United States Department of the Interior

FISH AND WILDLIFE SERVICE

West Virginia Field Office
694 Beverly Pike
Elkins, West Virginia 26241

October 9, 2014

Mr. Clyde N. Thompson
Forest Supervisor
Monongahela National Forest
200 Sycamore Street
Elkins, West Virginia 26241

Re: Lower Williams Wildlife Habitat Enhancement Project, Gauley Ranger District, Monongahela National Forest, West Virginia

Dear Mr. Thompson:

This letter is in response to your request, dated February 26, 2014, and supplemented on April 9, 2014, for a site-specific review of the proposed Lower Williams Wildlife Habitat Enhancement Project (LWWHE) in the Gauley Ranger District of the Monongahela National Forest (MNF) in Webster County, West Virginia. The following comments are provided pursuant to the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) to ensure the protection of endangered and threatened species.

In July 2006, the U.S. Fish and Wildlife Service (Service) issued a programmatic Biological Opinion (programmatic BO) for the 2006 Revision of the Monongahela National Forest Land and Resource Management Plan (Forest Plan) (Service 2006). The programmatic BO established a two-tiered consultation process for Forest Plan activities, whereby the MNF develops proposed activities and determines whether the proposed action may affect listed species or designated critical habitat. The Service subsequently reviews the proposed site-specific actions to ascertain if any effects will occur as a result of a site-specific project in a manner, or to an extent, not evaluated or previously disclosed and discussed in the Service's 2006 programmatic BO. We consider this site-specific project analysis for the proposed LWWHE Project to be a "Tier II" consultation process, with the programmatic BO constituting the "Tier I" consultation. Our project-specific (Tier II) consultations focus on: 1) reviewing and updating new information developed since the programmatic BO that may affect our analysis; 2) compliance with reasonable and prudent measures and associated terms and conditions set forth in the programmatic BO; 3) consistency with the scope and effects previously analyzed and disclosed in the programmatic BO; 4) project-specific incidental take vs. take estimated in the programmatic BO; and 5) project-specific reasonable and prudent measures and associated terms and conditions (for non-jeopardy determinations).

DESCRIPTION OF THE PROPOSED ACTION

The proposed actions on MNF land under the LWWHA project include: 1) converting approximately 44 acres of forested habitat to grassy and shrubby habitat; 2) thinning harvest of approximately 93 acres; and 3) constructing 19 vernal pools.

Converting 44 acres of forested habitat to grassy and shrubby habitat would involve utilizing heavy equipment and hand tools (e.g. tractor, excavator, bulldozer, or chainsaws) to remove overstory, midstory and understory trees. A portion of the project sites would be planted with native grasses or desirable non-native grass, while natural succession would take place in the remainder to create shrubby forested conditions. Additionally, an estimated four tons of agricultural lime would be spread in grassy habitat and approximately three tons of crushed limestone would be spread in shrubby habitat. Habitat conversions would take place on approximately 15 separate areas scattered throughout the action area. This proposed action could take from one to four weeks to complete and could occur in fiscal year 2014 or 2015.

Thinning harvest would involve cutting a portion of trees from the overstory and midstory in three sites totaling approximately 93 acres. Thinning would remove at least 2/3 of the total basal area from sites within 30 feet of Forest Roads 82, 272, and 272A. Thinning in areas greater than 30 feet of Forest Roads 82, 272, and 272A would remove 1/3 of the total basal area or less. The proposed thinning harvest would consist of a series of activities that could take place in any month of the year and could take eight to twelve weeks to complete. Forest Service employees will designate the trees to be removed with water-based paint, while marking unit boundaries and buffer zones with paint or flagging. Tree cutting will be done by the contractor using a gasoline-powered chain saw and aided by felling wedges and possibly cables with block and tackle rigs. A winch attached to a dozer or skidder would be used to move cut trees from the stump to a skid road. Trees would then be moved to the log landing along the skid roads. Skid roads are generally constructed using a bulldozer or a blade on a skidder. Rubber-tire heavy equipment or a small bulldozer with cables would be used to move logs. The Forest Service would approve skid road locations and actions used to close them following use. Skid roads are generally closed with dips and/or water bars, and seeded to grasses following the completion of harvesting activities. Trees not removed by the commercial scale operation would be cut to optimize site condition for the regeneration of desirable tree species. Trees cut during site preparation may be smaller diameter, may be damaged, and may not have commercial value. Site preparation activities may be completed by Forest Service personnel or by a contractor. Logs will be temporarily stored in log landings before loading onto trucks for transport. Landings are generally cleared of standing trees, stumps and leveled with a bulldozer or rubber tire skidder to form the equivalent of a small parking lot for the commercial logging operation. Log landings are accessible by roads and are generally 150 x 150 feet (0.5 acre) and large enough to park a log truck, pickup truck, and have room for cut trees to be piled for loading onto log trucks. Approximately two log landings per unit would be constructed. Exposed soil would be seeded with Forest Service approved grasses following use. Logs will be loaded onto trucks and transported off the logging sites via existing developed roads. This proposed action could take from eight to twelve weeks to complete and could occur in fiscal year 2015.

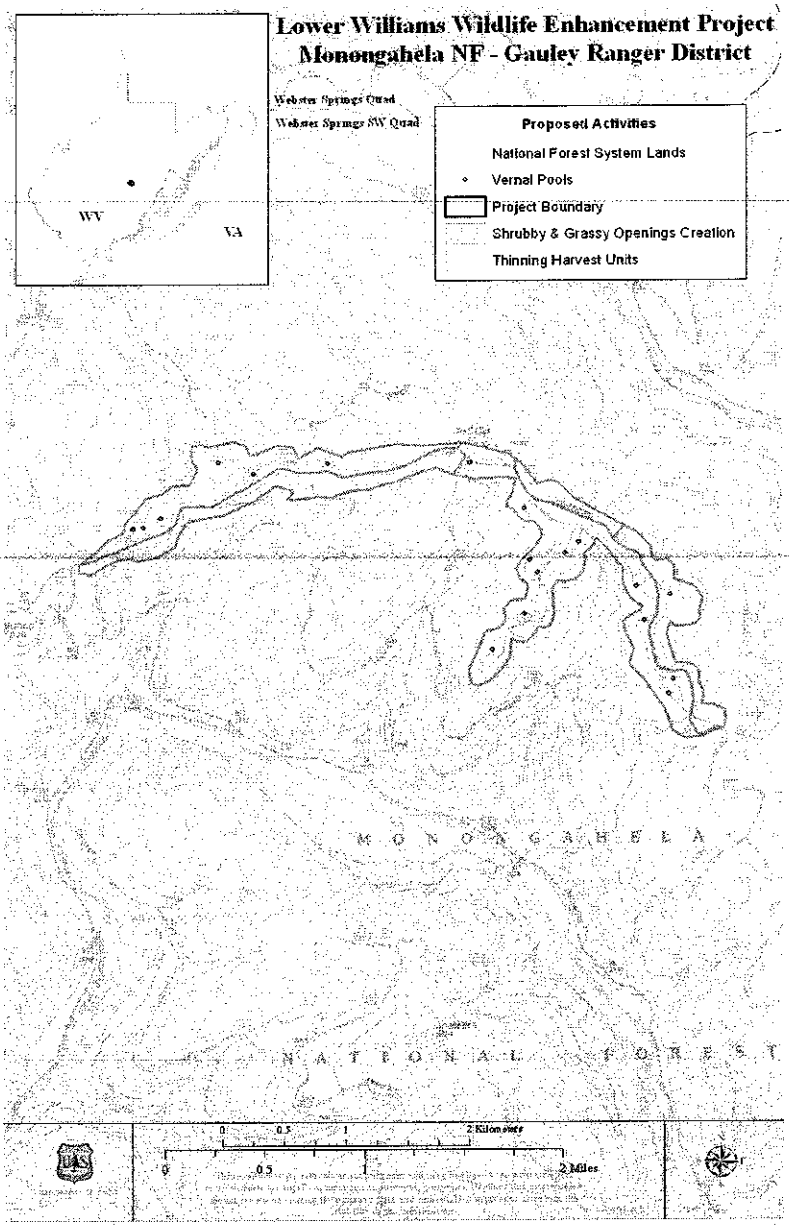
Construction of 19 vernal pools would involve using a bulldozer to push soil and rocks to create a depression. Pools would range in size from 0.10 to 0.25 acre, be round or oval in shape, and have a depth of two to four feet. Pools would be located on ridge top saddles and in canopy gaps to avoid affecting large trees whenever possible. The bulldozer would travel to the proposed vernal pool project site on existing roads or skid trails and make efforts to reduce vegetation damage. However, seedling, saplings and bushes could be damaged during travel to the work site. Vernal pool construction could take place in any month of the year, and a dozer operator could complete up to four vernal pools in one day.

The LWWHE project incorporates a number of Indiana bat conservation measures, in accordance with the terms and conditions of the programmatic BO, and as described more fully on page 10 of the April 9, 2014 Biological Evaluation (BE). These measures include: retaining all shagbark hickory trees with diameter at breast height (DBH) 5 inches or greater, retaining an average of 6 snags per acre that are 9 inches DBH or greater, retaining all known roost trees, establishing a 2.5 mile radius buffer around Indiana bat maternity colonies and sites with evidence of a maternity colony, and developing appropriate protection measures in cooperation with the Service and WVDNR for any new Indiana bat hibernacula.

Action Area

The action area consists of a total of 646 acres located in Webster County, West Virginia, on the Gauley Ranger District of the Monongahela National Forest, as shown in Figure 1. The nearest community, Cowen, West Virginia, is approximately 6 miles north-northeast.

Figure 1: Lower Williams Wildlife Habitat Enhancement Action Area



SPECIES NOT AFFECTED/ NOT LIKLEY TO BE ADVERSELY AFFECTED

Threatened and Endangered Plants

We have reviewed the information contained in the April 9, 2014 BE as well as existing survey data and supplemental information provided by staff at the MNF. Four federally listed plant species could potentially be present within the project area: shale barren rock cress (*Arabis serotina*), running buffalo clover (*Trifolium stoloniferum*), small-whorled pogonia (*Isotria medeoloides*), and Virginia spiraea (*Spiraea virginiana*). Botanical surveys were conducted in

the LWWHE project analysis area in the summer of 2012. Surveys were conducted by experienced MNF botanists and consisted of meandering inspections through the proposed activity areas. All surveys were conducted between June 1 and September 30, which constitutes the active growing season for listed plants that are known to occur on the MNF. No federally listed plant species were found during these surveys. Small whorled pogonia is the only threatened or endangered plants species that may have suitable habitat within the action area. Habitat preferences for small whorled pogonia are poorly known but could include a variety of forested habitats such as older hardwood stands of beech, birch, maple, oak and hickory that have an open understory. Sometimes it grows in stands of softwoods, such as hemlock (Service 2008). Small whorled pogonia is believed to prefer the type of partial canopy openings that could be created by felling trees for woody debris (Service 1992). The potential for direct or indirect effects is considered discountable because surveys of the proposed activity area did not locate this species and small whorled pogonia is not known to occur in this part of the forest. Therefore, the Service concurs with the MNF's determination that the proposed LWWE actions "may affect" but are "not likely to adversely affect" the small whorled pogonia. We also concur with your determinations of no effect for shale barren rock cress, running buffalo clover, and Virginia spiraea.

Virginia Big-eared Bat (*Corynorhinus townsendii virginianus*)

Virginia big-eared bats roost in caves and feed at night predominately on moths, but also on beetles, true flies, mosquitoes, bees, wasps, and ants (Forest Service 2006). Virginia big-eared bats generally forage within six miles of their summer caves. In West Virginia, Virginia big-eared bats have been documented foraging in hay fields, forests, old fields and riparian corridors. Mist net surveys have been conducted during the summer activity period throughout the project area over the last several years. Eight mist netting sites were located in the analysis area in 2000, 2006, 2007 and 2012. Mist net site selection was selected based on the quality of bat habitat in a given area rather than being limited to the specific area proposed to be affected. No Virginia big-eared bats have been captured during mist net surveys in the project area. Additionally, mist net surveys were conducted at 35 sites located within the Gauley Ranger District from 1997 to 2013 and none of these sites have captured Virginia big-eared bats. There are no known maternity colonies with six miles of the project area and the nearest Virginia big-eared bat cave is located approximately 15 miles away. Based on the absence of any Virginia big-eared bat captures or potential foraging areas around maternity caves within the action area, the MNF determined that implementation of any proposed LWWHE action "may affect" but is "not likely to adversely affect" the Virginia big-eared bat either directly or indirectly. The Service concurs with the MNF's determination.

Other Listed Species

There is no potentially suitable habitat for the Cheat Mountain salamander (*Plethodon nettingi*) within the project area. The gray wolf (*Canis lupis*) and eastern cougar (*Felis concolor cougar*) are extirpated from the area and are therefore not documented in the project footprint, action area or adjacent lands. We therefore, concur with your determinations of no effect for the Cheat Mountain salamander, gray wolf, and eastern cougar.

SPECIES LIKELY TO BE ADVERSELY AFFECTED

As described in the Service's 2006 programmatic BO, adverse impacts are likely to occur to the Indiana bat (*Myotis sodalis*) from prescribed fire, harvesting, or tree removal under the MNF's management program activities. Therefore, given the nature of activities associated with the proposed LWWHE Project, we agree with your assessment that incidental take of Indiana bats is reasonably likely within the action area, and have provided this draft Tier II BO to address the potential adverse effects.

In addition, on October 2, 2013, the Service proposed to list the northern long-eared bat (NLEB) (*M. septentrionalis*) as endangered (78 FR 61045). A final listing determination is anticipated to be made by April 2015. The Service and the Forest Service have already begun discussions at the national, regional, and local levels to determine how to best address cooperative conservation of this species, and we are working with the MNF to begin incorporating conservation measures into projects to protect the NLEB prior to any potential final listing decisions.

Pursuant to Section 7(a)(4) of the ESA, federal action agencies are required to confer with the Service if their proposed action is likely to jeopardize the continued existence of the NLEB (50 CFR 402.10(a)). Action agencies may also voluntarily confer with the Service if the proposed action may affect a proposed species. Species proposed for listing are not afforded protection under the ESA; however as soon as a listing becomes effective, the prohibition against jeopardizing its continued existence and "take" applies regardless of an action's stage of completion. If the agency retains any discretionary involvement or control over on-the-ground actions that may affect the species after listing, section 7 applies. Therefore, because the NLEB is present within the proposed project area, the MNF is conducting voluntary formal conferencing on this species now.

The conference process is similar to the consultation process and may be either informal or formal. A formal conference culminates with the Service writing a conference opinion that follows the same format as a biological opinion. If the species is subsequently listed prior to completion of the action, the incidental take statement provided with a conference opinion will become effective, and complete the section 7 consultation requirements, if the Service and the MNF both adopt the conference opinion as a formal biological opinion.

This Tier II BO, therefore also serves as a formal conference opinion for the NLEB. Because the status and distribution of the Indiana bat and NLEB are different, we are providing information on status of each the species separately. However, there are many similarities in the biology and habitat needs for these two species, and in most cases general conclusions based on research on one species will also be applicable to the other. Therefore, unless otherwise specified, the remaining sections of this document will apply jointly to both species. Any areas with significant differences are noted.

STATUS OF THE INDIANA BAT

The current status of the Indiana bat, its life history, and continued threats are thoroughly described in the programmatic BO (pages 27-43). This description remains current with the

exception of proposed updates to the recovery plan and the identification of new threats, and more current information on population numbers. This new information is summarized below.

A revised draft recovery plan was published in the Federal Register for public review and comment on April 16, 2007 (Service 2007). While this document has not been finalized, it represents the most current summary of information on the species and plan for its recovery. The draft recovery plan identifies four recovery units (RU): the Ozark-Central, Midwest, Appalachian Mountains, and Northeast. The MNF is located entirely in the Appalachian Mountains Recovery Unit (AMRU).

The 2007 draft recovery plan identified several new or additional threats including: 1) quarry and mining operations (summer and winter habitat); 2) forest conversion and firewood collection; 3) disease and parasites; 4) predation; 5) competition with other bat species; 6) environmental contaminants (not just "pesticides"); 7) climate change; and 8) collisions with man-made objects (e.g., wind turbines, communication towers, airplanes, and vehicles) (Service 2007). However, since that time, a new threat to the Indiana bat has emerged, white-nose syndrome (WNS). WNS is currently the most significant threat to the recovery of this species (Thogmartin *et al.* 2013).

WNS has been characterized as a condition primarily affecting hibernating bats. Affected bats usually exhibit a white fungus on their muzzles, wings, and ears (Blehert *et al.* 2009). The fungus associated with WNS was originally identified as a *Geomyces destructans* and was later renamed *Pseudogymnoascus destructans* in 2013 (Gargas *et al.* 2009, Minnis and Lindner 2013). The fungus had not been named or identified prior to the emergence of WNS. The fungus thrives in the cold and humid conditions of bat hibernacula. The mode of transmission is primarily by bat-to-bat contact. In addition, people may unknowingly contribute to the spread of WNS by visiting affected caves and subsequently transporting fungal spores to unaffected caves. It is unclear how long symptoms take to manifest after exposure to the fungus. It is also unclear what the long-term effects to the Indiana bat will be (e.g., geographic spread, mortality within affected sites). Interestingly, *P. destructans* has been documented growing on hibernating bats in several European countries, but the fungus does not appear to be causing widespread mortality there (Puechmaille *et al.* 2010).

Bats affected with WNS do not always have a grossly visible fungus, but may display abnormal behaviors. Behaviors include bats roosting toward the entrances of hibernacula where the temperatures and humidity are far less stable than traditional roosting sites. Affected bats are also leaving their hibernacula and flying around during the day in cold temperatures far too early in the winter/spring before any insects are available for foraging. Many WNS-affected bats still inside hibernacula have not responded to human presence during surveys like healthy, unaffected bats do. Affected bats appear to be using up their essential fat reserves well before spring emergence.

WNS was first documented in a photograph taken in a New York cave in February 2006. By August 2014, evidence of WNS had been documented in 29 states and four Canadian Provinces, including many known Indiana bat hibernacula. In some affected hibernacula in New York and New England, 90 to 100 percent of the bats have died.

Service biologists and partners estimate that at least 5.7 million to 6.7 million bats have now died from WNS (Service 2012). Currently, most WNS-associated mortality has occurred at sites within the proposed Northeast and Appalachian Mountain RUs, but evidence of the fungus and associated mortality has been found at sites within the Midwest and Ozark Central RUs, as well. Future monitoring should reveal the extent to which WNS will affect bats within these latter two RUs.

Current Rangewide Population and Trends

The 2013 rangewide Indiana bat population was estimated to be 424,708 bats, with the vast majority occurring in the Midwestern and Ozark-Central RUs (Table 1). About 72 percent of the entire rangewide population occurs in the Midwestern RU. The AMRU, which all of West Virginia, most of Pennsylvania, and portions of western Maryland, eastern Virginia, western North Carolina, and eastern Tennessee, supported approximately 3.3 percent of the 2013 total population estimate.

Immediately prior to the arrival of WNS, the rangewide population of Indiana bats had been generally stable with increases in eastern RUs and some declines in western RUs (Thogmartin *et al.* 2012). That trend has been reversed recently due to the spread of WNS. WNS was first detected in the Northeastern RU in 2006, and by 2013, the RU had declined by approximately 66 percent from a high in 2007 (Table 1). Although rangewide Indiana bat population estimates show a 13 percent increase from 2011 to 2013 (in the 8th year post-WNS), it is unclear if this increase represents true population growth, immigration from other areas, or other factors. Continued monitoring of population status will yield more conclusive trends as WNS moves through this population over time. As WNS continues to spread across the other RUs, these Indiana bat populations are expected to decline, though the nature and magnitude of population impacts from this disease may vary by RU. For the purposes of this BO, we assume the magnitude of the AMRU population declines will be similar to those occurring in the Northeast RU.

Table 1: Indiana bat population estimates rangewide and by recovery unit (RU). Estimates are based primarily on winter surveys at known priority 1 and 2 hibernacula. Additional data from priority 3 and 4 hibernacula were included when available; however, survey efforts for these smaller hibernacula vary over time (Service 2013).

Recovery Unit (RU)	2005	2007	2009	2011	2013	2011-2013 percent change	% of 2013 total population rangewide
Appalachian Mountain:							
West Virginia	13,417	14,745	17,965	20,296	3,845	-81.1	0.7
Tennessee (East)	8,853	5,977	11,058	11,096	13,200	19.0	2.5
Pennsylvania	835	1,038	1,031	519	120	-76.9	<0.1
Virginia	567	535	514	556	418	-24.8	0.1
North Carolina	0	0	1	1	1	0.0	<0.1
Maryland	No info.	No info.	No info.	No info.	No info.	No info.	0
RU Total	23,672	22,295	30,569	32,468	17,584	-45.8	3.3
Other RUs:							
Ozark-Central*	196,197	194,475	191,446	195,554	197,707	1.1	37.0
Midwest	265,729	320,342	281,977	308, 324	300,675	-2.5	56.3
Northeast	42,710	53,763	33,855	16,124	18,273	13.3	3.4
Rangewide Total	548,308	590,875	537,847	552,470	534,239	-3.3	100.0

*A previously unknown Indiana bat hibernaculum was discovered in Missouri in 2012 containing approximately 123,000 Indiana bats when surveyed in January 2013. The Service has included the same number of Indiana bats as was found in 2013 to each previous biennium through 1981 to avoid an artificial spike in population trends based upon first-hand accounts of very large numbers of bats observed at this site for several decades.

Status of the Indiana Bat in the Appalachian Mountain Recovery Unit

Indiana bat populations in the AMRU exhibited a strongly increasing trend between 1983 and 2011 (Thogmartin *et al.* 2012), peaking at 32,468 individuals in 2011 (Table 1). However, beginning in 2008, WNS was first detected in the AMRU at several sites in Pennsylvania, and by 2010 had spread to the largest hibernacula in West Virginia. Population estimates from 2013 show a 46 percent decline in the AMRU compared to 2011, attributable to the impacts of WNS. The AMRU currently supports about 3 percent of the total range wide Indiana bat population with a total of 17,584 bats.

Status of the Indiana Bat in West Virginia in Winter

WNS was first documented in West Virginia in 2009, at Trout Cave, Pendleton County. Since that time, WNS has been confirmed in all the major karst regions and hibernacula in the State including in Greenbrier, Hardy, Mercer, Monroe, Pendleton, Tucker, Fayette, Randolph, Grant, and Pocahontas counties (WVDNR 2013).

Prior to WNS, the population trend in West Virginia was increasing (Table 1). The largest number of Indiana bats ever recorded in a West Virginia hibernaculum was 18,557 individuals in Hellhole in 2010. This was after WNS first appeared in the State, but before it had widely spread (WVDNR 2010). By 2013, the population in Hellhole had declined 86 percent to 2,540 Indiana bats and this decline is attributed to the spread of WNS (WVDNR 2013). WNS has spread to almost every Indiana bat cave checked in West Virginia and the total population statewide has dropped from a historic high of 20,296 Indiana bats in 2011 to 3,845 in 2013 (Table 1). For the purposes of this BO, we assume that all hibernacula in West Virginia and all bats within the action area will be affected by WNS.

Status of the Indiana Bat in West Virginia in Summer

Prior to 2003, there were no documented areas of Indiana bat maternity activity in the State, although a juvenile male was captured during the maternity period in Nicholas County in 1999. This bat was not tracked, so no additional information on the potential maternity usage in the area is available. In the summer of 2003, two post-lactating female Indiana bats were captured and tracked to roost trees in Boone County, West Virginia. These captures represented the first confirmed Indiana bat maternity activity in West Virginia. Surveys at this site during 2005 located two primary roost trees and resulted in a maximum emergence count of 73 bats. Maternity activity at this site has consistently been confirmed since then through annual surveys. In the summer of 2004, a second maternity colony of approximately 25 bats was confirmed through the capture and tracking of a lactating female Indiana bat. This colony was located adjacent to the MNF in Tucker County and is located within 2 miles of a known Indiana bat hibernaculum. The roost tree that the bats were eventually tracked to fell down the following summer. Subsequent surveys in the area have not been successful in capturing any reproductively-active females, although a number of male Indiana bats have been caught. The status of this maternity colony is unknown. A third maternity colony was documented as a result of surveys conducted in 2005 near Kanawha State Forest in Boone County. Emergence counts at the two identified primary roost trees documented a maximum count of 49 bats.

Surveys were conducted during the summer of 2006 at the site of the suspected maternity colony in Pendleton County. Emergence counts at the previously identified roost tree documented over 30 bats emerging from the tree. However, subsequent mist netting in the area suggests that no maternity activity was occurring at the site. Rather, these surveys indicate that the tree and nearby areas were used by a bachelor colony of male Indiana bats (B. Douglas, C. Stihler, D. Arling, C. Sanders; personal observations, 2005). Additional mist net surveys conducted in the general area in 2008 did result in the capture of a post-lactating female Indiana bat. A

transmitter was placed on this bat. She was tracked for several hours, but despite extensive efforts, the bat could not be tracked to any roost trees. Nevertheless, the capture does provide evidence of a potential maternity roost in the area.

In the spring of 2010, female bats tracked emerging from a hibernaculum in Pennsylvania were found to have established a roosting area just over the State border in Ohio County, West Virginia. A maximum of 58 bats were found to emerge from a roost tree in this area. In the summer of 2010, a pregnant female was captured in Wetzel County. Radio telemetry was not conducted on this bat, and follow-up surveys were not able to locate any additional Indiana bats, so no additional information on this maternity area is available. In July and August 2012, five female Indiana bats were captured in Brooke and Ohio Counties along the course of a proposed pipeline. Subsequent tracking and emergence counts documented a number of separate roost areas, and up to 26 bats flying out of an individual roost tree. These captures may represent three different maternity colonies within the northern panhandle of West Virginia.

In addition to these captures near potential or confirmed maternity colonies, individual male Indiana bats have been captured in numerous locations throughout the State in the following counties: Clay, Fayette, Nicholas, Pendleton, Preston, Pocahontas, Randolph, Raleigh, and Tucker. Three male Indiana bats were captured on another site on the MNF in Pendleton County in 2004. These bats were tracked to a roost tree and subsequent emergence counts on that tree revealed 23 bats. Surveys conducted since 2004 have confirmed that this area supports a bachelor male colony roost. In July 2012, a number of male Indiana bats were captured along the Kanawha/Fayette County line in the same area that a juvenile male was captured in 2010. These adult male bats were subsequently tracked to a number of roost trees, as well as to the underside of an interstate highway bridge that was later documented to have up to 89 Indiana bats roosting underneath. All of the bats that were captured, tracked, or examined were found to be males, providing evidence of an extensive bachelor colony in the area.

These captures of both male and female bats confirm that the Indiana bat uses forested habitats throughout the State for summer foraging and roosting. The increase in captures after 2002 may not reflect an actual increase in densities of Indiana bats summering within the State, rather, these results may reflect the fact that survey efforts in relation to project review and monitoring have increased since that time.

STATUS OF THE NORTHERN LONG-EARED BAT

The current status of the NLEB, its life history, current rangewide population and trends, and continued threats are thoroughly described in the Federal Register notice that proposed the species for listing, which is hereby incorporated by reference (Service 2013). The Northern Long-eared Bat Interim Conference and Planning Guidance (Conference Guidance) was released by the Service on January 6, 2014 (Service 2014). This document represents the most current summary of information on the species and plan for its recovery. The 2014 Conference Guidance identified several threats including: 1) disease introduction; 2) restriction of hibernacula openings; 3) human disturbance while hibernating; 4) quarrying and mining operations; 5) loss of clean water resources; 6) forest conversion and firewood collection; 7) predation; 8) prescribed burning; 9) removal of occupied suitable roost structures; and 10)

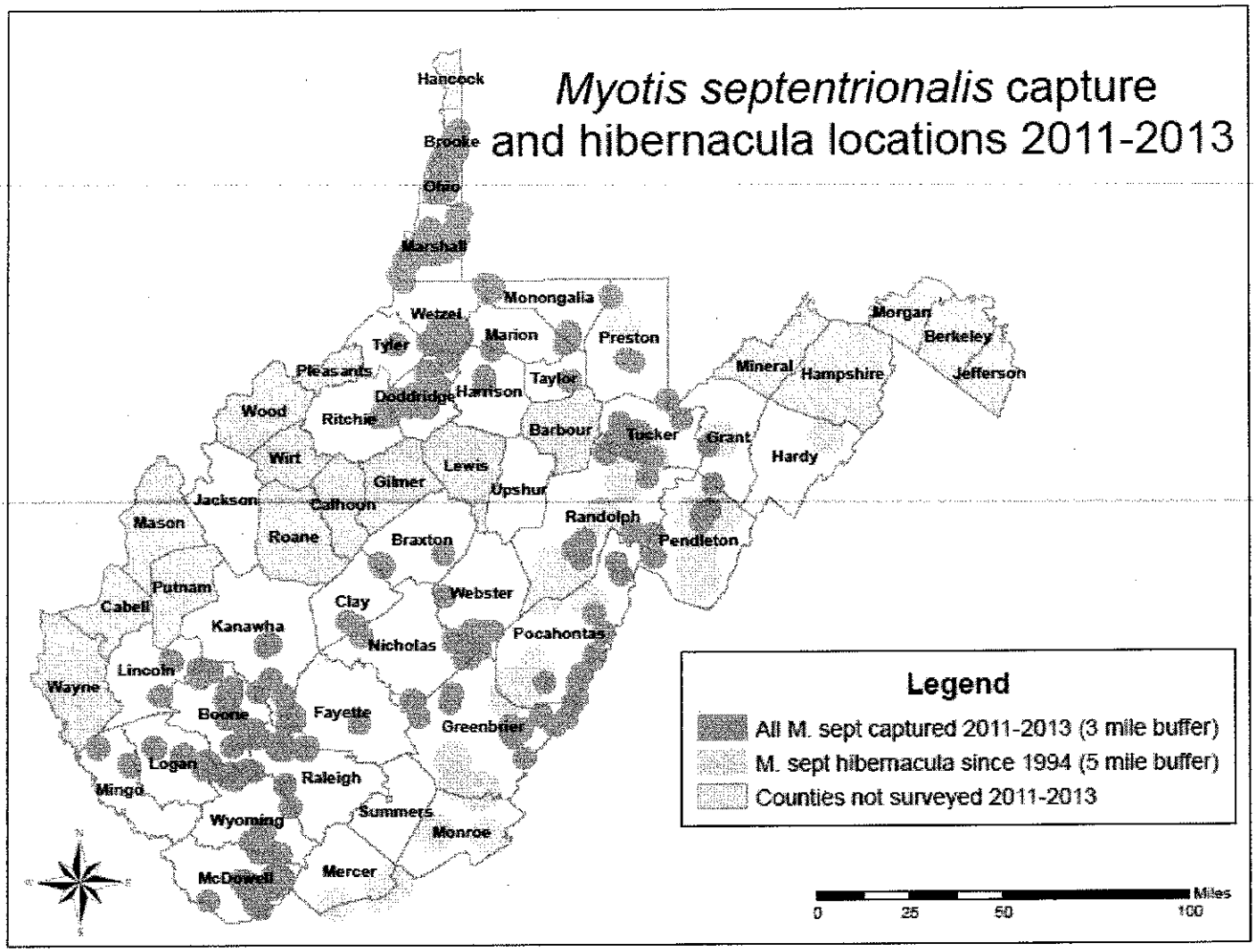
collisions with man-made objects (e.g., wind turbines, communication towers, airplanes, and vehicles) (Service 2014). However, WNS is currently the most significant threat to the recovery of this species and summary information described above for the Indiana bat is also pertinent to the NLEB (Thogmartin *et al.* 2013).

Status of the Northern Long-eared Bat in West Virginia

In West Virginia, NLEB are found regularly in hibernacula surveys, but typically occurs in small numbers (less than 20 individuals) in caves (Stihler 2012, unpublished data). The species has also been found in abandoned coal mines during fall surveys conducted from 2002 to 2011 in the New River Gorge National River and Gauley River National Recreation Area, both managed by the National Park Service (NPS).

Northern long-eared bats are considered common in summer surveys in West Virginia. In summer records from 2006 to 2011 NLEB captures comprised 46 to 49 percent of all bat captures (Stihler 2012, pers. comm.). Prior to WNS, the NLEB was the most frequently captured species during mist net surveys throughout the State. Since WNS, the NLEB is still frequently captured during mist net surveys but is now the third most commonly encountered species, after the big brown bat (*Eptesicus fuscus*) and red bat (*Lasiurus borealis*). The general trend for NLEB captures in summer mist net surveys appears to be a sharp decline post-WNS after which the population appears to stabilize between 2012 and 2013 (Stihler 2013, unpublished data). The recent known distribution of the NLEB in the summer and winter is shown in Figure 2.

Figure 2: Known Distribution of the Northern Long-eared Bat in West Virginia



ENVIRONMENTAL BASELINE

The environmental baseline includes past and ongoing natural factors and the past and present impacts of all Federal, State, or private actions and other activities in the action area (50 CFR 402.02), including Federal actions in the area that have already undergone section 7 consultation, and the impacts of State and private actions which are contemporaneous with the consultations in progress.

The baseline conditions in relation to the Indiana bat and bat habitat within the MNF are fully described in the programmatic BO (pages 39-40 and 43-47). These descriptions remain current with the following project-specific updates.

Baseline Surveys for the Indiana bat and Northern Long-eared Bat within the Action Area

A number of mist net surveys have been conducted in and around the action area since 2000. Locations of these mist net sites are shown in the BE and are incorporated here by reference. Per the Tier I BA/programmatic BO, mist net sites were selected based on quality of bat habitat in a given area rather than being limited to the specific area proposed to be affected by individual projects. As described in the programmatic BO, this survey approach has been found to be more effective at locating Indiana bats on the landscape than surveys designed specifically for project clearance. Prior to WNS, the NLEB had been the most common species documented during surveys of the MNF using these same protocols. Therefore mist net surveys conducted for the Indiana bat are also likely to be effective at documenting presence or probable absence of the NLEB as well.

Eight mist netting sites located in the analysis area were netted in 2000, 2006, 2007 and 2012. These surveys did not capture or otherwise identify any Indiana bats or any evidence of Indiana bat maternity activity within the action area. Two post-reproductive female NLEB were captured on July 2012. One pregnant NLEB was captured on July 12, 2007 and one lactating NLEB was captured on June 20, 2000.

Thirty-five sites located within the proclamation boundary of the Gauley Ranger District were mist netted from 1997 to 2013 and these sites did not result in the capture of any female Indiana bats or documentation of any maternity colonies. These surveys did capture of a total of three adult male Indiana bats near Cherry River in Nicholas County, on lands outside of the analysis area. One non-reproductive male Indiana bat was captured on June 12, 2007, one adult Indiana bat was captured on June 15, 2007, and one non-reproductive male was captured on June 15, 2007.

These results indicate that Indiana bat maternity colonies are not likely to be present within the action area, but that the area may occasionally be used for foraging and roosting by individual adult male Indiana bats. These results further indicate that at least one NLEB maternity colony is present within the action area. These captures occurred when the NLEB was still common, and no radio-telemetry or other tracking of these bats was conducted. Therefore, although there are no known NLEB roost trees within the action area, it is likely that occupied NLEB roosts are present.

There are no known Indiana bat or NLEB hibernacula in the LWWHE action area. The closest known hibernaculum for both species, Tubb Cave, located in Pocahontas County, West Virginia, is approximately 15 miles to the southeast of the action area. The most recent hibernacula survey for this cave was conducted in 2001. At that time, 20 Indiana bats and one NLEB were documented in the cave (WVDNR 2001). Fall swarming activity is believed to be concentrated within five miles of known hibernacula. Because all project activities are located farther than five miles away from Indiana bat hibernacula, no prime swarming habitat will be affected.

Given the absence of known Indiana bat hibernacula or maternity colonies in the action area, the lack of any Indiana bat captures near the action area, and the lack of prime swarming habitat in the action area, we conclude that the action area currently has a low likelihood of supporting

large Indiana bat maternity or bachelor colonies. However, our Tier I consultation assumes that individual Indiana bats may be present and are widely scattered on the MNF during the summer. This Tier II consultation assumes that individual Indiana bats may be present throughout the entire action area, including in areas where previous surveys had not documented Indiana bats. This conference opinion also assumes that NLEB maternity colonies and individuals may be present throughout the entire action area during the summer, including in areas where previous surveys had not documented NLEB, but that no NLEB hibernacula or swarming areas will be affected.

Factors Affecting the Environment of the Species (on the MNF and in the Action Area)

Effects from past management activities (including timber harvesting and historical fire regimes) have produced the current baseline habitat condition. Most of the action area, as well as most of the overall MNF, consists of closed canopy forested stands between approximately 60 and 104 years old. Historically, frequent surface fires ignited by Native Americans, European settlers, and lightning maintained open forests of oak, chestnut, and pine over much of the Appalachian Mountains. Reduced fire activity during the twentieth century has reduced the acreage in these types of open forest conditions and also hindered regeneration of various oak species. Reduced fire activity during the twentieth century has contributed to increases in tree and shrub density and to shifts in tree species composition. These changes have reduced habitat quality for plant and animal species that require open woodland habitat. Successful oak (*Quercus sp.*) regeneration is a widely recognized forest management problem of serious magnitude throughout the hardwood regions of the eastern and central United States. Both managed and unmanaged forest stands exhibit declining oak abundance as overstory oaks experience natural mortality or are harvested. Consequently, other tree species have become increasingly dominant in extant stands. For example, maple (*Acer sp.*) has exhibited dramatic gains in Eastern forests over the past three decades in terms of both stem numbers and growing stock volume.

EFFECTS OF THE ACTION

The MNF proposes to conduct forested habitat conversion to grassy and shrubby habitat, thinning harvests, and construction of vernal pools on a total of 142 acres No activities will occur within a five-mile radius of a known Indiana bat or NLEB hibernaculum. Consequently, no impacts to hibernacula, or primary range around hibernacula, will occur.

Although no Indiana bats have been captured in the vicinity of the project during previous survey efforts, the action area does provide potential suitable roosting and foraging habitat for the Indiana bat, and some activities would occur outside of the Indiana bat hibernation period. Without completing additional bat surveys throughout the duration of the project, or complete avoidance of project activities outside the hibernation period, it is not possible to rule out the possibility that Indiana bats could be present in the action area and could potentially be taken by the proposed action. Based on the documented presence of reproductively-active female NLEB, it is likely that NLEB will be present within the action area and could be taken by the proposed action.

Potential adverse effects to both species include direct mortality, injury, harm, or harassment of bats present within the action area when activities are being conducted, and indirect effects as a result of changes in habitat suitability for the Indiana bat.

Direct Effects of Project Activities

The proposed action would disturb approximately 44 acres of habitat through conversion of forested habitat to grassy and shrubby habitat, 93 acres through selective thinning harvest, and approximately five acres through the construction of vernal pools. All these activities require some degree of tree removal, which could affect Indiana bats, NLEB, and their foraging and roosting habitat. Some tree felling activities associated with the proposed project would occur outside of the hibernation period. Tree removal during the non-hibernation period (April 1 – November 14) may result in mortality or injury (take) of roosting bats, if a tree that contains roosting bats is intentionally removed or felled accidentally. If a bat is not killed during the removal of an occupied roost tree, it may be forced to find an alternative roost tree, potentially expending a significant amount of energy and resulting in harm or harassment of the individual. The potential adverse effects to Indiana bats are fully described on pages 51-53 of the programmatic BO and include increased stress, increased energy demands from searching for new roost areas, and decreased thermoregulatory efficiency, all of which could lead to reduced reproductive success. The NLEB would be subject to these same types of effects.

Based on the results of surveys conducted in the vicinity of the project, the scale of the proposed tree removal activities scattered throughout the 646-acre project area, and the incorporation of the terms and conditions of the programmatic BO (e.g. retention of snags and shag bark hickories that are most likely to be high quality roost trees, etc.), the Service concludes that while there is potential to unknowingly remove an established Indiana bat roost tree during tree removal on 142 acres of forest for the LWWHE project, this likelihood is relatively small, and that the proposed action would not severely impact the availability of high quality alternate roost trees. This determination is consistent with the rationale and conclusions of the programmatic BO, and is more fully described on page 53 of that document. As noted in the "Status of the Species within the Action Area" section of this BO, negative mist net survey results suggest there is a low probability that Indiana bat maternity colonies are present within the LWWHE project area. However, individual male Indiana bats have been found in an adjacent county within the Gauley Ranger District. The potential for direct impacts to Indiana bats is, therefore, likely restricted to males or bats roosting individually in trees. However, without completing additional bat surveys throughout the duration of the project, it is not possible to rule out the possibility that Indiana bats will be present in the area and potentially could be incidentally taken by the proposed actions. The potential effects of removing occupied roost trees and the measures that MNF has incorporated to minimize this potential are more fully described in the 2006 programmatic BO (pages 51- 53).

Because there is evidence of a NLEB maternity colony in the area, there is a higher probability that a NLEB roost tree will be affected. If a primary roost tree is removed during the non-volant period (mid-May to mid-July) then adults and young could be killed, harmed, or harassed. The Indiana bat and NLEB both use similar types of trees as roosts. However, Indiana bats may have more specific roost requirements in that Indiana bats use trees with higher solar exposure, and

more frequently use snags with sloughing bark versus cavity trees, whereas NLEB are less restricted in roost selection (Timpone *et al.* 2009). As a result, the incorporation of the terms and conditions of the programmatic BO (e.g. retention of snags and shag bark hickories that are most likely to be high quality Indiana bat roost trees, etc.), will reduce, but not fully avoid the likelihood that a NLEB primary roost tree will be removed. The MNF has included some additional project-specific measures that would reduce the potential for removing occupied NLEB trees, such as locating pools on ridge top saddles and in canopy gaps to avoid affecting large trees whenever possible, and by having Forest Service employees individually designate the trees to be removed during forest thinning with water-based paint. These effects to NLEB could be further minimized by 1) having a wildlife biologist from the MNF evaluate roosting habitat within the project area and not marking trees exhibiting characteristics of high quality NLEB roost trees for removal under forest thinning activities; and 2) not clearing trees between mid-May to mid-July when pregnant adults or non-volant young are likely to be present. The other potential direct effects of tree removal on NLEB are the same as those described for the Indiana bat on pages 51-53 of the programmatic BO.

Indirect Effects of Project Activities

Indirect effects from the proposed action may result from habitat modifications and would primarily involve loss of suitable roost trees and changes to foraging suitability. Impacts to habitat suitability and availability of roost trees will vary based on the type of the proposed activity.

Direct conversion of forested areas into grassy areas will affect potential foraging and roosting habitat by reducing canopy closure below optimal levels (Romme *et al.* 1995). In addition, potential roost trees would be removed and future roost tree availability could be reduced by the removal of most of the large trees. The effect of potential roost tree loss would last several decades until trees in the regenerated areas reached roost tree size.

Selective thinning may indirectly benefit Indiana bats and the NLEB by reducing canopy closure and improving roosting conditions. This type of vegetation removal would enlarge existing canopy openings within the forested areas of each harvesting unit, which could improve roosting habitat by exposing more potential roost trees to sunlight. Studies in West Virginia found that the NLEB responded favorably to prescribed fire by using new roost trees that were located in canopy gaps created as a result of the fire (Johnson *et al.* 2009). The NLEB may have a similar response to canopy gaps created by selective thinning. These effects are considered short-term because canopy closure occurs approximately five to ten years after thinning occurs. A more long-term effect of thinning is increased residual growth on the remaining trees, creating larger diameter and suitable roost trees. Thinning would reduce vegetative competition, promote larger, older trees, and allow remaining hardwood trees to grow larger. These effects are more fully described on pages 53-54 of the programmatic BO.

Tree species composition within the harvesting units are comprised mostly of various hardwoods, primarily mixed upland hardwood (e.g. sugar/red maples, sweet/yellow birch, American beech, bitternut/pignut hickory, ash, black cherry), northern red oak, white oak, yellow-poplar, and scattered red spruce. As noted in the programmatic BO, the exfoliating bark

of certain hardwood trees, such as hickories and large oaks, often provide roost sites. Consistent with the Forest Plan (TE 24), the retention or creation of at least six snags and other den trees per acre will further increase the potential that a substantial number of potential roost trees within the project area will be maintained. Damage to residual trees during felling can also improve roosting quality and quantity as cavities and crevices are more likely to develop overtime due to resulting pathogen and insect attack at the injury points on the trees.

Selective thinning could also potentially affect Indiana bats indirectly by altering foraging habitat. For example, tree cutting associated with the proposed actions may slightly increase the amount of edge along forest-shrub-grass ecotones by opening the overstory and providing linear corridors. Relatively high use of linear landscape features similar to what would result from the proposed action may create foraging habitat on a smaller scale due to increased insect abundance, more accessible prey, and reduced energetic demands associated with flight (Murray and Kurta 2004). However, conversion of forested habitat to grassy and shrubby habitat, and selective thinning is likely to increase the size of canopy openings. Data on foraging activity show the Indiana bat has a preference for foraging in relatively closed-canopy stands, and studies in Tucker County, West Virginia, found that when Indiana bats were detected foraging in uplands impacted by a variety of forestry practices, they were detected most frequently in areas with the highest canopy cover (Dickinson *et al.* 2009). Similarly, NLEBs have shown a preference for foraging in heavily forested mid-slope areas, suggesting these bats feed in and around closed canopies and are likely clutter-adapted (Lacki *et al.* 2009). These studies suggest that the reduction in canopy closure as a result of selective thinning or habitat conversion could have a negative effect on foraging suitability for both the Indiana bat and NLEB. However, that same data does not indicate that bats avoid foraging in or around areas where canopy closure has been reduced through prescribed burning, which produces habitat changes that are similar to those produced during selective thinning. For example, the size of female NLEB home ranges and core areas did not vary between bats radio tracked before and after fires, and the home ranges of these bats were located closer to burned habitats following fires than to unburned habitats (Lacki *et al.* 2009). The researchers for this study suggest that NLEBs responded to habitat alterations resulting from prescribed fires by shifting the location of their foraging areas to take advantage of changes in insect prey availability (Lacki *et al.* 2009). Selective thinning may have a similar effect on Indiana bat and NLEB foraging patterns.

The proposed vernal pool construction could enhance habitat characteristics by providing a source of water and aquatic emergent insects on which Indiana bats and NLEB prey, resulting in beneficial effects to potential bat foraging habitats. As a result, the proposed action may have a short-term adverse and long-term beneficial effect on prey abundance, and thus foraging habitat suitability in the action area.

In conclusion, potential indirect effects from the proposed LWWHE project will occur as a result of tree removal and vernal pool construction. These effects to Indiana bat roosting and habitat suitability as discussed above, are consistent with the findings and are more fully described in the 2006 programmatic BO (pages 51- 56). Similar effects are expected to the NLEB, as supplemented above.

Summary of Effects of the Action

Potential effects of the action include direct mortality, injury, harm, or harassment of bats present within the action area when activities are being conducted, and indirect effects as a result of changes in habitat suitability. Direct mortality, injury, harm, or harassment could occur during removal of roost trees during selective thinning or during habitat conversion. While there is potential to unknowingly remove an established Indiana bat roost tree, this likelihood is relatively small, and would be restricted to the removal of lower quality alternate roost trees. The potential for direct mortality of Indiana bats from tree removal associated with the proposed action is also low. Occupied NLEB roost trees, including maternity roosts, could be removed during the project. If this occurs there is the potential for direct mortality of both adults and young. There may also be some adverse effects in the form of harm and harassment of Indiana bats and NLEB being forced to flee from roosting and foraging areas. However, these adverse effects from harm and harassment are expected to be short-term and localized.

The proposed project could also alter roosting or foraging habitat suitability. Tree removal and selective thinning may result in both adverse and beneficial effects on roosting habitat through immediate loss of existing roosts and potential immediate creation of some new roosts, followed by short-term increases in the suitability of remaining and created roosts, and long-term changes in forest composition towards a greater abundance of trees likely to create suitable roosts in the future. The overall effect of the proposed action on roost suitability may be neutral to beneficial. There may be some short-term negative effects on foraging suitability due to the opening of the forest canopy and a reduction in prey availability. However, these effects are not likely to be significant enough to make bats avoid affected areas for foraging. Over the long-term, the project will have a beneficial effect on prey abundance, and thus foraging habitat suitability in the action area.

The potential effects of the proposed action are consistent with those described in the programmatic BO, as supplemented by the information provided above. The implementation of the terms and conditions of the programmatic BO, and project-specific and forest-wide avoidance and conservation measures as described in the BA, will minimize any incidental take and ensure that this area will continue to provide potential habitat to support Indiana bats and NLEB. For the Indiana bat, all proposed activities fall within the scale and the scope addressed in the programmatic BO and within the level of take identified in the Incidental Take Statement. Similar effects are expected to the NLEB, as supplemented above.

White-nose Syndrome

This BO assumes that WNS will affect all Indiana bats and NLEB present within the action area over the proposed life of the project. Bats affected but not killed by WNS during hibernation may be weakened by the effects of the disease and may have extremely reduced fat reserves and damaged wing membranes. These effects may reduce their capability to fly or to survive long-distance migrations to summer roosting or maternity areas. Affected bats may also be more likely to stay closer to the hibernation site for a longer time period following spring emergence. Since the action area is approximately 15 miles away from an Indiana bat or NLEB hibernacula,

there is a potential that bats affected by WNS may be more likely use the action area for at least temporary foraging and roosting rather than migrating longer distances to established summer home ranges.

While none of the MNF's proposed actions will alter the amount or extent of mortality or harm to Indiana bats or NLEB resulting directly from WNS, the proposed action does have the potential to increase or decrease the chances that WNS-affected bats present in the action area will survive and recover. For example, WNS-affected bats roosting in the area immediately after emerging from hibernation may have damaged wings and therefore could be less able to quickly fly away from logging activities. As a result, there may be an increased chance of WNS-affected bats being killed or harmed as a result of the project, particularly if logging is conducted early in the spring. Alternatively, the proposed project may alter bat habitat in a manner that could increase the vigor and recovery of any WNS-affected bats using the area. As described above, the proposed project is likely to improve roosting and foraging habitat over the long-term through snag creation, creating watering areas, and improvement in abundance and diversity of insects. Therefore, after project implementation, there may be more foraging and roosting opportunities located in relatively close proximity to a hibernaculum. WNS-affected bats could thus save energy by reducing the distances they travel after emerging from hibernation or when moving between roosting and foraging areas. They could also have increased foraging success. This could allow bats to more quickly regain fat-reserves, and therefore increase the chances of recovery from the effects of WNS. WNS-affected bats are also known to be affected by dehydration and to emerge from caves to seek water. The creation of vernal pools within the action area could increase the availability and proximity of water sources for these bats, thus helping to increase the ability of WNS-affected bats to reach suitable water sources and potentially increase their ability to survive and recover from the disease.

Research into how WNS affects bat physiology and behavior is ongoing, and current information is not sufficient to quantify or predict the full range and scope of potential effects, or to compare the relative likelihood and significance of the potential adverse and beneficial effects described above. The MNF's continued monitoring of both bat hibernacula and summer usage patterns within MNF and the action area and will provide further information on the scope and type of effects that WNS has on bats both within the action area and throughout the range of the species. If future monitoring conducted on the MNF identifies additional evidence of Indiana bats utilizing the project areas, or if additional adverse effects beyond what is described here are anticipated, the MNF will consult with the Service and the West Virginia Division of Natural Resource to determine whether further protective measures should be implemented in accordance with the MNF Forest Plan and the programmatic BO.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, Tribal, local, or private actions reasonably certain to occur within the action area. Future Federal actions, unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the ESA. All lands within the action area are owned by the MNF. All actions taking place on

Federal lands will require a section 7 consultation and therefore are not considered cumulative effects of the action. Therefore, no cumulative effects are expected to occur.

CONCLUSION

The actions and effects associated with the proposed activities for the LWWHE Project are consistent with those identified and discussed in the Service's 2006 programmatic BO. Additional effects of the action on the NLEB are described and compared to the potential effects to the Indiana bat above. After reviewing the size and scope of the project, the environmental baseline, the overall status of the Indiana bat and NLEB, new information on the species, the effects of the action, and the cumulative effects, it is the Service's biological opinion that the proposed action is not likely to jeopardize the continued existence of the Indiana bat or the NLEB and that an appreciable reduction in population numbers of the Indiana bat or NLEB will not occur from the proposed action because: 1) the overall scope and size of the action is small; 2) the project should not substantially reduce the availability or suitability of swarming, roosting or foraging habitat for the Indiana bat or the NLEB; 3) some portions of the action may have a beneficial effect on Indiana bat and NLEB roosting and foraging such as the creation of vernal pools and openings in the canopy; and 4) avoidance and minimization measures incorporated into the project have reduced the potential for damaging roost trees and associated direct and indirect take of bats.

INCIDENTAL TAKE STATEMENT

The Service anticipates that the proposed actions associated with the LWWHE project will result in the incidental take of Indiana bat and NLEB as outlined in Table 2. The type and amount of anticipated incidental take for the Indiana bat is consistent with that described in the programmatic BO and does not cause the total annual level of incidental take (via harm to forested acres) for the Indiana bat in the programmatic BO to be exceeded.

The Lockridge Prescribed Burn project has also been authorized for fiscal year 2014. This project included an anticipated take level of 2,439 acres, of an authorized 3,000 acres, through prescribed burn, and 0.19 acres, of an authorized 1,300 acres, of timber harvest for fire lines. The cumulative take for both the LWWHE project and the Lockridge burn project includes 2,439 acres through prescribed burning, 49 acres through forest habitat conversion (including coversion to grassy, shrubby, and vernal pool habitat), and 93.19 acres through thinning timber harvest.

Table 2: Authorized incidental take (as measured indirectly by acreage) on the Monongahela National Forest during fiscal year 2014.

Activity	Lower Williams Wildlife Habitat Enhancement Project	Annual Incidental Take Authorized per Tier I BO
Forest Habitat Conversion	49 acres	400 acres
Thinning Timber Harvest	93 acres	1,300 acres
Road Construction and Maintenance	none	74 acres
Mineral Development	none	78 acres

As shown in Table 3, the actual incidental take reported by the Forest Service has consistently been significantly below the annual levels estimated (exempted) in the programmatic BO, therefore, we do not anticipate that implementation of this project will result in the take levels in the programmatic BO to be exceeded.

Table 3: Previously authorized annual incidental take (as measured indirectly by acreage) on the Monongahela National Forest.

Activity	Annual Authorization (acres)	2007	2008	2009	2010	2011	2012	2013	TOTAL	Maximum Cumulative Authorized Acres (annual amt. times # years)	% Authorized Acres	% MNF land base
Timber harvest	6,000	905	424	516	318	446	1,072	703	4,384	42,000	10%	0.48%
Prescribed fire	3,000	124	342	156	1,016	2,213	1,961	863	6,675	21,000	32%	0.72%
Mineral exploration & development	78	0	0	4.9	0	0	0	0	4.9	546	1%	0.00%
Road construction	74	13	2	0	15.5	7.8	9.5	10.6	58.4	518	11%	0.01%
TOTAL		1,042	768	677	1,349	2,667	3,042.5	1,576.6	11,122.1	64,064	17%	1.21%

Please note that as per the terms and conditions of the programmatic BO, Tier II BOs, including this one, will track the amount of incidental take authorized. However, incidental take does not actually occur until the time that the project is implemented. Most projects authorized under Tier II BOs will not be implemented for a number of years; therefore, the Forest Service annually reports the total amount of incidental take that occurs each year and for each project. This number is compared to the maximum annual incidental take as authorized in the programmatic BO and as shown above. If it is determined during future project planning or the course of project implementation that either the authorized amount of project-specific incidental take as detailed above, or the maximum amount of annual incidental take as detailed in the programmatic BO, may be exceeded, additional consultation with the Service will be required.

The prohibitions against taking found in Section 9 of the ESA do not apply to the NLEB until the species is listed. If the NLEB is listed in the future, this conference opinion may be adopted as a biological opinion and the ITP will be incorporated.

Reasonable and Prudent Measures
with Terms and Conditions

In order to be exempt from the prohibition of Section 9 of the ESA, the MNF and any contractors or agents acting under the MNF must comply with all the terms and conditions in the 2006 programmatic BO as well as any additional project-specific terms and conditions described below. These terms and conditions are non-discretionary.

The Service has determined that implementing the reasonable and prudent measures specified in the programmatic BO, in conjunction with the project specific avoidance and conservation measures as described in the Lower Williams Wildlife Habitat Enhancement Project Biological Evaluation, will appropriately minimize the impact of incidental take anticipated for the proposed activities in this action area. Therefore, the following site-specific RPM will apply:

1. The MNF will implement site-specific avoidance and conservation measures as proposed in the February 2014 Lower Williams Wildlife Habitat Enhancement Project Biological Evaluation.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the ESA directs Federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

The MNF has been voluntarily participating in conducting acoustic survey routes to monitor bat activity over time, and also has participated in various activities to help plan WNS research, recovery, and response efforts. The MNF has initiated efforts to track the NLEB and gather more data on habitat usage for roosting, foraging, swarming, and hibernation, and additional work is planned. In addition, staff from the MNF are taking the lead in developing regional and national forest management guidelines for the conservation of the NLEB and forest-dwelling bats in general. These efforts contribute to the conservation and recovery of the Indiana and NLEB consistent with Section 7(a)(1) of the ESA. The Service strongly supports these efforts and encourages the MNF to continue these and similar conservation efforts in the future.

In addition to the conservation recommendations described above that apply forest-wide, the Service is providing the following project-specific conservation recommendations:

1) Prior to implementing the project, a wildlife biologist from the MNF should evaluate potential NLEB roosting habitat in the project area and trees exhibiting characteristics of high quality NLEB roost trees should not be marked for removal under forest thinning activities.

2) Suitable roost trees should not be cleared trees between mid-May to mid-July when pregnant adults or non-volant young NLEB are likely to be present.

In order to be kept informed of actions minimizing or avoiding adverse effects, or benefitting listed species or their habitats, the MNF should notify the Service if any of these conservation recommendations are implemented.

REINITIATION NOTICE

Incidental take that occurs as a result of this project cannot exceed project-specific level of incidental take established above. Incidental take that occurs as a result of this and other projects on the MNF cannot exceed the annual or cumulative incidental take levels established in the programmatic BO. If implementation of any project or projects is anticipated to exceed these take levels, further consultation will be necessary. To ensure that incidental take is not exceeded, annual reports should be provided to this office tabulating the amount of incidental take on projects being implemented and authorized throughout the MNF, as indirectly measured by acres affected. Incidental take that is implemented each year will be compared against the level authorized in the programmatic BO to determine whether annual levels have been exceeded. To determine whether take is exceeded at the project level, the level of take implemented will be compared against the level authorized under each Tier II BO.

This fulfills your consultation requirements for this action. Should new information reveal effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; or the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or a new species is listed or critical habitat is designated that may be affected by the action; or the amount or extent of incidental take is exceeded, reinitiation of formal consultation as outlined in 50 CFR 402.16 is required.

If the NLEB is listed, please contact our office to request that this conference opinion be adopted as a formal biological opinion for the species. In addition, if the NLEB is listed we recommend that the MNF and the Service review the existing Forest Plan and Programmatic BO to opinion to determine whether these documents should be revised or reinitiated to address the new listing at a programmatic and Forest-wide level. This may include proposed modifications or additions to the Forest Plan standards and guidelines that would conserve the NLEB in furtherance of the purposes of the ESA.

If you have any questions regarding this letter, please contact Ms. Barbara Douglas of my staff at (304) 636-6586, Ext. 19, or at the letterhead address.

Sincerely,

John Schmidt,
Field Supervisor

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