Draft Compatibility Determination

**Use:** Controlled Grazing

**Refuge Name:** Port Louisa National Wildlife Refuge

**Establishing and Acquisition Authority(ies):**

The Mark Twain National Wildlife Refuge (NWR), including the land area now managed as Port Louisa NWR, was established under the provisions of a Secretarial Order signed on August 1, 1958. Individual divisions of the Mark Twain NWR were designated as separate National Wildlife Refuges in a reorganization change as part of the Comprehensive Conservation Plan (CCP) in 2004. Port Louisa NWR is divided into four divisions: Big Timber, Horseshoe Bend, Louisa and Keithsburg. Big Timber, Louisa and Keithsburg divisions consist primarily of lands acquired in fee title by the U.S. Army Corps of Engineers that are managed as part of the refuge under a Cooperative Agreement between the Department of the Army and the Department of the Interior. Horseshoe Bend Division consists of land acquired fee title by the U.S. Fish and Wildlife Service after the Flood of 1993. In addition, some of the lands at Horseshoe Bend division have underlying Emergency Wetland Reserve Program easements administered by the U.S. Department of Agriculture.

Establishing Authorities:
Refuge Recreation Act (16 U.S.C. 460k-1)
Migratory Bird Conservation Act (16 U.S.C. 715d)
Fish and Wildlife Coordination Act (16 U.S.C. -664)
Emergency Wetlands Resources Act of 1986 (16 U.S.C. -3901(b) 100 Stat. 3583)
1985 Food Security Act

**Refuge Purpose(s):**

- "...for use as an inviolate sanctuary, or for any other management purpose, for migratory birds." 16 U.S.C. -715d (Migratory Bird Conservation Act)

- "...shall be administered by (Secretary of the Interior) directly or in accordance with cooperative agreements...and in accordance with such rules and regulations for the conservation, maintenance, and management of wildlife, resources thereof, and its habitat thereon,..." 16 U.S.C. -664 (Fish and Wildlife Coordination Act)

- "...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 (Refuge Recreation Act)

- "... 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 conservation purposes", (1985 Food Security Act in conjunction with the transfer of Farm Service Agency, formerly Farmers Home Administration, property)

**National Wildlife Refuge System Mission:**

The mission of the National Wildlife Refuge System is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

**Description of Use:**

*What is the use?*
The Refuge will allow controlled grazing by privately-owned domestic livestock on refuge lands for the purpose of habitat management. Livestock will primarily be cattle, but could include other domestic livestock such as goats. Grazing is used as a management tool by changing intensity, grazing period, rest length, season to target plants needing suppression while allowing desirable plants to grow.

*Where is the use conducted?*
Controlled grazing may occur on any of the refuge divisions, but will primarily be used on the Horseshoe Bend Division. Grazing will occur on specified areas to improve or maintain grassland and wet meadow habitat. These areas will typically be less than 200 acres at any one time. The entire refuge is about 8500 acres and the Horseshoe Bend Division is 2606 acres.

*When is the use conducted?*
Controlled grazing could occur any time of the year, but would primarily occur during the spring and/or summer in order to create the desired vegetation impacts. The time period and frequency of grazing will depend on desired habitat objectives and outcomes as established in unit grazing plans. Grazing would not occur on the Horseshoe Bend division when the area is open to deer hunting each year (December 1 through the end of the state-regulated season). The other divisions are either not open to hunting or are not conducive to grazing.

*How is the use conducted?*
Grazing will be conducted by privately-owned livestock. Maintenance of boundary fencing, all temporary fence work, watering, and all other measures required to manage livestock will be the responsibility of the cooperating private party. Grazing fees will be charged on an annual review of local market rates conducted by the refuge manager, in consultation with area U.S. Department of Agriculture (USDA) specialists or reports; or as determined by permittee selection using a best bid basis. Grazing fees will typically be assessed using the Animal Unit Month (AUM) method. Grazing fees may include market rate deductions for special circumstances; such as atypical fencing or water requirements, required cattle movement, or

other factors limiting economic return for the permittees. In addition, market rate deductions may include site preparation work (such as mowing) conducted by the cooperating private party. Administration of grazing programs will be conducted in accordance with Habitat Management Plan (HMP) objectives. The refuge currently has a draft HMP that will be finalized in spring of 2014. Grazing activities will be subject to the terms and conditions of a Special Use Permit (SUP) issued by the refuge manager. The terms of the SUP ensure compliance with Service policy and achieving habitat objectives while safeguarding refuge resources.

Grazing is not a priority public use as identified in the National Wildlife Refuge System Improvement Act. As an economic use of Refuge System lands, a compatibility determination for grazing is mandatory.

*Why is the use being proposed?*
Controlled grazing has many potential benefits as a habitat management tool. At Port Louisa NWR, it is anticipated that grazing will have a beneficial habitat impact if managed properly. The objectives of grazing would be to reduce competition from the cool-season invasive reed canary grass (*Phalaris arundinacea*), rejuvenate existing native grasslands to increase forbs diversity, and control undesirable woody vegetation. Most of the refuge is in the floodplain and flooding sometimes inhibits the use of prescribed burning or other tools for grassland management. Grazing is another tool that may be used, and it can be used during the growing season when it is too late to used prescribed fire.

Reed canary grass thrives under a variety of conditions, and out-competes native vegetation. Grazing can reduce reed canary grass density so that native plants have a better chance of competing with it. Some areas of the refuge were planted to native prairie species as recently as the 1990s. However, some of these stands are dominated by grasses such as switch grass and big bluestem and lacking in forbs. Grazing may be used to change the composition of these stands to be more attractive to grassland nesting birds that need a variety of structure. A diverse forb community also attracts insects that are necessary as food sources for young birds. Early successional woody species such as sandbar willow, cottonwood, and dogwood readily invade the floodplain grasslands on the refuge. Grazing may help to reduce the early growth of these species and improve grassland habitat.

**Availability of Resources:**

The necessary staff time for development and administration of grazing programs is available. The decision to use grazing as a management tool is part of the strategies developed during habitat management planning. In addition, local experts with the Natural Resources Conservation Service are available to assist with grazing plans. The additional time needed to coordinate issuance and oversight of Special Use Permits is relatively minor and within existing Refuge resources. Most grazing costs are assumed by the permittee.

**Anticipated Impacts of Use:**

*Short-term impacts:*

Short-term impacts of grazing include direct impacts to the vegetation. Impacts include removal or disturbance of vegetation that is consumed by livestock or compacted by hoof action. In addition, soil may be compacted in areas that are grazed. These impacts may temporarily reduce nesting habitat for grassland dependent birds, but may be seen as a benefit from a habitat restoration perspective. Some birds that prefer short grass habitat may benefit seasonally from the effects of grazing. Soil disturbance and the removal of undesirable vegetation will provide the opportunity for increased species diversity of native wet meadow species. Grazing paddocks will be located in areas that include non-native cool season grasses, woody vegetation, and warm season, grass dominated bottomland prairie. Grazing will be used as a disturbance tool in these various systems to help meet habitat objectives.

Another short-term impact of grazing could be direct disturbance to wildlife. Some grazing will occur during the nesting season in order to impact target vegetation. Grazing cattle may disturb ground or shrub-nesting songbirds during the breeding season. In addition, presence of grazing animals could disturb migrating waterfowl during spring and fall migration. This disturbance could lead to flocks of birds flushing up from wetlands and increasing their energy expended during migration, and even reduce stopover duration on the refuge. However, most areas to be grazed will be sufficient distance from major wetlands that daily movement of cattle will not disturb large flocks. And grazing would not commonly occur during the time of peak waterfowl migration.

There may be a short term loss of habitat as vegetation height is reduced and vegetation is trampled by cattle. Port Louisa NWR is also located within the state recognized Southeast Iowa Amphibian and Reptile Conservation Area, and manages some of the most species-rich herptile habitat in the state of Iowa. The presence of livestock could have an impact on amphibian and reptiles by trampling vegetation and temporarily reducing habitat connectivity. However, some species, such as Blanding's turtles, may benefit from the shorter vegetation to allow easier movement and laying of eggs. Insects may also be impacted with the short term reduction in vegetation, but the resulting habitat benefit of increased plant diversity will benefit insects.

The above short term impacts will be addressed by limiting the area of the refuge that is open for grazing, so that available grassland habitat remains on other adjacent areas. Temporary fences will be used in most cases so that there is not damage to habitat from building fence or from fencing materials. In addition, efforts will be made when choosing paddock locations to reduce any negative impacts of infrastructure (such as fence lines and posts) on wildlife movement between and within habitat types.

The presence of grazing livestock and associated infrastructure could lead to reduced aesthetic appeal of the refuge for some visitors. This will be addressed by limiting the grazed areas on the refuge at any given time, and providing education about the potential benefits of grazing as a management tool.

*Long-term impacts:*
The anticipated long-term beneficial impacts include increased forb and sedge diversity in wet meadow and grassland habitat. In addition, grazing could result in reduced woody encroachment

(of both native and non-native species) in open wetland habitat. A third impact of grazing could be the reduction of non-woody invasive species, especially reed canary grass. Multiple year grazing on the same areas may compact soils, change soil composition, and change plant composition to undesirable conditions. However, this potential impact will be managed by rotations and resting areas that will keep habitat areas that are attractive to wildlife and not overgrazed. The loss of early successional woody habitat may reduce the amount of habitat for certain species (some birds, deer, rabbits) that use that type of habitat. However, this habitat type is overabundant on the refuge and in the adjacent floodplain and is not lacking on the landscape. Therefore, those species will not be impacted.

*Cumulative impacts:*
Grazing will be one of several management techniques used on the refuge to help reach habitat objectives by setting back succession, promoting vegetation diversity, and controlling invasive species. Grazing will be used on a very small percentage of refuge lands while prescribed fire and other techniques will be more predominant. Cattle can spread or introduce invasive or undesirable plants. The SUP will specify that no supplemental feeding will be allowed and a quarantine area will be used, if necessary, depending on where the cattle are being moved from. The refuge manager will inquire where cattle had grazed just prior to their placement on the refuge so as to determine the potential of introducing any invasive species. Livestock will be grazing in areas of the refuge that already have invasive species and they are being used to control those species. Therefore, spread of those invasive plants within the grazing area is not a concern. Vegetation monitoring will be done to ensure invasive species are not increasing, or that there are not new species introduced.

Grazing may be used in combination with haying (mowing), prescribed fire, or chemical treatments to manage habitat. It is unlikely that all of these techniques would be used in the same area in the same season, but they may be used on different parts of the refuge during the same season thereby temporarily reducing available habitat on larger areas. These management actions are conducted with specific habitat objectives that are monitored and are completed to benefit habitat.

**Public Review and Comment:**

A draft of this Compatibility Determination will be available for public review and comment for 14 days at the refuge office in Wapello, Iowa. The document will also be available for public review on the refuge's webpage, through local media outlets, and at the Wapello, Iowa public library.

**Determination:**

_____Use is Not Compatible

___X____Use is Compatible with Following Stipulations:

**Stipulations Necessary to Ensure Compatibility:**

To ensure compatibility with the National Wildlife Refuge System mission and Port Louisa National Wildlife Refuge purposes, goals and objectives, the activity can only occur with the following stipulations:

**Use of controlled grazing:**

1. Grazing must meet specific habitat and related wildlife objectives and contribute to the purposes of the refuge.

2. A grazing plan will be completed prior to grazing.

3. SUPs will not be issued for more than five years, and grazing will not occur more frequently than three out of every five years on any area unless objectives are within prescription as determined by monitoring.

4. No insecticides will be used.

4. No supplemental feeding will be allowed.

5. All fencing, water supply, and other livestock management costs will be the responsibility or the permittee.

6. The permittee will be held liable for all issues pertaining to their livestock and caused by the livestock to any public lands.

7. Grazing at Horseshoe Bend Division will not occur during deer-hunting season.

8. Cattle will be subject to inspection by refuge personnel at any time.

**Refuge Manager:** _____

Catherine J. Henry Date

**Concurrence:** _____

Tim Yager, Acting Refuge Supervisor Date

**Regional Chief:** _____

Charles Blair Date

**Mandatory 10 or 15 year Re-evaluation Date:** 2024