Draft Compatibility Determination

For Wildlife Observation and Photography at Upper Ouachita NWR

Refuge Use Category

Wildlife Observation and Photography

Refuge Use Type(s)

Wildlife Observation and Photography

Refuge

Upper Ouachita National Wildlife Refuge (NWR or refuge)

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

The purposes of Upper Ouachita NWR are for use as an inviolate sanctuary, or for any other management purpose, for migratory birds" (Migratory Bird Conservation Act, 16 U.S.C. 715d); and for "…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. 3901b).

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 2008 compatibility determination for wildlife observation and photography.

What is the use?

Wildlife observation and photography 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. Wildlife observation and photography include visitation to see and observe wildlife and photograph (including videography) habitats and wildlife. Wildlife observation includes viewing of fish, wildlife, plants, or their habitats by refuge visitors.

Photography includes refuge visitation for the purpose of photographing refuge natural or cultural resources (including fish, wildlife, plants, and their habitats) or public uses of those resources (not for commercial, news, or educational purposes).

These are existing uses on the refuge included in the Upper Ouachita NWR Comprehensive Conservation Plan (CCP; USFWS 2008) 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.

Is the use a priority public use?

Yes

Where would the use be conducted?

Upper Ouachita NWR is open to wildlife observation and photography on refuge lands, except those areas specifically closed according to the annual Public Use Regulations brochure (https://www.fws.gov/media/upper-ouachita-national-wildlife-refuge-public-use-regulations-2023-2024). Zoning of the refuge is used to minimize conflicts between user groups. These zones are modified when needed for biological, administrative or safety reasons. Currently wildlife observation and photography are open on most lands of the refuge. This determination applies to the entire refuge and the impacts analysis reflects anticipated impacts to all of the refuge. Parking lots, gravel roads and boat ramps are located throughout the refuge.

When would the use be conducted?

Wildlife observation and photography would be permitted during daylight hours year-round on the refuge, with special staff or volunteer led events at any time of day or night. The refuge could temporarily be closed to wildlife observation for biological, administrative or safety reasons. In the case of this occurring, the refuge would notify the public with signs, Facebook posts, and closure of gates.

How would the use be conducted?

Wildlife observation and photography is primarily conducted by individuals without guidance though some organized, guided events occur each year. The number of visitors to the refuge for these uses are estimated at 5,000. Methods of movement across the refuge include by boat, vehicle, and bicycle. All-terrain vehicles (ATV/UTV) are permitted on the refuge and may be used at certain times of the year to access areas of the refuge. Walking, hiking, bicycling, boat use and ATV use have been found to be compatible with refuge purposes (USFWS 2016). Some areas of the refuge are seasonally closed to motorboat traffic due to waterfowl sanctuary needs.

Vehicles are restricted to improved roads on the refuge. Parking is restricted to parking lots and along gravel roads. Parking lots and boat ramps are scattered about the refuge along with gravel roads. Designated hiking trails, gas lines, dirt roads and ATV trails can be used by visitors for these uses. Boat launch is restricted to designated boat launches.

Visitors are permitted to get off trails and hike across the refuge. Special Use Permits are required for groups larger than 20 and will be issued by the refuge manager.

Why is this use being proposed or reevaluated?

Wildlife observation and photography 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 refuge since it was created in 1978. 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. Managing for these activities fulfills the Public Use Goal in the Refuge Comprehensive Conservation Plan (2008) to “provide wildlife-dependent recreation opportunities where compatible and promote an appreciation of fish and wildlife resources in the Lower Mississippi River Ecosystem”. These activities were analyzed in the refuge’s CCP and associated Environmental Assessment (2008) and found compatible. These activities enhance the users’ appreciation of the refuge, the Refuge System, wildlife, their habitats, and the human environment and encourage stewardship of our natural resources.

Availability of Resources

The use requires 5% of staff time. Equipment including printed materials and support supplies is estimated at $1,500 per year. Maintainence of kiosks, trails, parking lots, boat ramps, and signage require approximately $1,000 per year, which is reported as a partial expenditure because maintenance is conducted for other public uses as well. There are no off-setting revenues.

Table 1. Costs to Administer and Manage Environmental education (NWRS staff and authorized agents),Interpretation (NWRS staff and authorized agents) on Upper Ouachita National Wildlife Refuge.

Category and Itemization	One-time Cost	Recurring Annual Expenses
Develop signage and brochures	0	$1,500
Staff time (LE, administration and management)	0	$3,000
Maintenance	0	$1,000
Total one-time expenses	**0**	
Total recurring annual expenses	**0**	**$5,500**
Offsetting revenues	**0**	**000**

Anticipated Impacts of the Use

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

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 of wildlife observation and photography. 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.” Resources that will not be more than negligibly impacted by the action have been dismissed from further analyses.

Wildlife observation and photography can result in varying impacts to wildlife resources, both positive and negative. Two of the big six priority public uses, these wildlife-dependent uses promote public understanding and appreciation of the

National Wildlife Refuge System. Recreational visitation and associated economic contributions made to local and state economies provide a powerful catalyst for conserving public lands (Marion 2019). Recreation including wildlife observation and photography, enhances stewardship values.

Wildlife observation and photography are existing uses of the refuge that were previously analyzed and approved in the 2008 CCP/EA/FONSI; were previously found not to have significant impacts; were previously determined not to materially interfere with or detract from the purposes of the refuge or the Refuge System mission; and were previously found not to conflict with maintaining the biological integrity, diversity, or environmental health of the refuge (USFWS 2008). These uses support Public Use Goal of the CCP which states "provide wildlife-dependent recreation opportunities where compatible and promote an appreciation of fish and wildlife resources in the Lower Mississippi River Ecosystem". (USFWS 2008).

The CCP and associated EA/FONSI (USFWS 2008a and 2008) addressed the direct, indirect, short-term, long-term, and cumulative impacts of the uses on the refuge. The uses and environmental conditions have not changed substantially since that analysis. The impacts analysis from the CCP (USFWS 2008a and 2008) associated with the uses are incorporated herein by reference; only summary and updated impacts are provided in this compatibility determination (CD). No significant beneficial or adverse short-term, long-term, or cumulative impacts are associated with continuing wildlife observation and photography on the refuge as outlined in this CD.

Tolerance to human disturbance varies among species and depends on multiple factors, including adaptation to urbanization and body mass (Samia et al. 2015). Disturbances associated with these two public uses vary with the wildlife species involved and the type, level, frequency, duration, and the time of year such activities occur. The primary responses of wildlife to human activities include: avoidance or departure from the site (Owen 1973, Burger 1981, Kaiser and Fritzell 1984, Korschen et al. 1985, Henson and Grant 1991, Kahl 1991, Klein 1993, Whittaker and Knight 1998) and use of sub-optimal habitat (Erwin 1980, Williams and Forbes 1980, Knight and Cole 1991). Multiple recreational activities occurring simultaneously may result in a combined negative impact on wildlife. Hammitt and Cole (1998) conclude that the frequent presence of humans in wildland areas can dramatically change the normal behavior of wildlife mostly through "unintentional harassment." These responses can have negative impacts to wildlife, such as mammals becoming habituated to humans making them easier targets for hunters. Human induced avoidance by wildlife can prevent animals from using otherwise suitable habitat. Seasonal sensitivities can compound the effect of disturbance on wildlife. Examples include regularly flushing birds during nesting or causing mammals to flee during winter months, thereby consuming large amounts of stored fat reserves. Some uses, such as bird observation,

are directly focused on viewing certain wildlife species and can cause more impacts during the breeding season and winter months.

Short-term impacts

As referenced above, no significant beneficial or adverse short-term impacts are associated with the continuation of the environmental education and interpretation use on Upper Ouachita NWR.

Trails used to facilitate environmental education and interpretation can distub wildlife outside the immediate trail corridor (Trails and Wildlife Task Force 1998, Miller et al. 2001). Pedestrian travel has the potential to impact shorebirds, waterfowl, and other migratory bird populations feeding and resting near the trails and on beaches, especially during nesting season. Birds avoided places where people were present and when visitor activity was high (Burger 1981, 1986; Klein et al. 1995). Noise caused by visitors resulted in increased levels of disturbance, though noise was not correlated with visitor group size (Burger 1986, Klein 1993, Burger and Gochfeld 1998). Miller et al. (1998) found bird abundance and nesting activities (including nest success) increased as distance from a recreational trail increased in both grassland and forested habitats. Nest predation was also found to be greater near trails (Miller et al. 1998).

For songbirds, Gutzwiller et al. (1994) found that singing behavior of some species was altered by low levels of human intrusion. Several studies have found that some bird species habituate to repeated intrusion; frequently disturbed individuals of some species have been found to vocalize more aggressively, have higher body masses, or tend to remain in place longer (Cairns and McLaren 1980). Disturbance may affect the reproductive fitness of males by hampering territory defense, male attraction, and other reproductive functions of song (Arcese 1987).

Noise produced by wildlife observation and photography has the potential to impact fish and other aquatic species. For example, during noise events, bass and bull head fish spent less time guarding nests and fry exposing eggs and young to potential predators (MacLean et al. 2020, Maxwell et al. 2018, Mickle et al. 2019).

Wildlife disturbance may be compounded by seasonal needs. For example, disturbances causing mammals to flee during winter months could consume stored fat reserves that are necessary to get through the winter. Hammitt and Cole (1998) found that white-tailed deer females with young are more likely to flee from disturbance than those without young.

Wildlife observation and photography have the potential to impact wildlife habitats on a short-term basis. Immediate effects can include soil compaction, changes to vegetation structure, and accumulating waste. These effects are minimized by requiring vehicles and ATVs to stay on established roads and trails that are

continually maintained.

Quantitative research in the literature is scant documenting the impacts of environmental education and interpretation activities on other user groups, such as hunters and anglers. Crowding may deter some recreationists; these individuals may alter their time or location of visitation or develop other coping mechanisms, such as rationalization or shifting their understanding of the activity or place (Manning and Valliere 2001, Marcouiller 2008). Potential positive impacts of wildlife observation and photography include a deepened sense of place, heightened appreciation for the refuge's habitat and wildlife, and inspired engagement in conservation efforts (Ardoin 2006, Kudryavtsev et al. 2012).

Long-term impacts

The long-term impacts of wildlife observation and photography may alter species composition in certain areas or habitats. Generalist species are more abundant near trails, whereas specialists' species are less common. Within grassland ecosystems, birds are less likely to nest near trails. Within both ecosystems, nest predation is greater near trails. Birdwatchers and birds can coexist amicably but only when careful consideration is given, controlling the duration and closeness of the encounters. Most birds will adapt and habituate to the presence of people, but there is a distance beyond which closer interactions will cause disturbance or disruption, and may lower reproductive success, decrease foraging efficiency, or force birds to abandon suitable habitats (Burger et al. 1995). Each situation requires observation, continued monitoring, and measures to minimize impacts to avoid undue stress and long-term impacts. In many refuges, paths or boardwalks are used to direct the flow of birdwatchers, in others, some of the habitats need to be closed during a sensitive part of the year (e.g., beach closure for piping plovers and fields that are off-limits during hawk migration), with sensitive areas fenced to prevent human access. Negative impacts of birdwatchers and other ecotourism can be curtailed with careful management and consideration of the needs of both the birds and the people (Burger et al. 1995). Disturbance can cause shifts in habitat use, abandonment of habitat, and increased energy demands on affected wildlife (Knight and Cole 1991).

Trails may block movements of small mammals, therefore a trail network could decrease gene flow within and among the population. Fragmentation may ultimately lead to smaller population size within each fragment, and increased vulnerability to population decline and extinction (Fahrig and Merriam 1994). Through program and facility design and layout, these impacts are anticipated to be minimal.

With respect to mammalian carnivores, Baker and Leberg (2018) found that coyotes and bobcats had higher occupancy in protected areas with more human disturbance (e.g., trails), but overall, protected areas with less human disturbance had greater carnivore community diversity. Their results varied among species, however, the general trend showed that carnivores are impacted by human activity. Reed and Merenlender (2008) found that human activity decreased carnivore density and

shifted community composition from native species to non-native species. Consistently, protected areas that did not allow recreation maintained higher levels of native species versus those which did permit recreation.

Access paths to sites necessary to support wildlife observation and photography can lead to habitat fragmentation, loss, and heterogeneity (Brock and Green 2003, Lewin et al. 2006). Visitors can introduce invasive plants, animals, and pathogens to habitats (Anderson et al. 2015, Brock and Green 2003, Davies and Sheley 2007, Marion et al. 2006). Once present, invasive species can out-compete native plants and animals, thereby altering habitats (Anderson et al. 2015, Marion et al. 2006). Invasive species can alter animal and plant composition, diversity, and abundance (Davies and Sheley 2007, Eiswerth et al. 2005). These changes may reduce native forage, cover, and water sources (Brock and Green 2003, Eiswerth et al. 2005). Certain invasives species may even impede access to wildlife observation and photography sites such as hydrilla blocking waterways.

Walking, hiking, bicycling, boat use and ATV use impacts have been analyzed and found to be compatible with refuge purposes (USFWS 2016).

Public Review and Comment

The draft compatibility determination will be available for public review and comment for 14 days. The public will be made aware of this comment opportunity through posting at the refuge headquarters and on the refuge website. A hard copy of this document will be posted at the Upper Ouachita Headquarters at 11372 Hwy 143, Farmerville, LA 71241. It will be made available electronically on the refuge website *https://www.fws.gov/refuge/upper-ouachita.* Please contact the Refuge Manager if you need the documents made available in an alternative format. Concerns expressed during the public comment period will be addressed in the final document.

Determination

Is the use compatible?

Yes

Stipulations Necessary to Ensure Compatibility

1. Activities will occur during open hours of the refuge or under supervision by refuge staff.

2. Activities will occur in areas open to the public or in closed areas only under direct supervision of refuge staff.

3. Areas may be closed by the Refuge Managers during times sensitive to wildlife such as breeding and nesting or for safety or administrative reasons.

4. Groups larger than 20 will require a Special Use Permit.

5. Vehicles are restricted to designated roads on the refuge.

6. ATVs are restricted to designated trails on the refuge.

7. Parking is restricted to designated parking lots and the shoulders of designated roads on the refuge.

Justification

The stipulations outlined above would help ensure that the use is compatible at Upper Ouachita NWR. Wildlife observation and photography, as outlined in this compatibility determination, 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 wildlife observation and photography at Upper Ouachita NWR, 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 Upper Ouachita NWR. Rather, appropriate and compatible wildlife observation and photography would be a use of Upper Ouachita NWR through which the public can develop an appreciation for wildlife and wild lands.

Signature of Determination

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Refuge Manager Signature and Date

Signature of Concurrence

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Assistant Regional Director Signature and Date

Mandatory Reevaluation Date

2038

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