

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

July 8, 2005

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

Re: Lower Clover Project, Cheat Potomac Ranger District

Dear Mr. Thompson:

This letter is in response to your September 16, 2004 request for a site-specific review of the proposed Lower Clover Project on the Cheat/Potomac Ranger District, Monongahela National Forest (MNF) in Tucker 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). This programmatic BO established a two-tiered consultation process for Forest Plan activities, where the Service will review, as they are developed, site-specific projects that may affect federally listed species. The Service will determine 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 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) consultations will focus 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 Assessment; 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 concurrence letter documenting the conclusion of informal consultation).

Description of the Proposed Action

The 9,165-acre Lower Clover Project Area is located in the Lower Clover watershed about 5 miles north of Parsons, Tucker County, West Virginia. The Cheat River and SR 72 form the eastern boundary of the project area. Smokey Hollow, Mill Run and Left Fork Clover Run form the southern and western boundaries. The proposed action (Alternative B) would disturb a total of approximately 500 acres of forested habitat. This includes 489 acres of timber harvest, 6 acres of landings, and 5 acres of road construction. Of the 489 acres of timber sales, 380 acres would be two-aged regeneration harvest and 109 acres would be commercial thinning. Approximately 145 acres of the 489 total acres would be removed using ground-based skidding, and the remaining 344 acres would be removed using helicopter logging. Pre and post-harvest site preparation is also proposed to control competing vegetation. Fencing, plantings, and herbicide use on up to 340 acres may also occur.

Species Determinations

We have reviewed the information contained in the September 2004 Biological Assessment, which describes the potential effects of the proposed project on federally listed species. As detailed below, we concur with your determinations for the following species.

Cheat Mountain Salamander (*Plethodon nettingi nettingi*), Bald Eagle (*Haliaeetus leucocephalus*), Shale Barren Rock Cress (*Arabis serotina*), and Virginia Spirea (*Spiraea virginiana*): These four federally listed species are known to occur within the MNF, however the project area is not expected to provide habitat for these species, and there are no known occurrences of these species within or near the project area. Therefore, the proposed project should have 'no effect' on these species.

West Virginia Northern Flying Squirrel (*Glaucomys sabrinus fuscus*): Project area maps were compared to available maps and models of potential suitable West Virginia northern flying squirrel (WVNFS) habitat, including the current forest-wide map, and the results of the habitat modeling conducted by Menzel (2003). None of the project area was identified as having even moderate potential (50-75%) to provide suitable habitat for the WVNFS using the Menzel model, and the forest-wide map did not reveal any potential WVNFS habitat in the project area either. The Service therefore concurs that no suitable habitat for the WVNFS occurs within the proposed project area, and that the project will have 'no effect' on the WVNFS.

Small-whorled Pogonia (*Isotria medeoloides*) and Running Buffalo Clover (*Trifolium stoloniferum*): Habitat for these two listed species could occur within the project area. Botanical surveys were conducted in all proposed cutting units by Environmental Solutions & Innovations, Inc. in 2003. No small whorled pogonia or running buffalo clover were found during those surveys, consequently the Service concurs that the project is 'not likely to adversely affect' these two species.

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). The proposed project is located approximately 4

miles from the closest known VBEB hibernaculum and approximately 8 miles from the closest known maternity cave. Because the project area is greater than 6 miles from a known maternity cave, no impacts to VBEB maternity/summer foraging habitat are expected. However, the project area is located within 6 miles of a known hibernaculum, and therefore may be used for foraging activities during the fall. The most recent surveys of the hibernaculum documented two VBEB using this cave. The proposed action would involve 23 acres of regeneration harvest within a 6-mile radius of this cave. The small scale of the proposed impacts within the potential foraging zone, 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.

Flat-spined Three-toothed Land Snail (*Triodopsis platysayoides*): The MNF and the Service have received public comments recommending that the project area be surveyed for the presence of the federally threatened flat-spined three-toothed land snail. *T. platysayoides* was federally listed as threatened in 1978. Since listing, surveys have resulted in the discovery of new locations for this species and extended the known range, however, the entire range of this endemic snail is still very restricted. This species is known to be sporadically distributed within the Cheat River Gorge (including some of the major tributaries of the Cheat River), along a twelve-mile reach from Beech Run above Albright, to Cheat Lake in Monongalia and Preston counties, West Virginia. The snail is usually associated with sandstone outcrops (cliff, boulder fields, talus), but has been found near the entrance of one limestone cave (Hotopp 2000). Snails are often found in cracks and fissures in the rocks or in small cave-like spaces between boulders. The species is not known to occur, and has not been considered potentially present, within the MNF in any previous consultations. The proposed project area is approximately 23 linear miles and 43 river miles downriver from the nearest documented location of the species. The closest location to the project area where surveys have been completed is Camp Dawson, which is approximately 18 miles north of the proposed project area. No habitat for the snail was found during that work.

Although no habitat surveys with specific emphasis on this snail have been completed for the project area, a review of the available habitat descriptions, discussions with professionals familiar with the area, and other project reviews suggest that the areas proposed for project activities would not fit the description of potential habitat for this species. Discussions with the MNF's Forest Geologist indicate that while the same geological formations are present in the Lower Clover project area as are in the known range of the snail, within the project area the sandstone is in thinner, more inter-bedded layers that are unlikely to form rocky outcrops, cliffs, or caves. Habitat descriptions provided by MNF biologists familiar with the area also did not appear to be consistent with the habitat description for the snail. This is corroborated by the habitat evaluation provided for the green salamander (*Aneides aneus*) in the Biological Evaluation for this project. Although this species has somewhat different habitat preferences than the snail, it is also known to occur in rock outcrops and screes, and has been co-located with this snail at other sites (Hotopp 2000). No rock-associated habitat for the green salamander was found within the proposed project area. Habitat descriptions from botanical surveys describe most areas as xeric, lacking vegetative diversity and subject to heavy deer browse "at a level never before experienced by our ground crew." The herbaceous layer was extremely sparse in most stands and no specialized or unique habitats were noted. Again, these descriptions do not

appear to provide indications that snail habitat is present within the areas subject to proposed project activities. Given the lack of indicators that potential habitat is present, and that the proposed project area is significantly outside the currently known range of the species, the Service considers it unlikely that this species is present within areas that may be impacted by the proposed project, and does not feel that recommending project specific surveys is warranted at this time.

However, it should be noted that the surveys for plant and wildlife species discussed above were restricted to areas proposed for project activities. Although the possibility is still unlikely given the known range of the snail other areas of MNF property within the Cheat River watershed may have the potential to provide the habitat characteristics known to support the snail. The steep slopes adjacent to the Cheat River and its tributaries have the greatest potential of any areas within the MNF to support the snail. Currently, no timber harvest activities are proposed within these areas. Therefore, no impacts are expected. However, it may be prudent for the MNF to consider conducting habitat evaluations for the snail on a watershed level so that the potential presence or absence of this species within the MNF can be more thoroughly addressed.

Indiana Bat (*Myotis sodalis*): As described in the Service's programmatic BO, adverse effects are likely to occur to the Indiana bat 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 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 the Lower Clover project (preferred alternative), and the cumulative total of incidental take which has occurred (Table 1).

Status of the Species

The Indiana bat is a migratory species ranging throughout much of the eastern half of the U.S. The Indiana bat was listed as endangered by the Service pursuant to the Endangered Species Preservation Act on March 11, 1967 (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 from approximately 883,300 Indiana bats for 1960/1970 to 387,301 in 2003/2004, or approximately 56 percent (Clawson 2002; Lori Pruitt, personal communication, 2004). It is currently estimated that West Virginia supports a hibernating population of approximately 10,770 Indiana bats (WVDNR, 2004).

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.

Additional information on the status of the species, including life history characteristics is provided in the programmatic BO, and is incorporated here by reference.

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. For example, the largest hibernacula in Indiana (50,941 Indiana bats in 2003) is not gated, and based on data from electronic monitors in the cave, unauthorized visits to this cave still occur during critical life stage periods. Also, at the only large hibernacula in Ohio (9,436 Indiana bats in 2004), there are still tours, as well as other commercial activities, taking place in the cave during the hibernation period.

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. 1996). Roosting/foraging area fidelity may serve to increase the probability of successful reproduction, and to maintain social interactions between members of the population. Bats using familiar foraging and roosting areas may have decreased susceptibility to predators, increased foraging efficiency, and an improved ability to switch roosts if impacts occur to the original roost (Gumbert et al. 2002). In turn, site fidelity may also inhibit the ability of Indiana bats to pioneer new areas (Sparks *in Service* 2004c). 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. Notably, a formal consultation with the Corps of Engineers was recently completed (Service 2005) that may result in take of a maternity colony in Boone County, WV as a result of harm through summer habitat loss.

In addition to an increased focus on Indiana bat summer habitat, attention has also been directed to investigate pesticide exposure (Clark et al. 1987; Clawson 1987; Garner and Gardner 1992; Callahan et al. 1997; 3D/E 1995; O'Shea and Clark 2002; Kurta and Murray 2002). Insecticides have been known or suspected as the cause of a number of bat dieoffs in North America, including endangered gray bats in Missouri (Mohr 1972; Reidinger 1972; Clark and Prouty 1976; Clark et al. 1978). The insect diet and longevity of bats also exposes them to

environmentally persistent organochlorine chemicals which can bioaccumulate in body tissue and cause sub-lethal effects such as impaired reproduction (O'Shea and Clark 2002).

Environmental Baseline

The environmental baseline for the MNF was established and described on pages 15 -16 in the programmatic BO. However, since issuance of the programmatic BO, the environmental baseline in regard to the summer presence of Indiana bats in West Virginia and the MNF has changed appreciably in that Indiana bat maternity activity has now been documented within the state of WV, including areas in or adjacent to the MNF. Documented Indiana bat maternity activity in WV to date was described in the Environmental Baseline section (pages 5-6) of the March, 2005 Desert Branch Tier II BO which is incorporated here by reference.

As noted in the previous Tier II BO, captures of both male and female bats confirm that the Indiana bat uses forested habitats throughout the state, including habitats within the MNF, for summer foraging and roosting. The increase in recent captures may not reflect an actual increase in densities of Indiana bats summering within the state or the MNF, rather these results may reflect the fact that survey efforts in relation to project review and monitoring have increased in recent years. As a result of coordination between the Service and the MNF, and in accordance with terms and conditions of the programmatic BO, the MNF has adapted Indiana bat monitoring program to focus on detecting the presence of the bat in likely habitat, rather than surveying locations prior to project clearance. These changes may have resulted in the increased detection of the bat on the MNF, and should allow for improved protection for the species and more accurate tracking and evaluation of potential take as a result of MNF projects.

Status of the Species within the Action Area

Areas within a 5-mile radius of a known Indiana bat hibernaculum are assumed to be used for fall swarming and roosting behavior. Indiana bats congregate each autumn near hibernation caves to mate and replenish fat reserves before hibernating. Males are known to arrive at hibernacula as early as July. For these reasons, the Service presumes that Indiana bats could be present within these 5-mile radii at any time outside the hibernation period. The Service considers the hibernation period to be from November 15 to March 31. Portions of the project area are within a 5-mile radius of a known Indiana bat hibernaculum. Big Springs Cave is located approximately 4 miles away. The most recent winter survey, conducted in 2003, documented 199 Indiana bats using this cave. This represents approximately a 17% decline from the previous survey, conducted in December 2000, which had documented 240 Indiana bats hibernating in the cave. Two other hibernacula are located approximately 7-8 miles away from the action area. All other known hibernacula are located over 10 miles from the action area.

Fifteen mist net sites within the Clover Run watershed were surveyed in either 1997 or 2003. A total of 183 bats with representatives from at least five species guilds were captured during these efforts, no Indiana bats were captured. These data suggest that Indiana bats do not use the project area for maternity activity, or that they are present in extremely low numbers. The closest known maternity colony is located near Lower Gladly at least 8.5 miles away from the project area.

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

Approximately 57% of the 9,165 acre project area is managed by the National Forest System, while 43% is privately owned. Much of the Lower Clover watershed consists of closed canopy, even aged forest, with more than three-quarters of the forested stands (3984 acres) being greater than 70 years of age. At present, 0.5 % of the project area consists of permanent openings, 10 % is seedlings/saplings, 3% is pole timber, and 87% is saw timber greater than 60-years old.

Effects of the Action

The proposed action (Alternative B) would disturb a total of approximately 500 acres of potentially suitable Indiana bat habitat, and would affect approximately 5.3% of the total area and 9.4% of the National Forest lands within the project area. As originally designed, Alternative B included 10 acres of regeneration harvest within the 5-mile radius of Big Springs Cave. However, activities within this harvest unit are no longer included in the proposed action. By withdrawing this portion of the proposal, impacts to the swarming zone and thus the portions of the project area most likely to support Indiana bat will be avoided.

The Proposed Action would create approximately 380 acres of early successional habitat by implementing 23 two-aged regeneration harvests dispersed throughout the project area. The regeneration harvests would range in size from 6 to 25 acres. This activity would move about 7% of the acreage in the project area from saw timber into the seedling/sapling size class, however over 79% of MNF lands in the project area would remain as saw timber. Potential adverse effects of this action are consistent with the effects described on page 17-18 of the programmatic BO. 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, the roosting bat would be forced to find an alternative tree, causing a significant loss of energy that would result in harm or harassment of the individual. However, 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 bats are present within the proposed timber harvest area. In addition, because the proposed harvest areas are all relatively small, are dispersed throughout the project area, and will still leave a substantial proportion of the project area as mature (greater than 60-years old) forest, the adverse effects from this action are expected to be minimized. Because snags, culls and den trees will be retained unless they present a safety hazard during operations, potentially suitable roost trees will remain after the action is completed.

The proposed action also includes thinning of 4 stands ranging in size from 9 to 78 acres and totaling 109 acres. This action would reduce vegetative competition and promote larger, older trees and allow remaining hardwood trees (predominantly oaks and hickories) to grow larger. The thinning will also create openings in the forest canopy. While effects similar to those described for the proposed regeneration harvest could occur, the conditions created by the proposed thinning are not expected to decrease the long-term suitability of these areas as Indiana bat roosting habitat. As noted on pages 12-13 of the programmatic BO, the exfoliating bark of

some living hickories and large oaks often provide roost sites. The retention of snags and other den trees will further increase the potential that a substantial number of potential roost trees within the project area will be maintained. In addition, 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. Humphrey *et al.* (1977) hypothesized that roost trees were usually located in openings within the forest because they provided the necessary thermoregulatory characteristics. This is supported by the analysis conducted of several maternity sites by 3D/E (1995) who found that most roosts were located in areas that had a canopy closure of 60 to 80%. The proposed thinning will increase the solar exposure of the remaining trees within the harvest area, thus potentially making them more suitable for Indiana bat roosting habitat.

Indiana bats often preferentially use forested riparian areas for foraging. (Belwood 1979; Cope *et al.* 1978; Humphrey *et al.* 1977; Clark *et al.* 1987; Gardner *et al.* 1991*b*). The recent work of Owen *et al.* (2004) illustrates and further supports the biological importance of forested riparian habitats to bats in the Appalachians. The MNF proposes to implement their Riparian Management Guidelines for all activities proposed in the project area. This will help ensure that riparian corridors that could provide potential Indiana bat foraging habitat will be maintained.

The implementation of the terms and conditions of the programmatic BO, and project-specific and forest wide conservation/mitigation measures as described above, will minimize any incidental take and ensure that this area will continue to provide potential foraging and roosting 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 WVDNR to develop further protective measures in accordance with the MNF Forest Plan and the programmatic BO.

Cumulative Effects

Future Federal, State, local and private actions that are reasonably certain to occur within the action area, will most likely either be carried out by, or will require a permit from, the Forest Service. These actions will therefore require section 7 consultation. The Service is not presently aware of any future State, local, or private actions that could occur within the action area that would not be subject to a section 7 review. Therefore, cumulative effects, as defined in the ESA, are not expected to occur within the action area.

Conclusion

The actions and effects associated with the proposed Lower Clover project are consistent with those identified and discussed in the Service's programmatic BO. After reviewing the spatial extent and scope of the project, the environmental baseline, and the overall status of the Indiana bat, including new information on the species for the project area, as well as 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.

Incidental Take Statement

The Service anticipates that the proposed actions associated with the Lower Clover Project will result in the incidental take of Indiana bat habitat (acres) 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 (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 (authorized) 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. Actual vs. authorized incidental take (as measured indirectly by acreage) due to the removal or disturbance of potential Indiana bat habitat on the Monongahela National Forest.

Activity	Lower Clover Project	Previous Projects (2005)	Total	Annual Incidental Take Authorized
Timber Harvest	495	1,404	1,899	6,000
Road Construction	5	3	8	47
Mineral Development	0	2.5	2.5	78
Prescribed Burn	0	0	0	300

Reasonable and Prudent Measures

The Forest Service must implement all 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. We have determined that no new reasonable and prudent measures, beyond those specified in the programmatic BO and the project specific minimization measures as described in the September 2004 Biological Assessment, are needed to minimize the impact of incidental take anticipated for the Lower Clover Project.

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 exceeded, quarterly reports are requested to 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.

Mr. Clyde N. Thompson
July 8, 2005

10

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,

Thomas R. Chapman
Field Supervisor

Mr. Clyde N. Thompson
July 8, 2005

11

cc:

WVDNR – Taylor/Stihler

Project File

Reader File

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