

**Compatibility Determination
(Interim CD for Barnes-Agency Tract Upper Klamath NWR)**

Use: Prescriptive Grazing

Refuge Name: Upper Klamath National Wildlife Refuge (Barnes-Agency Tract added 2010) - Klamath County, Oregon

Establishing and Acquisition Authority:

Upper Klamath National Wildlife Refuge (NWR) was established in 1928. Legal authority for establishment of the Refuge: Executive Order 4851, April 3, 1928.

Refuge Name:

Upper Klamath National Wildlife Refuge (Refuge); Klamath Basin National Wildlife Refuge Complex

Refuge Purpose(s):

- “...as a refuge and breeding ground for birds and wild animals...subject to the use.....for irrigation and other incidental purposes, and to any other existing rights” Executive Order 4851, dated Apr. 3, 1928
- “...dedicated to wildlife conservation....for the major purpose of waterfowl management, but with full consideration to optimum agricultural use that is consistent therewith....” 78 Statue 850, dated Sept. 2, 1964
- “... for use as an inviolate sanctuary, or for any other management purpose, for migratory birds....” 16 U.S.C. § 715d (Migratory Bird Conservation Act))

National Wildlife Refuge System Mission:

The mission of the 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.

(National Wildlife Refuge System Administration Act of 1966, as amended [16 U.S.C. 668dd-668ee]).

Description of Use:

Overview: Grazing has been used as habitat management tools on the Refuge intermittently since its establishment. Grazing includes use of livestock, restricted to a specific location, to remove vegetation such as grasses, sedge, rushes, and other associated species to meet a desired habitat condition. Grazing is completed by cooperative ranchers/farmers (permittee) acting under authority of a Special Use Permit issued by the Refuge Manager. No pesticides, herbicides, or fertilizers are associated with these uses.

Economic Use: Grazing is considered a Refuge management economic use. While this activity on the Refuge provides economic benefits to permittees, the decision to and purpose for grazing is dictated exclusively by habitat and wildlife management needs. All

activities associated with grazing including locations, acres, timing, and other special conditions are directed by the Refuge Manager to the permittees thru signed Special Use Permits (SUP).

In past years, permittees have bid on an AUM (animal unit month) basis for grazing opportunities that are provided by the Refuge. Refuge Managers may also used a fixed price for grazing based on fair market rates in accordance with procedures outlined in the Refuge Manual. Currently a SUP is issued for approximately 400 AUMS/season. Grazing was last conducted on the Refuge in 2011.

Associated uses and facilities: Grazing may require the use of trucks, ATVs, horses, dogs, electric and barbed-wire fence, watering facilities, and mineral blocks. No additional roads have been or will be constructed for these uses. Administrative roads used by refuge staff will be available for use by permittees. Permittees are allowed to travel off road with vehicles to conduct operations or to maintain fences.

Location: Historically, grazing has been conducted primarily in the north and east side of the refuge in sedge and grass meadows. Grazing use has been determined annually by the Refuge Manager based on habitat condition, benefits and impacts to wildlife, water levels, accessibility, and other factors.

Primary plant species found in areas hayed and grazed include grasses (*Agropyron* spp., *Agrostis* spp., *Poa palustris*, *Poa pratensis*, *Hordeum* spp.), sedges (*Carex nebrascensis*, *Carex rostrata*, *Elocharis acicularis*, *Juncus balticus*), and a mix of forbs. These areas may be used by a variety of wildlife species during different parts of the year to meet specific life-cycle needs. A large diversity of migratory birds may use these areas for nesting, cover, or foraging. General groups of birds include waterfowl, wading birds (bitterns, herons, and egrets), cranes, raptors, rails, shorebirds, and passerine species such as blackbirds and sparrows. Big game species include elk and mule deer. Other mammal species include coyote, fox, raccoon, mink, badger, skunk, bobcat, and a variety of rodents. Seasonally, these areas could be used by a variety of reptiles and amphibians, including the Federal candidate Oregon spotted frog. A survey by USGS and FWS biologists in 2010 found no Oregon spotted frogs within the Barnes-Agency Tract. A variety of insect species also utilized these habitats, although specific species have not been determined.

Magnitude: Historically, the Refuge's Compatibility Determination (1994) authorized grazing of up to 2,300 acres utilizing 400AUM's acres per year depending on the specific vegetation species present at sites and the overall condition of harvested vegetation. This Compatibility Determination authorizes an experimental grazing study for 2 years on the Barnes-Agency addition (9,700 acres; obtained in 2010) based on habitat conditions and acreage guidelines established by the Upper Klamath NWR staff. The Refuge Manager, in conjunction with biological staff, will annually evaluate vegetative conditions and wildlife needs and establish grazing acreages in consideration of the habitat and wildlife conditions.

The general goal of the prescriptive grazing experiment is to maintain vigorous vegetative growth, maintain areas for foraging migrating waterfowl, cranes, shorebirds,

and other species; and maintain sufficient residual nesting cover for bird species dependent on that type of habitat.

Habitat types are summarized as follows:

Emergent Marsh: The emergent marsh goal is to restore and maintain optimum interspersed and diversity of aquatic vegetation and open water within the emergent marsh community to support migrating and nesting water birds.

Sedge Meadows: The sedge meadow goal is to maintain and enhance the natural structure, diversity, and productivity of the seasonally flooded sedge meadows with an emphasis on providing nesting and foraging habitat for rails, waterfowl and sandhill cranes. The priority would be to use grazing to mimic natural processes, however, other tools, like prescribed fire may be utilized in the future. Burning may not be feasible due to logistical, air quality restrictions, funding, staff availability or climatic conditions. The Refuge will provide complexes of sedge meadow in conjunction with associated emergent marsh/open water habitats where possible.

Grassland/Wet Meadow: The grassland and wet meadow goal is to restore and maintain the composition and structure of existing and historic wet meadow and grassland to benefit a variety of migratory bird species including greater sandhill cranes. These treatments also provide spring migrational bird habitat (feeding and roosting areas) for a variety of water bird species.

Timing: Grazing would be permitted between June 1st and November 30th. The early date is necessary to open areas of dense, decadent vegetation where little or no nesting occurs. Most grazing will take place in late summer or fall after nesting season. Most waterfowl and other ground nesting bird species have completed nesting activities by mid-July. Permittees typically have 10 – 12 weeks of grazing on the refuge. The time-frame can extend longer depending on weather and other factors.

Purpose for the prescriptive grazing program: Grazing is an effective management tool as part of an overall vegetative management strategy to improve and maintain grasslands and wetlands for the benefit of migratory birds and other species. Grassland, wet meadow, and wetland habitats need periodic removal of vegetation to maintain plant vigor, diversity, and structure necessary for wildlife use. The periodic grazing of areas also helps to create a mosaic and interspersed of habitats that many species find attractive for feeding, breeding and protection. Grazing is an effective alternative to burning or mowing, which are two other methods used by Refuge staff to maintain these habitats. If local factors or conditions preclude the use of prescribed fire, removal of accumulated biomass through grazing will reduce unwanted over-story including dead and decadent vegetation, reduce woody plant invasion, and allow for more vigorous re-growth of desirable species. These management strategies contribute to the overall health of these vegetative communities, can help limit or reduce the spread of invasive species, and reduce the speed of vegetational succession. Grazing on the Refuge also provides foraging habitat for migratory bird species in the spring and fall including Canada geese,

white-fronted geese, swans, pintails, mallards, and a variety of other duck and bird species. During early summer, treated areas provide foraging areas for Canada goose broods and greater sandhill cranes (*Grus canadensis tabida*). The low spring vegetation structure produced from grazing may also enhance breeding sites for the state sensitive and federal candidate Oregon spotted frog (*Rana pretiosa*); reduce succession of marsh habitat by reducing peat/detritus accumulation; and limit woody species encroachment into seasonal wetland habitats. Grazing may also be used to create fire breaks for prescribed fire management activities, saving significant refuge staff time and funding. The use of permittees to complete prescriptive grazing operations on Refuge lands saves the Refuge a significant amount of money (purchase of specialized equipment, fuel, labor, etc.) and staff time (mowing, vegetation removal, maintenance and transport, fencing, etc.). While burning is an excellent tool for managing vegetation, it can be a less reliable tool than haying or grazing due to factors such as weather, condition of fuels, availability of crews and funds, administration/planning, air quality restrictions, potential for peat fires, and burn complexity. Seasonal and site-specific conditions may favor the use of haying over prescriptive grazing, or vice versa. Some of the factors that must be considered when selecting between these habitat management tools includes access, availability of livestock, existing infrastructure (fencing, water), roughness of terrain (hummocks, slope), soils, and type/quality of forage.

Availability of Resources:

Adequacy of existing resources: Adequate funding and staff exist to manage a grazing program at the Refuge. The primary staff required to administer the program is the Refuge Manger, to create and implement the permit, and a biologist to monitor biological responses. The shared Klamath Basin Complex biologist positions are sufficient to cover the basic monitoring of these programs. The primary expenses for the Refuge to conduct these programs are staff time (writing permits, working with permittees, monitoring, mapping, and reporting) and fuel for site visits and measuring (GPS) treated areas. Salary costs estimates to administer the programs are less than \$2,000. Fuel and other miscellaneous expenses total less than \$500.

Needed resources: No additional fiscal resources are needed to conduct this use.

Revenues: Revenues collected from the program may be used to improve Refuge habitat and Infra-structure, such as fence maintenance or weed management, in the specific areas that area treated. Any remaining revenue will be deposited into the Refuge Revenue Sharing Fund (national fund).

Anticipated Impacts of the Use:

Effects: Grazing supports the purposes and goals of the Refuge and the Mission of the National Wildlife Refuge System by maintaining and enhancing Refuge habitats to benefit wildlife species.

Negative impacts from grazing activities may include:

- short-term disturbance to and displacement of wildlife;
- temporary disturbance to soils or plants;
- temporary loss of forage and cover for some wildlife species;

- loss of residual decadent or dead nesting cover/material for some species;
- potential introduction of invasive plant species (seeds) from cattle/manure;
- potential for fuel, diesel, or other spills if using pumps, motor vehicles or ATVs;
- potential for misinterpretation of agricultural uses on Refuge lands;
- grazing may make landscape less aesthetically appealing to some visitors.
- phosphorus loading of sub-soils via cattle manure

Anticipated benefits from grazing activities may include:

- improved health, structural diversity, and vigor of vegetative communities resulting in better nesting and foraging cover for a diversity of species;
- reduced or slowing of succession of wetland habitats (accretion reduction);
- improved forage and foraging habitat for a variety of migratory birds;
- improved breeding habitat for a Federal Candidate Species, the Oregon spotted frog, in areas adjacent to permanent water bodies;
- improved weed control and reduction in herbicide use by maintaining healthy and vigorous native vegetation;
- use of permittees frees up staff time for other Refuge priorities;
- provides opportunity to demonstrate to the public how agriculture and wildlife management can work cooperatively towards mutual goals; and
- Provides spring and summer open water habitats when conducted in areas flooded by groundwater or snowmelt. Open water habitats are important foraging areas but have become very limited on the Refuge due to vegetative succession and reduced amounts of vegetative disturbance.
- increased ability to regulate the intensity of impacts to vegetation compared to haying or burning;
- grazed areas can provide excellent wildlife viewing opportunities for the public that may not be available in non-grazed areas.

Protected or Special Concern Species: The bald eagle is protected under the Bald and Golden Eagle Protection Act. State “sensitive” species at Upper Klamath NWR that could be affected by grazing include greater sandhill crane, Oregon spotted frog (also a Federal Candidate species), and yellow rail. Anticipated impacts to these specific special status species are as follows:

Bald eagle:

In August 2007, the U.S. Fish and Wildlife Service delisted the bald eagle (*Haliaeetus leucocephalus*) as a threatened species under the Endangered Species Act. However, it remains specifically protected under the Bald and Golden Eagle Protection Act. Upper Klamath NWR and the adjacent lands are used by bald eagles for nesting and as migrational habitat. In 2010, there was 1 bald eagle nest on the Barnes-Agency tract. Typically, eggs are laid in late March or early April and incubated about 35 days until hatching sometime around early May. Young eagles fledge in about 3 months. Disturbances associated with grazing operations do not correspond to sensitive nesting periods or locations. Bald eagles are opportunistic predators that feed primary on fish and water birds. Grazing locations are dry prior to use and are therefore not primary forage areas for bald eagles. Grazing activities are expected to create only a minor and temporary disturbance to bald eagles that may be in the immediate vicinity. These areas

may provide improved foraging opportunities for eagles if they are re-flooded in the fall or spring.

Oregon spotted frog:

Oregon spotted frogs (*Rana pretiosa*) are a State sensitive species and also a Federal Candidate species for protection under the Endangered Species Act. Upper Klamath Refuge may support a population of Oregon spotted frogs but none have been found on the Barnes-Agency Tract. The Oregon spotted frog is one of the most aquatic native frog species in the Pacific Northwest, and is almost always found near a perennial body of water such as a pond, lake, slow moving stream, or spring. Egg-laying sites for Oregon spotted frogs are generally characterized by low canopy coverage and a substrate at least partially covered with the previous year's emergent herbaceous vegetation. Moderate grazing may benefit Oregon spotted frogs by maintaining open, penetrable habitat otherwise too dense for frog use. Grazing is not expected to have any negative impacts on Oregon spotted frogs.

Greater sandhill crane:

Sandhill cranes (*Grus canadensis tabida*) are a State sensitive species. Cranes typically nest in shallow bulrush and sedge dominated marshes and rear colts in shallow wetlands and wet and dry meadow habitats. While there could be some short-term disturbance associated with grazing, treated areas can provide excellent foraging sites for nesting and migrating cranes. Grazing will result in a temporary reduction of residual nesting cover for sandhill cranes for the first spring period after treatment. By the following fall, vegetation heights will be similar to pre-treatment conditions and provide habitat for future nesting. Continued monitoring of the locations of nesting cranes in the future will help to determine the best strategy for grazing operations in the future. Based on current nesting data distribution, the anticipated impacts to nesting cranes should be minimal or may enhance conditions within portions of the Refuge.

Yellow Rail:

Yellow rails (*Coturnicops noveboracensis*) are both a Federal species of concern (1995) and a State sensitive species. Upper Klamath NWR has not been recently surveyed for yellow rails and it is unknown if they occur on the Barnes-Agency tract. Yellow rails require shallow water (about 7cm deep) and adequate cover including senescent vegetation to build and hide their nests. As areas dry up in the summer they will follow the receding water line. In Oregon, yellow rail nest site vegetation consists primarily of *Carex* and *Juncus* species with large amounts of senescent vegetation. Grazing operations limit encroachment of woody vegetation into sedge meadows and can rejuvenate decadent stands of vegetation within these meadows. Use of prescriptive grazing would enable Refuge Managers to provide some level of vegetative treatment, rejuvenating decadent stands of vegetation, while still leaving sufficient residual dead/decadent vegetation to provide nesting cover for yellow rails in the following year.

Future effects: The future magnitude and/or frequency of prescriptive grazing will be evaluated as part of the refuge CCP and any Refuge habitat management plan. Additional research on the habitat needs for various Refuge species may result in changes in the

administration of the grazing program to ensure that specific objectives are met. A future change in a specific species status may change how the grazing program is administered. The prescriptive grazing acres treated and timing may fluctuate annually, within the parameters of this Compatibility Determinations and Special Use Permits. Some annual flexibility will be necessary to determine which habitat needs to be treated and by which method. For prescribed burning, these limitations include: extensive planning needs; specific weather and vegetative conditions; smoke management; air quality issues; funding, availability of fire crews and equipment; interagency and Tribal coordination; impacts to cultural resources; and other factors. Limitations for prescriptive livestock grazing include: availability of livestock; containment of livestock thru standard or electric fencing; access to water; and other factors. Use of all available habitat management techniques over a period of time will provide a more balanced and holistic approach than using only one method. For example, prescribed burning can more effectively limit woody vegetation encroachment into meadow areas and more fully recycle nutrients back into the soil while carefully managed prescriptive grazing can often recycle nutrients, provide hoof impacts, and leave a desirable mosaic of residual ungrazed vegetation that may be favorable to species that appear dependent on the previous year's vegetation for nesting cover such as yellow rails and sandhill cranes. Both grazing and burning can be utilized to treat areas that are not accessible to haying equipment.

Cumulative and indirect/secondary effects: Grazing is a very common practice used in the grassland and sedge communities throughout the upper Klamath Basin. However, the Refuge's prescriptive grazing program is unique in that it is specifically designed to maximize benefits and minimize impacts to wildlife. This experimental grazing study will be evaluated by the Refuge Manager to determine that the cumulative effects of the treatment is consistent with Refuge habitat management goals. This program will also be evaluated when necessary against unanticipated or cyclical impacts that can result from events such as flooding, wildfires, and extreme weather conditions. The program must retain flexibility to respond to these types of events. Adverse impacts of grazing are evaluated as part of this compatibility determination and prior to issuing Special Use Permits to insure that long-term benefits continue to be realized for the wildlife species utilizing those habitats. Most of the Refuge is inaccessible to public access, and therefore cumulative impacts with recreational uses are expected to be minimal. Some visitors may be annoyed to see cattle or signs of agricultural activities affiliated with grazing operations. Refuge administrative activities, such as water management, construction, and maintenance are minimal during grazing seasons and therefore any cumulative impacts are expected to be minimal. No major indirect or secondary wildlife or habitat effects are anticipated. However, potential minor indirect/secondary effects of the programs include: temporary loss of forage and cover for some wildlife species; potential introduction of invasive plant species (seeds) from permittees equipment or livestock; potential for fuel, diesel, or other contaminant spills; and the potential to create an economic dependency of permittees on Refuge resources.

One concern for grazing in the Klamath Basin is it's contributing to the TMDL allowance within the river system. The proposed area for prescribed grazing within the Barnes-Agency tract is fenced from any adjoining waterway. Cattle will not be permitted to

graze upon the levees. The ditches within the units have no direct connection to the adjacent canals or river. The area proposed for grazing has not had any pumped-storage water on it for over 12 years due to its higher elevation. It is unknown at this time if the BOR will continue with a pump-storage program but it is unlikely that these fields would ever contain water. However, if unanticipated effects are realized, operations will be modified, redirected, or ceased if necessary to limit negative impacts.

Mitigation: Prescriptive grazing will only be for specific periods to achieve specific goals. Total acres grazed are carefully evaluated on an annual basis to insure habitat goals and objectives are met.

Public Review and Comment:

Public review and comments were solicited in conjunction with distribution of the Environmental Action Statement and this Draft CD. The public was provided 14 days to review and comment on this CD. Both the Refuge and KBNWRC office posted copies for public referral. Comments and actions taken to address any comments will be summarized here at a later date.

Determination (check one below):

Use is Not Compatible
 Use is Compatible with the Following Stipulations

Stipulations Necessary to Ensure Compatibility:

Timing and Zoning: Prescriptive grazing is limited to the areas and times designated by the Refuge Manager in annual special use permits. Restrictions in the timing and location of grazing are designated to prevent or limit impacts to ground nesting birds, juvenile cranes, and other wildlife; reduce disturbance to wildlife species during sensitive time periods such as migration or nesting periods; and to ensure seed set by native plants. In the event of a significant wildlife conflict, refuge staff can delay the initiation of operations both by time of day and date. The Refuge Manager may terminate or extend grazing activities as appropriate to insure habitat objectives are met.

Equipment: Permittees are required to arrive with clean equipment free of any sources of exotic plant or animal matter that might introduce invasive species to the Refuge. Permittees assumes all risks and liability for wildfires that may be started by haying equipment or laborers. Permittees will be responsible for abiding by Refuge specific fire precautions and may be responsible for the cost of fire suppression operations and loss of property if they are negligent in taking reasonable fire prevention precautions. Refuge staff can inspect home pasture sites for livestock for the presence of weed species and require a 48 hour quarantine requiring feed of certified weed-free material prior to use of the livestock on the refuge.

Magnitude: Only the equipment and personnel necessary to accomplish the grazing is allowed. Only those areas under permit are accessible by the permittees or their employees.

Monitoring: Sites to be grazed will be monitored by Refuge staff to insure there are no conflicting wildlife or habitat issues. Daily activities will be monitored by refuge staff. Refuge staff will monitor use of grazed areas by wildlife to help evaluate if the programs meet goals and objectives.

Staffing: The Upper Klamath Refuge Manager administers the prescriptive grazing program. Monitoring efforts are completed by the Refuge biologist and Refuge Manager in conjunction with other Refuge staff. A Wildlife Biologist from the Klamath Basin NWR Complex office will assist with program evaluation, direction, and wildlife monitoring on an as-needed basis.

Justification:

Prescriptive grazing supports the purposes of Upper Klamath National Wildlife Refuge and the National Wildlife Refuge System by maintaining and/or improving wetlands and grass communities for the benefit of migratory bird species and other wildlife. This proposed uses will not materially interfere with or detract from the Refuge or Refuge System purposes and mission. Prescriptive grazing is a valuable management tools for providing long-term habitat improvements to grassland and wetland habitats that otherwise might degrade through natural succession. The process can rejuvenate decadent stands of vegetation by removing the previous years' dead vegetation, thus allowing better light penetration, earlier green-up, and improving the overall health of the vegetation. Grazed areas, especially if flooded, provide valuable foraging sites for migratory bird species in the spring and fall including Canada geese, swans, white-fronted geese, pintails, mallards, and a variety of other duck and bird species. Canada goose broods and greater sandhill crane colts also extensively use treated areas for foraging sites. Grazed sites may provide short grass vegetation adjacent to permanent water which can enhance potential breeding sites for the state sensitive and Federal candidate Oregon spotted frog. In some instances, grazing can be implemented to create fire breaks for prescribed fire projects. Overall, grazing can help a Refuge meet its habitat objectives. Grazed areas can impact residual nesting cover for some species such as yellow rail and sandhill crane. Care must be taken when selecting treatment sites, acreages and timing to minimize impacts to these species. Without the periodic disturbance caused by haying, grazing or fire, the health and acreage of sedge and grassland areas will decline. The encroachment of these areas by willows, invasive plants, or pines, will degrade their value and eventually they may be completely lost. Overall, well-managed grazing programs can contribute to the biological integrity, diversity, and environmental health of the Refuge and Refuge System. The prescriptive grazing programs are not expected to conflict with the existing wildlife dependant public uses on the Refuge that include wildlife observation, photography, hunting, fishing, environmental education and interpretation. While there is the potential for the public to misinterpret agricultural uses on the Refuge, grazing often result in excellent wildlife observation and photography opportunities, especially when treated areas can be flooded in the spring or fall. Treated areas that are re-flooded in the fall would likely improve hunting by attracting and/or holding waterfowl in the area. Minimal environmental education and interpretation opportunities currently exist on the Refuge; however, these

programs provide opportunities to demonstrate to the public how such habitat management techniques can be used to improve wildlife habitat.

Mandatory 2 year Re-Evaluation Date: Provide month and year for “allowed uses only.”

_____ **NEPA Compliance for Refuge Use Decision:** Place “X” in appropriate space.

_____ Categorical Exclusion without Environmental Action Statement

_____ Categorical Exclusion and Environmental Action Statement

_____ Environmental Assessment and Finding of No Significant Impact

_____ Environmental Assessment and Record of Decision

Refuge Determination:

Prepared by: _____

(Signature) (Date)

Refuge Manager/

Project Leader

Approval: _____

(Signature) (Date)

Concurrence:

Refuge Supervisor: _____

(Signature) (Date)

Assistant Regional

Director, Refuges: _____

(Signature) (Date)