

# **Draft Compatibility Determination**

## **Title**

Draft Compatibility Determination for Wildlife Observation and Photography,  
Fisherman Island National Wildlife Refuge (NWR).

## **Refuge Use Category**

Wildlife Observation and Photography

## **Refuge Use Type(s)**

Photography/video/filming/audio recording, Wildlife Observation

## **Refuge**

Fisherman Island National Wildlife Refuge

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

...particular value in carrying out the national migratory bird management program.  
16 U.S.C. § 667b (An Act Authorizing the Transfer of Certain Real Property for  
Wildlife, or other 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)

## **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

The uses are wildlife observation and wildlife photography which are priority public uses, as identified in the National Wildlife Refuge System Improvement Act (USFWS1997).

## What is the use?

The uses are wildlife observation and photography which are priority public uses, identified by Executive Order 12996 (March 25, 1996) and legislatively mandated by the Refuge System Administration Act of 1966 (16 U.S.C. sections 668dd-668ee), as amended by the Refuge System Improvement Act of 1997 (Public Law 105-57). These uses are being reevaluated due to the mandatory 15-Year Re-Evaluation requirement. These uses are wildlife dependent priority public uses identified and found compatible in the refuge's Comprehensive Conservation Plan (CCP) (CCP 2004).

Wildlife observation and photography is for the purpose of photographing or viewing fish, wildlife, plants, and their natural habitats or cultural resources available on the refuge-by-refuge visitors. This is not for commercial, news, or educational purposes.

Unmanned aircraft system (UAS/drone) flights are not permitted to launch, land or disturb wildlife on a National Wildlife Refuge in accordance with 50 CFR § 27.34 and 27.51. A separate UAS Finding of Appropriateness and CD would need to be prepared prior to permitting the public to use UAS on a refuge.

**Photography, video, filming, or audio recording.** 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 news or educational purposes). Activity conducted by an individual or organization involving photography, videography, filming, or other recording of sight or sound.

**Wildlife Observation** - Viewing of fish, wildlife, plants, or their habitats by refuge visitors.

## Is the use a priority public use?

Yes

## Where would the use be conducted?

Wildlife observation and photography activities are conducted along a 1.5-mile unimproved trail on Fisherman Island NWR that goes from the parking area by the Chesapeake Bay Bridge Tunnel (Bridge-Tunnel) to the Chesapeake Bay and then turns to go along the beach. The use is allowed during guided tours of Fisherman Island NWR. The staff and volunteers at the Eastern Shore of Virginia NWR conduct educational programs and guided interpretive walks on Fisherman Island NWR. Visitors learn about the U.S. Fish and Wildlife Service and the important role Fisherman Island NWR plays in wildlife and critical habitat protection.

## When would the use be conducted?

Guided tours may be offered on Fisherman Island NWR from October 1 to February 28 during select hours and days. At the refuge managers discretion, tours can be scheduled outside of this window as long as it will not cause disturbance to nesting or

migrating shorebirds or other sensitive species of wildlife.

### How would the use be conducted?

Tours will be guided by refuge staff and/or volunteers. Participants must reserve a tour in advance by calling the refuge office. Due to limited parking and to minimize disturbance, tours will be limited to no more than 30 people at a time. These tours are popular with the local community and individuals traveling through the area. Tours are typically booked for every Saturday from October 1 to February 28 unless cancelled due to inclement weather.

To limit disturbance some areas of the refuge will be closed at the refuge manager's discretion for colonial and beach nesting birds during the migrating and breeding seasons. We will prohibit visitors on Fisherman Island NWR between March 1 and September 30 unless otherwise permitted through a special use permit. Special use permits are free and may be issued on a case by case basis for practices such as conducting breeding or migration surveys, beach cleanups, or other authorized annual surveys. To obtain a special use permit the individual or group should contact the refuge manager at last one month in advance to allow for processing and to complete an appropriateness determination for the use.

Permits are required for filming or still photography parties of more than eight individuals. Filmmakers or photographers should submit a General Activity Special Use Permit application (FWS 3-1383 G) in writing to the refuge in advance. A fee may be charged for the special use permit. The fee is dependent on size, scope and impact of the proposed activity.

Permits are not required for filming or still photography parties of eight or fewer individuals, providing that the user who conducts the filming or still photography activity:

- A. does not impede or intrude on the experience of other visitors to the Federal land management unit;
- B. does not disturb or negatively impact—
  - i. a natural or cultural resource; or
  - ii. an environmental or scenic value; and
  - iii. allows for equitable allocation or use of facilities of the Federal land management unit.
- C. is located in an area in which the public is allowed.
- D. does not require the exclusive use of a site or area.
- E. is not located in an area that receives a very high volume of visitation.

- F. does not use a set or staging equipment, subject to the limitation that handheld equipment (such as a tripod, monopod, and handheld lighting equipment) shall not be considered staging equipment.
- G. complies with and adheres to visitor use policies, practices, and regulations applicable to the Service land management unit.
- H. is not likely to result in additional administrative costs being incurred by the Service with respect to the filming or still photography activity.
- I. complies with other applicable Federal, State (as defined in section 2 of the EXPLORE Act), and local laws (including regulations), including laws relating to the use of unmanned aerial equipment.

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

Wildlife observation and photography are priority public uses as defined by the National Wildlife Refuge System Administration Act of 1966, as amended by the National Wildlife Refuge System Improvement Act of 1997 (Public Law 105-57), and if compatible, are to receive enhanced consideration over other general public uses. This use is being re-evaluated pursuant to policy (603 FW 2.11 H.).

Wildlife observation and photography will provide experiences for visitors to observe and learn about wildlife and wildlands and to observe wildlife habitats firsthand, enhancing visitors' understanding of natural resource management programs and ecological concepts, fostering a better understanding of the problems facing our wildlife and wildlands resources including the effects the public has on wildlife resources. Wildlife observation and photography opportunities allow visitors to learn about the U.S. Fish and Wildlife Service role in conservation, to better understand the biological facts upon which USFWS management programs are based and foster an appreciation for the importance of wildlife and wildlands. We anticipate that participation in these uses will result in a more informed public, with an enhanced stewardship ethic and enhanced support and advocacy for wildlife conservation.

Furthermore, Department of the Interior Secretarial Order 3356 directs the Service to evaluate opportunities to enhance and expand public access to lands and waters on national wildlife refuges for hunting, fishing, recreational shooting, and other forms of outdoor recreation. The proposed action promotes two of the priority public uses of the Refuge System, provides opportunities to promote stewardship of our natural resources, and increases public appreciation and support for the refuge.

### **Availability of Resources**

Staff at the Eastern Shore of Virginia NWR including the Refuge Manager, Administrative Assistant and Visitor Center staff will produce and distribute outreach

materials, schedule tours, take reservations from the public and oversee volunteer tour guides.

Facilities needed to support this use include access roads, parking areas, kiosks, interpretative and directional signs, the visitor center at the Eastern Shore of Virginia NWR, and trails; maintenance of these assets generally already occurs to support other management activities and uses with the use of maintenance staff. Refuge vehicles are needed to effectively administer the use. Maintenance and visitor services staff perform the maintenance and repair of refuge roads, parking lots, and trails. As additional funding is available, the refuge will complete and maintain projects and facilities to enhance visitor experiences.

Wildlife observation and photography of natural and cultural resources occur through the use of existing staff, resources, and facilities. Existing resources such as interpretive kiosks/displays, and programs to the public, are made possible through extensive help of staff, volunteers, and partners. The amount of wildlife observation and photography programming provided to the public will be a direct reflection of the refuge's staff and funding levels and/or volunteer and partner capabilities.

The Refuge Manager or Project Leader will use sound professional judgement to determine the staffing needed to perform the functions necessary to ensure compatibility. Refuge staff are needed to administer activities such as visitor programs, maintaining trails and signage, issuing special use permits, and monitoring impacts related to wildlife observation and photography uses. The funding resources needed to provide this use are available under the current refuge budget. However, adequate levels of refuge staffing, funding, and facilities are necessary to administer this use in a manner that ensures continued compatibility (603 FW2 2.11(A.2)). Therefore, if staffing levels or budgets decrease and alternate resources cannot be found to facilitate wildlife observation and photography activities, the Refuge Manager or Project Leader may need to re-evaluate whether these uses are still compatible with refuge purposes and the Service's mission.

### **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, including geology, hydrology, air and water quality, threatened and endangered species, cultural resources, socioeconomics and environmental justice, have been dismissed from further analyses.

Wildlife observation and photography can result in varying impacts to wildlife resources, both positive and negative. These uses represent two of the big six priority public uses designated in the Refuge Improvement Act of 1997 (hunting, fishing, environmental education, interpretation, wildlife observation and photography). These wildlife-dependent uses promote public understanding and appreciation of the Refuge System. Recreational visitation and associated economic contributions made to local and state economies provide a powerful catalyst for conserving public lands (Marion 2019).

Damage to ecosystems is known to occur when informal trails are created and used by the public (Barros and Pickering 2017). Visitors engaging in wildlife observation and photography activities will be expected to stay on designated trails or roads and are not allowed to touch or remove wildlife from the refuge without the appropriate permit or license. Disturbances associated with these two public uses vary with the wildlife species present and the type, level, frequency, duration, and the time of year such activities occur.

Guided tours by Service staff allowing wildlife observation and photography have been offered since the 1970s with no discernable adverse impacts to resources. Wildlife observation and photography provides wildlife-dependent recreational opportunities and can foster a better appreciation and more complete understanding of the wildlife and habitats associated with the southern Delmarva Peninsula landscape. This will result in more widespread and stronger support for wildlife conservation, the refuge, the Refuge System, and the Service.

Wildlife may employ a variety of avoidance strategies in response to human disturbance that may result from visitors participating in wildlife observation or photography, often including departures from a site, use of suboptimal habitat, altered behavior and increased energy expenditure. Tolerance to human disturbance varies among species and depends on multiple factors, including adaptation to urbanization and body mass (Samia et al. 2015). Overall, recreational activities tend to have at least temporary effects on the behavior and movement of birds and other animals within a habitat or localized area. However, Gill (2007) maintains that conservation of public areas depends on public interest and public education and that restricting such access should only occur when those impacts are considered severe. Burger (Burger et al. 1995) determined that with careful planning, people and birds can exist without undue disturbance.

### Short-term impacts

Short-term impacts resulting from anthropogenic disturbance from visitors engaging in wildlife observation and photography activities may include changes in wildlife

behavior, distribution, or abundance (Leblond et al. 2013). Trails used to facilitate wildlife observation and photography can disturb wildlife outside the immediate trail corridor (Trails and Wildlife Task Force 1998, Miller et al. 2001). Noise caused by visitors engaging in wildlife observation and photography activities can result in increased levels of disturbance, though noise is not always correlated with visitor group size (Burger 1986, Klein 1993, Burger and Gochfeld 1998).

Extensive research has been conducted on the impacts of human disturbance on birds. Gutzwiller et al. (1994) found that the singing behavior of some species of songbirds was altered by low levels of human intrusion. Pedestrian travel has the potential to impact shorebirds, waterfowl, and other migratory birds feeding and resting near the trails and on beaches, especially during the nesting and migration seasons. Birds may avoid places where people are present and when visitor activity is high (Burger 1981, 1986; Klein et al. 1995). 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).

Wildlife observation and photography activities have the potential to impact fish and other aquatic species if activities generate noise in the water, increase turbidity, or result in other physical disturbance in the aquatic environment. For example, when exposed to 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. 2018).

Human disturbance from wildlife observation and photography uses on the refuge also has potential short-term impacts on mammals. There is evidence to suggest that the mammal species most likely to be adversely affected by human disturbance are those for which available habitat is limited, constraining them to stay in disturbed areas and suffer the costs of reduced survival or reproductive success (Gill et al. 2001). For example, disturbances causing mammals to flee during winter months could consume stored fat reserves that are necessary to get through the winter. Additionally, George and Crooks (2006) found that bobcats (*Lynx rufus*) and coyotes (*Canis latrans*) were more active at sites with less human use and less active at sites with high levels of human recreation. This study also found that bobcats were detected less frequently in high human use areas, and even temporarily shifted their activity patterns to become more nocturnal.

In addition to direct impacts on wildlife, wildlife observation and photography can also have indirect impacts on wildlife by altering vegetation and habitat on a short-term basis. Immediate effects can include soil compaction from trampling, changes to vegetation structure, and accumulating waste from litter. By altering these habitat characteristics, visitors can modify the food supply or availability of shelter for wildlife (Cole and Landres 1995). Modes of transportation along roads and foot traffic on trails and at established wildlife observation and photography sites can compact

soil leading to increased erosion and sedimentation (Cooke and Xia 2020), resulting in degraded habitat for wildlife.

Quantitative research documenting the impacts of wildlife observation and photography uses on other user groups such as hunters and anglers is scant. Crowding from these uses 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).

Many shorebirds that nest, migrate, or overwinter in the United States are in decline and are of conservation concern due to threats and pressures they experience throughout their annual cycle. Since 1970, shorebird abundance across North America has declined by 37 percent (Rosenberg et al. 2019) and those declines are accelerating over time (Smith et al. 2023). Human disturbance has been identified as a major threat and a key mortality source for shorebirds, especially in the Northeastern U.S. (AFSI 2015, NABCI 2022). Disturbance can be defined as “a human activity that causes an individual or group of shorebirds to alter their normal behavior, leading to an additional energy expenditure by the birds. It disrupts or prevents shorebirds from effectively using important habitats and from conducting the activities of their annual cycle that would occur in the absence of humans. Productivity and survival rates may also be reduced” (Mengak and Dayer 2020). Human disturbance can be caused by both intentional and unintentional actions, including environmental education and interpretation activities. Unfortunately, the impacts of disturbance will likely increase in the future as the human population in coastal areas is projected to grow (NOAA 2013) and as shorebird habitats decrease due to coastal development and sea-level rise driven by climate change (Galbraith et al. 2002).

Disturbance can impact shorebirds throughout the entire annual cycle. During the breeding season, disturbance can affect how shorebirds use habitat, as well as their reproductive success and survival. Human disturbance has been found to exclude shorebirds from habitat they would otherwise use for nesting and to cause adults to incubate or attend their nests less frequently, which can result in reproductive failure when nests are left unprotected from temperature fluctuations or predators (Lafferty et al. 2006, Sabine et al. 2008). Additionally, human activity can cause direct mortality of adults, chicks and eggs, such as trampling (Melvin et al. 1994, Ruhlen et al. 2003, Schulte and Simons 2015).

Disturbance during the non-breeding season, which involves a period of migration, can also have significant impacts on the survival and fitness of shorebirds. Migration is an energetically demanding activity that requires sufficient food resources and stopover sites where birds can rest and forage, and many such stopover sites occur in the Northeastern U.S. (Colwell 2010, Linscott and Senner 2021). Disturbance can



cause shorebirds to fly away, displace them from important habitats, and reduce their foraging time and feeding rates (Burger and Gochfeld 1991, Burger and Niles 2014, Burger et al. 2004, Navedo et al. 2019, Pfister et al. 1992). The cumulative result of these impacts can be a severe energetic cost for individual birds, such as reduced body mass, and can lead to lower annual survival rates of individuals at disturbed sites (Gibson et al. 2018, Rogers et al. 2006). When extrinsic factors, such as disturbance, are experienced by shorebirds during the non-breeding season, their ability to reproduce during the breeding season can be influenced (Weithman et al. 2017).

## Long-term impacts

The long-term effects of wildlife observation and photography activities on species will vary depending on their biology and life history. For example, the same wildlife programming offered during different seasons—for example, during breeding, migration, or wintering for migratory birds—may differ greatly in its impact. Examples include observation and photography programs causing birds to flush during nesting (Carney and Sydeman 1999) or causing mammals to flee during winter months, thereby consuming large amounts of stored fat reserves necessary for survival (Lovegrove 2005).

The presence of humans participating in wildlife observation and photography could also lead to human-induced avoidance by wildlife, which can prevent animals from using otherwise suitable habitat. Frequent disturbance may cause shifts in habitat use, abandonment of habitat, and increased energy demands on affected wildlife as reviewed in Kerlinger et al. 2013. 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” such as wildlife becoming habituated to humans.

Additional potential long-term impacts from wildlife observation and photography uses include changes at the community and ecosystem scale. Frequent use of areas or trails for wildlife observation and photography activities could alter species composition in the immediate areas utilized for these activities. For example, generalist bird species are typically more abundant near trails, whereas specialist species are less common (Miller et al. 1998).

There is a large amount of research available for the long-term impacts of human disturbance on bird species. Wildlife observation and photography programs that incorporate activities such as bird watching should consider and monitor the duration and proximity of the encounters. Some birds will tolerate 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 mitigation by refuge staff to avoid undue stress and long-term impacts. In many refuges, paths or boardwalks are used to direct the flow of birdwatchers or others observing wildlife. In others, some

of the habitats may need to be closed during a sensitive part of the year (e.g., beach closure for piping plovers or closed areas around bald eagle nests), with sensitive areas fenced to prevent human access. Negative impacts of wildlife observation and photography activities and other ecotourism can be curtailed with careful management and consideration of the needs of both the wildlife and the visitors (Burger et al. 1995).

Long-term impacts from wildlife observation and photography could also have impacts on mammals present on the refuge. With respect to mammalian carnivores, Baker and Leberg (2018) found that coyotes and bobcats had higher occupancy in protected areas with more human disturbance (i.e., 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 human activity can have long-term impacts on carnivores. Reed and Merenlender (2008) found that human activity decreased carnivore density and shifted community composition significantly from native species to non-native species.

Though there is little research available for the impacts of recreation on reptiles and amphibians, humans can unknowingly spread diseases and chemicals that are toxic to herpetofauna via hiking shoes, camera equipment, and other field gear. Diseases such as Chytridiomycosis, Ranavirus, and Upper Respiratory Tract Disease are examples of highly contagious diseases that contribute to high rates of mortality in reptiles or amphibians (National Park Service 2010).

In addition to direct long-term wildlife impacts, wildlife observation and photography can also have long-term indirect impacts by altering wildlife habitats. Habitat fragmentation caused by physical barriers necessary to facilitate wildlife observation and photography, such as roads or trails, may reduce potential habitat for dispersal, as well as decrease the availability of water and food, and ultimately reduce biodiversity (Haddad et al. 2015). Fragmentation may ultimately lead to smaller population sizes within each fragment, and increased vulnerability to population decline and extinction (Fahrig and Merriam 1994). Reducing the survival of vegetation could have cascading impacts for herbivores and possibly higher trophic levels (Haddad et al. 2015).

Visitors can unintentionally 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 outcompete native plants and animals, thereby altering habitats (Anderson et al. 2015, Marion et al. 2006). Invasive species can alter native animal and plant species 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 invasive species may even impede access to wildlife observation and photography sites such as hydrilla blocking waterways.

## **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 refuge headquarters , posting on refuge website , social media. State and Tribes have been asked to review and comment on the draft compatibility determination. A hard copy of this document will be posted at the Refuge Headquarters or Visitor Center located at 5003 Hallett Circle Cape Charles, VA 23310. It will be made available electronically on the refuge website [https://www.fws.gov/refuge/Fisherman\\_Island/about.html](https://www.fws.gov/refuge/Fisherman_Island/about.html). 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. If monitoring or observations indicate an adverse impact from Wildlife Observation and Photography activities on wildlife or their habitat, the refuge manager will take appropriate action to modify or discontinue the use in some or all areas of the refuge.
2. At the refuge manager's discretion, some areas of the refuge will be closed to this use during nesting or migration seasons, or other times of particular sensitivity to minimize human disturbance of shorebirds or other sensitive species and habitats. Refuge staff will install symbolic fencing or other barriers, as appropriate, to restrict access and maintain a spatial buffer in these areas to minimize disturbance. The number of beach access points may also be reduced.

### **3. Justification**

The stipulations outlined above would help ensure that the use is compatible at Fisherman Island 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 U.S. Fish and Wildlife Service has determined that the Wildlife Observation and Photography at Fisherman Island 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 Fisherman Island NWR. Rather, appropriate and compatible Wildlife Observation and Photography would be the use of the Fisherman Island NWR through which the public can develop an appreciation for fish, wildlife, and wild lands. These priority public uses identified by Executive Order 12996 (March 25, 1996) and legislatively mandated by the Refuge System Administration Act of 1966 (16 U.S.C. sections 668dd-668ee), as amended by the Refuge System Improvement Act of 1997 (Public Law 105-57), have been found appropriate and compatible, and will provide opportunities through which the American public can develop an appreciation for fish and wildlife and contribute to achieving the mission of the Refuge System.

## **Signature of Determination**

Refuge Manager Signature and Date

## **Signature of Concurrence**

Assistant Regional Director Signature and Date

## **Mandatory Reevaluation Date**

2040

## **Literature Cited/References**

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