



United States Department of the Interior

FISH AND WILDLIFE SERVICE

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

September 25, 2006



FILE COPY

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

Re: Little Beech Mountain Project, Greenbrier Ranger District

Dear Mr. Thompson:

This letter is in response to your request, dated February 22, 2006, for a site-specific review of the proposed Little Beech Mountain Project in the Greenbrier Ranger District of the Monongahela National Forest (MNF) in Randolph 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.

On March 26, 2002, the U.S. Fish and Wildlife Service (Service) issued a programmatic Biological Opinion (programmatic BO) for the continued implementation of the 1986 (as amended) Monongahela National Forest Land and Resource Management Plan (Forest Plan). In July, 2006 that BO was updated and revised to address the proposed 2006 Forest Plan Revision, as well as the most current understanding of Indiana bat biology and life history. While this proposed project is being authorized under the 1986 Forest Plan as amended, that action will likely be implemented after the Forest Plan Revision is in effect. In order to incorporate the most current information as well as address the timing of the proposed action, this document references the July 2006 BO, rather than the previous March 2002 BO.

The programmatic BO established a two-tiered consultation process for Forest Plan activities, whereby the Service reviews, as they are developed, site-specific projects that may affect federally listed species. The Service determines 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 programmatic BO. We consider this site-specific project analysis for the Little Beech Mountain project area to be "Tier 2" of the

consultation process, with the programmatic consultation (and resulting BO) constituting the “Tier 1” consultation. Our project-specific (Tier 2) consultation focuses on: 1) compliance with the reasonable and prudent measures and associated terms and conditions in the programmatic BO; 2) consistency with the scope and effects previously analyzed and disclosed in the programmatic BO and associated Biological Evaluation; 3) project-specific incidental take vs. take estimated in the programmatic BO; and 4) project-specific reasonable and prudent measures and associated terms and conditions (i.e., for non-jeopardy determinations). In the event of a “may affect” but “not likely to adversely affect” determination for a specific project that is consistent with the programmatic BO, no further evaluation by the Service is necessary and section 7(a)(2) consultation will be considered complete for that project (e.g., via a concurrence letter documenting the conclusion of informal consultation).

Description of the Proposed Action

The proposed project would be implemented on the approximately 15,428 acre Little Beech Mountain Project Area which is located about one mile east of Glady, in Randolph County, West Virginia. The project area is bounded by McCray Ridge to the north; Little Beech Mountain Ridge and the Glady-Durbin road (SR 22/2 and FR 44) to the west; the County Line Trail to the south; and Middle Mountain Road (FR 14 and SR10) to the east. The project area contains 13,393 acres of national forest system land and 2,035 acres of private land. The area is predominantly mixed upland hardwoods in the 75 to 104 year old age class. The area has been adversely affected by beech bark scale disease.

The proposed action involves a variety of forest management activities on approximately 1,428 acres; new road construction and reconstruction of 4.7 miles; decommissioning of 0.7 mile, and road maintenance of up to 56.5 miles. More specifically, planned forest management activities include:

- Creation and maintenance of 50 acres of wildlife openings by creating 10 new openings of between three to eight acres each;
- Implementation of two-stage, shelterwood harvests of approximately 738 acres of 70-104 year-old stands;
- Commercial thinning of approximately 634 acres;
- Application of herbicides to selected vegetative species in all shelterwood units before and after first harvest cut to allow for successful regeneration of shade-intolerant species and selective application of herbicide in thinning units;
- Fencing of shelterwood units after harvest, if monitoring indicates a need, to prevent deer browse and ensure successful regeneration of mast-producing tree species;
- Creation of approximately 40 log landings averaging 0.25 acres each. Six of these landings would be created within the boundaries of the proposed wildlife

openings, thus their acreage is accounted for in the wildlife opening numbers. Approximately 10 landings would be developed from existing openings that have been used as landings in the past and about 24 (for a total of 6 acres) would be new landings;

- Construction of approximately 3.2 miles of road; reconstruction of 1.5 miles, and decommissioning 0.7 mile. In addition, between 47.4 and 56.6 miles of road would be maintained depending on the location of the mill that purchases the timber.

The project would incorporate a number of conservation measures, in accordance with the terms and conditions of the programmatic BO, or as described in the Environmental Assessment and the Biological Evaluation. These measures include the retention of snags and shagbark hickories, and the implementation of riparian management guidelines. The expected project duration is between 10 and 15 years.

The action area is defined as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action. Individual harvest areas are scattered throughout the project area. Harvest activities may directly and indirectly affect potential Indiana bat habitat within the direct footprint of the harvest and adjacent habitats. Therefore, for the purposes of this BO, the action area is the entire 15,428 acre Little Beech Mountain Project Area.

Species Not Likely To Be Adversely Affected

We have reviewed the information contained in the February 2006 Little Beech Mountain Project Area Biological Evaluation and the associated draft Environmental Assessment, which describe the potential effects of the proposed projects on federally listed species. After consulting with Forest Service staff, we concur with your determinations of no effect, or may affect/not likely to adversely affect, the bald eagle (*Haliaeetus leucocephalus*), Virginia big-eared bat (*Corynorhinus townsendii virginianus*), Cheat Mountain salamander (*Plethodon nettingi*), West Virginia northern flying squirrel (*Glaucomys sabrinus fuscus*), shale barren rock cress (*Arabis serotina*), running buffalo clover (*Trifolium stoloniferum*), small-whorled pogonia (*Isotria medeoloides*), and Virginia spiraea (*Spiraea virginiana*). Our rationale is documented in Appendix A.

Species Likely To Be Adversely Affected

As described in the Service's programmatic BO, adverse effects are likely to occur to the Indiana bat (*Myotis sodalis*) from harvesting or tree removal under the Forest Service's management program activities. Therefore, given the nature of activities associated with the proposed project, we concur with your determination that incidental take of Indiana bats is possible within the analysis area. However, based on the implementation of reasonable and prudent measures and associated terms and conditions from the programmatic BO, and the proposed site-specific avoidance and conservation measures that will minimize the impact of any incidental take, we have concluded that activities associated with the project will not result in adverse effects to the Indiana bat beyond

those that were previously disclosed and discussed in the Service's programmatic BO. This Tier 2 BO identifies the incidental take anticipated due to implementation of proposed activities in the Little Beech Mountain Project Area, and the cumulative total of incidental take which has been authorized during this calendar year (Table 1).

Status of the Indiana Bat

The current status of the Indiana bat, its life history, and continued threats are thoroughly described in pages 27 – 43 of the July 2006 programmatic BO. No significant new information on the species has become available since the time of that BO and the drafting of the Tier II BO for this current action. The Indiana bat is a migratory species ranging throughout much of the eastern half of the United States. In 1967 the Indiana bat was listed as endangered by the Service pursuant to the Endangered Species Act (32 Federal Register 4001). Listing was warranted based primarily on large-scale habitat loss and degradation, especially at winter hibernation sites, and significant population declines that continue today. From the time that the species was listed, the range-wide population of the Indiana bat has declined approximately 48 to 54 percent, from roughly 883,300 Indiana bats during 1960/1970 to 406,824 - 457,374 bats during 2004/2005 (Clawson 2002; Andrew King, personal communication, 2006). However, this decline is not evenly distributed across its range. Biennial winter counts suggest that populations have been increasing in West Virginia since the early 1980's (WVDNR, 2004). The estimated hibernating population in West Virginia has almost doubled from 6,500 in 1990 to 12,677 Indiana bats in 2004 (WVDNR, 2004). Increases in numbers of bats at Hellhole have accounted for most of this growth.

Due to the colonial nature of Indiana bats, conducting censuses of hibernating bats is the most reliable method of tracking population/distribution trends range-wide, and provides a good representation of the overall population status and distribution. However, the relationship between wintering populations and summering populations is not clearly understood. It is known that individuals of a particular maternity colony come from one to many different hibernacula, therefore the summer location of most, if any, individuals of any particular hibernacula is often not known. Indiana bats have been documented to travel up to 300 miles from their hibernaculum to their maternity areas (Gardner and Cook 2002). Therefore, bats wintering or summering in West Virginia may come from a number of surrounding states, and the status of Indiana bats within each state's hibernacula may not reflect the status of that state's maternity population.

Reasons for Decline and Continued Threats

Because disturbance to hibernacula is a major threat to the Indiana bat, protection of hibernacula is a management priority. While many hibernacula have been protected, disturbance to hibernacula continues. Land use practices have also been identified as a suspected cause in the decline of the Indiana bat, particularly because habitat in the bats' maternity range has changed dramatically from pre-settlement conditions. Indiana bats exhibit site fidelity to their traditional summer maternity and foraging areas, and are known to return to the same general area to establish maternity colonies from year-to-year (Humphrey et al. 1977; Gardner et al. 1991a, b; Callahan et al. 1997; Indianapolis

Airport Authority 2003, 2004; Kurta and Murray 2002; Butchkoski and Hassinger 2002; Gardner et al. 1991a, Gardner et al. 1996). Roosting/foraging area fidelity may serve to increase the probability of successful reproduction, and to maintain social interactions between members of the population. Due to the ephemeral nature of roosting sites, bats are probably not dependant on the continued suitability of an individual tree. However, landscape level alterations in traditional maternity habitats may adversely affect Indiana bat survival and reproductive success.

Environmental Baseline

The baseline conditions in relation to the Indiana bat and its habitat within the MNF are fully described in the July 2006 BO on pages 39-40 and 43-47. These descriptions remain current with the following exceptions. Surveys were conducted during the summer of 2006 at the site of the suspected maternity colony in Pendleton County (as described on page 39 of the July 2006 BO). 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 is occurring at the site. Rather these surveys indicate that the tree and area is used by a bachelor colony of male Indiana bats (B. Douglas, C. Stihler, D. Arling, C. Sanders; personal observations).

Additional surveys at the previously documented maternity colony on the MNF in Tucker County were also conducted in the summer of 2006. While the roost trees that were used in the previous years have become unsuitable, habitat reviews indicate that area continues to provide a large number of potentially suitable maternity roost trees. Although numerous male Indiana bats were captured, mist net surveys did not result in the capture of any female Indiana bats. These results indicate that Indiana bats continue to use the areas for roosting and foraging throughout the summer and that a maternity colony potentially may still exist in the area.

Status of the Species within the Action Area

A total of 10 mist net sites were established to survey bats within the Little Beech Mountain project area. Surveys were conducted using methods outlined in the Service's Indiana bat mist net guidelines. Site selection targeted flight corridors and water sources, and was coordinated with the Service and the WVDNR. As a result of these surveys, a total of 122 bats consisting of five species were captured during efforts in 2000, 2004, and 2005. These surveys did not capture or otherwise identify any Indiana bats or any evidence of Indiana bat maternity activity within the project area. Lacking captures of Indiana bats from the project site, using established methods and focusing on preferred habitats, we conclude that no Indiana bat maternity activity is currently occurring within the Little Beech Mountain project area.

There are no known Indiana bat hibernacula in the Little Beech Mountain project area. The two closest hibernacula are Izaak Walton Cave and Bowden Cave located 5.2 and 5.0 miles respectively from the project area. During the most recent hibernacula surveys conducted within the last two years, there were no Indiana bats documented in Bowden Cave, and approximately 90 Indiana bats were documented in Izaak Walton Cave

(WVDNR 2004). Fall swarming activity is believed to be concentrated within five miles of known hibernacula. No project activities are proposed to occur within five miles of any known hibernacula, therefore the Service does not anticipate that any swarming habitat will be affected.

Given the absence of known hibernacula or maternity colonies in the project area, and no captures of Indiana bats despite adequate surveys, and the fact that there is no fall swarming habitat within 5 miles of the project area, we conclude that the area has a low likelihood of supporting Indiana bats.

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

Effects from past management (turn of the century clear-cutting, clear-cuts, thinning, wildlife opening, and roads) have produced the current condition, which provides considerable potential roosting habitat for the Indiana bat. At present, 4% (657 acres) of the project area is non-forested and the remaining 96% (14,727 acres) is forested. Much of this forested area is mixed hardwoods. Within the existing non-forested lands, other projects have produced upland water sources, such as wildlife ponds that benefit bats, and openings that are producing small amounts of edge exposed to solar radiation, which could benefit maternity roosts. On private land, partial harvesting is more common than regeneration harvests. It is expected that timber harvesting will continue on private lands in the foreseeable future at about the same rate as has been occurring in the past decade. Some private land within the watershed is used for pasture and other agricultural uses.

Effects of the Action

The proposed action would disturb a total of approximately 1,428 acres and 5.4 miles of road that could provide potentially suitable Indiana bat habitat. No harvest will occur within a five-mile radius of a known Indiana bat hibernaculum or within two miles of maternity colony. Consequently, no impacts to hibernacula, maternity sites, or primary range will occur.

Based on survey results through 2005, it appears that the project area does not currently support the Indiana bats and has a low likelihood of being used during future harvest activities within the next 5 to 7 years. However, the project area provides potential suitable roosting and foraging habitat for the Indiana bat, and some harvest activities would occur outside of the Indiana bat hibernation period. Without completing additional bat surveys throughout the duration of the project (up to 15 years), or complete avoidance of the hibernation period, it is not possible to rule out the possibility that Indiana bats would not occur in the area and potentially be taken by the proposed action.

Some tree felling activities associated with the proposed project would occur outside of the hibernating period. Tree removal during the non-hibernation period (April 1 – November 14) may result in mortality (take) of an individual roosting Indiana bat, if a tree that contains a roosting bat is removed intentionally or felled accidentally. If a bat using a roost tree that is removed is not killed during the removal, it may be forced to find an alternative roost tree, potentially expending a significant amount of energy that

would result in harm or harassment of the individual. The potential adverse effects are fully described on pages 51-53 of the July 2006 BO and could include increased stress; and increased energy demands from searching for new roost areas, including decreased thermoregulatory efficiency, all of which could lead to reduced reproductive success. Based on the results of the project specific surveys and the incorporation of the terms and conditions of the programmatic BO (retention of snags and shag bark hickories, etc.) the Service concludes that while there is potential to unknowingly remove an established Indiana bat roost tree during implementation of timber harvest activities, for the Little Beech Mountain project, this likelihood will be small, and would be restricted to the removal of single (rather than multiple) lower 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.

Effects of Project Activities on Habitat Suitability

Approximately 634 acres of the project area will be subject to commercial thinning. As noted on page 53-54 of the July 2006 BO, the conditions created by thinning are not expected to decrease the long-term suitability of harvest areas as Indiana bat roosting habitat. Thinning will create openings in the forest canopy. Indiana bat primary roosts are usually not surrounded by closed canopy and are often warmed by solar radiation, which provides a favorable microclimate for growth and development of young during normal weather. Thinning could reduce the existing canopy closure levels to more optimal levels for Indiana bat foraging and increase the solar exposure of the remaining trees within the harvest area, thus potentially making them more suitable for Indiana bat roosting habitat. A more long-term effect of thinning is increased residual growth on the remaining trees, creating larger diameter and more suitable roost trees. Thinning would reduce vegetative competition and promote larger, older trees and allow remaining hardwood trees to grow larger. In this instance, the opening up of canopy cover could improve foraging as well as roosting conditions.

Approximately 738 acres of shelterwood harvests are proposed as part of the Little Beech Mountain project. As described on page 54 of the July 2006 BO, shelterwood harvests have the potential to affect potential foraging, roosting and migratory habitat by reducing canopy closure below optimal levels (3D/E 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 reach roost tree size. Shelterwood harvests would remove more potential roost and maternity trees than thinning, and would result in the potential reduced suitability of these areas to support Indiana bats.

The proposed project would create approximately 10 acres of wildlife openings and six areas of new log landings. Since the wildlife openings will have sparse tree cover and a largely open canopy, habitat suitability for the Indiana bat is expected to be reduced due to removal of the tree canopy, but some foraging and roosting could occur around the edges of openings and within areas that have residual trees. Because the creation of log landings involves removing the majority of trees resulting in a fully open canopy, areas

affected by this harvest type would become unsuitable to support Indiana bats. These effects are consistent with those analyzed and described on pages 54-55 of the July 2006 BO.

A total of 5.4 miles of road construction, reconstruction, or decommissioning activities would occur in conjunction with the proposed project. Indiana bats have been known to forage and travel along narrow forest roads with good canopy cover. Therefore, it is possible that road related activities could affect Indiana bats, and that tree removal associated with these activities could result in the removal of potential roost trees. These activities reduce canopy cover to the extent that these areas would become unsuitable, and/or result in temporary, short-term disturbances that may not affect long-term habitat suitability. These impacts are more fully described on page 55 of the July 2006 BO. An additional 56.5 miles of road maintenance (placing gravel, fixing drainage, grading the road) are proposed, however because these activities will occur within already cleared habitats, no additional impacts to Indiana bats are expected.

Approximately 9% of the 15,428-acre action area would be affected as a result of all the activities associated with the proposed project. When considered in conjunction with the baseline condition, after project implementation at least 87% of the project area would remain in a primarily forested condition. It is therefore anticipated that a substantial amount of potentially suitable foraging and roosting habitat will remain in the project area to support the Indiana bat.

Potential adverse effects of the proposed action are consistent with the effects described in the programmatic BO. The implementation of the terms and conditions of the programmatic BO, and project-specific and forest wide avoidance and conservation measures as described above, will minimize any incidental take and ensure that this area will continue to provide potential habitat to support Indiana bats. 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. If future monitoring conducted on the MNF identifies additional evidence of Indiana bats utilizing the project areas, the MNF would consult with the Service and the West Virginia Division of Natural Resource to develop further protective measures in accordance with the MNF Forest Plan and the programmatic BO. The proposed project will not affect habitats known to be used for swarming, hibernating, or Indiana bat maternity activity. It is therefore anticipated that overall the Little Beech Mountain Project will not result in the long-term or significant reduction of populations of the Indiana bat on the MNF.

Cumulative Effects

The project area contains 13,393 acres of national forest system land and 2,035 acres of private land. At present, 96% of the project area is forested. Timber harvesting and associated actions such as road construction, have taken place in the Little Beech Mountain both before and after National Forest ownership. Approximately 13% (2,035 acres) of the project area is currently private land. In the past, much of the watershed in private ownership has been converted from forest to pasture lands and areas occur where

riparian vegetation is reduced, unstable banks exist and sediment levels are elevated. On state and private lands, the foreseeable future activities are assumed to be similar to activities currently taking place in the watershed. No significant development is anticipated and agricultural and logging practices are assumed to continue on a similar pace. If agricultural practices continue as is, then there will be little change in the land use riparian conditions within the foreseeable future.

After implementation of the proposed action, it is anticipated that approximately 87% of the action area, including the majority of the area affected by MNF activities, will remain in a primarily forested condition. The Service has determined that a significant cumulative reduction in population numbers of the Indiana bat will not occur in the project area for the following reasons: 1) the actions that are reasonably certain to occur and their cumulative effects are consistent with those identified and discussed in the programmatic BO; and 2) suitable Indiana bat habitat will continue to occur on a large percentage of the project area and action area.

Conclusion

The actions and effects associated with the proposed activities in the Little Beech Mountain Project Area are consistent with those identified and discussed in the Service's programmatic BO. After reviewing the size and scope of the project, the environmental baseline, the overall status of the Indiana bat, 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 because: 1) surveys indicate there is only a low likelihood of Indiana bats using the area; 2) a large portion of the action area will remain as suitable Indiana bat habitat; and 3) the likelihood of take of individual bats is low due to the conservation measures proposed by the Forest Service.

Incidental Take Statement

The Service anticipates that the proposed actions associated with the Little Beech Mountain Project Area will result in the incidental take of Indiana bat as outlined in Table 1. The type and amount of anticipated incidental take 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) in the programmatic BO to be exceeded. The actual incidental take reported by the Forest Service has consistently been 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 1: Authorized incidental take (as measured indirectly by acreage) due to the removal or disturbance of potential Indiana bat habitat on the Monongahela National Forest during calendar year 2006.

Activity	Little Beech Project Area	Other Projects Authorized during 2006	Total (2006)
Timber Harvest (total)	1428	694	2122
Road Construction/Maintenance	38	21	59

Please note that as per the terms and conditions of the July 2006 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 must annually report the total amount of incidental take that occurs each year and for each project. This number will be compared to the maximum annual incidental take as authorized in the July 2006 programmatic BO. 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.

Reasonable and Prudent Measures

The Forest Service must implement all pertinent reasonable and prudent measures and terms and conditions stipulated in the programmatic BO to minimize the impact of the anticipated incidental take of Indiana bats, and to be exempt from the take prohibitions of section 9 of the ESA. The Service has determined that the 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 February 2006 Little Beech Mountain Project Area Biological Evaluation will appropriately minimize the impact of incidental take anticipated for the proposed activities in this project area. Therefore, the following site-specific RPM will apply:

- The MNF will implement site-specific avoidance and conservation measures as proposed in the February 2006 Little Beech Mountain Project Area Biological Evaluation.

Reinitiation Notice

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

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exceeded, quarterly 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 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 take as identified in Table 1 is exceeded, reinitiation of formal consultation as outlined in 50 CFR 402.16 is required.

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,

For 
Thomas R. Chapman
Field Supervisor

Literature Cited

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Appendix A
Species Not Likely To Be Adversely Affected

The Service has reviewed the information contained in the Forest Service's February 2006, Little Beech Mountain Project Biological Evaluation (including Appendix A, the "Likelihood of Occurrence" table), and the associated draft Environmental Assessment, which describe the potential effects of the proposed projects on federally listed species. As detailed below, we have determined that the proposed project will have no effect or is not likely to adversely affect the following species.

Bald Eagle (*Haliaeetus leucocephalus*): Although the Greenbrier Ranger District could provide potential roosting, foraging, migration, and breeding habitat for the bald eagle, there are no known bald eagle nests in the district. Due to the lack of documented bald eagle use in the project area, the Service concurs that the proposed action will not affect the bald eagle.

Virginia Big-eared Bat (*Corynorhinus townsendii virginianus*): The Virginia big-eared bat (VBEB) uses caves for both maternity activity and hibernation. This species may travel up to six miles from their caves to forage (Stihler 1995). Mist net surveys conducted during the summer, as described in the Indiana bat "*Status of the Species within the Action Area*" above, did not result in the capture of any VBEB. Given the negative survey results and the fact that the project area is greater than 6 miles from a known maternity cave, no impacts to VBEB maternity/summer foraging habitat are expected. However, there are four caves that have been documented to contain hibernating VBEB that are within six miles of the project area: Aqua-terra (3.0 miles); Sinks of Gandy (3.8 miles); Izaak Walton (5.2 miles); and Spring Cave (4.7 miles). Survey results from these caves in some years have indicated that no VBEB were using them as hibernacula (C. Stihler, WVDNR, personal communication). No more than two VBEB have been documented using one of these caves at a time. Given the small number of VBEB potentially within the project area, and the fact that VBEB rarely use trees as roosts, makes it unlikely that the proposed project will adversely affect this species. The Service therefore concurs that the project is 'not likely to adversely affect' VBEB.

Cheat Mountain Salamander (*Plethodon nettingii*): The Service concurs that the proposed action would have no effect on the Cheat Mountain salamander because harvest activities are not planned in potential habitat. The Service conferred with Dr. Thomas Pauley, the noted expert for this species. He indicated that he had conducted a number of surveys within the vicinity of the project area, and was repeatedly unsuccessful in documenting the presence of the species.

West Virginia Northern Flying Squirrel (*Glaucomys sabrinus fuscus*): The Service concurs that there are no adverse effects anticipated to the West Virginia northern flying squirrel. As part of this project-specific evaluation, Forest Service staff compared project area maps to available stand data, aerial photography, maps and models of potential suitable West Virginia northern flying squirrel habitat, including the MNF forest-wide

suitable map prepared for the Forest Plan Amendment (2004) and the results of the habitat modeling conducted by Menzel (2003). A map of the resulting habitat suitability determinations is included in the Biological Evaluation. After the revised map was completed, the proposed projects were modified to avoid impacts to all areas identified as suitable squirrel habitat. As a result of this collaborative early consultation, there are no timber harvest activities planned within or near suitable squirrel habitat.

Shale Barren Rock Cress (*Arabis serotina*): Field reconnaissance within the proposed project area indicated that no shale barrens are located within or near the proposed impact area. Because this species is a shale barren endemic, the Service concludes that it is not likely to occur within the project area. This is further confirmed based on the negative results of plant surveys that were conducted in the proposed impact areas of the project by Forest Service staff during 2000, 2001, 2002, and 2005. The Service concludes that the proposed action will not affect the shale barren rock cress due to the lack of suitable habitat within the project area and the negative survey results.

Running Buffalo Clover (*Trifolium stoloniferum*): Although potential habitat for this species (old logging roads and areas with semi-open canopies occurring over limestone soils) occurs within the project area, plant surveys in proposed harvest units conducted by Forest Service staff in 2000, 2001, 2002, and 2005 did not locate any populations of this species. Therefore, the Service concludes that the proposed project will not affect running buffalo clover.

Small-whorled Pogonia (*Isotria medeoloides*): The Service concurs that the proposed action will not affect the small-whorled pogonia. Potential habitat may occur within or near the project area (dry, deciduous woodlands with acidic soils); however, the project area is not near known populations and the species was not found during surveys in proposed harvest units by Forest Service staff during 2000, 2001, 2002, and 2005.

Virginia Spiraea (*Spiraea virginiana*): Potential habitat for this species occurs within the project area (rocky, flood scoured banks of high energy streams and rivers); however, this species was not found during surveys of the proposed cutting units that were conducted in 2000, 2001, 2002, and 2005 by Forest Service staff. Potential impacts to potential habitat, and therefore to the species, will be avoided through implementation of the MNF's riparian guidelines as described in the draft Environmental Assessment. If these avoidance measures are implemented, the Service concurs that the proposed project will have no affect on Virginia spiraea.

Mr. Clyde N. Thompson
September 25, 2006

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Project File

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