



Fish & Wildlife Service

Canaan Valley National Wildlife Refuge *Recreational Fishing Plan* *March 2020*



Art by Duane Raver/USFWS

Appendix A. Compatibility Determination
Appendix B. Environmental Assessment
Appendix C. Section 7 Evaluation

Canaan Valley National Wildlife Refuge Recreational Fishing Plan

March 2020

U.S. Fish and Wildlife Service

**Canaan Valley National Wildlife Refuge
6263 Appalachian Hwy
Davis, WV 26260**

Submitted By:

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Date

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I. INTRODUCTION AND DESCRIPTION OF THE REFUGE

National wildlife refuges are guided by the mission and goals of the National Wildlife Refuge System (Refuge System), the purposes of an individual refuge, U.S. Fish and Wildlife Service (Service) policy, and laws and international treaties. Relevant guidance includes the National Wildlife Refuge System Administration Act of 1966 (NWRSA), as amended by the Refuge System Improvement Act of 1997, Refuge Recreation Act of 1962, and selected portions of the Code of Federal Regulations and Fish and Wildlife Service Manual.

The mission of the Refuge System, as outlined by the NWRSA, as amended by the Refuge System Improvement Act (16 U.S.C. 668dd et seq.), is:

“...to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.”

The act requires that refuges restore and maintain the integrity, diversity, and environmental health necessary to achieve this mission and the purposes established for each refuge. The NWRSA mandates the Secretary of the Interior in administering the System to (16 U.S.C. 668dd(a)(4):

- Provide for the conservation of fish, wildlife, and plants, and their habitats within the Refuge System;
- Ensure that the biological integrity, diversity, and environmental health of the Refuge System are maintained for the benefit of present and future generations of Americans;
- Ensure that the mission of the Refuge System described at 16 U.S.C. 668dd(a)(2) and the purposes of each refuge are carried out;
- Ensure effective coordination, interaction, and cooperation with owners of land adjoining refuges and the fish and wildlife agency of the States in which the units of the Refuge System are located;
- Assist in the maintenance of adequate water quantity and water quality to fulfill the mission of the Refuge System and the purposes of each refuge;
- Recognize compatible wildlife-dependent recreational uses as the priority general public uses of the Refuge System through which the American public can develop an appreciation for fish and wildlife;

- Ensure that opportunities are provided within the Refuge System for compatible wildlife-dependent recreational uses; and
- Monitor the status and trends of fish, wildlife, and plants in each refuge.

Secretarial Order 3347 – “Conservation Stewardship and Outdoor Recreation,” signed March 2, 2017, and Secretarial Order 3356 – “Hunting, Fishing, Recreational Shooting, and Wildlife Conservation Opportunities and Coordination with States, Tribes, and Territories,” signed September 15, 2017, includes direction to Department of the Interior agencies to “...enhance recreational fishing, specifically regarding efforts to enhance and expand recreational fishing access”.

The Code of Federal Regulations (CFR), Title 50, Subchapter C, further details additional procedures related to fishing on a national wildlife refuge. The Refuge Recreation Act requires that funds be available for the development, operation, and maintenance of fishing programs. It is anticipated that inclusion of a fishing program will have a negligible impact on refuge financial resources.

Canaan Valley National Wildlife Refuge (NWR, refuge) is located in Davis, West Virginia, and in Tucker and Grant Counties, West Virginia. The refuge was established on August 11, 1994, with the purchase of 86 acres, but currently ranges over 17,000 acres (Figure 1). The Service is authorized to acquire an additional 24,000 acres within the land acquisition boundary. In order to meet specific refuge and other broader Service directives, the following purposes were established for Canaan Valley NWR:

- “...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 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 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).

The refuge works to preserve unique high elevation wetlands, which includes the largest shrub and bog wetland complex in the southern Appalachians. This complex contains a mixture of wetland types, including muskeg, alder, wet meadow, swamp forest, and spiraea thicket. Other habitat types are present on the refuge as well. Upland areas provide grass and shrublands important for migratory birds. High elevation woodlands provide habitat for threatened and endangered species, including Cheat Mountain salamander and Indiana bat. Overall, the area supports over 580 species of plants (representing 40 different plant communities), as well as an

estimated 290 species of mammals, birds, reptiles, amphibians, and fish. Of the 30 species of fish that occur in the tributaries of the Blackwater River, 19 are found to be native to the refuge.

Under the refuge Comprehensive Conservation Plan (CCP), we proposed to officially open recreational fishing on the refuge by amending 50 CFR 32.68. When additional land acquisitions occur, these sites may become available for public recreational fishing. The proposed fishing program rules will be the same as, or more restrictive than, regulations throughout the State of West Virginia (State). Additional restrictions may take the form of potential seasonal closures, prohibition of lead sinkers in ponds, and time of day when we would permit access for fishing, or other rules and regulations designed to protect fish and wildlife.

We will take an adaptive management approach to maintaining the fishery resources of the refuge. The West Virginia Division of Natural Resources (WVDNR) manages the fishery resources and stocking program in areas adjacent to the refuge, and we will work together to ensure the fishery resource remains healthy and sustainable.

II. STATEMENT OF OBJECTIVES

The objectives for the Canaan Valley NWR fisheries program are to:

- Promote a priority public use of the Refuge System under the NWRSA of 1996 (16 U.S.C. 668dd-668ee), as amended by the Refuge System Improvement Act of 1997 (Improvement Act) (Public Law 105-57);
- Meet Refuge Objective 4.2 (Fishing) under the CCP. Within 5 years of CCP approval, provide fishing opportunities such that 80 percent of anglers report having a high-quality fishing experience on the refuge;
- Effectively maintain a healthy and diverse aquatic ecosystem through the use of scientific management techniques;
- Promote visitor understanding of, and increase visitor appreciation for, America's natural resources;
- Provide opportunities for quality recreational and educational experiences consistent with criteria describing quality found in 605 FW 1.6;
- Encourage participation in this tradition deeply rooted in America's natural heritage and conservation history;
- Minimize conflicts with visitors participating in other compatible wildlife dependent recreational activities;
- Minimize impact to natural resources; and

- Participate in the annual Hooked on Fishing, Not on Drugs Exposition when staff is available.

III. DESCRIPTION OF FISHING PROGRAM

A. Areas to be Opened to Fishing

Fishing on the refuge is proposed for the Blackwater River and its tributaries wherever a managed road or trail crosses a body of water (river, stream, or pond) or comes within approximately 10 yards of body of water (Figures 2 and 3). The State claims riparian rights to the ordinary high-water mark of rivers or streams. After reaching a river or stream via a road or trail, anglers may travel along the stream, staying below ordinary high-water mark. This occurs:

- Where the trail from the Kelly-Elkins tract to Timberline crosses Idleman's Run at bridge;
- Where Freeland Road crosses Freeland Run;
- Where the accessible fishing boardwalk starts at Timberline Road and meets the Blackwater River;
- Where Beall South Trail meets the Blackwater River;
- Where Blackwater View Trail meets the Blackwater River;
- Where River's Edge Trail meets the Blackwater River;
- Where Canaan Mountain Trail meets pedestrian bridge at the Blackwater River Delta 13 (Camp 70) Road;
- Where Middle Valley Trail crosses Glade Run at North Glade Run crossing;
- Where South Glade Run Trail crosses Glade Run;
- Where Middle Valley Trail crosses Sand Run; and
- Where Fishing Hook Trail leads to a beaver pond.

Beaver ponds on the refuge can last a variable number of years and many are within sensitive wetland habitats. Plants in these habitats may be unusual for this latitude or may be globally rare, like the balsam fir (*Abies balsamea*) and bog clubmoss (*Lycopodiella inundata*). If a managed road or trail provides access to a pond within approximately 10 yards, then that pond is open to fishing, otherwise, fishing is prohibited. This will minimize off-trail walking and thereby minimize compaction of significant plant communities and disturbance of wildlife.

Vernal pools are confined wetland depressions, natural or man-made, that retain water for at least 2 consecutive months out of the year and are devoid of breeding fish populations. These freshwater pools are scattered throughout the refuge. These sites are generally less than 1-acre in size and are fed by rainfall. They provide critically important habitat for a variety of amphibian species. Based on the pool's importance for the suite of species that rely on them, and that few, if any, fish are found in the pools, the sites will not be open for fishing on the refuge.

B. Species to be Taken, Fishing Seasons, Fishing Access

Seasons dates and creel limits will follow State regulations, which allow fishing in the Blackwater and its tributaries year-round. This will be coordinated with the State annually. Public fishing on the refuge will be provided at designated fishing access points (Figures 2 and 3) and will be allowed 1 hour before sunrise and 1 hour after sunset. There are two new canoe/kayak launches, Timberline Bridge and Laurel Landing, located off Brown Mountain Parking lot. These launches will allow unlimited access to fishing spots not accessible by land, (see figure 1 and 2).

C. Fishing Permit Requirements

A valid West Virginia fishing license and any required additional stamps will be required to fish on the refuge. No refuge permit is required.

D. Consultation and Coordination with the State

We will closely follow State regulations, with the exception that we prohibit the use of lead sinkers in freshwater ponds on the refuge. This reduces the exposure of herons and other wading birds, bald eagles, waterfowl, and other wildlife, to lead and potential poisoning. We will offer fishing 1 hour before legal sunrise and 1 hour after legal sunset on refuge land. This is more restrictive than WVDNR, but conforms to 50 CFR regulations.

Prior to the development of this Recreational Fishing Plan, the Refuge Manager contacted the WVDNR regarding the refuge's proposal to open up opportunities for recreational fishing. The agency was supportive of this proposal. Continued coordination will ensure Canaan Valley NWR's fishing program aligns with State regulations, and law enforcement needs are met.

E. Law Enforcement

Enforcement of refuge regulations to protect trust resources and provide for a quality recreational opportunity will occur via regular patrols and compliance checks by Federal Wildlife Officers (FWO). Staff from the WVDNR will assist FWOs when needed.

In addition, to assist with compliance of State and refuge regulations, fishing rules and regulations will be posted at the visitor center and kiosks. We will install signage to reinforce these regulations, discourage transportation of invasive species, and encourage proper disposal of unused bait and monofilament.

F. Funding and Staff Requirements

We do not anticipate charging fees for fishing, and therefore we do not anticipate additional income or appropriations specifically geared toward the Recreational Fishing Program. The resources necessary to provide and administer this use are available within current and

anticipated refuge budgets. Staff time associated with the administration of this use is spent maintaining associated road infrastructure, collecting visitor use data where applicable, analyzing use patterns, monitoring potential impacts of the use on refuge resources, and providing information to the public about the use.

Refuge vehicles are needed to effectively administer the use. The engineering equipment operator performs the maintenance and repair of refuge roads, parking lots, and associated structures. The refuge has heavy equipment including a motor grader, dump truck, backhoe, 4x4 farm tractor, skid steer, and front-end loader.

The estimated cost to operate this fishing program is estimated to be \$2,360 annually.

IV. CONDUCT OF FISHING OPPORTUNITIES

A. Refuge-Specific Fishing Regulations

All anglers must possess a required State fishing license and must comply with all State fishing regulations as well as refuge specific regulations (50 CFR§32.68 D) and procedures.

For Canaan Valley NWR:

- Fishing access is allowed during refuge open hours from 1 hour before legal sunrise to 1 hour after legal sunset.
- No overnight parking, camping or fires are permitted.
- Anglers must properly discard monofilament line.
- Fishing access is restricted to designated trails and access points. Access points are discussed in Description of Fishing Program and can be viewed in Figures 2 and 3.
- Anglers accessing the Blackwater River by watercraft enter the refuge from outside refuge boundaries or one of the designated access points on the refuge. The use of gasoline motors is prohibited on the refuge.
- The possession, use or collection of baitfish (including minnows, crayfish, and amphibians) is prohibited anywhere on the refuge.
- Commercial fishing is prohibited on refuge lands
- We prohibit fishing by any means other than by use of no more than two attended poles with hook and line attached.
- We prohibit the use of lead sinkers in freshwater ponds.

- Bikes and/or horses are not allowed off trails to access fishing spots.

B. Relevant State Regulations

Fishing at Canaan Valley NWR will be conducted according to West Virginia State regulations except as noted in refuge-specific regulations.

V. PUBLIC ENGAGEMENT

A. Outreach for Announcing and Publicizing the Fishing Program

All fishing-related matters will be published in local papers, including the *Parson's Advocate* and the *Inter-Mountain*. Notices will also be posted at the refuge office and on the refuge website and Facebook page. Any outreach is intended to educate the public of the changes/updates to the fishing program; and inform the public where to get information regarding the program.

The refuge will also address public comments received during the 30-day comment period, and consider them for incorporation into the Recreational Fishing Plan.

B. Anticipated Public Reaction to the Fishing Program

It is estimated that about 50,000 people visit Canaan Valley NWR annually. Visitors use the refuge to enjoy wildlife-dependent activities such as birdwatching, photography, wildlife observation, hunting, and fishing. Visitors engaged in these activities can easily co-exist with anglers.

It is anticipated that there will be some comments regarding unlimited access to the refuge for fishing, the same access that is granted to hunters in the fall. The Recreational Fishing Plan and compatibility determination strive to balance fishing access and protection of refuge resources.

C. How Anglers will be Informed of Relevant Rules and Regulations

Angler orientation of the refuge will be achieved by providing maps of the refuge at the headquarters office, in kiosks throughout the refuge, and on the refuge website. The maps have refuge trails, public use areas, closed areas, and local roads clearly defined. Anglers may address questions to refuge staff by calling, writing, e-mailing, or visiting refuge headquarters.

Information regarding refuge-specific information is available at the refuge headquarters office located at 6263 Appalachian Highway, Davis, WV. The refuge office is open Monday through Friday 8 a.m. to 4 p.m. Information is also available on the refuge website at: <http://www.fws.gov/canaanvalley> or by calling 304-866-3858.

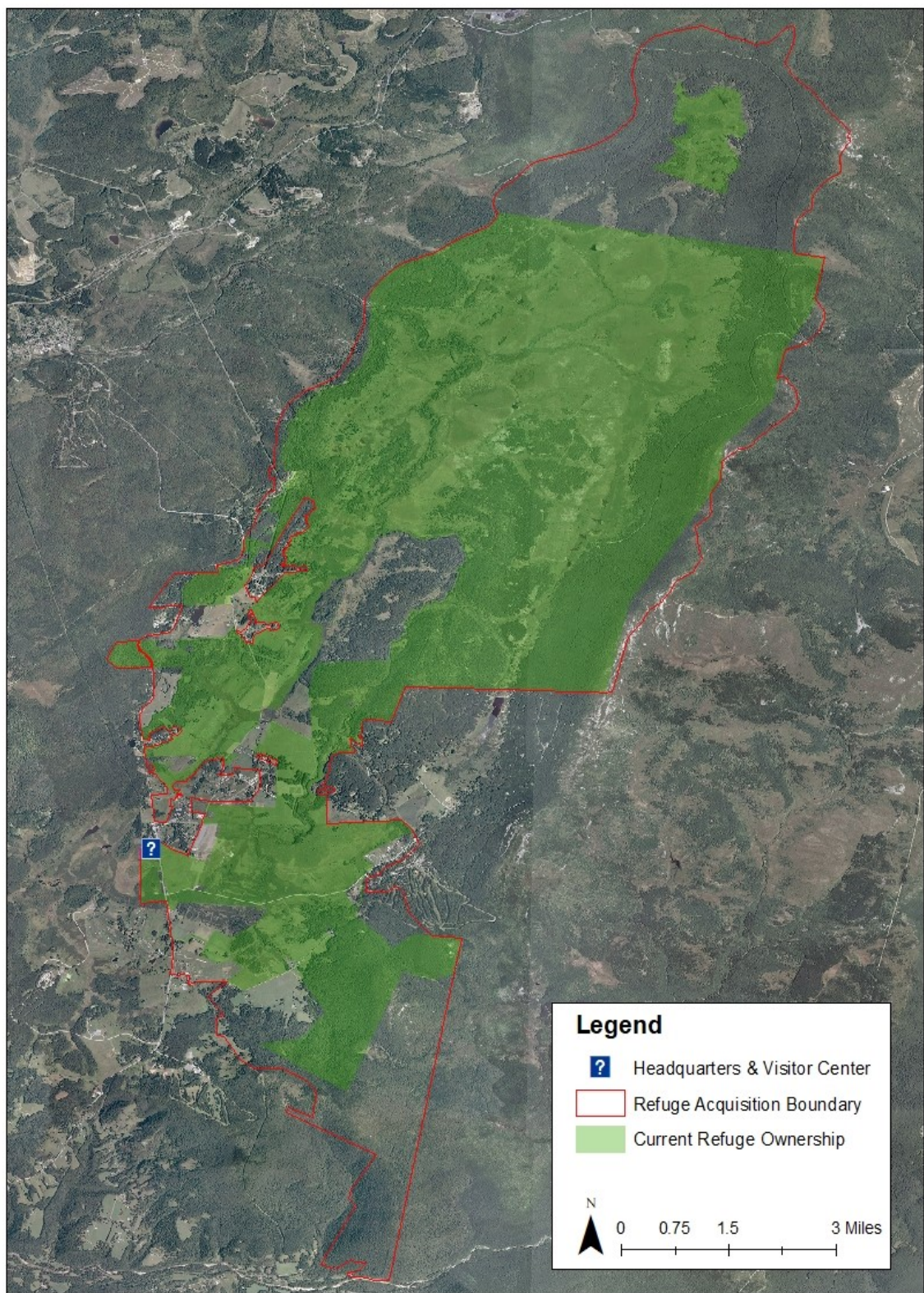


Figure 1. Canaan Valley NWR boundary and existing ownership as of November 1, 2019.

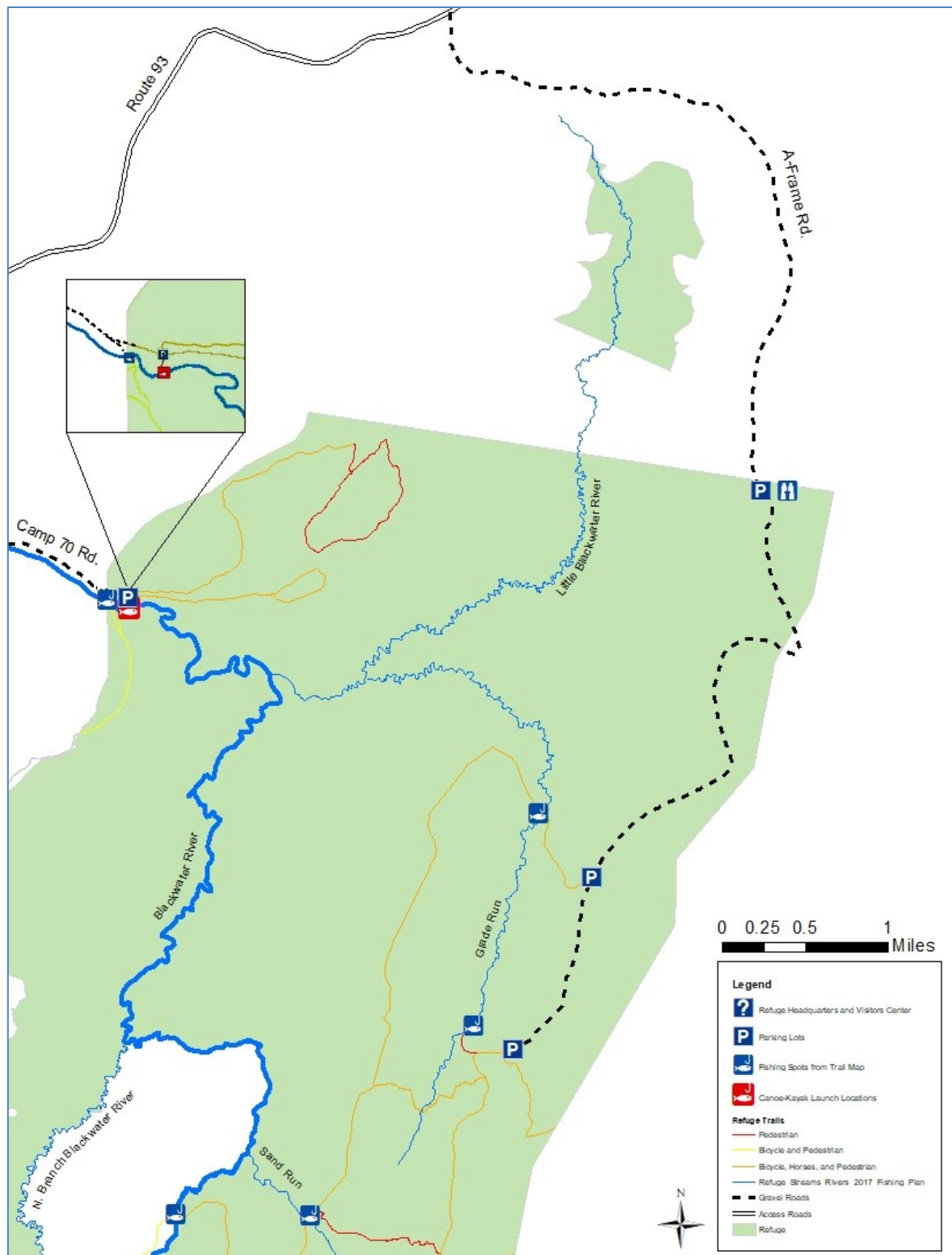


Figure 2: North portion of refuge fishing access spots.

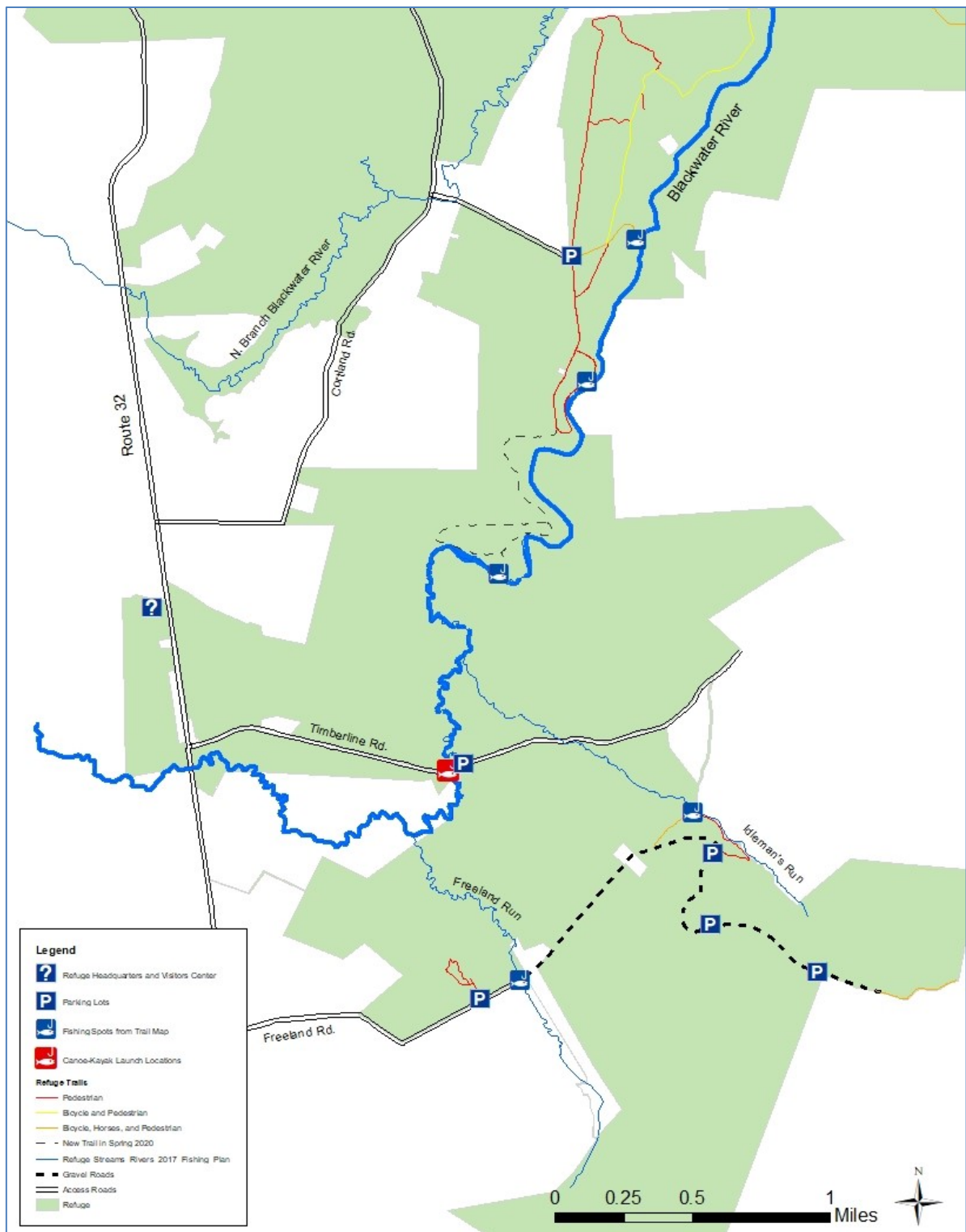


Figure 3: South portion of refuge fishing access spots.

APPENDIX A
COMPATIBILITY DETERMINATION FOR CANAAN VALLEY NWR FISHING

COMPATIBILITY DETERMINATION

USE: Recreational Fishing

REFUGE NAME: Canaan Valley National Wildlife Refuge

ESTABLISHING AND ACQUISITION AUTHORITIES:

The establishment of Canaan Valley National Wildlife Refuge (NWR, refuge) was first approved in an Environmental Impact Statement (EIS) released on May 30, 1979. However, the U.S. Fish and Wildlife Service (Service) decided to await the outcome of litigation surrounding a proposed storage hydroelectric facility before pursuing any further action. The approval of the refuge was affirmed by the Service in a 1994 Final Environmental Assessment and Finding of No Significant Impact (FONSI) on July 11, 1994, which confirmed the adequacy of the previously approved 1979 EIS. The refuge was officially established when the first tract of land was acquired on August 11, 1994. The Service has acquired lands for the Canaan Valley refuge under the following authorities:

1. Fish and Wildlife Act of 1956 [16 U.S.C. 742f(a)(4)]
2. Emergency Wetlands Resources Act of 1986 [16 U.S.C. 3901b]
3. Migratory Bird Conservation Act of 1929 [16 U.S.C. 715d]

PURPOSE(S) FOR WHICH ESTABLISHED:

The refuge was established 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 (USFWS 1979, 1994). Additional refuge purposes derived from the legislative authorities are as follows:

- (1) "... 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));
- (2) "... 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." (Emergency Wetlands Resources Act of 1986; 16 U.S.C. 3901(b)); and,
- (3) "... for use as an inviolate sanctuary, or for any other management purpose, for migratory birds." (Migratory Bird Conservation Act of 1929; 16 U.S.C. 715d)

NATIONAL WILDLIFE REFUGE SYSTEM MISSION:

The mission of the National Wildlife Refuge System (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 (Refuge System Improvement Act of 1997, Public Law 105–57; 111 Stat. 1282).

DESCRIPTION OF USE:

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

The use is recreational fishing. Fishing is a priority public use of the Refuge System under the Refuge System Administration Act of 1966 (16 U.S.C. 668dd-668ee), as amended by the Refuge System Improvement Act of 1997 (Public Law 105-57).

(b) Where would the use be conducted?

Fishing on the refuge is proposed for the Blackwater River and its tributaries wherever a managed road or trail crosses a body of water (river, stream, or pond) or comes within approximately 10 yards of body of water (Figures 1-A and 2-A). The State of West Virginia claims riparian rights to the ordinary high-water mark of rivers or streams. After reaching a river or stream via a road or trail, anglers may travel along the stream, staying below the ordinary high-water mark. This occurs:

- Where the trail from the Kelly-Elkins tract to Timberline crosses Idleman’s Run at bridge;
- Where Freeland Road crosses Freeland Run;
- Where the accessible fishing boardwalk starts at Timberline Road and meets the Blackwater River;
- Where Beall South Trail meets the Blackwater River;
- Where Blackwater View Trail meets the Blackwater River;
- Where River’s Edge Trail meets the Blackwater River;
- Where Canaan Mountain Trail meets pedestrian bridge at the Blackwater River Delta 13 (Camp 70) Road;
- Where Middle Valley Trail crosses Glade Run at North Glade Run crossing;
- Where South Glade Run Trail crosses Glade Run;

- Where Middle Valley Trail crosses Sand Run; and
- Where Fishing Hook Trail leads to a beaver pond.

There are two new canoe/kayak launches, Timberline Bridge (Figure 1-A) and Laurel Landing, located off Brown Mountain Parking lot (Figure 2-A). These launches will allow unlimited access to fishing spots not accessible by land.

Beaver ponds on the refuge last a variable length of time. If a managed road or trail provides access to a pond within approximately 10 yards, then it is open to fishing; otherwise, it fishing is prohibited. This is to avoid significant off-trail disturbance in areas with sensitive vegetation.

(c) When will the use be conducted?

The use will be conducted during the seasons specified in the fishing regulations established by the West Virginia Division of Natural Resources (WVDNR). Fishing is permitted 1 hour before legal sunrise and 1 hour after legal sunset on refuge land.

(d) How will the use be conducted?

Recreational fishing will be conducted according to WVDNR regulations, with some additional refuge-specific conditions to protect fish, wildlife, and habitat, and reduce potential conflicts with other public uses. A valid West Virginia fishing license and any required additional stamps will be required to fish on the refuge. No additional refuge permit is required.

Procedures specific to Canaan Valley NWR include:

- No overnight parking, camping or fires are permitted;
- Anglers must properly discard monofilament line;
- Anglers accessing the Blackwater River by watercraft enter the refuge from outside refuge boundaries or one of the designated access points on the refuge. The use of gasoline motors is prohibited on the refuge;
- The possession, use or collection of bait fish (including minnows, crayfish, and amphibians) is prohibited anywhere on the refuge;
- Commercial fishing is prohibited on refuge lands;
- We prohibit fishing by any means other than by use of no more than two attended poles with hook and line attached; and
- Bikes and/or horses are not allowed off trails to access fishing spots.

We will closely follow State regulations, with the exception that we prohibit the use of lead sinkers in freshwater ponds on the refuge. This reduces the exposure of herons and other wading birds, bald eagles, waterfowl, and other wildlife, to lead and potential poisoning. Lead was once widely used by hunters and anglers but is known to cause neurological impairment and in severe cases death in both humans and wildlife.

(e) Why is this use being proposed?

The use is being proposed by the refuge to promote one of the priority public uses of the Refuge System. Providing recreational fishing opportunities will promote stewardship of our natural resources and increase public appreciation and support for the refuge. In addition, this use is consistent with one of the refuge's purposes for establishment.

As established on page 3-43 of the 2011 Canaan Valley NWR Comprehensive Conservation Plan (CCP), we strive to follow these guiding principles for recreational fishing opportunities on the refuge (605 FW 3):

- 1) Effectively maintain healthy and diverse fish communities and aquatic ecosystems through the use of scientific management techniques;
- 2) Promote visitor understanding of, and increase visitor appreciation for, America's natural resources;
- 3) Provide opportunities for quality recreational and educational experiences consistent with criteria describing quality found in 605 FW 1.6;
- 4) Encourage participation in this tradition deeply rooted in America's natural heritage and conservation history; and
- 5) Minimize conflicts with visitors participating in other compatible wildlife dependent recreational activities.

AVAILABILITY OF RESOURCES:

We do not anticipate charging fees for fishing and, therefore, do not anticipate additional income specifically targeting the Recreational Fishing Program. The resources necessary to provide and administer this use are available within current and anticipated refuge budgets. Staff time associated with the administration of this use is spent maintaining associated road infrastructure, collecting visitor use data where applicable, analyzing use patterns, monitoring potential impacts of the use on refuge resources, and providing information to the public about the use.

Refuge vehicles are needed to effectively administer the use. The engineering equipment operator performs maintenance and repair of refuge roads, parking lots, and associated structures. Heavy equipment includes a motor grader, dump truck, backhoe, 4x4 farm tractor, skid steer, and front-end loader. The total to operate this fishing program is estimated to be \$2,360 annually.

ANTICIPATED IMPACTS OF USE:

Vegetation and Soil

Walking to fishing areas during the growing season could increase damage to plants in the wetland communities. Plants that are located in wet or moist soils, and are in the process of growth and producing flowers, are the most sensitive to disturbance from trampling effects (Kuss 1986). Moist and wet soil conditions are common in Canaan Valley, particularly during spring and early summer, and are directly associated with areas around beaver ponds and along riparian corridors where fishing occurs.

It is anticipated that allowing fishing access will cause minor vegetation loss. Foot travel may slightly increase root exposure and trampling, and some rare plant species could be impacted by anglers walking around beaver ponds or along riparian corridors. Sedimentation impacts will also likely be minor from foot travel. Continuing pedestrian access for fishing, at the current level of use, is not anticipated to cause any significant impacts to plants or plant communities.

Hydrology (Water Resources and Wetlands)

Angler foot traffic on existing trails will create only minor hydrologic impacts (e.g., drainage) and is not anticipated to measurably worsen existing hydrologic problems. Maintenance may be required to create adequate and proper drainage so that existing routes do not affect local hydrology. These impacts are not likely to be significant at the existing level of fishing use.

Wildlife

Fish

Impacts to the fishery are expected to be insignificant. Most game species present on the refuge are species not native to the Blackwater watershed. Native brook trout occur in very few smaller drainage locations in the valley. Overfishing these areas could negatively affect native brook trout persistence on the refuge, but we do not expect this will occur. Most drainages where brook trout are found are not fished aggressively due to the small size of the streams and corresponding small size of the fish at these sites. We consider habitat degradation from grazing and water diversions to be a larger threat to brook trout populations than angling pressure.

The largest pressure on fish populations on the refuge, however, comes from stocked rainbow and brown trout populations. These are non-native species in the Blackwater River watershed and are stocked annually by the State. Permitting fishing access for these species is considered to be an acceptable form of wildlife-dependent recreation on the refuge which does not significantly impact refuge resources. Since the fishery is artificially stocked, the rainbow and brown trout populations are supplemented to compensate for angling pressures.

Other Wildlife

Anticipated disturbances to wildlife are likely to be short term and infrequent based on the current level of use. Long-term impacts may include certain wildlife species avoiding trail corridors. Based on the current level of fishing use it is not expected that disturbance impacts will be significant.

Federally Listed Species

The threatened Cheat Mountain salamander (*Plethodon nettingi*) is found on the refuge. This species is found associated with high elevation forested habitat, typically with some component of red spruce (*Picea rubens*) and/or Eastern hemlock (*Tsuga canadensis*), and it is likely they are restricted to the cooler mountain slopes and ridges. Primary access for fishing will occur only in the lower elevations and valley floor and will not traverse known or potentially occupied habitat of either species. Therefore, there are no anticipated impacts to these species as a result of allowing fishing access.

Visitors and Other Uses

Conflicts between recreational uses are commonly reported in the literature (Knight and Gutzwiller 1995, Ramthun 1995, Watson et. al 1994, Chavez et al 1993). Conflicts range from concerns over personal safety to certain user groups feeling that they should be given priority over other groups based on past history or other reasons. In the 1997 Refuge Improvement Act, there was no priority order given to the big six uses (hunting, fishing, wildlife observation, wildlife photography, environmental education, and interpretation). Based on interviews with individuals and user groups, conflicts among groups are not significant in Canaan Valley. This is likely due to the relatively low number of visitors in the area as compared with heavy use and conflict sites reported in the literature.

Economic

Fishing use of the refuge would increase as a result of the proposed action due to improvements in refuge facilities, which would have long-term economic benefits to the community. Therefore, additional local and regional economies will have short- and long-term moderate beneficial impacts as a result of the proposed action.

Cumulative Impacts

Cumulative impacts on the environment result from incremental impacts of a proposed action when these are added to other past, present, and reasonably foreseeable future actions. While cumulative impacts may result from individually minor actions, they may, viewed as a whole, become substantial over time. The entirety of the fishing is freshwater, which is regulated and managed by the State of West Virginia and the WVDNR. Regulations at all of the sites are regulated by the State of West Virginia. Therefore, cumulative impacts from the proposal are expected to be minimal.

Fishing is viewed as an effective and justifiable method of access that enables the public to discover, experience, and enjoy the refuge and participate in a priority public use. Potential habitat degradation from angler foot traffic to breeding/nesting birds and wildlife species warrants monitoring. Due to the low level of fishing activity occurring on beaver ponds and rivers on the refuge, no significant impacts to refuge resources are anticipated. However, if unanticipated impacts are noted, corrective actions will be taken to protect refuge resources.

PUBLIC REVIEW AND COMMENT:

This compatibility determination is part of the Canaan Valley NWR Recreational Fishing Plan and the accompanying Environmental Assessment (EA). The proposal has been thoroughly coordinated with all interested and/or affected parties. To prepare the current plan and alternatives, refuge staff met with the WVDNR. Public notification and review will include a 30-day comment period for the draft plan during which a public meeting may be held. We will inform the public through local media releases, the refuge website, and social media.

DETERMINATION (CHECK ONE BELOW):

☐ Use is not compatible

☒ Use is compatible, with the following stipulations

STIPULATIONS NECESSARY TO ENSURE COMPATIBILITY:

We will review the program regularly to ensure that wildlife and habitat management goals are achieved, and that the program is providing a safe, high quality experience for participants. If monitoring indicates that this use materially interferes with or detracts from fulfillment of the Refuge System mission or the purposes of the refuge, we would modify or eliminate the use.

The following stipulations are necessary to ensure compatibility:

1. Anglers must properly discard monofilament line.
2. The use of gasoline motors is prohibited on the refuge.
3. The possession, use or collection of baitfish (including minnows, crayfish, and amphibians) is prohibited anywhere on the refuge.
4. We prohibit fishing by any means other than two or fewer attended poles with hook and line attached.
5. We prohibit the use of lead sinkers in freshwater ponds on the refuge.

JUSTIFICATION:

The Refuge System Improvement Act of 1997 identifies fishing as a priority public use. Priority public uses are to receive enhanced consideration when developing goals and objectives for refuges if they are determined to be compatible. Providing fishing opportunities will promote public appreciation and support for the refuge. Recreational fishing will not materially interfere with or detract from the mission of the Refuge System or the purposes for which the refuge was established. We, therefore, find that public fishing conducted according to the State of West

Appendix A – Compatibility Determination

Virginia seasons and limits will be compatible with the principles of sound wildlife management and otherwise in the public interest (50 CFR § 32.1.).

SIGNATURE:

Refuge Manager

(Signature)

(Date)

CONCURRENCE:

Regional Chief

(Signature)

(Date)

MANDATORY 15 YEAR RE-EVALUATION DATE:

(Date)

REFERENCES:

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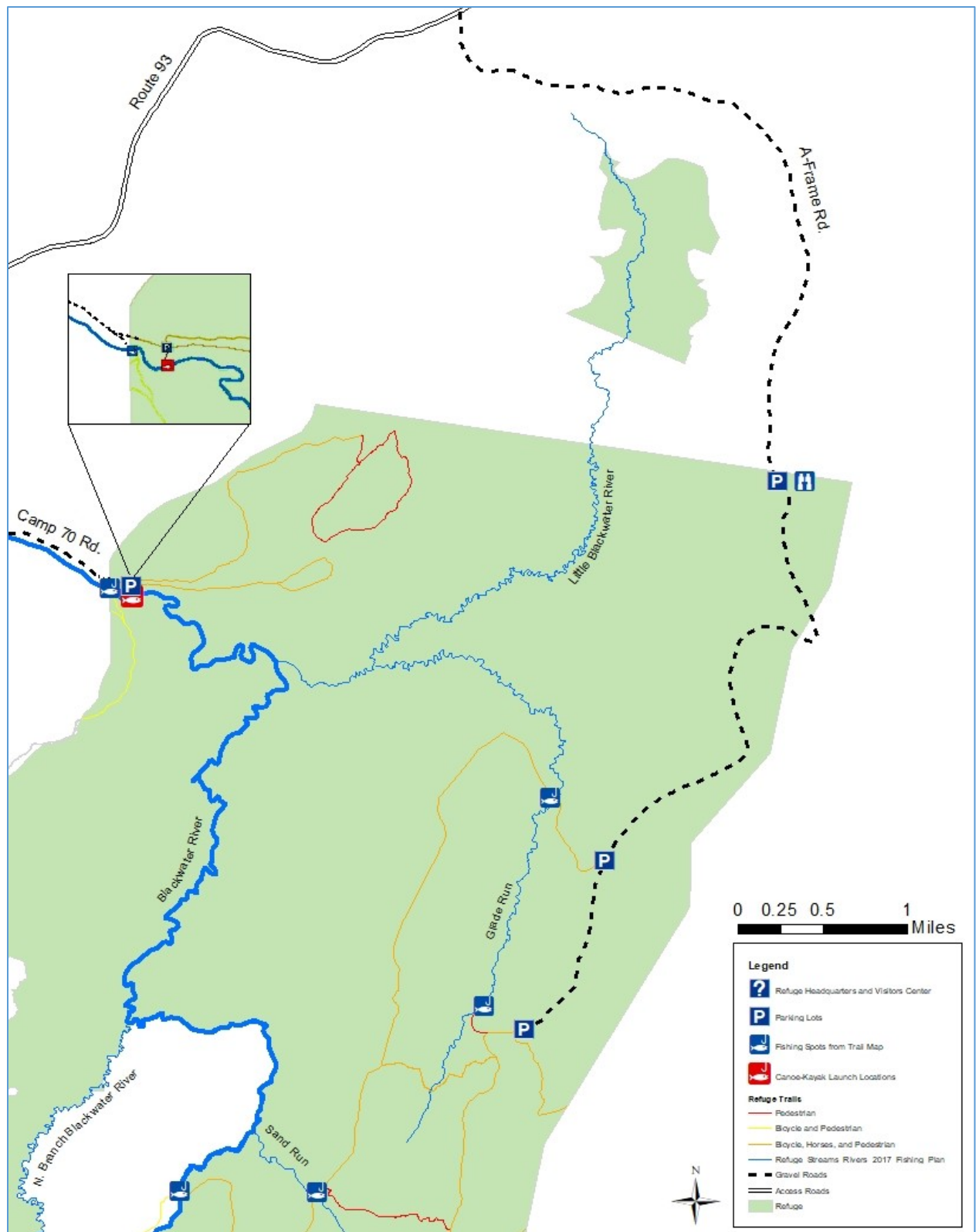


Figure 1-A: North portion of refuge fishing access spots.

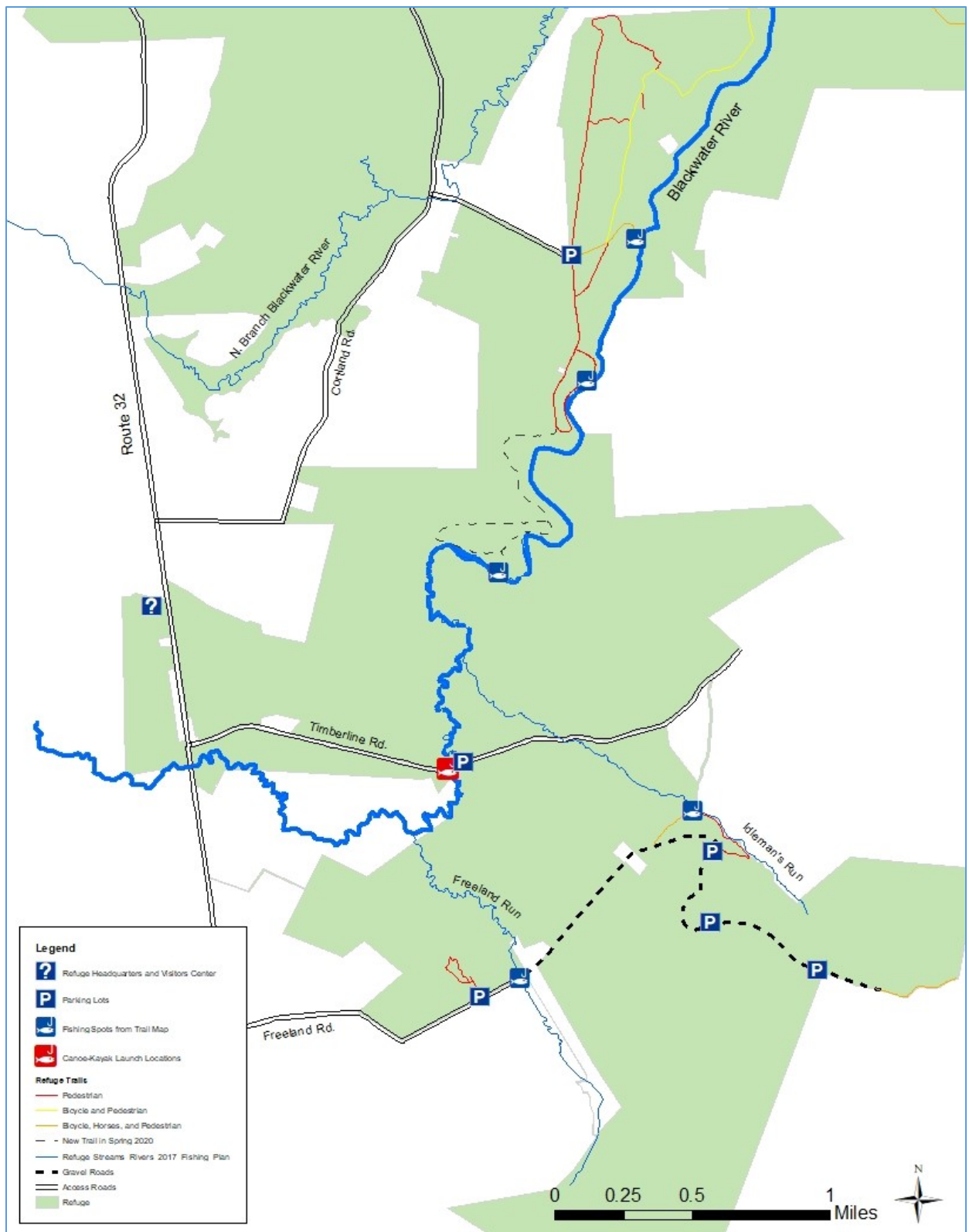


Figure 2-A: South portion of refuge fishing access spots.

APPENDIX B
Environmental Assessment for Recreational Fishing
at Canaan Valley National Wildlife Refuge

Environmental Assessment for Recreational Fishing at Canaan Valley National Wildlife Refuge

This Environmental Assessment (EA) is being prepared to evaluate the effects associated with this proposed action and complies with the National Environmental Policy Act (NEPA) in accordance with Council on Environmental Quality regulations (40 CFR 1500-1509) and Department of the Interior (516 DM 8) and U.S. Fish and Wildlife Service (Service) (550 FW 3) policies. NEPA requires examination of the effects of proposed actions on the natural and human environment.

Proposed Action:

The Service is proposing to open fishing opportunities for freshwater fish on the Canaan Valley National Wildlife Refuge (NWR, refuge) in accordance with the refuge's Comprehensive Conservation Plan (CCP) (USFWS 2011). Canaan Valley NWR is approximately 17,000 acres located in Davis, West Virginia, and in Grant and Tucker Counties, West Virginia. We propose to provide new access opportunities and open the refuge to recreational fishing.

This proposed action is often iterative and evolves over time during the process as the agency refines its proposal and learns more from the public, tribes, and other agencies. Therefore, the final proposed action may be different from the original. The final decision on the proposed action will be made at the conclusion of the public comment period for the EA and the 2020-2021 Refuge-Specific Hunting and Sport Fishing Regulations. The Service cannot open a refuge to hunting and/or fishing until a final rule has been published in the Federal Register formally opening the refuge to hunting and/or fishing.

Background:

The National Wildlife Refuge System Administration Act of 1966, as amended by the National Wildlife Refuge System Improvement Act of 1997, and the Refuge Recreation Act of 1962 authorize public fishing on refuges where the fishing program is compatible with the other major purposes for which the area was established. As part of our CCP, which was approved in February 15, 2011, a compatibility determination was performed and fishing was deemed a compatible and worthwhile recreational opportunity to provide for the public, so long as management decisions are based on sound biological principles.

The establishing legislation and authorities for Canaan NWR are:

“...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 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 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).

The mission of the Service is:

“...working with others to conserve, protect, and enhance fish and wildlife and their habitats for the continuing benefit of the American people.”

In addition to the overall mission of the Service, the National Wildlife Refuge System (Refuge System) also has its own mission as set forth by Congress in the Refuge System Improvement Act of 1997. It is as follows:

“...to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.”

Additionally, the Refuge Improvement Act of 1997 identifies six priority public uses that are appropriate on national wildlife refuges, including hunting, fishing, wildlife observation, wildlife photography, and environmental interpretation and education. Developing a fishing program at Canaan Valley NWR relates directly to the overall mission of the Service and promotes one of these priority public uses. This will be a biologically sound program that seeks to create enjoyable recreation experiences, promote a greater understanding and appreciation of wildlife resources, and aid in the conservation of wildlife populations and their habitats.

The Refuge Recreation Act requires that funds be available for the development, operation, and maintenance of fishing programs. It is anticipated that inclusion of a fishing program will have a negligible impact on refuge financial resources. Due to the remoteness of some of the refuge’s streams, the approximate number of anglers is hard to estimate.

Canaan Valley NWR is located in Davis, West Virginia, and in Tucker and Grant Counties, West Virginia. The refuge was established on August 11, 1994, with the purchase of 86 acres, but currently ranges over 17,000 acres (see Figure 1 in the Recreational Fishing Plan). The Service is authorized to acquire an additional 24,000 acres within the land acquisition boundary.

The refuge works to preserve unique high elevation wetlands, which includes the largest shrub and bog wetland complex in the southern Appalachians. This complex contains a mixture of wetland types, including muskeg, alder, wet meadow, swamp forest, and spiraea thicket. Other habitat types are present on the refuge as well. Upland areas provide grass and shrublands important for migratory birds. High elevation woodlands provide habitat for threatened and endangered species, including Cheat Mountain salamander and Indiana bat. Overall, the area supports over 580 species of plants (representing 40 different plant communities), as well as an estimated 290 species of mammals, birds, reptiles, amphibians, and fish. Of the 30 species of fish that occur in the tributaries of the Blackwater River, 19 are found to be native to the refuge.

The proposed fishing program rules will be the same as, or more restrictive than, regulations throughout the State of West Virginia (State). Additional restrictions may take the form of potential seasonal closures, prohibition of lead sinkers in ponds, and time of day when we would permit access for fishing, or other rules and regulations designed to protect fish and wildlife.

We will take an adaptive management approach to maintaining the fishery resources of the refuge. The West Virginia Division of Natural Resources (WVDNR) manages the fishery resources and stocking program in areas adjacent to the refuge, and we will work together to ensure the fishery resource remains healthy and sustainable.

Purpose and Need for the Proposed Action:

The purpose of this proposed action is to provide compatible wildlife-dependent recreational opportunities on Canaan Valley NWR. The need of the preferred action is to meet the Service's priorities and mandates as outlined by the Refuge System Administration Act to "recognize compatible wildlife-dependent recreational uses as the priority general uses of the refuge System" and "ensure that opportunities are provided within the Refuge System for compatible wildlife-dependent recreational uses" (16 U.S.C. 668dd(a)(4)).

Fishing is a healthy and traditional recreational use of renewable natural resources deeply rooted in America's heritage, and it can be an important wildlife management tool. The Refuge System Administration Act of 1966, the Refuge System Improvement Act of 1997, and the Service's policies permit fishing on a refuge when it is compatible with the purposes for which the refuge was established and acquired. Canaan Valley NWR's CCP (2011) identified the goal to open and expand compatible fishing opportunities with specific objectives to expand freshwater fishing access on the refuge.

To address the needs stated above, the purpose of the proposed action will bring the refuge into compliance with current management objectives. Furthermore, Department of the Interior Secretarial Order 3356 directs the Service 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 will also promote one of the priority public uses of the Refuge System, and providing opportunities for visitors to fish will promote stewardship of our natural resources and increase public appreciation and support for the refuge.

The EA serves as the NEPA document which analyzes the impacts on environmental, cultural, and historical resources of fishing opportunities on the refuge.

Alternatives Considered

Alternative A – [Current Management] – No Action Alternative

The No Action Alternative would not allow fishing opportunities and canoe/kayak access on Blackwater River or access to beaver ponds close to trails and refuge roads in Davis, West Virginia. Since the refuge is not currently open to fishing, no enhanced opportunities would occur.

Alternative B – [Open Fishing Opportunities and Enhance Access] – Preferred Alternative
 Refuge staff have worked closely with the WVDNR to develop the current proposed recreational fishing plan. There are no unresolved conflicts regarding the proposed action with respect to the alternative uses of available resources. Additionally, the proposed action opens the fishing program, and includes the addition of some areas that were developed during the writing of the refuge’s CCP. Therefore, the Service does not need to consider additional alternatives (43 CFR 46.310). Table 1 describes the primary differences between the two evaluated alternatives.

Table 1. Comparison of refuge fishing alternatives

	<u>No Action Alternative</u>	<u>Proposed Action Alternative</u>
Freshwater fishing via boat	Blackwater River	Blackwater River
	Laurel Landing	Glade Run and smaller tributaries
	Timberline Parking Area	Laurel Landing
		Timberline Parking Area
		Farm View Trail
Freshwater fishing via trail or road	Timberline crosses Idleman’s Run at bridge	Timberline crosses Idleman’s Run at bridge
	River’s Edge Trail meets the Blackwater River	Freeland Road crosses Freeland Run
	Canaan Mountain Trail meets pedestrian bridge at Blackwater River	Beall South trail meets the Blackwater River
	Middle Valley Trail crosses Glade Run at North Glade Run Crossing	South Glade Run Trail crosses Glade Run
	Middle Valley Trail crosses Sand Run	Fishing Hook trail leads to a beaver pond
		Wherever managed roads or trails comes within approximately 10 yards of a river, stream or pond.
Cost of program (annual)	\$500	\$2,360
Improvements	None	Add informational signage at all sites

The Service has prepared a Recreational Fishing Plan, which is presented in this document as the Proposed Action Alternative. The updated recreational fishing plan proposes to open the refuge and increase or enhance fishing access and opportunities. Most sites have decent canoe/kayak access, except for the addition of Farm View Trail. Other sites will have improved signage and/or parking. A water trail map will be added in the future to help anglers know the locations of these opportunities.

Freshwater Fish Species

Refuge areas open to freshwater fishing include Blackwater River and all tributaries that branch from this river that are accessible either by canoe/kayak or managed road or trail in Tucker County, West Virginia. There are opportunities for bank fishing along trails where a beaver pond comes within 10 yards of a managed road or trail. Several streams are within this distance (Table 1) and provide opportunities for fishing. A new canoe/kayak launch was built last year at Laurel Landing, which is located behind Brown Mountain parking lot. There are two other launch or retrieval points found on the refuge at Timberline Parking Area and Beall Trail. We will also create a new trail, Farm View Trail, which has a retrieval point and access to Blackwater River.

Beaver ponds on the refuge last from a few years to many years. Many are within sensitive wetland habitats. Plants in these habitats may be unusual for this latitude or may be globally rare, like the balsam fir (*Abies balsamea*) and bog clubmoss (*Lycopodiella inundata*). If an approved and managed road or trail provides access to a pond within approximately 10 yards, then it is open to fishing, otherwise, it is not open. This will minimize compaction of significant plant communities and disturbance of wildlife.

Vernal pools are confined wetland depressions, natural or man-made, that retain water for at least 2 consecutive months out of the year and are devoid of breeding fish populations. These freshwater pools are scattered throughout the refuge. These sites are generally less than 1-acre in size and are fed by rainfall. They provide critically important habitat for a variety of amphibian species. Based on the pool's importance for the suite of species that rely on them, and that few, if any, fish are found in the pools, the sites will not be open for fishing on the refuge.

Canaan Valley refuge-specific regulations will be published in the *Federal Register* as part of the 2020-2021 Refuge-Specific Hunting and Sport Fishing Regulations. Proposed refuge-specific regulations will prohibit the use of lead sinkers in freshwater ponds on the refuge, the use of gasoline motors, the possession, use, or collection of bait fish, commercial fishing, more than two attended poles with hook and line attached, and using bikes and/or horses off trail to access fishing spots. This Proposed Action Alternative offers increased opportunities for public fishing, enhances facilities, and fulfills the Service's mandate under the Refuge System Improvement Act of 1997. It provides a recreational experience to the general public while maintaining sustainable wildlife populations. The estimated cost to operate this fishing program is estimated to be \$2,360 annually. Under this alternative, the refuge fish and wildlife officer and/or WVDNR conservation officers will monitor fishing, and conduct license, bag limit, and compliance checks. The Service has determined that the recreational fishing plan is compatible with the purposes of the Canaan Valley NWR and the Refuge System. It is found in the Recreational Fishing Plan.

Mitigation Measures and Conditions

- Nearly all fishing access points are located in areas separate from other visitor uses, such as wildlife observation and photography.
- Access to refuge freshwater lakes is limited to non-motorized (no internal combustion engines) boats to reduce conflict in small water bodies.
- Fishing on the refuge is proposed for the Blackwater River and its tributaries wherever approved and managed roads or trails cross a river, stream or pond or comes within approximately 10 yards of a river, stream, or pond.
- Anglers can travel along the stream, staying below ordinary high-water mark.
- If an approved and managed road or trail provides access to a pond within approximately 10 yards, then it is open to fishing, otherwise it is not open. This will minimize compaction of significant plant communities and disturbance of wildlife.
- Anglers must properly discard monofilament line.
- Maps and fishing information and regular social media posts, along with refuge and State law enforcement checks, will ensure the public is aware of applicable laws and policies.
- State regulations are followed regarding season dates and harvest rates.

Affected Environment

Canaan Valley NWR consists of approximately 17,000 acres. It is primarily comprised of wetland habitat, but also contains conifer and upland forest, grasslands, small acreages of scrub/shrub, and old field habitats. The proposed action would occur in multiple sites throughout the refuge but in only a few habitat types (Table 2).

Table 2. Primary refuge habitat plant community descriptions found in fishing areas

Habitat Type	Description
Forested Wetland	Wetland communities that includes deciduous and coniferous wetland forests, as well as a small amount of planted pine plantation.
Shrub Wetland	Shrub wetland communities primarily include speckled alder swamps, spirea thickets, and mixed shrub swamps.
Herbaceous Wetland	Wetland habitat that include both peatlands and wet meadows.

Open water/aquatic	Composed of riverine habitat (Blackwater River and its tributaries) and beaver ponds.
Shrubland	Includes Glade St. John’s wort, mountain holly, and hawthorn.
Old Field	Old field grasslands and grass-forb meadows that were former pastures that have not reforested.
Managed Grasslands	Former pastures that are currently managed as grasslands for grassland breeding birds.
Northern Hardwood	Predominate forest type on the refuge composed of black cherry groves, upland aspen groves, and un-vegetated balds and ridges that occur within the forest.
Conifer (spruce)/Mixed Forest	Includes hardwood/conifer upland forests and conifer upland forest.

For more detailed information regarding the affected environment, please see chapter 3 of the refuge’s CCP (USFWS 2011), which can be found here:

https://www.fws.gov/refuge/Canaan_Valley/what_we_do/conservation.html

Environmental Impacts of the Action

This section analyzes the environmental consequences of the action on each affected resource, including direct and indirect effects. This EA focuses primarily with analyses of the environmental consequences on a resource when the impacts on that resource could be more than negligible and, therefore, be considered an “affected resource.” Resources that will not be more than negligibly impacted by the action have been dismissed from further analyses.

Impact Types

Direct effects are those which are caused by the action and occur at the same time and place. Effects can be ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historical, cultural, economic, social, or medical.

Indirect effects are those which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Effects can be ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historical, cultural, economic, social, or medical.

Table 3. Description of the affected resources and impacts of the two alternatives

NATURAL RESOURCES	
AFFECTED ENVIRONMENT	ANTICIPATED IMPACTS
<p>Freshwater Finfish The refuge contains many freshwater sites that support fish populations. Species found in Blackwater River, smaller tributaries, and ponds were brown bullhead (<i>Ameiurus nebulosus</i>), yellow bullhead (<i>Ameiurus natalis</i>), stonecat (<i>Noturus flavus</i>), rainbow trout (<i>Oncorhynchus mykiss</i>), brown trout (<i>Salmo trutta</i>), brook trout (<i>Salvelinus fontinalis</i>), rock bass (<i>Ambloplites rupestris</i>), green sunfish (<i>Lepomis cyanellus</i>), pumpkinseed (<i>Lepomis gibbosus</i>), bluegill (<i>Lepomis macrochirus</i>), and largemouth bass (<i>Micropterus salmoides</i>).</p>	<p>No Action: Currently, Blackwater River, smaller tributaries, and select beaver ponds are most of the freshwater fishing sites found on the refuge, and have been a precedent before the refuge was established. The WVDNR owns the stream or river up to the high water mark. Regardless, fishing would remain open in those areas. Water is accessed by canoes or kayaks and fishing occurs from the banks, and where streams, rivers, or ponds intersect refuge managed roads or trails. Most people fish from the bank, or walk in to a site from nearby trails or roads. Negligible, short-term impacts to freshwater fish populations are expected from this alternative.</p> <p>Proposed Action: Increasing opportunities to areas within 10 yards of a river, stream or pond would be added in this alternative. Most of the sites are in a low-populated area (Tucker County) with few other freshwater fishing options, so opening will increase the number of anglers on the refuge by an estimated 400 angler visits per year, which is about 1 additional angler visit per day. Fishing could slightly decrease the fish population at Blackwater River, but the impact is expected to be negligible. WVDNR has a trout stocking program that has been in place for many years. This will further minimize the impact for rainbow and brown trout.</p>
<p>Other Wildlife and Aquatic Species The refuge supports a diversity of northeastern West Virginia species including game and nongame species, reptiles, amphibians, and invertebrates, which are important contributors to the biodiversity on the refuge. A majority of songbirds</p>	<p>No Action: This alternative currently results in some short-term, but negligible, negative impacts to small mammals, birds, and other wildlife due to disturbance in areas where access for fishing activities occurs.</p> <p>Proposed Action: The presence of anglers can impact wildlife. Disturbances vary with the species involved and the type, level, frequency, duration, and time of year such activities occur. Anticipated disturbances to</p>

<p>and some raptors breed on the refuge.</p>	<p>wildlife are likely to be short term and infrequent based on the current and anticipated level of use. Sedimentation impacts will likely be minor from foot travel. Long-term impacts may include certain wildlife species avoiding trail corridors as a result of this use over time. It is not expected that disturbance impacts will be significant.</p>
<p>Threatened and Endangered Species and Other Special Status Species A Section 7 Endangered Species Act review, in coordination with the Service’s West Virginia Field Office, indicates that for federally listed species, the Cheat Mountain salamander (<i>Plethodon nettingi</i>) is present on the refuge.</p>	<p>No Action: This alternative would not impact threatened and endangered species.</p> <p>Proposed Action: The threatened Cheat Mountain salamander (<i>Plethodon nettingi</i>) is associated with high elevation forested habitat, typically with some component of red spruce and/or Eastern hemlock, and it is likely they are restricted to the cooler mountain slopes and ridges. Primary access for fishing will occur only in the lower elevations and valley floor and will not traverse known or potentially occupied habitat of either species. Therefore, there are no anticipated impacts to these species as a result of allowing fishing access.</p>
<p>Vegetation (including vegetation of special management concern) Vegetation varies throughout the refuge, but fishing areas are generally maximally vegetated. Fishing habitat descriptions are provided in Table 2.</p>	<p>No Action: Negligible negative impacts currently occur to vegetation due to fishing. Some riparian vegetation at the Timberline Parking fishing areas is trampled, and foot trails have been created by anglers. Cutting vegetation is prohibited on the refuge. Some illegal vegetation clearing may occur along vegetated banks (e.g., Blackwater River), but the impact is minor. No off-road vehicles are permitted on the refuge. Many plant species considered rare in the state are found associated with riparian wetlands in the Canaan Valley (Bartgis and Berdine 1991). Fishing along riparian corridors may cause disproportionate trampling impacts to rare plants than other public use activities.</p> <p>Proposed Action: Foot travel to and use of fishing locations can have indirect impacts to plants by compacting soils and diminishing soil porosity, aeration and nutrient availability that affect plant growth and survival (Kuss 1986). Walking to fishing areas during the growing season could cause increased damage to plants in the wetland communities. Plants in the process of growth and</p>

	<p>producing flowers and, are growing in wet or moist soils, are the most sensitive to disturbance from trampling effects (Kuss 1986).</p> <p>It is anticipated that increasing fishing access will cause minor vegetation loss. Foot travel may increase root exposure and trampling, and some rare plant species could be impacted by anglers walking around beaver ponds or along riparian corridors. Angler density is expected to remain manageably low so any damage to refuge habitats should be minimal. Additionally, the area of impact is generally spread to a variety of sites which prevents a concentrated impact at any one location. Overall, pedestrian access for fishing is not anticipated to cause any significant impacts to plants or plant communities.</p>
<p>Air Quality Overall air quality is good, with no current criteria pollutants exceedances, but of recent concern is ground level ozone which has exceeded the EPA 8-hour standard (75 ppb) for safe health levels on 1 to 5 days per year from 1995 to present.</p>	<p>No Action: Negligible, short-term adverse impacts occur on the refuge related to the current fishing program due to the use of fossil fuels by anglers traveling to the refuge.</p> <p>Proposed Action: A negligible, short-term adverse impact could be associated with increased emissions from vehicles if fishing participation increases; however, it is anticipated that if those new anglers were not traveling to the refuge, they would likely be traveling to other locations or engaging in other activities that would have comparable emission releases. Additionally, new boating access is limited to non-motorized boats so no new emissions releases would occur due to boating.</p>

<p>Water Resources</p> <p>The main water body is the Canaan Valley is the Blackwater River. Tributaries to the Blackwater enter along its course through the valley and many of them flow through the refuge. These tributaries include the Little Blackwater River, Glade Run, the North Branch, Sand Run, Yokum Run, and Freeland Run. Additionally, numerous unnamed small streams and springs feed the Blackwater as it travels through the valley, adding to its size. The Blackwater River and its major tributaries are low gradient streams on the refuge.</p>	<p>No Action: Impacts to water resources are generally by motorized boats used by anglers that may inadvertently leak polluting substances in tidal creeks. No motorized boats are permitted in freshwater areas of the refuge. Impacts are considered minor and short-term.</p> <p>Proposed Action: New refuge areas open to boating associated with fishing could be impacted from increased activities and boats (<i>e.g.</i>, littering). Angler foot traffic on existing trails will create only minor hydrologic impacts and is not anticipated to worsen existing hydrologic problems. Maintenance will be required to create adequate and proper drainage so that existing routes do not impact local hydrology. These impacts are not likely to be significant at the existing level of fishing use. The impact is expected to be minor and short-term.</p>
<p>Wetlands</p> <p>The refuge is comprised of over 8,400 acres of wetlands, which is the largest area of wetlands in West Virginia, and 166 acres of open water/aquatic areas.</p>	<p>No Action: Impacts to wetlands are generally through trampling and sedimentation through rain runoff. Walking to fishing areas during the growing season could cause increased damage to plants in the wetland communities. Plants in the process of growth and producing flowers and, are growing in wet or moist soils, are the most sensitive to disturbance from trampling effects (Kuss 1986). Sedimentation can directly kill aquatic invertebrates which impacts the success of amphibian larvae and adults (Sadoway 1981).</p> <p>Proposed Action: Foot travel to and use of fishing locations can have indirect impacts to wetlands through the alteration of drainage patterns. Bartgis and Berdine (1991) note that roads and trails can divert water from their original drainage patterns in Canaan Valley. This can result in some drainages becoming dry while others accelerate erosion by being forced to carrying more water. Pedestrian access for fishing is not anticipated to cause any significant impacts to wetland communities.</p>

VISITOR USE AND EXPERIENCE	
AFFECTED ENVIRONMENT	ANTICIPATED IMPACTS
<p>The refuge is open to all six priority public uses (hunting, fishing, wildlife observation, wildlife photography, environmental education and environmental interpretation). About 50,000 people visit the refuge each year: 3,200 to the Visitor Information Center; 40,000 on 30 miles of foot trails; 2,000 hunters; and 100 anglers, among other users.</p>	<p>No Action: Nearly all of the refuge’s fishing activities occur in areas where none of the other priority public uses occur. No known conflicts have occurred as a result of these mixed uses.</p> <p>Proposed Action: Fishing is viewed as an effective and justifiable method of access that enables the public to discover, experience, and enjoy the refuge and participate in a priority public use. Potential habitat degradation from angler foot traffic to breeding/nesting birds and wildlife species warrants monitoring. Due to the low level of fishing activity occurring on beaver ponds and rivers on the refuge, no significant impacts to refuge resources are anticipated. However, if unanticipated impacts are noted, corrective actions will be taken to protect refuge resources.</p>

CULTURAL RESOURCES	
AFFECTED ENVIRONMENT	ANTICIPATED IMPACTS
<p>There are no known cultural resources on or near the designated access points or any of the fishing areas.</p>	<p>No Action: No adverse impacts would occur under this alternative.</p> <p>Proposed Action: No adverse impacts would occur under this alternative.</p>

REFUGE MANAGEMENT AND OPERATIONS	
AFFECTED ENVIRONMENT	ANTICIPATED IMPACTS
<p>Land Use Infrastructure for access to fishing areas associated with refuge management includes roads and trails. While most fishing occurs west of the Headquarters area, anglers using Blackwater River may use the Visitor Information Center to gather information or use the restrooms. The refuge is crisscrossed with well-traveled roads owned by local municipalities and counties.</p>	<p>No Action: Current levels of use of refuge infrastructure are short-term and have negligible impact.</p> <p>Proposed Action: Existing infrastructure maintained by towns and counties will continue to provide access to anglers. Proposed improvements will likely increase the number of anglers on the refuge, but impacts to local public roads and refuge infrastructure are expected to be negligible.</p>
<p>Administration There are currently six full-time employee positions at the refuge. One Park Ranger position is currently vacant. We also have short-term biological and maintenance support positions. Fishing-related job duties are performed by the fish and wildlife officer (law enforcement and community coordination); park ranger or assistant refuge manager (online public communication and website updates); refuge and assistant refuge managers (assuring administrative record is updated, ensure fishing-related tasks are accomplished); and maintenance staff (maintaining signs, trail maintenance, removing trash, parking lot maintenance). The refuge has an annual budget of about \$800,000.</p>	<p>No Action: Since Canaan Valley NWR is officially not open to fishing, minimal funds are spent on this program</p> <p>Proposed Action: Estimated staff costs to implement this alternative are an additional \$2,360. This is largely due to the increased time to manage the addition of new sites. It will require approximately 1 percent of the refuge fish and wildlife officer's time to enforce fishing, as well as about 1 percent of refuge management time (two people) to oversee and implement the program. Some assistant refuge manager and maintenance time will also be needed. Improvements outside normal operations may require funding from sources other than the annual refuge-operating budget.</p>

SOCIOECONOMICS	
AFFECTED ENVIRONMENT	ANTICIPATED IMPACTS
<p>Local and Regional Economies Canaan Valley NWR is located in Davis, West Virginia, in the northeastern portion of the state known as the Potomac Highlands Region. It is within a few hours' drive of several large metropolitan areas including Pittsburgh, Washington, D.C. and Baltimore. Total expenditures regionally were \$2.5 million with non-residents accounting for \$2 million in 2017. Expenditures on refuge fishing activities alone accounted for about 21 percent of all expenditures (Caudill and Carver 2019).</p>	<p>No Action: Fishing has been occurring since the refuge was formed. Majority of the fishing occurs on WVDNR property.</p> <p>Proposed Action: Fishing use of the refuge would increase as a result of the proposed action due to improvements in refuge facilities, which would have long-term economic benefits to the community. Therefore, additional local and regional economies will have short- and long-term minor beneficial impacts due to the proposed action.</p>
ENVIRONMENTAL JUSTICE	
<p>Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations, requires all Federal agencies to incorporate environmental justice into their missions by identifying and addressing disproportionately high or adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities.</p>	<p>The Service has not identified any potential high and adverse environmental or human health impacts from this proposed action or any of the alternatives. The Service has identified some minority or low-income communities within the impact area. Minority or low income communities will not be disproportionately affected by any impacts from this proposed action or any of the alternatives.</p>

Cumulative Impact Analysis

Cumulative impacts are defined as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions”.

For more information on the national cumulative impacts of the Service’s hunting and fishing program on the Refuge System, see “U.S. Fish and Wildlife Service, Cumulative Impacts Report 2020-2021 National Wildlife Refuge and National Fish Hatchery Proposed Hunting and Sport Fishing Openings (2020)”.

Past, Present, and Reasonably Foreseeable Activity in Area of Analysis	Descriptions of Anticipated Cumulative Impacts
<p>Fishing Fishing occurs on public lands that are found adjacent to several locations of Canaan NWR. These include: Monongahela National Forest, Little Canaan Wildlife Management Area, and Canaan Valley State Park.</p>	<p>We conduct the refuge fishing program within the framework of State regulations. Harvest rates are established by WVDNR. The proposed fishing program rules will be the same as, or more restrictive than, regulations throughout the State of West Virginia. By maintaining regulations that are the same as or more restrictive than the State, we can ensure that we are maintaining seasons that are supportive of management on a more regional basis. Such an approach also provides consistency with large-scale population status and objectives. The refuge regularly coordinates with the State about the fishing program.</p> <p>Fish in freshwater refuge habitats are limited in their geographic range as those areas have limited flows in or out of the system. Cumulative impacts to freshwater fish are limited to rivers, streams, and beaver ponds.</p>
<p>Development and Population Increase The population of West Virginia has been increasing, though only slightly, for decades. In Tucker County, there has been a slight decrease over the past 10 years. Due to the rural location of the refuge, developmental pressure is minimal around the refuge.</p>	<p>Because the refuge works closely with the WVDNR, who oversees fishing regulations and harvest rates, the refuge fishing program can be adjusted to ensure it meets regional and landscape level goals in the region and does not contribute to negative cumulative impacts brought on by development of human population increases and consumption.</p>

Use of lead fishing gear Lead tackle is permitted in West Virginia but will be prohibited on the refuge's freshwater ponds.	Although lead sinkers are legal to use in West Virginia, negative impacts to wildlife are of concern and it will be prohibited on the freshwater ponds on the refuge. Anglers may choose to use non-lead alternatives such as tin, steel, or ceramic sinkers. This can reduce the impacts of lead to wildlife and the environment.
Climate Change The refuge recognizes that conditions related to global climate change may affect our ability to meet long-term biological objectives. Across the Appalachian region, current observations have shown average temperatures to have risen more than 1.5°F; winter average temperatures by 4°F. In general, spring is arriving earlier, summers are growing hotter, and winters are becoming warmer and less snowy.	Under this alternative, the refuge would work with the WVDNR and use an adaptive management approach for its fishing program, reviewing the program regularly and revising if necessary. For example, the refuge's active role in spruce restoration on the refuge and throughout the region is thought to be a way to help reduce the severity of climate stresses on the variety of rare and endemic species associated with these forests and high elevation wetlands. Increasing historic conifer cover in headwater streams may help reduce the overall warming effects and help maintain cold-water fisheries on the refuge such as brook trout and Redside dace.

Summary of Findings and Conclusions

The purpose of this EA is to briefly provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a Finding of No Significant Impact (FONSI). The term “significantly” as used in NEPA requires consideration of both the context of the action and the intensity of effects.

No Action Alternative – There would be no additional costs to the refuge under this alternative. There would be no change to current public use and wildlife management programs on the refuge under this alternative. The refuge would not increase its impact on the economy and would not provide new fishing and access opportunities, other than those already planned at Scotts Landing. This alternative has the least direct impacts of physical and biological resources; however, not enhancing fishing opportunities and access will have a long-term adverse impact on public engagement and support of the refuge. In addition, it would minimize our mandates under the NWRSA and Secretarial Order 3356.

Proposed Action Alternative – This alternative is the Service's proposed action because it offers the best opportunity for public fishing that would result in a minimal impact on physical and biological resources, while meeting the Service's mandates under the NWRSA and Secretarial Order 3356.

The Service believes that fishing on the refuge in accordance with WVDNR regulations will not have a significant impact on habitat, wildlife, or the human environment. Opening new fishing sites would promote a priority use of the Refuge System and support CCP goals. Expanding fishing on the refuge in an area where quality fishing exists but public access is limited, would support local economies and engage more people in outdoor recreation, fostering natural resource stewardship. The refuge will evaluate the fishing program on a regular basis and modify, as needed, to protect fish, wildlife, and their habitats.

List of Sources, Agencies and Persons Consulted

To prepare the current plan and alternatives, refuge staff met with the WVDNR.

- West Virginia Division of Natural Resources – Wildlife, Cliff Brown
- West Virginia Division of Natural Resources – Fisheries, David Wellman

List of Preparers

Ron Hollis – Refuge Manager
Matthew Boarman – Wildlife Refuge Specialist
Dawn Washington – Wildlife Biologist
Brett Hartwig – Fish and Wildlife Officer

State Coordination

Refuge staff met with WVDNR representatives on November 20, 2019, to discuss the current fishing program and to discuss recommendations for the future. After that meeting, several further conversations were held and emails exchanged to gather more information and recommendations. WVDNR has reviewed and provided initial comments on the associated draft recreational fishing plan.

Public Outreach

Initial scoping targeted representatives from WVDNR in a November 2019 meeting. They were informed that all members and the general public would have the opportunity to provide comments later in the process. The EA and recreational fishing plan will be advertised to the public for comment via the refuge's website, social media accounts, and press releases. At least one public meeting will be held during the 30-day comment period.

Determination

This section will be filled out upon completion of any public comment period and at the time of finalization of the Environmental Assessment.

- ☐ The Service's action will not result in a significant impact on the quality of the human environment. See the attached "**Finding of No Significant Impact**".
- ☐ The Service's action on this permit application **may significantly affect** the quality of the human environment and the Service will prepare an Environmental Impact Statement.

Preparer Signature: _____ Date: _____

Name/Title/Organization: _____

Certifying Officer Signature: _____ Date: _____

Name/Title: _____

References

- Bartgos, R., and Berdome, A. 1991. A preliminary assessment of biological resources in the Canaan Valley of West Virginia. The Nature Conservancy, Boston, MA
- Kuss, F.R. 1986. A review of major factors influencing plant responses to recreation impacts. *Environmental Management*, 10:638-650.
- Sadoway, K.L. 1986. Effects on intensive forest management on amphibians and reptiles of Vancouver Island: problems analysis. Research, B.C. Ministries of Environment and Forests. IWIFR-23. Victoria, BC.
- U.S. Fish and Wildlife Service [USFWS]. 2011. Canaan Valley National Wildlife Refuge Comprehensive Conservation Plan. February 2011. USFWS, Division of Planning, Hadley, MA. 200pp.
- U.S. Fish and Wildlife Service. 2019a. <https://www.fws.gov/refuges/airquality/ARIS/BRIG/>. Accessed March 21, 2019.
- Caudill, J. and Carver, E. 2019. Banking on Nature 2017: The economic contributions of national wildlife refuge recreational visitation to local communities. USFWS, Falls Church, VA. 32pp.

INTRA-SERVICE SECTION 7 BIOLOGICAL EVALUATION FORM

Originating Person: Matthew Boarman

Telephone Number: 304-202-5366

Date: 12/10/2019

I. Regions: 1 North Atlantic and Appalachian Region

II. Service Activity (Program): U.S. Fish and Wildlife Service

III. Pertinent Species and Habitat:

A. Listed species potentially present:

Cheat Mountain salamander (*Plethodon nettingi*) – Threatened

Indiana bat (*Myotis sodalis*) – Endangered

Northern long-eared bat (*Myotis septentrionalis*) – Threatened

Virginia big-eared bat (*Corynorhinus townsendii virginianus*) – Endangered

B. Proposed species and/or proposed critical habitat within the action area:

None

C. Candidate species within the action area:

None

D. Include species/habitat occurrence on a map.

IV. Geographic area or station name and action:

Canaan Valley National Wildlife Refuge

V. Location (attach map): See attached maps below

A. Ecoregion Name: Ohio River Valley Ecosystem

B. Project Counties and States: Tucker County, West Virginia

C. Section, township, and range (or latitude and longitude): Davis, West Virginia

D. Distance (miles) and direction to nearest town: Refuge headquarters is 8 miles from the project site

E. Species/habitat occurrence:

The Refuge and the Canaan Valley area provides habitat for two threatened and two endangered species. The threatened Cheat Mountain salamander (*Plethodon nettingi*) and northern long-eared bat (*Myotis septentrionalis*) as well as the endangered Indiana bat (*Myotis sodalis*) have both been documented on the Refuge. The endangered Virginia big-eared bat (*Corynorhinus townsendii virginianus*) has been documented in a hibernaculum 6 miles north of the refuge. The West Virginia northern flying squirrel (*Glaucomys sabrinus fuscus*) which occurs in Refuge forests was delisted as an endangered species in March 2013. The bald eagle (*Haliaeetus leucophalus*), delisted in August

2007, uses the Refuge during the breeding and migration seasons. Both the West Virginia northern flying squirrel and the bald eagle, although delisted, remain priority species for Service protection and management.

The habitat associated with the project area consists of northern hardwood forest with American beech (*Fagus grandifolia*), yellow birch (*Betula alleghaniensis*), red maple (*Acer rubrum*) and sugar maple (*Acer saccharum*). These habitats also have a small component of eastern hemlock (*Tsuga canadensis*) and red spruce (*Picea rubens*) in scattered locations. These forests have been cut over many times and are approximately 40 to 50 years old. The project areas is also below 3300' in elevation. While there is a potential for use by Indiana, northern long-eared and Virginia big-eared bats, there is no potential use by Cheat Mountain salamanders

VI. Description of proposed action (attach additional pages as needed)

Recreational fishing on the Refuge is proposed for the Blackwater River and its tributaries wherever approved and managed roads or trails cross a river, stream or pond OR comes within approximately 10 yards of a river, stream or pond (Figures 1 and 2). The state of West Virginia claims riparian rights to the ordinary high-water mark of rivers or streams. After reaching a river or stream via a road or trail, anglers may travel along the stream, staying below ordinary high-water mark. There are two new canoe/kayak launches found on the map, Timberline Bridge and Laurel Landing, located off Brown Mountain Parking lot. These launches will allow access to fishing spots not accessible by land.

A valid West Virginia fishing license and any required additional stamps will be required to fish on the refuge. Seasons dates and creel limits will follow State regulations. Fishing access will be allowed during refuge open hours from one hour before legal sunrise to one hour after legal sunset. The possession, use or collection of bait fish (including minnows, crayfish and amphibians) is prohibited anywhere on the refuge.

Cheat Mountain Salamander

The CMS is a federally threatened species and a priority for Service protection and management. They are only found in West Virginia and are limited to approximately 80 fragmented populations in only five counties in the State. The Refuge's population represents one of the most northern for this species. Being a federally threatened species that is tied to highly restricted plant communities, they are also considered a priority for conservation by the State of WV as detailed in the State Wildlife Conservation Action Plan (WVDNR 2006).

Only one tract at the south end of the Refuge has documented occupied habitat for this species. Habitat requirements include a cool moist forest floor with adequate coarse woody debris and typically with a spruce or mixed spruce-hardwood forest overstory. The main threat to the CMS is degradation of high-elevation red spruce and spruce/northern hardwood forests. Since the CMS requires moist, cool habitats, any alteration of the habitat that reduces soil moisture and/or relative humidity can lead to adverse effects such as reduced reproductive success through nest desiccation (Pauley 2008a; Service 1991). Other threats include competition with other salamanders, drought, and pollution.

Typically, CMS habitat consists of stands of conifers such as red spruce and occasionally eastern hemlock at elevations above 2,000' in the northern part of the known range to above 3,500' in the southern part of the range. The forest floor is usually cool and moist and covered with the liverwort

(*Bazzania trilobata*) and the habitat typically contains rock outcrops, emergent rocks, boulder fields, or narrow ravines lined with great rhododendron (*Rhododendron maximum*).

Northern Long-eared Bat

The northern long-eared bat (NLEB) is federally listed as a threatened species under the Endangered Species Act and is a trust resource of the Fish and Wildlife Service. Primary foraging habitats the understory of forested areas feeding on moths, flies, leafhoppers, caddisflies, and beetles, which they catch while in flight using echolocation or by gleaning motionless insects from vegetation. During the summer, northern long-eared bats roost singly or in colonies underneath bark, in cavities or in crevices of both live trees and snags. Males and non-reproductive females may also roost in cooler places, like caves and mines. Northern long-eared bats seem to be flexible in selecting roosts, choosing roost trees based on suitability to retain bark or provide cavities or crevices.

Although, white-nose syndrome is the primary threat to the NLEB, habitat loss and degradation, predation and wind farm operations threaten the population viability of the northern long-eared bat across its range. NLEB are using the Refuge for foraging and roosting, and therefore, protecting, maintaining, and improving habitat quality on the Refuge would contribute to the viability of the species and its recovery. The conservation of this threatened species is now more important than ever as white-nose syndrome spreads across its range.

Acoustical recordings from 2003, 2006, 2007, and 2008 suggest NLEB bats are using riparian corridors and beaver ponds on the Refuge for summer foraging habitat as well as forested areas. They were also detected within four miles of the project area in 2009 during a driving route survey. NLEB have been detected within one mile of the beginning of the project area via ANABAT detectors in July 2012 as well. The Refuge will continue acoustical monitoring (ANABAT and SONOBAT) to detect potential presence of bats along all suitable habitats.

Indiana Bat

The Indiana bat is a federally-listed endangered species and a trust resource of the Fish and Wildlife Service. Primary foraging habitats include wetland and riparian areas, bottomland forests and edge habitats. Roost trees are typically in wooded wetlands, bottomland and floodplain forests, as well as upland habitats. Habitat loss and degradation, overutilization for scientific purposes, disease and predation, environmental contaminants, and the inadequacy of existing regulatory mechanisms for summer habitat threaten the population viability of the Indiana bat across its range. The Indiana Bat Draft Recovery Plan (USFWS 2007a) calls for the conservation and management of hibernacula and adjacent lands, summer habitat, and winter populations, for the monitoring of populations, and for the development of public outreach and information programs (Recovery Actions 1, 2, and 4). Indiana bats are still using the Refuge for foraging and roosting and therefore the refuge is committed to protecting, maintaining, and improving habitat quality on the refuge that would contribute to the viability of the species and its recovery. The conservation of this endangered species is now more important than ever as white-nose syndrome spreads across the range of the Indiana bat.

Acoustical recordings from 2003, 2006, 2007, and 2008 suggest Indiana bats are using riparian corridors and beaver ponds on the Refuge for summer foraging habitat. Recordings from 2012 and 2013 suggest that Indiana bats are using openings in the forest on the Refuge for summer foraging habitat as well. Mist-netting provides visual confirmation of their presence, reproductive information, the types of Refuge habitats used, and the seasons they are using the refuge habitats. Summer use

indicates a potential for maternity colonies to be located on or near the refuge. As a key stage in the life cycle of the species, it is imperative to know the location of maternity colonies and protect them from disturbance. Radio telemetry of any lactating or recently lactating female bats found on the refuge could define the habitats and locations that are important for this endangered species. The Refuge will continue acoustical monitoring (ANABAT and SONOBAT) to detect potential presence of bats along all suitable habitats.

Virginia Big-eared Bat

The Virginia big-eared bat is a federally-listed endangered species and a trust resource of the Fish and Wildlife Service. More Virginia big-eared bats occur in West Virginia than any other state. Caves are very important for this bat and most of significance are protected for this bat. They use caves in the winter as well as the summer.

They principally feed on moths, but will feed on other insects as well. Their foraging habitat consists of a variety of habitats including old fields, hay field, and forested areas. These bats are known to travel up to 6.5 miles from a cave to roost and feed and often return to the same feeding area night after night.

The major cause of the decline of Virginia big-eared bats is disturbance. The number of Virginia big-eared bats declined sharply from the 1950s to the early 1980s due to human disturbance in their cave roosts. They are easily awoken and are more sensitive than most bats to disturbance during the winter months. With disturbance in the summer months, females can panic which results in the dropping of young that may never be recovered. Cave protections have increased their populations since the 1980s.

The refuge has not recorded any Virginia big-eared bats with acoustical equipment, however much of the data recorded is yet to be analyzed. In addition, the WV DNR driving route data from 2009 to 2012 did not detect Virginia big-eared bats. However, this is most likely because they do not leave their cave roost until quite late in the evening and are rarely seen as they forage. There is a strong possibility that due to the close proximity of the hibernaculum to the refuge that they are foraging here. Therefore, we will continue acoustical monitoring (ANABAT and SONOBAT) to capture their potential use of the refuge.

VII. Determination of effects:

A. Explanation of effects of the action on species and critical habitats in items III.

Cheat Mountain Salamander

Under current management of habitat occupied by the Cheat Mountain salamander, the Refuge has received concurrence in previous consultations (1999, 2003, 2011, 2015, and 2019) of no adverse effects given conditions of no new trails and limited trail clearing on existing trails. Fishing access will be limited to existing access locations, all located 3300' in elevation and below. Consequently, there are no fishing access areas that occur in documented Cheat Mountain salamander habitat. Therefore, fishing will have no effect to the CMS population in Canaan Valley.

Indiana, Northern Long-Eared and Virginia Big-Eared Bats

Opening the refuge to recreational fishing will not have adverse effects on Indiana, northern long-eared and Virginia big-eared bats. While there has been documented use of the refuge by Indiana and northern long-eared bats more frequently before white nose syndrome, currently, there has been a decrease in occurrences. While there is no documented use by Virginia big-eared bats on the refuge, there is a large possibility that they are using the refuge due to the close proximity of the hibernaculum to the refuge. The refuge has been surveying for bats for the last eight years as a part of a larger effort by Refuges in Region 1. By doing surveys for bats in these areas we have better information on the use and distribution of bats on the Refuge. These surveys during the summer months have focused on documentation of roost and foraging sites.

Use of the Canaan Valley area by Indiana and northern long-eared bats has not gone away completely due to white-nose syndrome, but has decreased drastically. An active and passive monitoring site at the Beall Bridge, which crosses the Blackwater River, has picked up Indiana and northern long-eared bats since surveys started in 2006. From 2006 to 2010, 51 Indiana bat and six northern long-eared bat calls were recorded at Beall Bridge. From 2012 to 2014, four Indiana or little brown bat calls were recorded and no northern long-eared bat calls were recorded.

Potential disturbance to NLEB could occur during fishing on the refuge. During the summer, NLEB roost singly or in colonies underneath bark, in cavities or in crevices of both live and dead trees. This is especially true for reproductive females. While walking to or fishing from an area, NLEB could be displaced from a tree, however this is highly unlikely and no literature speaks intently about this as a major type of disturbance. Therefore, fishing is highly unlikely to cause disturbance and is not likely to adversely affect the NLEB.

Indiana bats could potentially be disturbed during fishing on the Refuge. Indiana bats migrate to their summer habitat in wooded areas where they usually roost under loose tree bark on dead or dying trees. During summer, males roost alone or in small groups, while females roost in larger groups of up to 100 bats or more. Females roost under the peeling bark of dead and dying trees in groups of up to 100 or more, called maternity colonies. The mother, who leaves the roost tree only to forage for food, nurses young bats. The young stay with the maternity colony throughout their first summer. If these maternity colonies are discovered and disturbed while fishing, this could cause an impact to the breeding population on the Refuge. However, it is very unlikely for this type of disturbance to occur and therefore we predict that Indiana bats are not likely to be adversely affected during fishing on the Refuge.

Potential disturbance to VBEB from fishing on the Refuge would be very unlikely to occur. This is due to the habitat requirements of VBEB. They inhabit caves year round and leave them only to forage at night. The interaction between a VBEB and someone fishing on the refuge will be extremely low because fishing will only occur during refuge open hours.

Most disturbance to bats during the breeding season occurs due to removing trees or destroying habitat. Fishing on the Refuge will occur mostly during the breeding season, but will not include any removal of trees or destruction of habitat. Therefore, due to the nature of the project, impacts to the northern long-eared, Indiana and Virginia big-eared bat will be minimal since no trees will be cut.

B. Explanation of actions to be implemented to reduce adverse effects or benefit species:

We will work with the WVFO to develop appropriate management strategies to protect and enhance Indiana, northern long-eared and Virginia big-eared bat habitat throughout the refuge.

With adequate surveys, adherence to the 4D rule and consultation with the WVFO we predict that no adverse effects to these species will occur from the project.

VIII. Effect determination and response requested: [* = optional]

A. Listed species/designated critical habitat:

Species/Critical Habitat	Determination	Response Requested
Cheat Mountain Salamander (<i>Plethodon nettingi</i>)	No Effect	Concurrence
Indiana Bat (<i>Myotis sodalis</i>)	Not Likely to Adversely Affect	Concurrence
Northern Long-Eared Bat (<i>Myotis septentrionalis</i>)	Not Likely to Adversely Affect	Concurrence
Virginia Big-Eared Bat (<i>Corynorhinus townsendii virginianus</i>)	No Effect	Concurrence

Determination

Response requested

No effect/no adverse modification

Species:

____ *Concurrence

May affect, but is not likely to adversely affect species

____ Concurrence

Species:

May affect, and is likely to adversely
affect species, but overall beneficial effect

Species:

____ Formal Consultation



Ron Hollis, Refuge Manager

12/12/19
Date

IX. Reviewing Ecological Services Field Office Evaluation:

A. Concurrence X

Non-concurrence _____

B. Formal consultation _____

C. Conference required _____

D. Informal conference required _____

E. Remarks (attach additional pages as needed):



Acting Project Leader, West Virginia Field Office

12/12/2019
Date

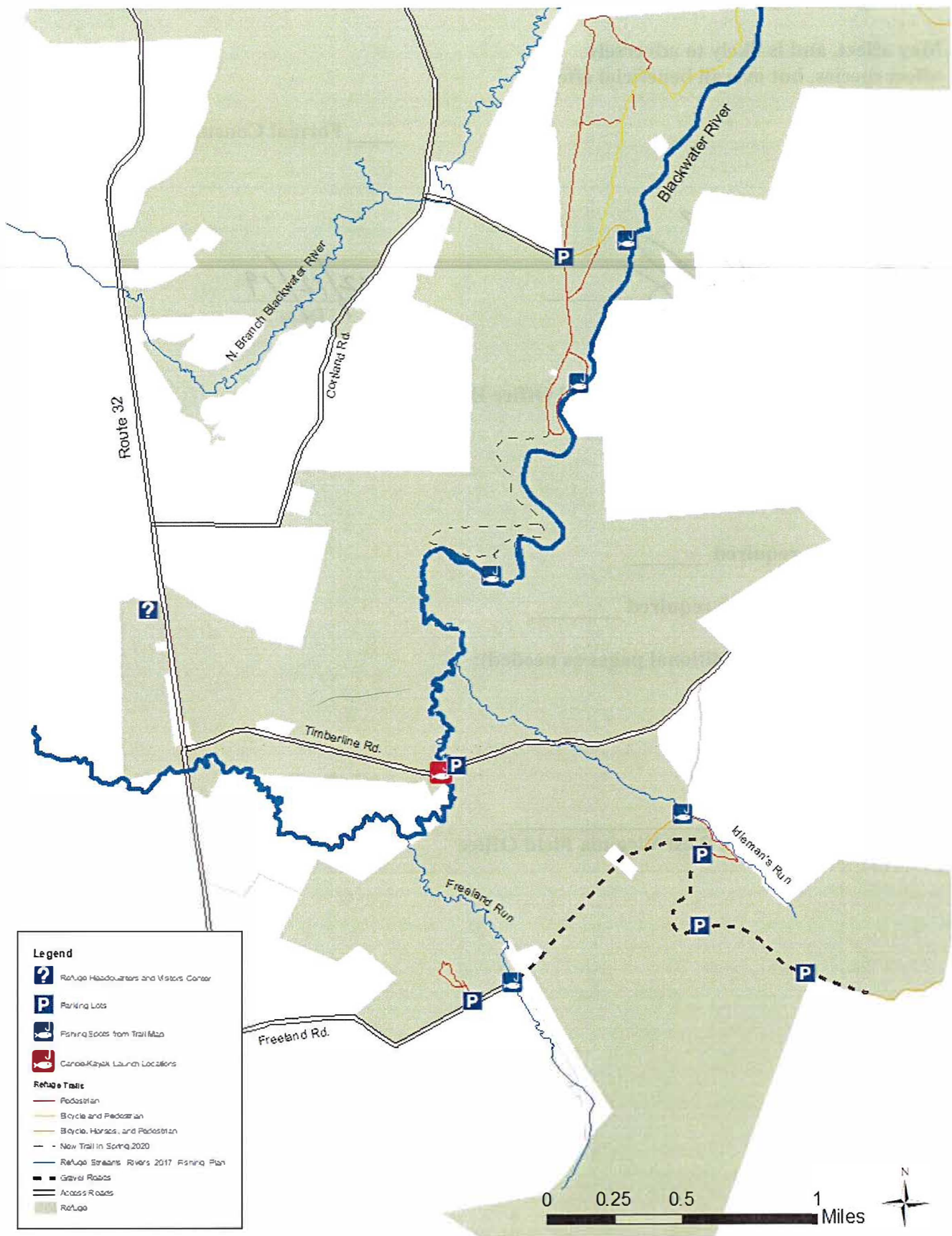


Figure 1: South portion of refuge fishing access spots

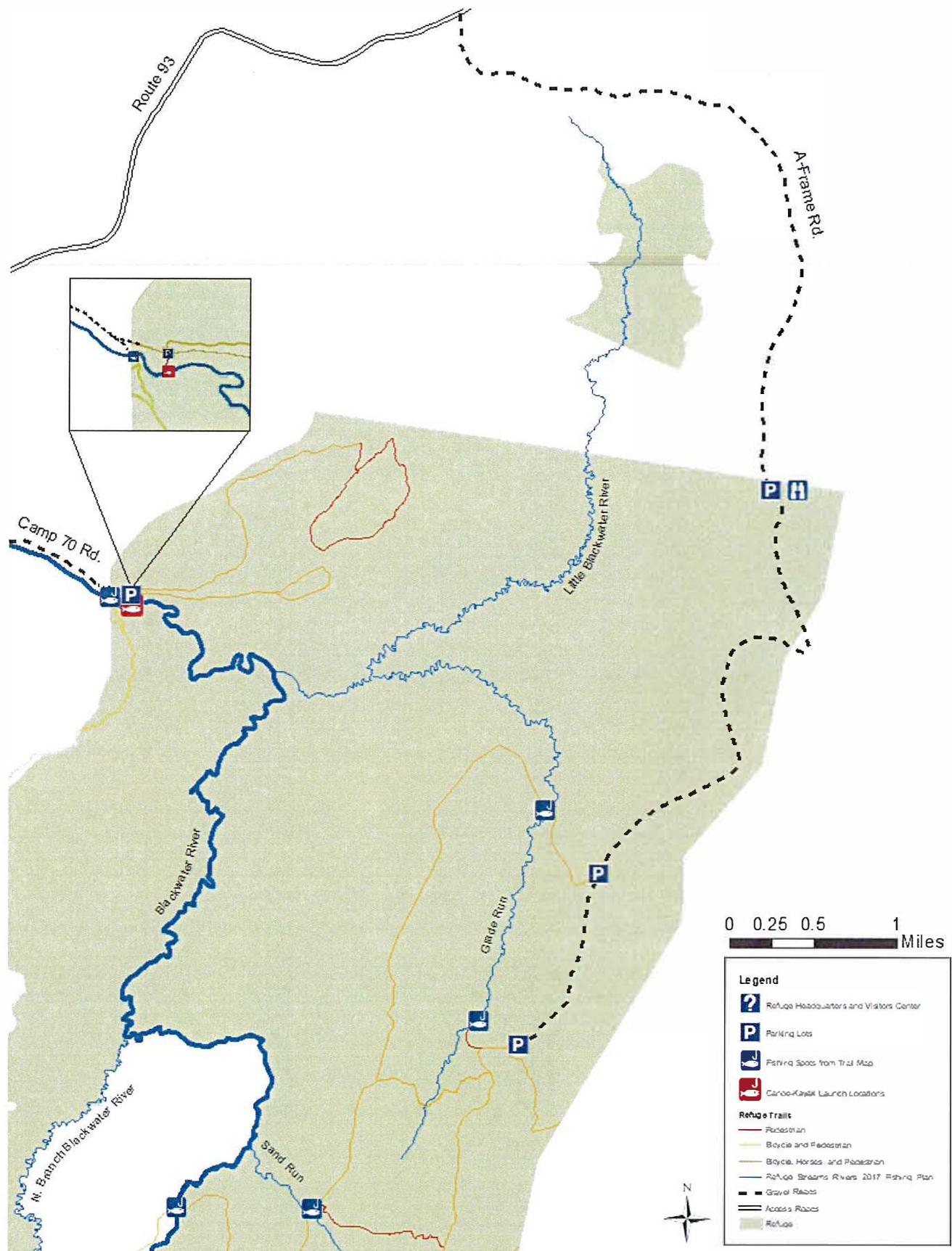


Figure 2: North portion of refuge fishing access spots