

Draft Compatibility Determination

Title

Draft Compatibility Determination for Wildlife Observation and Photography, Canaan Valley National Wildlife Refuge.

Refuge Use Category

Wildlife Observation and Photography

Refuge Use Type(s)

Photography/video/filming/audio recording, Wildlife observation,
Photography/video/filming/audio recording (news and educational), Wildlife
observation (commercial)

Refuge

Canaan Valley National Wildlife Refuge

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

Canaan Valley NWR was established by the U.S. Fish and Wildlife Service (USFWS, the Service) in 1994 to ensure the ecological integrity of Canaan Valley and the continued availability of its wetland, botanical, and wildlife resources to the citizens of West Virginia and the United States. The wetlands at the valley's core encompass over 8,400 acres and represent the largest wetland complex in both West Virginia and the central and southern Appalachians. Canaan Valley is listed as a priority for protection under the Emergency Wetlands Resources Act of 1986, as implemented by the Service's Regional Wetlands Concept Plan, and considered by the state of West Virginia as "the most important wetland in the State." (WVDNR 2006)

The Service established the refuge for the following purposes and under the following authorities:

"... for the development, advancement, management, conservation, and protection of fish and wildlife resources..." (Fish and Wildlife Act of 1956; 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)

"... 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" (Emergency Wetlands Resources Act of 1986;

16 U.S.C. 3901(b));

“... for use as an inviolate sanctuary, or for any other management purpose, for migratory birds” 16 U.S.C. 715d (Migratory Bird Conservation Act of 1929).

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System, otherwise known as the 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 1994 CD for Wildlife Observation and Photography at Canaan Valley National Wildlife Refuge (NWR, refuge).

What is the use?

The uses being reevaluated under this CD are Wildlife Observation and Photography. These 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). In addition, these uses are wildlife dependent priority public uses identified in the refuge's Comprehensive Conservation Plan (CCP) (CCP 2011).

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.

Photography, video, filming, or audio recording (news and educational). Activity involving photography, videography, filming, or other recording of sight or sound for news, public information, or educational purposes.

Wildlife observation. Viewing of fish, wildlife, plants, or their habitats by refuge visitors.

Wildlife observation (commercial). Commercial guiding or outfitting of refuge visitors to view fish, wildlife, plants, or their habitats (including provision of access to viewing areas).

Is the use a priority public use?

Yes

Where would the use be conducted?

Wildlife observation and photography will be allowed on designated refuge trails, boardwalks, roads, and parking lots. Areas include Canaan Valley National Wildlife Refuge Visitors Center, Freeland Boardwalk, Forest Road 80, Beall Lane, Camp 70 Road, A-Frame Road, Cabin Mountain Spur trail, Beall North trail, Middle Valley trail, Blackwater View trail, River's Edge trail, Camp 70 Loop trail, Fishing Hook trail, Brown Mountain trail, Beall South trail, Farm View trail, Shortcut trail, Idleman's Run trail, Wilderness Way trail, South Glade Run trail, Valley Overlook trail, Brown Mountain Overlook trail, Delta 13 trail, Chris Clower trail, and via the Blackwater River water trail.

When would the use be conducted?

Wildlife observation and photography would be allowed when the refuge is open to the public each day from sunrise to sunset (i.e., daylight hours only), unless otherwise specified. Forest Road 80 is gated off to vehicle access in winter months due to snow depth and continuous drifting of the road. Refuge staff and/or partners may occasionally conduct interpretive programs on topics such as nocturnal wildlife outside of normal refuge operational hours. These programs occur infrequently and require the issuance of a Special Use Permit (SUP) by the Refuge Manager. Access to some trails could be restricted at the discretion of the Refuge Manager to reduce disturbance to sensitive wildlife species.

How would the use be conducted?

Currently, the refuge is open to the public for wildlife observation and photography. Existing facilities to support these activities include multiple parking lots, blinds, an observation platform, a boardwalk, and informational kiosks. Travel by foot, snowshoe, or cross-country ski access is allowed only on established refuge trails to facilitate these priority public uses throughout the year. Refuge visitors are only allowed to participate in these activities on designated trails from sunrise to sunset. Trespassing off refuge trails for these uses is not permitted and is enforced. As per refuge policy, groups of 10 or more people need a Special Use Permit (SUP). Group

use of the refuge for education, research, or other activities is regulated to minimize conflict with other visitors and avoid pressure on sensitive habitats. Commercial SUPs are available for vendors operating businesses or collecting fees on refuge lands.

Refuge staff accommodate these priority uses on the refuge and ensure their compatibility in accordance with the stipulations below.

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?

We are reevaluating compatibility for these two priority public uses designated by the Refuge System Improvement Act of 1997 that established six wildlife dependent recreational uses appropriate for achieving the mission of the Refuge System. This CD reviews and replaces the 1994 CD for Wildlife Observation and Photography. Refuge staff allow these priority uses only on designated refuge areas in accordance with the goals of the refuge's CCP (CCP 2011). The refuge provides programming and supporting infrastructure to enhance opportunities for wildlife observation and photography on the refuge.

Availability of Resources

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.

In addition to \$5,000 routine maintenance, we anticipate a total of approximately \$25,000 for trail improvements. If costs for seasonal staff or materials increase substantially, the refuge will need to secure the additional funding needed from other sources in order to administer this use.

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, and socioeconomics 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.

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 and coyotes 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.

For northern long-eared bats and tricolored bats, no known maternity roost trees or hibernaculum are located on lands within the Canaan Valley NWR boundaries. Bats may be disturbed due to the presence of large groups but this is highly unlikely due to their nocturnal behavior.

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).

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 social media, posting at refuge headquarters, publication of notice in local newspaper, and sending a letter to the refuge email list. 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 6263 Appalachian Highway, Davis, West Virginia 26260. It will be made available electronically on the refuge website <https://www.fws.gov/refuge/canaan-valley>. 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.

Justification

The stipulation outlined above would help ensure that the use is compatible at Canaan Valley NWR. Wildlife observation and photography, as outlined in this CD, 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 wildlife observation and photography at Canaan Valley NWR, in accordance with the stipulations provided here, would not materially interfere with or detract from the fulfillment of the Refuge System mission or the purpose of the Canaan Valley NWR. Rather, appropriate and compatible wildlife observation and photography would be uses of the Canaan Valley NWR through which the public can develop an appreciation for 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

2035

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