Draft Compatibility Determination

Title

Compatibility Determination for Grazing at Rocky Flats National Wildlife Refuge

Refuge Use Category

Agriculture, Aquaculture, and Silviculture

Refuge Use Type(s)

Grazing (Cooperative)

Refuge

Rocky Flats National Wildlife Refuge

Refuge Purpose(s) and Establishing and Acquisition Authority(ies)

Rocky Flats National Wildlife Refuge Act of 2001 (hereinafter referred to as the "Refuge Act"), Public Law 107-107.

The Refuge Act identified four purposes of the Rocky Flats NWR:

- Restoring and preserving native ecosystems.
- Providing habitat for, and population management of native plants and migratory and resident wildlife.
- Conserving threatened and endangered species.
- Providing opportunities for compatible scientific research.

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System, otherwise known as Refuge System, is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife,and plant resources and their habitats within the United States for the benefit of present and future generations of Americans (Pub. L. 105-57; 111 Stat. 1252).

Description of Use

Grazing (Cooperative) – prescribed grazing for habitat restoration and management purposes on lands owned in fee title or managed through agreement by the National Wildlife Refuge System.

The proposed use is to implement prescriptive grazing in Section 16 (southwest corner of the Refuge) in order to meet wildlife and habitat objectives. More specifically, the Refuge proposes to issue an annual Special Use Permit (SUP) for the purpose of cooperatively managing Section 16 to improve and/or maintain habitat conditions, benefitting both migratory and resident wildlife species.

Most of Section 16 (a 623-ac parcel) was added to the Refuge during FY 2013. It is now managed under the existing Comprehensive Conservation Plan (CCP) for Rocky Flats NWR. Therefore, both the Refuge Purposes and the Wildlife and Habitat Management Goal apply to this new property. This goal states that the Service will "Conserve, restore and sustain biological diversity of the native flora and fauna of the mountain/prairie interface with particular consideration given to threatened and endangered species."
Prescriptive grazing can be used to help meet at least four of the eight stated objectives for the overall Refuge wildlife and habitat management goal of the Comprehensive Conservation Plan. Light grazing can improve Preble's meadow jumping mouse (Zapus hudsonius preblei) habitat; cattle would be fenced out of Preble's habitat except for parts of the non-growing season, if grazed at all. Management of weeds, xeric tallgrass prairie, and mixed grass prairie can also be aided by appropriate management of cattle.

Cooperative management (between FWS and private cooperator) of Refuge land, including grazing, is not one of the priority public uses of Refuge lands. However, grazing is an important habitat management technique that maintains the health and vigor of vegetation in this area.

Is this an existing use?

Yes. This compatibility determination (CD) reviews and replaces the CD for grazing at Rocky Flats National Wildlife Refuge dated April 9, 2014.

What is the use?

The feeding on vegetation by domestic livestock. This includes trailering and watering of livestock.

Is the use a priority public use?

No

Where would the use be conducted?

The use would be implemented across most of Section 16 (Township 2 South- Range 70 West, 6th P.M.) except for the far northwest comer which remains outside of federal jurisdiction. More specifically, grazing would be limited on the north by the northern boundary of the section, on the east by the eastern boundary, on the south by a line approximately 400 feet south of the centerline of Woman Creek, on the west by the railroad easement condemned in the U.S. District Court Civil Action 4670, and on the northeast by the northeastern boundary of Refuge land.

Approximately 60 acres within the northeastern quarter of Section 16 have been fenced to limit grazing to only certain periods. Cattle will not be allowed into this parcel of riparian and adjacent upland during the growing season to prevent impacts to Preble's meadow jumping mouse habitat.

When would the use be conducted?

The use could occur during every season depending on specific precipitation conditions (e.g., drought years versus normal to wet years). The exception is in the 60-acre fenced riparian area, where cattle will only be allowed to graze outside of the growing season, if that year's conditions allow for any grazing at that site.

Grazing could be restricted during May 15 to July 15 to avoid disturbance to nesting birds unless the refuge manager deems the grazing necessary to control invasive plants or restore grasslands.

How would the use be conducted?

These practices are only permissible when prescribed in plans developed to achieve habitat management objectives or refuge purposes. Grazing will be administered under a Cooperative Agricultural Agreement (CAA) permit. This allows a person or entity to use agricultural practices on National Wildlife Refuge System lands in support of refuge management objectives.

A CAA will include a Commercial Special Use Permit and a Plan of Operations that details operation requirements. When substantial involvement between the Service and the agricultural cooperator is anticipated, the CAA will necessitate communication on a regular basis and annual reviews.

Grazing agreements will include location, AUM, dates and specific guidelines related to grazing activities. Grazing will normally be conducted using cattle but other livestock animals such as sheep, goats or bison may be used with appropriate fencing. The AUM per unit will be dependent upon grazing unit size, animal type, amount and type of forage available and goals for the unit. Grazing units will be surrounded with appropriate fencing and may include cross-fencing. Watering facilities may or may

not exist on a unit. If they do not exist, they may need to be installed or a rancher may need to deliver water to the site on a frequent basis.

Cattle would be delivered and removed from the site by pickup trucks with livestock trailers using well established existing roads and portable corral panels. Use of horses would be minimized by limiting them almost entirely to roundup and branding operations. Occasionally, a few llamas might be used, but only as predator deterrents.

Prescriptive grazing is administered through issuance of a special use permit. A permit holder is selected using the criteria identified in the land exchange that accessioned Section 16 into the Refuge. Estimates of forage volume and normal range management calculations would be made by Refuge staff each year to determine the season of use, number of animals allowed, and length of the grazing period. For example, 144 AUM's would likely be approved during a normal year, but could be significantly reduced during a future year if drought conditions are anticipated. [Mature cow = 1 AUM; Cow/calf pair = 1.2 AUM; Yearling = 0.7 AUM; Bull = 1.5 AUM.] All prescriptions wouldll be developed to ensure that management objectives previously discussed would be achieved.

Why is this use being proposed or reevaluated?

This use is being proposed in order to meet wildlife and habitat management objectives in a newly acquired site. Grazing can provide manipulation of habitat that is necessary for grassland species, potentially including the Preble's meadow jumping mouse. Grazing and the minor disturbance that accompanies it will simulate natural processes and invigorate native grasses and forbs. It will also help manage some weedy plant species.

This area evolved through ecological disturbances, especially grazing. In the absence of bison (Bison bison), cattle have been used successfully to keep Section 16 healthy for decades. Continuation of this well-managed program will help keep the site productive for both native flora and fauna. In addition, this grazing program was included in the requirements for a land exchange that resulted in Section 16 becoming part of the Refuge.

Availability of Resources

Resources involved in the administration and management of the use: Refuge staff would continue to monitor the permit holder for violations of permit conditions and trespass. Biologists and station managers would monitor habitat conditions using current methods.

Special equipment, facilities, or improvements necessary to support the use: No special federal equipment, facilities, or improvements have been identified as being necessary to support the use.

Maintenance costs: Maintenance costs will be minimized because the cattle themselves will help manage the vegetation. Therefore, mowing and spraying for weed control also will be reduced and will partially be borne by the vendor, especially for surveillance for weeds and rapid response to their discovery. There may be additional costs for maintenance of fences, but most of these costs also will be paid by the vendor.

Monitoring costs: The need for staff time for the development and administration of cooperative agriculture programs is already committed and available. Little time is anticipated to monitor this activity. Issuance of an annual Special Use Permit is conducted in the same manner as numerous other SUPs for unrelated activities, making this cost minimal. Refuge personnel will observe land use by the vendor, but this activity also will be conducted in conjunction with other projects, further minimizing the cost of monitoring the grazing. Existing refuge staff will monitor the CAAs to ensure compatibility and compliance. The cooperator is responsible for providing all equipment and labor associated with permitted activities.

Offsetting revenues: The Service expects grazing fees and assistance with weed control would offset expenses to the Service for reasons explained above.

Anticipated Impacts of the Use

Potential impacts of a proposed use on the refuge's purpose(s) and the Refuge System mission

The mission of the Refuge System provided in the Refuge Improvement Act of 1997 states that “The mission of the [National Wildlife Refuge] System is to administer a national network of lands and waters for the conservation, management and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.”

Conservation and management mean to sustain and, where appropriate, restore and enhance, healthy populations of fish, wildlife, and plants utilizing, in accordance with applicable Federal and State laws, methods and procedures associated with modern scientific resource programs. These definitions denote active management and are in keeping with the House report on the Act which states that the “Refuge System should stand as a monument to the science and practice of wildlife management.”

It thus follows that if an economic use of a natural resource is shown to be conservation and management as defined in the Act, it does contribute to the mission by the very definition of terms used. If a use contributes to the mission, it thus meets

the standard or threshold established in 50 CFR 29.1. In accordance with 50 CFR 29.2, grazing, as described in this compatibility determination, significantly contributes to the mission, purposes, goals, and objectives of the Refuge.

The Great Plains prairie ecosystem evolved under the grazing pressure of bison and, in combination with climate, influenced the composition and distribution of native flora and fauna. Knopf (1996) noted how an increase in grazing intensities resulted in an increase of species characteristic of the shortgrass and Coppedge et al. (1998) found that tallgrass prairie forb species showed a positive relationship to grazing intensity. Grazing is recorded as simulating natural processes and invigorating native grass growth. In addition, herbivory decreases competition for available soil nutrients by individual plants (Truett et al. 2001) and increases the nitrogen content and digestibility of plants used as forage.

Rocky Flats National Wildlife Refuge was established in 2007 by the Rocky Flats National Wildlife Refuge Act of 2001 (Public Law 107-107). The Act stated that the Refuge would be managed for the following purposes related to native grasslands: restoring and preserving native ecosystems; providing habitat for, and population management of, native plants and migratory and resident wildlife; conserving threatened and endangered species (including species that are candidates for listing under the Endangered Species Act). Invasive plants or "weeds" are a tremendous challenge to the health and diversity of native plants and wildlife habitat on the Refuge. The Refuge's Comprehensive Conservation Plan (CCP) identifies multiple habitat management techniques, including short-term (or "flash") grazing, to assist with management of the globally-rare xeric tallgrass prairie present on the Refuge.

The xeric tallgrass prairie is considered to be a relict plant community from the last glaciation. This rare and unique prairie occurs only in a narrow band on the Colorado Piedmont, east of the mountain front in Colorado (Nelson 2010). The community contains several different plant associations that include combinations of big bluestem, little bluestem, mountain muhly, sun sedge, Fendler's sandwort, and Porter's aster. Other tallgrass prairie species include Indian-grass, prairie dropseed, switchgrass, and needle-and-thread grass. Species richness is high; 285 species have been recorded within the xeric tallgrass community at the Refuge, of which about 80% are native. Big bluestem is typically associated with mixed-grass or tallgrass prairie, not with shortgrass prairie. The 1-2 million year old soils that lie beneath the xeric tallgrass prairie at the Refuge may help explain why big bluestem thrives there. The increasing accumulation of subsurface clay in conjunction with the continued presence of a sufficiently coarse surface layer allows rapid surface infiltration and has facilitated a progressively large subsoil moisture storage potential. This moisture storage potential is thought to support big bluestem in an otherwise inhospitable area (Buckner & Odasz 2012). The older alluvium with high water holding capacity is thought to be thicker in the western part of the Refuge and thinner in the east

(Buckner, pers. comm.). Thus, the highest-quality xeric tallgrass prairie is presumed to be on the west side of the Refuge.

Canada bluegrass is the most prevalent invasive species/species group in the xeric tallgrass prairie on the Refuge. Boulder Open Space land managers use targeted grazing to control Canada bluegrass on xeric tallgrass areas adjacent to the Refuge. It is thought that targeted grazing during the growing season for Canada bluegrass (spring or fall) may be effective in reducing it.

Anticipated impacts (both positive and negative) are outlined below. These are related to impacts on the first three Refuge Purposes. No impacts are anticipated for the fourth Purpose (research).

Short-term impacts

Short term impacts would include loss of vegetative cover which could result in minor soil erosion. Highly palatable forbs and shrubs could be impacted by grazing and therefore affect a number of wildlife species from pollinators to large mammals; for example, elk could be impacted by competition for forage for short periods. It should be pointed out that elk are not typically observed using this specific portion of the Refuge, however. Positive effects include the benefit to the wildlife species that require short cover, such as several species of songbirds.

Domestic livestock grazing removes and tramples some, to much, of the standing vegetation from a tract of grassland. In general, grazing will decrease vegetative heights and litter depths and affect plant composition. The measure of short-term impacts will depend upon the grazing timing (time of year), duration (length of graze), and utilization level (i.e., light, moderate, full, close, or severe) in addition to climactic factors like rainfall and temperature. Depending on the utilization level, hoof action may help to break up litter and increase its ground contact, thereby increasing the rate of litter decomposition. These actions open up the ground for native plants to grow and aid in nutrient cycling. Nutrient cycling is also naturally increased by the herbivory, digestion, and excrement of plants in a grassland. Areas around watering systems and along fence lines may experience heavy trampling and compaction resulting in the mortality of perennial vegetation and the establishment of early successional species.

Bird species differ in their vegetation height preferences so typically the management goal is to provide a mosaic, with heterogeneity of vegetation heights across the landscape. Pollinators are similar in their need for a heterogeneity of heights and plant species. Following a graze, depending on the remaining vegetation height, a site will be more or less attractive for use by certain wildlife species during the respective growing season. Cattle do not always graze uniformly, and there is typically heterogeneity of height within a prescribed grazed site as compared to a prescribed hayed site. Birds that prefer shorter stature grasslands, such as upland sandpiper and

savannah sparrow may benefit from the reduced vegetative height resulting from grazing while others such as mallards and bobolink, which typically require taller and dense nesting structure, may be negatively impacted by grazing in the short-term.

Long-term impacts

Negative impacts (e.g., erosion, removal of significant plant species) will be prevented through careful grazing management. Measures are already in place to prevent these impacts by requiring an annual permitting process and an appropriate level of oversight by Service personnel. Positive impacts include improved habitat for some avian species, improved forb production that aids pollinators, and maintenance of grassland habitat for native ungulates. Properly prescribed, the effect of this removal of vegetation increases the vigor of the grassland by stimulating the tillering and growth of desired species of grasses and forbs and reducing the abundance of targeted species such as cool season exotic grasses, woody species, noxious weeds, invasive species, and/or cattails. Well managed cattle grazing will simulate use by bison and will likely help maintain a highly resilient system that has considerable diversity of species that promote heterogeneity and ecological integrity. Disturbance of grassland habitats is essential to maintain plant vigor and reduce infestations of noxious weeds. Careful grazing may even promote habitats resilient to climate change. Recent xeric habitat surveys conducted by Inventory and Monitoring staff in 2022/2023 suggest that grazing is having a positive impact on xeric tallgrass communities.

No cultural resources would be impacted.

No impacts to endangered species should occur.

Public Review and Comment

Public notice of this initial compatibility determination was completed as a part of the Land Protection Plan and Environmental Assessment for the expansion of the Refuge (2011). The LPP and EA documents were made available for 30 days of public comment beginning on September 30, 2011. No public comments were received on current or continued grazing of Section 16.

The Service will announce a public comment period for this draft compatibility determination to renew existing grazing activities. The draft compatibility determination will also be posted on the Refuge's website. Written comments will be retained in the administrative record.

Determination

Is the use compatible?

Yes

Stipulations Necessary to Ensure Compatibility

1. All activities will be conducted in accordance with the CAAs.

2. The criteria for evaluating the need for habitat management, including all uses described in this CD, will be determined during annual planning activities.

3. Activities must meet specific and articulated habitat and related wildlife objectives and contribute to the achievement of the purposes for which the Refuge units were established. These objectives may be outlined in a Comprehensive Conservation Plan, a Habitat Management Plan, an Annual Work Plan, or in the Special Use Permit.
4. For grazing specific activities-
    a. No insecticides may be used on Refuge lands.
    b. No supplemental feeding will be allowed on Refuge lands.
    c. Control and maintenance of the livestock will be the responsibility of the permittee.
    d. Fencing, water supply, and other livestock management infrastructure needs and costs will be outlined on a site-by-site basis in the SUP.

5. A habitat management plan/xeric tallgrass management plan will be developed with specific wildlife and habitat objectives as funding allows. Prescriptive grazing will be one of the tools used to meet these objectives.

6. Monitor vegetation and wildlife to assess the effects of the management tool.

7. Require general and special conditions for each permit to ensure consistency with management objectives.

8. Restrict the use of vehicles and motorized equipment to the minimum necessary to conduct grazing.

9. Restrict grazing during May 15 to July 15 to avoid disturbance to nesting birds unless the Refuge Manager deems it necessary to control invasive plants or restore/maintain grasslands.

Justification

Grazing can be very helpful to xeric tallgrass and mixed-grass prairies when managed properly. Several species of wildlife (especially some grassland birds) need the resulting diversity of vegetation for food and cover all year. Careful prescriptive grazing by the vendor has benefitted these wildlife species in the past, and further

use of existing adaptive management strategies will continue to benefit wildlife and wildlife habitat in Section 16 of Rocky Flats NWR. In addition, continuation of grazing (albeit by following Service requirements) was provided by the land exchange agreement (a pre-existing requirement) that added Section 16 to the Refuge. This prescriptive grazing has proven to be a valuable management tool that will support refuge objectives.

In addition, Section 16 is now under the guidance of the Rocky Flats NWR Comprehensive Conservation Plan. This umbrella management plan stated that the preferred alternative "would include selective grazing by cattle, goats or other livestock, which would have a beneficial effect on vegetation communities by reducing the number and density of weed species and stimulating native plant growth. A secondary benefit of selective grazing would be weed control." While the CCP recognized the potential short-term impacts to wildlife due to competition, the plan further stated: "the benefits of managed grazing, such as grassland enhancement and weed control, are expected to have long-term beneficial effects on grasslands." Therefore, grazing is determined to be compatible with both the mission of the National Wildlife Refuge System and the purposes of Rocky Flats National Wildlife Refuge.

Signature of Determination

Refuge Manager Signature and Date

Signature of Concurrence

Assistant Regional Director Signature and Date

Mandatory Reevaluation Date

2033

Literature Cited/References

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