APPENDIX D. COMPATIBILITY DETERMINATIONS FOR CHARLES M. RUSSELL WETLAND MANAGEMENT DISTRICT AND ASSOCIATED NATIONAL WILDLIFE REFUGES, MONTANA

Draft Compatibility Determination

Title

Compatibility Determination for Grazing: Charles M. Russell Wetland Management District

Refuge Use Category

Agriculture, Aquaculture, and Silviculture

Refuge Use Types

Grazing

Refuge

Charles M. Russell Wetland Management District (District)

Refuge Purpose(s) and Establishing and Acquisition Authorities

... as Waterfowl Production Areas subject to "... all of the provisions of such Act [Migratory Bird ConservatiFon Act] ... except the inviolate sanctuary provisions ..." 16 U.S.C. 718(c) (Migratory Bird Hunting and Conservation Stamp Act) "... for any other management purpose, for migratory birds."16 U.S.C. § 715d (Migratory Bird Conservation Act).

The Charles M. Russell Wetland Management District includes six waterfowl production areas (WPAs), four satellite national wildlife refuges, multiple flowage easements, five Farmer's Home Administration (FmHA) easements, and three State grazing leases.

The Service acquires WPAs under the authority of the Migratory Bird Hunting and Conservation Stamp Act, which authorizes funds from the sale of Federal Duck Stamps and import duties to be deposited into the Migratory Bird Conservation Fund to purchase or lease wetlands and wildlife habitat for inclusion in the NWRS.

FmHA conservation easements were developed by Congress, under the Consolidated Farm and Rural Development Act of 1985, to establish easements for conservation, recreation, and wildlife purposes on properties that were foreclosed by the federal government.

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System, otherwise known as Refuge

System (NWRS), 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

Is this an existing use?

No.

What is the use?

Prescriptive grazing as a tool to improve habitat conditions for specific wildlife or focal bird species, migratory songbirds, and other grassland-obligate species. Future prescriptive grazing regimens may include short-duration, high-intensity grazing treatments to control invasive plants; habitat management for specific wildlife or focal bird species; or rotation of grazing areas in the District to provide more long-term rest between grazing treatments. The District currently uses cattle livestock (here forth livestock) grazing as a tool to manage grassland and mixed sagebrush grassland habitats. Livestock grazing is designed to mimic some of the behaviors and grazing habits of early native grazers, which were formerly present on the District's landscape around the early-1800s. Grazing by livestock is a preferred management tool because the effect on habitat is controllable, measurable, and can reasonably mimic early grazers' habits. It has the additional benefit of reducing wildfire risk by reducing the amount of light fuels that can carry a fire. Livestock grazing is utilized in a variety of ways including high intensity–short duration, rest rotation, and complete rest.

Is the use a priority public use?

No

Where would the use be conducted?

The use would be implemented across District lands where the U.S. Fish and Wildlife Service (Service) has control over the use; specifically, on grassland and mixed grassland sagebrush areas of WPAs. Habitat management units within areas to be grazed will be established to control grazing treatments and help ensure desired habitat characteristics in accordance with the Charles M. Russell Wetland Management District Comprehensive Conservation Plan (CCP) goals and objectives. Units that are fenced from common pastures would be the first units enrolled into prescriptive grazing. Habitat management units that are not fenced from private or other government owned lands would be managed under existing management plans.

When would the use be conducted?

Grazing may occur during any season depending on the specific objectives to be achieved. Conversion to a prescriptive grazing system means a permit may not always be available annually. Exact times and dates vary per unit in accordance with habitat and management objectives in the CCP.

How would the use be conducted?

Grazing will be administered in accordance with the Service's Cooperative Agriculture Use Policy (620 FW 2) and a Cooperative Agriculture Agreement (CAA) consisting of a Commercial Special Use Permit (SUP) having special conditions, and a detailed Plan of Operations outlining allowable Animal Unit Months (AUMs), on-off dates, unit locations, unit rotations, and specific instructions pertinent to grazing.

Select grazing units may receive annual grazing treatments consisting of high intensity-short duration, extended rest, complete rest, and/or on a rotational grazing schedule for various lengths of time and may then be rested for multiple years to achieve desired CCP objectives and landscape habitat characteristics.

Why is this use being proposed or reevaluated?

With the issuance of a CCP and Environmental Assessment (EA), this use requires a compatibility determination (CD).

The use of prescriptive grazing to achieve desired habitat conditions would result in long-term beneficial effects on a variety of wildlife species that use the District and is included in the CCP and corresponding EA as a management tool for District lands. This use is being proposed in order to move from an annual grazing program to a prescriptive gazing program to meet specific wildlife and habitat management objectives. The District lies within the Great Plains and was known to have native grazers; as such, the landscape's flora and fauna have evolved over millennia with grazing.

The CCP has established goals and objectives for specific habitat types (e.g. grassland, mixed grassland-sagebrush) where prescribed grazing may be utilized. In addition, target wildlife species (e.g. sprague's pipit, mountain plover, chestnut-collared longspur, greater sage-grouse) and their habitat requirements have been identified. This has resulted in objectives that help guide management to meet target wildlife species and their habitat needs. Different grazing strategies may be implemented and assessed in order to determine the best methods for the District to meet the identified habitat goals and objectives of the CCP, as well as combat the spread of invasive graminoids and forbs present in some units.

Availability of Resources

The analysis for administering and managing the use will only include the incremental increase above general operational needs that we can show as being directly caused by the proposed use. The staff time needed for the development and administration of the cooperative grazing program is already committed and available to support the program under current staffing. Most work needed to prepare for this use would continue to be done as part of routine habitat maintenance.

District staff will continue to monitor permittees for violations of permit conditions and tresspass. Biologists and the District manager will monitor habitat conditions. New boundary and temporary fences may need to be constructed to implement prescriptive grazing on common pastures. Temporary water developments may be necessary to facilitate prescriptive grazing in some habitat units in order to meet habitat objectives.

Annual/recurring requirements (i.e., for annual operations and maintenance):

1. Maintenance: Maintenance requirements vary and will be reduced due to the reduction in interior fences necessary to manage prescriptive grazing program according to CCP alternatives. There may be additional needs with the construction and maintenance of temporary and boundary fences which would be constructed anyway in order to manage livestock in common pastures.
2. Annual Operations: District personnel currently spend a small portion of their time issueing permits, monitoring for trespass livestock and habitat conditions.
3. Monitoring: District staff monitor for livestock trespass intermittantly; it thus is not a significant portion of staff time.

Offsetting revenues: District lands receive a percentage of the amount of revenue that is generated from commercial activities occuring on them. These funds aid in costs associated with implementing a prescriptive grazing program.

Anticipated Impacts of the Use

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

Prescribed grazing as a management tool is intended to be utilized to meet habitat and species-specific goals and objectives identified in the CCP, as well as replicate habitat and landscape conditions formerly created by native grazers. This

management is intended to maintain and enhance habitat conditions for the benefit of a wide variety of fish and wildlife that utilize the District and includes combating invasive graminoids and forbs. Grazing has the additional benefit of reducing wildfire risk by reducing the amount of light fuels that can carry a fire.

Minimal negative impacts, equal to or perhaps even less than what may have occurred during the former presence of native grazers, are expected through the use of this tool. Landscape character will remain unchanged or may be expected to improve through removal of excessive thatch. Some trampling of areas may occur around watering areas or mineral licks, though no more than what may have occurred with large numbers of native grazers in areas where they congregated or wallowed. Grazing may achieve a mosaic pattern of biomass density throughout the landscape with some areas more intensively grazed than others in certain years to achieve habitat heterogeneity, which could reasonably be expected to have happened when native grazers were present. In addition, while the presence of livestock may disturb some wildlife species, just as with native grazers, and some public visitors, the benefits of this habitat management tool are felt to outweigh these negative impacts since the landscape evolved with grazing and not without it.

When threatened and endangered species are known or suspected to be on a site, the local Service Ecological Services office will be consulted, and the proper steps will be determined to assess how and what management activities will affect that species and what, if anything, should be pursued.

There will be no negative effects on cultural resources.

Short-term impacts

Short term impacts would include loss of vegetative cover which could result in increased soil erosion. Highly palatable forbs and shrubs would be impacted by grazing affecting a large number of wildlife species from pollinators to big game. However, the benefit would be to the wildlife species that require short cover such as prairie dogs, mountain plovers, McCown's longspur, and grazing ungulates that would graze the fresh growth of grasses. Potential disturbance to some wildlife species and some public users may occur.

Grazing by domestic livestock removes and tramples some or 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, or full, as it pertains to biomass remaining in a unit). Depending on the latter of the three factors, hoof action is expected to break up litter thereby increasing the rate of litter decomposition, opening up the ground for natives to express, and aid in nutrient cycling. Areas around watering systems,

along fence lines, and at the location of mineral blocks may experience heavy trampling and compaction resulting in the mortality of perennial vegetation and the establishment of early successional species, just as could have been expected in areas where large native grazers congregated.

Varying bird species differ in their vegetation height preferences; as such, the management goal is to provide a heterogeneity of vegetation heights across the landscape. Pollinators are similar in their need for 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. Birds that prefer shorter stature grasslands may benefit from the reduced vegetative height resulting from grazing while others, which typically require taller and more dense nesting structure, may be negatively impacted by grazing in the short-term.

In situations where grazing utilizations are full, there may be less litter available for grassland nesting birds who utilize this material for nest construction. However, grazed areas may attract fewer predators because of low densities of some types of prey, such as small mammals (Grant et al. 1982, Runge 2005); less cover for concealment; or both. Higher nesting success in grazed fields may occur because predators respond negatively to low prey density (Clark and Nudds 1991, Lariviére and Messier 1998). If a site is completely devoid of litter prior to winter, certain pollinator larvae may lack the needed cover to survive for that year. The same could reasonably have been expected to happen with a large herd(s) of native grazers present on the landscape when and where they may have congregated for extended periods of time.

Research conducted on other refuges has found impact from grazing ranging from minimally negative to favorable. Prescribed grazing on Red Rock Lakes National Wildlife Refuge (NWR) have been shown to have little effect on sage-grouse, a noted species of concern (Schroff 2016 MSU). Another study by (Stadum et al. 2016) found that grazing can provide the structure of vegetation heterogeneity that favors nesting long-billed curlews, a species of concern throughout some areas of Montana, to include the District. She also cites (Redmond and Jenni 1986) who observed curlews nesting in previously recent grazed areas. (Stadum et al. 2016) further explains how “prescriptive livestock grazing can be used to provide structurally diverse grassland habitats for species with seemingly disparate structural preferences within the same habitat type. Managing grassland habitat for species that exist on opposite ends of a disturbance preference gradient presumably incorporates the needs of species with intermediate preferences”.

Long-term impacts

Prescriptive grazing will improve habitat conditions for specific wildlife or focal bird

species, migratory birds, and other grassland-obligate species. Future prescriptive grazing regimens may include short-duration, high-intensity grazing treatments to control invasive plants; habitat management for specific wildlife or focal bird species; or rotation of grazing areas on District lands to provide long-term rest between grazing treatments.

The beneficial effects of grazing on plant diversity depend on grazing intensity, the evolutionary history of the site, and climatic regimes. Continuous rest without periodic disturbance fails to promote long-term grassland health (Naugle et al. 2000). Hoof impact by grazing animals can break up capped soils, improve the water cycle, stimulate vegetative reproduction of grasses, and enhance the decomposition of old plant material by breaking up plant litter. Hoof action can also distribute and trample seeds into soils, increasing chances of successful germination (Laycock 1967). Nutrients are returned to the soil in the form of urine and feces. Cattle may return 80%–85% of the nitrogen ingested with plant tissue (Laycock 1967). The use of prescriptive grazing to achieve desired habitat conditions would result in long-term beneficial effects on a variety of wildlife species that use the District.

The effect of removal of vegetation increases the vigor of grasslands 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, and invasive species. During periods of typical precipitation, normal regrowth following grazing activities can occur within a single growing season. Over time, a strategic prescribed grazing program could effectively alter species composition and improve overall plant diversity. Disturbance of grassland, wet meadow, and some shrub-steppe habitats is essential to maintain plant vigor and reduce infestations of noxious weeds.

As vegetative heights recover following a grazing treatment, habitat conditions will favor birds which prefer denser nesting structure and may become less favorable to species that prefer sparser vegetation. Because of regrowth of herbaceous vegetation, no long-term negative impacts are anticipated for waterfowl or other grassland or mixed grass-sagebrush nesting bird species, though positive impacts of increased diversity and heterogeneity are likely in the long-term.

Public Review and Comment

The draft CD will be available for public review and comment for 30 days from the publication of the draft CCP/EA. The public will be made aware of this comment opportunity through the Federal Register and other media outlets. State and Tribes have been asked to review and comment on the draft CD. It will be made available electronically on the Refuge website. Please let us know if you need the documents in

an alternative format. Concerns expressed during the public comment period will be addressed in the final.

Determination

Is the use compatible?

Yes

Stipulations Necessary to Ensure Compatibility

1. CAAs and SUPs will be written in accordance with the Service's Cooperative Agricultural Use Policy (620 FW 2) and the Region 6 Cooperative Agricultural Program Guidance (2022).
2. Cooperators must follow all requirements for the prescribed grazing treatment as specified within the CAA, its stated Plan of Action, and the Special Conditions of the SUP.
3. Insecticides are not permitted for use on District lands.
4. Control and maintenance of livestock is the responsibility of the permittee.
5. Fencing, water supply, and other livestock management infrastructure needs and costs will be outlined in the CAA and SUP.

Justification

Sharp-tailed grouse, pronghorn, sage-grouse, large ungulates, and other wildlife species need a diversity of and abundant group of plants for food and cover. Prescriptive grazing and other adaptive management strategies would permit flexibility necessary for the restoration of these important plant species.

Prescriptive grazing is a valuable management tool that supports District objectives. As outlined in this CD and in accordance with the stipulations outlined above, based on best professional judgement and available science, the Service has determined that continuation of the grazing use on the District will not materially detract from or interfere with the fulfillment of the NWRS mission or the purposes of the District; will contribute to the NWRS mission and District purposes, meeting the standard or threshold established in 50 CFR §29.1 for economic uses of NWRs; and will not conflict with the national policy to maintain the biological integrity, diversity, and environmental health of the District.

To maintain and enhance habitat for migratory birds and other wildlife, some habitat management must occur. Prescribed grazing utilizing livestock is one option that can be used to achieve these desired habitat conditions. Prescribed grazing is a useful tool because it can be controlled, and results of the grazing can be periodically monitored (e.g. vegetation monitoring) so that adjustments in the grazing program can be made to meet habitat goals and objectives.

Signature of Determination

Refuge Manager Signature and Date

Signature of Concurrence

Assistant Regional Director Signature and Date

Mandatory Reevaluation Date

2034

Literature Cited/References

Clark, R.G.; Nudds, T.D. 1991. Habitat patch size and duck nesting success: the crucial experiments have not been performed. Wildlife Society Bulletin 19:534–43.

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Lariviére, S.; Messier, F. 1998. Effect of density and nearest neighbours on simulated waterfowl nests: can predators recognize high-density nesting patches? Oikos 83:12–20.

Laycock, W. A. (1967). How heavy grazing and protection affect sagebrush-grass ranges. Journal of Range Management, 20(4), 206-213.

Naugle, D.E.; Bakker, K.K.; Higgins, K.F. 2000. A synthesis of the effects of upland management practices on waterfowl and other birds in the northern great plains of the U.S. and Canada. Wildlife Technical Report 1. 28 p.

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Runge, J.P. 2005. Spatial population dynamics of Microtus in grazed and ungrazed grasslands. [Ph.D. dissertation]. Missoula, MT: University of Montana.

Schroff, S. 2016, Nest Site Selection and Brood Home Ranges of Greater Sage-Grouse (Centrocercus urophasianus) in the Centennial Valley, MT [M.S. dissertation]. Bozeman, MT: Montana State University.

Stadum et al. 2016. Breeding Season Occupancy of Long-Billed Curlews and Sandhill Cranes in Grazed Habitats at Red Rock Lakes National Wildlife Refuge. Intermountain Journal of Sciences 21:1-4.

U.S. Fish and Wildlife Service. [Draft]Comprehensive Conservation Plan (CCP) and [Draft] Environmental Assessment (EA) for the Charles M. Russell Wetland Management District. Accessed 30 January 2024.

Draft Compatibility Determination

Title

Compatibility Determination for Research, Scientific Collecting, and Surveys for the Charles M. Russell Wetland Management District

Refuge Use Category

Research and Surveys

Refuge Use Types

Research, Scientific Collecting, Surveys

Refuge

Charles M. Russell Wetland Management District (District)

Refuge Purpose(s) and Establishing and Acquisition Authorities

... as Waterfowl Production Areas subject to "... all of the provisions of such Act [Migratory Bird Conservation Act] ... except the inviolate sanctuary provisions ..." 16 U.S.C. 718(c) (Migratory Bird Hunting and Conservation Stamp Act) "... for any other management purpose, for migratory birds."16 U.S.C. § 715d (Migratory Bird Conservation Act).

The Charles M. Russell Wetland Management District (District) includes six waterfowl production areas (WPA), four satellite national wildlife refuges (NWR), multiple flowage easements, five Farmer's Home Administration (FmHA) easements, and three State grazing leases.

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National Wildlife Refuge System Mission

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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

Is this an existing use?

Yes.

What is the use?

Research. Planned, organized, and systematic investigation of a scientific nature conducted by non-U.S. Fish and Wildlife Service (Service) personnel or authorized agent.

Scientific collecting. Gathering of District natural resources or cultural artifacts for scientific purposes conducted by non- Service personnel or authorized agent.

Surveys. Scientific inventory or monitoring conducted by non- Service personnel or authorized agents.

Research conducted by non-Service personnel includes research conducted by Federal, State, and private entities, such as the U.S. Geological Survey; State departments of natural resources; students and professors at State and private universities; and independent non-governmental researchers and contractors. Research activities will focus on species, habitats and recreational activities as identified in the District's management plan and other stepdown plans or will address research questions that will provide information to better manage the District.

Acceptable research methods include but are not limited to bird banding, mist netting, point count surveys, radio-telemetry tracking, cameras, recorders, and public surveys.

Requests for special use permits (SUP) for research will be considered on a case-by case basis, as staff availability allows. In accordance with 16 U.S.C. 668dd(d) and 50 C.F.R. Part 25, Subpart D, the district manager is responsible for reviewing applications for SUPs and determining whether to authorize a permit.

The District manager will base the decision to issue an SUP for research on their professional judgment and the value of the proposed research. The decision to allow a particular research project will also be consistent with Service regulations and policy, including the Policy on Maintaining the Biological Integrity, Diversity, and Environmental Health of the Refuge System (601 FW 3).

The results of the research should result in better knowledge of our natural resources and improve methods to manage, monitor, and protect the District's biological resources and visitor uses. The District manager will always have the discretion to deny or reevaluate the appropriateness and compatibility of any specific research by non-Service personnel at any time [603 FW 2.1 H(1), (2)].

The District manager may deny a project based on field experiences, knowledge of the District's natural resources, particularly its biological resources, available scientific information, and after consulting with other experts, both inside and outside the Service. When denying a request for a specific research project, the district manager will explain the rationale and conclusions supporting their decision in writing. The rationale for the denial will be consistent with the principles of sound fish and wildlife management, district administration, and applicable laws. The denial will generally be based on, but not limited to, evidence that the details of a particular research project might: lead to the impairment of our conservation mission; detract from fulfilling the District's purposes; conflict with the conservation goals or objectives in approved District management plans; not be manageable with the available budget or staff time; be inconsistent with public safety; or conflict with maintaining or restoring the biological integrity, diversity, and environmental health of the District's priority habitats.

Is the use a priority public use?

No

Research conducted by non-Service personnel is not a priority public use of the Refuge System under the Refuge System Administration Act of 1966 (16 U.S.C. 668dd668ee), as amended by the National Wildlife Refuge System Improvement Act of 1997. Although this use is not a priority public use, this activity would allow permitted researchers access to the District to conduct both short-term and long-term research projects.

Where would the use be conducted?

For purposes of this compatibility determination (CD), only WPAs in the District are being considered for this use. District leases are not eligible for consideration of a use and NWRs in the District require their own individual CD. The location of the research will vary depending on the individual research project that is being conducted. The entire District may be considered in a SUP request for scientific research; however, biological research projects are usually focused on a particular habitat type, plant species, or wildlife species.

Occasionally, research projects will encompass an assemblage of habitat types, plants, or wildlife, or may span more than one District land unit or include lands outside the Refuge System. The research location will also be limited only to those areas of the District that are necessary to conduct the research project and access the research location. This may include access to District roads that are closed to the public. The District may limit areas available to research as necessary to ensure the protection of trust resources or reduce conflict with other compatible District uses. Access to study locations will be identified by District staff.

When would the use be conducted?

The timing of the research will depend on the individual research project's approved design. Research may occur on the District throughout the year when there are no conflicts with protection of trust resources or primary public use activities. Special precautions will be required and enforced to ensure the researchers' health and safety and to minimize or eliminate potential conflicts with a priority public use. An individual research project could be short term in design, requiring one or two visits over the course of a few days. Other research projects could be multiple year studies that require daily visits to the study site. The timing of each individual research project will be limited to the minimum required to complete the project.

How would the use be conducted?

Research methods will depend entirely on the individual research project that is conducted. The methods of each research project will be reviewed and scrutinized before it will be allowed to occur on the District.

No research project will be allowed to occur if:

• It negatively impacts endangered species, migratory birds, and other District trust resources;

• It compromises public health and safety.

A Research and Monitoring Special Use Application and detailed research proposal will be required from parties interested in conducting research on the District. Each request for this use will be considered, and if appropriate, will be issued a SUP by the District manager. Each request will be evaluated on its own merit. The District manager will use sound professional judgment and ensure that the request will have no considerable negative impacts to natural resources, cultural resources, or visitor services and does not violate District regulations. Special needs will be considered on a case-by-case basis and are subject to the district manager's approval. Any approved SUP will outline the framework in which the use can be conducted, and District staff will ensure compliance with the permit. The SUP will provide any needed protection to individual District policies, mission, wildlife populations and natural habitats. In addition, all research projects require the primary investigator to submit written summary reports of all findings and acknowledge the District's participation.

Once approved, projects will be reviewed periodically to ensure that they are meeting their intended purposes, reporting and communicating with District staff, and are fulfilling the mission of the Refuge System and purposes for which the District was established. If the district manager decides to deny, modify, or halt a specific research project, the district manager will explain the rationale and conclusions supporting their decision in writing. The denial or modification to an existing study will generally be based on, but is not limited to, evidence that the details of a particular research project may:

• Negatively affect native fish, wildlife, and habitats or cultural, archaeological, or historical resources,

• Detract from fulfilling the District's purposes or conflict with District goals and objectives,

• Raise public health or safety concerns,

• Conflict with other compatible District uses,

• Not be manageable within the District's available staff or budget time,

• Deviate from the approved study proposal such that impacts to District resources are more severe or extensive than originally anticipated.

Why is this use being proposed or reevaluated?

Research by non-Service personnel is conducted by colleges; universities; federal, State, and local agencies; non-governmental organizations; and qualified members of the public to further the understanding of the natural environment, the utilization of the natural environment by the American people and to improve the management of the District. Much of the information generated by the research is applicable to management on and near the District. In many cases, research by non-Service personnel ensures the perception of un-biased and objective information gathering which can be important when using the research to develop management recommendations for politically sensitive issues. Additionally, universities and other Federal partners can access equipment, resources, and facilities unavailable to District staff for analysis of data or biological samples.

The Service will encourage and support research and management studies on District lands that will improve and strengthen biological and social science management decisions. The district manager will encourage and seek research relative to approved District objectives that clearly improves land management and recreational opportunities and promotes adaptive management. Priority research addresses information that will better manage the Nation's biological resources and is generally considered important to agencies of the Department of the Interior, the Service, the Refuge System, and state fish and game agencies. Priority research also addresses important management issues, demonstrates techniques for management of species or habitats, or analyzes ways to improve access and recreational use by the public.

The District will also consider research for other purposes which may not be directly related to District-specific objectives, but contribute to the broader enhancement, protection, use, preservation, and management of native populations of fish, wildlife, and plants, and their natural diversity within the region or flyway. Prospective researchers or organizations can talk to the district manager or biologist about specific research needs. Similar research could be conducted by potential researchers and organizations on other nearby public and federal lands. However, the research capabilities and support systems, organization goals, habitat, wildlife, hydrology, and geology of each of these locations vary widely. To best account for the

research needs, goals, and funding availability of local, state, federal, university, and research specific organizations – the lands where research is permitted should be diverse. Therefore, maintaining and growing the District research program is essential.

Availability of Resources

The analysis of cost for administering and managing each use will only include the incremental increase above general operational costs that we can show as being directly caused by the proposed use. District support of research directly related to District objectives may take the form of funding, in-kind services such as housing or use of other facilities, direct staff assistance with the project in the form of data collection, provision of historical records, conducting management treatments, or other assistance as appropriate. There is currently enough funding and staff available to allow research opportunities. Special equipment, facilities, or improvement costs are expected to be negligible from this use on the District.

One-time costs: None

Annual/recurring expenses (i.e., for annual operations and maintenance):

1. Maintenance costs: Maintenance costs are expected to be negligible from this use on the District. There are no expected increased costs to maintaining District infrastructure outside normal use of roads and other developed areas.
2. Annual Operations: The bulk of the cost for research is incurred in staff time to review research proposals, coordinate with researchers, and write special use permits. In some cases, a research project may only require one day of staff time to write a special use permit. In other cases, a research project may take an accumulation of weeks, as the District staff must coordinate with the principal researcher and accompany them during site visits. Because research conducted on the District is not constant, there may be fiscal years when little if any time is spent on managing outside research projects by District staff.
3. Monitoring costs: None

Offsetting revenues: None

Anticipated Impacts of the Use

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

Refuge System mission

The effects and impacts of the proposed use to District resources, whether adverse

or beneficial, are those that are reasonably foreseeable and have a reasonably close causal relationship to the proposed use. This CD includes the written analyses of the environmental consequences on a resource only when the impacts on that resource could be more than negligible and therefore considered an "affected resource."

Short-term impacts

Research activities may disturb fish and wildlife and their habitats. For example, the presence of researchers can cause birds to flush from resting and feeding areas, cause disruption of birds on nests or breeding territories, or increase predation on nests and individual animals as predators follow human scent or trails.

Efforts to capture animals, such as for migratory bird banding, can cause disturbance, injury, or death to groups of wildlife or to individuals. To wildlife, the energy cost of disturbance may be appreciable in terms of disruption of feeding, displacement from preferred habitat, and the added energy expended to avoid disturbance. Sampling activities associated with many types of research activities can cause compaction of soils and the trampling of vegetation. Installation of posts, equipment platforms, collection devices, and other research equipment in open water may present a hazard if said items are not adequately marked and/or removed at appropriate times or upon completion of the project. Research efforts may also discover methods that result in a reduction in impacts described above.

The potential for research conducted on the District to conflict with District management activities (e.g., prescribed burning, prescribed grazing, herbicide applications) and visitor use is minimal. Research would be scheduled to minimize conflict with District management activities. Visitors may encounter researchers in the field or observe monitoring plots or other research infrastructure. However, these encounters will be infrequent due to the typically minimal presence of field technicians and interest in maintaining low profile infrastructure to prevent disturbance or vandalism of study sites.

Long-term impacts

Long-term effects should generally be beneficial by gaining information valuable to District management. No long-term negative impacts are expected from the research activities described. The district manager can reduce the likelihood of long-term impacts by denying special use permits for research that is likely to cause long-term, adverse impacts. Permits for multi-year research projects are renewed annually, providing the opportunity for an analysis of any impacts before renewing the SUP.

Cumulative impacts would occur if multiple research projects were occurring on the same resources at the same time or if the duration of the research was excessive. In particular, the District must consider the potential impacts of non-Service research, in conjunction with any Service-sponsored research or management activity also

taking place. However, no cumulative impacts are expected because the district manager can control the potential for cumulative impacts through SUPs, prohibiting multiple research projects from affecting any given area or species at one time. The district manager retains the option to deny proposals for research that does not contribute to the mission of the Refuge System or causes undue disturbance or harm to District resources. The district manager also retains the right to revoke or deny renewal for any special use permit if unanticipated short-term, long-term, or cumulative impacts occur.

Project-specific stipulations outlined in each special use permit will act to minimize anticipated impacts of research projects. These stipulations will prevent impacts to District wetlands, water quality, soils, hydrology, fish, wildlife, habitat, or cultural resources. Projects which occur within the habitat of, or include direct monitoring of, threatened and endangered species will be subject to a Section 7 informal consultation with the Service under the Endangered Species Act (87 Stat. 854, as amended; 16U.S.C. 1531 et seq.). Only with the approval of the Section 7 consultation will the District permit research to be conducted on habitats or individuals of threatened and endangered species. Research that could adversely affect critical habitat, threatened or endangered wildlife, or cultural resources will not be permitted.

Public Review and Comment

The draft CD will be available for public review and comment for 30 days from the publication of the draft Comprehensive Conservation Plan and Environmental Assessment. The public will be made aware of this comment opportunity through the federal register and other media outlets. State and Tribes have been asked to review and comment onthe draft CD. It will be made available electronically on the District website. Please let us know if you need the documents in an alternative format. Concerns expressed during the public comment period will be addressed in the final.

Determination

Is the use compatible?

Yes

Stipulations Necessary to Ensure Compatibility

1. Prior to initiation of any research and/or management studies on the District, the requesting agency or organization is required to meet with District management in person and present a comprehensive proposal of why the research is proposed to be undertaken, all methodologies involved, expected short- and long-term

impacts of the activities, duration of the research, and anticipated completion date of the report.

2. The requesting agency or organization must apply for a permit by submitting a NWRS Research and Monitoring Special Use Permit Application and a detailed research proposal.
3. Researchers must give the District at least 45 days to review proposals and determine if a special use permit will be issued. If the research involves the collection of wildlife, the District must be given 60 days to review the proposal.
4. Researchers must obtain all necessary scientific collecting, banding, or other permits required by State, federal, or Institutional Animal Care and Use Committee entities before starting the research.
5. Priority of approval will be based on studies that contribute to the enhancement, protection, use, preservation, and management of native wildlife populations and their habitat.
6. SUPs may contain specific terms and conditions that the researcher(s) must follow relative to activity, location, duration, and time-of year restrictions to ensure continued compatibility.
7. All District rules and regulations must be followed unless alternatives are otherwise accepted in writing by District management.
8. Any research involving ground disturbance may require historic preservation consultation with the Regional Historic Preservation Officer and/or State Historic Preservation Officer.
9. All research related SUPs will contain a statement regarding the Service's policy regarding disposition of biotic specimen.
10. Upon completion of a project, researchers are required to remove all research apparatus in the field and restore any disturbed lands to their original state.
11. Any research project may be terminated at any time for non-compliance with the SUP conditions. Research projects may also be modified, redesigned, relocated, or terminated at any time upon determination by the district manager that the project is causing unanticipated adverse impacts to wildlife, wildlife habitat, approved priority public uses, or other District management activities. District staff will conduct annual reviews of the research project to monitor researcher activities for potential impacts to the District and for compliance with conditions on the SUP. The district manager may terminate previously approved research and SUPs if adverse impacts are observed or if the researcher is not in compliance with the stated conditions.
12. The Service expects researchers to submit a final report to the District upon completing their work. For long-term studies, we may also require interim progress reports. All reports, presentations, posters, articles, or other publications

will acknowledge the Refuge System and the District as partners in the research.

Justification

The Service encourages research on NWRs to collect new information which will improve the quality of refuge and other Service management decisions, to expand the body of scientific knowledge about fish and wildlife, their habitats, the use of these resources, appropriate resource management, and the environment in general, and to provide the opportunity for students and others to learn the principles of field research. In accordance with 50 CFR 26.41, research conducted by non-Service personnel, as described in this CD, will not materially interfere with, or detract from, the fulfillment of the Refuge System mission or the purposes for which the District was established.

Signature of Determination

Refuge Manager Signature and Date

Signature of Concurrence

Assistant Regional Director Signature and Date

Mandatory Reevaluation Date

2034

Draft Compatibility Determination

Title

Compatibility Determination for Grazing: War Horse National Wildlife Refuge

Refuge Use Category

Agriculture, Aquaculture, and Silviculture

Refuge Use Types

Grazing

Refuge

War Horse National Wildlife Refuge (Refuge)

Refuge Purpose(s) and Establishing and Acquisition Authorities

"...purposes of a land-conservation and land-utilization program ... 7 U.S.C. § 1011 (Bankhead-Jones Farm Tenant Act) "... for use and administration under applicable laws as refuges for migratory birds and other wildlife ..." Secretarial Order 2843, dated Nov. 17, 1959."

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System, otherwise known as Refuge System (NWRS), 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

Is this an existing use?

Yes.

What is the use?

Prescriptive grazing as a tool to improve habitat conditions for specific wildlife or focal bird species, migratory songbirds, and other grassland-obligate species. Future prescriptive grazing regimens may include short-duration, high-intensity grazing

treatments to control invasive plants; habitat management for specific wildlife or focal bird species; or rotation of grazing areas on the Refuge to provide more long-term rest between grazing treatments. The Refuge currently uses cattle livestock (here forth livestock) grazing as a tool to manage grassland and mixed sagebrush grassland habitats. Livestock grazing is designed to mimic some of the behaviors and grazing habits of early native grazers, which were formerly present on the Refuge's landscape around the early-1800s. Grazing by livestock is a preferred management tool because the effect on habitat is controllable, measurable, and can reasonably mimic early grazers' habits. It has the additional benefit of reducing wildfire risk by reducing the amount of light fuels that can carry a fire. Livestock grazing is utilized in a variety of ways including: high intensity–short duration, rest rotation, and complete rest.

Is the use a priority public use?

No

Where would the use be conducted?

The use would be implemented across the Refuge where the U.S. Fish and Wildlife Service (Service) has control over the use; specifically, on grassland and mixed grassland sagebrush areas. Habitat management units within areas to be grazed will be established to control grazing treatments and help ensure desired habitat characteristics in accordance with the Charles M. Russell Wetland Management District Comprehensive Conservation Plan (CCP) goals and objectives. Units that are fenced from common pastures would be the first units enrolled into prescriptive grazing. Habitat management units that are not fenced from private or other government owned lands would be managed under existing management plans.

When would the use be conducted?

Grazing may occur during any season depending on the specific objectives to be achieved. Conversion to a prescriptive grazing system means a permit may not always be available annually. Exact times and dates vary per unit in accordance with habitat and management objectives in the CCP.

How would the use be conducted?

Grazing will be administered in accordance with the Service's Cooperative Agriculture Use Policy (620 FW 2) and a Cooperative Agriculture Agreement (CAA) consisting of a Commercial Special Use Permit (SUP) having special conditions and a detailed Plan of Operations outlining allowable Animal Unit Months (AUMs), on-off dates, unit locations, unit rotations, and specific instructions pertinent to grazing.

Select grazing units may receive annual grazing treatments consisting of high intensity-short duration, extended rest, complete rest, and/or on a rotational grazing

schedule for various lengths of time and may then be rested for multiple years to achieve desired CCP objectives and landscape habitat characteristics.

Why is this use being proposed or reevaluated?

With the issuance of a CCP and Environmental Assessment (EA), this use requires a compatibility determination (CD).

The use of prescriptive grazing to achieve desired habitat conditions would result in long-term beneficial effects on a variety of wildlife species that use the Refuge and is included in the CCP and corresponding EA as a management tool for the District, wherein the Refuge resides. This use is being proposed in order to move from an annual grazing program to a prescriptive gazing program to meet specific wildlife and habitat management objectives. The Refuge lies within the Great Plains and was known to have native grazers; as such, the landscape's flora and fauna have evolved over millennia with grazing.

The CCP has established goals and objectives for specific habitat types (e.g. grassland, mixed grassland-sagebrush) where prescribed grazing may be utilized. In addition, target wildlife species (e.g. sprague's pipit, mountain plover, chestnut-collared longspur, greater sage-grouse) and their habitat requirements have been identified. This has resulted in objectives that help guide management to meet target wildlife species and their habitat needs. Different grazing strategies may be implemented and assessed in order to determine the best methods for the Refuge to meet the identified habitat goals and objectives of the CCP, as well as combat the spread of invasive graminoids and forbs present in some units.

Availability of Resources

The analysis for administering and managing the use will only include the incremental increase above general operational needs that we can show as being directly caused by the proposed use. The staff time needed for the development and administration of the cooperative grazing program is already committed and available to support the program under current staffing. Most work needed to prepare for this use would continue to be done as part of routine habitat maintenance.

District staff will continue to monitor permittees for violations of permit conditions and tresspass. Biologists and the District manager will monitor habitat conditions. New boundary and temporary fences may need to be constructed to implement prescriptive grazing on common pastures. Temporary water developments may be necessary to facilitate prescriptive grazing in some habitat units in order to meet habitat objectives.

Annual/recurring requirements (i.e., for annual operations and maintenance):

1. Maintenance: Maintenance requirements vary and will be reduced due to the

reduction in interior fences necessary to manage prescriptive grazing program according to CCP alternatives. There may be additional needs with the construction and maintenance of temporary and boundary fences which would be constructed anyway in order to manage livestock in common pastures.

2. Annual Operations: District personnel currently spend a small portion of their time issueing permits, monitoring for trespass livestock and habitat conditions.
3. Monitoring: District staff monitor for livestock trespass intermittantly; it thus is not a significant portion of staff time.

Offsetting revenues: Refuges receive a percentage of the amount of revenue that is generated from commercial activities occuring on them. These funds aid in costs associated with implementing a prescriptive grazing program.

Anticipated Impacts of the Use

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

Prescribed grazing as a management tool is intended to be utilized to meet habitat and species-specific goals and objectives identified in the CCP, as well as replicate habitat and landscape conditions formerly created by native grazers. This management is intended to maintain and enhance habitat conditions for the benefit of a wide variety of fish and wildlife that utilize the Refuge and includes combating invasive graminoids and forbs. Grazing has the additional benefit of reducing wildfire risk by reducing the amount of light fuels that can carry a fire.

Minimal negative impacts, equal to or perhaps even less than what may have occurred during the former presence of native grazers, are expected through the use of this tool. Landscape character will remain unchanged or may be expected to improve through removal of excessive thatch. Some trampling of areas may occur around watering areas or mineral licks, though no more than what may have occurred with large numbers of native grazers in areas where they congregated or wallowed. Grazing may achieve a mosaic pattern of biomass density throughout the landscape with some areas more intensively grazed than others in certain years to achieve habitat heterogeneity, which could reasonably be expected to have happened when native grazers were present. In addition, while the presence of livestock may disturb some wildlife species, just as with native grazers, and some public visitors, the benefits of this habitat management tool are felt to outweigh these negative impacts since the landscape evolved with grazing and not without it.

When threatened and endangered species are known or suspected to be on a site, the local Service Ecological Services office will be consulted, and the proper steps will be determined to assess how and what management activities will affect that species

and what, if anything, should be pursued.

There will be no negative effects on cultural resources.

Short-term impacts

Short term impacts would include loss of vegetative cover which could result in increased soil erosion. Highly palatable forbs and shrubs would be impacted by grazing affecting a large number of wildlife species from pollinators to big game. However, the benefit would be to the wildlife species that require short cover such as prairie dogs, mountain plovers, McCown's longspur, and grazing ungulates that would graze the fresh growth of grasses. Potential disturbance to some wildlife species and some public users may occur.

Grazing by domestic livestock removes and tramples some or 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, or full, as it pertains to biomass remaining in a unit). Depending on the latter of the three factors, hoof action is expected to break up litter thereby increasing the rate of litter decomposition, opening up the ground for natives to express, and aid in nutrient cycling. Areas around watering systems, along fence lines, and at the location of mineral blocks may experience heavy trampling and compaction resulting in the mortality of perennial vegetation and the establishment of early successional species, just as could have been expected in areas where large native grazers congregated.

Varying bird species differ in their vegetation height preferences; as such, the management goal is to provide a heterogeneity of vegetation heights across the landscape. Pollinators are similar in their need for 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. Birds that prefer shorter stature grasslands may benefit from the reduced vegetative height resulting from grazing while others, which typically require taller and more dense nesting structure, may be negatively impacted by grazing in the short-term.

In situations where grazing utilizations are full, there may be less litter available for grassland nesting birds who utilize this material for nest construction. However, grazed areas may attract fewer predators because of low densities of some types of prey, such as small mammals (Grant et al. 1982, Runge 2005); less cover for concealment; or both. Higher nesting success in grazed fields may occur because predators respond negatively to low prey density (Clark and Nudds 1991, Lariviére and Messier 1998). If a site is completely devoid of litter prior to winter, certain pollinator

larvae may lack the needed cover to survive for that year. The same could reasonably have been expected to happen with a large herd(s) of native grazers present on the landscape when and where they may have congregated for extended periods of time.

Research conducted on other refuges has found impact from grazing ranging from minimally negative to favorable. Prescribed grazing on Red Rock Lakes National Wildlife Refuge (NWR) have been shown to have little effect on sage-grouse, a noted species of concern (Schroff 2016 MSU). Another study by (Stadum et al. 2016) found that grazing can provide the structure of vegetation heterogeneity that favors nesting long-billed curlews, a species of concern throughout some areas of Montana, to include the District wherein the Refuge resides. She also cites (Redmond and Jenni 1986) who observed curlews nesting in previously recent grazed areas. (Stadum et al. 2016) further explains how "prescriptive livestock grazing can be used to provide structurally diverse grassland habitats for species with seemingly disparate structural preferences within the same habitat type. Managing grassland habitat for species that exist on opposite ends of a disturbance preference gradient presumably incorporates the needs of species with intermediate preferences".

Long-term impacts

Prescriptive grazing will improve habitat conditions for specific wildlife or focal bird species, migratory birds, and other grassland-obligate species. Future prescriptive grazing regimens may include short-duration, high-intensity grazing treatments to control invasive plants; habitat management for specific wildlife or focal bird species; or rotation of grazing areas on the Refuge to provide long-term rest between grazing treatments.

The beneficial effects of grazing on plant diversity depend on grazing intensity, the evolutionary history of the site, and climatic regimes. Continuous rest without periodic disturbance fails to promote long-term grassland health (Naugle et al. 2000). Hoof impact by grazing animals can break up capped soils, improve the water cycle, stimulate vegetative reproduction of grasses, and enhance the decomposition of old plant material by breaking up plant litter. Hoof action can also distribute and trample seeds into soils, increasing chances of successful germination (Laycock 1967). Nutrients are returned to the soil in the form of urine and feces. Cattle may return 80%–85% of the nitrogen ingested with plant tissue (Laycock 1967). The use of prescriptive grazing to achieve desired habitat conditions would result in long-term beneficial effects on a variety of wildlife species that use the Refuge.

The effect of removal of vegetation increases the vigor of grasslands 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, and invasive species. During periods of typical precipitation, normal regrowth following grazing activities can occur within a single growing season. Over time, a strategic prescribed grazing program could effectively alter species

composition and improve overall plant diversity. Disturbance of grassland, wet meadow, and some shrub-steppe habitats is essential to maintain plant vigor and reduce infestations of noxious weeds.

As vegetative heights recover following a grazing treatment, habitat conditions will favor birds which prefer denser nesting structure and may become less favorable to species that prefer sparser vegetation. Because of regrowth of herbaceous vegetation, no long-term negative impacts are anticipated for waterfowl or other grassland or mixed grass-sagebrush nesting bird species, though positive impacts of increased diversity and heterogeneity are likely in the long-term.

Public Review and Comment

The draft CD will be available for public review and comment for 30 days from the publication of the draft CCP/EA. The public will be made aware of this comment opportunity through the Federal Register and other media outlets. State and Tribes have been asked to review and comment on the draft CD. It will be made available electronically on the Refuge website. Please let us know if you need the documents in an alternative format. Concerns expressed during the public comment period will be addressed in the final.

Determination

Is the use compatible?

Yes

Stipulations Necessary to Ensure Compatibility

1. CAAs and SUPs will be written in accordance with the Service's Cooperative Agricultural Use Policy (620 FW 2) and the Region 6 Cooperative Agricultural Program Guidance (2022).

2. Cooperators must follow all requirements for the prescribed grazing treatment as specified within the CAA, its stated Plan of Action, and the Special Conditions of the SUP.

3. Insecticides are not permitted for use on Refuge lands.

4. Control and maintenance of livestock is the responsibility of the permittee.

5. Fencing, water supply, and other livestock management infrastructure needs and costs will be outlined in the CAA and SUP.

Justification

Sharp-tailed grouse, pronghorn, sage-grouse, large ungulates, and other wildlife species need a diversity of and abundant group of plants for food and cover. Prescriptive grazing and other adaptive management strategies would permit flexibility necessary for the restoration of these important plant species.

Prescriptive grazing is a valuable management tool that supports refuge objectives. As outlined in this CD and in accordance with the stipulations outlined above, based on best professional judgement and available science, the Service has determined that continuation of the grazing use on the Refuge will not materially detract from or interfere with the fulfillment of the NWRS mission or the purposes of the Refuge; will contribute to the NWRS mission and Refuge purposes, meeting the standard or threshold established in 50 CFR §29.1 for economic uses of NWRs; and will not conflict with the national policy to maintain the biological integrity, diversity, and environmental health of the Refuge.

To maintain and enhance habitat for migratory birds and other wildlife, some habitat management must occur. Prescribed grazing utilizing livestock is one option that can be used to achieve these desired habitat conditions. Prescribed grazing is a useful tool because it can be controlled, and results of the grazing can be periodically monitored (e.g. vegetation monitoring) so that adjustments in the grazing program can be made to meet habitat goals and objectives.

Signature of Determination

Refuge Manager Signature and Date

Signature of Concurrence

Assistant Regional Director Signature and Date

Mandatory Reevaluation Date

2034

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Stadum et al. 2016. Breeding Season Occupancy of Long-Billed Curlews and Sandhill Cranes in Grazed Habitats at Red Rock Lakes National Wildlife Refuge. Intermountain Journal of Sciences 21:1-4.

U.S. Fish and Wildlife Service. [Draft]Comprehensive Conservation Plan (CCP) and [Draft] Environmental Assessment (EA) for the Charles M. Russell Wetland Management District. Accessed 30 January 2024.

Draft Compatibility Determination

Title

Compatibility Determination for Environmental Education and Interpretation for War Horse National Wildlife Refuge

Refuge Use Category

Environmental Education and Interpretation

Refuge Use Types

Environmental education (not conducted by National Wildlife Refuge System (NWRS) staff or authorized agents)
Environmental education (NWRS staff and authorized agents)
Environmental education (general)
Interpretation (NWRS staff and authorized agents)
Interpretation (not conducted by NWRS staff or authorized agents)

Refuge

War Horse National Wildlife Refuge (Refuge)

Refuge Purpose(s) and Establishing and Acquisition Authorities

“...purposes of a land-conservation and land-utilization program ... 7 U.S.C. § 1011 (Bankhead-Jones Farm Tenant Act)"... for use and administration under applicable laws as refuges for migratory birds and other wildlife ..." Secretarial Order 2843, dated Nov. 17, 1959.”

National Wildlife Refuge System Mission

The mission of the NWRS, 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

Is this an existing use?

Yes.

What is the use?

Environmental education (not conducted by NWRS staff or authorized agents). On-Refuge activities not conducted by NWRS staff or authorized agents that use a planned process to foster awareness, knowledge, understanding, and appreciation in students, teachers, or group leaders about fish, wildlife, plants, ecology, natural sciences (such as astronomy) and Refuge management.

Environmental education (NWRS staff and authorized agents). On-Refuge activities conducted by NWRS staff or authorized agents that use a planned process to foster awareness, knowledge, understanding, and appreciation in students about fish, wildlife, plants, ecology, natural sciences (such as astronomy) and Refuge management.

Environmental education (general). Environmental education activities not specifically defined elsewhere in this category.

Interpretation (NWRS staff and authorized agents). On-Refuge activities for Refuge visitors conducted by NWRS staff or authorized agents that are designed to foster an understanding and appreciation for natural and cultural resources, and associated management.

Interpretation (not conducted by NWRS staff or authorized agents). On-Refuge activities for Refuge visitors not conducted by NWRS staff or authorized agents that are designed to foster an understanding and appreciation for natural and cultural resources, and associated management.

Is the use a priority public use?

Yes

Where would the use be conducted?

All areas open to the public will be open for environmental education and interpretation. These areas do not have trails or built facilities to support these uses. A road runs through the Yellow Water and Wild Horse units and adjacent to War Horse unit. Parking is currently along the roadways for access into these units. All areas are open to the public and are open for walking to achieve these uses. Refuge signs denote Refuge boundaries.

When would the use be conducted?

Environmental education and interpretation occur year-round as guided or self-guided activities. The Refuge is open sunrise to sunset for the public.

How would the use be conducted?

Environmental education programs are scheduled in advance, and include impromptu presentations and discussions of wildlife conservation issues with interested individual visitors and unscheduled groups. Interpretive and environmental education programs may be given by Refuge staff or volunteers. Teachers may give programs

after applying for and receiving a special use permit (SUP). Any program that is conducted on Refuge land and not lead by Refuge staff requires a SUP.

Interpretive or environmental education programs focus on wildlife and habitats. These programs may address several wildlife conservation topics including riparian ecosystems, wetland habitats, migratory bird management, and endangered species conservation. Programs may also include the development of outdoor skills, which enhance appreciation of wildlife and the habitats they live in.

Most wildlife observation and photography activities are conducted individually; however, the Refuge may occasionally help facilitate these activities through workshops, planned events, and tours.

Why is this use being proposed or reevaluated?

Environmental education and interpretation are two priority wildlife-dependent recreational uses of the NWRS identified by the National Wildlife Refuge Improvement Act of 1997 (Improvement Act). These uses help promote the understanding, appreciation, and support of the Refuge System mission.

Availability of Resources

The analysis of cost for administering and managing each use will only include the incremental increase above general operational costs that we can show as being directly caused by the proposed use. The present Refuge environmental education and interpretive programs are available upon request, staff time permitting. Refuge personnel review proposals related to these uses and prepare SUPs. A Refuge parking area and an unimproved road allow for public entry and use. There is currently enough funding and staff available to provide opportunities for these activities depending on the time and specific staff services requested. No additional funding is needed.

One-time costs: None

Annual/recurring expenses (i.e., for annual operations and maintenance):

Offsetting revenues: None

Anticipated Impacts of the Use

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

The effects and impacts of the proposed use to Refuge resources, whether adverse or beneficial, are those that are reasonably foreseeable and have a reasonably close causal relationship to the proposed use. This compatibility determination (CD)

includes the written analyses of the environmental consequences on a resource only when the impacts on that resource could be more than negligible and therefore considered an "affected resource."

The overall impacts to the Refuge and its associated wildlife populations from these uses would be minimal. Environmental education and interpretation, and wildlife observation and photography can have both positive and negative implications on Refuge resources.

Short-term impacts

There may be temporary disturbance to wildlife on the Refuge from the presence of humans engaging in environmental education and interpretation activities, due to noise and temporary displacement. However, the amount of environmental education and interpretation activities occurring on the Refuge should result in very minimal impacts to wildlife. There are many recommendations for reducing impacts to wildlife: provide visitor education, require staying on trails, closing areas during sensitive periods such as nesting, require minimum set back distances for approach to areas such as rookeries, etc. (Boyle et al. 1985, Erwin 1989, Haverra 1992, Klein 1993, Miller 2001, Morton 1989, Rodgers 1995, Taylor 2003).

Human disturbance to avifauna has been thoroughly documented around the world. Several studies have examined the effects of trail-based recreation on birds inhabiting wildlife refuges and coastal habitats in the eastern United States. McNeil et al. (1992) found that many waterfowl species avoid disturbance by feeding at night instead of during the day. Similarly, Martín et al. (2015) found that human presence caused resident shorebird species to spend less time feeding and more time displaying avoidance behavior, and that the number of shorebirds and gulls within their study site dramatically decreased in response to increased recreation of the area. Disturbance can increase the risk of predation when individuals are forced to forage in more dangerous habitats and can increase intraspecific competition when avoiding humans necessitates movement into suboptimal habitats (Frid and Dill 2002).

Some uses, such as bird observation, are directly focused on viewing certain wildlife species and can cause more significant impacts during the breeding season and winter months. Research has shown that as the intensity of human disturbance increased, avoidance response by birds increased, and that out-of-vehicle activity was more disruptive than vehicular traffic (Klein 1993, Freddy et al. 1986, Vaske et al. 1983). Miller et al. (1998) found bird abundance and nesting activities (including nest success) increased as distance from a recreational trail increased, in both grassland and forested habitats. Some studies have found that some songbird species habituate to repeated intrusion. Frequently disturbed individuals of some species vocalize more aggressively, have higher body masses, or tend to remain in place longer (Cairns and McLaren 1980). Disturbance may affect the reproductive fitness of males by

hampering territory defense, mate attraction, and other reproductive functions of song (Arcese 1987, Ewald and Carpenter 1978).

Overall, the existing research clearly demonstrates that disturbance from recreation activities always have at least temporary effects on the behavior and movement of birds within a habitat or localized area (Burger 1981, Burger 1986, Klein 1993, Burger et al. 1995, Klein et al. 1995, Rodgers and Smith 1997, Burger and Gochfeld 1998). The location of recreational activities and the size of participating groups are also important factors affecting the magnitude of disturbance. A number of species have shown greater reactions when pedestrian use occurred off-trail (Miller et al. 2001, Samia et al. 2015), and when pedestrians traveled in large groups (Beale and Monaghan 2004).

The presence of humans on Refuge land would disturb some wildlife causing temporary displacement without long-term effects. There would be some disturbance to wildlife and vegetation at the locations where interpretive programs occur with groups, but at levels that would not interfere with the purposes of the Refuge. Some species may avoid areas with frequent people, while other species would be unaffected by human presence. However, the overall effect of the use on wildlife would not have a population level impact, because most of the Refuge will experience minimal to no daily public use. Vehicles will utilize the designated road and parking area. Self-guided interpretation may be sporadically used by small groups of people at established trails and kiosks. This may cause short-term disturbance to wildlife, but again would have minimal impact.

Long-term impacts

The Refuge anticipates that no negative long-term impacts will occur as a result of environmental education and interpretation, however, these uses could be modified in the future to mitigate unforeseen impacts. The Refuge also anticipates positive long-term benefits for the public. These uses allow the public to engage in and experience the Refuge and the outdoors. The Refuge will continue to gain relevancy to new, broader audiences and therefore have a greater reach to the public. Additionally, these uses benefit the Refuge by promoting a conservation ethic in the local community and a better appreciation and understanding of the Refuge's wildlife and habitats.

People can be vectors for invasive species by moving seeds or other propagules from one area to another. The threat of invasive species will always be an issue requiring annual evaluation and treatment. Refuge staff will work to look for early detection of invasive species and will educate the visiting public on the environmental damage and conservation challenges invasive species present. Impacts may be considered not significant when analyzed alone but may be considered important when they are evaluated cumulatively. The Refuge's primary concern is repeated disturbance of resting, foraging, or nesting birds by visitors. Refuge staff will continually evaluate disturbance to habitat and habitat quality and, if necessary, respond with

management actions to conserve wildlife resources being adversely impacted. Refuge staff, volunteers, and researchers will evaluate the effects of these priority uses and respond to any adverse effects.

Based on the best available knowledge and with added use restrictions, the Refuge does not expect these uses would cause adverse effects. Educating the public about conservation issues would enhance the Refuge's purposes by promoting a conservation ethic.

Public Review and Comment

The draft CD will be available for public review and comment for 30 days from the publication of the draft Comprehensive Conservation Plan and Environmental Assessment. The public will be made aware of this comment opportunity through the Federal Register and other media outlets. State and Tribes have been asked to review and comment on the draft CD. It will be made available electronically on the Refuge website. Please let us know if you need the documents in an alternative format. Concerns expressed during the public comment period will be addressed in the final.

Is the use compatible?

Yes

Stipulations Necessary to Ensure Compatibility

1. Visitors are to adhere to all Refuge rules and regulations as found in the regulations section of the Refuge website and brochure unless otherwise approved in advance by the Refuge.

2. Environmental education and interpretation activities not led by Refuge staff require a SUP to minimize conflicts with other groups, safeguard students and resources, and allow tracking of use levels.

3. Disturbing or attempting to disturb, injure, or collect any plant, berries, mushrooms, animal, animal part, horn, antler, bones, skull, or feather is prohibited except by SUP.

4. Disturbance or collection of any cultural resource is prohibited.

5. Interpretive programming and special events will focus on wildlife, conservation, or other environmental attributes of the Refuge including fostering a respect and appreciation of the NWRS and the Refuge.

6. Entry on all or portions of individual areas may be temporarily suspended based on

public safety, wildlife health, or natural resource concerns. When possible, the public will be given notice of closures. However, unforeseen circumstances may require immediate closure without advanced public notice.

Justification

In accordance with the missions of the NWRS and the Improvement Act, the Refuge has determined that the uses are compatible provided the above stipulations are implemented. Environmental education and interpretation are two priority wildlife-dependent recreational uses of the NWRS identified by the Improvement Act. These uses help promote the understanding, appreciation, and support of the Refuge System mission and help promote public awareness and stewardship of the Refuge's natural and cultural resources. The uses not materially interfere with or detract from the Service's ability to meet the mission of the NWRS, and administration of the uses would only require medium amounts of administrative time and funding.

The Refuge's habitats, wildlife, and public use areas provide a unique environmental education and interpretation experience to visitors, helping them connect with nature and natural ecosystems. Environmental education is designed to develop a citizenry that has the awareness, concern, knowledge, attitudes, skills, motivations, and commitment to work toward solutions of current environmental problems and the prevention of new ones. Interpretation is a communication process that forges emotional and intellectual connections between the interests of the audience and the inherent meanings in the resource (i.e. more than information). Both environmental education and interpretation are necessary to form relationships between the Service and the public and improve a joint stewardship of our natural resources.

Wildlife disturbance is a concern and limited use will help to minimize any adverse impacts to wildlife. Refuge staff will evaluate impacts on Refuge federal trust resources to determine if there are appreciable negative implications of the use.

Signature of Determination

Refuge Manager Signature and Date

Signature of Concurrence

Assistant Regional Director Signature and Date

Mandatory Reevaluation Date

2039

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Draft Compatibility Determination

Title

Compatibility Determination for Fishing, War Horse National Wildlife Refuge

Refuge Use Category

Fishing

Refuge Use Types

Recreational fishing for pleasure, leisure, or for subsistence

Refuge

War Horse National Wildlife Refuge (Refuge)

Refuge Purpose(s) and Establishing and Acquisition Authorities

“...purposes of a land-conservation and land-utilization program ... 7 U.S.C. § 1011 (Bankhead-Jones Farm Tenant Act) "... for use and administration under applicable laws as refuges for migratory birds and other wildlife ..." Secretarial Order 2843, dated Nov. 17, 1959.”

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System (NWRS), 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

Is this an existing use?

Yes.

What is the Use?

Fishing

Is the use a priority public use?

Yes

Where would the use be conducted?

The Refuge brochure will be available at the Charles M. Russell (CMR) Refuge Complex headquarters, of which War Horse NWR is a part of, and online on the Refuge's website to inform the public of Refuge fishing opportunities, regulations, and safety precautions. Maps are also available, which show the location of Refuge units, roads, and boundaries.

Fishing may occur at either reservoir associated with War Horse unit and Yellow Water unit of War Horse NWR, although the public generally does not use U.S. Fish and Wildlife Service (Service) lands to access the reservoirs.

When would the use be conducted?

Recreational fishing will be in accordance with the seasons and regulations established by the State of Montana. The Refuge may further restrict fishing areas by signs and/or brochures.

How would the use be conducted?

Recreational fishing is permitted in accordance with Montana State rules and regulations, Refuge specific regulations, and those published in Title 50, Code of Federal Regulations. Additionally, Alternative C in the Comprehensive Conservation Plan (CCP) and Environmental Assessment (EA) will ban the use of lead tackle on Refuge lands. Fishing may take place from the shore using pole and line or from a boat when water conditions are deep enough to allow for boat usage.

Fishing by boat may occur on the Yellow Water unit, which includes a portion of the State-owned Yellow Water Reservoir. A boat launching site for small craft is available adjacent to the Yellow Water unit.

Why is this use being proposed or reevaluated?

This compatibility determination (CD) considers fishing, which is one of the six priority wildlife-dependent recreation activities. Fishing was a traditional activity that occurred on Refuge lands prior to and since Refuge establishment. Expanding fishing opportunities and aligning regulations with State agencies implements Secretarial Order 3347, Conservation Stewardship and Outdoor Recreation; and Secretarial Order 3356, Hunting, Fishing, Recreational Shooting, and Wildlife Conservation Opportunities and Coordination with States, Tribes, and Territories.

Availability of Resources

Resources involved in the administration and management of the use include personnel time associated with administration and law enforcement.
No special equipment or facilities are necessary to support the uses. Maintenance costs are not directly attributable to the incidental uses on the Refuge. Minimal costs are associated with the uses to monitor the consequences of the public having access to the Refuge, such as the degree of littering and vandalism. Plants and wildlife will be monitored to determine any impacts are a result of public use.

One-time costs: None

Annual/recurring expenses (i.e., for annual operations and maintenance):

1. Maintenance costs: Maintenance costs are expected to be negligible from this use on the Refuge. There are no expected increased costs to maintaining Refuge infrastructure outside normal use of roads and other developed areas.
2. Annual Operations: The bulk of the cost for fishing is incurred in staff time to administration and management of the use include personnel time associated with administration and law enforcement.
3. Monitoring costs: Minimal costs are associated with the uses to monitor the consequences of the public's having access to the Refuge, such as the degree of littering and vandalism.

Offsetting revenues: None

Anticipated Impacts of the Use

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

Refuge System mission

The effects and impacts of the proposed use to Refuge resources, whether adverse or beneficial, are those that are reasonably foreseeable and have a reasonably close causal relationship to the proposed use. This CD includes the written analyses of the environmental consequences on a resource only when the impacts on that resource could be more than negligible and therefore considered an "affected resource."

Short-term impacts

The effects of fishing activities on migratory and shore birds include noise, and displacement. Compaction of vegetation may occur along the shores and along creeks from fisherman accessing fishing points. Disturbances caused by fishing do not have an appreciable adverse impact on wildlife resources given that fishing activities are infrequent at best. Shorelines are monitored for erosion. Trash is the single greatest impact on refuges associated with this use.

Long-term impacts

Fishing can cause an increased disturbance of wildlife (or habituation of wildlife) in public use areas and associated changes in wildlife use patterns on the Refuge. Additionally, lead fishing tackle still represents a source of lead poisoning in susceptible birds, primarily loons and swans. Loons are infrequent on the Refuge. Both trumpeter and tundra swans occasionally use the water associated with the Yellow Water unit and War Horse unit seasonally.

The best available science indicates that lead fishing tackle may have negative impacts on wildlife and human health and the environment. This broad potential for adverse impacts is not inherent to fishing, but specifically to the use of lead fishing tackle.

Requiring lead-free fishing tackle will eliminate the increased threat of potentially negative impacts to the human environment and to fish and wildlife species from lead that may be available from lost fishing tackle.

Public Review and Comment

The draft CD will be available for public review and comment for 30 days from the publication of the draft CCP/EA. The public will be made aware of this comment opportunity through the federal register and other media outlets. State and Tribes have been asked to review and comment on the draft CD. It will be made available electronically on the refuge website. Please let us know if you need the documents in an alternative format. Concerns expressed during the public comment period will be addressed in the final.

Determination

Is the use compatible?

Yes

Stipulations Necessary to Ensure Compatibility

1. A Montana fishing license is required to fish on the Refuge.
2. State fishing regulations and limits apply to the Refuge.
3. Any boat use must be in accordance with State regulations.

Justification

The viability of the game species populations proposed to be fished will not be negatively affected by fishing according to state season guidelines, bag limits, and regulations. This use is being permitted because it is a priority public use. It will not diminish the primary purposes for which the Refuge was established. It also meets the mission of the Refuge System by providing renewable resources for the benefit of the American public while conserving viable populations of fish, wildlife, and plant resources on these lands.

Fishing is a priority public use on the Refuge. By allowing this use, we are providing opportunities and facilitating Refuge programs in a manner and location that offer high quality, wildlife-dependent recreation and maintain the level of current wildlife values. Any new lands purchased as part of the Refuge can be open to fishing depending on the manager's discretion using professional judgment, as long as there is no significant negative impact on natural resources or visitor services.

This activity will not materially interfere with, or detract from, the mission of the Refuge System or the purpose for which the Refuge was established.

Signature of Determination

Refuge Manager Signature and Date

Signature of Concurrence

Assistant Regional Director Signature and Date

Mandatory Reevaluation Date

2039

Draft Compatibility Determination

Title

Compatibility Determination for Hunting at War Horse National Wildlife Refuge

Refuge Use Category

Hunting

Refuge Use Types

Hunting big game; Hunting upland birds; Hunting migratory birds

Refuge

War Horse National Wildlife Refuge (NWR)

Refuge Purpose(s) and Establishing and Acquisition Authorities

"...purposes of a land-conservation and land-utilization program ... 7 U.S.C. § 1011 (Bankhead-Jones Farm Tenant Act)"... for use and administration under applicable laws as refuges for migratory birds and other wildlife ..." Secretarial Order 2843, dated Nov. 17, 1959."

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System (NWRS), 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

Is this an existing use?

Yes.

What is the use?

The hunting of migratory birds, upland birds, and big game as an approved wildlife-dependent priority public use and as outlined in the 1997 National Wildlife Refuge System Improvement Act (Improvement Act). Hunting of migratory birds, upland birds, and big game is in accordance with State regulations and seasons accompanied by specific War Horse NWR (Refuge) regulations and restrictions outlined below:

- Hunting for waterfowl, which are classified as migratory birds, is federally mandated to use lead-free ammunition.
- Lead-free ammunition is currently required for upland bird hunting.

Refuge management may further enact, as deemed appropriate at any time, further restrictions or regulations for such reasons as, but not limited to:

- Protection of wildlife.
- Protection of certain specific wildlife species where State regulations are absent, fail to provide reasonable harvest limits, or allow harvest methods not conducive with Refuge values.
- Protection of natural resources.
- Public safety.

Is the use a priority public use?

Yes

Public hunting is a historical wildlife-dependent use of the Refuge and is designated as one of the priority public uses as specified in the Improvement Act.

Where would the use be conducted?

The Refuge brochure will be available at the Charles M. Russell (CMR) Refuge Complex headquarters, of which War Horse NWR is a part of, and online on the Refuge's website to inform the public of Refuge hunting opportunities, regulations, and safety precautions. Maps are also available, which show the location of Refuge units, roads, and boundaries.

Specifically, hunting for big game, upland birds, and migratory birds may occur in accordance with State regulations and specific Refuge regulations and restrictions, on all units of the Refuge. War Horse Waterfowl Production Area, which is adjacent to the Refuge, is also open for hunting according to State regulations.

When would the use be conducted?

Hunting would occur in accordance with State regulated seasons, dates, and times in the State region/zone/area in which the Refuge resides. Additionally, hunting shall be in accordance with any specific Refuge regulations and restrictions regarding units, seasons, dates, and times, and that Refuge management may further enact as deemed appropriate at any time for such reasons as, but not limited to, protection of wildlife; protection of certain specific wildlife species where State regulations are absent, fail to provide reasonable harvest limits, or allow harvest methods not conducive with Refuge values; protection of natural resources; and public safety.

How would the use be conducted?

Hunting will take place in accordance with State regulations pursuant to seasons, zones/regions/areas, bag limits, and take method regulations. Generally, centerfire rifles are used for big game, with occasional shotguns using slugs, while shotguns with birdshot are used for migratory and upland bird hunting. Additionally, hunting shall be in accordance with any specific Refuge regulations and restrictions regarding seasons, dates, times, and allowable take methods. Refuge management may further enact, at any time, more restrictive regulations such as, but not limited to season dates, times, and take measures where it deems such measures are appropriate.

All other wildlife species outside of big game, upland birds, and migratory birds are protected to include, but not limited to coyotes, prairie dogs, jackrabbits, cottontail rabbits, badgers, and bobcats.

Why is this use being proposed or reevaluated?

With the issuance of a Comprehensive Conservation Plan (CCP) and Environmental Assessment (EA), this use requires a compatibility determination (CD). Recreational public hunting is a historical wildlife dependent use of the CMR Refuge Complex, of which the Refuge is a part of. Hunting is also designated as one of the priority public uses as specified in the Refuge Improvement Act.

Required boundary and informative signage is already in place with more slated for installation to inform the public of the Refuge's specific boundaries and use areas. This same signage will provide the necessary infrastructure to support hunting on the Refuge. Current staffing levels and funding are adequate to support hunting on the Refuge. Special regulations and restrictions will be in place to minimize negative impacts to the Refuge and its associated wildlife. Montana state law further controls hunter activities through State regulations and restrictions.

Hunting is a legitimate wildlife management tool that can be used to control wildlife populations having excess. Hunting harvests a small percentage of the renewable excess population resource(s), which is in accordance with wildlife management objectives and principals.

Availability of Resources

One-time costs: None

Annual/recurring expenses (i.e., for annual operations and maintenance):
Maintenance costs: Maintenance costs are expected to be negligible from this use on the Refuge. There are no expected increased costs to maintaining Refuge

infrastructure outside normal use of roads and other developed areas, such as parking areas.

Annual Operations: Adequate resources are available to manage the existing hunting program at the current level of participation.

Offsetting revenues: None

Anticipated Impacts of the Use

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

The Proposed implementation of hunting as a use will produce no appreciable adverse impacts to Refuge purposes or the Refuge System mission for the aforementioned reasons: a) hunting has been a historical wildlife dependent use within the CMR Refuge Complex and b) is an approved wildlife dependent use as specified in the Improvement Act. The effects and impacts of the proposed use to Refuge resources, whether adverse or beneficial, are those that are reasonably foreseeable and have a reasonably close causal relationship to the proposed use. This CD includes the written analyses of the environmental consequences on a resource only when the impacts on that resource could be more than negligible and therefore considered an "affected resource."

- There will be no negative effects on threatened and endangered species.
- There will be no negative effects on cultural resources.

Short-term impacts

Non-target wildlife may be temporarily displaced by the noise and presence of hunters in the vicinity There will be mortality to the individual, targeted species. Temporary impacts to the habitat are expected due to possible illegal off-road travel. To mitigate the possible impact, the Refuge will establish parking areas. We also enforce a pack-in, pack-out policy encouraging folks to remove their trash.

Lead ammunition is restricted for use for upland game birds and migratory game birds. Since no additional lead from hunting these species will be added to the environment, results could have some beneficial effect on migratory birds or avian predators that prey upon them that occur on the Refuge, thus reducing the overall effects of lead poisoning from lead reduction in the environment.

Lead hunting ammunition for big game species is currently allowed. Studies have shown that where eagles are present to scavenge carcasses, lead can have a detrimental effect on their health when ingested in sufficient quantity. The Service

continues a vigorous campaign of educating all hunters on the effects of lead ammunition in the natural environment to mitigate its future use and subsequent introduction in the environment.

Long-term impacts

Hunting can cause long-term shifts in the behavior and dynamics of the targeted species. However, all hunting must be done in accordance with State regulations. State regulations ensure that hunting is conducted in a manner that maintains healthy populations of wildlife. Hunting can be a necessary tool to protect non-target wildlife and habitat when species become overpopulated, as overpopulation of a species (especially big game species) causes damage to, water resources, soils and vegetation in the vicinity, as well as adversely impacting other wildlife.

As discussed above, hunting is a highly regulated activity, and generally takes place at specific times and seasons when there is a harvestable surplus of game animals, reducing the magnitude of disturbance to refuge wildlife. Managed and regulated hunting will not reduce species populations to levels where other wildlife-dependent uses will be affected.

Regulations and seasons will be designated to minimize any negative impacts to wildlife populations using the Refuge. Harvesting these game animal species would not result in a substantial decrease in biological diversity on the Refuge. Wildlife populations on the Refuge are able to sustain hunting and support other wildlife dependent priority uses. To manage the populations to support hunting, the Refuge adopts harvest regulations set by the State within federal framework guidelines. Recreational hunting will remove individual animals but will not negatively affect wildlife populations.

Lead ammunition is not permitted for migratory game birds or upland game birds. This reduces the potential long-term risk from the introduction of additional lead ammunition in hunting these species on Refuge lands as included in this CCP. Additional lead from hunting these species would no longer enter the environment and potentially impact migratory birds or avian predators that prey upon them and that may occur on the Refuge.

Lead hunting ammunition for big game species is currently allowed. Studies have shown that where eagles are present to scavenge carcasses, lead can have a detrimental effect on their health when ingested in sufficient quantity. The Service continues a vigorous campaign of educating all hunters on the effects of lead ammunition in the natural environment to mitigate its future use and subsequent introduction in the environment.

Public Review and Comment

The draft CD will be available for public review and comment for 30 days from the publication of the draft CCP/EA. The public will be made aware of this comment opportunity through the federal register and other media outlets. State and Tribes have been asked to review and comment on the draft CD. It will be made available electronically on the Refuge website. Please let us know if you need the documents in an alternative format. Concerns expressed during the public comment period will be addressed in the final.

Determination

Is the use compatible?

Yes

Stipulations Necessary to Ensure Compatibility

Hunting on the Refuge is subject to federal and State regulations and a Montana hunting license is required. Hunting for migratory birds, upland game birds, and big game in compliance with all applicable State and Refuge hunting regulations is permitted on this Refuge.

All other wildlife species outside of big game, migratory birds, and upland birds are protected including, but not limited to coyotes, prairie dogs, jackrabbits, cottontail rabbits, badgers, and bobcats.

1. Visitors are required to park at a designated parking area or immediately adjacent along roads without impeding other through traffic.

2. Target shooting with firearms or archery equipment is prohibited at all times on the Refuge.

3. Collection of antlers, bones, skulls, animal parts, nests, artifacts, and fossils are prohibited.

4. Portable blinds, tree stands, and other personal property used for hunting must be removed each day.

5. Remote trail and or game cameras are not allowed.

6. Vehicles are restricted to open roads and parking areas. Any additional travel

on the Refuge is by foot only.

7. Boat use is allowed in accordance with State regulations.

8. Lead-free ammunition is required to hunt migratory game bird and upland game bird species.

Justification

Recreational public hunting is a historical wildlife dependent use of the CMR Refuge Complex, of which War Horse NWR is a part of, and is designated as one of the priority public uses as specified in the Improvement Act. Required infrastructure installation for other uses and public information will directly support the hunting on the Refuge. Current staffing levels and funding are also adequate. Special regulations will be in place to minimize negative impacts to the Refuge and associated wildlife. Montana State law further controls hunter activities. Hunting is a legitimate wildlife management tool that can be used to control excess wildlife populations. Hunting harvests a small percentage of the renewable excess population resource(s), which is in accordance with wildlife management objectives and principals.

Signature of Determination

Refuge Manager Signature and Date

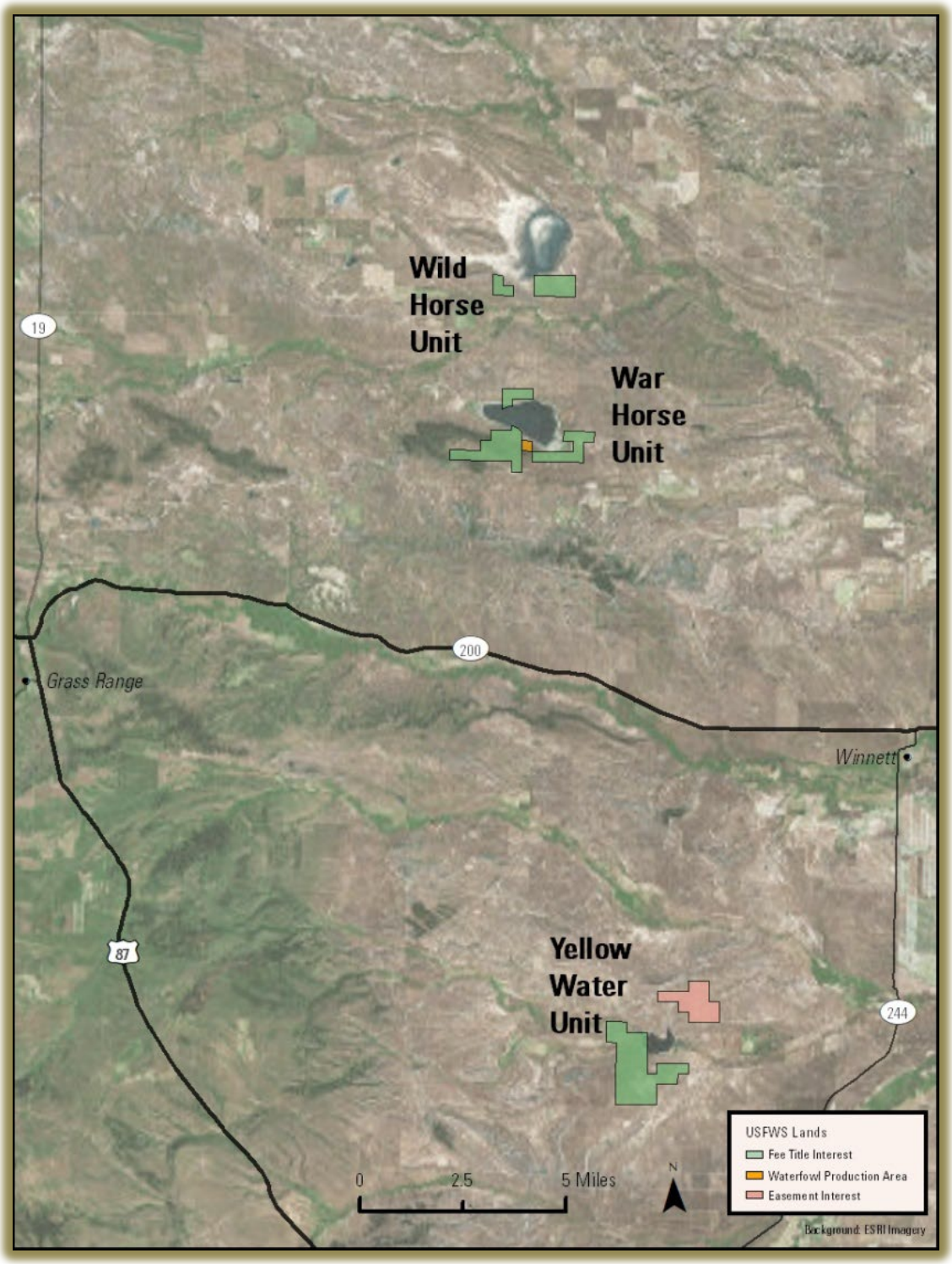
Signature of Concurrence

Assistant Regional Director Signature and Date

Mandatory Reevaluation Date

2039

Figure(s)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USFWS Lands
Fee Title Interest
Waterfowl Production Area
Easement Interest
Background: ESRI Imagery

Figure 1. Map of All Three War Horse NWR Units

Draft Compatibility Determination

Title

Compatibility Determination for Research, Scientific Collecting, and Surveys, for War Horse National Wildlife Refuge

Refuge Use Category

Research and Surveys

Refuge Use Types

Research, Scientific Collecting, Surveys

Refuge

War Horse National Wildlife Refuge (Refuge)

Refuge Purpose(s) and Establishing and Acquisition Authorities

"...purposes of a land-conservation and land-utilization program ... 7 U.S.C. § 1011 (Bankhead-Jones Farm Tenant Act) "... for use and administration under applicable laws as refuges for migratory birds and other wildlife ..." Secretarial Order 2843, dated Nov. 17, 1959."

National Wildlife Refuge System Mission

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Description of Use

Is this an existing use?

Yes.

What is the use?

Research. Planned, organized, and systematic investigation of a scientific nature conducted by non- U.S. Fish and Wildlife Service (Service) personnel or authorized agent.

Scientific collecting. Gathering of refuge natural resources or cultural artifacts for

scientific purposes conducted by non-Service personnel or authorized agent.

Surveys. Scientific inventory or monitoring conducted by non-Service personnel or authorized agents.

Research conducted by non-Service personnel includes research conducted by Federal, State, and private entities, such as the U.S. Geological Survey; State departments of natural resources; students and professors at State and private universities; and independent non-governmental researchers and contractors. Research activities will focus on species, habitats and recreational activities as identified in the Refuge's management plan and other stepdown plans or will address research questions that will provide information to better manage the Refuge.

Acceptable research methods include but are not limited to bird banding, mist netting, point count surveys, radio-telemetry tracking, cameras, recorders, and public surveys.

Requests for special use permits (SUP) for research will be considered on a case-by case basis, as staff availability allows. In accordance with 16 U.S.C. 668dd(d) and 50 C.F.R. Part 25, Subpart D, the Refuge manager is responsible for reviewing applications for SUPs and determining whether to authorize a permit.

The Refuge manager will base the decision to issue an SUP for research on their professional judgment and the value of the proposed research. The decision to allow a particular research project will also be consistent with Service regulations and policy, including the Policy on Maintaining the Biological Integrity, Diversity, and Environmental Health of the Refuge System (601 FW 3).

The results of the research should result in better knowledge of our natural resources and improve methods to manage, monitor, and protect the Refuge's biological resources and visitor uses. The Refuge manager will always have the discretion to deny or reevaluate the appropriateness and compatibility of any specific research by non-Service personnel at any time [603 FW 2.1 H(1), (2)].

The Refuge manager may deny a project based on field experiences, knowledge of the Refuge's natural resources, particularly its biological resources, available scientific information, and after consulting with other experts, both inside and outside the Service. When denying a request for a specific research project, the refuge manager will explain the rationale and conclusions supporting their decision in writing. The rationale for the denial will be consistent with the principles of sound fish and wildlife management, Refuge administration, and applicable laws. The denial will generally be based on, but not limited to, evidence that the details of a particular research project might: lead to the impairment of our conservation mission; detract from fulfilling the Refuge's purposes; conflict with the conservation goals or objectives in approved Refuge management plans; not be manageable with the available budget or staff time; be inconsistent with public safety; or conflict with maintaining or restoring the biological integrity, diversity, and environmental health of the Refuge's priority habitats.

Is the use a priority public use?

No

Research conducted by non-Service personnel is not a priority public use of the Refuge System under the Refuge System Administration Act of 1966 (16 U.S.C. 668dd668ee), as amended by the National Wildlife Refuge Improvement Act of 1997. Although this use is not a priority public use, this activity would allow permitted researchers access to the Refuge to conduct both short-term and long-term research projects.

Where would the use be conducted?

The location of the research will vary depending on the individual research project that is being conducted. The entire Refuge may be considered in a SUP request for scientific research; however, biological research projects are usually focused on a particular habitat type, plant species, or wildlife species.

Occasionally, research projects will encompass an assemblage of habitat types, plants, or wildlife, or may span more than one Refuge or include lands outside the Refuge System. The research location will also be limited only to those areas of the Refuge that are necessary to conduct the research project and access the research location. This may include access to Refuge roads that are closed to the public. The Refuge may limit areas available to research as necessary to ensure the protection of trust resources or reduce conflict with other compatible Refuge uses. Access to study locations will be identified by Refuge staff.

When would the use be conducted?

The timing of the research will depend on the individual research project's approved design. Research may occur on the Refuge throughout the year when there are no conflicts with protection of trust resources or primary public use activities. Special precautions will be required and enforced to ensure the researchers' health and safety and to minimize or eliminate potential conflicts with a priority public use. An individual research project could be short term in design, requiring one or two visits over the course of a few days. Other research projects could be multiple year studies that require daily visits to the study site. The timing of each individual research project will be limited to the minimum required to complete the project.

How would the use be conducted?

Research methods will depend entirely on the individual research project that is conducted. The methods of each research project will be reviewed and scrutinized before it will be allowed to occur on the Refuge.

No research project will be allowed to occur if:

• It negatively impacts endangered species, migratory birds, and other Refuge trust resources;

• It compromises public health and safety.

A Research and Monitoring Special Use Application and detailed research proposal will be required from parties interested in conducting research on the Refuge. Each request for this use will be considered, and if appropriate, will be issued a SUP by the refuge manager. Each request will be evaluated on its own merit. The refuge manager will use sound professional judgment and ensure that the request will have no considerable negative impacts to natural resources, cultural resources, or visitor services and does not violate Refuge regulations. Special needs will be considered on a case-by-case basis and are subject to the refuge manager's approval. Any approved SUP will outline the framework in which the use can be conducted, and Refuge staff will ensure compliance with the permit. The SUP will provide any needed protection to individual Refuge policies, mission, wildlife populations and natural habitats. In addition, all research projects require the primary investigator to submit written summary reports of all findings and acknowledge the Refuge's participation.

Once approved, projects will be reviewed annually to ensure that they are meeting their intended purposes, reporting and communicating with Refuge staff, and are fulfilling the mission of the Refuge System and purposes for which the Refuge was established. If the refuge manager decides to deny, modify, or halt a specific research project, the refuge manager will explain the rationale and conclusions supporting their decision in writing. The denial or modification to an existing study will generally be based on evidence that the details of a particular research project may:

• Negatively affect native fish, wildlife, and habitats or cultural, archaeological, or historical resources,

• Detract from fulfilling the Refuge's purposes or conflict with Refuge goals and objectives,

• Raise public health or safety concerns,

• Conflict with other compatible Refuge uses,

• Not be manageable within the Refuge's available staff or budget time,

• Deviate from the approved study proposal such that impacts to Refuge resources are more severe or extensive than originally anticipated.

Why is this use being proposed or reevaluated?

Research by non-Service personnel is conducted by colleges; universities; federal, State, and local agencies; non-governmental organizations; and qualified members of the public to further the understanding of the natural environment, the utilization of the natural environment by the American people and to improve the management of the Refuge. Much of the information generated by the research is applicable to management on and near the Refuge. In many cases, research by non-Service personnel ensures the perception of un-biased and objective information gathering which can be important when using the research to develop management

recommendations for politically sensitive issues. Additionally, universities and other Federal partners can access equipment, resources, and facilities unavailable to Refuge staff for analysis of data or biological samples.

The Service will encourage and support research and management studies on Refuge lands that will improve and strengthen biological and social science management decisions. The refuge manager will encourage and seek research relative to approved Refuge objectives that clearly improves land management and recreational opportunities and promotes adaptive management. Priority research addresses information that will better manage the Nation's biological resources and is generally considered important to agencies of the Department of the Interior, the Service, the Refuge System, and state fish and game agencies. Priority research also addresses important management issues, demonstrates techniques for management of species or habitats, or analyzes ways to improve access and recreational use by the public.

The Refuge will also consider research for other purposes which may not be directly related to Refuge-specific objectives, but contribute to the broader enhancement, protection, use, preservation, and management of native populations of fish, wildlife, and plants, and their natural diversity within the region or flyway. Prospective researchers or organizations can talk to the refuge manager or biologist about specific research needs. Similar research could be conducted by potential researchers and organizations on other nearby public and federal lands. However, the research capabilities and support systems, organization goals, habitat, wildlife, hydrology, and geology of each of these locations vary widely. To best account for the research needs, goals, and funding availability of local, state, federal, university, and research specific organizations, the lands where research is permitted should be diverse. Therefore, maintaining and growing the Refuge research program is essential.

Availability of Resources

The analysis of cost for administering and managing each use will only include the incremental increase above general operational costs that we can show as being directly caused by the proposed use. Refuge support of research directly related to Refuge objectives may take the form of funding, in-kind services such as housing or use of other facilities, direct staff assistance with the project in the form of data collection, provision of historical records, conducting management treatments, or other assistance as appropriate. There is currently enough funding and staff available to allow research opportunities. Special equipment, facilities, or improvement costs are expected to be negligible from this use on the Refuge.

One-time costs: None

Annual/recurring expenses (i.e., for annual operations and maintenance):

1. Maintenance costs: Maintenance costs are expected to be negligible from this use on the Refuge. There are no expected increased costs to maintaining Refuge

infrastructure outside normal use of roads and other developed areas.

2. Annual Operations: The bulk of the cost for research is incurred in staff time to review research proposals, coordinate with researchers, and write special use permits. In some cases, a research project may only require one day of staff time to write a special use permit. In other cases, a research project may take an accumulation of weeks, as the Refuge staff must coordinate with the principal researcher and accompany them during site visits. Because research conducted on the Refuge is not constant, there may be fiscal years when little if any time is spent on managing outside research projects by Refuge staff.
3. Monitoring costs: None

Offsetting revenues: None

Anticipated Impacts of the Use

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

Refuge System mission

The effects and impacts of the proposed use to Refuge resources, whether adverse or beneficial, are those that are reasonably foreseeable and have a reasonably close causal relationship to the proposed use. This compatibility determination (CD) includes the written analyses of the environmental consequences on a resource only when the impacts on that resource could be more than negligible and therefore considered an "affected resource."

Short-term impacts

Research activities may disturb fish and wildlife and their habitats. For example, the presence of researchers can cause birds to flush from resting and feeding areas, cause disruption of birds on nests or breeding territories, or increase predation on nests and individual animals as predators follow human scent or trails.

Efforts to capture animals, such as for migratory bird banding, can cause disturbance, injury, or death to groups of wildlife or to individuals. To wildlife, the energy cost of disturbance may be appreciable in terms of disruption of feeding, displacement from preferred habitat, and the added energy expended to avoid disturbance. Sampling activities associated with many types of research activities can cause compaction of soils and the trampling of vegetation. Installation of posts, equipment platforms, collection devices, and other research equipment in open water may present a hazard if said items are not adequately marked and/or removed at appropriate times or upon completion of the project. Research efforts may also discover methods that

result in a reduction in impacts described above.

The potential for research conducted on the Refuge to conflict with Refuge management activities (e.g., prescribed burning, prescribed grazing, herbicide applications) and visitor use on the Refuge is minimal. Research would be scheduled to minimize conflict with Refuge management activities. Visitors may encounter researchers in the field or observe monitoring plots or other research infrastructure. However, these encounters will be infrequent due to the typically minimal presence of field technicians and interest in maintaining low profile infrastructure to prevent disturbance or vandalism of study sites.

Long-term impacts

Long-term effects should generally be beneficial by gaining information valuable to Refuge management. No long-term negative impacts are expected from the research activities described. The refuge manager can reduce the likelihood of long-term impacts by denying special use permits for research that is likely to cause long-term, adverse impacts. Permits for multi-year research projects are renewed annually, providing the opportunity for an analysis of any impacts before renewing the SUP.

Cumulative impacts would occur if multiple research projects were occurring on the same resources at the same time or if the duration of the research was excessive. In particular, the Refuge must consider the potential impacts of non-Service research, in conjunction with any Service-sponsored research or management activity also taking place. However, no cumulative impacts are expected because the refuge manager can control the potential for cumulative impacts through SUPs, prohibiting multiple research projects from affecting any given area or species at one time. The refuge manager retains the option to deny proposals for research that does not contribute to the mission of the Refuge System or causes undue disturbance or harm to Refuge resources. The refuge manager also retains the right to revoke or deny renewal for any special use permit if unanticipated short-term, long-term, or cumulative impacts occur.

Project-specific stipulations outlined in each will act to minimize anticipated impacts of research projects. These stipulations will prevent impacts to Refuge wetlands, water quality, soils, hydrology, fish, wildlife, habitat, or cultural resources. Projects which occur within the habitat of, or include direct monitoring of, threatened and endangered species will be subject to a Section 7 informal consultation with the Service under the Endangered Species Act (87 Stat. 854, as amended; 16U.S.C. 1531 et seq.). Only with the approval of the Section 7 consultation will the Refuge permit research to be conducted on habitats or individuals of threatened and endangered species. Research that could adversely affect critical habitat, threatened or endangered wildlife, or cultural resources will not be permitted.

Public Review and Comment

The draft CD will be available for public review and comment for 30 days from the publication of the draft Comprehensive Conservation Plan and draft Environmental Assessment. The public will be made aware of this comment opportunity through the federal register and other media outlets. State and Tribes have been asked to review and comment on the draft CD. It will be made available electronically on the Refuge website. Please let us know if you need the documents in an alternative format. Concerns expressed during the public comment period will be addressed in the final.

Determination

Is the use compatible?

Yes

Stipulations Necessary to Ensure Compatibility

1. Prior to initiation of any research and/or management studies on the Refuge, the requesting agency or organization is required to meet with Refuge management in person and present a comprehensive proposal of why the research is proposed to be undertaken, all methodologies involved, expected short- and long-term impacts of the activities, duration of the research, and anticipated completion date of the report.

2. The requesting agency or organization must apply for a permit by submitting a NWRS Research and Monitoring Special Use Permit Application and a detailed research proposal.

3. Researchers must give the District at least 45 days to review proposals and determine if a special use permit will be issued. If the research involves the collection of wildlife, the District must be given 60 days to review the proposal.

4. Researchers must obtain all necessary scientific collecting, banding, or other permits required by State, federal, or Institutional Animal Care and Use Committee entities before starting the research.

5. Priority of approval will be based on studies that contribute to the enhancement, protection, use, preservation, and management of native wildlife populations and their habitat.

6. SUPs may contain specific terms and conditions that the researcher(s) must follow relative to activity, location, duration, and time-of year restrictions to ensure continued compatibility.

7. All Refuge rules and regulations must be followed unless alternatives are otherwise accepted in writing by Refuge management.

8. Any research involving ground disturbance may require historic preservation consultation with the Regional Historic Preservation Officer and/or State Historic

Preservation Officer.

9. All research related SUPs will contain a statement regarding the Service's policy regarding disposition of biotic specimen.

10. Upon completion of a project, researchers are required to remove all research apparatus in the field and restore any disturbed lands to their original state.

11. Any research project may be terminated at any time for non-compliance with the SUP conditions. Research projects may also be modified, redesigned, relocated, or terminated at any time upon determination by the Refuge manager that the project is causing unanticipated adverse impacts to wildlife, wildlife habitat, approved priority public uses, or other Refuge management activities. Refuge staff will conduct annual reviews of the research project to monitor researcher activities for potential impacts to the Refuge and for compliance with conditions on the SUP. The Refuge manager may terminate previously approved research and SUPs if adverse impacts are observed or if the researcher is not in compliance with the stated conditions.

12. The Service expects researchers to submit a final report to the Refuge upon completing their work. For long-term studies, we may also require interim progress reports. All reports, presentations, posters, articles, or other publications will acknowledge the Refuge System and the Refuge as partners in the research.

Justification

The Service encourages research on national wildlife refuges to collect new information which will improve the quality of Refuge and other Service management decisions, to expand the body of scientific knowledge about fish and wildlife, their habitats, the use of these resources, appropriate resource management, and the environment in general, and to provide the opportunity for students and others to learn the principles of field research. In accordance with 50 CFR 26.41, research conducted by non-Service personnel, as described in this CD, will not materially interfere with, or detract from, the fulfillment of the Refuge System mission or the purposes for which the Refuge was established.

Signature of Determination

Refuge Manager Signature and Date

Signature of Concurrence

Assistant Regional Director Signature and Date

Mandatory Reevaluation Date

2034

Draft Compatibility Determination

Title

Compatibility Determination for Wildlife Observation and Photography for War Horse National Wildlife Refuge

Refuge Use Category

Wildlife Observation and Photography

Refuge Use Types

Photography
Photography, video, filming, or audio recording (news and educational)
Wildlife observation

Refuge

War Horse National Wildlife Refuge (Refuge)

Refuge Purpose(s) and Establishing and Acquisition Authorities

“...purposes of a land-conservation and land-utilization program ... 7 U.S.C. § 1011 (Bankhead-Jones Farm Tenant Act)"... for use and administration under applicable laws as refuges for migratory birds and other wildlife ..." Secretarial Order 2843, dated Nov. 17, 1959.”

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System (NWRS), 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

Is this an existing use?

Yes.

What is the use?

Photography. Refuge visitation for the purpose of photographing refuge natural or cultural resources (including fish, wildlife, plants, and their habitats) or public uses of

those resources (not for commercial, news, or educational purposes).

Photography, video, filming, or audio recording (news and educational). Activity involving photography, videography, filming, or other recording of sight or sound for news, public information, or educational purposes.

Wildlife observation. Viewing of fish, wildlife, plants, or their habitats by Refuge visitors.

Is the use a priority public use?

Yes

Where would the use be conducted?

All areas open to the public will be open for wildlife observation and photography. These areas do not have trails or built facilities to support these uses. A road runs through the Yellow Water and Wild Horse units and adjacent to War Horse unit. Parking is currently along the roadways for access into these units. All areas are open to the public and are open for walking to achieve these uses. Refuge signs denote Refuge boundaries.

When would the use be conducted?

Wildlife observation and photography occur year-round as guided or self-guided activities. The Refuge is open sunrise to sunset for the public.

How would the use be conducted?

Most wildlife observation and photography activities are conducted individually; however, the Refuge may occasionally help facilitate these activities through workshops, planned events, and tours.

Why is this use being proposed or reevaluated?

Wildlife observation, and photography are two priority wildlife-dependent recreational uses of the NWRS identified by the National Wildlife Refuge Improvement Act of 1997 (Improvement Act). These uses help promote the understanding, appreciation, and support of the Refuge System mission.

Availability of Resources

The analysis of cost for administering and managing the use will only include the incremental increase above general operational costs that we can show as being directly caused by the proposed use. Wildlife observation and photography are self-led activities. A Refuge parking area and an unimproved road allow for public entry and use. There is currently enough funding and staff available to provide opportunities for these activities depending on the time and specific staff services requested. No additional funding is needed.

One-time costs: None

Annual/recurring expenses (i.e., for annual operations and maintenance):

Offsetting revenues: None

Anticipated Impacts of the Use

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

The effects and impacts of the proposed use to refuge resources, whether adverse or beneficial, are those that are reasonably foreseeable and have a reasonably close causal relationship to the proposed use. This compatibility determination (CD) includes the written analyses of the environmental consequences on a resource only when the impacts on that resource could be more than negligible and therefore considered an "affected resource."

The overall impacts to the Refuge and its associated wildlife populations from these uses would be minimal. Wildlife observation and photography can have both positive and negative implications on Refuge resources.

Short-term impacts

Human disturbance to migratory birds and other wildlife has been documented in many studies. Among activities considered as disturbing to wildlife, Korschen (1992) determined that bird watching was among the least disturbing, but Klein (1993) noted that approaching birds on foot was the most disruptive of usual refuge activities. Some photographers are more likely to cause disturbance by lingering in a sensitive area, using recorded calls, and even altering the vegetation at a site to gain a better view (Glinski 1976). However, photography can be useful as a tool to engage others and develop support for wildlife with images that appeal to people's emotions (Hanisch 2017). There are many recommendations for reducing impacts to wildlife: provide visitor education, require staying on trails, closing areas during sensitive periods such as nesting, require minimum set back distances for approach to areas such as rookeries, etc. (Boyle et al. 1985, Erwin 1989, Haverra 1992, Klein 1993, Miller 2001, Morton 1989, Rodgers 1995, Taylor 2003).

Human disturbance to avifauna has been thoroughly documented around the world. Several studies have examined the effects of trail-based recreation on birds inhabiting wildlife refuges and coastal habitats in the eastern United States. McNeil et al. (1992) found that many waterfowl species avoid disturbance by feeding at night instead of during the day. Similarly, Martín et al. (2015) found that human presence caused resident shorebird species to spend less time feeding and more time displaying avoidance behavior, and that the number of shorebirds and gulls within

their study site dramatically decreased in response to increased recreation of the area. Disturbance can increase the risk of predation when individuals are forced to forage in more dangerous habitats and can increase intraspecific competition when avoiding humans necessitates movement into suboptimal habitats (Frid and Dill 2002).

Some uses, such as bird observation, are directly focused on viewing certain wildlife species and can cause more significant impacts during the breeding season and winter months. Research has shown that as the intensity of human disturbance increased, avoidance response by birds increased, and that out-of-vehicle activity was more disruptive than vehicular traffic (Klein 1993, Freddy et al. 1986, Vaske et al. 1983). Miller et al. (1998) found bird abundance and nesting activities (including nest success) increased as distance from a recreational trail increased, in both grassland and forested habitats. Some studies have found that some songbird species habituate to repeated intrusion. Frequently disturbed individuals of some species vocalize more aggressively, have higher body masses, or tend to remain in place longer (Cairns and McLaren 1980). Disturbance may affect the reproductive fitness of males by hampering territory defense, mate attraction, and other reproductive functions of song (Arcese 1987, Ewald and Carpenter 1978).

Overall, the existing research clearly demonstrates that disturbance from recreation activities always have at least temporary effects on the behavior and movement of birds within a habitat or localized area (Burger 1981, Burger 1986, Klein 1993, Burger et al. 1995, Klein et al. 1995, Rodgers and Smith 1997, Burger and Gochfeld 1998). The location of recreational activities and the size of participating groups are also important factors affecting the magnitude of disturbance. A number of species have shown greater reactions when pedestrian use occurred off-trail (Miller et al. 2001, Samia et al. 2015), and when pedestrians traveled in large groups (Beale and Monaghan 2004).

The presence of humans on Refuge land would disturb some wildlife causing temporary displacement without long-term effects. There would be some disturbance to wildlife and vegetation at the locations where interpretive programs occur with groups, but at levels that would not interfere with the purposes of the Refuge. Some species may avoid areas with frequent people, while other species would be unaffected by human presence. However, the overall effect of the use on wildlife would not have a population level impact, because most of the Refuge will experience minimal to no daily public use. Vehicles will utilize the designated road and parking area. Self-guided interpretation may be sporadically used by small groups of people at established trails and kiosks. This may cause short-term disturbance to wildlife, but again would have minimal impact.

Long-term impacts

Engaging in activity associated with wildlife observation and photography can be done with very little impact to wildlife (Burger et al. 1995). However, if measures are

not taken to reduce disturbance, wildlife can suffer from being displaced to less desirable habitat, forced to use important energy reserves, cause the animal to change behaviors from, for example, breeding to seeking cover, and much more (Arcese 1987, Belanger et al. 1990, Burger et al. 1995, Burger 1996, Burger and Gochfeld 1998, Henson et al. 1991, Kaiser et al. 1984, Korschen 1992, Taylor et al. 2003, Yalden et al. 1990).

The Refuge anticipates that no negative long-term impacts will occur as a result of environmental education and interpretation, however, these uses could be modified in the future to mitigate unforeseen impacts. The Refuge also anticipates positive long-term benefits for the public. These uses allow the public to engage in and experience the Refuge and the outdoors. The Refuge will continue to gain relevancy to new, broader audiences and therefore have a greater reach to the public. Additionally, these uses benefit the Refuge by promoting a conservation ethic in the local community and a better appreciation and understanding of the Refuge's wildlife and habitats.

People can be vectors for invasive species by moving seeds or other propagules from one area to another. The threat of invasive species will always be an issue requiring annual evaluation and treatment. Refuge staff will work to look for early detection of invasive species and will educate the visiting public on the environmental damage and conservation challenges invasive species present. Impacts may be considered not significant when analyzed alone but may be considered important when they are evaluated cumulatively. The Refuge's primary concern is repeated disturbance of resting, foraging, or nesting birds by visitors. Refuge staff will continually evaluate disturbance to habitat and habitat quality and, if necessary, respond with management actions to conserve wildlife resources being adversely impacted. Refuge staff, volunteers, and researchers will evaluate the effects of these priority uses and respond to any adverse effects.

Based on the best available knowledge and with added use restrictions, the Refuge does not expect these uses would cause adverse effects. Educating the public about conservation issues would enhance the Refuge's purposes by promoting a conservation ethic.

Public Review and Comment

The draft CD will be available for public review and comment for 30 days from the publication of the draft Comprehensive Conservation Plan and Environmental Assessment. The public will be made aware of this comment opportunity through the federal register and other media outlets. State and Tribes have been asked to review and comment on the draft CD. It will be made available electronically on the Refuge website. Please let us know if you need the documents in an alternative format. Concerns expressed during the public comment period will be addressed in the final.

Is the use compatible?

Yes

Stipulations Necessary to Ensure Compatibility

1. Visitors are to adhere to all Refuge rules and regulations as found in the regulations section of the Refuge website and brochure unless otherwise approved in advance by the Refuge.

2. Disturbing or attempting to disturb, injure, or collect any plant, berries, mushrooms, animal, animal part, horn, antler, bones, skull, or feather is prohibited except by special use permit.

3. Disturbance or collection of any cultural resource is prohibited.

4. Entry on all or portions of individual areas may be temporarily suspended based on public safety, wildlife health, or natural resource concerns. When possible, the public will be given notice of closures. However, unforeseen circumstances may require immediate closure without advanced public notice.

Justification

In accordance with the missions of the NWRS and the Improvement Act, the Refuge has determined that the uses are compatible provided the above stipulations are implemented. Wildlife observation and photography are two of the priority wildlife-dependent recreational uses of the NWRS identified by the Improvement Act. These uses help promote the understanding, appreciation, and support of the Refuge System mission and help promote public awareness and stewardship of the Refuge's natural and cultural resources. The uses do not materially interfere with or detract from the Service's ability to meet the mission of the NWRS, and administration of the uses would only require medium amounts of administrative time and funding.

The Refuge's habitats, wildlife, and public use areas provide a unique wildlife observation, and/or photography experience to visitors, helping them connect with nature and natural ecosystems. Wildlife observation and photography facilitate the connection to nature and the need for conservation. These activities may also enhance environmental education and interpretation programs by allowing visitors experience nature in a more immersive way.

Wildlife disturbance is a concern and limited use will help to minimize any adverse impacts to wildlife. Refuge staff will evaluate impacts on Refuge federal trust resources to determine if there are appreciable negative implications of the use.

Signature of Determination

Refuge Manager Signature and Date

Signature of Concurrence

Assistant Regional Director Signature and Date

Mandatory Reevaluation Date

2039

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Draft Compatibility Determination

Title

Compatibility Determination for Grazing: Lake Mason National Wildlife Refuge

Refuge Use Category

Agriculture, Aquaculture, and Silviculture

Refuge Use Types

Grazing

Refuge

Lake Mason National Wildlife Refuge (Refuge)

Refuge Purpose(s) and Establishing and Acquisition Authorities

“... purposes of a land-conservation and land-utilization program ... 7 U.S.C. § 1011 (Bankhead-Jones Farm Tenant Act) "... for use and administration under applicable laws as refuges for migratory birds and other wildlife ..." Secretarial Order 2843, dated Nov. 17, 1959. "... as a refuge and breeding ground for migratory birds and other wildlife: ..." Executive Order 8770, dated June 3, 1941. "... suitable for (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species ..." 16 U.S.C. § 460k-1 "... the Secretary ... may accept and use ... real ... property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors ..." 16 U.S.C. § 460k-2 (Refuge Recreation Act (16 U.S.C. § 460k-460k-4), as amended). "... the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions ..." 16 U.S.C. § 3901(b), 100 Stat. 3583 (Emergency Wetlands Resources Act of 1986) "... for use as an inviolate sanctuary, or for any other management purpose, for migratory birds." 16 U.S.C. § 715d (Migratory Bird Conservation Act) "... conservation, management, and ... restoration of the fish, wildlife, and plant resources and their habitats ... for the benefit of present and future generations of Americans..." 16 U.S.C. § 668dd(a)(2) (National Wildlife Refuge System Administration Act)”

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System, otherwise known as Refuge

System (NWRS), 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

Is this an existing use?

Yes.

What is the use?

Prescriptive grazing as a tool to improve habitat conditions for specific wildlife or focal bird species, migratory songbirds, and other grassland-obligate species. Future prescriptive grazing regimens may include short-duration, high-intensity grazing treatments to control invasive plants; habitat management for specific wildlife or focal bird species; or rotation of grazing areas on the Refuge to provide more long-term rest between grazing treatments. The Refuge currently uses cattle livestock (here forth livestock) grazing as a tool to manage grassland and mixed sagebrush grassland habitats. Livestock grazing is designed to mimic some of the behaviors and grazing habits of early native grazers, which were formerly present on the Refuge's landscape around the early-1800s. Grazing by livestock is a preferred management tool because the effect on habitat is controllable, measurable, and can reasonably mimic early grazers' habits. It has the additional benefit of reducing wildfire risk by reducing the amount of light fuels that can carry a fire. Livestock grazing is utilized in a variety of ways including: high intensity–short duration, rest rotation, and complete rest.

Is the use a priority public use?

No

Where would the use be conducted?

The use would be implemented across the Refuge where the U.S. Fish and Wildlife Service (Service) has control over the use; specifically, on grassland and mixed grassland sagebrush areas. Habitat management units within areas to be grazed will be established to control grazing treatments and help ensure desired habitat characteristics in accordance with the Charles M. Russell Wetland Management District Comprehensive Conservation Plan (CCP) goals and objectives. Units that are fenced from common pastures would be the first units enrolled into prescriptive grazing. Habitat management units that are not fenced from private or other government owned lands would be managed under existing management plans.

When would the use be conducted?

Grazing may occur during any season depending on the specific objectives to be achieved. Conversion to a prescriptive grazing system means a permit may not always be available annually. Exact times and dates vary per unit in accordance with habitat and management objectives in the CCP.

How would the use be conducted?

Grazing will be administered in accordance with the Service's Cooperative Agriculture Use Policy (620 FW 2) and a Cooperative Agriculture Agreement (CAA) consisting of a Commercial Special Use Permit (SUP) having special conditions and a detailed Plan of Operations outlining allowable Animal Unit Months (AUMs), on-off dates, unit locations, unit rotations, and specific instructions pertinent to grazing.

Select grazing units may receive annual grazing treatments consisting of high intensity-short duration, extended rest, complete rest, and/or on a rotational grazing schedule for various lengths of time and may then be rested for multiple years to achieve desired CCP objectives and landscape habitat characteristics.

Why is this use being proposed or reevaluated?

With the issuance of a CCP and Environmental Assessment (EA), this use requires a compatibility determination (CD).

The use of prescriptive grazing to achieve desired habitat conditions would result in long-term beneficial effects on a variety of wildlife species that use the Refuge and is included in the CCP and corresponding EA as a management tool for the District, wherein the Refuge resides. This use is being proposed in order to move from an annual grazing program to a prescriptive gazing program to meet specific wildlife and habitat management objectives. The Refuge lies within the Great Plains and was known to have native grazers; as such, the landscape's flora and fauna have evolved over millennia with grazing.

The CCP has established goals and objectives for specific habitat types (e.g. grassland, mixed grassland-sagebrush) where prescribed grazing may be utilized. In addition, target wildlife species (e.g. sprague's pipit, mountain plover, chestnut-collared longspur, greater sage-grouse) and their habitat requirements have been identified. This has resulted in objectives that help guide management to meet target wildlife species and their habitat needs. Different grazing strategies may be implemented and assessed in order to determine the best methods for the Refuge to meet the identified habitat goals and objectives of the CCP, as well as combat the spread of invasive graminoids and forbs present in some units.

Availability of Resources

The analysis for administering and managing the use will only include the incremental

increase above general operational needs that we can show as being directly caused by the proposed use. The staff time needed for the development and administration of the cooperative grazing program is already committed and available to support the program under current staffing. Most work needed to prepare for this use would continue to be done as part of routine habitat maintenance.
District staff will continue to monitor permittees for violations of permit conditions and tresspass. Biologists and the District manager will monitor habitat conditions. New boundary and temporary fences may need to be constructed to implement prescriptive grazing on common pastures. Temporary water developments may be necessary to facilitate prescriptive grazing in some habitat units in order to meet habitat objectives.

Annual/recurring requirements (i.e., for annual operations and maintenance):

1. Maintenance: Maintenance requirements vary and will be reduced due to the reduction in interior fences necessary to manage prescriptive grazing program according to CCP alternatives. There may be additional needs with the construction and maintenance of temporary and boundary fences which would be constructed anyway in order to manage livestock in common pastures.
2. Annual Operations: District personnel currently spend a small portion of their time issueing permits, monitoring for trespass livestock and habitat conditions.
3. Monitoring: District staff monitor for livestock trespass intermittantly; it thus is not a significant portion of staff time.

Offsetting revenues: Refuges receive a percentage of the amount of revenue that is generated from commercial activities occuring on them. These funds aid in costs associated with implementing a prescriptive grazing program.

Anticipated Impacts of the Use

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

Prescribed grazing as a management tool is intended to be utilized to meet habitat and species-specific goals and objectives identified in the CCP, as well as replicate habitat and landscape conditions formerly created by native grazers. This management is intended to maintain and enhance habitat conditions for the benefit of a wide variety of fish and wildlife that utilize the Refuge and includes combating invasive graminoids and forbs. Grazing has the additional benefit of reducing wildfire risk by reducing the amount of light fuels that can carry a fire.

Minimal negative impacts, equal to or perhaps even less than what may have occurred during the former presence of native grazers, are expected through the use of this

tool. Landscape character will remain unchanged or may be expected to improve through removal of excessive thatch. Some trampling of areas may occur around watering areas or mineral licks, though no more than what may have occurred with large numbers of native grazers in areas where they congregated or wallowed. Grazing may achieve a mosaic pattern of biomass density throughout the landscape with some areas more intensively grazed than others in certain years to achieve habitat heterogeneity, which could reasonably be expected to have happened when native grazers were present. In addition, while the presence of livestock may disturb some wildlife species, just as with native grazers, and some public visitors, the benefits of this habitat management tool are felt to outweigh these negative impacts since the landscape evolved with grazing and not without it.

When threatened and endangered species are known or suspected to be on a site, the local Service Ecological Services office will be consulted, and the proper steps will be determined to assess how and what management activities will affect that species and what, if anything, should be pursued.

There will be no negative effects on cultural resources.

Short-term impacts

Short term impacts would include loss of vegetative cover which could result in increased soil erosion. Highly palatable forbs and shrubs would be impacted by grazing affecting a large number of wildlife species from pollinators to big game. However, the benefit would be to the wildlife species that require short cover such as prairie dogs, mountain plovers, McCown's longspur, and grazing ungulates that would graze the fresh growth of grasses. Potential disturbance to some wildlife species and some public users may occur.

Grazing by domestic livestock removes and tramples some or 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, or full, as it pertains to biomass remaining in a unit). Depending on the latter of the three factors, hoof action is expected to break up litter thereby increasing the rate of litter decomposition, opening up the ground for natives to express, and aid in nutrient cycling. Areas around watering systems, along fence lines, and at the location of mineral blocks may experience heavy trampling and compaction resulting in the mortality of perennial vegetation and the establishment of early successional species, just as could have been expected in areas where large native grazers congregated.

Varying bird species differ in their vegetation height preferences; as such, the management goal is to provide a heterogeneity of vegetation heights across the

landscape. Pollinators are similar in their need for 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. Birds that prefer shorter stature grasslands may benefit from the reduced vegetative height resulting from grazing while others, which typically require taller and more dense nesting structure, may be negatively impacted by grazing in the short-term.

In situations where grazing utilizations are full, there may be less litter available for grassland nesting birds who utilize this material for nest construction. However, grazed areas may attract fewer predators because of low densities of some types of prey, such as small mammals (Grant et al. 1982, Runge 2005); less cover for concealment; or both. Higher nesting success in grazed fields may occur because predators respond negatively to low prey density (Clark and Nudds 1991, Lariviére and Messier 1998). If a site is completely devoid of litter prior to winter, certain pollinator larvae may lack the needed cover to survive for that year. The same could reasonably have been expected to happen with a large herd(s) of native grazers present on the landscape when and where they may have congregated for extended periods of time.

Research conducted on other refuges has found impact from grazing ranging from minimally negative to favorable. Prescribed grazing on Red Rock Lakes National Wildlife Refuge (NWR) have been shown to have little effect on sage-grouse, a noted species of concern (Schroff 2016 MSU). Another study by (Stadum et al. 2016) found that grazing can provide the structure of vegetation heterogeneity that favors nesting long-billed curlews, a species of concern throughout some areas of Montana, to include the District wherein the Refuge resides. She also cites (Redmond and Jenni 1986) who observed curlews nesting in previously recent grazed areas. (Stadum et al. 2016) further explains how “prescriptive livestock grazing can be used to provide structurally diverse grassland habitats for species with seemingly disparate structural preferences within the same habitat type. Managing grassland habitat for species that exist on opposite ends of a disturbance preference gradient presumably incorporates the needs of species with intermediate preferences”.

Long-term impacts

Prescriptive grazing will improve habitat conditions for specific wildlife or focal bird species, migratory birds, and other grassland-obligate species. Future prescriptive grazing regimens may include short-duration, high-intensity grazing treatments to control invasive plants; habitat management for specific wildlife or focal bird species; or rotation of grazing areas on the Refuge to provide long-term rest between grazing treatments.

The beneficial effects of grazing on plant diversity depend on grazing intensity, the evolutionary history of the site, and climatic regimes. Continuous rest without

periodic disturbance fails to promote long-term grassland health (Naugle et al. 2000). Hoof impact by grazing animals can break up capped soils, improve the water cycle, stimulate vegetative reproduction of grasses, and enhance the decomposition of old plant material by breaking up plant litter. Hoof action can also distribute and trample seeds into soils, increasing chances of successful germination (Laycock 1967). Nutrients are returned to the soil in the form of urine and feces. Cattle may return 80%–85% of the nitrogen ingested with plant tissue (Laycock 1967). The use of prescriptive grazing to achieve desired habitat conditions would result in long-term beneficial effects on a variety of wildlife species that use the Refuge.

The effect of removal of vegetation increases the vigor of grasslands 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, and invasive species. During periods of typical precipitation, normal regrowth following grazing activities can occur within a single growing season. Over time, a strategic prescribed grazing program could effectively alter species composition and improve overall plant diversity. Disturbance of grassland, wet meadow, and some shrub-steppe habitats is essential to maintain plant vigor and reduce infestations of noxious weeds.

As vegetative heights recover following a grazing treatment, habitat conditions will favor birds which prefer denser nesting structure and may become less favorable to species that prefer sparser vegetation. Because of regrowth of herbaceous vegetation, no long-term negative impacts are anticipated for waterfowl or other grassland or mixed grass-sagebrush nesting bird species, though positive impacts of increased diversity and heterogeneity are likely in the long-term.

Public Review and Comment

The draft CD will be available for public review and comment for 30 days from the publication of the draft CCP/EA. The public will be made aware of this comment opportunity through the federal register and other media outlets. State and Tribes have been asked to review and comment on the draft CD. It will be made available electronically on the Refuge website. Please let us know if you need the documents in an alternative format. Concerns expressed during the public comment period will be addressed in the final.

Determination

Is the use compatible?

Yes

Stipulations Necessary to Ensure Compatibility

1. CAAs and SUPs will be written in accordance with the Service's Cooperative Agricultural Use Policy (620 FW 2) and the Region 6 Cooperative Agricultural Program Guidance (2022).

2. Cooperators must follow all requirements for the prescribed grazing treatment as specified within the CAA, its stated Plan of Action, and the Special Conditions of the SUP.

3. Insecticides are not permitted for use on Refuge lands.

4. Control and maintenance of livestock is the responsibility of the permittee.

5. Fencing, water supply, and other livestock management infrastructure needs and costs will be outlined in the CAA and SUP.

Justification

Sharp-tailed grouse, pronghorn, sage-grouse, large ungulates, and other wildlife species need a diversity of and abundant group of plants for food and cover. Prescriptive grazing and other adaptive management strategies would permit flexibility necessary for the restoration of these important plant species.

Prescriptive grazing is a valuable management tool that supports refuge objectives. As outlined in this CD and in accordance with the stipulations outlined above, based on best professional judgement and available science, the Service has determined that continuation of the grazing use on the Refuge will not materially detract from or interfere with the fulfillment of the NWRS mission or the purposes of the Refuge; will contribute to the NWRS mission and Refuge purposes, meeting the standard or threshold established in 50 CFR §29.1 for economic uses of NWRs; and will not conflict with the national policy to maintain the biological integrity, diversity, and environmental health of the Refuge.

To maintain and enhance habitat for migratory birds and other wildlife, some habitat management must occur. Prescribed grazing utilizing livestock is one option that can be used to achieve these desired habitat conditions. Prescribed grazing is a useful tool because it can be controlled, and results of the grazing can be periodically monitored (e.g. vegetation monitoring) so that adjustments in the grazing program can be made to meet habitat goals and objectives.

Signature of Determination

Refuge Manager Signature and Date

Signature of Concurrence

Assistant Regional Director Signature and Date

Mandatory Reevaluation Date

2034

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Draft Compatibility Determination

Title

Compatibility Determination for Camping on Lake Mason National Wildlife Refuge – North Unit

Refuge Use Category

Outdoor Recreation (General)

Refuge Use Types

Camping

Refuge

Lake Mason National Wildlife Refuge (Refuge) – North Unit

Refuge Purpose(s) and Establishing and Acquisition Authorities

“... purposes of a land-conservation and land-utilization program ... 7 U.S.C. § 1011 (Bankhead-Jones Farm Tenant Act) "... for use and administration under applicable laws as refuges for migratory birds and other wildlife ..." Secretarial Order 2843, dated Nov. 17, 1959. "... as a refuge and breeding ground for migratory birds and other wildlife: ..." Executive Order 8770, dated June 3, 1941. "... suitable for (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species ..." 16 U.S.C. § 460k-1 "... the Secretary ... may accept and use ... real ... property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors ..." 16 U.S.C. § 460k-2 (Refuge Recreation Act (16 U.S.C. § 460k-460k-4), as amended). "... the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions ..." 16 U.S.C. § 3901(b), 100 Stat. 3583 (Emergency Wetlands Resources Act of 1986) "... for use as an inviolate sanctuary, or for any other management purpose, for migratory birds." 16 U.S.C. § 715d (Migratory Bird Conservation Act) "... conservation, management, and ... restoration of the fish, wildlife, and plant resources and their habitats ... for the benefit of present and future generations of Americans..." 16 U.S.C. § 668dd(a)(2) (National Wildlife Refuge System Administration Act)”

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System (NWRS), 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

Is this an existing use?

Yes.

What is the use?

Camping by primitive means (tents) or vehicularly (truck, camper, etc.) currently occurs in the parking area of area of Lake Mason National Wildlife Refuge – North Unit.

Is the use a priority public use?

No

Where would the use be conducted?

Camping on the North Unit of Lake Mason NWR.

When would the use be conducted?

All seasons.

How would the use be conducted?

Camping currently may occur by primitive means (tents) or vehicularly (truck, camper, etc.).

Why is this use being proposed or reevaluated?

Camping as a use is being reevaluated because 603 FW 1.9 (A) states:

> We will manage all refuges in accordance with an approved comprehensive conservation plan (CCP). The CCP describes the desired future conditions of the refuge or refuge planning unit and provides long-range guidance and management direction to accomplish the purpose(s) of the refuge and Refuge System mission. We prepare CCPs with State fish and wildlife agencies and with public involvement and include a review of the appropriateness and compatibility of existing refuge uses and of any planned future public uses. If, during preparation of the CCP, we identify previously approved uses we can no longer consider appropriate on the refuge, we will clearly explain our reasons to the public and describe how we will eliminate or

modify the use. When uses are reviewed during the CCP process, the appropriateness finding will be documented using the form provided as FWS Form 3-2319 for the refuge files.

Because a CCP is currently being prepared for the CMR Wetland Management District and the associated NWRs within the District, Lake Mason NWR and its North Unit being one of the associated Refuges, camping as a use is being reevaluated.

Availability of Resources

The District wherein the Refuge and its North Unit lies covers in excess of 9,175 sq miles spread over five counties and is comprised of three other Refuges, six Waterfowl Production Areas, and numerous easements; as such, there is not adequate staffing or resources to monitor, control, regulate, or maintain camping as a use.

Anticipated Impacts of the Use

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

The effects and impacts of the proposed use to Refuge resources, whether adverse or beneficial, are those that are reasonably foreseeable and have a reasonably close causal relationship to the proposed use or its revocation. This compatibility determination (CD) includes the written analyses of impacts to visitors and the environmental consequences on a resource only when the impacts on that resource could be more than negligible and therefore considered an "affected resource."

Short-term impacts

Currently, with camping as a use, temporary disturbance exists to all wildlife in the vicinity of the activity, both game and non-game species, such that their immediate behaviors are altered from how they would normally behave and the routes of travel they would take to hunt, seek shelter, or move to other areas for various purposes. Revocation of this use may restore the natural behaviors of North Unit Refuge animals in the vicinity by removing the human presence element, thereby removing unnatural human stressors that in some cases, may impact survivability during nesting, breeding, calving, fawning, staging, and times of migration. Additionally, camping has resulted in trash left behind by campers, including presence of non-decomposing trash, i.e., plastics and metal, which in some cases could be detrimental to wildlife from their ingestion of small pieces of trash, and, in call cases, impacts the aesthetics of the area. Camping has also resulted in visitors who choose to create campfires despite their illegality, increasing the risk of fire to the area and destruction to the habitat and wildlife of the Refuge.

Additionally, camping is disruptive to other North Unit Refuge visitors who seek to recreate in accordance with the priority compatible wildlife-dependent recreational activities that the Refuge System is directed to provide as outlined in the Refuge Improvement Act of 1997 (hunting, wildlife observation, wildlife photography, environmental education, and interpretation). An increased positive visitor experience would be achieved through the absence of campers and temporary camping infrastructure. Visitors could reasonably be expected to achieve a closer connection to nature which could in turn reasonably parallel the sense of solidarity similar to that found in wilderness areas.

Long-term impacts

Long-term effects from camping include disruption to normal wildlife behaviors and travel routes, as well as occupancy of wildlife to the habitat nearer to camping areas. Camping disrupts other opportunities for wildlife-dependent recreation in the area, because of the absence of wildlife in the area. Trash and human effects on the landscape can alter the natural state of the area and impact aesthetics in, near, and around the area. Continued leaving of trash in the area can lead to greater chances of animals ingesting plastic or metal waste. And the longer camping continues, the greater the chances of illegal campfires that could get out of control and thus leave long lasting scars on the landscape or move off the Refuge's North Unit lands and cause damage to neighboring landowner resources.

Public Review and Comment

The draft CD will be available for public review and comment for 30 days from the publication of the draft CCP and associated Environmental Assessment. The public will be made aware of this comment opportunity through the federal register and other media outlets. It will be made available electronically on the CMR Wetland Management District website wherein the Refuge resides. Please let us know if you need the documents in an alternative format. Concerns expressed during the public comment period will be addressed in the final.

Determination

Is the use compatible?

No

Stipulations Necessary to Ensure Compatibility

Stipulations to ensure compatibility are non-applicable as we have determined the use is not a compatible of the Refuge.

Justification

The Refuge Manager will not initiate or permit a new use of a NWR or expand, renew, or extend an existing use of a NWR, unless the Refuge Manager has determined that the use is a compatible use." (50 CFR 26.41) Camping in the parking area of area of Lake Mason National Wildlife Refuge – North Unit is impacting the Refuge's purposes and the mission of the Refuge System. The use is disruptive to other public users of the Refuge seeking to recreate in accordance with approved wildlife dependent recreational activities outlined in the NWRS Improvement Act of 1997 (hunting, wildlife viewing, wildlife photography, environmental education, interpretation). Further, the use is disruptive to wildlife who use the area in close proximity to the parking area where camping occurs. The Service therefore finds that camping is not a compatible use of the Refuge because the use is inconsistent with the Refuge's purpose, establishing and acquisition authorities, and the directives in the Improvement Act.

Lastly, but importantly, accessible public lands permitting camping are located immediately nearby and adjacent to the Refuge's North Unit. We believe that there are other camping opportunities in the area for those who have camped there in the past or seek to camp there in the future.

Signature of Determination

Refuge Manager Signature and Date

Signature of Concurrence

Assistant Regional Director Signature and Date

Mandatory Reevaluation Date

N/A

Draft Compatibility Determination

Title

Compatibility Determination for Environmental Education and Interpretation for Lake Mason National Wildlife Refuge

Refuge Use Category

Environmental Education and Interpretation

Refuge Use Types

Environmental education (not conducted by National Wildlife Refuge System (NWRS) staff or authorized agents)
Environmental education (NWRS staff and authorized agents)
Environmental education (general)
Interpretation (NWRS staff and authorized agents)
Interpretation (not conducted by NWRS staff or authorized agents)

Refuge

Lake Mason National Wildlife Refuge (Refuge)

Refuge Purpose(s) and Establishing and Acquisition Authorities

“... purposes of a land-conservation and land-utilization program ... 7 U.S.C. § 1011 (Bankhead-Jones Farm Tenant Act) "... for use and administration under applicable laws as refuges for migratory birds and other wildlife ..." Secretarial Order 2843, dated Nov. 17, 1959. "... as a refuge and breeding ground for migratory birds and other wildlife: ..." Executive Order 8770, dated June 3, 1941. "... suitable for (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species ..." 16 U.S.C. § 460k-1 "... the Secretary ... may accept and use ... real ... property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors ..." 16 U.S.C. § 460k-2 (Refuge Recreation Act (16 U.S.C. § 460k-460k-4), as amended). "... the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions ..." 16 U.S.C. § 3901(b), 100 Stat. 3583 (Emergency Wetlands Resources Act of 1986) "... for use as an inviolate sanctuary, or for any other management purpose, for migratory birds." 16 U.S.C. § 715d (Migratory Bird Conservation Act) "... conservation, management, and ... restoration of the fish, wildlife, and plant resources and their habitats ... for the benefit of present and future generations of Americans..." 16 U.S.C. § 668dd(a)(2)

(National Wildlife Refuge System Administration Act)"

National Wildlife Refuge System Mission

The mission of the NWRS, 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

Is this an existing use?

Yes.

What is the use?

Environmental education (not conducted by NWRS staff or authorized agents). On-Refuge activities not conducted by NWRS staff or authorized agents that use a planned process to foster awareness, knowledge, understanding, and appreciation in students, teachers, or group leaders about fish, wildlife, plants, ecology, natural sciences (such as astronomy) and Refuge management.

Environmental education (NWRS staff and authorized agents). On-Refuge activities conducted by NWRS staff or authorized agents that use a planned process to foster awareness, knowledge, understanding, and appreciation in students about fish, wildlife, plants, ecology, natural sciences (such as astronomy) and Refuge management.

Environmental education (general). Environmental education activities not specifically defined elsewhere in this category.

Interpretation (NWRS staff and authorized agents). On-Refuge activities for Refuge visitors conducted by NWRS staff or authorized agents that are designed to foster an understanding and appreciation for natural and cultural resources, and associated management.

Interpretation (not conducted by NWRS staff or authorized agents). On-Refuge activities for Refuge visitors not conducted by NWRS staff or authorized agents that are designed to foster an understanding and appreciation for natural and cultural resources, and associated management.

Is the use a priority public use?

Yes

Where would the use be conducted?

All areas open to the public will be open for environmental education and interpretation. These areas do not have trails or built facilities to support these uses. An unimproved road into the Refuge (Lake Mason unit & North unit) and a parking area is present. An improved road runs through the Willow Creek unit. All areas open to the public are open for walking to achieve these uses. Refuge signs denote Refuge boundaries and closed areas designated as refugia for wildlife and that are thus closed to all public entry and access.

When would the use be conducted?

Environmental education and interpretation occur year-round as guided or self-guided activities. The Refuge is open sunrise to sunset for the public.

How would the use be conducted?

Environmental education programs are scheduled in advance, and include impromptu presentations and discussions of wildlife conservation issues with interested individual visitors and unscheduled groups. Interpretive and environmental education programs may be given by Refuge staff or volunteers. Teachers may give programs after applying for and receiving a special use permit (SUP). Any program that is conducted on Refuge land and not lead by Refuge staff requires a SUP.

Interpretive or environmental education programs focus on wildlife and habitats. These programs may address several wildlife conservation topics including riparian ecosystems, wetland habitats, migratory bird management, and endangered species conservation. Programs may also include the development of outdoor skills, which enhance appreciation of wildlife and the habitats they live in.

Most wildlife observation and photography activities are conducted individually; however, the Refuge may occasionally help facilitate these activities through workshops, planned events, and tours.

Why is this use being proposed or reevaluated?

Environmental education and interpretation are two priority wildlife-dependent recreational uses of the NWRS identified by the National Wildlife Improvement Act of 1997 (Improvement Act). These uses help promote the understanding, appreciation, and support of the Refuge System mission.

Availability of Resources

The analysis of cost for administering and managing each use will only include the incremental increase above general operational costs that we can show as being directly caused by the proposed use. The present Refuge environmental education and interpretive programs are available upon request, staff time permitting if staff are requested. Refuge personnel review proposals related to this use and prepare SUPs. A Refuge parking area and an unimproved road allow for public entry and use. There is currently enough funding and staff available to provide opportunities for these activities depending on the time and specific staff services requested. No additional funding is needed.

One-time costs: None

Annual/recurring expenses (i.e., for annual operations and maintenance):

Offsetting revenues: None

Anticipated Impacts of the Use

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

The effects and impacts of the proposed use to refuge resources, whether adverse or beneficial, are those that are reasonably foreseeable and have a reasonably close causal relationship to the proposed use. This compatibility determination (CD) includes the written analyses of the environmental consequences on a resource only when the impacts on that resource could be more than negligible and therefore considered an “affected resource.”

The overall impacts to the Refuge and its associated wildlife populations from these uses would be minimal. Environmental education and interpretation, and wildlife observation and photography can have both positive and negative implications on Refuge resources.

Short-term impacts

There may be temporary disturbance to wildlife on the Refuge from the presence of humans engaging in environmental education and interpretation activities, due to noise and temporary displacement. However, the amount of environmental education and interpretation activities occurring on the Refuge should result in very minimal

impacts to wildlife. There are many recommendations for reducing impacts to wildlife: provide visitor education, require staying on trails, closing areas during sensitive periods such as nesting, require minimum set back distances for approach to areas such as rookeries, etc. (Boyle et al. 1985, Erwin 1989, Haverra 1992, Klein 1993, Miller 2001, Morton 1989, Rodgers 1995, Taylor 2003).

Human disturbance to avifauna has been thoroughly documented around the world. Several studies have examined the effects of trail-based recreation on birds inhabiting wildlife refuges and coastal habitats in the eastern United States. McNeil et al. (1992) found that many waterfowl species avoid disturbance by feeding at night instead of during the day. Similarly, Martín et al. (2015) found that human presence caused resident shorebird species to spend less time feeding and more time displaying avoidance behavior, and that the number of shorebirds and gulls within their study site dramatically decreased in response to increased recreation of the area. Disturbance can increase the risk of predation when individuals are forced to forage in more dangerous habitats and can increase intraspecific competition when avoiding humans necessitates movement into suboptimal habitats (Frid and Dill 2002).

Some uses, such as bird observation, are directly focused on viewing certain wildlife species and can cause more significant impacts during the breeding season and winter months. Research has shown that as the intensity of human disturbance increased, avoidance response by birds increased, and that out-of-vehicle activity was more disruptive than vehicular traffic (Klein 1993, Freddy et al. 1986, Vaske et al. 1983). Miller et al. (1998) found bird abundance and nesting activities (including nest success) increased as distance from a recreational trail increased, in both grassland and forested habitats. Some studies have found that some songbird species habituate to repeated intrusion. Frequently disturbed individuals of some species vocalize more aggressively, have higher body masses, or tend to remain in place longer (Cairns and McLaren 1980). Disturbance may affect the reproductive fitness of males by hampering territory defense, mate attraction, and other reproductive functions of song (Arcese 1987, Ewald and Carpenter 1978).

Overall, the existing research clearly demonstrates that disturbance from recreation activities always have at least temporary effects on the behavior and movement of birds within a habitat or localized area (Burger 1981, Burger 1986, Klein 1993, Burger et al. 1995, Klein et al. 1995, Rodgers and Smith 1997, Burger and Gochfeld 1998). The location of recreational activities and the size of participating groups are also important factors affecting the magnitude of disturbance. A number of species have shown greater reactions when pedestrian use occurred off-trail (Miller et al. 2001, Samia et al. 2015), and when pedestrians traveled in large groups (Beale and Monaghan 2004).

The presence of humans on Refuge land would disturb some wildlife causing temporary displacement without long-term effects. There would be some

disturbance to wildlife and vegetation at the locations where interpretive programs occur with groups, but at levels that would not interfere with the purposes of the Refuge. Some species may avoid areas with frequent people, while other species would be unaffected by human presence. However, the overall effect of the use on wildlife would not have a population level impact, because most of the Refuge will experience minimal to no daily public use. Vehicles will utilize the designated road and parking area. Self-guided interpretation may be sporadically used by small groups of people at established trails and kiosks. This may cause short-term disturbance to wildlife, but again would have minimal impact.

Long-term impacts

The Refuge anticipates that no negative long-term impacts will occur as a result of environmental education and interpretation, however, these uses could be modified in the future to mitigate unforeseen impacts. The Refuge also anticipates positive long-term benefits for the public. These uses allow the public to engage in and experience the Refuge and the outdoors. The Refuge will continue to gain relevancy to new, broader audiences and therefore have a greater reach to the public. Additionally, these uses benefit the Refuge by promoting a conservation ethic in the local community and a better appreciation and understanding of the Refuge's wildlife and habitats.

People can be vectors for invasive species by moving seeds or other propagules from one area to another. The threat of invasive species will always be an issue requiring annual evaluation and treatment. Refuge staff will work to look for early detection of invasive species and will educate the visiting public on the environmental damage and conservation challenges invasive species present. Impacts may be considered not significant when analyzed alone but may be considered important when they are evaluated cumulatively. The Refuge's primary concern is repeated disturbance of resting, foraging, or nesting birds by visitors. Refuge staff will continually evaluate disturbance to habitat and habitat quality and, if necessary, respond with management actions to conserve wildlife resources being adversely impacted. Refuge staff, volunteers, and researchers will evaluate the effects of these priority uses and respond to any adverse effects.

Based on the best available knowledge and with added use restrictions, the Refuge does not expect these uses would cause adverse effects. Educating the public about conservation issues would enhance the Refuge's purposes by promoting a conservation ethic.

Public Review and Comment

The draft CD will be available for public review and comment for 30 days from the publication of the draft CCP/Environmental Assessment. The public will be made

aware of this comment opportunity through the federal register and other media outlets. State and Tribes have been asked to review and comment on the draft CD. It will be made available electronically on the Refuge website. Please let us know if you need the documents in an alternative format. Concerns expressed during the public comment period will be addressed in the final.

Is the use compatible?

Yes

Stipulations Necessary to Ensure Compatibility

1. Visitors are to adhere to all Refuge rules and regulations as found in the regulations section of the Refuge website and brochure unless otherwise approved in advance by the Refuge.

2. Environmental education and interpretation activities not led by Refuge staff require a SUP to minimize conflicts with other groups, safeguard students and resources, and allow tracking of use levels.

3. Disturbing or attempting to disturb, injure, or collect any plant, berries, mushrooms, animal, animal part, horn, antler, bones, skull, or feather is prohibited except by SUP.

4. Disturbance or collection of any cultural resource is prohibited.

5. Interpretive programming and special events will focus on wildlife, conservation, or other environmental attributes of the Refuge including fostering a respect and appreciation of the NWRS and the Refuge.

6. Entry on all or portions of individual areas may be temporarily suspended based on public safety, wildlife health, or natural resource concerns. When possible, the public will be given notice of closures. However, unforeseen circumstances may require immediate closure without advanced public notice.

Justification

In accordance with the missions of the NWRS and the Improvement Act, the Refuge has determined that the uses are compatible provided the above stipulations are implemented. Environmental education and interpretation are two priority wildlife-dependent recreational uses of the NWRS identified by the Improvement Act. These uses help promote the understanding, appreciation, and support of the Refuge System mission and help promote public awareness and stewardship of the Refuge's

natural and cultural resources. The uses not materially interfere with or detract from the Service's ability to meet the mission of the NWRS, and administration of the uses would only require medium amounts of administrative time and funding.

The Refuge's habitats, wildlife, and public use areas provide a unique environmental education and interpretation experience to visitors, helping them connect with nature and natural ecosystems. Environmental education is designed to develop a citizenry that has the awareness, concern, knowledge, attitudes, skills, motivations, and commitment to work toward solutions of current environmental problems and the prevention of new ones. Interpretation is a communication process that forges emotional and intellectual connections between the interests of the audience and the inherent meanings in the resource (i.e. more than information). Both environmental education and interpretation are necessary to form relationships between the Service and the public and improve a joint stewardship of our natural resources.

Wildlife disturbance is a concern and limited use will help to minimize any adverse impacts to wildlife. Refuge staff will evaluate impacts on Refuge federal trust resources to determine if there are appreciable negative implications of the use.

Signature of Determination

Refuge Manager Signature and Date

Signature of Concurrence

Assistant Regional Director Signature and Date

Mandatory Reevaluation Date

2039

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Draft Compatibility Determination

Title

Compatibility Determination for Hunting at Lake Mason National Wildlife Refuge

Refuge Use Category

Hunting

Refuge Use Types

Hunting big game; Hunting upland birds; Hunting migratory birds

Refuge

Lake Mason National Wildlife Refuge (NWR)

Refuge Purpose(s) and Establishing and Acquisition Authorities

“... purposes of a land-conservation and land-utilization program ... 7 U.S.C. § 1011 (Bankhead-Jones Farm Tenant Act) "... for use and administration under applicable laws as refuges for migratory birds and other wildlife ..." Secretarial Order 2843, dated Nov. 17, 1959. "... as a refuge and breeding ground for migratory birds and other wildlife: ..." Executive Order 8770, dated June 3, 1941. "... suitable for (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species ..." 16 U.S.C. § 460k-1 "... the Secretary ... may accept and use ... real ... property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors ..." 16 U.S.C. § 460k-2 (Refuge Recreation Act (16 U.S.C. § 460k-460k-4), as amended). "... the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions ..." 16 U.S.C. § 3901(b), 100 Stat. 3583 (Emergency Wetlands Resources Act of 1986) "... for use as an inviolate sanctuary, or for any other management purpose, for migratory birds." 16 U.S.C. § 715d (Migratory Bird Conservation Act) "... conservation, management, and ... restoration of the fish, wildlife, and plant resources and their habitats ... for the benefit of present and future generations of Americans..." 16 U.S.C. § 668dd(a)(2) (National Wildlife Refuge System Administration Act)”

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System (NWRS), 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

Is this an existing use?

Yes.

What is the use?

The hunting of migratory birds, upland birds, and big game as an approved wildlife-dependent priority public use as outlined in the 1997 National Wildlife Refuge System Improvement Act (Improvement Act). Hunting of migratory birds, upland birds, and big game is proposed in accordance with State regulations and seasons accompanied by specific Lake Mason NWR (Refuge) regulations and restrictions outlined below:

- Hunting will be restricted to only those areas specifically open to hunting on the Refuge and excludes areas designated as refugia for wildlife and thus closed to all public entry and access.
- Hunting for waterfowl, which are classified as migratory birds, is federally mandated to use lead-free ammunition.
- Lead-free ammunition is currently required for upland bird hunting.

Refuge management may further enact, as deemed appropriate at any time, further restrictions or regulations for such reasons as, but not limited to:

- Protection of wildlife.
- Protection of certain specific wildlife species where State regulations are absent, fail to provide reasonable harvest limits, or allow harvest methods not conducive with Refuge values.
- Protection of natural resources.
- Public safety.

Is the use a priority public use?

Yes.

Public hunting is a historical wildlife-dependent use of the Refuge and is designated as one of the priority public uses as specified in the Improvement Act.

Where would the use be conducted?

The Refuge brochure will be available at the Charles M. Russell (CMR) Refuge Complex headquarters, of which Lake Mason NWR is a part of, and online on the Refuge's website to inform the public of Refuge hunting opportunities, regulations, and safety

precautions. Maps are also available, which show the location of Refuge units, roads, boundaries, and those areas open and closed to hunting.

Specifically, hunting for big game, upland birds, and migratory birds may occur in accordance with State regulations and specific Refuge regulations and restrictions, on all areas of the Refuge except the current signed and posted closed area covering the northern half of the Lake Mason unit, in which said area has been designated as refugia for all wildlife and as such, closed to all public entry and access.

When would the use be conducted?

Hunting would occur in accordance with State regulated seasons, dates, and times in the State region/zone/area in which the Refuge resides. Additionally, hunting shall be in accordance with any specific Refuge regulations and restrictions regarding units, seasons, dates, times, and that Refuge management may further enact as deemed appropriate at any time for such reasons as, but not limited to, protection of wildlife; protection of certain specific wildlife species where State regulations are absent, fail to provide reasonable harvest limits, or allow harvest methods not conducive with Refuge values; protection of natural resources; and public safety.

How would the use be conducted?

Hunting will take place in accordance with State regulations pursuant to seasons, zones/regions/areas, bag limits, and take method regulations. Generally, centerfire rifles are used for big game, with occasional shotguns using slugs, while shotguns with birdshot are used for migratory and upland bird hunting. Additionally, hunting shall be in accordance with any specific Refuge regulations and restrictions regarding seasons, dates, times, and allowable take methods. Refuge management may further enact, at any time, more restrictive regulations such as, but not limited to season dates, times, and take measures where it deems such measures are appropriate.

All other wildlife species outside of big game, upland birds, and migratory birds are protected to include, but not limited to coyotes, prairie dogs, jackrabbits, cottontail rabbits, badgers, and bobcats. The use of stock (horses, mules, donkeys) is permitted on the Refuge's north unit.

Why is this use being proposed or reevaluated?

With the issuance of a Comprehensive Conservation Plan (CCP) and Environmental Assessment (EA), this use requires a compatibility determination (CD). Recreational public hunting is a historical wildlife dependent use of the CMR Refuge Complex, of which Lake Mason NWR is a part of. Hunting is also designated as one of the priority public uses as specified in the Refuge Improvement Act.

Required boundary and informative signage is already in place with more slated for installation to inform the public of the Refuge's specific boundaries and use areas.

This same signage will provide the necessary infrastructure to support hunting on the Refuge. Current staffing levels and funding are adequate to support hunting on the Refuge. Special regulations and restrictions will be in place to minimize negative impacts to the Refuge and its associated wildlife. Montana state law further controls hunter activities through State regulations and restrictions.

Hunting is a legitimate wildlife management tool that can be used to control wildlife populations having excess. Hunting harvests a small percentage of the renewable excess population resource(s), which is in accordance with wildlife management objectives and principals.

Availability of Resources

One-time costs: None

Annual/recurring expenses (i.e., for annual operations and maintenance):

Maintenance costs: Maintenance costs are expected to be negligible from this use on the Refuge. There are no expected increased costs to maintaining Refuge infrastructure outside normal use of roads and other developed areas.

Annual Operations: Adequate resources are available to manage the existing hunting program at the current level of participation.

Offsetting revenues: None

Anticipated Impacts of the Use

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

The Proposed implementation of hunting as a use will produce no appreciable adverse impacts to Refuge purposes or the Refuge System mission for the aforementioned reasons: a) hunting has been a historical wildlife dependent use within the CMR Refuge Complex and b) is an approved wildlife dependent use as specified in the Improvement Act. The effects and impacts of the proposed use to Refuge resources, whether adverse or beneficial, are those that are reasonably foreseeable and have a reasonably close causal relationship to the proposed use. This CD includes the written analyses of the environmental consequences on a resource only when the impacts on that resource could be more than negligible and therefore considered an “affected resource.”

- There will be no negative effects on threatened and endangered species.
- There will be no negative effects on cultural resources.

Short-term impacts

Temporary disturbance will exist to wildlife in the vicinity of the activity. Animals surplus to populations will be removed by hunting. A temporary decrease in populations of wildlife might help ensure that carrying capacity (especially for big-game species) is not exceeded. Closed areas will provide sanctuary for game and nongame species, minimize conflicts between hunters and other visitors, and provide a safety zone around communities and administrative areas. The harvest of these species will be compensatory mortality, with minimal impact to the overall health of their populations.

Temporary impacts to the habitat are expected due to possible illegal off-road travel. To mitigate the possible impact, the Refuge has established parking areas. We also enforce a pack-in, pack-out policy encouraging folks to remove their trash.

Lead ammunition is restricted for use for upland game birds and migratory game birds. Since no additional lead from hunting these species will be added to the environment, results could have some beneficial effect on migratory birds or avian predators that prey upon them that occur on the Refuge, thus reducing the overall effects of lead poisoning from lead reduction in the environment.

Lead hunting ammunition for big game species is currently allowed. Studies have shown that where eagles are present to scavenge carcasses, lead can have a detrimental effect on their health when ingested in sufficient quantity. The Service continues a vigorous campaign of educating all hunters on the effects of lead ammunition in the natural environment to mitigate its future use and subsequent introduction in the environment.

Long-term impacts

Hunting is a highly regulated activity, and generally takes place at specific times and seasons when there is a harvestable surplus of game animals, reducing the magnitude of disturbance to Refuge wildlife. Managed and regulated hunting will not reduce species populations to levels where other wildlife-dependent uses will be affected. Hunting is an appropriate wildlife management tool that can be used to manage wildlife populations. Some wildlife disturbance will occur during the hunting seasons.

Regulations and seasons will be designated to minimize any negative impacts to wildlife populations using the Refuge. Harvesting these game animal species would not result in a substantial decrease in biological diversity on the Refuge. Wildlife populations on the Refuge are able to sustain hunting and support other wildlife dependent priority uses. To manage the populations to support hunting, the Refuge adopts harvest regulations set by the State within federal framework guidelines. Recreational hunting will remove individual animals but will not negatively affect

wildlife populations.

Lead ammunition is not permitted for migratory game birds or upland game birds. This reduces the potential long-term risk from the introduction of additional lead ammunition in hunting these species on Refuge lands as included in this CCP. Additional lead from hunting these species would no longer enter the environment and potentially impact migratory birds or avian predators that prey upon them and that may occur on the Refuge.

Lead hunting ammunition for big game species is still currently allowed. Studies have shown that where eagles are present to scavenge carcasses, lead can have a detrimental effect on their health when ingested in sufficient quantity. The Service continues a vigorous campaign of educating all hunters on the effects of lead ammunition in the natural environment to mitigate its future use and subsequent introduction in the environment.

Public Review and Comment

The draft CD will be available for public review and comment for 30 days from the publication of the draft CCP/EA. The public will be made aware of this comment opportunity through the federal register and other media outlets. State and Tribes have been asked to review and comment on the draft CD. It will be made available electronically on the refuge website. Please let us know if you need the documents in an alternative format. Concerns expressed during the public comment period will be addressed in the final.

Determination

Is the use compatible?

Yes

Stipulations Necessary to Ensure Compatibility

Hunting on the Refuge is subject to federal and State regulations and a Montana hunting license is required. Hunting for migratory birds, upland game birds, and big game in compliance with all applicable State and Refuge hunting regulations is permitted on this Refuge.

All other wildlife species outside of big game, migratory birds, and upland birds are protected including, but not limited to coyotes, prairie dogs, jackrabbits, cottontail rabbits, badgers, and bobcats.

1. Visitors are required to park in designated parking areas. Off road or shoreline travel is not allowed.

2. Access into Willow Creek and North Units is by foot only.
3. Lake Mason Unit-The north half of the Lake Mason Unit is designated as refugia for wildlife and is thus closed to hunting and all public access.
4. Target shooting with firearms or archery equipment is prohibited at all times on the Refuge.
5. Collection of antlers, bones, skulls, animal parts, nests, artifacts, and fossils are prohibited.
6. Non-motorized boat operation is allowed in accordance with State regulations and in the open area on the south half of Lake Mason for hunting only. Due to fluctuating water levels, use of motor vehicles to launch boats is prohibited. Boat access by portage only.
7. Portable blinds and other personal property used for hunting must be removed each day.
8. Remote trail and or game cameras are not allowed.
9. Stock (horses, mules, donkeys) use is permitted in the North unit only. Certified weed free hay is required.
10. Lead-free ammunition is required to hunt migratory game bird and upland game bird species.

Justification

Recreational public hunting is a historical wildlife dependent use of the CMR Refuge Complex, of which Lake Mason NWR is a part of, and is designated as one of the priority public uses as specified in the Improvement Act. Required infrastructure installation for other uses and public information will directly support the hunting on the Refuge. Current staffing levels and funding are also adequate. Special regulations will be in place to minimize negative impacts to the Refuge and associated wildlife. Montana State law further controls hunter activities. Hunting is a legitimate wildlife management tool that can be used to control excess wildlife populations. Hunting harvests a small percentage of the renewable excess population resource(s), which is in accordance with wildlife management objectives and principals.

Signature of Determination

Refuge Manager Signature and Date

Signature of Concurrence

Assistant Regional Director Signature and Date

Mandatory Reevaluation Date

2039

Figure(s)

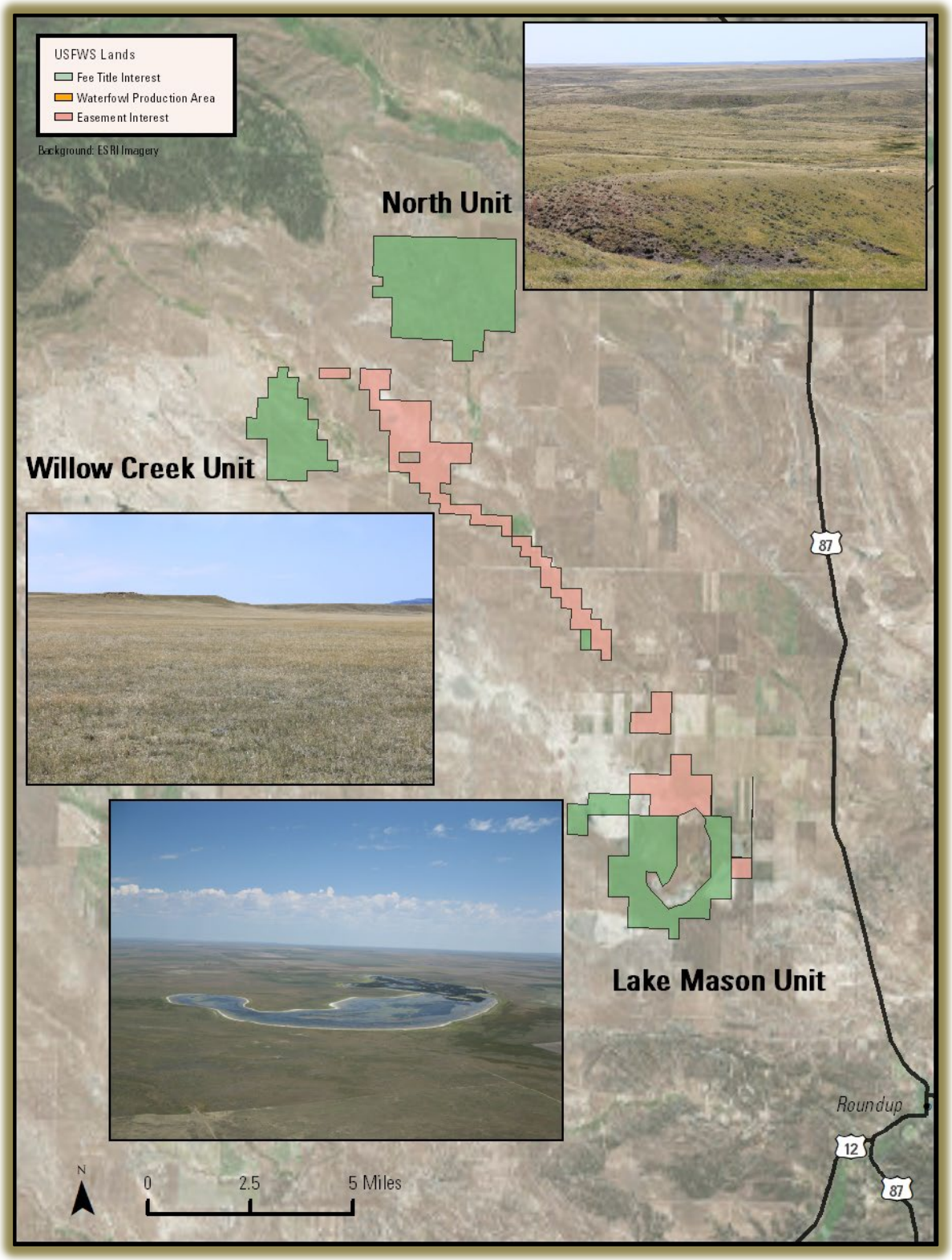

Figure 1. Map of All Three Lake Mason NWR Units

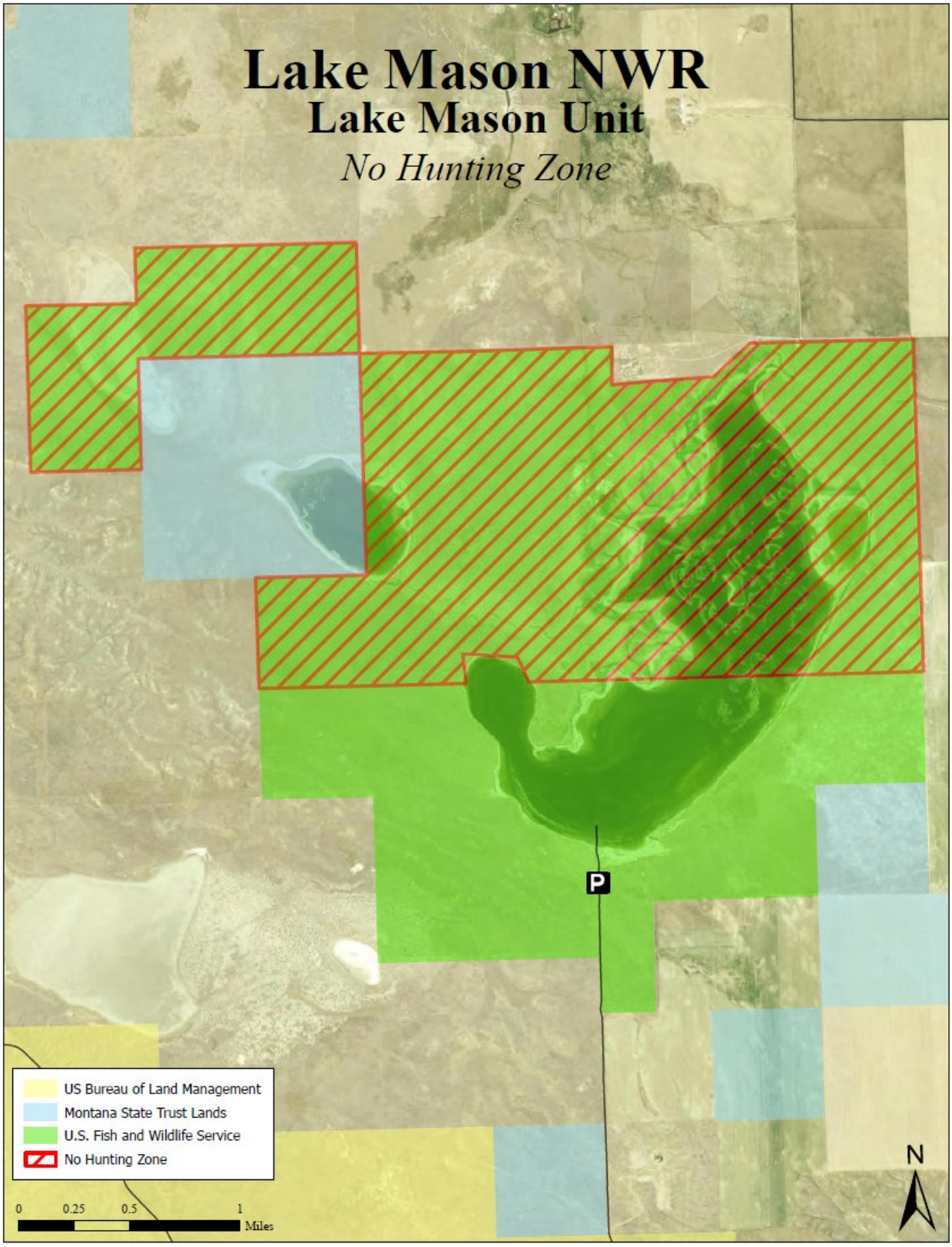

Figure 2. Map of Lake Mason NWR - Lake Mason Unit No Hunting Zone

Draft Compatibility Determination

Title

Compatibility Determination for Research, Scientific Collecting, and Surveys, for Lake Mason National Wildlife Refuge

Refuge Use Category

Research and Surveys

Refuge Use Types

Research, Scientific Collecting, Surveys

Refuge

Lake Mason National Wildlife Refuge (Refuge)

Refuge Purpose(s) and Establishing and Acquisition Authorities

“... purposes of a land-conservation and land-utilization program ... 7 U.S.C. § 1011 (Bankhead-Jones Farm Tenant Act) "... for use and administration under applicable laws as refuges for migratory birds and other wildlife ..." Secretarial Order 2843, dated Nov. 17, 1959. "... as a refuge and breeding ground for migratory birds and other wildlife: ..." Executive Order 8770, dated June 3, 1941. "... suitable for (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species ..." 16 U.S.C. § 460k-1 "... the Secretary ... may accept and use ... real ... property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors ..." 16 U.S.C. § 460k-2 (Refuge Recreation Act (16 U.S.C. § 460k-460k-4), as amended). "... the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions ..." 16 U.S.C. § 3901(b), 100 Stat. 3583 (Emergency Wetlands Resources Act of 1986) "... for use as an inviolate sanctuary, or for any other management purpose, for migratory birds." 16 U.S.C. § 715d (Migratory Bird Conservation Act) "... conservation, management, and ... restoration of the fish, wildlife, and plant resources and their habitats ... for the benefit of present and future generations of Americans..." 16 U.S.C. § 668dd(a)(2) (National Wildlife Refuge System Administration Act)”

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System (NWRS), 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

Is this an existing use?

Yes.

What is the use?

Research. Planned, organized, and systematic investigation of a scientific nature conducted by non-U.S. Fish and Wildlife Service (Service) personnel or authorized agent.

Scientific collecting. Gathering of refuge natural resources or cultural artifacts for scientific purposes conducted by non-Service personnel or authorized agent.

Surveys. Scientific inventory or monitoring conducted by non-Service personnel or authorized agents.

Research conducted by non-Service personnel includes research conducted by Federal, State, and private entities, such as the U.S. Geological Survey; State departments of natural resources; students and professors at State and private universities; and independent non-governmental researchers and contractors. Research activities will focus on species, habitats and recreational activities as identified in the Refuge's management plan and other stepdown plans or will address research questions that will provide information to better manage the Refuge.

Acceptable research methods include but are not limited to bird banding, mist netting, point count surveys, radio-telemetry tracking, cameras, recorders, and public surveys.

Requests for special use permits (SUP) for research will be considered on a case-by case basis, as staff availability allows. In accordance with 16 U.S.C. 668dd(d) and 50 C.F.R. Part 25, Subpart D, the refuge manager is responsible for reviewing applications for SUPs and determining whether to authorize a permit.

The Refuge manager will base the decision to issue an SUP for research on their professional judgment and the value of the proposed research. The decision to allow a particular research project will also be consistent with Service regulations and policy, including the Policy on Maintaining the Biological Integrity, Diversity, and Environmental Health of the Refuge System (601 FW 3).

The results of the research should result in better knowledge of our natural resources and improve methods to manage, monitor, and protect the Refuge's biological resources and visitor uses. The Refuge manager will always have the discretion to deny or reevaluate the appropriateness and compatibility of any specific research by non-Service personnel at any time [603 FW 2.1 H(1), (2)].

The Refuge manager may deny a project based on field experiences, knowledge of the Refuge's natural resources, particularly its biological resources, available scientific information, and after consulting with other experts, both inside and outside the Service. When denying a request for a specific research project, the refuge manager will explain the rationale and conclusions supporting their decision in writing. The rationale for the denial will be consistent with the principles of sound fish and wildlife management, Refuge administration, and applicable laws. The denial will generally be based on, but not limited to, evidence that the details of a particular research project might: lead to the impairment of our conservation mission; detract from fulfilling the Refuge's purposes; conflict with the conservation goals or objectives in approved Refuge management plans; not be manageable with the available budget or staff time; be inconsistent with public safety; or conflict with maintaining or restoring the biological integrity, diversity, and environmental health of the Refuge's priority habitats.

Is the use a priority public use?

No

Research conducted by non-Service personnel is not a priority public use of the Refuge System under the Refuge System Administration Act of 1966 (16 U.S.C. 668dd668ee), as amended by the National Wildlife Refuge System Improvement Act of 1997. Although this use is not a priority public use, this activity would allow permitted researchers access to the Refuge to conduct both short-term and long-term research projects.

Where would the use be conducted?

The location of the research will vary depending on the individual research project that is being conducted. The entire Refuge may be considered in a SUP request for scientific research; however, biological research projects are usually focused on a particular habitat type, plant species, or wildlife species.

Occasionally, research projects will encompass an assemblage of habitat types, plants, or wildlife, or may span more than one Refuge or include lands outside the Refuge System. The research location will also be limited only to those areas of the Refuge that are necessary to conduct the research project and access the research location. This may include access to Refuge roads that are closed to the public. The Refuge may limit areas available to research as necessary to ensure the protection of trust resources or reduce conflict with other compatible Refuge uses. Access to study locations will be identified by Refuge staff.

When would the use be conducted?

The timing of the research will depend on the individual research project's approved design. Research may occur on the Refuge throughout the year when there are no conflicts with protection of trust resources or primary public use activities. Special precautions will be required and enforced to ensure the researchers' health and safety and to minimize or eliminate potential conflicts with a priority public use. An individual research project could be short term in design, requiring one or two visits over the course of a few days. Other research projects could be multiple year studies that require daily visits to the study site. The timing of each individual research project will be limited to the minimum required to complete the project.

How would the use be conducted?

Research methods will depend entirely on the individual research project that is conducted. The methods of each research project will be reviewed and scrutinized before it will be allowed to occur on the Refuge.

No research project will be allowed to occur if:

• It negatively impacts endangered species, migratory birds, and other Refuge trust resources;

• It compromises public health and safety.

A Research and Monitoring Special Use Application and detailed research proposal will be required from parties interested in conducting research on the Refuge. Each request for this use will be considered, and if appropriate, will be issued a SUP by the refuge manager. Each request will be evaluated on its own merit. The refuge manager will use sound professional judgment and ensure that the request will have no considerable negative impacts to natural resources, cultural resources, or visitor services and does not violate Refuge regulations. Special needs will be considered on a case-by-case basis and are subject to the refuge manager's approval. Any approved SUP will outline the framework in which the use can be conducted, and Refuge staff will ensure compliance with the permit. The SUP will provide any needed protection to individual Refuge policies, mission, wildlife populations and natural habitats. In addition, all research projects require the primary investigator to submit written summary reports of all findings and acknowledge the Refuge's participation.

Once approved, projects will be reviewed annually to ensure that they are meeting their intended purposes, reporting and communicating with Refuge staff, and are fulfilling the mission of the Refuge System and purposes for which the Refuge was established. If the refuge manager decides to deny, modify, or halt a specific research project, the refuge manager will explain the rationale and conclusions supporting their decision in writing. The denial or modification to an existing study will generally be based on evidence that the details of a particular research project may:

• Negatively affect native fish, wildlife, and habitats or cultural, archaeological, or

historical resources,

• Detract from fulfilling the Refuge's purposes or conflict with Refuge goals and objectives,

• Raise public health or safety concerns,

• Conflict with other compatible Refuge uses,

• Not be manageable within the Refuge's available staff or budget time,

• Deviate from the approved study proposal such that impacts to Refuge resources are more severe or extensive than originally anticipated.

Why is this use being proposed or reevaluated?

Research by non-Service personnel is conducted by colleges; universities; federal, State, and local agencies; non-governmental organizations; and qualified members of the public to further the understanding of the natural environment, the utilization of the natural environment by the American people and to improve the management of the Refuge. Much of the information generated by the research is applicable to management on and near the Refuge. In many cases, research by non-Service personnel ensures the perception of un-biased and objective information gathering which can be important when using the research to develop management recommendations for politically sensitive issues. Additionally, universities and other Federal partners can access equipment, resources, and facilities unavailable to Refuge staff for analysis of data or biological samples.

The Service will encourage and support research and management studies on refuge lands that will improve and strengthen biological and social science management decisions. The refuge manager will encourage and seek research relative to approved Refuge objectives that clearly improves land management and recreational opportunities and promotes adaptive management. Priority research addresses information that will better manage the Nation's biological resources and is generally considered important to agencies of the Department of the Interior, the Service, the Refuge System, and state fish and game agencies. Priority research also addresses important management issues, demonstrates techniques for management of species or habitats, or analyzes ways to improve access and recreational use by the public.

The Refuge will also consider research for other purposes which may not be directly related to Refuge-specific objectives, but contribute to the broader enhancement, protection, use, preservation, and management of native populations of fish, wildlife, and plants, and their natural diversity within the region or flyway. Prospective researchers or organizations can talk to the refuge manager or biologist about specific research needs. Similar research could be conducted by potential researchers and organizations on other nearby public and federal lands. However, the research capabilities and support systems, organization goals, habitat, wildlife, hydrology, and geology of each of these locations vary widely. To best account for the research needs, goals, and funding availability of local, state, federal, university, and

research specific organizations – the lands where research is permitted should be diverse. Therefore, maintaining and growing the Refuge research program is essential.

Availability of Resources

The analysis of cost for administering and managing each use will only include the incremental increase above general operational costs that we can show as being directly caused by the proposed use. Refuge support of research directly related to Refuge objectives may take the form of funding, in-kind services such as housing or use of other facilities, direct staff assistance with the project in the form of data collection, provision of historical records, conducting management treatments, or other assistance as appropriate. There is currently enough funding and staff available to allow research opportunities. Special equipment, facilities, or improvement costs are expected to be negligible from this use on the Refuge.

One-time costs: None

Annual/recurring expenses (i.e., for annual operations and maintenance):

1. Maintenance costs: Maintenance costs are expected to be negligible from this use on the Refuge. There are no expected increased costs to maintaining Refuge infrastructure outside normal use of roads and other developed areas.
2. Annual Operations: The bulk of the cost for research is incurred in staff time to review research proposals, coordinate with researchers, and write special use permits. In some cases, a research project may only require one day of staff time to write a special use permit. In other cases, a research project may take an accumulation of weeks, as the Refuge staff must coordinate with the principal researcher and accompany them during site visits. Because research conducted on the Refuge is not constant, there may be fiscal years when little if any time is spent on managing outside research projects by Refuge staff.
3. Monitoring costs: None

Offsetting revenues: None

Anticipated Impacts of the Use

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

Refuge System mission

The effects and impacts of the proposed use to Refuge resources, whether adverse or

beneficial, are those that are reasonably foreseeable and have a reasonably close causal relationship to the proposed use. This compatibility determination (CD) includes the written analyses of the environmental consequences on a resource only when the impacts on that resource could be more than negligible and therefore considered an "affected resource."

Short-term impacts

Research activities may disturb fish and wildlife and their habitats. For example, the presence of researchers can cause birds to flush from resting and feeding areas, cause disruption of birds on nests or breeding territories, or increase predation on nests and individual animals as predators follow human scent or trails.

Efforts to capture animals, such as for migratory bird banding, can cause disturbance, injury, or death to groups of wildlife or to individuals. To wildlife, the energy cost of disturbance may be appreciable in terms of disruption of feeding, displacement from preferred habitat, and the added energy expended to avoid disturbance. Sampling activities associated with many types of research activities can cause compaction of soils and the trampling of vegetation. Installation of posts, equipment platforms, collection devices, and other research equipment in open water may present a hazard if said items are not adequately marked and/or removed at appropriate times or upon completion of the project. Research efforts may also discover methods that result in a reduction in impacts described above.

The potential for research conducted on the Refuge to conflict with Refuge management activities (e.g., prescribed burning, prescribed grazing, herbicide applications) and visitor use on the Refuge is minimal. Research would be scheduled to minimize conflict with Refuge management activities. Visitors may encounter researchers in the field or observe monitoring plots or other research infrastructure. However, these encounters will be infrequent due to the typically minimal presence of field technicians and interest in maintaining low profile infrastructure to prevent disturbance or vandalism of study sites.

Long-term impacts

Long-term effects should generally be beneficial by gaining information valuable to Refuge management. No long-term negative impacts are expected from the research activities described. The refuge manager can reduce the likelihood of long-term impacts by denying special use permits for research that is likely to cause long-term, adverse impacts. Permits for multi-year research projects are renewed annually, providing the opportunity for an analysis of any impacts before renewing the SUP.

Cumulative impacts would occur if multiple research projects were occurring on the same resources at the same time or if the duration of the research was excessive. In particular, the Refuge must consider the potential impacts of non-Service research,

in conjunction with any Service-sponsored research or management activity also taking place. However, no cumulative impacts are expected because the refuge manager can control the potential for cumulative impacts through SUPs, prohibiting multiple research projects from affecting any given area or species at one time. The refuge manager retains the option to deny proposals for research that does not contribute to the mission of the Refuge System or causes undue disturbance or harm to Refuge resources. The refuge manager also retains the right to revoke or deny renewal for any special use permit if unanticipated short-term, long-term, or cumulative impacts occur.

Project-specific stipulations outlined in each special use permit will act to minimize anticipated impacts of research projects. These stipulations will prevent impacts to Refuge wetlands, water quality, soils, hydrology, fish, wildlife, habitat, or cultural resources. Projects which occur within the habitat of, or include direct monitoring of, threatened and endangered species will be subject to a Section 7 informal consultation with the Service under the Endangered Species Act (87 Stat. 854, as amended; 16U.S.C. 1531 et seq.). Only with the approval of the Section 7 consultation will the Refuge permit research to be conducted on habitats or individuals of threatened and endangered species. Research that could adversely affect critical habitat, threatened or endangered wildlife, or cultural resources will not be permitted.

Public Review and Comment

The draft CD will be available for public review and comment for 30 days from the publication of the draft Comprehensive Conservation Plan and draft Environmental Assessment. The public will be made aware of this comment opportunity through the federal register and other media outlets. State and Tribes have been asked to review and comment on the draft CD. It will be made available electronically on the Refuge website. Please let us know if you need the documents in an alternative format. Concerns expressed during the public comment period will be addressed in the final.

Determination

Is the use compatible?

Yes

Stipulations Necessary to Ensure Compatibility

1. Prior to initiation of any research and/or management studies on the Refuge, the requesting agency or organization is required to meet with Refuge management in person and present a comprehensive proposal of why the research is proposed to be undertaken, all methodologies involved, expected short- and long-term impacts of the activities, duration of the research, and anticipated completion date of the report.

2. The requesting agency or organization must apply for a permit by submitting a NWRS Research and Monitoring Special Use Permit Application and a detailed research proposal.

3. Researchers must give the District at least 45 days to review proposals and determine if a special use permit will be issued. If the research involves the collection of wildlife, the District must be given 60 days to review the proposal.

4. Researchers must obtain all necessary scientific collecting, banding, or other permits required by State, federal, or Institutional Animal Care and Use Committee entities before starting the research.

5. Priority of approval will be based on studies that contribute to the enhancement, protection, use, preservation, and management of native wildlife populations and their habitat.

6. SUPs may contain specific terms and conditions that the researcher(s) must follow relative to activity, location, duration, and time-of year restrictions to ensure continued compatibility.

7. All Refuge rules and regulations must be followed unless alternatives are otherwise accepted in writing by Refuge management.

8. Any research involving ground disturbance may require historic preservation consultation with the Regional Historic Preservation Officer and/or State Historic Preservation Officer.

9. All research related SUPs will contain a statement regarding the Service's policy regarding disposition of biotic specimen.

10. Upon completion of a project, researchers are required to remove all research apparatus in the field and restore any disturbed lands to their original state.

11. Any research project may be terminated at any time for non-compliance with the SUP conditions. Research projects may also be modified, redesigned, relocated, or terminated at any time upon determination by the Refuge manager that the project is causing unanticipated adverse impacts to wildlife, wildlife habitat, approved priority public uses, or other Refuge management activities. Refuge staff will conduct annual reviews of the research project to monitor researcher activities for potential impacts to the Refuge and for compliance with conditions on the SUP. The Refuge manager may terminate previously approved research and SUPs if adverse impacts are observed or if the researcher is not in compliance with the stated conditions.

12. The Service expects researchers to submit a final report to the Refuge upon completing their work. For long-term studies, we may also require interim progress reports. All reports, presentations, posters, articles, or other publications will acknowledge the Refuge System and the Refuge as partners in the research.

Justification

The Service encourages research on national wildlife refuges to collect new information which will improve the quality of Refuge and other Service management decisions, to expand the body of scientific knowledge about fish and wildlife, their habitats, the use of these resources, appropriate resource management, and the environment in general, and to provide the opportunity for students and others to learn the principles of field research. In accordance with 50 CFR 26.41, research conducted by non-Service personnel, as described in this CD, will not materially interfere with, or detract from, the fulfillment of the Refuge System mission or the purposes for which the Refuge was established.

Signature of Determination

Refuge Manager Signature and Date

Signature of Concurrence

Assistant Regional Director Signature and Date

Mandatory Reevaluation Date

2034

Draft Compatibility Determination

Title

Compatibility Determination for Wildlife Observation and Photography for Lake Mason National Wildlife Refuge

Refuge Use Category

Wildlife Observation and Photography

Refuge Use Types

Photography
Photography, video, filming, or audio recording (news and educational)
Wildlife observation

Refuge

Lake Mason National Wildlife Refuge (Refuge)

Refuge Purpose(s) and Establishing and Acquisition Authorities

“... purposes of a land-conservation and land-utilization program ... 7 U.S.C. § 1011 (Bankhead-Jones Farm Tenant Act) "... for use and administration under applicable laws as refuges for migratory birds and other wildlife ..." Secretarial Order 2843, dated Nov. 17, 1959. "... as a refuFge and breeding ground for migratory birds and other wildlife: ..." Executive Order 8770, dated June 3, 1941. "... suitable for (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species ..." 16 U.S.C. § 460k-1 "... the Secretary ... may accept and use ... real ... property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors ..." 16 U.S.C. § 460k-2 (Refuge Recreation Act (16 U.S.C. § 460k-460k-4), as amended). "... the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions ..." 16 U.S.C. § 3901(b), 100 Stat. 3583 (Emergency Wetlands Resources Act of 1986) "... for use as an inviolate sanctuary, or for any other management purpose, for migratory birds." 16 U.S.C. § 715d (Migratory Bird Conservation Act) "... conservation, management, and ... restoration of the fish, wildlife, and plant resources and their habitats ... for the benefit of present and future generations of Americans..." 16 U.S.C. § 668dd(a)(2) (National Wildlife Refuge System Administration Act)”

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System (NWRS), 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

Is this an existing use?

Yes.

What is the use?

Photography. Refuge visitation for the purpose of photographing refuge natural or cultural resources (including fish, wildlife, plants, and their habitats) or public uses of those resources (not for commercial, news, or educational purposes).

Photography, video, filming, or audio recording (news and educational). Activity involving photography, videography, filming, or other recording of sight or sound for news, public information, or educational purposes.

Wildlife observation. Viewing of fish, wildlife, plants, or their habitats by refuge visitors.

Is the use a priority public use?

Yes

Where would the use be conducted?

All areas open to the public will be open for wildlife observation and photography. These areas do not have trails or built facilities to support these uses. An unimproved road into the Refuge (Lake Mason unit & North unit) and a parking area is present. An improved road runs through the Willow Creek unit. All areas open to the public are open for walking to achieve these uses. Refuge signs denote Refuge boundaries and closed areas designated as refugia for wildlife and that are thus closed to all public entry and access.

When would the use be conducted?

Wildlife observation and photography occur year-round as guided or self-guided activities. The Refuge is open sunrise to sunset for the public.

How would the use be conducted?

Most wildlife observation and photography activities are conducted individually; however, the Refuge may occasionally help facilitate these activities through workshops, planned events, and tours.

Why is this use being proposed or reevaluated?

Wildlife observation, and photography are two priority wildlife-dependent recreational uses of the NWRS identified by the National Wildlife Refuge Improvement Act of 1997 (Improvement Act). These uses help promote the understanding, appreciation, and support of the Refuge System mission.

Availability of Resources

The analysis of cost for administering and managing each use will only include the incremental increase above general operational costs that we can show as being directly caused by the proposed use. Wildlife observation and photography are self-led activities. A Refuge parking area and an unimproved road allow for public entry and use. There is currently enough funding and staff available to provide opportunities for these activities depending on the time and specific staff services requested. No additional funding is needed.

One-time costs: None

Annual/recurring expenses (i.e., for annual operations and maintenance):

Offsetting revenues: None

Anticipated Impacts of the Use

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

The effects and impacts of the proposed use to refuge resources, whether adverse or beneficial, are those that are reasonably foreseeable and have a reasonably close causal relationship to the proposed use. This compatibility determination (CD) includes the written analyses of the environmental consequences on a resource only when the impacts on that resource could be more than negligible and therefore considered an “affected resource.”

The overall impacts to the Refuge and its associated wildlife populations from these uses would be minimal. Wildlife observation and photography can have both positive and negative implications on Refuge resources.

Short-term impacts

Human disturbance to migratory birds and other wildlife has been documented in many studies. Among activities considered as disturbing to wildlife, Korschen (1992) determined that bird watching was among the least disturbing, but Klein (1993) noted that approaching birds on foot was the most disruptive of usual refuge activities. Some photographers are more likely to cause disturbance by lingering in a sensitive area, using recorded calls, and even altering the vegetation at a site to gain a better view (Glinski 1976). However, photography can be useful as a tool to engage others and develop support for wildlife with images that appeal to people's emotions (Hanisch 2017). There are many recommendations for reducing impacts to wildlife: provide visitor education, require staying on trails, closing areas during sensitive periods such as nesting, require minimum set back distances for approach to areas such as rookeries, etc. (Boyle et al. 1985, Erwin 1989, Haverra 1992, Klein 1993, Miller 2001, Morton 1989, Rodgers 1995, Taylor 2003).

Human disturbance to avifauna has been thoroughly documented around the world. Several studies have examined the effects of trail-based recreation on birds inhabiting wildlife refuges and coastal habitats in the eastern United States. McNeil et al. (1992) found that many waterfowl species avoid disturbance by feeding at night instead of during the day. Similarly, Martín et al. (2015) found that human presence caused resident shorebird species to spend less time feeding and more time displaying avoidance behavior, and that the number of shorebirds and gulls within their study site dramatically decreased in response to increased recreation of the area. Disturbance can increase the risk of predation when individuals are forced to forage in more dangerous habitats and can increase intraspecific competition when avoiding humans necessitates movement into suboptimal habitats (Frid and Dill 2002).

Some uses, such as bird observation, are directly focused on viewing certain wildlife species and can cause more significant impacts during the breeding season and winter months. Research has shown that as the intensity of human disturbance increased, avoidance response by birds increased, and that out-of-vehicle activity was more disruptive than vehicular traffic (Klein 1993, Freddy et al. 1986, Vaske et al. 1983). Miller et al. (1998) found bird abundance and nesting activities (including nest success) increased as distance from a recreational trail increased, in both grassland and forested habitats. Some studies have found that some songbird species habituate to repeated intrusion. Frequently disturbed individuals of some species vocalize more aggressively, have higher body masses, or tend to remain in place longer (Cairns and McLaren 1980). Disturbance may affect the reproductive fitness of males by

hampering territory defense, mate attraction, and other reproductive functions of song (Arcese 1987, Ewald and Carpenter 1978).

Overall, the existing research clearly demonstrates that disturbance from recreation activities always have at least temporary effects on the behavior and movement of birds within a habitat or localized area (Burger 1981, Burger 1986, Klein 1993, Burger et al. 1995, Klein et al. 1995, Rodgers and Smith 1997, Burger and Gochfeld 1998). The location of recreational activities and the size of participating groups are also important factors affecting the magnitude of disturbance. A number of species have shown greater reactions when pedestrian use occurred off-trail (Miller et al. 2001, Samia et al. 2015), and when pedestrians traveled in large groups (Beale and Monaghan 2004).

The presence of humans on Refuge land would disturb some wildlife causing temporary displacement without long-term effects. There would be some disturbance to wildlife and vegetation at the locations where interpretive programs occur with groups, but at levels that would not interfere with the purposes of the Refuge. Some species may avoid areas with frequent people, while other species would be unaffected by human presence. However, the overall effect of the use on wildlife would not have a population level impact, because most of the Refuge will experience minimal to no daily public use. Vehicles will utilize the designated road and parking area. Self-guided interpretation may be sporadically used by small groups of people at established trails and kiosks. This may cause short-term disturbance to wildlife, but again would have minimal impact.

Long-term impacts

Engaging in activity associated with wildlife observation and photography can be done with very little impact to wildlife (Burger et al. 1995). However, if measures are not taken to reduce disturbance, wildlife can suffer from being displaced to less desirable habitat, forced to use important energy reserves, cause the animal to change behaviors from, for example, breeding to seeking cover, and much more (Arcese 1987, Belanger et al. 1990, Burger et al. 1995, Burger 1996, Burger and Gochfeld 1998, Henson et al. 1991, Kaiser et al. 1984, Korschen 1992, Taylor et al. 2003, Yalden et al. 1990).

The Refuge anticipates that no negative long-term impacts will occur as a result of environmental education and interpretation, however, these uses could be modified in the future to mitigate unforeseen impacts. The Refuge also anticipates positive long-term benefits for the public. These uses allow the public to engage in and experience the Refuge and the outdoors. The Refuge will continue to gain relevancy to new, broader audiences and therefore have a greater reach to the public. Additionally, these uses benefit the Refuge by promoting a conservation ethic in the local community and a better appreciation and understanding of the Refuge's wildlife and habitats.

People can be vectors for invasive species by moving seeds or other propagules from one area to another. The threat of invasive species will always be an issue requiring annual evaluation and treatment. Refuge staff will work to look for early detection of invasive species and will educate the visiting public on the environmental damage and conservation challenges invasive species present. Impacts may be considered not significant when analyzed alone but may be considered important when they are evaluated cumulatively. The Refuge's primary concern is repeated disturbance of resting, foraging, or nesting birds by visitors. Refuge staff will continually evaluate disturbance to habitat and habitat quality and, if necessary, respond with management actions to conserve wildlife resources being adversely impacted. Refuge staff, volunteers, and researchers will evaluate the effects of these priority uses and respond to any adverse effects.

Based on the best available knowledge and with added use restrictions, the Refuge does not expect these uses would cause adverse effects. Educating the public about conservation issues would enhance the Refuge's purposes by promoting a conservation ethic.

Public Review and Comment

The draft CD will be available for public review and comment for 30 days from the publication of the draft Comprehensive Conservation Plan and Environmental Assessment. The public will be made aware of this comment opportunity through the federal register and other media outlets. State and Tribes have been asked to review and comment on the draft CD. It will be made available electronically on the Refuge website. Please let us know if you need the documents in an alternative format. Concerns expressed during the public comment period will be addressed in the final.

Is the use compatible?

Yes

Stipulations Necessary to Ensure Compatibility

1. Visitors are to adhere to all Refuge rules and regulations as found in the regulations section of the Refuge website and brochure unless otherwise approved in advance by the Refuge.

2. Disturbing or attempting to disturb, injure, or collect any plant, berries, mushrooms, animal, animal part, horn, antler, bones, skull, or feather is prohibited except by special use permit.

3. Disturbance or collection of any cultural resource is prohibited.

4. Entry on all or portions of individual areas may be temporarily suspended based on public safety, wildlife health, or natural resource concerns. When possible, the public will be given notice of closures. However, unforeseen circumstances may require immediate closure without advanced public notice.

Justification

In accordance with the missions of the NWRS and the Improvement Act, the Refuge has determined that the uses are compatible provided the above stipulations are implemented. Wildlife observation and photography are two of the priority wildlife-dependent recreational uses of the NWRS identified by the Improvement Act. These uses help promote the understanding, appreciation, and support of the Refuge System mission and help promote public awareness and stewardship of the Refuge's natural and cultural resources. The uses do not materially interfere with or detract from the Service's ability to meet the mission of the NWRS, and administration of the uses would only require medium amounts of administrative time and funding.

The Refuge's habitats, wildlife, and public use areas provide a unique wildlife observation, and/or photography experience to visitors, helping them connect with nature and natural ecosystems. Wildlife observation and photography facilitate the connection to nature and the need for conservation. These activities may also enhance environmental education and interpretation programs by allowing visitors experience nature in a more immersive way.

Wildlife disturbance is a concern and limited use will help to minimize any adverse impacts to wildlife. Refuge staff will evaluate impacts on Refuge federal trust resources to determine if there are appreciable negative implications of the use.

Signature of Determination

Refuge Manager Signature and Date

Signature of Concurrence

Assistant Regional Director Signature and Date

Mandatory Reevaluation Date

2039

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Draft Compatibility Determination

Title

Compatibility Determination for Grazing: Grass Lake National Wildlife Refuge

Refuge Use Category

Agriculture, Aquaculture, and Silviculture

Refuge Use Types

Grazing

Refuge

Grass Lake National Wildlife Refuge (Refuge)

Refuge Purpose(s) and Establishing and Acquisition Authorities

“... as a refuge and breeding ground for migratory birds and other wildlife ... Executive Order 9167, dated May 19, 1942 "... 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 National Wildlife Refuge System, otherwise known as Refuge System (NWRS), 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

Is this an existing use?

No.

What is the use?

Prescriptive grazing as a tool to improve habitat conditions for specific wildlife or focal bird species, migratory songbirds, and other grassland-obligate species. Future prescriptive grazing regimens may include short-duration, high-intensity grazing treatments to control invasive plants; habitat management for specific wildlife or

focal bird species; or rotation of grazing areas on the Refuge to provide more long-term rest between grazing treatments. The Refuge currently uses cattle livestock (here forth livestock) grazing as a tool to manage grassland and mixed sagebrush grassland habitats. Livestock grazing is designed to mimic some of the behaviors and grazing habits of early native grazers, which were formerly present on the Refuge's landscape around the early-1800s. Grazing by livestock is a preferred management tool because the effect on habitat is controllable, measurable, and can reasonably mimic early grazers' habits. It has the additional benefit of reducing wildfire risk by reducing the amount of light fuels that can carry a fire. Livestock grazing is utilized in a variety of ways including: high intensity–short duration, rest rotation, and complete rest.

Is the use a priority public use?

No

Where would the use be conducted?

The use would be implemented across the Refuge where the U.S. Fish and Wildlife Service (Service) has control over the use; specifically, on grassland and mixed grassland sagebrush areas. Habitat management units within areas to be grazed will be established to control grazing treatments and help ensure desired habitat characteristics in accordance with the Charles M. Russell Wetland Management District Comprehensive Conservation Plan (CCP) goals and objectives. Units that are fenced from common pastures would be the first units enrolled into prescriptive grazing. Habitat management units that are not fenced from private or other government owned lands would be managed under existing management plans.

When would the use be conducted?

Grazing may occur during any season depending on the specific objectives to be achieved. Conversion to a prescriptive grazing system means a permit may not always be available annually. Exact times and dates vary per unit in accordance with habitat and management objectives in the CCP.

How would the use be conducted?

Grazing will be administered in accordance with the Service's Cooperative Agriculture Use Policy (620 FW 2) and a Cooperative Agriculture Agreement (CAA) consisting of a Commercial Special Use Permit (SUP) having special conditions and a detailed Plan of Operations outlining allowable Animal Unit Months (AUMs), on-off dates, unit locations, unit rotations, and specific instructions pertinent to grazing.

Select grazing units may receive annual grazing treatments consisting of high intensity-short duration, extended rest, complete rest, and/or on a rotational grazing schedule for various lengths of time and may then be rested for multiple years to

achieve desired CCP objectives and landscape habitat characteristics.

Why is this use being proposed or reevaluated?

With the issuance of a CCP and Environmental Assessment (EA), this use requires a compatibility determination (CD).

The use of prescriptive grazing to achieve desired habitat conditions would result in long-term beneficial effects on a variety of wildlife species that use the Refuge and is included in the CCP and corresponding EA as a management tool for the District, wherein the Refuge resides. This use is being proposed in order to move from an annual grazing program to a prescriptive gazing program to meet specific wildlife and habitat management objectives. The Refuge lies within the Great Plains and was known to have native grazers ; as such, the landscape's flora and fauna have evolved over millennia with grazing.

The CCP has established goals and objectives for specific habitat types (e.g. grassland, mixed grassland-sagebrush) where prescribed grazing may be utilized. In addition, target wildlife species (e.g. sprague's pipit, mountain plover, chestnut-collared longspur, greater sage-grouse) and their habitat requirements have been identified. This has resulted in objectives that help guide management to meet target wildlife species and their habitat needs. Different grazing strategies may be implemented and assessed in order to determine the best methods for the Refuge to meet the identified habitat goals and objectives of the CCP, as well as combat the spread of invasive graminoids and forbs present in some units.

Availability of Resources

The analysis for administering and managing the use will only include the incremental increase above general operational needs that we can show as being directly caused by the proposed use. The staff time needed for the development and administration of the cooperative grazing program is already committed and available to support the program under current staffing. Most work needed to prepare for this use would continue to be done as part of routine habitat maintenance.

District staff will continue to monitor permittees for violations of permit conditions and tresspass. Biologists and the District manager will monitor habitat conditions. New boundary and temporary fences may need to be constructed to implement prescriptive grazing on common pastures. Temporary water developments may be necessary to facilitate prescriptive grazing in some habitat units in order to meet habitat objectives.

Annual/recurring requirements (i.e., for annual operations and maintenance):

1. Maintenance: Maintenance requirements vary and will be reduced due to the reduction in interior fences necessary to manage prescriptive grazing program according to CCP alternatives. There may be additional needs with the construction and maintenance of temporary and boundary fences which would be constructed anyway in order to manage livestock in common pastures.
2. Annual Operations: District personnel currently spend a small portion of their time issueing permits, monitoring for trespass livestock and habitat conditions.
3. Monitoring: District staff monitor for livestock trespass intermittantly; it thus is not a significant portion of staff time.

Offsetting revenues: Refuges receive a percentage of the amount of revenue that is generated from commercial activities occuring on them. These funds aid in costs associated with implementing a prescriptive grazing program.

Anticipated Impacts of the Use

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

Prescribed grazing as a management tool is intended to be utilized to meet habitat and species-specific goals and objectives identified in the CCP, as well as replicate habitat and landscape conditions formerly created by native grazers. This management is intended to maintain and enhance habitat conditions for the benefit of a wide variety of fish and wildlife that utilize the Refuge and includes combating invasive graminoids and forbs. Grazing has the additional benefit of reducing wildfire risk by reducing the amount of light fuels that can carry a fire.

Minimal negative impacts, equal to or perhaps even less than what may have occurred during the former presence of native grazers, are expected through the use of this tool. Landscape character will remain unchanged or may be expected to improve through removal of excessive thatch. Some trampling of areas may occur around watering areas or mineral licks, though no more than what may have occurred with large numbers of native grazers in areas where they congregated or wallowed. Grazing may achieve a mosaic pattern of biomass density throughout the landscape with some areas more intensively grazed than others in certain years to achieve habitat heterogeneity, which could reasonably be expected to have happened when native grazers were present. In addition, while the presence of livestock may disturb some wildlife species, just as with native grazers, and some public visitors, the benefits of this habitat management tool are felt to outweigh these negative impacts since the landscape evolved with grazing and not without it.

When threatened and endangered species are known or suspected to be on a site, the local Service Ecological Services office will be consulted, and the proper steps will be

determined to assess how and what management activities will affect that species and what, if anything, should be pursued.

There will be no negative effects on cultural resources.

Short-term impacts

Short term impacts would include loss of vegetative cover which could result in increased soil erosion. Highly palatable forbs and shrubs would be impacted by grazing affecting a large number of wildlife species from pollinators to big game. However, the benefit would be to the wildlife species that require short cover such as prairie dogs, mountain plovers, McCown's longspur, and grazing ungulates that would graze the fresh growth of grasses. Potential disturbance to some wildlife species and some public users may occur.

Grazing by domestic livestock removes and tramples some or 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, or full, as it pertains to biomass remaining in a unit). Depending on the latter of the three factors, hoof action is expected to break up litter thereby increasing the rate of litter decomposition, opening up the ground for natives to express, and aid in nutrient cycling. Areas around watering systems, along fence lines, and at the location of mineral blocks may experience heavy trampling and compaction resulting in the mortality of perennial vegetation and the establishment of early successional species, just as could have been expected in areas where large native grazers congregated.

Varying bird species differ in their vegetation height preferences; as such, the management goal is to provide a heterogeneity of vegetation heights across the landscape. Pollinators are similar in their need for 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. Birds that prefer shorter stature grasslands may benefit from the reduced vegetative height resulting from grazing while others, which typically require taller and more dense nesting structure, may be negatively impacted by grazing in the short-term.

In situations where grazing utilizations are full, there may be less litter available for grassland nesting birds who utilize this material for nest construction. However, grazed areas may attract fewer predators because of low densities of some types of prey, such as small mammals (Grant et al. 1982, Runge 2005); less cover for concealment; or both. Higher nesting success in grazed fields may occur because predators respond negatively to low prey density (Clark and Nudds 1991, Lariviére and

Messier 1998). If a site is completely devoid of litter prior to winter, certain pollinator larvae may lack the needed cover to survive for that year. The same could reasonably have been expected to happen with a large herd(s) of native grazers present on the landscape when and where they may have congregated for extended periods of time.

Research conducted on other refuges has found impact from grazing ranging from minimally negative to favorable. Prescribed grazing on Red Rock Lakes National Wildlife Refuge (NWR) have been shown to have little effect on sage-grouse, a noted species of concern (Schroff 2016 MSU). Another study by (Stadum et al. 2016) found that grazing can provide the structure of vegetation heterogeneity that favors nesting long-billed curlews, a species of concern throughout some areas of Montana, to include the District wherein the Refuge resides. She also cites (Redmond and Jenni 1986) who observed curlews nesting in previously recent grazed areas. (Stadum et al. 2016) further explains how "prescriptive livestock grazing can be used to provide structurally diverse grassland habitats for species with seemingly disparate structural preferences within the same habitat type. Managing grassland habitat for species that exist on opposite ends of a disturbance preference gradient presumably incorporates the needs of species with intermediate preferences".

Long-term impacts

Prescriptive grazing will improve habitat conditions for specific wildlife or focal bird species, migratory birds, and other grassland-obligate species. Future prescriptive grazing regimens may include short-duration, high-intensity grazing treatments to control invasive plants; habitat management for specific wildlife or focal bird species; or rotation of grazing areas on the Refuge to provide long-term rest between grazing treatments.

The beneficial effects of grazing on plant diversity depend on grazing intensity, the evolutionary history of the site, and climatic regimes. Continuous rest without periodic disturbance fails to promote long-term grassland health (Naugle et al. 2000). Hoof impact by grazing animals can break up capped soils, improve the water cycle, stimulate vegetative reproduction of grasses, and enhance the decomposition of old plant material by breaking up plant litter. Hoof action can also distribute and trample seeds into soils, increasing chances of successful germination (Laycock 1967). Nutrients are returned to the soil in the form of urine and feces. Cattle may return 80%–85% of the nitrogen ingested with plant tissue (Laycock 1967). The use of prescriptive grazing to achieve desired habitat conditions would result in long-term beneficial effects on a variety of wildlife species that use the Refuge.

The effect of removal of vegetation increases the vigor of grasslands 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, and invasive species. During periods of typical precipitation, normal regrowth following grazing activities can occur within a single growing season. Over

time, a strategic prescribed grazing program could effectively alter species composition and improve overall plant diversity. Disturbance of grassland, wet meadow, and some shrub-steppe habitats is essential to maintain plant vigor and reduce infestations of noxious weeds.

As vegetative heights recover following a grazing treatment, habitat conditions will favor birds which prefer denser nesting structure and may become less favorable to species that prefer sparser vegetation. Because of regrowth of herbaceous vegetation, no long-term negative impacts are anticipated for waterfowl or other grassland or mixed grass-sagebrush nesting bird species, though positive impacts of increased diversity and heterogeneity are likely in the long-term.

Public Review and Comment

The draft CD will be available for public review and comment for 30 days from the publication of the draft CCP/EA. The public will be made aware of this comment opportunity through the federal register and other media outlets. State and Tribes have been asked to review and comment on the draft CD. It will be made available electronically on the Refuge website. Please let us know if you need the documents in an alternative format. Concerns expressed during the public comment period will be addressed in the final.

Determination

Is the use compatible?

Yes

Stipulations Necessary to Ensure Compatibility

1. CAAs and SUPs will be written in accordance with the Service's Cooperative Agricultural Use Policy (620 FW 2) and the Region 6 Cooperative Agricultural Program Guidance (2022).

2. Cooperators must follow all requirements for the prescribed grazing treatment as specified within the CAA, its stated Plan of Action, and the Special Conditions of the SUP.

3. Insecticides are not permitted for use on Refuge lands.

4. Control and maintenance of livestock is the responsibility of the permittee.

5. Fencing, water supply, and other livestock management infrastructure needs and costs will be outlined in the CAA and SUP.

Justification

Sharp-tailed grouse, pronghorn, sage-grouse, large ungulates, and other wildlife species need a diversity of and abundant group of plants for food and cover. Prescriptive grazing and other adaptive management strategies would permit flexibility necessary for the restoration of these important plant species.

Prescriptive grazing is a valuable management tool that supports refuge objectives. As outlined in this CD and in accordance with the stipulations outlined above, based on best professional judgement and available science, the Service has determined that continuation of the grazing use on the Refuge will not materially detract from or interfere with the fulfillment of the NWRS mission or the purposes of the Refuge; will contribute to the NWRS mission and Refuge purposes, meeting the standard or threshold established in 50 CFR §29.1 for economic uses of NWRs; and will not conflict with the national policy to maintain the biological integrity, diversity, and environmental health of the Refuge.

To maintain and enhance habitat for migratory birds and other wildlife, some habitat management must occur. Prescribed grazing utilizing livestock is one option that can be used to achieve these desired habitat conditions. Prescribed grazing is a useful tool because it can be controlled, and results of the grazing can be periodically monitored (e.g. vegetation monitoring) so that adjustments in the grazing program can be made to meet habitat goals and objectives.

Signature of Determination

Refuge Manager Signature and Date

Signature of Concurrence

Assistant Regional Director Signature and Date

Mandatory Reevaluation Date

2034

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U.S. Fish and Wildlife Service. [Draft]Comprehensive Conservation Plan (CCP) and [Draft] Environmental Assessment (EA) for the Charles M. Russell Wetland Management District. Accessed 30 January 2024.

Draft Compatibility Determination

Title

Compatibility Determination for Environmental Education and Interpretation for Grass Lake National Wildlife Refuge

Refuge Use Category

Environmental Education and Interpretation

Refuge Use Types

Environmental education (not conducted by National Wildlife Refuge System (NWRS) staff or authorized agents)
Environmental education (NWRS staff and authorized agents)
Environmental education (general)
Interpretation (NWRS staff and authorized agents)
Interpretation (not conducted by NWRS staff or authorized agents)

Refuge

Grass Lake National Wildlife Refuge (Refuge)

Refuge Purpose(s) and Establishing and Acquisition Authorities

“... as a refuge and breeding ground for migratory birds and other wildlife ... Executive Order 9167, dated May 19, 1942 "... 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 NWRS, 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

Is this an existing use?

No.

What is the use?

Environmental education (not conducted by NWRS staff or authorized agents). On-Refuge activities not conducted by NWRS staff or authorized agents that use a planned process to foster awareness, knowledge, understanding, and appreciation in students, teachers, or group leaders about fish, wildlife, plants, ecology, natural sciences (such as astronomy) and Refuge management.

Environmental education (NWRS staff and authorized agents). On-Refuge activities conducted by NWRS staff or authorized agents that use a planned process to foster awareness, knowledge, understanding, and appreciation in students about fish, wildlife, plants, ecology, natural sciences (such as astronomy) and Refuge management.

Environmental education (general). Environmental education activities not specifically defined elsewhere in this category.

Interpretation (NWRS staff and authorized agents). On-Refuge activities for Refuge visitors conducted by NWRS staff or authorized agents that are designed to foster an understanding and appreciation for natural and cultural resources, and associated management.

Interpretation (not conducted by NWRS staff or authorized agents). On-Refuge activities for Refuge visitors not conducted by NWRS staff or authorized agents that are designed to foster an understanding and appreciation for natural and cultural resources, and associated management.

Is the use a priority public use?

Yes

Where would the use be conducted?

All areas open to the public will be open for environmental education and interpretation. These areas do not have trails or built facilities to support these uses. An unimproved road into the Refuge and a parking area is present. All areas open to the public are open for walking to achieve these uses. Refuge signs denote Refuge boundaries and closed areas designated as refugia for wildlife and that are thus closed to all public entry and access.

When would the use be conducted?

Environmental education, interpretation, wildlife observation, and photography occur year-round as guided or self-guided activities. The Refuge is open sunrise to sunset for the public.

How would the use be conducted?

Environmental education programs are scheduled in advance, and include impromptu presentations and discussions of wildlife conservation issues with interested individual visitors and unscheduled groups. Interpretive and environmental education programs may be given by Refuge staff or volunteers. Teachers may give programs after applying for and receiving a special use permit (SUP). Any program that is conducted on Refuge land and not lead by Refuge staff requires a SUP.

Interpretive or environmental education programs focus on wildlife and habitats. These programs may address several wildlife conservation topics including riparian ecosystems, wetland habitats, migratory bird management, and endangered species conservation. Programs may also include the development of outdoor skills, which enhance appreciation of wildlife and the habitats they live in.

Most wildlife observation and photography activities are conducted individually; however, the Refuge may occasionally help facilitate these activities through workshops, planned events, and tours.

Why is this use being proposed or reevaluated?

Environmental education and interpretation are two priority wildlife-dependent recreational uses of the NWRS identified by the National Wildlife Refuge Improvement Act of 1997 (Improvement Act). These uses help promote the understanding, appreciation, and support of the Refuge System mission.

Availability of Resources

The analysis of cost for administering and managing each use will only include the incremental increase above general operational costs that we can show as being directly caused by the proposed use. The present Refuge environmental education and interpretive programs are available upon request, staff time permitting if staff are requested. Refuge personnel review proposals related to this use and prepare SUPs. A Refuge parking area and an unimproved road allow for public entry and use. There is currently enough funding and staff available to provide opportunities for these activities depending on the time and specific staff services requested. No additional funding is needed.

One-time costs: None

Annual/recurring expenses (i.e., for annual operations and maintenance):

Offsetting revenues: None

Anticipated Impacts of the Use

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

The effects and impacts of the proposed use to refuge resources, whether adverse or beneficial, are those that are reasonably foreseeable and have a reasonably close causal relationship to the proposed use. This compatibility determination (CD) includes the written analyses of the environmental consequences on a resource only when the impacts on that resource could be more than negligible and therefore considered an "affected resource."

The overall impacts to the Refuge and its associated wildlife populations from this use would be minimal. Environmental education and interpretation, and wildlife observation and photography can have both positive and negative implications on Refuge resources.

Short-term impacts

There may be temporary disturbance to wildlife on the Refuge from the presence of humans engaging in environmental education and interpretation activities, due to noise and temporary displacement. However, the amount of environmental education and interpretation activities occurring on the Refuge should result in very minimal impacts to wildlife. There are many recommendations for reducing impacts to wildlife: provide visitor education, require staying on trails, closing areas during sensitive periods such as nesting, require minimum set back distances for approach to areas such as rookeries, etc. (Boyle et al. 1985, Erwin 1989, Haverra 1992, Klein 1993, Miller 2001, Morton 1989, Rodgers 1995, Taylor 2003).

Human disturbance to avifauna has been thoroughly documented around the world. Several studies have examined the effects of trail-based recreation on birds inhabiting wildlife refuges and coastal habitats in the eastern United States. McNeil et al. (1992) found that many waterfowl species avoid disturbance by feeding at night instead of during the day. Similarly, Martín et al. (2015) found that human presence caused resident shorebird species to spend less time feeding and more time displaying avoidance behavior, and that the number of shorebirds and gulls within their study site dramatically decreased in response to increased recreation of the area. Disturbance can increase the risk of predation when individuals are forced to

forage in more dangerous habitats and can increase intraspecific competition when avoiding humans necessitates movement into suboptimal habitats (Frid and Dill 2002).

Some uses, such as bird observation, are directly focused on viewing certain wildlife species and can cause more significant impacts during the breeding season and winter months. Research has shown that as the intensity of human disturbance increased, avoidance response by birds increased, and that out-of-vehicle activity was more disruptive than vehicular traffic (Klein 1993, Freddy et al. 1986, Vaske et al. 1983). Miller et al. (1998) found bird abundance and nesting activities (including nest success) increased as distance from a recreational trail increased, in both grassland and forested habitats. Some studies have found that some songbird species habituate to repeated intrusion. Frequently disturbed individuals of some species vocalize more aggressively, have higher body masses, or tend to remain in place longer (Cairns and McLaren 1980). Disturbance may affect the reproductive fitness of males by hampering territory defense, mate attraction, and other reproductive functions of song (Arcese 1987, Ewald and Carpenter 1978).

Overall, the existing research clearly demonstrates that disturbance from recreation activities always have at least temporary effects on the behavior and movement of birds within a habitat or localized area (Burger 1981, Burger 1986, Klein 1993, Burger et al. 1995, Klein et al. 1995, Rodgers and Smith 1997, Burger and Gochfeld 1998). The location of recreational activities and the size of participating groups are also important factors affecting the magnitude of disturbance. A number of species have shown greater reactions when pedestrian use occurred off-trail (Miller et al. 2001, Samia et al. 2015), and when pedestrians traveled in large groups (Beale and Monaghan 2004).

The presence of humans on Refuge land would disturb some wildlife causing temporary displacement without long-term effects. There would be some disturbance to wildlife and vegetation at the locations where interpretive programs occur with groups, but at levels that would not interfere with the purposes of the Refuge. Some species may avoid areas with frequent people, while other species would be unaffected by human presence. However, the overall effect of the use on wildlife would not have a population level impact, because most of the Refuge will experience minimal to no daily public use. Vehicles will utilize the designated road and parking area. Self-guided interpretation may be sporadically used by small groups of people at established trails and kiosks. This may cause short-term disturbance to wildlife, but again would have minimal impact.

Long-term impacts

The Refuge anticipates that no negative long-term impacts will occur as a result of environmental education and interpretation, however, these uses could be modified in the future to mitigate unforeseen impacts. The Refuge also anticipates positive

long-term benefits for the public. These uses allow the public to engage in and experience the Refuge and the outdoors. The Refuge will continue to gain relevancy to new, broader audiences and therefore have a greater reach to the public. Additionally, these uses benefit the Refuge by promoting a conservation ethic in the local community and a better appreciation and understanding of the Refuge's wildlife and habitats.

People can be vectors for invasive species by moving seeds or other propagules from one area to another. The threat of invasive species will always be an issue requiring annual evaluation and treatment. Refuge staff will work to look for early detection of invasive species and will educate the visiting public on the environmental damage and conservation challenges invasive species present. Impacts may be considered not significant when analyzed alone but may be considered important when they are evaluated cumulatively. The Refuge's primary concern is repeated disturbance of resting, foraging, or nesting birds by visitors. Refuge staff will continually evaluate disturbance to habitat and habitat quality and, if necessary, respond with management actions to conserve wildlife resources being adversely impacted. Refuge staff, volunteers, and researchers will evaluate the effects of these priority uses and respond to any adverse effects.

Based on the best available knowledge and with added use restrictions, the Refuge does not expect these uses would cause adverse effects. Educating the public about conservation issues would enhance the Refuge's purposes by promoting a conservation ethic.

Public Review and Comment

The draft CD will be available for public review and comment for 30 days from the publication of the draft Comprehensive Conservation Plan and Environmental Assessment. The public will be made aware of this comment opportunity through the federal register and other media outlets. State and Tribes have been asked to review and comment on the draft CD. It will be made available electronically on the Refuge website. Please let us know if you need the documents in an alternative format. Concerns expressed during the public comment period will be addressed in the final.

Is the use compatible?

Yes

Stipulations Necessary to Ensure Compatibility

1. Visitors are to adhere to all Refuge rules and regulations as found in the regulations section of the Refuge website and brochure unless otherwise approved in advance by the Refuge.

2. Environmental education and interpretation activities not led by Refuge staff require a SUP to minimize conflicts with other groups, safeguard students and resources, and allow tracking of use levels.

3. Disturbing or attempting to disturb, injure, or collect any plant, berries, mushrooms, animal, animal part, horn, antler, bones, skull, or feather is prohibited except by SUP.

4. Disturbance or collection of any cultural resource is prohibited.

5. Interpretive programming and special events will focus on wildlife, conservation, or other environmental attributes of the Refuge including fostering a respect and appreciation of the NWRS and the Refuge.

6. Entry on all or portions of individual areas may be temporarily suspended based on public safety, wildlife health, or natural resource concerns. When possible, the public will be given notice of closures. However, unforeseen circumstances may require immediate closure without advanced public notice.

Justification

In accordance with the missions of the NWRS and the Improvement Act, the Refuge has determined that the uses are compatible provided the above stipulations are implemented. Environmental education and interpretation are two priority wildlife-dependent recreational uses of the NWRS identified by the Improvement Act. These uses help promote the understanding, appreciation, and support of the Refuge System mission and help promote public awareness and stewardship of the Refuge's natural and cultural resources. The uses not materially interfere with or detract from the Service's ability to meet the mission of the NWRS, and administration of the uses would only require medium amounts of administrative time and funding.

The Refuge's habitats, wildlife, and public use areas provide a unique environmental education and interpretation experience to visitors, helping them connect with nature and natural ecosystems. Environmental education is designed to develop a citizenry that has the awareness, concern, knowledge, attitudes, skills, motivations, and commitment to work toward solutions of current environmental problems and the prevention of new ones. Interpretation is a communication process that forges emotional and intellectual connections between the interests of the audience and the inherent meanings in the resource (i.e. more than information). Both environmental education and interpretation are necessary to form relationships between the Service and the public and improve a joint stewardship of our natural resources.

Wildlife disturbance is a concern and limited use will help to minimize any adverse

impacts to wildlife. Refuge staff will evaluate impacts on Refuge federal trust resources to determine if there are appreciable negative implications of the use.

Signature of Determination

Refuge Manager Signature and Date

Signature of Concurrence

Assistant Regional Director Signature and Date

Mandatory Reevaluation Date

2039

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Draft Compatibility Determination

Title

Compatibility Determination for Hunting at Grass Lake National Wildlife Refuge

Refuge Use Category

Hunting

Refuge Use Types

Hunting big game; Hunting upland birds; Hunting migratory birds

Refuge

Grass Lake National Wildlife Refuge (NWR)

Refuge Purpose(s) and Establishing and Acquisition Authorities

“... as a refuge and breeding ground for migratory birds and other wildlife ... Executive Order 9167, dated May 19, 1942 "... 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 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

Is this an existing use?

No.

What is the use?

The hunting of migratory birds, upland birds, and big game is proposed as an approved wildlife-dependent priority public use as outlined in the 1997 National Wildlife Refuge System Improvement Act (Improvement Act). Hunting of migratory birds, upland birds, and big game is proposed in accordance with State regulations

and seasons accompanied by specific Grass Lake NWR (Refuge) regulations and restrictions outlined in a Refuge hunt plan including the below:

- Hunting will be restricted to only those areas specifically open to hunting on the Refuge and excludes areas designated as refugia for wildlife and thus closed to all public entry and access.
- Hunting for waterfowl, which are classified as migratory birds, is already federally mandated to use lead-free ammunition.

Refuge management may further enact, as deemed appropriate at any time, further restrictions or regulations for such reasons as, but not limited to:

- Protection of wildlife.
- Protection of certain specific wildlife species where State regulations are absent, fail to provide reasonable harvest limits, or allow harvest methods not conducive with Refuge values.
- Protection of natural resources.
- Public safety.

Is the use a priority public use?

Yes.

Public hunting is a historical wildlife-dependent use of the Refuge and is designated as one of the priority public uses as specified in the Improvement Act.

Where would the use be conducted?

The Refuge brochure will be available at the Charles M. Russell (CMR) Refuge Complex headquarters, of which Grass Lake NWR is a part of, and online on the Refuge's website to inform the public of Refuge hunting opportunities, regulations, and safety precautions. Maps are also available, which show the location of roads, boundaries, and those areas open and closed to hunting.

Specifically, hunting for big game, upland birds, and migratory birds may occur in accordance with State regulations and specific Refuge regulations and restrictions, on all areas of the Refuge except those areas south of the railroad right-of-way, in which said area has been designated as refugia for all wildlife and as such, closed to all public entry and access.

When would the use be conducted?

Hunting would occur in accordance with State regulated seasons, dates, and times in the State region/zone/area in which the Refuge resides. Additionally, hunting shall

be in accordance with any specific Refuge regulations and restrictions in the Refuge hunt plan regarding seasons, dates, and times, and that Refuge management may further enact as deemed appropriate at any time for such reasons as, but not limited to, protection of wildlife; protection of certain specific wildlife species where State regulations are absent, fail to provide reasonable harvest limits, or allow harvest methods not conducive with Refuge values; protection of natural resources; and public safety.

How would the use be conducted?

Hunting will take place in accordance with State regulations pursuant to seasons, zones/regions/areas, bag limits, and take method regulations. Generally, centerfire rifles are used for big game, with occasional shotguns using slugs, while shotguns with birdshot are used for migratory and upland bird hunting. Additionally, hunting shall be in accordance with any specific Refuge regulations and restrictions in the Refuge hunt plan regarding seasons, dates, times, and allowable take methods. Refuge management may further enact, at any time, more restrictive regulations such as, but not limited to season dates, times, and take measures where it deems such measures are appropriate.

All other wildlife species outside of big game, upland birds, and migratory birds are protected to include, but not limited to coyotes, prairie dogs, jackrabbits, cottontail rabbits, badgers, and bobcats.

Why is this use being proposed or reevaluated?

With the issuance of a Comprehensive Conservation Plan (CCP) and Environmental Assessment (EA), this use requires a hunt plan and a compatibility determination (CD). Recreational public hunting is a historical wildlife dependent use of the CMR Refuge Complex, of which Grass Lake NWR is a part of. Hunting is also designated as one of the priority public uses as specified in the Refuge Improvement Act.

Required boundary and informative signage is already slated for installation to inform the public of the Refuge's specific boundaries and use areas. This same signage will provide the necessary infrastructure to support the Refuge hunt program. Current staffing levels and funding are adequate to support the Refuge's hunt program. Special regulations and restrictions will be in place to minimize negative impacts to the Refuge and its associated wildlife. Montana state law further controls hunter activities through State regulations and restrictions.

Hunting is a legitimate wildlife management tool that can be used to control wildlife populations having excess. Hunting harvests a small percentage of the renewable

excess population resource(s), which is in accordance with wildlife management objectives and principals.

Availability of Resources

One-time costs: None

Annual/recurring expenses (i.e., for annual operations and maintenance):

Maintenance costs: Maintenance costs are expected to be negligible from this use on the Refuge. There are no expected increased costs to maintaining Refuge infrastructure outside normal use of roads and other developed areas, such as parking areas.

Annual Operations: Adequate resources are available to manage a hunting program at the current projected level of participation.

Offsetting revenues: None

Anticipated Impacts of the Use

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

Proposed implementation of hunting as a use will produce no appreciable adverse impacts to Refuge purposes or the Refuge System mission for the aforementioned reasons: a) hunting has been a historical wildlife dependent use within the CMR Refuge Complex and b) is an approved wildlife dependent use as specified in the Improvement Act. The effects and impacts of the proposed use to Refuge resources, whether adverse or beneficial, are those that are reasonably foreseeable and have a reasonably close causal relationship to the proposed use. This CD includes the written analyses of the environmental consequences on a resource only when the impacts on that resource could be more than negligible and therefore considered an "affected resource."

- There will be no negative effects on threatened and endangered species.
- There will be no negative effects on cultural resources.

Short-term impacts

Temporary disturbance will exist to wildlife in the vicinity of the activity. Animals surplus to populations will be removed by hunting. A temporary decrease in populations of wildlife might help ensure that carrying capacity (especially for big-game species) is not exceeded. Closed areas will provide sanctuary for game and

nongame species, minimize conflicts between hunters and other visitors, and provide a safety zone around communities and administrative areas. The harvest of these species will be compensatory mortality, with minimal impact to the overall health of their populations.

Temporary impacts to the habitat are expected due to possible illegal off-road travel. To mitigate the possible impact, the Refuge will establish a parking area. We also enforce a pack-in, pack-out policy encouraging folks to remove their trash.

Lead ammunition is restricted for use for migratory and upland game birds. Since no additional lead from hunting these species will be added to the environment, results could have some beneficial effect on migratory birds or avian predators that prey upon them that occur on the Refuge, thus reducing the overall effects of lead poisoning from lead reduction in the environment.

Lead hunting ammunition for big game species may be prohibited. Studies have shown that where eagles are present to scavenge carcasses, lead can have a detrimental effect on their health when ingested in sufficient quantity. The Service continues a vigorous campaign of educating all hunters on the effects of lead ammunition in the natural environment to mitigate its future use and subsequent introduction in the environment.

Long-term impacts

Hunting is a highly regulated activity, and generally takes place at specific times and seasons when there is a harvestable surplus of game animals, reducing the magnitude of disturbance to Refuge wildlife. Managed and regulated hunting will not reduce species populations to levels where other wildlife-dependent uses will be affected. Hunting is an appropriate wildlife management tool that can be used to manage wildlife populations. Some wildlife disturbance will occur during the hunting seasons.

Regulations and seasons will be designated to minimize any negative impacts to wildlife populations using the Refuge. Harvesting these game animal species would not result in a substantial decrease in biological diversity on the Refuge. Wildlife populations on the Refuge are able to sustain hunting and support other wildlife dependent priority uses. To manage the populations to support hunting, the Refuge adopts harvest regulations set by the State within federal framework guidelines. Recreational hunting will remove individual animals but will not negatively affect wildlife populations.

Lead ammunition is not permitted for migratory and upland game birds. This reduces the potential long-term risk from the introduction of additional lead ammunition in hunting these species on Refuge lands as included in this CCP. Additional lead from hunting these species would no longer enter the environment and potentially impact

migratory birds or avian predators that prey upon them and that may occur on the Refuge.

Lead hunting ammunition for big game may be allowed. Studies have shown that where eagles are present to scavenge carcasses, lead can have a detrimental effect on their health when ingested in sufficient quantity. The Service continues a vigorous campaign of educating all hunters on the effects of lead ammunition in the natural environment to mitigate its future use and subsequent introduction in the environment.

Public Review and Comment

The draft CD will be available for public review and comment for 30 days from the publication of the draft CCP/EA. The public will be made aware of this comment opportunity through the federal register and other media outlets. State and Tribes have been asked to review and comment on the draft CD. It will be made available electronically on the Refuge website. Please let us know if you need the documents in an alternative format. Concerns expressed during the public comment period will be addressed in the final.

Determination

Is the use compatible?

Yes

Stipulations Necessary to Ensure Compatibility

Hunting on the refuge is subject to federal and State regulations and a Montana hunting license is required. Hunting for migratory birds, upland game birds, and big game in compliance with all applicable State and Refuge hunting regulations is permitted on this Refuge.
All other wildlife species outside of big game, migratory birds, and upland birds are protected including, but not limited to coyotes, prairie dogs, jackrabbits, cottontail rabbits, badgers, and bobcats.

1. Visitors are required to park at the designated parking area.

2. Target shooting with firearms or archery equipment is prohibited at all times on the Refuge.

3. Collection of antlers, bones, skulls, animal parts, nests, artifacts, and fossils are prohibited.

4. Portable blinds and other personal property used for hunting must be removed each day.

5. Trail and or game cameras are not allowed.

6. Vehicles are restricted to open roads and parking areas. Any additional travel on the Refuge is by foot only.

7. Non-motorized boat use only is allowed for hunting only in areas open for hunting and operated in accordance with State regulations.

8. Lead-free ammunition is required to hunt migratory game bird species.

Justification

Recreational public hunting is a historical wildlife dependent use of the CMR Refuge Complex, of which Grass Lake NWR is a part of, and is designated as one of the priority public uses as specified in the Improvement Act. Required infrastructure installation for other uses and public information will directly support the hunting program. Current staffing levels and funding are also adequate. Special regulations will be in place to minimize negative impacts to the Refuge and associated wildlife. Montana State law further controls hunter activities. Hunting is a legitimate wildlife management tool that can be used to control excess wildlife populations. Hunting harvests a small percentage of the renewable excess population resource(s), which is in accordance with wildlife management objectives and principals.

Signature of Determination

Refuge Manager Signature and Date

Signature of Concurrence

Assistant Regional Director Signature and Date

Mandatory Reevaluation Date

2039

Figure(s)

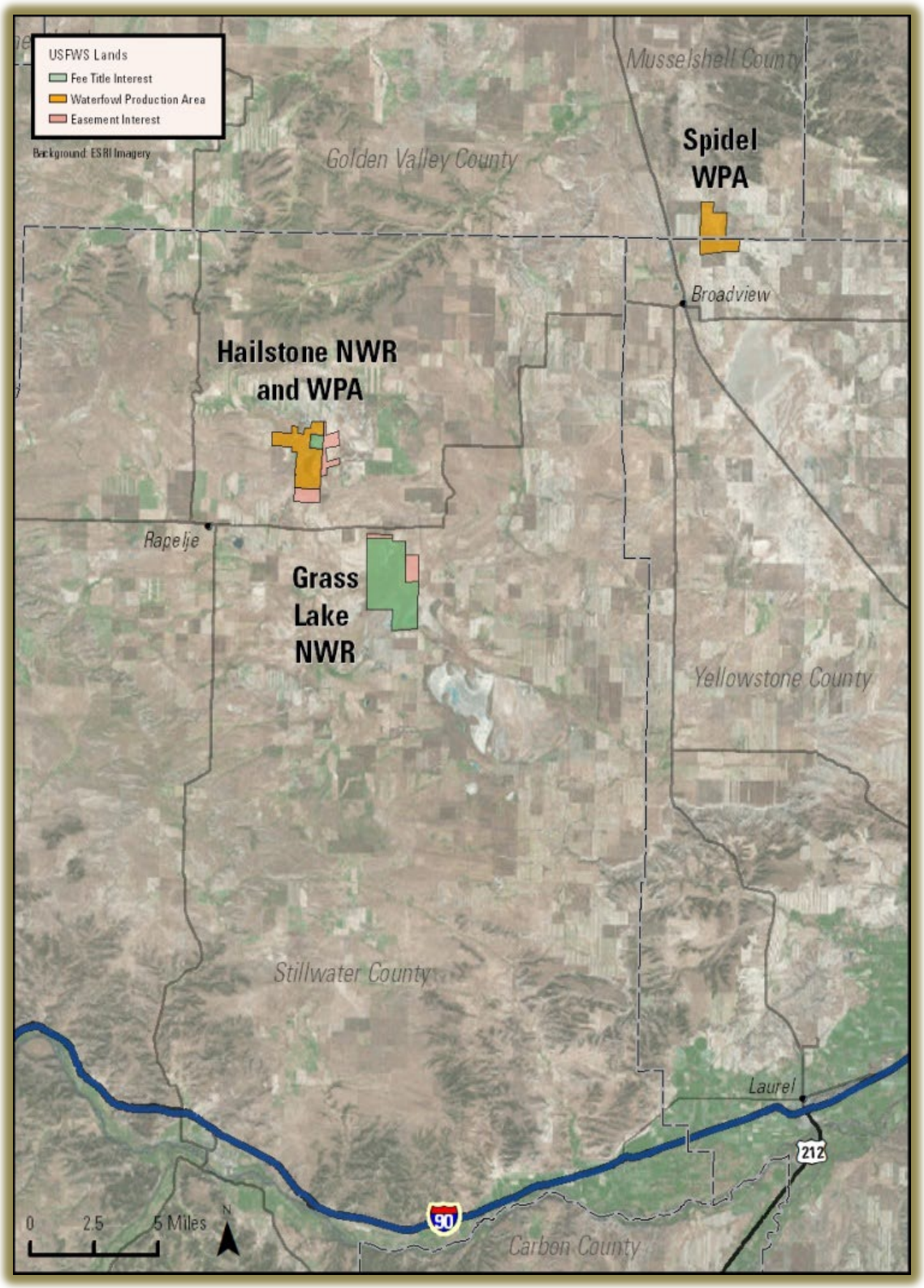

Figure 1. Map of Spidel WPA, Hailstone NWR and WPA, and Grass Lake NWR

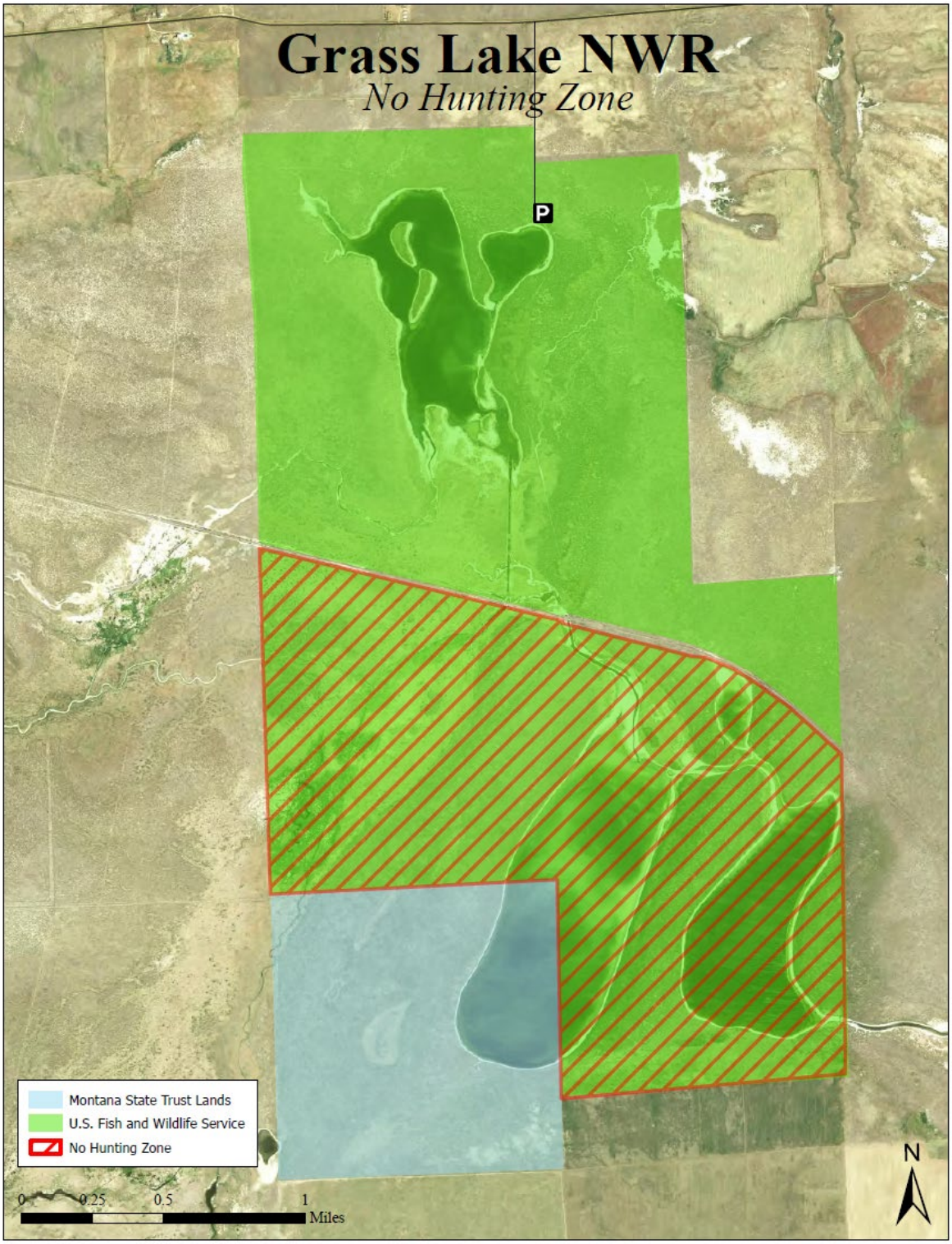

Figure 2. Map of Grass Lake NWR No Hunting Zone

Draft Compatibility Determination

Title

Compatibility Determination for Research, Scientific Collecting, and Surveys, for Grass Lake National Wildlife Refuge

Refuge Use Category

Research and Surveys

Refuge Use Types

Research, Scientific Collecting, Surveys

Refuge

Grass Lake National Wildlife Refuge (Refuge)

Refuge Purpose(s) and Establishing and Acquisition Authorities

“... as a refuge and breeding ground for migratory birds and other wildlife ... Executive Order 9167, dated May 19, 1942 "... 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 National Wildlife Refuge System (NWRS), 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

Is this an existing use?

No.

Grass Lake NWR has not been open to the public.

What is the use?

Research. Planned, organized, and systematic investigation of a scientific nature

conducted by non-U.S. Fish and Wildlife Service (Service) personnel or authorized agent.

Scientific collecting. Gathering of refuge natural resources or cultural artifacts for scientific purposes conducted by non-Service personnel or authorized agent.

Surveys. Scientific inventory or monitoring conducted by non-Service personnel or authorized agents.

Research conducted by non-Service personnel includes research conducted by Federal, State, and private entities, such as the U.S. Geological Survey; State departments of natural resources; students and professors at State and private universities; and independent non-governmental researchers and contractors. Research activities will focus on species, habitats and recreational activities as identified in the Refuge's management plan and other stepdown plans or will address research questions that will provide information to better manage the Refuge.

Acceptable research methods include but are not limited to bird banding, mist netting, point count surveys, radio-telemetry tracking, cameras, recorders, and public surveys.

Requests for special use permits (SUP) for research will be considered on a case-by case basis, as staff availability allows. In accordance with 16 U.S.C. 668dd(d) and 50 C.F.R. Part 25, Subpart D, the refuge manager is responsible for reviewing applications for SUPs and determining whether to authorize a permit.

The Refuge manager will base the decision to issue an SUP for research on their professional judgment and the value of the proposed research. The decision to allow a particular research project will also be consistent with Service regulations and policy, including the Policy on Maintaining the Biological Integrity, Diversity, and Environmental Health of the Refuge System (601 FW 3).

The results of the research should result in better knowledge of our natural resources and improve methods to manage, monitor, and protect the refuge's biological resources and visitor uses. The Refuge manager will always have the discretion to deny or reevaluate the appropriateness and compatibility of any specific research by non-Service personnel at any time [603 FW 2.1 H(1), (2)].

The Refuge manager may deny a project based on field experiences, knowledge of the Refuge's natural resources, particularly its biological resources, available scientific information, and after consulting with other experts, both inside and outside the Service. When denying a request for a specific research project, the refuge manager will explain the rationale and conclusions supporting their decision in writing. The rationale for the denial will be consistent with the principles of sound fish and wildlife management, Refuge administration, and applicable laws. The denial will generally be based on, but not limited to, evidence that the details of a particular research project might: lead to the impairment of our conservation mission; detract from fulfilling the Refuge's purposes; conflict with the conservation goals or objectives in approved

Refuge management plans; not be manageable with the available budget or staff time; be inconsistent with public safety; or conflict with maintaining or restoring the biological integrity, diversity, and environmental health of the Refuge's priority habitats.

Is the use a priority public use?

No

Research conducted by non-Service personnel is not a priority public use of the Refuge System under the Refuge System Administration Act of 1966 (16 U.S.C. 668dd668ee), as amended by the National Wildlife Refuge System Improvement Act of 1997. Although this use is not a priority public use, this activity would allow permitted researchers access to the Refuge to conduct both short-term and long-term research projects.

Where would the use be conducted?

The location of the research will vary depending on the individual research project that is being conducted. The entire Refuge may be considered in a SUP request for scientific research; however, biological research projects are usually focused on a particular habitat type, plant species, or wildlife species.

Occasionally, research projects will encompass an assemblage of habitat types, plants, or wildlife, or may span more than one Refuge or include lands outside the Refuge System. The research location will also be limited only to those areas of the Refuge that are necessary to conduct the research project and access the research location. This may include access to Refuge roads that are closed to the public. The Refuge may limit areas available to research as necessary to ensure the protection of trust resources or reduce conflict with other compatible Refuge uses. Access to study locations will be identified by Refuge staff.

When would the use be conducted?

The timing of the research will depend on the individual research project's approved design. Research may occur on the Refuge throughout the year when there are no conflicts with protection of trust resources or primary public use activities. Special precautions will be required and enforced to ensure the researchers' health and safety and to minimize or eliminate potential conflicts with a priority public use. An individual research project could be short term in design, requiring one or two visits over the course of a few days. Other research projects could be multiple year studies that require daily visits to the study site. The timing of each individual research project will be limited to the minimum required to complete the project.

How would the use be conducted?

Research methods will depend entirely on the individual research project that is conducted. The methods of each research project will be reviewed and scrutinized

before it will be allowed to occur on the Refuge.

No research project will be allowed to occur if:

• It negatively impacts endangered species, migratory birds, and other Refuge trust resources;

• It compromises public health and safety.

A Research and Monitoring Special Use Application and detailed research proposal will be required from parties interested in conducting research on the Refuge. Each request for this use will be considered, and if appropriate, will be issued a SUP by the refuge manager. Each request will be evaluated on its own merit. The refuge manager will use sound professional judgment and ensure that the request will have no considerable negative impacts to natural resources, cultural resources, or visitor services and does not violate Refuge regulations. Special needs will be considered on a case-by-case basis and are subject to the refuge manager's approval. Any approved SUP will outline the framework in which the use can be conducted, and Refuge staff will ensure compliance with the permit. The SUP will provide any needed protection to individual Refuge policies, mission, wildlife populations and natural habitats. In addition, all research projects require the primary investigator to submit written summary reports of all findings and acknowledge the Refuge's participation.

Once approved, projects will be reviewed annually to ensure that they are meeting their intended purposes, reporting and communicating with Refuge staff, and are fulfilling the mission of the Refuge System and purposes for which the Refuge was established. If the refuge manager decides to deny, modify, or halt a specific research project, the refuge manager will explain the rationale and conclusions supporting their decision in writing. The denial or modification to an existing study will generally be based on evidence that the details of a particular research project may:

• Negatively affect native fish, wildlife, and habitats or cultural, archaeological, or historical resources,

• Detract from fulfilling the Refuge's purposes or conflict with Refuge goals and objectives,

• Raise public health or safety concerns,

• Conflict with other compatible Refuge uses,

• Not be manageable within the Refuge's available staff or budget time,

• Deviate from the approved study proposal such that impacts to Refuge resources are more severe or extensive than originally anticipated.

Why is this use being proposed or reevaluated?

With the issuance of a Comprehensive Conservation Plan (CCP) and Environmental Assessment (EA), this use requires a compatibility determination (CD).

Research by non-Service personnel is conducted by colleges; universities; federal,

State, and local agencies; non-governmental organizations; and qualified members of the public to further the understanding of the natural environment, the utilization of the natural environment by the American people and to improve the management of the Refuge. Much of the information generated by the research is applicable to management on and near the Refuge. In many cases, research by non-Service personnel ensures the perception of un-biased and objective information gathering which can be important when using the research to develop management recommendations for politically sensitive issues. Additionally, universities and other Federal partners can access equipment, resources, and facilities unavailable to Refuge staff for analysis of data or biological samples.

The Service will encourage and support research and management studies on refuge lands that will improve and strengthen biological and social science management decisions. The refuge manager will encourage and seek research relative to approved Refuge objectives that clearly improves land management and recreational opportunities and promotes adaptive management. Priority research addresses information that will better manage the Nation's biological resources and is generally considered important to agencies of the Department of the Interior, the Service, the Refuge System, and state fish and game agencies. Priority research also addresses important management issues, demonstrates techniques for management of species or habitats, or analyzes ways to improve access and recreational use by the public.

The Refuge will also consider research for other purposes which may not be directly related to Refuge-specific objectives, but contribute to the broader enhancement, protection, use, preservation, and management of native populations of fish, wildlife, and plants, and their natural diversity within the region or flyway. Prospective researchers or organizations can talk to the refuge manager or biologist about specific research needs. Similar research could be conducted by potential researchers and organizations on other nearby public and federal lands. However, the research capabilities and support systems, organization goals, habitat, wildlife, hydrology, and geology of each of these locations vary widely. To best account for the research needs, goals, and funding availability of local, state, federal, university, and research specific organizations – the lands where research is permitted should be diverse. Therefore, maintaining and growing the Refuge research program is essential.

Availability of Resources

The analysis of cost for administering and managing each use will only include the incremental increase above general operational costs that we can show as being directly caused by the proposed use. Refuge support of research directly related to Refuge objectives may take the form of funding, in-kind services such as housing or use of other facilities, direct staff assistance with the project in the form of data collection, provision of historical records, conducting management treatments, or other assistance as appropriate. There is currently enough funding and staff available

to allow research opportunities. Special equipment, facilities, or improvement costs are expected to be negligible from this use on the Refuge.

One-time costs: None

Annual/recurring expenses (i.e., for annual operations and maintenance):

1. Maintenance costs: Maintenance costs are expected to be negligible from this use on the Refuge. There are no expected increased costs to maintaining Refuge infrastructure outside normal use of roads and other developed areas.
2. Annual Operations: The bulk of the cost for research is incurred in staff time to review research proposals, coordinate with researchers, and write special use permits. In some cases, a research project may only require 1 day of staff time to write a special use permit. In other cases, a research project may take an accumulation of weeks, as the Refuge staff must coordinate with the principal researcher and accompany them during site visits. Because research conducted on the Refuge is not constant, there may be fiscal years when little if any time is spent on managing outside research projects by Refuge staff.
3. Monitoring costs: None

Offsetting revenues: None

Anticipated Impacts of the Use

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

Refuge System mission

The effects and impacts of the proposed use to Refuge resources, whether adverse or beneficial, are those that are reasonably foreseeable and have a reasonably close causal relationship to the proposed use. This compatibility determination (CD) includes the written analyses of the environmental consequences on a resource only when the impacts on that resource could be more than negligible and therefore considered an “affected resource.”

Short-term impacts

Research activities may disturb fish and wildlife and their habitats. For example, the presence of researchers can cause birds to flush from resting and feeding areas, cause disruption of birds on nests or breeding territories, or increase predation on nests and individual animals as predators follow human scent or trails.

Efforts to capture animals, such as for migratory bird banding, can cause disturbance,

injury, or death to groups of wildlife or to individuals. To wildlife, the energy cost of disturbance may be appreciable in terms of disruption of feeding, displacement from preferred habitat, and the added energy expended to avoid disturbance. Sampling activities associated with many types of research activities can cause compaction of soils and the trampling of vegetation. Installation of posts, equipment platforms, collection devices, and other research equipment in open water may present a hazard if said items are not adequately marked and/or removed at appropriate times or upon completion of the project. Research efforts may also discover methods that result in a reduction in impacts described above.

The potential for research conducted on the Refuge to conflict with Refuge management activities (e.g., prescribed burning, prescribed grazing, herbicide applications) and visitor use on the Refuge is minimal. Research would be scheduled to minimize conflict with Refuge management activities. Visitors may encounter researchers in the field or observe monitoring plots or other research infrastructure. However, these encounters will be infrequent due to the typically minimal presence of field technicians and interest in maintaining low profile infrastructure to prevent disturbance or vandalism of study sites.

Long-term impacts

Long-term effects should generally be beneficial by gaining information valuable to Refuge management. No long-term negative impacts are expected from the research activities described. The refuge manager can reduce the likelihood of long-term impacts by denying special use permits for research that is likely to cause long-term, adverse impacts. Permits for multi-year research projects are renewed annually, providing the opportunity for an analysis of any impacts before renewing the SUP.

Cumulative impacts would occur if multiple research projects were occurring on the same resources at the same time or if the duration of the research was excessive. In particular, the Refuge must consider the potential impacts of non-Service research, in conjunction with any Service-sponsored research or management activity also taking place. However, no cumulative impacts are expected because the refuge manager can control the potential for cumulative impacts through SUPs, prohibiting multiple research projects from affecting any given area or species at one time. The refuge manager retains the option to deny proposals for research that does not contribute to the mission of the Refuge System or causes undue disturbance or harm to Refuge resources. The refuge manager also retains the right to revoke or deny renewal for any special use permit if unanticipated short-term, long-term, or cumulative impacts occur.

Project-specific stipulations outlined in each special use permit will act to minimize anticipated impacts of research projects. These stipulations will prevent impacts to Refuge wetlands, water quality, soils, hydrology, fish, wildlife, habitat, or cultural

resources. Projects which occur within the habitat of, or include direct monitoring of, threatened and endangered species will be subject to a Section 7 informal consultation with the Service under the Endangered Species Act (87 Stat. 854, as amended; 16U.S.C. 1531 et seq.). Only with the approval of the Section 7 consultation will the Refuge permit research to be conducted on habitats or individuals of threatened and endangered species. Research that could adversely affect critical habitat, threatened or endangered wildlife, or cultural resources will not be permitted.

Public Review and Comment

The draft CD will be available for public review and comment for 30 days from the publication of the draft Comprehensive Conservation Plan and draft Environmental Assessment. The public will be made aware of this comment opportunity through the federal register and other media outlets. State and Tribes have been asked to review and comment on the draft CD. It will be made available electronically on the Refuge website. Please let us know if you need the documents in an alternative format. Concerns expressed during the public comment period will be addressed in the final.

Determination

Is the use compatible?

Yes

Stipulations Necessary to Ensure Compatibility

1. Prior to initiation of any research and/or management studies on the Refuge, the requesting agency or organization is required to meet with Refuge management in person and present a comprehensive proposal of why the research is proposed to be undertaken, all methodologies involved, expected short- and long-term impacts of the activities, duration of the research, and anticipated completion date of the report.

2. The requesting agency or organization must apply for a permit by submitting a NWRS Research and Monitoring Special Use Permit Application and a detailed research proposal.

3. Researchers must give the District at least 45 days to review proposals and determine if a special use permit will be issued. If the research involves the collection of wildlife, the District must be given 60 days to review the proposal.

4. Researchers must obtain all necessary scientific collecting, banding, or other permits required by State, federal, or Institutional Animal Care and Use Committee entities before starting the research.

5. Priority of approval will be based on studies that contribute to the enhancement, protection, use, preservation, and management of native wildlife populations and

their habitat.

6. SUPs may contain specific terms and conditions that the researcher(s) must follow relative to activity, location, duration, and time-of year restrictions to ensure continued compatibility.

7. All Refuge rules and regulations must be followed unless alternatives are otherwise accepted in writing by Refuge management.

8. Any research involving ground disturbance may require historic preservation consultation with the Regional Historic Preservation Officer and/or State Historic Preservation Officer.

9. All research related SUPs will contain a statement regarding the Service's policy regarding disposition of biotic specimen.

10. Upon completion of a project, researchers are required to remove all research apparatus in the field and restore any disturbed lands to their original state.

11. Any research project may be terminated at any time for non-compliance with the SUP conditions. Research projects may also be modified, redesigned, relocated, or terminated at any time upon determination by the Refuge manager that the project is causing unanticipated adverse impacts to wildlife, wildlife habitat, approved priority public uses, or other Refuge management activities. Refuge staff will conduct annual reviews of the research project to monitor researcher activities for potential impacts to the Refuge and for compliance with conditions on the SUP. The Refuge manager may terminate previously approved research and SUPs if adverse impacts are observed or if the researcher is not in compliance with the stated conditions.

12. The Service expects researchers to submit a final report to the Refuge upon completing their work. For long-term studies, we may also require interim progress reports. All reports, presentations, posters, articles, or other publications will acknowledge the Refuge System and the Refuge as partners in the research.

Justification

The Service encourages research on national wildlife refuges to collect new information which will improve the quality of Refuge and other Service management decisions, to expand the body of scientific knowledge about fish and wildlife, their habitats, the use of these resources, appropriate resource management, and the environment in general, and to provide the opportunity for students and others to learn the principles of field research. In accordance with 50 CFR 26.41, research conducted by non-Service personnel, as described in this CD, will not materially interfere with, or detract from, the fulfillment of the Refuge System mission or the purposes for which the Refuge was established.

Signature of Determination

Refuge Manager Signature and Date

Signature of Concurrence

Assistant Regional Director Signature and Date

Mandatory Reevaluation Date

2034

Draft Compatibility Determination

Title

Compatibility Determination for Wildlife Observation and Photography for Grass Lake National Wildlife Refuge

Refuge Use Category

Wildlife Observation and Photography

Refuge Use Types

Photography
Photography, video, filming, or audio recording (news and educational)
Wildlife observation

Refuge

Grass Lake National Wildlife Refuge (Refuge)

Refuge Purpose(s) and Establishing and Acquisition Authorities

“... as a refuge and breeding ground for migratory birds and other wildlife ... Executive Order 9167, dated May 19, 1942 "... 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 National Wildlife Refuge System (NWRS), 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

Is this an existing use?

No.

What is the use?

Photography. Refuge visitation for the purpose of photographing refuge natural or cultural resources (including fish, wildlife, plants, and their habitats) or public uses of those resources (not for commercial, news, or educational purposes).

Photography, video, filming, or audio recording (news and educational). Activity involving photography, videography, filming, or other recording of sight or sound for news, public information, or educational purposes.

Wildlife observation. Viewing of fish, wildlife, plants, or their habitats by refuge visitors.

Is the use a priority public use?

Yes

Where would the use be conducted?

All areas open to the public will be open for wildlife observation and photography. These areas do not have trails or built facilities to support these uses. An unimproved road into the Refuge and a parking area is present. All areas open to the public are open for walking to achieve these uses. Refuge signs denote Refuge boundaries and closed areas designated as refugia for wildlife and that are thus closed to all public entry and access.

When would the use be conducted?

Wildlife observation and photography occur year-round as guided or self-guided activities. The Refuge is open sunrise to sunset for the public.

How would the use be conducted?

Most wildlife observation and photography activities are conducted individually; however, the Refuge may occasionally help facilitate these activities through workshops, planned events, and tours.

Why is this use being proposed or reevaluated?

Wildlife observation, and photography are two priority wildlife-dependent recreational uses of the NWRS identified by the National Wildlife Refuge Improvement Act of 1997 (Improvement Act). These uses help promote the understanding, appreciation, and support of the Refuge System mission.

Availability of Resources

The analysis of cost for administering and managing each use will only include the

incremental increase above general operational costs that we can show as being directly caused by the proposed use. Wildlife observation and photography are self-led activities. A Refuge parking area and an unimproved road allow for public entry and use. There is currently enough funding and staff available to provide opportunities for these activities depending on the time and specific staff services requested. No additional funding is needed.

One-time costs: None

Annual/recurring expenses (i.e., for annual operations and maintenance):

Offsetting revenues: None

Anticipated Impacts of the Use

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

The effects and impacts of the proposed use to refuge resources, whether adverse or beneficial, are those that are reasonably foreseeable and have a reasonably close causal relationship to the proposed use. This compatibility determination (CD) includes the written analyses of the environmental consequences on a resource only when the impacts on that resource could be more than negligible and therefore considered an "affected resource."

The overall impacts to the Refuge and its associated wildlife populations from this use would be minimal. Wildlife observation and photography can have both positive and negative implications on Refuge resources.

Short-term impacts

Human disturbance to migratory birds and other wildlife has been documented in many studies. Among activities considered as disturbing to wildlife, Korschen (1992) determined that bird watching was among the least disturbing, but Klein (1993) noted that approaching birds on foot was the most disruptive of usual refuge activities. Some photographers are more likely to cause disturbance by lingering in a sensitive area, using recorded calls, and even altering the vegetation at a site to gain a better view (Glinski 1976). However, photography can be useful as a tool to engage others and develop support for wildlife with images that appeal to people's emotions (Hanisch 2017). There are many recommendations for reducing impacts to wildlife: provide visitor education, require staying on trails, closing areas during sensitive periods such as nesting, require minimum set back distances for approach to areas

such as rookeries, etc. (Boyle et al. 1985, Erwin 1989, Haverra 1992, Klein 1993, Miller 2001, Morton 1989, Rodgers 1995, Taylor 2003).

Human disturbance to avifauna has been thoroughly documented around the world. Several studies have examined the effects of trail-based recreation on birds inhabiting wildlife refuges and coastal habitats in the eastern United States. McNeil et al. (1992) found that many waterfowl species avoid disturbance by feeding at night instead of during the day. Similarly, Martín et al. (2015) found that human presence caused resident shorebird species to spend less time feeding and more time displaying avoidance behavior, and that the number of shorebirds and gulls within their study site dramatically decreased in response to increased recreation of the area. Disturbance can increase the risk of predation when individuals are forced to forage in more dangerous habitats and can increase intraspecific competition when avoiding humans necessitates movement into suboptimal habitats (Frid and Dill 2002).

Some uses, such as bird observation, are directly focused on viewing certain wildlife species and can cause more significant impacts during the breeding season and winter months. Research has shown that as the intensity of human disturbance increased, avoidance response by birds increased, and that out-of-vehicle activity was more disruptive than vehicular traffic (Klein 1993, Freddy et al. 1986, Vaske et al. 1983). Miller et al. (1998) found bird abundance and nesting activities (including nest success) increased as distance from a recreational trail increased, in both grassland and forested habitats. Some studies have found that some songbird species habituate to repeated intrusion. Frequently disturbed individuals of some species vocalize more aggressively, have higher body masses, or tend to remain in place longer (Cairns and McLaren 1980). Disturbance may affect the reproductive fitness of males by hampering territory defense, mate attraction, and other reproductive functions of song (Arcese 1987, Ewald and Carpenter 1978).

Overall, the existing research clearly demonstrates that disturbance from recreation activities always have at least temporary effects on the behavior and movement of birds within a habitat or localized area (Burger 1981, Burger 1986, Klein 1993, Burger et al. 1995, Klein et al. 1995, Rodgers and Smith 1997, Burger and Gochfeld 1998). The location of recreational activities and the size of participating groups are also important factors affecting the magnitude of disturbance. A number of species have shown greater reactions when pedestrian use occurred off-trail (Miller et al. 2001, Samia et al. 2015), and when pedestrians traveled in large groups (Beale and Monaghan 2004).

The presence of humans on Refuge land would disturb some wildlife causing temporary displacement without long-term effects. There would be some disturbance to wildlife and vegetation at the locations where interpretive programs occur with groups, but at levels that would not interfere with the purposes of the Refuge. Some species may avoid areas with frequent people, while other species

would be unaffected by human presence. However, the overall effect of the use on wildlife would not have a population level impact, because most of the Refuge will experience minimal to no daily public use. Vehicles will utilize the designated road and parking area. Self-guided interpretation may be sporadically used by small groups of people at established trails and kiosks. This may cause short-term disturbance to wildlife, but again would have minimal impact.

Long-term impacts

Engaging in activity associated with wildlife observation and photography can be done with very little impact to wildlife (Burger et al. 1995). However, if measures are not taken to reduce disturbance, wildlife can suffer from being displaced to less desirable habitat, forced to use important energy reserves, cause the animal to change behaviors from, for example, breeding to seeking cover, and much more (Arcese 1987, Belanger et al. 1990, Burger et al. 1995, Burger 1996, Burger and Gochfeld 1998, Henson et al. 1991, Kaiser et al. 1984, Korschen 1992, Taylor et al. 2003, Yalden et al. 1990).

The Refuge anticipates that no negative long-term impacts will occur as a result of environmental education and interpretation, however, these uses could be modified in the future to mitigate unforeseen impacts. The Refuge also anticipates positive long-term benefits for the public. These uses allow the public to engage in and experience the Refuge and the outdoors. The Refuge will continue to gain relevancy to new, broader audiences and therefore have a greater reach to the public. Additionally, these uses benefit the Refuge by promoting a conservation ethic in the local community and a better appreciation and understanding of the Refuge's wildlife and habitats.

People can be vectors for invasive species by moving seeds or other propagules from one area to another. The threat of invasive species will always be an issue requiring annual evaluation and treatment. Refuge staff will work to look for early detection of invasive species and will educate the visiting public on the environmental damage and conservation challenges invasive species present. Impacts may be considered not significant when analyzed alone but may be considered important when they are evaluated cumulatively. The Refuge's primary concern is repeated disturbance of resting, foraging, or nesting birds by visitors. Refuge staff will continually evaluate disturbance to habitat and habitat quality and, if necessary, respond with management actions to conserve wildlife resources being adversely impacted. Refuge staff, volunteers, and researchers will evaluate the effects of these priority uses and respond to any adverse effects.

Based on the best available knowledge and with added use restrictions, the Refuge does not expect these uses would cause adverse effects. Educating the public about conservation issues would enhance the Refuge's purposes by promoting a

conservation ethic.

Public Review and Comment

The draft CD will be available for public review and comment for 30 days from the publication of the draft Comprehensive Conservation Plan and Environmental Assessment. The public will be made aware of this comment opportunity through the federal register and other media outlets. State and Tribes have been asked to review and comment on the draft CD. It will be made available electronically on the Refuge website. Please let us know if you need the documents in an alternative format. Concerns expressed during the public comment period will be addressed in the final.

Is the use compatible?

Yes

Stipulations Necessary to Ensure Compatibility

1. Visitors are to adhere to all Refuge rules and regulations as found in the regulations section of the Refuge website and brochure unless otherwise approved in advance by the Refuge.

2. Disturbing or attempting to disturb, injure, or collect any plant, berries, mushrooms, animal, animal part, horn, antler, bones, skull, or feather is prohibited except by special use permit.

3. Disturbance or collection of any cultural resource is prohibited.

4. Entry on all or portions of individual areas may be temporarily suspended based on public safety, wildlife health, or natural resource concerns. When possible, the public will be given notice of closures. However, unforeseen circumstances may require immediate closure without advanced public notice.

Justification

In accordance with the missions of the NWRS and the Improvement Act, the Refuge has determined that the uses are compatible provided the above stipulations are implemented. Wildlife observation and photography are two of the priority wildlife-dependent recreational uses of the NWRS identified by the Improvement Act. These uses help promote the understanding, appreciation, and support of the Refuge System mission and help promote public awareness and stewardship of the Refuge's natural and cultural resources. The uses do not materially interfere with or detract from the Service's ability to meet the mission of the NWRS, and administration of the

uses would only require medium amounts of administrative time and funding.

The Refuge's habitats, wildlife, and public use areas provide a unique wildlife observation, and/or photography experience to visitors, helping them connect with nature and natural ecosystems. Wildlife observation and photography facilitate the connection to nature and the need for conservation. These activities may also enhance environmental education and interpretation programs by allowing visitors experience nature in a more immersive way.

Wildlife disturbance is a concern and limited use will help to minimize any adverse impacts to wildlife. Refuge staff will evaluate impacts on Refuge federal trust resources to determine if there are appreciable negative implications of the use.

Signature of Determination

Refuge Manager Signature and Date

Signature of Concurrence

Assistant Regional Director Signature and Date

Mandatory Reevaluation Date

2039

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Draft Compatibility Determination

Title

Compatibility Determination for Grazing: Hailstone National Wildlife Refuge

Refuge Use Category

Agriculture, Aquaculture, and Silviculture

Refuge Use Types

Grazing

Refuge

Hailstone National Wildlife Refuge (Refuge)

Refuge Purpose(s) and Establishing and Acquisition Authorities

".. as a refuge and breeding ground for migratory birds and other wildlife ... Provided, that as to any lands included in Petroleum Reserve No. 40, Montana No.1, their reservation ... shall be subject to their primary use for the purpose of oil and gas development ... Executive Order 9292, dated Dec. 31, 1942."

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System, otherwise known as Refuge System (NWRS), 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

Is this an existing use?

No.

What is the use?

Prescriptive grazing as a tool to improve habitat conditions for specific wildlife or focal bird species, migratory songbirds, and other grassland-obligate species. Future

prescriptive grazing regimens may include short-duration, high-intensity grazing treatments to control invasive plants; habitat management for specific wildlife or focal bird species; or rotation of grazing areas on the Refuge to provide more long-term rest between grazing treatments. The Refuge currently uses cattle livestock (here forth livestock) grazing as a tool to manage grassland and mixed sagebrush grassland habitats. Livestock grazing is designed to mimic some of the behaviors and grazing habits of early native grazers, which were formerly present on the Refuge's landscape around the early-1800s. Grazing by livestock is a preferred management tool because the effect on habitat is controllable, measurable, and can reasonably mimic early grazers' habits. It has the additional benefit of reducing wildfire risk by reducing the amount of light fuels that can carry a fire. Livestock grazing is utilized in a variety of ways including: high intensity–short duration, rest rotation, and complete rest.

Is the use a priority public use?

No

Where would the use be conducted?

The use would be implemented across the Refuge where the U.S. Fish and Wildlife Service (Service) has control over the use; specifically, on grassland and mixed grassland sagebrush areas. Habitat management units within areas to be grazed will be established to control grazing treatments and help ensure desired habitat characteristics in accordance with the Charles M. Russell Wetland Management District Comprehensive Conservation Plan (CCP) goals and objectives. Units that are fenced from common pastures would be the first units enrolled into prescriptive grazing. Habitat management units that are not fenced from private or other government owned lands would be managed under existing management plans.

When would the use be conducted?

Grazing may occur during any season depending on the specific objectives to be achieved. Conversion to a prescriptive grazing system means a permit may not always be available annually. Exact times and dates vary per unit in accordance with habitat and management objectives in the CCP.

How would the use be conducted?

Grazing will be administered in accordance with the Service's Cooperative Agriculture Use Policy (620 FW 2) and a Cooperative Agriculture Agreement (CAA) consisting of a Commercial Special Use Permit (SUP) having special conditions and a detailed Plan of Operations outlining allowable Animal Unit Months (AUMs), on-off dates, unit locations, unit rotations, and specific instructions pertinent to grazing.

Select grazing units may receive annual grazing treatments consisting of high

intensity-short duration, extended rest, complete rest, and/or on a rotational grazing schedule for various lengths of time and may then be rested for multiple years to achieve desired CCP objectives and landscape habitat characteristics.

Why is this use being proposed or reevaluated?

With the issuance of a CCP and Environmental Assessment (EA), this use requires a compatibility determination (CD).

The use of prescriptive grazing to achieve desired habitat conditions would result in long-term beneficial effects on a variety of wildlife species that use the Refuge and is included in the CCP and corresponding EA as a management tool for the District, wherein the Refuge resides. This use is being proposed in order to move from an annual grazing program to a prescriptive gazing program to meet specific wildlife and habitat management objectives. The Refuge lies within the Great Plains and was known to have native grazers ; as such, the landscape's flora and fauna have evolved over millennia with grazing.

The CCP has established goals and objectives for specific habitat types (e.g. grassland, mixed grassland-sagebrush) where prescribed grazing may be utilized. In addition, target wildlife species (e.g. sprague's pipit, mountain plover, chestnut-collared longspur, greater sage-grouse) and their habitat requirements have been identified. This has resulted in objectives that help guide management to meet target wildlife species and their habitat needs. Different grazing strategies may be implemented and assessed in order to determine the best methods for the Refuge to meet the identified habitat goals and objectives of the CCP, as well as combat the spread of invasive graminoids and forbs present in some units.

Availability of Resources

The analysis for administering and managing the use will only include the incremental increase above general operational needs that we can show as being directly caused by the proposed use. The staff time needed for the development and administration of the cooperative grazing program is already committed and available to support the program under current staffing. Most work needed to prepare for this use would continue to be done as part of routine habitat maintenance.

District staff will continue to monitor permittees for violations of permit conditions and tresspass. Biologists and the District manager will monitor habitat conditions. New boundary and temporary fences may need to be constructed to implement prescriptive grazing on common pastures. Temporary water developments may be necessary to facilitate prescriptive grazing in some habitat units in order to meet habitat objectives.

Annual/recurring requirements (i.e., for annual operations and maintenance):

1. Maintenance: Maintenance requirements vary and will be reduced due to the reduction in interior fences necessary to manage prescriptive grazing program according to CCP alternatives. There may be additional needs with the construction and maintenance of temporary and boundary fences which would be constructed anyway in order to manage livestock in common pastures.
2. Annual Operations: District personnel currently spend a small portion of their time issueing permits, monitoring for trespass livestock and habitat conditions.
3. Monitoring: District staff monitor for livestock trespass intermittantly; it thus is not a significant portion of staff time.

Offsetting revenues: Refuges receive a percentage of the amount of revenue that is generated from commercial activities occuring on them. These funds aid in costs associated with implementing a prescriptive grazing program.

Anticipated Impacts of the Use

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

Prescribed grazing as a management tool is intended to be utilized to meet habitat and species-specific goals and objectives identified in the CCP, as well as replicate habitat and landscape conditions formerly created by native grazers. This management is intended to maintain and enhance habitat conditions for the benefit of a wide variety of fish and wildlife that utilize the Refuge and includes combating invasive graminoids and forbs. Grazing has the additional benefit of reducing wildfire risk by reducing the amount of light fuels that can carry a fire.

Minimal negative impacts, equal to or perhaps even less than what may have occurred during the former presence of native grazers, are expected through the use of this tool. Landscape character will remain unchanged or may be expected to improve through removal of excessive thatch. Some trampling of areas may occur around watering areas or mineral licks, though no more than what may have occurred with large numbers of native grazers in areas where they congregated or wallowed. Grazing may achieve a mosaic pattern of biomass density throughout the landscape with some areas more intensively grazed than others in certain years to achieve habitat heterogeneity, which could reasonably be expected to have happened when native grazers were present. In addition, while the presence of livestock may disturb some wildlife species, just as with native grazers, and some public visitors, the benefits of this habitat management tool are felt to outweigh these negative impacts since the landscape evolved with grazing and not without it.

When threatened and endangered species are known or suspected to be on a site, the local Service Ecological Services office will be consulted, and the proper steps will be

determined to assess how and what management activities will affect that species and what, if anything, should be pursued.

There will be no negative effects on cultural resources.

Short-term impacts

Short term impacts would include loss of vegetative cover which could result in increased soil erosion. Highly palatable forbs and shrubs would be impacted by grazing affecting a large number of wildlife species from pollinators to big game. However, the benefit would be to the wildlife species that require short cover such as prairie dogs, mountain plovers, McCown's longspur, and grazing ungulates that would graze the fresh growth of grasses. Potential disturbance to some wildlife species and some public users may occur.

Grazing by domestic livestock removes and tramples some or 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, or full, as it pertains to biomass remaining in a unit). Depending on the latter of the three factors, hoof action is expected to break up litter thereby increasing the rate of litter decomposition, opening up the ground for natives to express, and aid in nutrient cycling. Areas around watering systems, along fence lines, and at the location of mineral blocks may experience heavy trampling and compaction resulting in the mortality of perennial vegetation and the establishment of early successional species, just as could have been expected in areas where large native grazers congregated.

Varying bird species differ in their vegetation height preferences; as such, the management goal is to provide a heterogeneity of vegetation heights across the landscape. Pollinators are similar in their need for 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. Birds that prefer shorter stature grasslands may benefit from the reduced vegetative height resulting from grazing while others, which typically require taller and more dense nesting structure, may be negatively impacted by grazing in the short-term.

In situations where grazing utilizations are full, there may be less litter available for grassland nesting birds who utilize this material for nest construction. However, grazed areas may attract fewer predators because of low densities of some types of prey, such as small mammals (Grant et al. 1982, Runge 2005); less cover for concealment; or both. Higher nesting success in grazed fields may occur because predators respond negatively to low prey density (Clark and Nudds 1991, Lariviére and

Messier 1998). If a site is completely devoid of litter prior to winter, certain pollinator larvae may lack the needed cover to survive for that year. The same could reasonably have been expected to happen with a large herd(s) of native grazers present on the landscape when and where they may have congregated for extended periods of time.

Research conducted on other refuges has found impact from grazing ranging from minimally negative to favorable. Prescribed grazing on Red Rock Lakes National Wildlife Refuge (NWR) have been shown to have little effect on sage-grouse, a noted species of concern (Schroff 2016 MSU). Another study by (Stadum et al. 2016) found that grazing can provide the structure of vegetation heterogeneity that favors nesting long-billed curlews, a species of concern throughout some areas of Montana, to include the District wherein the Refuge resides. She also cites (Redmond and Jenni 1986) who observed curlews nesting in previously recent grazed areas. (Stadum et al. 2016) further explains how "prescriptive livestock grazing can be used to provide structurally diverse grassland habitats for species with seemingly disparate structural preferences within the same habitat type. Managing grassland habitat for species that exist on opposite ends of a disturbance preference gradient presumably incorporates the needs of species with intermediate preferences".

Long-term impacts

Prescriptive grazing will improve habitat conditions for specific wildlife or focal bird species, migratory birds, and other grassland-obligate species. Future prescriptive grazing regimens may include short-duration, high-intensity grazing treatments to control invasive plants; habitat management for specific wildlife or focal bird species; or rotation of grazing areas on the Refuge to provide long-term rest between grazing treatments.

The beneficial effects of grazing on plant diversity depend on grazing intensity, the evolutionary history of the site, and climatic regimes. Continuous rest without periodic disturbance fails to promote long-term grassland health (Naugle et al. 2000). Hoof impact by grazing animals can break up capped soils, improve the water cycle, stimulate vegetative reproduction of grasses, and enhance the decomposition of old plant material by breaking up plant litter. Hoof action can also distribute and trample seeds into soils, increasing chances of successful germination (Laycock 1967). Nutrients are returned to the soil in the form of urine and feces. Cattle may return 80%–85% of the nitrogen ingested with plant tissue (Laycock 1967). The use of prescriptive grazing to achieve desired habitat conditions would result in long-term beneficial effects on a variety of wildlife species that use the Refuge.

The effect of removal of vegetation increases the vigor of grasslands 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, and invasive species. During periods of typical precipitation, normal regrowth following grazing activities can occur within a single growing season. Over

time, a strategic prescribed grazing program could effectively alter species composition and improve overall plant diversity. Disturbance of grassland, wet meadow, and some shrub-steppe habitats is essential to maintain plant vigor and reduce infestations of noxious weeds.

As vegetative heights recover following a grazing treatment, habitat conditions will favor birds which prefer denser nesting structure and may become less favorable to species that prefer sparser vegetation. Because of regrowth of herbaceous vegetation, no long-term negative impacts are anticipated for waterfowl or other grassland or mixed grass-sagebrush nesting bird species, though positive impacts of increased diversity and heterogeneity are likely in the long-term.

Public Review and Comment

The draft CD will be available for public review and comment for 30 days from the publication of the draft CCP/EA. The public will be made aware of this comment opportunity through the federal register and other media outlets. State and Tribes have been asked to review and comment on the draft CD. It will be made available electronically on the Refuge website. Please let us know if you need the documents in an alternative format. Concerns expressed during the public comment period will be addressed in the final.

Determination

Is the use compatible?

Yes

Stipulations Necessary to Ensure Compatibility

1. CAAs and SUPs will be written in accordance with the Service's Cooperative Agricultural Use Policy (620 FW 2) and the Region 6 Cooperative Agricultural Program Guidance (2022).

2. Cooperators must follow all requirements for the prescribed grazing treatment as specified within the CAA, its stated Plan of Action, and the Special Conditions of the SUP.

3. Insecticides are not permitted for use on Refuge lands.

4. Control and maintenance of livestock is the responsibility of the permittee.

5. Fencing, water supply, and other livestock management infrastructure needs and costs will be outlined in the CAA and SUP.

Justification

Sharp-tailed grouse, pronghorn, sage-grouse, large ungulates, and other wildlife species need a diversity of and abundant group of plants for food and cover. Prescriptive grazing and other adaptive management strategies would permit flexibility necessary for the restoration of these important plant species.

Prescriptive grazing is a valuable management tool that supports refuge objectives. As outlined in this CD and in accordance with the stipulations outlined above, based on best professional judgement and available science, the Service has determined that continuation of the grazing use on the Refuge will not materially detract from or interfere with the fulfillment of the NWRS mission or the purposes of the Refuge; will contribute to the NWRS mission and Refuge purposes, meeting the standard or threshold established in 50 CFR §29.1 for economic uses of NWRs; and will not conflict with the national policy to maintain the biological integrity, diversity, and environmental health of the Refuge.

To maintain and enhance habitat for migratory birds and other wildlife, some habitat management must occur. Prescribed grazing utilizing livestock is one option that can be used to achieve these desired habitat conditions. Prescribed grazing is a useful tool because it can be controlled, and results of the grazing can be periodically monitored (e.g. vegetation monitoring) so that adjustments in the grazing program can be made to meet habitat goals and objectives.

Signature of Determination

Refuge Manager Signature and Date

Signature of Concurrence

Assistant Regional Director Signature and Date

Mandatory Reevaluation Date

2034

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Draft Compatibility Determination

Title

Compatibility Determination for Environmental Education and Interpretation for Hailstone National Wildlife Refuge

Refuge Use Category

Environmental Education and Interpretation

Refuge Use Types

Environmental education (not conducted by National Wildlife Refuge System (NWRS) staff or authorized agents)
Environmental education (NWRS staff and authorized agents)
Environmental education (general)
Interpretation (NWRS staff and authorized agents)
Interpretation (not conducted by NWRS staff or authorized agents)

Refuge

Hailstone National Wildlife Refuge (Refuge)

Refuge Purpose(s) and Establishing and Acquisition Authorities

".. as a refuge and breeding ground for migratory birds and other wildlife ... Provided, That as to any lands included in Petroleum Reserve No. 40, Montana No.1, their reservation ... shall be subject to their primary use for the purpose of oil and gas development ... Executive Order 9292, dated Dec. 31, 1942."

National Wildlife Refuge System Mission

The mission of the NWRS, 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

Is this an existing use?

Yes.

What is the use?

Environmental education (not conducted by NWRS staff or authorized agents). On-Refuge activities not conducted by NWRS staff or authorized agents that use a planned process to foster awareness, knowledge, understanding, and appreciation in students, teachers, or group leaders about fish, wildlife, plants, ecology, natural sciences (such as astronomy) and Refuge management.

Environmental education (NWRS staff and authorized agents). On-Refuge activities conducted by NWRS staff or authorized agents that use a planned process to foster awareness, knowledge, understanding, and appreciation in students about fish, wildlife, plants, ecology, natural sciences (such as astronomy) and Refuge management.

Environmental education (general). Environmental education activities not specifically defined elsewhere in this category.

Interpretation (NWRS staff and authorized agents). On-Refuge activities for Refuge visitors conducted by NWRS staff or authorized agents that are designed to foster an understanding and appreciation for natural and cultural resources, and associated management.

Interpretation (not conducted by NWRS staff or authorized agents). On-Refuge activities for Refuge visitors not conducted by NWRS staff or authorized agents that are designed to foster an understanding and appreciation for natural and cultural resources, and associated management.

Is the use a priority public use?

Yes

Where would the use be conducted?

All areas open to the public will be open for environmental education and interpretation. These areas do not have trails or built facilities to support these uses. An unimproved road into the Refuge area is present. All areas are open for walking to achieve these uses. Refuge signs denote Refuge boundaries.

When would the use be conducted?

Environmental education, interpretation, wildlife observation, and photography occur year-round as guided or self-guided activities. The Refuge is open sunrise to sunset for the public.

How would the use be conducted?

Environmental education programs are scheduled in advance, and include impromptu presentations, and discussions of wildlife conservation issues with interested individual visitors and unscheduled groups. Interpretive and environmental education programs may be given by Refuge staff or volunteers. Teachers may give programs after applying for and receiving a special use permit (SUP). Any program that is conducted on Refuge land and not lead by Refuge staff requires a SUP.

Interpretive or environmental education programs focus on wildlife and habitats. These programs may address several wildlife conservation topics including riparian ecosystems, wetland habitats, migratory bird management, and endangered species conservation. Programs may also include the development of outdoor skills, which enhance appreciation of wildlife and the habitats they live in.

Most wildlife observation and photography activities are conducted individually; however, the Refuge may occasionally help facilitate these activities through workshops, planned events, and tours.

Why is this use being proposed or reevaluated?

Environmental education and interpretation are two priority wildlife-dependent recreational uses of the NWRS identified by the National Wildlife Refuge Improvement Act of 1997. These uses help promote the understanding, appreciation, and support of the Refuge System mission.

Availability of Resources

The analysis of cost for administering and managing each use will only include the incremental increase above general operational costs that we can show as being directly caused by the proposed use. The present Refuge environmental education and interpretive programs are available upon request, staff time permitting if staff are requested. Refuge personnel review proposals related to this use and prepare SUPs. A Refuge parking area and an unimproved road allow for public entry and use. There is currently enough funding and staff available to provide opportunities for these activities depending on the time and specific staff services requested. No additional funding is needed.

One-time costs: None

Annual/recurring expenses (i.e., for annual operations and maintenance): None
Offsetting revenues: None

Anticipated Impacts of the Use

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

The effects and impacts of the proposed use to refuge resources, whether adverse or beneficial, are those that are reasonably foreseeable and have a reasonably close causal relationship to the proposed use. This compatibility determination (CD) includes the written analyses of the environmental consequences on a resource only when the impacts on that resource could be more than negligible and therefore considered an "affected resource."

The overall impacts to the Refuge and its associated wildlife populations from this use would be minimal. Environmental education and interpretation, and wildlife observation and photography can have both positive and negative implications on Refuge resources.

Short-term impacts

There may be temporary disturbance to wildlife on the Refuge from the presence of humans engaging in environmental education and interpretation activities, due to noise and temporary displacement. However, the amount of environmental education and interpretation activities occurring on the Refuge should result in very minimal impacts to wildlife. There are many recommendations for reducing impacts to wildlife: provide visitor education, require staying on trails, closing areas during sensitive periods such as nesting, require minimum set back distances for approach to areas such as rookeries, etc. (Boyle et al. 1985, Erwin 1989, Haverra 1992, Klein 1993, Miller 2001, Morton 1989, Rodgers 1995, Taylor 2003).

Human disturbance to avifauna has been thoroughly documented around the world. Several studies have examined the effects of trail-based recreation on birds inhabiting wildlife refuges and coastal habitats in the eastern United States. McNeil et al. (1992) found that many waterfowl species avoid disturbance by feeding at night instead of during the day. Similarly, Martín et al. (2015) found that human presence caused resident shorebird species to spend less time feeding and more time displaying avoidance behavior, and that the number of shorebirds and gulls within their study site dramatically decreased in response to increased recreation of the area. Disturbance can increase the risk of predation when individuals are forced to forage in more dangerous habitats and can increase intraspecific competition when avoiding humans necessitates movement into suboptimal habitats (Frid and Dill 2002).

Some uses, such as bird observation, are directly focused on viewing certain wildlife species and can cause more significant impacts during the breeding season and winter months. Research has shown that as the intensity of human disturbance increased, avoidance response by birds increased, and that out-of-vehicle activity

was more disruptive than vehicular traffic (Klein 1993, Freddy et al. 1986, Vaske et al. 1983). Miller et al. (1998) found bird abundance and nesting activities (including nest success) increased as distance from a recreational trail increased, in both grassland and forested habitats. Some studies have found that some songbird species habituate to repeated intrusion. Frequently disturbed individuals of some species vocalize more aggressively, have higher body masses, or tend to remain in place longer (Cairns and McLaren 1980). Disturbance may affect the reproductive fitness of males by hampering territory defense, mate attraction, and other reproductive functions of song (Arcese 1987, Ewald and Carpenter 1978).

Overall, the existing research clearly demonstrates that disturbance from recreation activities always have at least temporary effects on the behavior and movement of birds within a habitat or localized area (Burger 1981, Burger 1986, Klein 1993, Burger et al. 1995, Klein et al. 1995, Rodgers and Smith 1997, Burger and Gochfeld 1998). The location of recreational activities and the size of participating groups are also important factors affecting the magnitude of disturbance. A number of species have shown greater reactions when pedestrian use occurred off-trail (Miller et al. 2001, Samia et al. 2015), and when pedestrians traveled in large groups (Beale and Monaghan 2004).

The presence of humans on Refuge land would disturb some wildlife causing temporary displacement without long-term effects. There would be some disturbance to wildlife and vegetation at the locations where interpretive programs occur with groups, but at levels that would not interfere with the purposes of the Refuge. Some species may avoid areas with frequent people, while other species would be unaffected by human presence. However, the overall effect of the use on wildlife would not have a population level impact, because most of the Refuge will experience minimal to no daily public use. Vehicles will utilize the designated road and parking area. Self-guided interpretation may be sporadically used by small groups of people at established trails and kiosks. This may cause short-term disturbance to wildlife, but again would have minimal impact.

Long-term impacts

The Refuge anticipates that no negative long-term impacts will occur as a result of environmental education and interpretation, however, these uses could be modified in the future to mitigate unforeseen impacts. The Refuge also anticipates positive long-term benefits for the public. These uses allow the public to engage in and experience the Refuge and the outdoors. The Refuge will continue to gain relevancy to new, broader audiences and therefore have a greater reach to the public. Additionally, these uses benefit the Refuge by promoting a conservation ethic in the local community and a better appreciation and understanding of the Refuge's wildlife and habitats.

People can be vectors for invasive species by moving seeds or other propagules from

one area to another. The threat of invasive species will always be an issue requiring annual evaluation and treatment. Refuge staff will work to look for early detection of invasive species and will educate the visiting public on the environmental damage and conservation challenges invasive species present. Impacts may be considered not significant when analyzed alone but may be considered important when they are evaluated cumulatively. The Refuge's primary concern is repeated disturbance of resting, foraging, or nesting birds by visitors. Refuge staff will continually evaluate disturbance to habitat and habitat quality and, if necessary, respond with management actions to conserve wildlife resources being adversely impacted. Refuge staff, volunteers, and researchers will evaluate the effects of these priority uses and respond to any adverse effects.

Based on the best available knowledge and with added use restrictions, the Refuge does not expect these uses would cause adverse effects. Educating the public about conservation issues would enhance the Refuge's purposes by promoting a conservation ethic.

Public Review and Comment

The draft CD will be available for public review and comment for 30 days from the publication of the draft Comprehensive Conservation Plan and Environmental Assessment. The public will be made aware of this comment opportunity through the federal register and other media outlets. State and Tribes have been asked to review and comment on the draft CD. It will be made available electronically on the Refuge website. Please let us know if you need the documents in an alternative format. Concerns expressed during the public comment period will be addressed in the final.

Is the use compatible?

Yes

Stipulations Necessary to Ensure Compatibility

1. Visitors are to adhere to all Refuge rules and regulations as found in the regulations section of the Refuge website and brochure unless otherwise approved in advance by the Refuge.

2. Environmental education and interpretation activities not led by Refuge staff require a SUP to minimize conflicts with other groups, safeguard students and resources, and allow tracking of use levels.

3. Disturbing or attempting to disturb, injure, or collect any plant, berries, mushrooms, animal, animal part, horn, antler, bones, skull, or feather is prohibited except by SUP.

4. Disturbance or collection of any cultural resource is prohibited.

5. Interpretive programming and special events will focus on wildlife, conservation, or other environmental attributes of the Refuge including fostering a respect and appreciation of the NWRS and the Refuge.

6. Entry on all or portions of individual areas may be temporarily suspended based on public safety, wildlife health, or natural resource concerns. When possible, the public will be given notice of closures. However, unforeseen circumstances may require immediate closure without advanced public notice.

Justification

In accordance with the missions of the NWRS and the Improvement Act, the Refuge has determined that the uses are compatible provided the above stipulations are implemented. Environmental education and interpretation are two priority wildlife-dependent recreational uses of the NWRS identified by the Improvement Act. These uses help promote the understanding, appreciation, and support of the Refuge System mission and help promote public awareness and stewardship of the Refuge's natural and cultural resources. The uses not materially interfere with or detract from the Service's ability to meet the mission of the NWRS, and administration of the uses would only require medium amounts of administrative time and funding.

The Refuge's habitats, wildlife, and public use areas provide a unique environmental education and interpretation experience to visitors, helping them connect with nature and natural ecosystems. Environmental education is designed to develop a citizenry that has the awareness, concern, knowledge, attitudes, skills, motivations, and commitment to work toward solutions of current environmental problems and the prevention of new ones. Interpretation is a communication process that forges emotional and intellectual connections between the interests of the audience and the inherent meanings in the resource (i.e. more than information). Both environmental education and interpretation are necessary to form relationships between the Service and the public and improve a joint stewardship of our natural resources.

Wildlife disturbance is a concern and limited use will help to minimize any adverse impacts to wildlife. Refuge staff will evaluate impacts on Refuge federal trust resources to determine if there are appreciable negative implications of the use.

Signature of Determination

Refuge Manager Signature and Date

Signature of Concurrence

Assistant Regional Director Signature and Date

Mandatory Reevaluation Date

2039

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Draft Compatibility Determination

Title

Compatibility Determination for Hunting at Hailstone National Wildlife Refuge

Refuge Use Category

Hunting

Refuge Use Types

Hunting big game; Hunting upland birds; Hunting migratory birds

Refuge

Hailstone National Wildlife Refuge (NWR)

Refuge Purpose(s) and Establishing and Acquisition Authorities

".. as a refuge and breeding ground for migratory birds and other wildlife ... Provided, That as to any lands included in Petroleum Reserve No. 40, Montana No.1, their reservation ... shall be subject to their primary use for the purpose of oil and gas development ... Executive Order 9292, dated Dec. 31, 1942."

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System (NWRS), 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

Is this an existing use?

Yes

What is the Use?

The hunting of migratory birds, upland birds, and big game as an approved wildlife-dependent priority public use and as outlined in the 1997 National Wildlife Refuge

System Improvement Act (Improvement Act). Hunting of migratory birds, upland birds, and big game is proposed in accordance with State regulations and seasons accompanied by specific Hailstone NWR (Refuge) regulations and restrictions outlined below:

- Hunting for waterfowl, which are classified as migratory birds, is federally mandated to use lead-free ammunition.
- Lead-free ammunition is currently required for upland bird hunting.

Refuge management may further enact, as deemed appropriate at any time, further restrictions or regulations for such reasons as, but not limited to:

- Protection of wildlife.
- Protection of certain specific wildlife species where State regulations are absent, fail to provide reasonable harvest limits, or allow harvest methods not conducive with Refuge values.
- Protection of natural resources.
- Public safety.

Is the use a priority public use?

Yes.

Public hunting is a historical wildlife-dependent use of the Refuge and is designated as one of the priority public uses as specified in the Improvement Act.

Where would the use be conducted?

The Refuge brochure will be available at the Charles M. Russell (CMR) Refuge Complex headquarters, of which Hailstone NWR is a part of, and online on the Refuge's website to inform the public of Refuge hunting opportunities, regulations, and safety precautions. Maps are also available, which show the location of roads and boundaries.

Specifically, hunting for big game, upland birds, and migratory birds may occur in accordance with State regulations and specific Refuge regulations and restrictions, on all areas of the Refuge. Hailstone Waterfowl Production Area, which is adjacent to the Refuge, is also open for hunting according to State regulations.

When would the use be conducted?

Hunting would occur in accordance with State regulated seasons, dates, and times in the State region/zone/area in which the Refuge resides. Additionally, hunting shall be in accordance with any specific Refuge regulations and restrictions regarding seasons, dates, and times, and that Refuge management may further enact as deemed

appropriate at any time for such reasons as, but not limited to, protection of wildlife; protection of certain specific wildlife species where State regulations are absent, fail to provide reasonable harvest limits, or allow harvest methods not conducive with Refuge values; protection of natural resources; and public safety.

How would the use be conducted?

Hunting will take place in accordance with State regulations pursuant to seasons, zones/regions/areas, bag limits, and take method regulations. Generally, centerfire rifles are used for big game, with occasional shotguns using slugs, while shotguns with birdshot are used for migratory and upland bird hunting. Additionally, hunting shall be in accordance with any specific Refuge regulations and restrictions regarding seasons, dates, times, and allowable take methods. Refuge management may further enact, at any time, more restrictive regulations such as, but not limited to season dates, times, and take measures where it deems such measures are appropriate.

All other wildlife species outside of big game, upland birds, and migratory birds are protected to include, but not limited to coyotes, prairie dogs, jackrabbits, cottontail rabbits, badgers, and bobcats.

Why is this use being proposed or reevaluated?

With the issuance of a Comprehensive Conservation Plan (CCP) and Environmental Assessment (EA), this use requires a compatibility determination (CD). Recreational public hunting is a historical wildlife dependent use of the CMR Refuge Complex, of which Hailstone NWR is a part of. Hunting is also designated as one of the priority public uses as specified in the Refuge Improvement Act.

Required boundary and informative signage is already in place with more slated for installation to inform the public of the Refuge's specific boundaries and use areas. This same signage will provide the necessary infrastructure to support hunting on the Refuge. Current staffing levels and funding are adequate to support hunting on the Refuge. Special regulations and restrictions will be in place to minimize negative impacts to the Refuge and its associated wildlife. Montana state law further controls hunter activities through State regulations and restrictions.

Hunting is a legitimate wildlife management tool that can be used to control wildlife populations having excess. Hunting harvests a small percentage of the renewable excess population resource(s), which is in accordance with wildlife management objectives and principals.

Availability of Resources

One-time costs: None

Annual/recurring expenses (i.e., for annual operations and maintenance):

Maintenance costs: Maintenance costs are expected to be negligible from this use on the Refuge. There are no expected increased costs to maintaining Refuge infrastructure outside normal use of roads and other developed areas, such as parking areas.
Annual Operations: Adequate resources are available to manage the existing hunting program at the current projected level of participation.

Offsetting revenues: None

Anticipated Impacts of the Use

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

Proposed implementation of hunting as a use will produce no appreciable adverse impacts to Refuge purposes or the Refuge System mission for the aforementioned reasons: a) hunting has been a historical wildlife dependent use within the CMR Refuge Complex and b) is an approved wildlife dependent use as specified in the Improvement Act. The effects and impacts of the proposed use to Refuge resources, whether adverse or beneficial, are those that are reasonably foreseeable and have a reasonably close causal relationship to the proposed use. This CD includes the written analyses of the environmental consequences on a resource only when the impacts on that resource could be more than negligible and therefore considered an "affected resource."

- There will be no negative effects on threatened and endangered species.
- There will be no negative effects on cultural resources.

Short-term impacts
Temporary disturbance will exist to wildlife in the vicinity of the activity. Animals surplus to populations will be removed by hunting. A temporary decrease in populations of wildlife might help ensure that carrying capacity (especially for big-game species) is not exceeded. The harvest of these species will be compensatory mortality, with minimal impact to the overall health of their populations.
Temporary impacts to the habitat are expected due to possible illegal off-road travel. To mitigate the possible impact, the Refuge will establish a parking area. We also enforce a pack-in, pack-out policy encouraging folks to remove their trash.

Lead ammunition is restricted for use for upland game birds and migratory game

birds. Since no additional lead from hunting these species will be added to the environment, results could have some beneficial effect on migratory birds or avian predators that prey upon them that occur on the Refuge, thus reducing the overall effects of lead poisoning from lead reduction in the environment.

Lead hunting ammunition for big game species is may be allowed. Studies have shown that where eagles are present to scavenge carcasses, lead can have a detrimental effect on their health when ingested in sufficient quantity. The Service continues a vigorous campaign of educating all hunters on the effects of lead ammunition in the natural environment to mitigate its future use and subsequent introduction in the environment.

Long-term impacts

Hunting is a highly regulated activity, and generally takes place at specific times and seasons when there is a harvestable surplus of game animals, reducing the magnitude of disturbance to Refuge wildlife. Managed and regulated hunting will not reduce species populations to levels where other wildlife-dependent uses will be affected. Hunting is an appropriate wildlife management tool that can be used to manage wildlife populations. Some wildlife disturbance will occur during the hunting seasons.

Regulations and seasons will be designated to minimize any negative impacts to wildlife populations using the Refuge. Harvesting these game animal species would not result in a substantial decrease in biological diversity on the Refuge. Wildlife populations on the Refuge are able to sustain hunting and support other wildlife dependent priority uses. To manage the populations to support hunting, the Refuge adopts harvest regulations set by the State within federal framework guidelines. Recreational hunting will remove individual animals but will not negatively affect wildlife populations.

Lead ammunition is not permitted for migratory game birds or upland game birds. This reduces the potential long-term risk from the introduction of additional lead ammunition in hunting these species on Refuge lands as included in this CCP. Additional lead from hunting these species would no longer enter the environment and potentially impact migratory birds or avian predators that prey upon them and that may occur on the Refuge.

Lead hunting ammunition for big game species may be allowed. Studies have shown that where eagles are present to scavenge carcasses, lead can have a detrimental effect on their health when ingested in sufficient quantity. The Service continues a vigorous campaign of educating all hunters on the effects of lead ammunition in the natural environment to mitigate its future use and subsequent introduction in the environment.

Public Review and Comment

The draft CD will be available for public review and comment for 30 days from the publication of the draft CCP/EA. The public will be made aware of this comment opportunity through the federal register and other media outlets. State and Tribes have been asked to review and comment on the draft CD. It will be made available electronically on the Refuge website. Please let us know if you need the documents in an alternative format. Concerns expressed during the public comment period will be addressed in the final.

Determination

Is the use compatible?

Yes

Stipulations Necessary to Ensure Compatibility

Hunting on the Refuge is subject to federal and State regulations and a Montana hunting license is required. Hunting for migratory birds, upland game birds, and big game in compliance with all applicable State and Refuge hunting regulations is permitted on this Refuge.
All other wildlife species outside of big game, migratory birds, and upland birds are protected including, but not limited to coyotes, prairie dogs, jackrabbits, cottontail rabbits, badgers, and bobcats.

1. Visitors are required to park at the designated parking area.
2. Target shooting with firearms or archery equipment is prohibited at all times on the Refuge.
3. Collection of antlers, bones, skulls, animal parts, nests, artifacts, and fossils is prohibited.
4. Portable blinds and other personal property used for hunting must be removed each day.
5. Trail and or game cameras are not allowed.
6. Vehicles are restricted to open roads and parking areas. Any additional travel on the Refuge is by foot only.
7. Lead-free ammunition is required to hunt migratory game bird and upland game bird species.

Justification

Recreational public hunting is a historical wildlife dependent use of the CMR Refuge Complex, of which Hailstone NWR is a part of, and is designated as one of the priority public uses as specified in the National Wildlife Refuge System Improvement Act. Required infrastructure installation for other uses and public information will directly support the hunting on the Refuge. Current staffing levels and funding are also adequate. Special regulations will be in place to minimize negative impacts to the Refuge and associated wildlife. Montana State law further controls hunter activities. Hunting is a legitimate wildlife management tool that can be used to control excess wildlife populations. Hunting harvests a small percentage of the renewable excess population resource(s), which is in accordance with wildlife management objectives and principals.

Signature of Determination

Refuge Manager Signature and Date

Signature of Concurrence

Assistant Regional Director Signature and Date

Mandatory Reevaluation Date

2039

Figure(s)

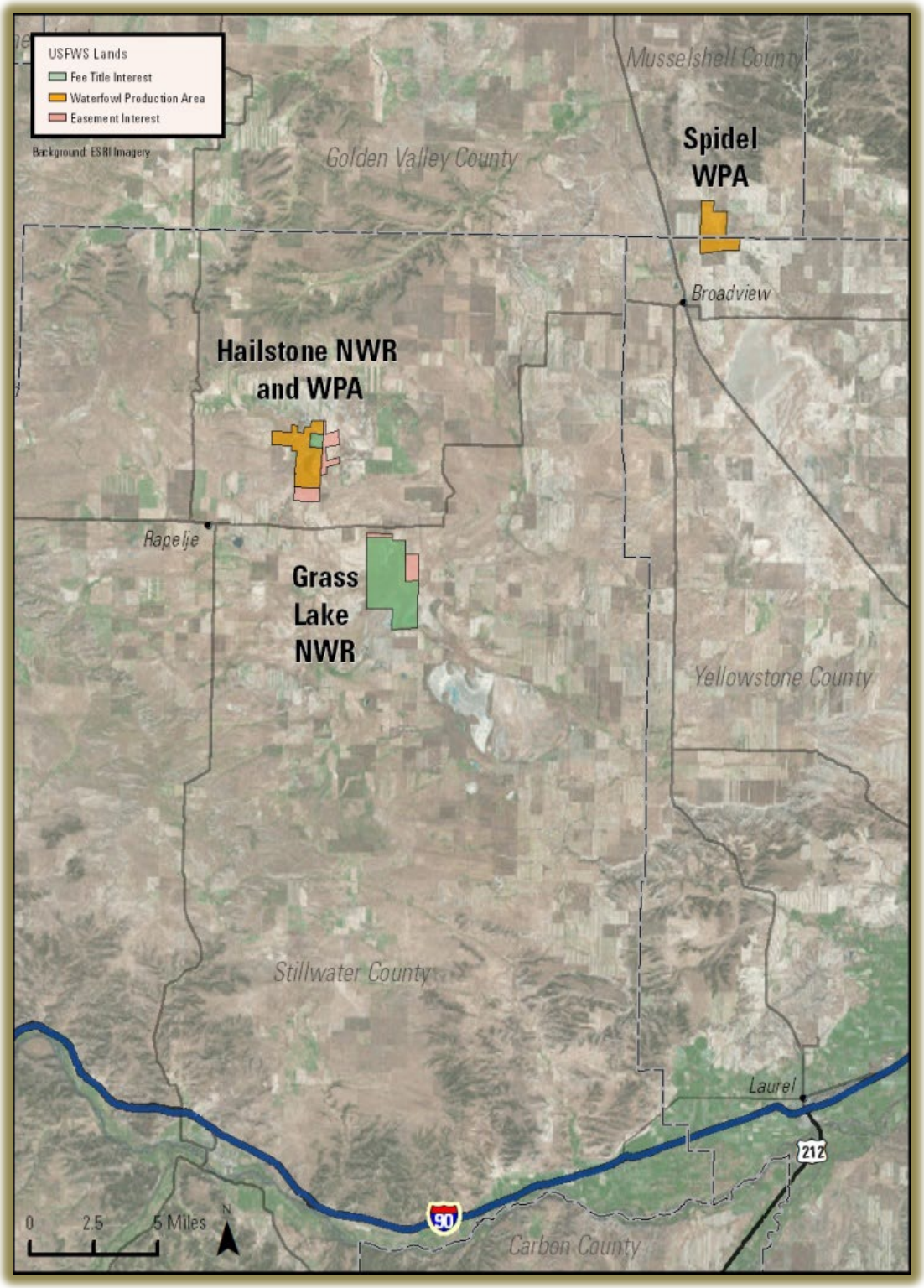

Figure 1. Map of Spidel WPA, Hailstone NWR and WPA, and Grass Lake NWR

Draft Compatibility Determination

Title

Compatibility Determination for Research, Scientific Collecting, and Surveys, for Hailstone National Wildlife Refuge

Refuge Use Category

Research and Surveys

Refuge Use Types

Research, Scientific Collecting, Surveys

Refuge

Hailstone National Wildlife Refuge (Refuge)

Refuge Purpose(s) and Establishing and Acquisition Authorities

".. as a refuge and breeding ground for migratory birds and other wildlife ... Provided, that as to any lands included in Petroleum Reserve No. 40, Montana No.1, their reservation ... shall be subject to their primary use for the purpose of oil and gas development ... Executive Order 9292, dated Dec. 31, 1942."

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System (NWRS), 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

Is this an existing use?

Yes.

What is the use?

Research. Planned, organized, and systematic investigation of a scientific nature conducted by non-U.S. Fish and Wildlife Service (Service) personnel or authorized agent.

Scientific collecting. Gathering of refuge natural resources or cultural artifacts for scientific purposes conducted by non-Service personnel or authorized agent.

Surveys. Scientific inventory or monitoring conducted by non-Service personnel or authorized agents.

Research conducted by non-Service personnel includes research conducted by Federal, State, and private entities, such as the U.S. Geological Survey; State departments of natural resources; students and professors at State and private universities; and independent non-governmental researchers and contractors. Research activities will focus on species, habitats and recreational activities as identified in the Refuge's management plan and other stepdown plans or will address research questions that will provide information to better manage the Refuge.

Acceptable research methods include but are not limited to bird banding, mist netting, point count surveys, radio-telemetry tracking, cameras, recorders, and public surveys.

Requests for special use permits (SUP) for research will be considered on a case-by case basis, as staff availability allows. In accordance with 16 U.S.C. 668dd(d) and 50 C.F.R. Part 25, Subpart D, the refuge manager is responsible for reviewing applications for SUPs and determining whether to authorize a permit.

The Refuge manager will base the decision to issue an SUP for research on their professional judgment and the value of the proposed research. The decision to allow a particular research project will also be consistent with Service regulations and policy, including the Policy on Maintaining the Biological Integrity, Diversity, and Environmental Health of the Refuge System (601 FW 3).

The results of the research should result in better knowledge of our natural resources and improve methods to manage, monitor, and protect the refuge's biological resources and visitor uses. The Refuge manager will always have the discretion to deny or reevaluate the appropriateness and compatibility of any specific research by non-Service personnel at any time [603 FW 2.1 H(1), (2)].

The Refuge manager may deny a project based on field experiences, knowledge of the Refuge's natural resources, particularly its biological resources, available scientific information, and after consulting with other experts, both inside and outside the Service. When denying a request for a specific research project, the refuge manager will explain the rationale and conclusions supporting their decision in writing. The rationale for the denial will be consistent with the principles of sound fish and wildlife management, Refuge administration, and applicable laws. The denial will generally be based on, but not limited to, evidence that the details of a particular research project might: lead to the impairment of our conservation mission; detract from fulfilling the Refuge's purposes; conflict with the conservation goals or objectives in approved Refuge management plans; not be manageable with the available budget or staff time; be inconsistent with public safety; or conflict with maintaining or restoring the biological integrity, diversity, and environmental health of the Refuge's priority

habitats.

Is the use a priority public use?

No

Research conducted by non-Service personnel is not a priority public use of the Refuge System under the Refuge System Administration Act of 1966 (16 U.S.C. 668dd668ee), as amended by the National Wildlife Refuge System Improvement Act of 1997. Although this use is not a priority public use, this activity would allow permitted researchers access to the Refuge to conduct both short-term and long-term research projects.

Where would the use be conducted?

The location of the research will vary depending on the individual research project that is being conducted. The entire Refuge may be considered in a permit request for scientific research; however, biological research projects are usually focused on a particular habitat type, plant species, or wildlife species.

Occasionally, research projects will encompass an assemblage of habitat types, plants, or wildlife, or may span more than one Refuge or include lands outside the Refuge System. The research location will also be limited only to those areas of the Refuge that are necessary to conduct the research project and access the research location. This may include access to Refuge roads that are closed to the public. The Refuge may limit areas available to research as necessary to ensure the protection of trust resources or reduce conflict with other compatible Refuge uses. Access to study locations will be identified by Refuge staff.

When would the use be conducted?

The timing of the research will depend on the individual research project's approved design. Research may occur on the Refuge throughout the year when there are no conflicts with protection of trust resources or primary public use activities. Special precautions will be required and enforced to ensure the researchers' health and safety and to minimize or eliminate potential conflicts with a priority public use. An individual research project could be short term in design, requiring one or two visits over the course of a few days. Other research projects could be multiple year studies that require daily visits to the study site. The timing of each individual research project will be limited to the minimum required to complete the project.

How would the use be conducted?

Research methods will depend entirely on the individual research project that is conducted. The methods of each research project will be reviewed and scrutinized before it will be allowed to occur on the Refuge.

No research project will be allowed to occur if:

• It negatively impacts endangered species, migratory birds, and other Refuge trust

resources;

• It compromises public health and safety.

A Research and Monitoring Special Use Application and detailed research proposal will be required from parties interested in conducting research on the Refuge. Each request for this use will be considered, and if appropriate, will be issued a SUP by the refuge manager. Each request will be evaluated on its own merit. The refuge manager will use sound professional judgment and ensure that the request will have no considerable negative impacts to natural resources, cultural resources, or visitor services and does not violate Refuge regulations. Special needs will be considered on a case-by-case basis and are subject to the refuge manager's approval. Any approved SUP will outline the framework in which the use can be conducted, and Refuge staff will ensure compliance with the permit. The SUP will provide any needed protection to individual Refuge policies, mission, wildlife populations and natural habitats. In addition, all research projects require the primary investigator to submit written summary reports of all findings and acknowledge the Refuge's participation.

Once approved, projects will be reviewed annually to ensure that they are meeting their intended purposes, reporting and communicating with Refuge staff, and are fulfilling the mission of the Refuge System and purposes for which the Refuge was established. If the refuge manager decides to deny, modify, or halt a specific research project, the refuge manager will explain the rationale and conclusions supporting their decision in writing. The denial or modification to an existing study will generally be based on evidence that the details of a particular research project may:

• Negatively affect native fish, wildlife, and habitats or cultural, archaeological, or historical resources,

• Detract from fulfilling the Refuge's purposes or conflict with Refuge goals and objectives,

• Raise public health or safety concerns,

• Conflict with other compatible Refuge uses,

• Not be manageable within the Refuge's available staff or budget time,

• Deviate from the approved study proposal such that impacts to Refuge resources are more severe or extensive than originally anticipated.

Why is this use being proposed or reevaluated?

Research by non-Service personnel is conducted by colleges; universities; Federal, State, and local agencies; non-governmental organizations; and qualified members of the public to further the understanding of the natural environment, the utilization of the natural environment by the American people and to improve the management of the Refuge. Much of the information generated by the research is applicable to management on and near the Refuge. In many cases, research by non-Service personnel ensures the perception of un-biased and objective information gathering

which can be important when using the research to develop management recommendations for politically sensitive issues. Additionally, universities and other Federal partners can access equipment, resources, and facilities unavailable to Refuge staff for analysis of data or biological samples.

The Service will encourage and support research and management studies on refuge lands that will improve and strengthen biological and social science management decisions. The refuge manager will encourage and seek research relative to approved Refuge objectives that clearly improves land management and recreational opportunities and promotes adaptive management. Priority research addresses information that will better manage the Nation's biological resources and is generally considered important to agencies of the Department of Interior, the Service, the Refuge System, and state fish and game agencies. Priority research also addresses important management issues, demonstrates techniques for management of species or habitats, or analyzes ways to improve access and recreational use by the public.

The Refuge will also consider research for other purposes which may not be directly related to Refuge-specific objectives, but contribute to the broader enhancement, protection, use, preservation, and management of native populations of fish, wildlife, and plants, and their natural diversity within the region or flyway. Prospective researchers or organizations can talk to the refuge manager or biologist about specific research needs. Similar research could be conducted by potential researchers and organizations on other nearby public and federal lands. However, the research capabilities and support systems, organization goals, habitat, wildlife, hydrology, and geology of each of these locations vary widely. To best account for the research needs, goals, and funding availability of local, state, federal, university, and research specific organizations – the lands where research is permitted should be diverse. Therefore, maintaining and growing the Refuge research program is essential.

Availability of Resources

The analysis of cost for administering and managing each use will only include the incremental increase above general operational costs that we can show as being directly caused by the proposed use. Refuge support of research directly related to Refuge objectives may take the form of funding, in-kind services such as housing or use of other facilities, direct staff assistance with the project in the form of data collection, provision of historical records, conducting management treatments, or other assistance as appropriate. There is currently enough funding and staff available to allow research opportunities. Special equipment, facilities, or improvement costs are expected to be negligible from this use on the Refuge.

One-time costs: None

Annual/recurring expenses (i.e., for annual operations and maintenance):

1. Maintenance costs: Maintenance costs are expected to be negligible from this use

on the Refuge. There are no expected increased costs to maintaining Refuge infrastructure outside normal use of roads and other developed areas.

2. Annual Operations: The bulk of the cost for research is incurred in staff time to review research proposals, coordinate with researchers, and write special use permits. In some cases, a research project may only require 1 day of staff time to write a special use permit. In other cases, a research project may take an accumulation of weeks, as the Refuge staff must coordinate with the principal researcher and accompany them during site visits. Because research conducted on the Refuge is not constant, there may be fiscal years when little if any time is spent on managing outside research projects by Refuge staff.
3. Monitoring costs: None

Offsetting revenues: None

Anticipated Impacts of the Use

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

Refuge System mission

The effects and impacts of the proposed use to Refuge resources, whether adverse or beneficial, are those that are reasonably foreseeable and have a reasonably close causal relationship to the proposed use. This compatibility determination (CD) includes the written analyses of the environmental consequences on a resource only when the impacts on that resource could be more than negligible and therefore considered an "affected resource."

Short-term impacts

Research activities may disturb fish and wildlife and their habitats. For example, the presence of researchers can cause birds to flush from resting and feeding areas, cause disruption of birds on nests or breeding territories, or increase predation on nests and individual animals as predators follow human scent or trails.

Efforts to capture animals, such as for migratory bird banding, can cause disturbance, injury, or death to groups of wildlife or to individuals. To wildlife, the energy cost of disturbance may be appreciable in terms of disruption of feeding, displacement from preferred habitat, and the added energy expended to avoid disturbance. Sampling activities associated with many types of research activities can cause compaction of soils and the trampling of vegetation. Installation of posts, equipment platforms, collection devices, and other research equipment in open water may present a hazard if said items are not adequately marked and/or removed at appropriate times or

upon completion of the project. Research efforts may also discover methods that result in a reduction in impacts described above.

The potential for research conducted on the Refuge to conflict with Refuge management activities (e.g., prescribed burning, prescribed grazing, herbicide applications) and visitor use on the Refuge is minimal. Research would be scheduled to minimize conflict with Refuge management activities. Visitors may encounter researchers in the field or observe monitoring plots or other research infrastructure. However, these encounters will be infrequent due to the typically minimal presence of field technicians and interest in maintaining low profile infrastructure to prevent disturbance or vandalism of study sites.

Long-term impacts

Long-term effects should generally be beneficial by gaining information valuable to Refuge management. No long-term negative impacts are expected from the research activities described. The refuge manager can reduce the likelihood of long-term impacts by denying special use permits for research that is likely to cause long-term, adverse impacts. Permits for multi-year research projects are renewed annually, providing the opportunity for an analysis of any impacts before renewing the SUP.

Cumulative impacts would occur if multiple research projects were occurring on the same resources at the same time or if the duration of the research was excessive. In particular, the Refuge must consider the potential impacts of non-Service research, in conjunction with any Service-sponsored research or management activity also taking place. However, no cumulative impacts are expected because the refuge manager can control the potential for cumulative impacts through SUPs, prohibiting multiple research projects from affecting any given area or species at one time. The refuge manager retains the option to deny proposals for research that does not contribute to the mission of the Refuge System or causes undue disturbance or harm to Refuge resources. The refuge manager also retains the right to revoke or deny renewal for any special use permit if unanticipated short-term, long-term, or cumulative impacts occur.

Project-specific stipulations outlined in each special use permit will act to minimize anticipated impacts of research projects. These stipulations will prevent impacts to Refuge wetlands, water quality, soils, hydrology, fish, wildlife, habitat, or cultural resources. Projects which occur within the habitat of, or include direct monitoring of, threatened and endangered species will be subject to a Section 7 informal consultation with the Service under the Endangered Species Act (87 Stat. 854, as amended; 16U.S.C. 1531 et seq.). Only with the approval of the Section 7 consultation will the Refuge permit research to be conducted on habitats or individuals of threatened and endangered species. Research that could adversely affect critical habitat, threatened or endangered wildlife, or cultural resources will not be

permitted.

Public Review and Comment

The draft CD will be available for public review and comment for 30 days from the publication of the draft Comprehensive Conservation Plan and Environmental Assessment. The public will be made aware of this comment opportunity through the federal register and other media outlets. State and Tribes have been asked to review and comment on the draft CD. It will be made available electronically on the Refuge website. Please let us know if you need the documents in an alternative format. Concerns expressed during the public comment period will be addressed in the final.

Determination

Is the use compatible?

Yes

Stipulations Necessary to Ensure Compatibility

1. Prior to initiation of any research and/or management studies on the Refuge, the requesting agency or organization is required to meet with Refuge management in person and present a comprehensive proposal of why the research is proposed to be undertaken, all methodologies involved, expected short- and long-term impacts of the activities, duration of the research, and anticipated completion date of the report.

2. The requesting agency or organization must apply for a permit by submitting a NWRS Research and Monitoring Special Use Permit Application and a detailed research proposal.

3. Researchers must give the District at least 45 days to review proposals and determine if a special use permit will be issued. If the research involves the collection of wildlife, the District must be given 60 days to review the proposal.

4. Researchers must obtain all necessary scientific collecting, banding, or other permits required by State, federal, or Institutional Animal Care and Use Committee entities before starting the research.

5. Priority of approval will be based on studies that contribute to the enhancement, protection, use, preservation, and management of native wildlife populations and their habitat.

6. SUPs may contain specific terms and conditions that the researcher(s) must follow relative to activity, location, duration, and time-of year restrictions to ensure continued compatibility.

7. All Refuge rules and regulations must be followed unless alternatives are otherwise accepted in writing by Refuge management.

8. Any research involving ground disturbance may require historic preservation consultation with the Regional Historic Preservation Officer and/or State Historic Preservation Officer.

9. All research related SUPs will contain a statement regarding the Service's policy regarding disposition of biotic specimen.

10. Upon completion of a project, researchers are required to remove all research apparatus in the field and restore any disturbed lands to their original state.

11. Any research project may be terminated at any time for non-compliance with the SUP conditions. Research projects may also be modified, redesigned, relocated, or terminated at any time upon determination by the Refuge manager that the project is causing unanticipated adverse impacts to wildlife, wildlife habitat, approved priority public uses, or other Refuge management activities. Refuge staff will conduct annual reviews of the research project to monitor researcher activities for potential impacts to the Refuge and for compliance with conditions on the SUP. The Refuge manager may terminate previously approved research and SUPs if adverse impacts are observed or if the researcher is not in compliance with the stated conditions.

12. The Service expects researchers to submit a final report to the Refuge upon completing their work. For long-term studies, we may also require interim progress reports. All reports, presentations, posters, articles, or other publications will acknowledge the Refuge System and the Refuge as partners in the research.

Justification

The Service encourages research on national wildlife refuges to collect new information which will improve the quality of Refuge and other Service management decisions, to expand the body of scientific knowledge about fish and wildlife, their habitats, the use of these resources, appropriate resource management, and the environment in general, and to provide the opportunity for students and others to learn the principles of field research. In accordance with 50 CFR 26.41, research conducted by non-Service personnel, as described in this CD, will not materially interfere with, or detract from, the fulfillment of the Refuge System mission or the purposes for which the Refuge was established.

Signature of Determination

Refuge Manager Signature and Date

Signature of Concurrence

Assistant Regional Director Signature and Date

Mandatory Reevaluation Date

2034

Draft Compatibility Determination

Title

Compatibility Determination for Wildlife Observation and Photography for Hailstone National Wildlife Refuge

Refuge Use Category

Wildlife Observation and Photography

Refuge Use Types

Photography
Photography, video, filming, or audio recording (news and educational)
Wildlife observation

Refuge

Hailstone National Wildlife Refuge (Refuge)

Refuge Purpose(s) and Establishing and Acquisition Authorities

".. as a refuge and breeding ground for migratory birds and other wildlife ... Provided, That as to any lands included in Petroleum Reserve No. 40, Montana No.1, their reservation ... shall be subject to their primary use for the purpose of oil and gas development ... Executive Order 9292, dated Dec. 31, 1942."

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System (NWRS), 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

Is this an existing use?

Yes.

What is the use?

Photography. Refuge visitation for the purpose of photographing refuge natural or cultural resources (including fish, wildlife, plants, and their habitats) or public uses of those resources (not for commercial, news, or educational purposes).

Photography, video, filming, or audio recording (news and educational). Activity involving photography, videography, filming, or other recording of sight or sound for news, public information, or educational purposes.

Wildlife observation. Viewing of fish, wildlife, plants, or their habitats by refuge visitors.

Is the use a priority public use?

Yes

Where would the use be conducted?

All areas open to the public will be open for wildlife observation, and photography. These areas do not have trails or built facilities to support these uses. An unimproved road into the Refuge area is present. All areas are open for walking to achieve these uses. Refuge signs denote Refuge boundaries.

When would the use be conducted?

Wildlife observation and photography occur year-round as guided or self-guided activities. The Refuge is open sunrise to sunset for the public.

How would the use be conducted?

Most wildlife observation and photography activities are conducted individually; however, the Refuge may occasionally help facilitate these activities through workshops, planned events, and tours.

Why is this use being proposed or reevaluated?

Wildlife observation and photography are two priority wildlife-dependent recreational uses of the NWRS identified by the National Wildlife Refuge Improvement Act of 1997 (Improvement Act). These uses help promote the understanding, appreciation, and support of the Refuge System mission.

Availability of Resources

The analysis of cost for administering and managing each use will only include the incremental increase above general operational costs that we can show as being directly caused by the proposed use. Wildlife observation and photography are self-

led activities. A Refuge parking area and an unimproved road allow for public entry and use. There is currently enough funding and staff available to provide opportunities for these activities depending on the time and specific staff services requested. No additional funding is needed.

One-time costs: None

Annual/recurring expenses (i.e., for annual operations and maintenance): None
Offsetting revenues: None

Anticipated Impacts of the Use

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

The effects and impacts of the proposed use to refuge resources, whether adverse or beneficial, are those that are reasonably foreseeable and have a reasonably close causal relationship to the proposed use. This compatibility determination (CD) includes the written analyses of the environmental consequences on a resource only when the impacts on that resource could be more than negligible and therefore considered an "affected resource."

The overall impacts to the Refuge and its associated wildlife populations from this use would be minimal. Wildlife observation and photography can have both positive and negative implications on Refuge resources.

Short-term impacts

Human disturbance to migratory birds and other wildlife has been documented in many studies. Among activities considered as disturbing to wildlife, Korschen (1992) determined that bird watching was among the least disturbing, but Klein (1993) noted that approaching birds on foot was the most disruptive of usual refuge activities. Some photographers are more likely to cause disturbance by lingering in a sensitive area, using recorded calls, and even altering the vegetation at a site to gain a better view (Glinski 1976). However, photography can be useful as a tool to engage others and develop support for wildlife with images that appeal to people's emotions (Hanisch 2017). There are many recommendations for reducing impacts to wildlife: provide visitor education, require staying on trails, closing areas during sensitive periods such as nesting, require minimum set back distances for approach to areas such as rookeries, etc. (Boyle et al. 1985, Erwin 1989, Haverra 1992, Klein 1993, Miller 2001, Morton 1989, Rodgers 1995, Taylor 2003).

Human disturbance to avifauna has been thoroughly documented around the world. Several studies have examined the effects of trail-based recreation on birds inhabiting wildlife refuges and coastal habitats in the eastern United States. McNeil et al. (1992) found that many waterfowl species avoid disturbance by feeding at night instead of during the day. Similarly, Martín et al. (2015) found that human presence caused resident shorebird species to spend less time feeding and more time displaying avoidance behavior, and that the number of shorebirds and gulls within their study site dramatically decreased in response to increased recreation of the area. Disturbance can increase the risk of predation when individuals are forced to forage in more dangerous habitats and can increase intraspecific competition when avoiding humans necessitates movement into suboptimal habitats (Frid and Dill 2002).

Some uses, such as bird observation, are directly focused on viewing certain wildlife species and can cause more significant impacts during the breeding season and winter months. Research has shown that as the intensity of human disturbance increased, avoidance response by birds increased, and that out-of-vehicle activity was more disruptive than vehicular traffic (Klein 1993, Freddy et al. 1986, Vaske et al. 1983). Miller et al. (1998) found bird abundance and nesting activities (including nest success) increased as distance from a recreational trail increased, in both grassland and forested habitats. Some studies have found that some songbird species habituate to repeated intrusion. Frequently disturbed individuals of some species vocalize more aggressively, have higher body masses, or tend to remain in place longer (Cairns and McLaren 1980). Disturbance may affect the reproductive fitness of males by hampering territory defense, mate attraction, and other reproductive functions of song (Arcese 1987, Ewald and Carpenter 1978).

Overall, the existing research clearly demonstrates that disturbance from recreation activities always have at least temporary effects on the behavior and movement of birds within a habitat or localized area (Burger 1981, Burger 1986, Klein 1993, Burger et al. 1995, Klein et al. 1995, Rodgers and Smith 1997, Burger and Gochfeld 1998). The location of recreational activities and the size of participating groups are also important factors affecting the magnitude of disturbance. A number of species have shown greater reactions when pedestrian use occurred off-trail (Miller et al. 2001, Samia et al. 2015), and when pedestrians traveled in large groups (Beale and Monaghan 2004).

The presence of humans on Refuge land would disturb some wildlife causing temporary displacement without long-term effects. There would be some disturbance to wildlife and vegetation at the locations where interpretive programs occur with groups, but at levels that would not interfere with the purposes of the Refuge. Some species may avoid areas with frequent people, while other species would be unaffected by human presence. However, the overall effect of the use on wildlife would not have a population level impact, because most of the Refuge will experience minimal to no daily public use. Vehicles will utilize the designated road

and parking area. Self-guided interpretation may be sporadically used by small groups of people at established trails and kiosks. This may cause short-term disturbance to wildlife, but again would have minimal impact.

Long-term impacts

Engaging in activity associated with wildlife observation and photography can be done with very little impact to wildlife (Burger et al. 1995). However, if measures are not taken to reduce disturbance, wildlife can suffer from being displaced to less desirable habitat, forced to use important energy reserves, cause the animal to change behaviors from, for example, breeding to seeking cover, and much more (Arcese 1987, Belanger et al. 1990, Burger et al. 1995, Burger 1996, Burger and Gochfeld 1998, Henson et al. 1991, Kaiser et al. 1984, Korschen 1992, Taylor et al. 2003, Yalden et al. 1990).

The Refuge anticipates that no negative long-term impacts will occur as a result of environmental education and interpretation, however, these uses could be modified in the future to mitigate unforeseen impacts. The Refuge also anticipates positive long-term benefits for the public. These uses allow the public to engage in and experience the Refuge and the outdoors. The Refuge will continue to gain relevancy to new, broader audiences and therefore have a greater reach to the public. Additionally, these uses benefit the Refuge by promoting a conservation ethic in the local community and a better appreciation and understanding of the Refuge's wildlife and habitats.

People can be vectors for invasive species by moving seeds or other propagules from one area to another. The threat of invasive species will always be an issue requiring annual evaluation and treatment. Refuge staff will work to look for early detection of invasive species and will educate the visiting public on the environmental damage and conservation challenges invasive species present. Impacts may be considered not significant when analyzed alone but may be considered important when they are evaluated cumulatively. The Refuge's primary concern is repeated disturbance of resting, foraging, or nesting birds by visitors. Refuge staff will continually evaluate disturbance to habitat and habitat quality and, if necessary, respond with management actions to conserve wildlife resources being adversely impacted. Refuge staff, volunteers, and researchers will evaluate the effects of these priority uses and respond to any adverse effects.

Based on the best available knowledge and with added use restrictions, the Refuge does not expect these uses would cause adverse effects. Educating the public about conservation issues would enhance the Refuge's purposes by promoting a conservation ethic.

Public Review and Comment

The draft CD will be available for public review and comment for 30 days from the publication of the draft Comprehensive Conservation Plan and Environmental Assessment. The public will be made aware of this comment opportunity through the federal register and other media outlets. State and Tribes have been asked to review and comment on the draft CD. It will be made available electronically on the Refuge website. Please let us know if you need the documents in an alternative format. Concerns expressed during the public comment period will be addressed in the final.

Is the use compatible?

Yes

Stipulations Necessary to Ensure Compatibility

1. Visitors are to adhere to all Refuge rules and regulations as found in the regulations section of the Refuge website and brochure unless otherwise approved in advance by the Refuge.

2. Disturbing or attempting to disturb, injure, or collect any plant, berries, mushrooms, animal, animal part, horn, antler, bones, skull, or feather is prohibited except by special use permit.

3. Disturbance or collection of any cultural resource is prohibited.

4. Entry on all or portions of individual areas may be temporarily suspended based on public safety, wildlife health, or natural resource concerns. When possible, the public will be given notice of closures. However, unforeseen circumstances may require immediate closure without advanced public notice.

Justification

In accordance with the missions of the NWRS and the Improvement Act, the Refuge has determined that the uses are compatible provided the above stipulations are implemented. Wildlife observation and photography are two of the priority wildlife-dependent recreational uses of the NWRS identified by the Improvement Act. These uses help promote the understanding, appreciation, and support of the Refuge System mission and help promote public awareness and stewardship of the Refuge's natural and cultural resources. The uses do not materially interfere with or detract from the Service's ability to meet the mission of the NWRS, and administration of the uses would only require medium amounts of administrative time and funding.

The Refuge's habitats, wildlife, and public use areas provide a unique wildlife observation, and/or photography experience to visitors, helping them connect with nature and natural ecosystems. Wildlife observation and photography facilitate the connection to nature and the need for conservation. These activities may also enhance environmental education and interpretation programs by allowing visitors experience nature in a more immersive way.

Wildlife disturbance is a concern and limited use will help to minimize any adverse impacts to wildlife. Refuge staff will evaluate impacts on Refuge federal trust resources to determine if there are appreciable negative implications of the use.

Signature of Determination

Refuge Manager Signature and Date

Signature of Concurrence

Assistant Regional Director Signature and Date

Mandatory Reevaluation Date

2039

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