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 awaken 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 (*Plethodon nettingi*)	No Effect	Concurrence
Indiana Bat (*Myotis sodalis*)	Not Likely to Adversely Affect	Concurrence
Northern Long-Eared Bat (*Myotis septentrionalis*)	Not Likely to Adversely Affect	Concurrence
Virginia Big-Eared Bat (*Corynorhinus townsendii virginianus*)	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):

Barbara Douglas
Acting Project Leader, West Virginia Field Office

12/12/2019
Date

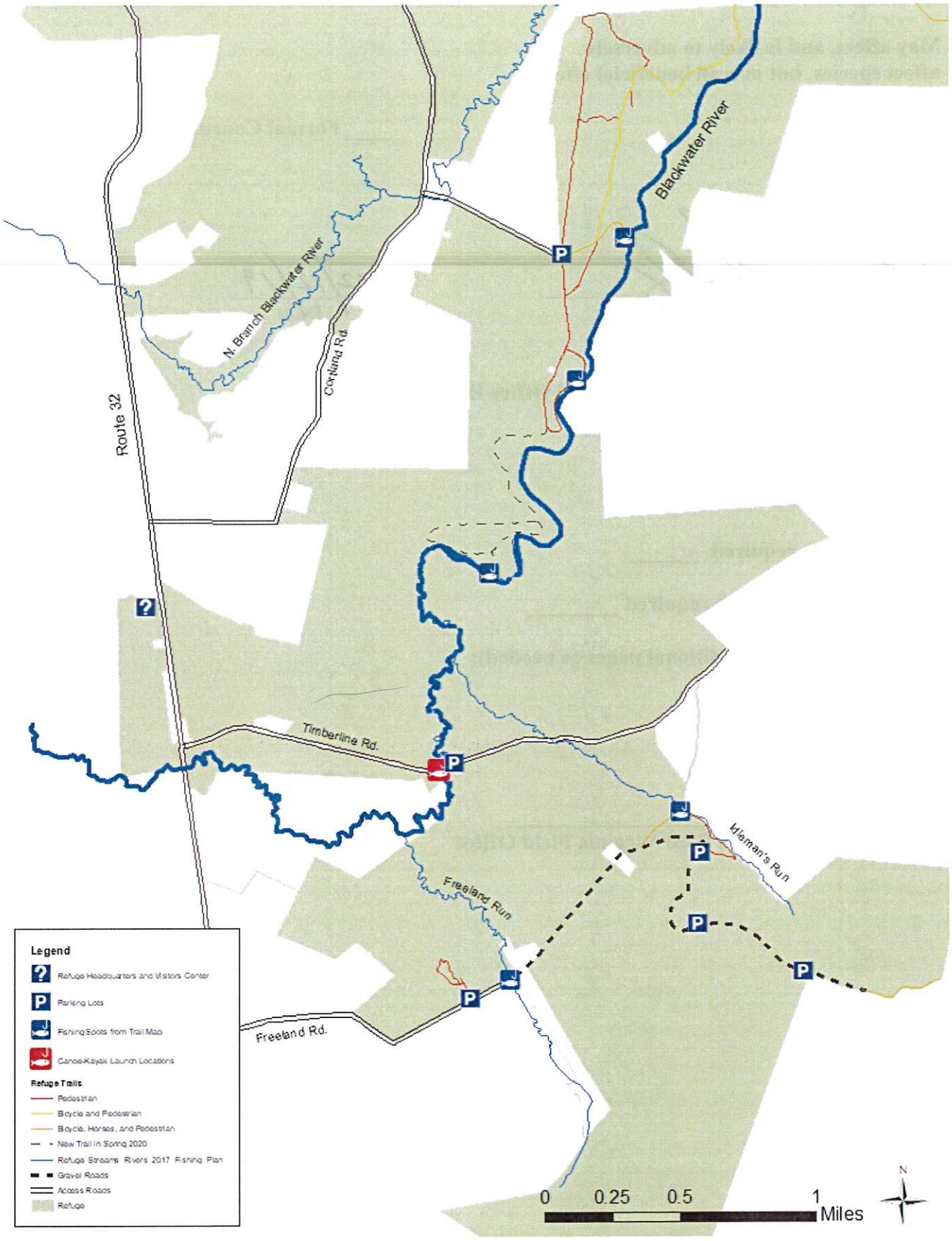

Figure 1: South portion of refuge fishing access spots

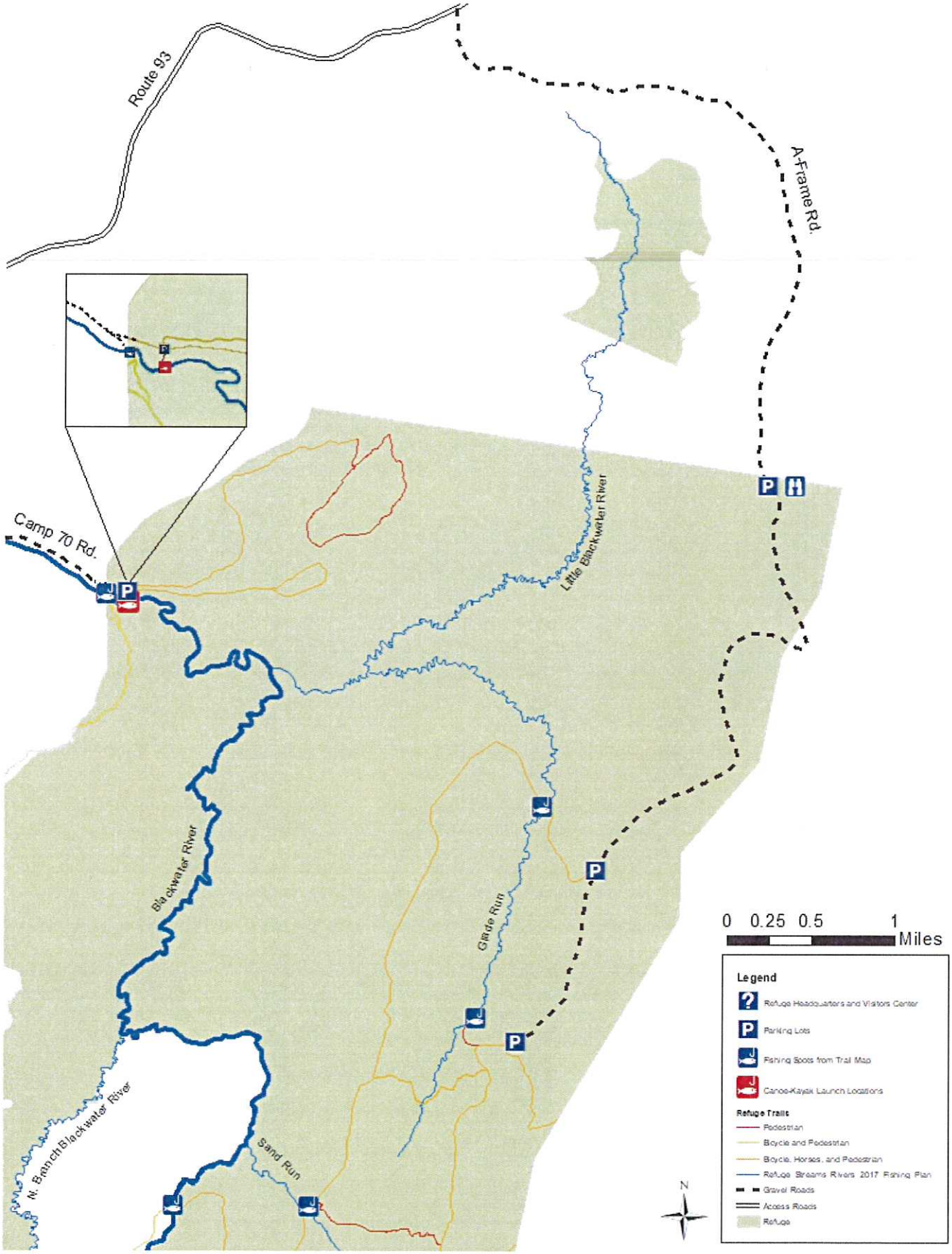

Figure 2: North portion of refuge fishing access spots