

# Environmental Education and Interpretation Draft Compatibility Determination

## Title

Draft Compatibility Determination for Environmental Education and Interpretation,  
Tensas River National Wildlife Refuge

## Refuge Use Category

Environmental Education and Interpretation

## Refuge Use Types

Environmental Education (not conducted by U.S. Fish and Wildlife Service [Service] staff or authorized agents)

Environmental Education (conducted by Service staff or authorized agents)

Interpretation (not conducted by Service staff or authorized agents)

Interpretation (conducted by Service staff or authorized agents)

## Refuge

Tensas River National Wildlife Refuge (NWR, refuge)

## Refuge Purposes and Establishing and Acquisition Authority:

In an effort to conserve the largest privately owned tract of bottomland hardwoods remaining in the Mississippi Delta, Congress authorized the Secretary of the Interior to establish the Tensas River NWR by Public Law 96-285 on June 28, 1980. Tensas River NWR was established for various purposes:

“For the preservation and development of the environmental resources ... to conserve the diversity of fish and wildlife and their habitat ... for the conservation and development of wildlife and natural resources, the development of outdoor recreation opportunities, and interpretative education,” and “to give special consideration to management of the timber on the refuge to insure [ensure] continued commercial production and harvest compatible with the purposes for which the refuge is established and the needs of fish and wildlife which depend upon the dynamic and diversified hardwood forest” (94 Stat. 595, dated June 28, 1980);

“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];

“For conservation purposes” [7 U.S.C. 2002 (Consolidated Farm and Rural Development Act)]; and

“To conserve (A) fish or wildlife which are listed as endangered species or threatened species .... or (B) plants” [16 U.S.C. 1534 (Endangered Species Act of 1973)].

### **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 (CD) reviews and replaces the 2009 CD for Environmental Education and Interpretation (U.S. Fish and Wildlife Service [USFWS] 2009a).

#### **What is the use?**

Environmental education and interpretation are identified in the Refuge System Improvement Act of 1997 as priority wildlife-dependent recreational uses provided they are compatible with the purpose for which the refuge was established (USFWS 2009a).

Activities which may occur with the current refuge staff capacity include traditional environmental education, such as teacher-led on-site field trips and off-site programs in classrooms, and on-site interpretation of wildlife resources by non-refuge staff. These activities are largely conducted at the Visitor Center and are used to encourage understanding in citizens of all ages to develop land ethics, foster public support, increase visibility, and improve the image of the Service.

With adequate staffing levels, refuge staff-led special educational events, such as Hunting and Fishing Day, and refuge staff-led on-site field trips may be held at the

Visitor's Center and Hollow Bend Cypress Boardwalk. National Hunting and Fishing Day was established by Congress to honor hunters and anglers for their role in conserving wildlife and their habitat. This educational event held at the Visitor's Center has consisted of special activities to encourage hunting and fishing and to educate the public about the natural resources on the refuge; approximately 800-1000 visitors generally attend. Although environmental education and interpretation do not require special use permits, they usually are closely coordinated with the refuge manager or park ranger.

Is the use a priority public use?

Yes

Where would the use be conducted?

Environmental education and interpretation may occur refuge wide, but the majority of user visits occur in the Visitor Center or on the Hollow Bend Cypress Boardwalk. The Hollow Cypress Observation Tower and Boardwalk behind the Visitor Center allows users to hike through the woods and view a portion of the Greenlea Unit. This is an excellent area to observe a representative sample of the bottomland hardwood forest on Tensas River NWR. Visitors, including school groups, can see the different types of trees on the refuge as well as wildlife species, such as migratory songbirds, squirrels and waterfowl, during the winter months. Interpretive signs explain what species are present. Other popular areas include: the Rainey Brake Rookery Observatory, Rainey Lake Piers and Rainey Lake Walking Trail. Interpretive signs are placed along the Walking Trail and Observatory detailing the different wildlife species and habitat types. The Walking Trail allows visitors to access two piers for wildlife observation and fishing. The first pier is 0.2 miles away from the parking lot and the second is 0.7 miles away. Interpretive signs are located in the cooperatively farmed Greenlea Unit along the Wildlife Drive. The Wildlife Drive is approximately 4.5 miles long, and interpretive signs along the Drive explain the significance of cooperative farming for waterfowl and other wildlife species present in this habitat type. These areas are designated in maps in the General Recreation Brochure (USFWS 2014). Fee title acres within the acquisition boundary have increased from 74,622 acres when the refuge's Comprehensive Conservation Plan (CCP) was approved in 2009 to 77,868 acres today. Most of these activities occur on the Hollow Bend Cypress Boardwalk and Rainey Lake Walking Trail, which are approximately 4.75 miles long. This is a minimal amount of trails within a 77,868 acre land base.

## When would the use be conducted?

The Visitor's Center has traditionally been open to environmental education and interpretation during normal business hours from 8am until 4pm Monday through Friday. Staff shortages resulted in a reduction in hours that the Visitor's Center is open to the public; it is now open from Tuesday-Thursday, 8am until 3:30pm. Most environmental education events are scheduled in conjunction with the refuge manager or park ranger and occur in April or May when school groups are concluding the school year. The Wildlife Drive in the Greenlea Unit is open from daylight until dark almost year-round, other than during scheduled firearm deer hunts or special use hunts in November, December and January. It may be closed occasionally during July and August from daylight until 8:00 am to conduct wood duck banding activities. In previous years, Hunting and Fishing Day has been scheduled on the third Saturday in September from 8:00 am until early afternoon.

## How would the use be conducted?

Environmental education and interpretation will primarily occur at the Visitor's Center, boardwalks, hiking trails and observation areas nearby. The 4.5 mile Greenlea Unit Wildlife Drive has interpretive signs along it for wildlife viewing. Users typically drive through the Greenlea Unit during daylight hours to see deer and other wildlife species. The production of agriculture crops in the fields and waterfowl impoundments set the stage for ample viewing opportunities as wildlife use these areas to forage. A raised observation tower at the end of the .25 mile Hollow Cypress Boardwalk overlooks a moist-soil impoundment where visitors may use mounted binoculars to view waterfowl, wading birds, shorebirds and deer. The Rainey Lake Trail leads to a rookery and two piers and observation areas overlooking Rainey Lake. Numerous wildlife species are often seen from the pier and observation areas along this scenic lake. Interpretive signs in these areas explain what species may be present. A Self-Clearing Visitor Registration Permit is required for all non-consumptive use and may be obtained at entry points leading into the refuge. There is no fee for this permit.

## Why is this use being proposed or reevaluated?

Environmental education and interpretation are being reevaluated based on the guidelines provided in the National Wildlife Refuge System Improvement Act (NWRSA) and resulting policy (603 FW 2.11 H, USFWS 2000). These are considered priority wildlife-dependent activities, as specified in the NWRSA of 1997. These uses also are identified as refuge goals in the CCP for Tensas River NWR (USFWS 2009a). Environmental education and interpretation are important to natural resource

management to help people learn about refuge management activities and the species that inhabit the refuge. Connecting people with nature fosters people's understanding of ecological systems and conservation efforts on the refuge and encourages the public's stewardship of our natural resources and support for the Refuge System. In response to trends of decreasing time spent outdoors, decreasing interest in hunting and fishing and increased societal attention on this nature-deficit phenomenon (Louv 2008), federal public land management agencies are focusing efforts toward re-connecting children with nature (Theimer and Ernst 2012). For example, in 2007, Service Director Dale Hall issued "Connecting People with Nature: ensuring the future of conservation" as one of six top priorities for the Service. Environmental education and interpretation connect people with nature on Tensas River NWR and may inspire public conservation efforts at the local, state, national and world levels.

### **Availability of Resources:**

The resources necessary to provide and administer the use at current use levels are available within current and anticipated refuge budgets. Refuge staff-led activities may occur upon filling the park ranger position, which is currently vacant. Staff time associated with administering these uses relates to assessing and conducting maintenance on refuge property (e.g., kiosks and other facilities, gates, trails, parking areas, and signs), monitoring potential impacts of the use on refuge resources and visitors, enforcement of refuge rules and regulations, and providing information and visitor service use opportunities to the public. This use will not materially interfere with or detract from fulfillment of the refuge purposes and the Refuge System mission.

### **One-time costs:**

- Facilities-New construction costs of the Rainey Brake Trail and associated structures is \$177,169. The Dunlop Observation Blind is scheduled for replacement with a cost of \$60,219. The Mobility Impaired Observation Deck on the Hollow Cypress Observation Tower is scheduled for replacement at a cost of \$53,301.

### **Annual/recurring expenses:**

- Administration and Management – The full-time equivalent (FTE) refuge manager and part-time park ranger spend 60 hours collectively (\$2,100) to interact with the public and school groups, refer user groups to observation

areas and hiking trails and produce planning documents, brochures and social media posts.

- Maintenance – A FTE Wage Grade and part-time Wage Grade spend approximately 80 hours a year (\$3,000) clearing fallen trees on the Rainey Lake hiking trail, mowing and grading the Wildlife Drive and maintaining signs. Approximately \$6,000 of gravel is purchased per year for parking lots.
- Monitoring – Two law enforcement officers spend approximately 90 hours per year (4,650) monitoring visitor use for these activities.

#### **Offsetting Revenue:**

- The Annual Public Use Permit (USFWS 2021a) costs 20 dollars and provides recreation fee funding, which is used to maintain hiking trails and roads and to purchase gravel for parking lots. This permit generates approximately \$80,000-100,000 per year.

#### **Anticipated Impacts of the Use:**

A major benefit to public involvement at the refuges is the creation of a strong base of advocates with a broader understanding and appreciation of refuge wildlife and habitats. Ideally, these advocates will reach beyond the boundaries of the refuge and contribute to passionate, widespread support for the Refuge System and the Service. The benefits of these uses, and subsequent increases in annual visitation due to availability of these uses, can unfortunately come at a cost to wildlife and other resources. A primary concern for allowing any public use to occur on the refuge is to ensure that impacts to wildlife and habitats are maintained within acceptable limits and potential conflicts between user groups are minimized. Impacts associated with educational and interpretive activities generally occur at developed facilities such as the Visitor Center, trails, boardwalks, and other improved facilities. Potential impacts are described in more detail below.

#### **Short-term impacts**

Impacts associated with environmental education and interpretation activities on the refuge are expected to be negligible due to low visitor numbers resulting from remoteness from urban areas and a lack of easily accessible trails throughout the refuge. Total non-consumptive annual use on the refuge has averaged 2,566 visits out of 17,776 annual total visits from 2014-2020 (Dickson, unpublished data). This use will primarily occur on a few maintained trails around the Visitor's Center. The associated impacts for these non-consumptive uses will be similar to other non-consumptive uses, including photography and wildlife observation. In general, wildlife photographers tend to have the larger disturbance impacts (Klein 1993).

While wildlife observers frequently stay on trails or in their vehicles to view wildlife, wildlife photographers are much more likely to leave their vehicles and approach wildlife on foot (Klein 1993). Even a slow approach by wildlife photographers tends to have behavioral consequences to wildlife (Klein 1993).

Overall, the existing research clearly demonstrates that disturbance from recreation activities always has at least temporary effects on the behavior and movement of birds 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).

All aspects of wildlife disturbance are minimized because of low visitor numbers and by conducting most environmental education and interpretation activities in established facilities and on maintained trails and roadways.

Adverse impacts to threatened and endangered species are not expected. Although the refuge contains suitable habitat and is within the southern portion of the range of the federally threatened northern long-eared bat (*Myotis septentrionalis*), the species has not been recorded on the refuge during acoustic inventory surveys. Acoustic surveys are conducted during each summer as part of the Inventory and Monitoring Acoustic Bat Survey Protocol, and no northern long-eared bats have been detected on the refuge during the 8 years of monitoring. No maternity colonies have been found on the refuge either. Areas open to environmental education, photography, interpretation, and observation activities are not expected to impact northern long-eared bats. Visitors only use a few established trails and

roads. Outdoor events are typically held in open areas during the daytime when bats are not active.

### Long-term impacts

Should increases in environmental education and interpretation uses occur, appropriate solutions are in place to ensure a quality visitor experience while minimizing negative human/wildlife interactions. Refuge area closures may be imposed if situations arise that are harmful to refuge resources, such as to wildlife and vegetation. The refuge manager will take appropriate actions to protect trust and listed species (flora and fauna), nesting species, vegetation, and to minimize conflicts with other refuge management programs and public uses. Potential impacts to wildlife and habitats include disrupting foraging or resting activities, repetitive flushing of nesting birds, and stress or change in behavior due to group size and/or volume. Long-term negative effects of disturbance to wildlife can include but are not limited to:

- permanent disappearance of migratory bird species or individuals that are unable to adapt to the presence of people,
- increased nest predation due to the continued flushing of birds from their nests,
- change in patterns of behavior due to repetitive flushing,
- increase of energy demands for wildlife fleeing from disturbance, and
- variation in feeding behavior (Burger and Gochfeld 1998).

The location of recreational activities and the size of participating groups are also important factors affecting the magnitude of disturbance. Miller et al. (1998) found that nesting success was lower near recreational trails, where human activity was common, compared to nests further from trails. 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). On Tensas River NWR, the dense palmetto and wet forest conditions discourage visitors from leaving trails and make the few existing trails preferred areas for traversing the refuge.

Additional impacts may be seen from the combination of uses on the refuge including hunting, wildlife observation, photography, education, interpretation, habitat management and research. Conflicting programs that occur in the same space and time can cause decreased satisfaction from user groups and increase disturbance to wildlife from frequent human visitation, whether consumptive or non-consumptive. Programs are structured to allow multiple, high quality uses

while not overlapping with high visitor use times such as weekends during hunting season.

While anticipated impacts are expected to be minimal for environmental education and interpretation, stipulations are required to ensure that wildlife resources are adequately protected. The environmental education program activities will avoid sensitive sites and sensitive wildlife populations. Evaluations of sites and program frequency will be conducted periodically to assess if objectives are being met and that the natural resources are not being adversely impacted.

### **Public Review and Comment:**

The draft CD will be available for public review and comment for 14 calendar days from May 3, 2022 to May 17, 2022. The public will be made aware of this comment opportunity through the refuge website ([https://www.fws.gov/refuge/tensas\\_river/](https://www.fws.gov/refuge/tensas_river/)) and Tensas River Refuge Association Facebook page (<https://www.facebook.com/trrapage/>). A hard copy of this document will be posted at the Refuge Headquarters and Visitor Center (2312 Quebec Rd., Tallulah, LA 71282). 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 CD.

### **Is the use compatible?**

Yes

### **Stipulations Necessary to Ensure Compatibility:**

Regulations for access are included in the Refuge Hunting and Fishing Regulations Brochure (USFWS 2021b).

1. The Greenlea Bend Wildlife Drive is only open from sunrise to sunset.
2. Pets must be on leashes.
3. Camping is prohibited.
4. Littering is prohibited.
5. Artifact and antler shed hunting/collecting is prohibited.
6. Feeding, capturing or harassing wildlife is prohibited.

### **Justification:**

Environmental education and interpretation are used to encourage citizens of all ages to act responsibly in protecting a healthy ecosystem. They are tools to use in

building land ethic, developing public support and decreasing wildlife violations. Education is critical for making visitors aware that their actions can have negative impacts on wildlife. These uses help build understanding and appreciation for the refuge and its natural resources, increase visibility in the community and improve the image of the Service. Environmental education and interpretation are identified in the 1997 Refuge System Improvement Act as priority wildlife-dependent recreational activities that should be promoted and expanded on refuges.

Due to the remote nature of the refuge and relatively low number of non-consumptive visitors, adverse impacts from environmental education and interpretation are expected to be negligible. Impacts are minimized by activities and programs being conducted at developed sites, and the overall number of hiking trails and observation structures on 77,868 acres is minimal for such a large land base. Any unreasonable harassment of wildlife would be grounds for the refuge manager to close the area to these uses or restrict the use to minimize harm.

Provided environmental education and interpretation adhere to refuge regulations, these activities are compatible with objectives set forth in the refuge's CCP (USFWS 2009a). At the current and proposed levels, providing opportunities for environmental education and interpretation would not conflict with the national policy to maintain the biological diversity, integrity, and environmental health of the refuge. Based on available science and best professional judgement, the Service has determined that providing opportunities for environmental education and interpretation at Tensas River NWR, as outlined in the refuge CCP, associated Environmental Assessment (EA), USFWS 2009b) and this CD, and in accordance with the stipulations provided here, will not materially interfere with or detract from the fulfillment of the Refuge System mission or the purposes of the refuge. Environmental education and interpretation were previously deemed compatible in the Tensas River NWR CCP (USFWS 2009a) and associated EA (USFWS 2009b).

The proposed uses can be categorically excluded from further National Environmental Policy Act (NEPA) analysis under 40 CFR 1508.4 (definition of categorical exclusion) and

516 DM 8.5 B (7): Minor changes in the amounts or types of public use on Service or state-managed lands, in accordance with existing regulations, management plans, and procedures.

Further, this action does not trigger an extraordinary circumstance as outlined under 43CFR§46.215. This use is consistent with the 2009 CCP and associated EA (USFWS 2009b) for Tensas River NWR. The environmental conditions and use have

not changed substantially since the previous NEPA analysis and decision in 2009 (USFWS 2009b). This CD updates and replaces the previous 2009 CD.

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## **Signature of Determination**

Refuge Manager Signature and Date

## **Signature of Concurrence**

Assistant Regional Director Signature and Date

**Mandatory Reevaluation Date**