

Compatibility Determination

Non-Consumptive Priority Public Uses

Refuge Use Category

Wildlife Observation and Photography

Environmental Education and Interpretation

Refuge Use Type(s)

Wildlife Observation, Wildlife Photography, Interpretation and Environmental Education

Refuge

Fort Niobrara National Wildlife Refuge

Refuge Purpose(s) and Establishing and Acquisition Authorities

“... a preserve and breeding ground for native birds.” (EOs 1461, 1642, 3256)

“...to effectuate further the purposes of the of the Migratory Bird Conservation Act...” (EO 7301)

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?

Yes

What is the use?

Interpretation is the action of explaining the meaning of something. Wildlife interpretation on the Refuge is utilized to communicate messages about conservation, wildlife, habitats, the Refuge, and the Refuge System.

Wildlife observation is the practice of viewing animals and/or their habitats.

Environmental Education is a process that facilitates individuals to explore environmental or natural resource issues through developed curricula that engage problem solving. Individuals gain a deeper understanding of environmental issues and develop skills to make informed and responsible decisions (courtesy U.S. Environmental Protection Agency).

Wildlife photography is a type of photography concerned with documenting various forms of wildlife and/or their natural habitats.

Wildlife observation, photography, interpretation, and environmental education are considered together in this compatibility determination because many elements of these programs are similar and costs, staffing resources, and infrastructure needs are often complementary.

Is the use a priority public use?

Yes

Where would the use be conducted?

These uses occur at various locations across the Refuge.

Visitor Center - The visitor center includes a display area and Friends bookstore.

Outdoor Signs and Kiosks - Interpretive and informational signs are located at several locations on the Refuge including Fort Falls, office entrance, River Launch, Wilderness Overlook and Sandhills Overlook. These sites receive an estimated 15,000-20,000 visitors annually.

Refuge Roads - Wildlife viewing opportunities exist along roadways throughout the Refuge. Public roads provide ample space for vehicles to safely pull off the roadway and view wildlife while other traffic passes.

Fort Falls Trail - A one-mile loop trail begins at the Fort Falls overlook. This trail provides an overlook of the Fort Falls waterfall and offers excellent birding opportunities through forested riparian habitat.

West hunt units and Wilderness Area - Approximately 7,000 acres north and west of the Niobrara River are open to wildlife observation and wildlife photography throughout the year. Interpretive signs are located at the north wilderness access.

Environmental Education - Formal environmental education is not offered by the Refuge; however, the National Park Service and Niobrara Council conduct environmental education programs on the Refuge.

When would the use be conducted?

The Refuge is open to these uses from ½ hour before sunrise to ½ hour after sunset.

How would the use be conducted?

Wildlife interpretation is most frequently accomplished within the visitor center and through signs at various locations. Brochures and websites also offer interpretive opportunities. When available, staff may directly participate in interpretive programs and events.

Wildlife observation is generally a self-guided activity. Information on signs, Refuge web pages and brochures inform visitors about wildlife observation opportunities at the Refuge.

Wildlife photography is typically a self-conducted activity. Refuge staff are not involved in conducting the use beyond maintenance of facilities that support the use.

Special use permits are not required for these uses.

Why is this use being proposed or reevaluated?

These are ongoing uses at the Refuge and were previously evaluated in association with the 1999 Comprehensive Conservation Plan. Reevaluation is due per policy 603 FW 2.11 H(2), which states: "We will reevaluate compatibility determinations for existing wildlife-dependent recreational uses when conditions under which the use is permitted change significantly, or if there is significant new information regarding the effects of the use, or concurrently with the preparation or revision of a comprehensive conservation plan, or at least every 15 years, whichever is earlier. In addition, a refuge manager always may reevaluate the compatibility of a use at any time."

Availability of Resources

Table 1. Costs to Administer and Manage Non-Consumptive Priority Public Uses

Category and Itemization	One-time Cost	Recurring Annual Expenses
Develop a CD	\$500	--
Develop signage and brochures		\$1,000
Staff time (LE, administration and management)		\$16,000 (320 hrs x \$50/hr)
Maintenance/Replacement	\$15k (replace signs at three locations)	\$10,000
Monitoring	--	\$250
Total one-time expenses	\$15500	
Total recurring annual expenses		\$27,250
Total expenses over 15 years	\$15,500	\$408,750

Anticipated Impacts of the Use

Short-term impacts

Disturbance of wildlife is the primary concern regarding these uses. Once considered “non-consumptive” uses, it is now recognized that these uses can impact wildlife by altering wildlife behavior, reproduction, distribution, and habitat (Morton 1995, Purdy et al. 1987, Knight and Cole 1995). Purdy et al. (1987) and Pomerantz et al. (1988) described six categories of impacts to wildlife as a result of visitor activities. They include:

- 1) Direct mortality: immediate, on-site death of an animal.
- 2) Indirect mortality: eventual, premature death of an animal caused by an event or agent that predisposed the animal to death.
- 3) Lowered productivity: reduced fecundity rate, nesting success, or reduced survival rate of young before dispersal from nest or birth site.
- 4) Reduced use of refuge: wildlife not using the refuge as frequently or in the

manner they normally would in the absence of visitor activity.

- 5) Reduced use of preferred habitat on the refuge: wildlife use is relegated to less suitable habitat on the refuge due to visitor activity; and
- 6) Aberrant behavior/stress: wildlife demonstrating unusual behavior or signs of stress that are likely to result in reduced reproductive or survival rates.

Depending on the species, some birds may habituate to some types of recreation disturbance, and either are not disturbed or will immediately return after the initial disturbance (Hockin et al. 1992; Burger et al. 1995; Madsen 1995).

Short-term impacts are expected to be highest from May through September during the peak visitation season.

Long-term impacts

The maintenance of trails, roads, and parking lots will have impacts on soils and vegetation in the immediate vicinity of developed areas. These impacts will reduce available habitat and fragment surrounding habitat. Indirectly, increased human use may impact wildlife value in areas surrounding developed sites. The total footprint of the area directly impacted by the uses is approximately 10 acres. Indirectly the footprint associated with the use is estimated to affect wildlife on an additional 75 acres (2 miles of trails/roads/developed area x 300-foot disturbance area) (Rodgers and Smith 1997).

Public Review and Comment

Determination

Is the use compatible?

Yes

Stipulations Necessary to Ensure Compatibility

1. Regulations and wildlife friendly behavior (e.g., requirements to stay on designated trails, dogs must be kept on a leash, etc.) will be described in brochures/websites.
2. Regulatory and directional signs will clearly mark closed areas.
3. Use will be directed to public use facilities which are not in or near sensitive areas.

Justification

Wildlife observation, photography, environmental education, and interpretation are

priority uses for the National Wildlife Refuge System. The Service's policy is to provide expanded opportunities for wildlife-dependent uses when compatible and consistent with sound fish and wildlife management and ensure that they receive enhanced attention during planning and management. While these uses will impact wildlife and habitat on a limited portion of the refuge (estimated 85 acres), these uses are not anticipated to materially detract from the mission of the Refuge System or Refuge purposes.

Literature Cited/References

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