

## **DRAFT COMPATIBILITY DETERMINATION**

**USE:** Environmental Education and Interpretation (EENotNWRStaff, EETeacherStudent, EEGeneral, Interp, InterpNotNWRStaff)

**REFUGE NAME:** West Tennessee National Wildlife Refuge Complex (West Tennessee NWR Complex or Complex) comprises five National Wildlife Refuges (NWR): Reelfoot, Lake Isom, Chickasaw, Lower Hatchie, and Hatchie NWRs.

### **DATE ESTABLISHED:**

Reelfoot NWR – August 28, 1941

Lake Isom NWR – May 10, 1935

Chickasaw NWR – August 5, 1985

Lower Hatchie NWR – June 19, 1980

Hatchie NWR – November 16, 1964

### **ESTABLISHING and ACQUISITION AUTHORITIES:**

Reelfoot NWR – Migratory Bird Conservation Act of 1929 (16 U.S.C. § 715d), Refuge Recreation Act (16 U.S.C. § 460k-460k-4), Endangered Species Act of 1973 (16 U.S.C. Sec. 1534)

Lake Isom NWR – Executive Order 7953, Migratory Bird Conservation Act of 1929 (16 U.S.C. § 715d), Refuge Recreation Act (16 U.S.C. § 460k-460k-4)

Chickasaw NWR – Migratory Bird Conservation Act of 1929 (16 U.S.C. § 715d), Fish and Wildlife Act 1956 (16 U.S.C. § 742f), Refuge Recreation Act (16 U.S.C. § 460k-460k-4)

Lower Hatchie – Migratory Bird Conservation Act of 1929 (16 U.S.C. § 715d), Fish and Wildlife Act 1956 (16 U.S.C. § 742f), Refuge Recreation Act (16 U.S.C. § 460k-460k-4)

Hatchie NWR - Migratory Bird Conservation Act of 1929 (16 U.S.C. § 715d)

### **REFUGE PURPOSES:**

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

“... for the development, advancement, management, conservation, and protection of fish and wildlife resources . . .” 16 U.S.C. § 742f (a) (4) “... for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude . . .” 16 U.S.C. § 742f (b) (1) (Fish and Wildlife Act of 1956)

### **NATIONAL WILDLIFE REFUGE SYSTEM (REFUGE SYSTEM) MISSION:**

The mission of the Refuge System, as defined by the National Wildlife Refuge System Improvement Act of 1997, 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:**

#### **(a) What is the use? Is the use a priority public use?**

Wildlife interpretation and environmental education (EE) are non-consumptive, wildlife-dependent recreational activities defined as priority public uses of the Refuge System as established in the Refuge System Improvement Act of 1997. Interpretation includes activities and supporting infrastructure that explain management activities, fish and wildlife resources, ecological processes and cultural history, and other topics, to public users. EE includes activities that seek to increase public knowledge and understanding of wildlife and the importance of habitat protection and management. Typical activities include teacher or staff-guided, on-site field trips; off-site programs in classrooms; nature study, such as teacher and student workshops; and curriculum-structured instruction. EE programs may involve the incidental collection of seeds, acorns, and berries. Any sampling or collection activities by non-Fish and Wildlife Service (Service) programs must be approved via a Special use Permit, and samples collected shall be for use only on the refuge for approved EE curricula.

These are existing uses on the refuge, included in the Comprehensive Conservation Plan (CCP, USFWS 2006a-d) and found compatible in associated compatibility determinations during the CCP process. Conditions and level of use have not substantially changed since that determination. This reevaluation is based on Service Policy 603 FW2.

#### **(b) Where would the use be conducted?**

The West Tennessee Complex, which is over 60,000 acres, is composed of bottomland hardwoods, moist soil units, agricultural fields, upland forest, shrub scrub, open water, and river habitats. The refuges that make up the Complex winter hundreds of thousands of waterfowl

annually. The Complex is open to wildlife EE and interpretation on refuge lands, except those areas specifically closed according to the annual Public Use Regulations brochure, which identifies portions – areas where these uses are permitted ([Reelfoot/Lake Isom](#), [Chickasaw](#), [Lower Hatchie](#), [Hatchie](#)). Zoning of the refuges is used to minimize conflicts between user groups. These zones are modified when needed for biological, administrative or safety reasons. Currently, wildlife EE and interpretation are open on most lands of the Complex. Designated hiking trails exist throughout the Complex, along with observation towers, refuge roads, and kiosks, which are also utilized by visitors.

**(c) When would the use be conducted?**

Wildlife EE and interpretation would be permitted during daylight hours, year-round on the refuges. The refuges could temporarily be closed to EE and interpretation for biological, administrative or safety reasons. If this occurs, the refuges would notify the public with signs, Facebook posts, and closure of gates.

**(d) How would the use be conducted?**

Wildlife EE and interpretation could occur by foot, boat, vehicle, and/or bicycle. These uses would be led by the Refuge Ranger or other staff, along with teachers, professors, and trained volunteers. All-terrain vehicles (ATV/UTV) are not permitted on the refuges. Some areas of the Complex are seasonally closed to all public access due to waterfowl sanctuary needs. Parking lots, gravel roads, and boat ramps are located throughout the Complex and are available for use by the public. Visitors are permitted to get off trails and hike across the refuges. Group size for these activities can be no greater than 20 without a Special Use Permit.

**(e) Why is the use being proposed?**

Wildlife EE and interpretation are priority, wildlife-dependent public uses on national wildlife refuges, as identified in the Refuge System Improvement act of 1997. These uses have been occurring on the refuges within the Complex since they were created. The Improvement Act of 1997 defines the described uses as priority public uses and, if compatible, they are to receive enhanced consideration over other general public uses in refuge planning. Non-consumptive uses, such as bird watching, plant identification, and nature photography, are enjoyed by the public and provide an opportunity for the public to learn about the Complex’s natural resources and view wildlife from a distance. Managing for these activities fulfills the Public Use Goal in the Refuges’ CCPs (2006a-d) to “Enhance public use of the refuge through development of an appropriate and compatible program of wildlife-dependent recreation and education/interpretation that is consistent with the National Wildlife Refuge System Improvement Act, benefiting visitors and promoting an understanding of the Lower Mississippi River Valley ecosystem.” (U.S. Fish and Wildlife Service [USFWS] 2006a-d). These activities were analyzed in the refuges’ CCPs and associated Environmental Assessments (2006a-d) and found compatible. These activities enhance the users’ appreciation of the refuges, the Refuge System, wildlife, their habitats, and the human environment, and encourage stewardship of our natural resources.

**AVAILABILITY OF RESOURCES:**

Wildlife EE and interpretation costs for West Tennessee NWR Complex, including salary, equipment, maintenance, monitoring, and communication with the public, will be approximately \$40,000 annually. The Complex will be able to cover the costs of these activities with existing operating budgets.

Table 1. Funding and Staffing Requirements

<b>Identifier</b>	<b>Cost</b>
Staff (Maintenance Workers, Refuge Ranger, and Refuge Managers)	\$33,000
Maintain roads, parking lots*	\$6,000
Brochures/Self-clearing Permits	\$0
Maintain signage	\$1,000
<b>Total Annual Cost</b>	<b>\$40,000</b>
<i>*Refuge trails and roads are maintained for a variety of activities and therefore are reported as partial expenditures.</i>	

Offsetting Revenue: None

**ANTICIPATED IMPACTS OF THE USE:**

West Tennessee NWR Complex has been open to wildlife EE and interpretation for decades with no noticeable adverse impacts on wildlife and habitats. A primary concern for allowing any public use to occur on the Complex is to ensure that impacts to wildlife and habitats are maintained within acceptable limits and potential conflicts between user groups are minimized. Usage will continue to be monitored and regulated. Use is managed spatially and temporally to prevent any impacts to habitats and wildlife. In most cases, the described activities will result in minimal disturbance to wildlife.

Short-Term Impacts:

Several studies have examined the effects of recreation on birds using shallow water habitats adjacent to trails and roads through wildlife refuges and coastal habitats in the eastern United States (Burger 1981; Burger 1986; Klein 1993; Burger *et al.* 1995; Klein *et al.* 1995; Rodgers and Smith 1995, 1997; Burger and Gochfeld 1998). Overall, the existing research clearly demonstrates that disturbance from recreation activities always have at least temporary effects on the behavior and movement of birds and other wildlife within a habitat or localized area (Burger 1981, 1986; Klein 1993; Burger *et al.* 1995; Klein *et al.* 1995; Rodgers and Smith 1997; Burger and Gochfeld 1998). The findings that were reported in these studies are summarized as follows in terms of visitor activity and avian response to disturbance.

Presence: Birds avoided places where people were present and when visitor activity was high (Burger 1981; Klein *et al.* 1995; Burger and Gochfeld 1998).

Distance: Disturbance increased with decreased distance between visitors and birds (Burger 1986), though exact measurements were not reported.

Approach Angle: Visitors directly approaching birds on foot caused more disturbance than visitors driving by in vehicles, stopping vehicles near birds, and stopping vehicles and getting out without approaching birds (Klein 1993). Direct approaches may also cause greater disturbance than tangential approaches to birds (Burger and Gochfeld 1981; Burger *et al.* 1995; Knight and Cole 1995; Rodgers and Smith 1995, 1997).

Noise: Noise caused by visitors resulted in increased levels of disturbance (Burger 1986; Klein 1993; Burger and Gochfeld 1998), though noise was not correlated with visitor group size (Burger and Gochfeld 1998).

There are some situations that could be harmful to plant and animal life, which will warrant refuge closures or the development of use restrictions. Examples of these situations could include, but are not limited to, protection of trust and listed species (flora and fauna), impacted vegetation, nesting species, and the protection of and possible conflicts with other refuge management programs. Potential impacts to wildlife and habitats include disrupting foraging or resting activities, repetitive flushing of nesting birds, and stress or change in behavior of wildlife due to group size, volume, and frequency of visitors.

The vast amount of Complex acreage that is available to the public compared to the number of visitors per year, along with the inaccessibility of much of the refuge due to it being a forested wetland, makes the likelihood of adverse impacts to wildlife and their habitats low.

### Long-Term Impacts

This use should not result in long-term impacts that adversely affect the purposes for which the refuges within the Complex were established or alter any existing or proposed uses as stipulated in the CCP. Travel will occur primarily on vegetation communities that can withstand repetitive use. A slight increase in gas emissions may occur due to the increase in vehicular traffic. However, the number of future EE and interpretation visitors is not expected to increase significantly. Potential long-term impacts that could occur may be displacement of species, however, no significant biological or ecological impacts have been observed as a result of these uses, despite these uses occurring on the Complex for decades.

To ensure compatibility with the refuges' purposes and the Refuge System mission, wildlife EE and interpretation can occur at West Tennessee NWR Complex in accordance with state and Federal regulations and special refuge-specific restrictions to ensure that wildlife and habitat management goals are achieved and that the program is providing a safe, high-quality experience for participants. To minimize potential disturbances, a combination of refuge staff presence and informational kiosks will help educate visitors about the potential problems associated with their actions. Law enforcement patrol of public use areas will continue to minimize violations of regulations. If any negative impacts occur, the Complex will take corrective action to reduce or eliminate the effects on wildlife or habitats.

## Cumulative Impacts

These uses have been managed in concert with other uses including management, research, wildlife observation and photography, hunting, and fishing since the refuges' establishment. These uses have not interfered with the other uses or with the purposes of the refuges or mission of the Refuge System. The level of use is not at a degree that results in air or water quality impacts from vehicular traffic or other modes of visitation. The Complex continuously monitors use to determine detrimental impacts and will adjust use levels and timing if any negative impacts are detected. Cumulative impacts are not anticipated on wildlife, their behaviors, their habitat or on other user groups.

### **PUBLIC REVIEW AND COMMENT:**

A Notice of Availability for Comment on the Draft Environmental Education and Interpretation Compatibility Determination was posted at the West Tennessee NWR Complex headquarters and the visitor center of Hatchie NWR and Reelfoot NWR, for public review and comment for a period of 14 days starting on September 13, 2021 and ending at close of business on September 26, 2021. A Notice of Availability for Comment also was posted on the refuges' websites and the West Tennessee NWR Complex Facebook page. A summary of comments received and Service responses will be published here in the final document. Public involvement, Tribal engagement, and interagency coordination related to wildlife EE and interpretation were also conducted during the planning process for the Reelfoot/Lake Isom, Chickasaw, Hatchie, and Lower Hatchie NWRs CCPs, Environmental Assessments, and Findings of No Significant Impact (USFWS 2005a-d and 2006e-h).

### **DETERMINATION (CHECK ONE BELOW):**

Use is not compatible

Use is compatible, with the following stipulations

### **STIPULATIONS NECESSARY TO ENSURE COMPATIBILITY:**

All current and future refuge-specific regulations apply to the proposed uses ([Reelfoot/Lake Isom](#), [Chickasaw](#), [Lower Hatchie](#), [Hatchie](#)).

- Group size for these activities can be no greater than 20 without a Special Use Permit.
- This program will be monitored and potentially modified or eliminated if any the program's components cause significant impacts.
- Use only occurs during open hours of the refuge unless approved through a SUP. Typical open hours of the refuge are sunrise to sunset.
- ATV/UTVs are prohibited.

**JUSTIFICATION:**

Wildlife EE and interpretation are priority wildlife-dependent uses for the Refuge System through which the public can develop an appreciation for fish and wildlife. Service 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 (Executive Order 12996, 1996).

One of the stated goals of the Refuge System is to “foster understanding and instill appreciation of the diversity and interconnectedness of fish, wildlife, and plants and their habitats” (USFWS 2006e) These uses can also provide excellent interpretive activities, exposing young people and urban dwellers to the unique sounds of the forest, the beauty of nature and the unique setting of the refuges. Providing information regarding the mission of the Service and the purposes of the refuges, along with specific resource information, to refuge visitors may alleviate potential negative impacts of visitors on wildlife. Wildlife EE and interpretation allow visitors to enjoy the outdoors and connect with nature in a natural setting, which is not only healthy for mind, body and spirit, but can build a lifelong appreciation for wildlife and their habitats.

These activities will not conflict with any of the other priority public uses or adversely impact biological resources. Therefore, through this compatibility determination process, we have determined that wildlife EE and interpretation on the Complex, in accordance with the stipulations provided above, are compatible uses that will not materially interfere with, or detract from, the fulfillment of the Refuge System mission or the purposes of the refuges.

**NEPA COMPLIANCE FOR REFUGE USE (Check one below):**

- Categorical Exclusion Without Environmental Action Statement
- Categorical Exclusion and Environmental Action Statement
- Environmental Assessment and Finding of No Significant Impact
- Environmental Impact Statement and Record of Decision

**LITERATURE CITED:**

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- [Executive Order No. 12996](https://www.fws.gov/refuges/policiesandbudget/EO12996.html), Federal Register Vol. 61, Num. 61, pp. 13647-13648 (March 28, 1996). <https://www.fws.gov/refuges/policiesandbudget/EO12996.html>
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