

# Compatibility Determination

## Title

Wildlife Observation, Photography, Interpretation, and Environmental Education on Crescent Lake National Wildlife Refuge

## Refuge Use Category

Wildlife Observation and Photography, Environmental Education and Interpretation

## Refuge Use Type(s)

Wildlife Observation, Photography, Interpretation (not conducted by NWRS staff or authorized agents), Environmental Education (general), and Environmental Education (not conducted by NWRS staff or authorized agents)

## Refuge

Crescent Lake National Wildlife Refuge

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

National Wildlife Refuge System lands are managed consistent with a number of federal statutes, regulations, policies, and other guidance. The National Wildlife Refuge System Administration Act of 1966, as amended (16 United States Code [U.S.C.] 668dd–668ee) (Administration Act) is the core statute guiding management of the System.

The National Wildlife Refuge System Improvement Act of 1997 (Public Law [P.L.] 105-57) made important amendments to the Administration Act, one of which was the mandate that a comprehensive conservation plan be completed for every unit of the System. Among other things, comprehensive conservation planning has required field stations to assess their current agricultural uses program and establish objectives for the future.

Crescent Lake National Wildlife Refuge Establishing and Acquisition Authorities:  
Executive Order No. 5579 of March 16, 1931

Crescent Lake National Wildlife Refuge Purposes:

“... 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

This Compatibility Determination reviews and replaces the 8/15/02 Compatibility Determination for Wildlife Observation, Wildlife Photography, Interpretation, and Environmental Education. What is the use?

The National Wildlife Refuge System Improvement Act of 1997 identifies wildlife observation, photography, interpretation, and environmental education as wildlife dependent public uses for national wildlife refuges. Wildlife observation, photography, interpretation, and environmental education are considered together in this compatibility determination because many elements of these programs are similar. These uses are to be encouraged when compatible with the purposes of the Refuge. Crescent Lake National Wildlife Refuge is currently open to these public for these uses from sunrise to sunset. Based on general observations and manager estimates, approximately 15,000 people visit the Refuge annually to participate in these uses.

Is the use a priority public use?

Yes

Where would the use be conducted?

Wildlife observation, photography, interpretation, and environmental education would be conducted generally on the entire Refuge excluding the 4,500 acre closed area roughly between Gimlet Lake and Hackberry Lake. Interpretation would generally occur at information kiosks located in the Island Lake, Goose Lake, Headquarters, and Border Lake areas.

When would the use be conducted?

Wildlife observation, photography, interpretation, and environmental education would be conducted year-round during daylight hours.

How would the use be conducted?

Visitor Contact Station - The visitor contact station, which includes a display area and contact with Refuge staff, is open Monday through Friday only as staff is available. The Refuge staff is generally field and maintenance focused, and office and visitor

contact station time is limited. Prior to 2020, use was estimated at 5,000 visits annually.

Signage and Kiosks - Interpretive and informational signs are located at several locations on the refuge including Island Lake, Goose Lake, and the northwest entrance near Border Lake. An estimated 15,000 visitors annually visit these locations.

Refuge Roads and Auto Tour - A self-guided auto tour route runs from the south entrance of the Refuge at Island Lake to the northwest entrance near Smith Lake. The auto tour route and other minimum maintenance trails offer abundant opportunities to observe and photograph wildlife.

Sandhills Nature Trail - A 2-mile trail begins at the Refuge Headquarters. This trail leads the hiker through various habitat types including wetland and Sandhills prairie.

Wilderness Area - The Proposed Wilderness Area is a 24,502-acre area located on the eastern half of the Refuge. This area is open to the public for wildlife observation, photography, and hunting.

Environmental Education - No formal environmental education is offered by the Refuge.

### Why is this use being proposed or reevaluated?

These are wildlife-dependent public uses, as identified in National Wildlife Refuge System Improvement Act. 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

Wildlife observation, photography, interpretation, and environmental education can be implemented using existing staff availability. Trails, roads, parking lots, and signage require funding to maintain. Adequate minimum funding exists to manage these programs although Refuge staff is generally lacking.

### Anticipated Impacts of the Use

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

The Refuge Improvement Act of 1997 states that the mission of the Refuge System is "to administer a national network of lands for the conservation, management and, where appropriate, restoration of fish, wildlife, and plant resources, and their

habitats within the United States for the benefit of present and future generations of Americans.”

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

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

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 (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 are:

- Direct mortality: immediate, on-site death of an animal.
- Indirect mortality: eventual, premature death of an animal caused by an event or agent that predisposed the animal to death.
- Lowered productivity: reduced fecundity rate, nesting success, or reduced survival rate of young before dispersal from nest or birth site.
- Reduced use of refuge: wildlife not using the refuge as frequently or in the manner they normally would in the absence of visitor activity.
- Reduced use of preferred habitat on the refuge: wildlife use is relegated to less suitable habitat on the refuge due to visitor activity; and
- 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 (especially migrants vs. residents), 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; Knight & Temple 1995; Madsen 1995; Fox & Madsen 1997). Rodgers & Smith (1997) calculated buffer distances that minimize disturbance to foraging and loafing birds based on experimental flushing distances for 16 species of waders and shorebirds. They recommended 100 meters as an adequate buffer against pedestrian traffic; however, they suggest this distance may be reduced if physical barriers (e.g., vegetation screening) are provided, noise levels are reduced, and traffic is directed tangentially rather than directly toward birds.

### Long-term impacts

The maintenance of trails, parking lots and kiosks will have impacts on soils and

vegetation around the trails. These impacts will reduce available habitat and fragment remaining habitat, resulting in decreased available habitat and possibly increasing predation. Minimal public use facilities on the refuge impact < 100 acres of total habitat.

## 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, 4-wheel drive vehicles limited to specific roads and 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.
4. The closed area where no public uses are permitted will remain closed. This area provides near complete absence from human disturbance.
5. Temporary area, road, and trail closures will be applied as necessary.

### Justification

The National Wildlife Refuge System Improvement Act of 1997 identifies wildlife observation, photography, interpretation, and environmental education as wildlife dependent priority public uses for National Wildlife Refuges. The stipulations outlined above would help ensure that the use is compatible at Crescent Lake National Wildlife Refuge. Based on available science and best professional judgement, the Service has determined that wildlife observation, photography, interpretation, and environmental education at Crescent Lake National Wildlife Refuge, in accordance with the stipulations provided here, would not materially interfere with or detract from the fulfillment of the National Wildlife Refuge System mission or the purpose of the Crescent Lake National Wildlife Refuge. Rather, appropriate and compatible wildlife observation, photography, interpretation, and environmental education are directly supportive of the Refuge purpose and provide opportunities to inform Refuge visitors about wildlife conservation and management, and the National Wildlife Refuge System.

## Literature Cited/References

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