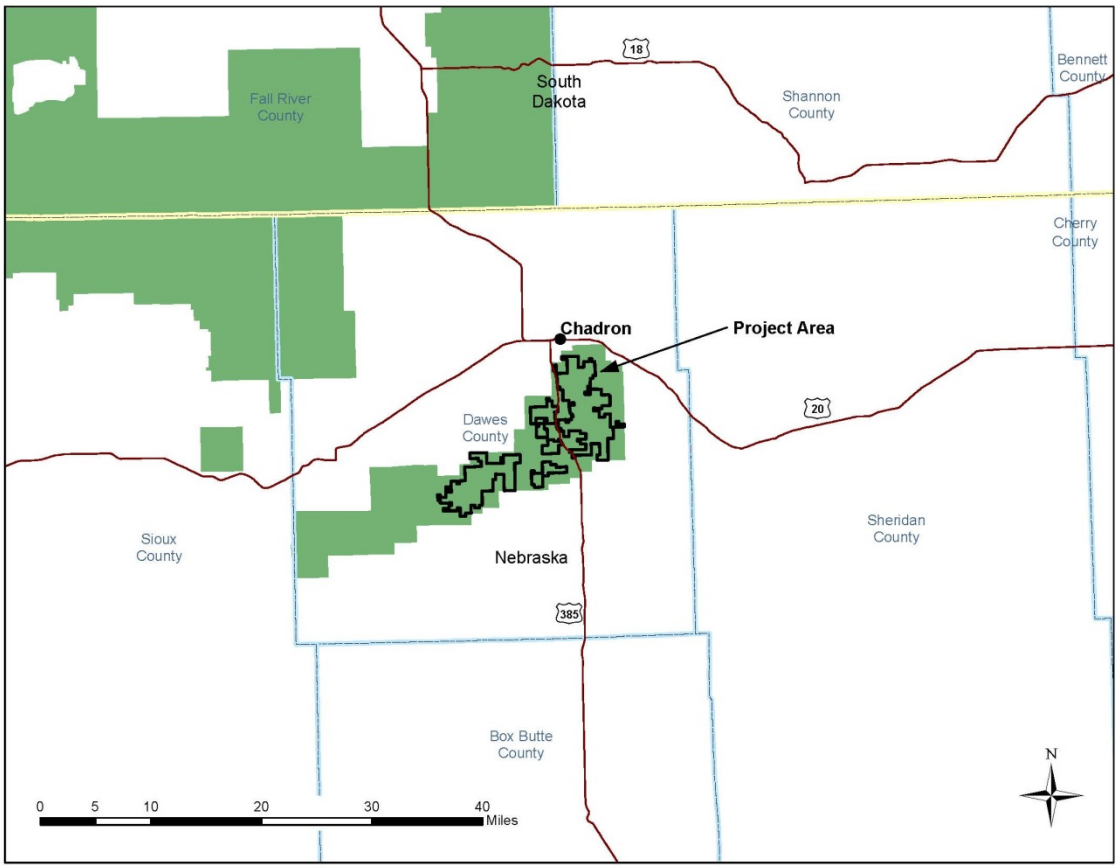

Figure 1. Vicinity map

Under applicable laws and public policies, this proposed action addresses current management and conservation needs of the area, including hazardous fuel reduction, forest health, range improvement, and other resource-specific objectives. It is the product of local collaborative planning and interdisciplinary design. The project would involve approximately 22,366 acres of land- and resource-management treatments, with integrated conservation measures, within a gross project area of 35,259 acres of national forest system lands.

Purpose—Need for Action

The project is largely aimed at improving undesired conditions created by the 2006 Spotted Tail Fire (east of 385) and the 2012 West Ash Fire (west of 385) and reducing the threat of stand-replacing wildfires in adjacent areas not impacted by those large fire events.

Conditions of high concern include fire hazards in the form of live and dead woody fuels adjacent to private land, communities, public infrastructure and public roads.

Other important conditions to be addressed include overly dense forest stands in which the intensity of potential fire behavior can be reduced, and the broad-scale desired conditions of the land and resource management plan (management plan) can be pursued, through thinning or related silvicultural treatments.

Overall, the project includes measures to improve forage, streamside vegetation, recreation, wildlife habitat as well as the aforementioned forest health concerns consistent with broad-scale desired conditions of a diverse and resilient ecosystem outlined in the Nebraska National Forest's Land and Resource Management Plan.

Legal Authorization and Policy Framework

As indicated above, this project is proposed to make progress toward various public goals embodied by the 2001 Revised Land and Resource Management Plan as amended 2009. The plan provides the basic direction and standards for management of the Nebraska National Forests and Grasslands. It was developed under authority of the Forest and Rangeland Renewable Resources Planning Act of 1974, as amended by the National Forest Management Act of 1976, and regulations implementing the National Forest Management Act. In keeping with the management plan, the project is framed to be consistent with all other laws or policies governing national forest management generally and Forest Service operations on lands administered by the Nebraska National Forests and Grasslands in particular.

Additionally, this project is specifically designed to serve public purposes outlined by the National Fire Plan of 2000, The President's Healthy Forests Initiative for Wildfire Prevention and Stronger Communities of 2002, and the Healthy Forests Restoration Act of 2003.

Environmental review of the project, including this assessment, is being conducted as required by the National Environmental Policy Act of 1969 (NEPA). This includes compliance with NEPA-implementing regulations of the Council on Environmental Quality (Council) at 40 CFR Part 1500 and application of the following guidance: Council's Guidance for Environmental Assessments of Forest Health Projects of December 9, 2002; Council's Guidance on the Consideration of Past Actions in Cumulative Effects Analysis, June 24, 2005; and Forest Service NEPA compliance procedures at 36 CFR Part 220. Additionally, provisions of the Healthy Forests Restoration Act of 2003 pertaining to environmental analysis are applicable to this project.

Project Development

Collaboration

In addition to goals and objectives of the management plan, the Pine Ridge Area Community Wildfire Protection Plan–Update 2013 forms an important basis on which this project is developed. The planned treatment of current fuel hazards—their identification, location, and priority—as well as treatments aimed at long-term management of the national forest and grassland resources, are all intended to serve cooperative goals of the wildfire protection plan and complement the work of wildfire protection partners in the area. Wildfire hazard reduction, risk management, and direct fire suppression strategies should all benefit as a result of implementing the planned treatments.

Public Review—Informal Consultations—Comments

On May 23, 2014, the project proposal and invitation to comment was issued and mailed to approximately 90 interested individuals, organizations, state and federal agencies, tribes, and congressional offices.

Under the project purpose and need for action stated above, the proposal recommended approximately 22,366 acres of land and resource management treatments within a gross project area of 35,259 acres. Proposed treatments consisted of hazardous fuel reduction, thinning, understory vegetation removal, meadow enhancement, range improvement, reforestation, and enhancement of riparian or hardwood draw ecosystems. Treatment methods and integrated measures to conserve natural resources or protect the human environment were generally described. The full proposal and cover letter are in the project record.

On June 5, 2014 the Pine Ridge Ranger District hosted a public meeting in Chadron to introduce and take comments on the proposal. The meeting was conducted in an open-house setting, in which neighboring landowners, permittees, and partner organizations conversed informally with Forest Service staff that was on hand to explain the proposed treatments, go over maps, and discuss ways to leverage positive outcomes for all interests. Participants came and went over the four-hour event. Some provided specific written comments that have been considered to make refinements to the proposal and determine the scope of the environmental review.

The opportunity to comment ended on Friday June 27, 2014. Overall, nine parties commented in writing and one by telephone. Information, ideas, or concerns conveyed by the comments were considered relevant if they appeared to address natural-resource conditions or human environmental values related to the proposed action. Forest Service review of the comments found they contributed to, or advocated for, certain themes, as follows (in alphabetical order):

- Adequate reforestation of burned areas
- Adequate retention of coarse woody debris
- Consideration of alternatives to broadcast burning
- Effectiveness of proposed treatments
- Partnership and ongoing collaboration
- Prevention or control of non-native plant invasion
- Protection of important archaeological sites or historic properties

- Protection of unburned areas from wildfire
- Wildlife conservation in conjunction with burning or other practices

Many of these themes reinforced project design features and applicable standards embodied by the proposal. Some indicated a need for the Forest Service to immediately clarify or improve aspects of its planned activities; this was done via an update letter to commenters sent July 15, 2014. Finally, all relevant comments have been used as criteria for this analysis, to determine whether the proposed action and its integrated conservation and environmental protection measures are adequate, and make changes or additions where necessary.

See appendix A for a full summary of relevant external comments and the letter response sent by the Forest Service to those who commented.

Scope of the Environmental Analysis

The National Environmental Policy Act implementing regulations of the Council on Environmental Quality (Council) say: "Scope consists of the range of actions, alternatives, and impacts to be considered in an environmental impact statement." (40 CFR § 1508.25)

Upon reviewing public comments and further evaluating the proposed action, the interdisciplinary team and responsible official (district ranger) focused the scope of the analysis on the following elements:

- Refinement of the proposed action, including additional design features, conservation measures, or monitoring requirements
- The revised proposed action
- Components of the human environment that may be affected by the proposed action that should therefore be addressed by further analysis and documentation of impacts
- Alternatives to the proposed action, as needed, to address any unresolved conflicts concerning alternative use of available resources

The above elements of scope are discussed further in the following sections.

Refinement of the Proposed Action

Internal and external review of the initial proposal resulted in certain changes as follows:

1. All planting of ponderosa pine seedlings initially proposed under the Pine Ridge Landscape Restoration project has been removed and added to a separate project called West Ash Reforestation. That project addresses pine planting needs caused by the 2012 fires at a scale and effect broader than the limited artificial reforestation work initially proposed under Pine Ridge. West Ash now comprises about 1,900 total acres.
2. All other refinements consist of finalizing the project design features identified to conserve particular resources, protect environmental values, or avoid or mitigate adverse effects. These design features are integrated with planned treatments of the revised proposed action, as shown in the following section.

Proposed Action (Revised)

The following table summarizes the primary treatment activities making up the revised proposed action. The enclosed maps (appendix B) show their locations and spatial extent. In planning these treatments, we considered many resource conditions to which particular objectives or standards of the management plan apply, and various environmental factors for which there are protection requirements. Details about the treatments, including methods to be employed, and conservation or protection measures to be applied in conjunction, are described in text sections below table 1.

Table 1. Treatments of the proposed action

Treatments	Acres
Fire Management:	
Hazardous Fuel Reduction	4,448
Prescribed Fire[a]	12,708
Forest Management:	
Thinning	6,662
Understory Vegetation Control	834
Grassland Management:	
Meadow Enhancement	6,443
Range Improvement	81
Wildlife Habitat Management:	
Riparian, Hardwood or Dry-Draw Ecosystem Enhancement	1,168
Upland Shrub or Hardwood Tree Planting[b]	5,000
All treatment areas[c]	22,366

Table notes:

a - Prescribed fire usually occurs in combination with other treatments, sometimes on the same acres.

b - Acreage is the estimated maximum. Most upland shrub or tree planting will occur in combination with other treatments, on same acres.

c - Acreage is total area affected, not a sum of treatment acres.

Hazardous Fuel Reduction and Prescribed Fire

Treating fuels to reduce fire hazards involves three types of operations as follows:

1. Piling hazardous woody fuel residues from past wildfires or management activities using mechanized or non-mechanized equipment, and burning or chipping the woody debris piles
2. Approximately 42 miles of roadside mowing along open Forest Service roads using mechanized equipment
3. Prescribed fire, both broadcast burning and “jackpot” burning woody fuel concentrations, including approximately 36 miles of fireline construction using mechanized or non-mechanized equipment, to help ensure the prescribed fire stays within desired areas

These operations may occur separately or in combination according to location. They are broad-scale and ongoing in nature, to be carried out over many different areas and timeframes involving the next five or more years. Areas to be treated will be selected and scheduled in annual operating plans that consider the following general order of priorities:

- National Forest System lands adjacent to residential or developed areas

- National Forest System lands adjacent to non-residential private property
- National Forest System lands adjacent to Forest Service or other public roads
- Interior National Forest System grazing lands with heavy fuel loads
- Interior National Forest System forest lands with mixed fire effects (partial stand mortality) from recent fires
- Interior National Forest System lands with heavy fuel loads on steep slopes requiring special design considerations to conserve soil, plants, or other resources

Additionally, all treatment-selection and scheduling will be done in cooperation with community wildfire protection partners and seek to complement hazardous fuel reduction activities already completed or being performed on neighboring lands.

Thinning

Thinning consists of reducing forest stand density to a target level, under a detailed silvicultural plan to achieve stated objectives. In this case, objectives will include moderating potential wildfire intensity and limiting its potential adverse effects in any currently "green" forest areas unaffected by the 2006 or 2012 fires. Objectives will also include making progress toward desired stand-level and broad-landscape forest vegetation conditions identified in the management plan. In addition to thinning "green" areas, some thinning will occur in mixed-severity 2012 wildfire areas that comprise both live and dead-standing trees.

Operationally, thinning involves the following activities:

1. Cutting and removing live and dead trees with mechanized and non-mechanized equipment
2. Piling harvested material and burning it
3. Lopping-and-scattering smaller cut trees and limbs
4. Developing temporary roads as required for vehicle and equipment access to treatment units and for removal of timber products

Thinning and hazardous fuel reduction operations may sometimes occur in combination, based on location and timing.

Understory Vegetation Control

This treatment focuses on areas that have already been thinned; that is, where the density of the main or high forest canopy is already reduced to a targeted stand basal area. The treatment removes *understory* or low-level pine seedlings-saplings (trees 0 to 5 inches in diameter at breast height) that are undesired because they overstock the stands is question, contribute to potential crown fire initiation, and compete with desired grass forage for livestock and wildlife. The treatment involves cutting designated live trees with mechanized or non-mechanized equipment and lopping-and-scattering cut trees or slash. Alternatively, slash may be piled and burned.

Meadow Enhancement

Meadow enhancement consists of removing pine trees encroaching into meadows where the desired condition is an open pine savannah with vigorous grass forage for permitted grazing and wildlife. It involves cutting designated live trees with mechanized and non-mechanized equipment and piling-and-burning or lopping-and-scattering slash.

Range Improvement

This treatment is aimed at maintaining or improving the quality of grasslands and their forage-production for permitted grazing. It involves two types of operations that may occur separately or in combination, according to location:

1. Future construction of 4.5 miles of exterior (property line) fences, and repairing 2.0 miles of existing exterior and interior fences, using mechanized or non-mechanized equipment, in order to better manage permitted grazing operations

2. Seeding native grasses and forbs, using machine or hand methods, as needed to rehabilitate or improve with appropriate cover and forage, areas such as forest thinning units, burn-pile sites, prescribed burn units, or 2012 wildfire areas that have not naturally recovered or that currently support noxious weed infestations to be reduced via chemical spraying prior to seeding

Riparian, Hardwood or Dry-Draw Ecosystem Enhancement

This treatment seeks to improve plant diversity and wildlife habitat in riparian, hardwood or dry-draw corridors. The favored plants will be hardwood trees, including quaking aspen where it naturally occurs, and various native shrub species. Detailed plans will be developed at the time of implementation to achieve silvicultural objectives by location.

Operationally, the treatment may involve cutting designated live trees or parts of trees with chainsaws to selectively remove storm damage and encroaching conifers. Additional activities would include lopping-and-scattering small cut trees or limbs (slash), hand-piling and burning slash, hand-planting desired species, and protecting planted or naturally occurring seedlings with shelters or fencing.

Upland Shrub or Hardwood Tree Planting

On upland sites including within thinning units, shrub planting may occur in order to enhance the shrubby component of forest ecosystems for wildlife cover and foraging. This may encompass up to 5,000 acres, depending upon how the shrub component of the treatment units responds after proposed activities are completed.

Additionally, there may be up to 400 acres of tree planting for wildlife habitat enhancement within the upland ecosystems. These plantings would focus on providing hard or soft mast forage for a variety of wildlife species by planting mainly hardwood species.

These planting operations may employ hand or machine methods.

Other Treatments

Noxious Weed Control

This treatment seeks to control or reduce infestations of noxious weeds or nonnative invasive plant species that have been located and documented along roads and within grasslands or forest stands of the project area. Treatment operations may involve one or more of the following methods: herbicide treatment; manual or mechanical methods such as hand-pulling, clipping, digging or mowing; or biological control agents.

Road Closure

In order to curtail an ongoing erosion problem and protect soil and water resources, the Forest Service plans to permanently close to motorized vehicle traffic Forest Road 765. This road is approximately 0.5 miles in length and currently makes multiple crossings of a tributary to Dead Horse Creek. The closure is expected to result in natural vegetation recovery and stabilization of the stream banks and bed at the crossings sites.

The closure will be implemented by erecting a sign notifying the public, and by placing heavy woody debris on portions of the road surface. Additionally, trail 221 will be extended north to connect with Forest Road 702, bypassing and replacing the vacated road 765 on a more suitable upland route.

Integrated Design Features for Resource Conservation and Environmental Protection

At implementation, all of the above-described treatments would be subject to and conditioned by certain design features for resource conservation or environmental protection. Where these consist of resource management standards of the 2001 Revised Land and Resource Management Plan (management plan) for the Nebraska National Forests and Grasslands, such will here be stated and the applicable standards will be considered incorporated by reference, without transcribing them into this text. Design features are provided for the following public resources and values (ordered alphabetically) that occur in the project area or are otherwise relevant to the proposed action.

Air Quality

Treatment activities involving burning will be conducted according to air quality and smoke management standards of the management plan.

Cultural and Historical Resources

Treatment activities involving fire, mechanized equipment, or soil disturbance will be conducted in a manner to protect cultural and historical resources as follows:

- Archaeological surveys of planned treatment areas will be completed in advance of operations to locate resources to be protected.
- Management plan standards for heritage resources will be applied.
- Protection or avoidance zones for particular resources will be established in advance by a qualified archaeologist working with operations managers.
- Contracts for harvesting, skidding, debris-piling, burning and other potential disturbance-activities will incorporate protection requirements and penalties if applicable.
- Monitoring of potential disturbance-activities in process will be carried out in consultation with a qualified archaeologist.

Forest and Grassland Recreation

Public recreation within the project area of the Pine Ridge Ranger District will continue throughout implementation of treatment activities, with localized, temporary interruptions or restrictions limited to public safety considerations for activities such as logging, burn operations, and the like.

Additionally, treatment activities will be designed to be consistent with the management plan scenic integrity objectives applicable to the management area within which the treatment lies or is proximate. Consideration of scenic integrity objectives will occur prior to implementation in conjunction with developing detailed silvicultural prescriptions or burn plans.

Forest Stocking, Health and Growth

Activities treating or affecting live forest vegetation will be conducted according to management plan standards and detailed silvicultural prescriptions prepared or reviewed in advance by a certified silviculturist, per Forest Service regional and national policy. Prescriptions will designate the trees to be cut or reserved and control other elements of forestry operations according to a timetable for implementation that is included; these requirements will be applied by Forest Service workers and incorporated into any contracts that pertain.

Prescriptions are written to address the management of individual forest stands, or groups of like stands. They are based upon objectives of the land management plan and target stand attributes for all resources involved, including those requiring special protection or design considerations under other laws such as the Endangered Species Act. These considerations determine the post-treatment stand species-composition, stocking, density, vertical and horizontal structure, and age- and condition-classes. In turn, such attributes influence future stand dynamics that may serve to control risks of damage from insects, diseases, wind, fire, and other agents, as well as adaptability to a possible continuing warmer climate. Post-treatment stand attributes also influence long-term potential growth and yield and other public benefits such as biological diversity, wildlife, recreation and scenery.

Grassland Species Composition, Successional Stages and Vertical Structure

Hazardous fuel reduction operations affecting grasslands will be conducted according to grassland management objectives and standards of the management plan, including those specific to the Pine Ridge Geographic Area. The focus will be on conserving desired conditions, especially with respect to areas currently recovered or in the process of recovering from the wildfires of 2006 and 2012. The treatment activities most needful of grassland-conservation considerations will be on-site operation of mechanized equipment to access and manipulate woody residues from past wildfires, burning woody debris piles, and broadcast burning at the forest-grassland interface.

Application of appropriate grassland management principles and practices will be carried out via rangeland management specialist involvement in, and contributions to, several key processes, including:

- Annually selecting and scheduling hazardous fuel reduction treatment areas
- Setting boundaries of treatments
- Developing detailed requirements for burn plans
- Developing or reviewing specifications of draft contracts for treatment operations, and
- Monitoring grassland conditions during treatment operations in consultation with operations supervisors and contract inspectors

Permitted Grazing

All operations potentially affecting grazing permittees; chiefly hazardous fuel reduction and range improvement activities; will be managed in a manner consistent with management plan standards,

the provisions of allotment management plans and grazing permits, and so as to cause the least necessary disruption of permitted grazing.

Application of these principles will be carried out via rangeland management specialist involvement in the same key processes described above for conservation of desired grassland conditions. Additionally, the rangeland management specialist will serve as liaison between permittees and those involved in implementing treatments that potentially affect permittees. Emphasis will be upon advance planning and coordination between the rangeland management specialist and district fire managers or other operations supervisors, in order to avoid actual grazing deferrals wherever or whenever possible. This will be pursued in part by considering the timing of treatment operations and the possible use of temporary electric fencing and water sources.

Noxious Weed Management

Detailed treatment plans will be developed at the time of implementation to achieve objectives by location, based on current weed conditions at each site, biological and ecological considerations, and environmental protection requirements.

All other treatment activities of the project have some potential to increase the establishment or spread of noxious weeds. Prevention or control measures established via the Black Hills National Forest Noxious Weed Management Plan (2003) apply to this project as design features. Examples of practices that apply include the following:

- Invasive-plant surveys must be conducted at appropriate intervals on all open and closed system and temporary roads affected by the project activities.
- Heavy equipment must be cleaned prior to coming on national forest system lands. Specifically, equipment used within known locations of invasive-plant infestations should be cleaned prior to moving to another site within the forest or grassland area treated last.
- Seed, straw, and other materials used for road decommissioning and erosion control must be certified weed-free.
- If needed for the project, use only gravel, fill, sand, and rock that are judged to be weed-free by the Forest Service weed management specialist.
- All disturbed roads, landings, and skid trails must be seeded with a native seed mix after activities occur.
- Native plant materials are required for re-vegetation unless accepted extenuating circumstances are identified.

Application of appropriate weed management practices will be carried out via weed management specialist involvement in, and contributions to, several key processes, including:

- Selecting and scheduling mechanized thinning, hazardous fuel reduction, and prescribed fire treatment areas
- Setting boundaries of treatments
- Locating any necessary new temporary roads
- Developing detailed specifications for post-treatment rehabilitation of new temporary roads or firelines
- Developing detailed requirements for silvicultural prescriptions

- Developing detailed requirements for burn plans
- Developing or reviewing specifications of draft contracts for treatment operations, and
- Monitoring noxious weed infestations and new disturbance areas during treatment operations in consultation with operations supervisors and contract inspectors

Private Property

Design features to protect private property during hazardous fuel reduction activities include the following:

- Private property will be avoided and protected from prescribed fire by isolating or separating it from areas to be treated. This may be accomplished by constructing firelines, planning ignitions to stop at effective control points such as roads or natural barriers, staging firefighters or firefighting equipment at strategic points, or other means.
- The Forest Service will take steps to notify adjacent landowners in advance of planned burn operations.
- In the event of fire moving onto private property, aggressive fire suppression tactics will be used.

Public Safety

Design features to provide public safety during hazardous fuel reduction activities or other operations include the following:

- A prescribed burning job hazard analysis has been developed that outlines known hazards and measures to avoid accidents. The extent to which these measures will be used is dependent upon the degree of exposure to the public. Measures may include but are not limited to the following:
    - Signs may be placed on affected roads to inform visitors to the area of a prescribed fire operation.
    - If roads must be closed during burning or other operations, they will be signed and notification of this action will be made through the dispatch system.
    - The Forest Service will take steps to inform the general public through radio, newspapers or other means of planned burn operations.

Rare Plants

There are no known occurrences of sensitive plant species in the project area. Therefore, no related conservation measures have been proposed. If any sensitive or federally listed plant species are identified in the project area prior to implementation of proposed treatments, the local biologist or botanist will be contacted to ensure that proper conservation measures are established. Additionally, design criteria for soil and water resources will protect habitat for rare plants and minimize any impacts from the project; and grazing utilization standards and best management practices will reduce any cumulative impacts from that activity on rare plant habitats.

Soil and Water Resources

Activities involving mechanized equipment or burning are the focus of conservation measures for soil and water resources. There many design features that potentially apply, deriving from

multiple federal statutes and policy sources. Application of design features depends upon the nature of the activity, the physical setting in which it occurs, and the timing or other variables affecting on-site environmental conditions.

Soil and water conservation standards of the management plan and the Rocky Mountain Region of the Forest Service (Region 2) are the basic platform for conserving desired soil and water qualities. All mechanized equipment and burning operations will be carried out in a manner consistent with management plan and Region 2 standards described in Region 2 Soil Management Handbook (FSH 2509.18, 1992) and Region 2 Watershed Conservation Practices Handbook (FSH 2509.25, 2006). Specific practices and criteria that apply to equipment operations and burning are compiled in the document, "Design Criteria, Mitigation Measures, And Monitoring—Soil and Water Resources," located in the project record. Application of these measures will serve to avoid undue adverse soil effects including slope instability, compaction, rutting, erosion, topsoil displacement, loss of organic matter, structural degradation, nutrient loss, and reduced infiltration or moisture holding capacity; and undue adverse effects to stream channel stability, water quality, wetlands, riparian areas, and ground-water dependent ecosystems.

Application of appropriate soil and water conservation practices will be carried out via soil and water management specialist involvement in, and contributions to, several key processes, including:

- Selecting and scheduling mechanized thinning, hazardous fuel reduction, and prescribed fire treatment areas
- Setting boundaries of treatments
- Locating any necessary new temporary roads
- Developing detailed specifications for post-treatment rehabilitation of new temporary roads or firelines
- Developing detailed requirements for burn plans
- Developing or reviewing specifications of draft contracts for treatment operations, and
- Monitoring soil conditions during treatment operations in consultation with operations supervisors and contract inspectors

Wildlife

All treatment activities of the proposed action will directly or indirectly influence vegetation attributes including cover, composition, structure, density or other qualities related to the management plan desired conditions for the Pine Ridge Geographic Area. These include certain broad-scale spatial patterns and the ecological processes or trends associated with them. Thus the habitats and interactions of all native wildlife species are influenced in some manner, both initially and over time, by the combination of proposed management practices and natural ecological processes acting upon them. Therefore, conservation of wildlife is dependent mainly upon management that maintains broad-scale vegetation pattern diversity consistent with the historical range of variation. Whereas the proposed treatments are developed to make progress toward the various public goals embodied by the management plan, and these goals include the habitat components and broad-scale vegetation diversity wildlife needs, the implementation of the proposed action according to management plan objectives and standards will conserve wildlife generally. The project record contains a complete analysis of effects to wildlife, including all applicable management plan standards, in the report, "Biological Assessment/Biological

Evaluation and Wildlife Specialist Report," (Middlebrook, Doug. 2014. Pine Ridge Ranger District, Nebraska National Forests & Grasslands, Dawes County, Nebraska. Unpublished internal report.)

In order to conserve or protect particular species or habitat components, the following additional design features are provided:

- **Raptors (birds of prey)–**Surveys for nests will be conducted annually for the duration of the project, and temporal and spatial buffers will be applied to known nests according to management plan guidelines.
- **Ground-nesting birds–**Mowing outside of developed sites will be scheduled to avoid adverse effects.
- **Grasshopper sparrow–**As needed based upon surveys of current conditions and habitat utilization, minimize potential impacts to grasshopper sparrow nesting, by avoiding prescribed burning in suitable grassland habitats during the period April 15 – August 31.
- **Loggerhead shrike–**As needed based upon surveys of current conditions and habitat utilization, avoid potential impacts to loggerhead shrike nesting by avoiding treatments in stream corridors during the period February 28 – June 30.
- **Pygmy nuthatch–**As needed based upon surveys of current conditions and habitat utilization, avoid potential impacts to pygmy nuthatch nesting by avoiding mechanical thinning treatments in ponderosa pine structure stage 4A and 4B stands during the period April 15 – July 15.
- **Bats–**Protect all known day roost areas and wintering sites used by bats.
- **Northern long-eared bat–** Under the Endangered Species Act, this species is proposed for listing as endangered across its range which includes Dawes and other northern and eastern Nebraska counties, based on current information from the U.S. Fish and Wildlife Service. The project area was surveyed in 2012 and 2013 and the species was not found to be present. Forested habitat suitable for roosting and foraging is present, along with suitable prey (insects and spiders). In the context of this project, the primary conservation strategy is to maintain potential roosting and foraging habitat in the form of large live trees and dead-standing trees (snags). This strategy will be implemented through silvicultural prescriptions for thinning treatments and the application of management plan standards and guidelines for retaining snags and coarse woody debris. Additional conservation measures recommended by the U.S. Fish and Wildlife Service, Nebraska Ecological Services Field Office may apply. These are provided in their memorandum to federal agencies, state agencies, and stakeholders, "Northern long-eared bat (*Myotis septentrionalis*) Proposed Listing - Memorandum Changes May 12, 2014." Most of the recommended measures have to do with avoiding direct impacts or indirect disturbance to the species in areas of known or assumed occurrence, which is not the current condition in the project area. But as a precaution, activities in the more likely habitat, such as cutting storm-damaged trees and encroaching conifers in riparian, hardwood or dry-draw corridors, should be conducted only if prior surveys clear the area of current presence or seasonal restrictions are applied as recommended by the U.S. Fish and Wildlife Service memorandum.

Application of appropriate wildlife conservation practices will be carried out via wildlife biologist involvement in, and contributions to, several key processes, including:

- Selecting and scheduling treatment areas

- Setting boundaries of treatments
- Developing detailed requirements for silvicultural prescriptions
- Developing detailed requirements for burn plans
- Developing or reviewing specifications of draft contracts for treatment operations, and
- Monitoring wildlife habitat components and populations during treatment operations in consultation with operations supervisors and contract inspectors

Components of the Human Environment That May Be Affected

Based on consideration of the proposed action and its integrated design features, the Forest Service concludes that certain components of the human environment may experience adverse effects of sufficient likelihood and importance to merit further analysis and documentation. Each of these may be characterized as unavoidable, yet able to be effectively controlled and limited in their geographic extent, severity, and duration. In contrast to *adverse* effects, changes to environmental components that are considered *beneficial*—that is, in relation to established public policy for land and resource management or environmental values identified through scoping—will not be further analyzed or documented. Only potentially adverse changes to environmental quality will be further considered. These will be described in terms of their *context* and *intensity*. They are as follows, in alphabetical order:

- Noxious weed infestations
- Permitted grazing
- Soil qualities

Alternatives

None of the above-listed components of the human environment that may be affected are seen as representing an unresolved conflict concerning alternative uses of available resources. Therefore further analysis and documentation of impacts will be limited to changes caused by the proposed action only, without consideration of any other reasonable course of action (alternative) that might relieve such conflict if it existed. However, impacts of the proposed action may be described in comparison to the alternative of no action if that is a useful point of reference by which effects may be gauged or understood.

Environmental Impacts of the Proposed Action

This section summarizes by category potential adverse changes to environmental quality. Impacts are described in terms of their context and intensity (40 CFR 1508.27).

Components of the human environment that are not likely to experience important adverse effects and therefore are not further analyzed include the following:

- Air quality
- Cultural and Historical Resources
- Forest and Grassland Recreation
- Forest Stocking, Health and Growth

- Fuel Hazards
- Grassland Species Composition, Successional Stages and Vertical Structure
- Private Property
- Public Safety
- Sensitive Plants
- Water Resources
- Wildlife

Noxious Weed Infestations

Treatments of the proposed action have some potential to increase the establishment or spread of noxious weeds. The context for this effect is mainly the project area and the immediately surrounding lands, and to a lesser extent other locales in Dawes County or beyond, to which vehicles or machinery involved in the project might transport weed seed. Any net increase in noxious weed establishment would represent a cumulative effect; that is, it would add to an undesired condition represented by currently known infestations. Known infestations in the project area comprise two species: Canada thistle and houndstongue. These are the object of current monitoring and control activities.

If hazardous fuel reduction, thinning, and other potential disturbance activities were not implemented, and current monitoring and control measures were continued, weeds in the area would not likely increase appreciably in either the short or long term. Current human activities in the general area; hunting, grazing, firewood cutting, and other uses of the forest; would still contribute to the spread of weeds. But this potential would be limited by comparison to the possible effects of new disturbances. The exception to this analysis is the possibility of another large wildfire, which in the absence of the proposed action could burn with relatively high intensity and resist control. In that situation, additional exposure of mineral soil would occur throughout the burned areas, creating favorable conditions for further weed establishment in the short or near term.

By comparison, the proposed action presents some limited potential for a short-term increase in invasive plants, and carries with it a possibility of introducing new invasive plant species to the area. Activities such as mechanized harvesting and burning would increase vehicle and equipment travel into various areas and disturb portions of the soil surface. Invasive plant seeds or parts from along existing access roads may be transported into these areas, resulting in some new weed establishment. This potential is limited, however, by virtue of the integrated design features for weed prevention and control, which are likely to be effective. Prescribed burning, too, can result in some increase in invasive plant populations, although experience in the national forests indicates an increase in invasive plants is often closely related to the intensity of a fire; thus the more risk-prone activity areas of this project would be at pile-burning sites.

The key consideration for gauging the intensity of a possible short-term increase in noxious weed infestations is its cumulative effect. In this case, while it is considered possible or even likely that some adverse effect will occur, it will not cumulatively change the weed problem in the area to a level that would resist control or management; nor is likely to impair or exclude beneficial uses of the forest and grassland, or prevent attainment of desired conditions for the Pine Ridge Geographic Area as described in the management plan. Reasons for this assessment include:

1. The current problem is not a large one approaching a threshold of significance.
2. The effects of proposed activities will not add substantially to the current problem, based on integrated project design features that are likely to be effective.
3. Treatments of the proposed action such as range improvement and noxious weed control will start to reduce current aggregate weed conditions during the life of the project and thereby partially mitigate initial adverse effects.

Permitted Grazing

The context for effects to grazing permittees is the project area, and those holding grazing permits within the area that might be required to adjust their operations during, or as a result of, project operations. In comparison to no action, the proposed action implies adjustments that might include moving livestock more frequently, erecting temporary fencing, providing temporary water sources, use of alternative pastures when available, overall net loss of some available forage for one or more seasons, added cost of purchasing feed in lieu of grazing, selling livestock at times or under conditions that are not preferred, or other related outcomes. Such effects are basically economic in nature.

The intensity of possible adverse economic effects to permitted grazing depends largely upon their relative magnitude and the degree to which they are uncertain or risky. In this case, it is considered likely that some adverse effect will occur, yet not of great magnitude or risk. Reasons for this assessment include:

1. Project design features are in place to ensure that any necessary adjustments are consistent with the terms of current permits.
2. Emphasis will be upon advance planning and coordination between the Forest Service rangeland management specialist and district fire managers or other operations supervisors, in order to avoid actual grazing deferrals wherever or whenever possible.
3. Grassland improvement that starts to occur as a result and during the life of the project may serve to partially mitigate initial adverse effects.

Soil Qualities

Treatments of the proposed action are likely to cause an observable level of adverse effects to soil qualities. These would mainly occur as a result of compaction from mechanized equipment operation or excessive soil heating at pile-burning sites. Integrated design features for soil conservation will limit the spatial extent or degree of change caused by these activities. Yet adverse effects will not be completely avoided, but rather mitigated or localized. Effects of these types may persist for 10 or more years until they naturally diminish. The Forest Service manages treatment areas to limit current aggregate detrimental soil conditions to a low percentage of a spatial area, meaning some detrimental conditions may be present for a period of time, during which additional impacts are avoided. Thus the nature of such effects is cumulative, provided some level of detrimental condition pre-exists an activity that adds to it. The context of soil compaction or soil heating is site-specific, as the adverse changes that occur are localized.

It should be noted that other potentially adverse effects should be largely avoided by virtue of project design features that include standard soil conservation practices. Effects likely to be largely avoided include slope instability, rutting, erosion, topsoil displacement, and loss of organic matter.

Many soils in the area are fine-textured, exhibiting relatively high clay content. These attributes naturally limit water infiltration and downward movement through the soil profile. Such soils are prone more than others to produce high runoff during precipitation events and therefore also more prone to accelerated erosion. Management activities occurring on these soils must be conducted carefully so as not to decrease the already low infiltration rate through added compaction, a hazard of clay soils. Compaction also impairs root growth and organisms living in the soil that contribute to overall site productivity. By controlling the season, location, and intensity of equipment operations, harvest activities can take place on soils with a higher susceptibility to compaction without causing significant detrimental disturbance. Management activities have been designed to minimize soil compaction through the use of project design features that may include using designated and existing skid trails in sensitive areas, soil moisture limitations, and seasonal restrictions.

The proposed prescribed burning is designed to produce low-to-moderate fire intensity. This is expected to result in light-to-moderate soil heating that will not reach temperatures necessary to cause large nutrient losses through volatilization. Nutrients bound up in the surface duff layer would be expected to be released into the soil and likely become available for uptake by regenerating vegetation. An increase in short-term nutrient availability may occur and contribute to maintaining long-term soil productivity. Some portion of the mobilized nutrients may be lost through leaching, but most nutrients would remain in the soil profile or utilized by vegetation.

No change in soil *structure* or *infiltration* is expected as a result of prescribed fire, as temperatures are not expected to reach those necessary to cause such physical alterations.

Damage to soils caused by burning is often discussed in terms of “severely burned” soils. The National Soil Management Handbook (FSH 2509.18) defines “severely burned” soil as:

> … a condition where most woody debris and the entire forest floor is consumed down to bare mineral soil. Soil may have turned red due to extreme heat. Also, fine roots and organic matter are charred in the upper one-half inch of mineral soil.

In general, for a soil to be considered severely burned the heat must be so intense and the residence time of the fire long enough that the soil structure and color may be visibly changed. A circumstance where this is most likely to occur is under a burning slash pile, where the fire sits on the top of the soil for a sufficient time to literally cook the soil. Severely burned soils are considered to have experienced physical, chemical, and biological changes. Areas classified as high soil burn-severity according to Burned Area Emergency Response techniques are considered a detrimental disturbance. Areas of high soil burn-severity retain very little, if any, duff and litter due to the complete consumption of the forest floor. Such soils often exhibit some level of water repellency caused by the intense heating of wildfires. Since these areas are isolated, small in size (less than 1,000 sq. feet), and located within a mosaic of lower intensity burn or non-burned areas, the adverse effect they represent is expected to remain below thresholds of detrimental conditions.

The key consideration for gauging the overall intensity of an increase in soil detrimental conditions is their cumulative effect. In this case, while it is considered likely that some adverse effects will be added, they will not cumulatively change soil detrimental conditions to a level exceeding the applicable Forest Service standards. Reasons for this assessment include:

1. The current problem is not a large one already approaching a threshold of significance.
2. The effects of the proposed activities will be controlled and limited by project design features that are likely to be effective.

The project record contains a complete analysis of impacts to soil qualities in the report, “Pine Ridge Landscape Restoration Project—Assessment of Soil and Water Resources” (Lucas, Matt. 2014. Pine Ridge Ranger District, Nebraska National Forests & Grasslands, Dawes County, Nebraska. Unpublished internal report.)

Finding of No Significant Impact

Legal Context for Finding

This Finding of No Significant Impact (FONSI) is made in accordance with Council on Environmental Quality (CEQ) regulations implementing the National Environmental Policy Act (NEPA) at 40 CFR Parts 1500-1508 and Forest Service NEPA-compliance procedures at 36 CFR Part 220.

Environmental Assessment and Project Record Incorporated

This FONSI is based on and incorporates by reference the attached document "Pine Ridge Landscape Restoration Environmental Assessment" (October 2014). Also incorporated by reference is the project record, which contains reports and analyses underlying and supporting the environmental assessment and this finding. The project record is located at the Pine Ridge Ranger District office in Chadron (see contact information on inside cover page).

The environmental assessment fully describes the scope of the environmental analysis, including details of the proposed action and its environmental consequences. All environmental consequences disclosed in the environmental assessment were identified, analyzed, and estimated with consideration of the specific design features, conservation measures, and monitoring requirements that are integrated into the proposed action; this included consideration of any historical, technical, or scientific evidence as to the effectiveness of such measures in avoiding or controlling adverse environmental effects. The environmental assessment was prepared to determine whether any of the environmental changes predicted to result from the proposed action and its integrated features would amount to a significant adverse impact on the quality of the human environment.

I wish to note that beneficial effects of the project, such as achieving many public objectives for land and resource management, are not the particular focus of this FONSI. The focus of this FONSI is on those effects that the environmental assessment describes as partly adverse, somewhat adverse, or of known concern to interested parties who have reviewed the proposal and commented. This is because the FONSI seeks to explain why impacts are not significant, and to do that it must look at those impacts that, even though controlled by integrated design features or other limiting factors, are still estimated or viewed as negative in some context, manner, degree, or timeframe. The presence of a potentially significant impact to any natural resource or environmental quality that is within the scope of the analysis would preclude a FONSI and require preparation of an environmental impact statement.

Related Environmental Documents

Currently there are no other public environmental assessments or environmental impact statements being prepared that are related to but not a part of the scope of the environmental assessment for the Pine Ridge Landscape Restoration project (CFR 1501.7(a)(5)).

Summary Finding

As the responsible official, I must evaluate the effects of the project relative to the definition of significance established by the Council on Environmental Quality Regulations (40 CFR 1508.13).

Based on my review of the environmental assessment, I am satisfied that, as a result of the internal and external scoping process for the Pine Ridge Landscape Restoration proposal, all pertinent natural resources and human environmental values that may be affected by implementing the action have been properly identified and studied. Furthermore, I find that the environmental assessment adequately describes and discloses the likely and possible effects on these relevant resources and values. Finally, I concur with the considerations of the environmental assessment that each of the impacts studied and disclosed is nonsignificant. Therefore, I have determined that the proposed action would not cause a significant adverse impact on the quality of the human environment. As a result, no environmental impact statement will be prepared.

My rationale for this finding is further explained in the following subsections.

Categories of Effects That Are Absent In This Case

Some of the kinds of effects that I am required to consider (40 CFR 1502.16) do not occur at all in this case and are therefore outside the scope of the environmental analysis. Included in this category are effects having to do with energy requirements and conservation, depletable resource requirements and conservation, and urban quality; also not present are effects on consumers, civil rights, minority groups, women, and prime farmland. Being outside the scope of the analysis, these areas of policy-concern are not addressed in the environmental assessment; they will also not be discussed further in this finding, as they do not inform considerations of the significance of effects of the proposed action.

As part of my review, I also considered whether the proposed action might cause conflict with the objectives of any federal, regional, state, and local land use plans, laws, policies and controls that may apply to the project area or to areas affected by the proposal (40 CFR 1502.16(c) and 1506.2(d)). I find no such conflict.

Nature, Context, and Intensity of Effects That Are Present

In this section I will comment on the significance of effects that are present by characterizing the general nature of the effects that I see (40 CFR 1502.16), their context (40 CFR 1508.27(a)), and their intensity (40 CFR 1508.27(b)).

Nature and Context

The environmental assessment shows that effects of this action would occur primarily to natural resources or natural resource conditions of the Nebraska National Forests and Grasslands, and that most such effects would be limited to the project area or its local vicinity. And while the project area at 35,259 acres (55.1 square miles) is extensive, it is still a only a portion of the larger setting that includes neighboring private or state forests and grasslands that reflect similar environments, resource conditions, and management goals. Thus, the context of effects from this action is considered primarily site-specific. This characterization still allows that the “site” in question may be somewhat larger than the project area containing the actual treatments.

The proposal also involves economic and social effects that are interrelated with effects to natural resources; these include potential effects to commercial grazing, scenery and recreation, and cultural or historical resources. All of these effects have a site-specific or local-area context, although cultural or historical resources also concern the State of Nebraska and the nation, in the context of laws and oversight authorities established to protect these resources.

Whereas most adverse effects of the action identified by the environmental assessment are site-specific, concerns about such effects, and design features that serve to control or limit them, are also site-specific. Soil concerns and soil-protection measures are a good example among the natural resource effects; among the economic and social effects, a good example of site-specificity is concern about interrupting authorized commercial livestock grazing in treated areas, and measures to limit this impact.

Those effects that the environmental assessment describes as partly or somewhat adverse can be characterized as ones that cannot be completely avoided should the proposal be implemented. They can, however, be effectively controlled and limited in their geographic extent, severity, and duration.

Notwithstanding the presence of some unavoidable adverse effects, I do not find among them any that should be regarded as irreversible, or any that involve the irretrievable commitment of resources. It is true that many individual trees would be cut and removed or burned; also, individual animals, especially of the small, lower forms, might be inadvertently killed. But I do not regard such effects as truly irreversible or irretrievable in the ecological sense, because the resources involved are renewable, and the populations and species are not harmed. Additionally, I find that with few exceptions, the predicted adverse effects of the proposed action are short-term, although this of itself does not make them non-significant. Exceptions to this general result, or examples of potentially longer-term adverse effects are the predicted limited compaction or excessive heating of soils. Such effects, however limited in extent by virtue of project design and controls, may endure for more than ten years.

Whereas management of the Nebraska National Forests and Grasslands, as directed by governing federal laws and the land and resource management plan, is intended to produce a balance of sustainable public benefits including both amenities and commodities; and whereas the project would accomplish such management and produce such benefits; and whereas the National Environmental Policy Act which governs this environmental review exists in part to “create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations …” (NEPA Sec. 101(a)); I find that the temporal, unavoidable, and site-specific or local adverse effects of the proposed action on various natural resource conditions reflect an appropriate relationship between short-term uses of man’s environment and enhancement of long-term productivity. Therefore, concerning significance, the nature and context of effects described in the environmental assessment do not of themselves cause me to find a significant impact.

Intensity

Concerning the intensity of effects: I have reviewed the nature of all predicted adverse effects in their relevant context(s) as reported by the environmental assessment and evaluated their intensity by applying the ten considerations at 40 CFR 1508.27(b). These are listed below in condensed form. I assure the general public and all interested parties that, having applied these considerations, I find in the environmental assessment no short- or long-term adverse effects that should be regarded as particularly intense or severe. Thus, the intensity or severity of effects described in the environmental assessment does not cause me to find a significant impact.

The general reason for this finding is that potentially intense or severe adverse effects from this action are avoided by virtue of project design. In the environmental assessment, there is a detailed list of design features, conservation measures, and monitoring requirements that are integrated into the proposed action. These measures were identified as the project was being developed and

as it was refined through the scoping and analysis phases. In short, these special requirements are intended to build environmental quality or protection into the action, and, where unavoidable adverse effects are still indicated, to strictly control and limit the intensity or severity of such effects to a level of nonsignificance. My review of the environmental assessment concludes that these environmental-design measures are appropriate, highly likely to achieve their purpose, and therefore adequate. The environmental policy considerations I applied in reviewing project design and the intensity of its effects as reported by the environmental assessment are summarized as follows:

1. A significant [adverse] effect may exist even [when] on balance the effect will be beneficial
2. [Effects on] public health or safety
3. Unique characteristics of the geographic area
4. Degree to which … effects … are likely to be highly controversial
5. Degree to which possible effects … are highly uncertain or involve unique or unknown risks
6. Degree to which the action may establish a precedent for future actions with significant effects
7. Whether … cumulatively significant impacts [are] avoided
8. Degree [of possible adverse effects to NRHP-eligible or potentially eligible sites or other] scientific, cultural, or historical resources
9. Degree [of possible adverse effects to] endangered or threatened species or … habitat
10. [Legal or other] requirements … for protection of the environment

In the environmental assessment section on environmental impacts of the proposed action, individual impacts are described in terms of their context and intensity, using the above considerations. In summary, I concur with the environmental assessment descriptions of impacts and their intensity, and I find that none should be considered significant.

Signature of Responsible Official – Date of Finding

12 Jan 15

Timothy M. Buskirk
District Ranger
Pine Ridge Ranger District
Nebraska National Forests and Grasslands

Date

Appendix A – Summary of Initial Public Comments and Forest Service Response

June 2014

Quoting from the public proposal:

> The District will use comments concerning the proposal to identify any remaining concerns relevant to project design or the affected human environment; to make any additional, warranted refinements to the proposed action in response to such concerns; and to determine the scope of the environmental review under the Healthy Forests Restoration Act of 2003 and regulations implementing the National Environmental Policy Act (NEPA).

Any information, idea or concern conveyed by the comments was considered relevant if it appeared to address natural-resource conditions or human environmental values related to the proposed action by policy, design, or effect.

Comments are grouped under identifiable themes to which the respondents are contributing or advocating. Themes are listed alphabetically.

Adequate reforestation of burned areas

- "Given the enormous size of the areas affected by the wildfires of 2006 and 2012 and the loss of tree cover over the entire area, 160 acres of reforestation, by anyone's consideration is a pathetically inadequate response by the [Forest Service]. In addition, the Chadron Record reported that the [Forest Service] indicated that only ponderosa pine would be replanted. I visited with Acting Ranger Buskirk and Mike Watts at the public meeting about using this as an opportunity to also restore hardwoods affected by the fires (and disease). Since the anticipation is that the emerald ash borer will eventually devastate the green ash populations, the American elm was largely eliminated from the landscape in the 1980s, and there appears to be minimal hackberry regeneration in the main Pine Ridge drainages, the future for hardwoods isn't bright. I suggest that the [Forest Service] increase the reforestation goal in this proposal by tenfold (1600 acres) which is still a minimal response, and devote 10% of that acreage to planting bur oak, aspen, and a new disease resistant elm in the drainages within the project area. These plantings would have to be individual trees protected by 72" high welded wire enclosures supported by two steel posts and underlain with a 72" square of weed barrier fabric. I know, because this is how I plant my trees, that it's expensive and time consuming, but it increases the likelihood of success significantly over unprotected, or inadequately protected plantings."

Adequate retention of coarse woody debris

- "The project proposal and June 11, 2014 Chadron Record article, "Pine Ridge Ranger District plans forest improvements," mentions "the removal of 'dead and down' that remains following the 2006 and 2012 wildland fires" as a project priority. The newspaper article and project proposal give the impression that 'dead and down' is a bad thing. … Dead and down, otherwise known as coarse woody debris (CWD), is often defined in forestry and ecology texts as the tree trunks or larger limbs left on the ground after natural disturbance or fire. CWD is critical for many species, both directly as substrate and through its influence on

ecosystem processes, such as nutrient cycling, water retention, slope stability, stream morphology, microclimate effects and more. Even the U.S. Forest Service recognizes the value of CWD and it is not just an important feature of … forests [farther west]: http://www.fs.usda.gov/detail/r6/landmanagement/resourcemanagement .... [Simply] piling and burning destroys nutrient capital and an important habitat element for many species. … I hope that the project is very circumspect about what it wants to 'clean up.'"

Consideration of alternatives to broadcast burning

- "The trees are pithy and mostly decayed and will not burn well without being piled and this may require a lot of effort because the trees that are flat on the ground fall apart. This is true of the 2006 burn area but not true in the 2012 burn area as the trees have not really started falling yet."
- "[There is too] much danger of [broadcast burning] becoming wild fires and causing more destruction."
- "Could the spreading of mycelium spores on the down trees speed up the decomposition process? This is being done on the west coast with the addition of mycelium to the bar oil in chain saws."
- "Also grazing animals, especially cattle, are beginning to push into the down trees of the '06 fire, to get some nice grass. This speeds up the natural decomposition. To speed up this natural process livestock numbers could be increased resulting in two benefits: breaking up down trees and reducing vegetative fuel with the benefit of costing nothing."

Effectiveness of proposed treatments

- "Understory [vegetation removal] without the appropriate overstory basal area reduction is only doing part of the job. The prescription used by the [Nebraska Forest Service] when administrating projects on state and private lands utilizing USFS R2 cost share grant funding calls for overstory basal area of from 30 to 80 square feet of basal area per acre …"

Partnership and ongoing collaboration

- "USFS CAF-A grant funding provides opportunities to expand management efforts made on USFS ground to adjoining private lands. This increases the effectiveness of these treatments on a landscape basis to provide community wildfire protection. If the USFS and the [Nebraska Forest Service] can work together in the early stages of this process, we can design projects which will make us more competitive with other states in Region 2 for this limited grant funding."
- "We understand that funding to perform work on both public and private lands is and will continue to be limited and that only a portion of the lands in the project area will be treated. [Therefore] we encourage the USFS to work with the Nebraska Forest Service and other stakeholders to identify fuel break opportunities in strategic locations. Tying these treatments into adjoining private lands … will further strengthen the effectiveness of the treatments."

Prevention or control of non-native plant invasion

- "These activities will stimulate increases in Canada thistle and cheatgrass, especially at soil-disturbed sites. To mitigate these undesirable responses, increases in thinning and fuels reduction activities should be contingent on comparable increases in noxious weed control

and reclamation (i.e. reseeding skid trails and other disturbed sites) activities in restoration sites."

- "Piled burn areas attract opportunistic plants that are usually not desirable such as Canadian thistles. There are weeds in areas but there are other methods of control that we feel could work better than a general burn, especially in the 2006 burn area."
- "After hiking up East Ash Creek to the headwater spring … I gained a better understanding of the challenges the [Forest Service] faces in the riparian areas affected by the fires. This drainage contains incredible stands of Canada Thistle and a fair amount of hound's tongue. It appeared that spraying noxious weeds may not be a very high priority since it was last on the list of "methods to be employed accomplishing these treatments…" If that is the case, I suggest raising the priority significantly."

Protection of important archaeological sites or historic properties

- "Thank you for consulting with the Kickapoo Tribe of Oklahoma in regard to the above referenced site(s). At this time, [we have] no objections to the proposed project(s) at the intended site(s). However, in the event burial remains and/or artifacts are discovered during the development or construction process, [we] would ask for immediate notification of such findings."

Protection of unburned areas from wildfire

- "Most of the project area … burned in 2006 or 2012. Much of the burned area is now a mosaic of severely burned forest mixed with "islands of green trees." These … represent seed sources and the hope of … a forested landscape on the Pine Ridge into the future. The Roberts Track area burned in 2006 and again in 2012. … [Most of the] green islands that remained after the 2006 fire were severely burned in 2012. As we design projects, it is imperative we make every effort to protect these green islands from future reburns."

Wildlife conservation

- "Timing of the burns will be critical both to the efficiency of the burn and the effect on wildlife. Turkeys use the down trees as cover for their nests. While this happens under a very small percentage of the down trees, it does happen."

United States Department of Agriculture **Forest Service** **Pine Ridge Ranger District**
16524 Hwy 385
Chadron, NE 69337
308-432-6855
308-432-6604 FAX

File Code: **1950/5150**
Date: **July 15, 2014**

Name
Organization
Address 1
Address 2
City, State, Zip code

Dear

Thank you for commenting on, or contacting us about, the recently proposed Pine Ridge Landscape Restoration project. Information, ideas, and concerns we received from you addressed many natural resource conditions and human environmental values related to the proposed action. Our review found the comments contributed to, or advocated for, certain themes; these are as follows (in alphabetical order).

- Adequate reforestation of burned areas
- Adequate retention of coarse woody debris
- Consideration of alternatives to broadcast burning
- Effectiveness of proposed treatments
- Partnership and ongoing collaboration
- Prevention or control of non-native plant invasion
- Protection of important archaeological sites or historic properties
- Protection of unburned areas from wildfire
- Wildlife conservation in conjunction with burning or other practices

Each of these themes is relevant to the scope of the project. Thus we are considering the comments further as we refine the proposal and complete the environmental review; the resulting compliance documents will explain in more detail our approach to many of the stated concerns. Often this will be in the form of particular conservation measures or design criteria to be incorporated. You will be notified of the availability of environmental compliance documents when complete around late summer 2014.

Some Clarifications and Improvements

In addition to possible refinements we would make through the environmental review process, there are certain topics we wish to address right away to clarify or improve aspects of the proposal. These are the following:

1. The District is planting ponderosa pine seedlings at a broader scale and effect than what is described under the Pine Ridge Landscape Restoration (PRLR) proposal. Specifically, a separate action called West Ash Reforestation is being developed to address immediate pine planting needs caused by the 2012 wildfires; this will augment pine planting already completed or underway in selected areas of the 2006 burn. Furthermore, for operational efficiency and best results we have decided to move all the pine planting proposed under PRLR into the West Ash proposal. West Ash Reforestation will then comprise about 1,700 total acres of pine planting. This work is being planned to be consistent with our land and resource management plan and all other requirements that, if met, would allow it to be

excluded from further environmental analysis and documentation. We make this determination in part through public scoping; a proposal concerning West Ash Reforestation with opportunity to comment will be issued soon.

2. Part of the reforestation strategy for lands that burned in 2006 or 2012 is to establish ponderosa pine through natural seeding. Some of this is already underway and more is expected as a result of proposed hazardous fuel reduction treatments.
3. The proposed treatment "Streamside Habitat Improvements" potentially involves planting hardwood tree seedlings in conjunction with conifer removal, depending upon needs determined for particular locations and the details of silvicultural prescriptions to be developed at implementation.
4. Broadcast burning is one of several methods that may be used to accomplish the proposed treatment "Hazardous Fuel Reduction." This means only a portion of the 6,884 acres for which this general treatment is proposed will actually be burned. Specific burn areas will be identified at the implementation stage through detailed operational planning that includes written burn plans. Burn plans will address fireline construction, protection of private property, advance notification of adjacent landowners and the general public, contingency fire suppression strategies, and public safety measures.
5. The proposed treatment "Understory Vegetation Removal" is focused on areas that have already been thinned. That is, the density of the main forest canopy is already reduced to a targeted stand basal area. Removal of understory or low-level vegetation is proposed to control undesired tree regeneration that eventually contributes to potential crown fire initiation and to improve grass forage.

If you have any questions regarding this information, please contact Paul Klug, Interdisciplinary Team Leader, at 406-752-6400 or by email at pklug@fs.fed.us.

Thank you again for participating in the management of your Nebraska National Forests and Grasslands!

Sincerely,

/s/ Timothy M. Buskirk
TIMOTHY M. BUSKIRK
District Ranger

Mailing List

First Name	Last Name	Title	Address 1	Address 2	City	State	Zip
William	Vodehnal	Nebraska Game & Parks	524 Panzer Street	P.O. Box 508	Bassett	NE	68714-0508
John	Sidle		P.O. Box 1292		Chadron	NE	69337
Jerry	Schumacher		P.O. Box 667		Chadron	NE	69337
Greg	Schenbeck	Nebraska Game & Parks	471 Squaw Creek		Crawford	NE	69339
Glenn and Freden	Price		31 King Canyon Road		Chadron	NE	69337
Fred	McCartney	Nebraska Forest Service	430 E. Second Street		Chadron	NE	69337
Kent	Collier	Kickapoo Tribe of Oklahoma	P.O. Box 70	407 N. Hwy. 102	McCloud	OK	74851
Todd	Crawford	Office of Congressman Smith	1811 W. Second St., Suite 275		Grand Island	NE	68803

Appendix B - Maps

Map 1 of 2 – Proposed Treatments

Map 2 of 2 – Proposed Prescribed Fire Treatments