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May 31, 2002

Mr. John Schultz, District Ranger
Allegheny National Forest
Bradford Ranger District
Star Route 1, Box 88
Bradford, PA 16701

Dear Mr. Schultz:

This responds to your letter of December 19, 2001, requesting our technical review of the Biological Assessment (BA) for the Lewis Run project. The Lewis Run project area is located in McKean County on the Bradford Ranger District within the Allegheny National Forest (ANF) in Pennsylvania. The following comments are provided pursuant to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) to ensure the protection of endangered and threatened species.

On June 1, 1999, the Fish and Wildlife Service issued a biological opinion (BO) regarding the impacts of forest management and other activities that would be implemented under the 1986 Land and Resource Management Plan (Forest Plan) for the ANF. The Service's programmatic BO evaluated the effects of Forest Service management program activities, including timber management, on the bald eagle (*Haliaeetus leucocephalus*), Indiana bat (*Myotis sodalis*), clubshell mussel (*Pleurobema clava*), and northern riffleshell mussel (*Epioblasma torulosa rangiana*).

In the programmatic biological opinion, we determined that the implementation of projects predicated upon the Forest Plan is not likely to jeopardize the continued existence of the bald eagle, Indiana bat, or clubshell mussel. We also determined that implementation of the Forest Plan and most projects predicated upon it (with the exception of boating facility operation) is not likely to jeopardize the continued existence of the northern riffleshell. A jeopardy determination was made for the operation of boating facilities with respect to the northern riffleshell mussel, and reasonable and prudent alternatives were identified (and are currently being implemented by the Forest Service) to avoid jeopardy to this species.

Although the Service has provided a programmatic biological opinion to the Forest Service for the ANF Forest Plan, the Service will review, as they are developed, site-specific projects that the Forest Service determines 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 in the programmatic BO; 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).

Species Not Likely To Be Adversely Affected

We have reviewed the information contained in the Lewis Run BA, which describes the potential effects of the proposed project on federally listed species. As detailed below, we concur with your determination that the proposed project is not likely to adversely affect the bald eagle, northern riffleshell, clubshell, or small-whorled pogonia (*Isotria medeoloides*).

Bald eagle

Bald eagles have not been documented to use the Lewis Run project area, probably due to the considerable amount of human activity and disturbance related to intensive oil and gas development over the past 30-40 years, and the presence of a state road adjacent to Lewis Run (the only stream large enough to serve as foraging habitat). Although bald eagles may occasionally pass through the project area, due to the lack of documented bald eagle foraging, roosting and nesting in the project area, we concur that implementation of the preferred alternative is not likely to adversely affect this species.

Clubshell and Northern Riffleshell

The clubshell and northern riffleshell are known to occur in the Allegheny River, however, neither species is known or likely to occur in the streams within the Lewis Run project area. In addition, streams within the Lewis Run project area are not within the 13% of the ANF that drains directly into the Allegheny River. Due to the absence of suitable habitat within the Lewis Run project area, and considering that streams within the Lewis Run project area are not likely to contribute fine sediments to the portion of the Allegheny River that has known populations of the clubshell and the northern riffleshell, we concur that no adverse effects will occur to the clubshell or northern riffleshell from implementation of the Lewis Run project.

Small whorled pogonia

As stated in the programmatic BO (p. 3), the Service concurred with the Forest Service’s determination that activities outlined in the Forest Plan were not likely to adversely affect the threatened small-whorled pogonia. Since 1987, over 3700 acres of the Lewis Run project area, including all sites proposed for earth disturbance within the project area, have been surveyed for the small whorled pogonia. No individuals of this species have been located. Although suitable

habitat exists in the project area, the Service concurs that the small-whorled pogonia will not be affected by project implementation due to these negative survey results.

Species Likely To Be Adversely Affected

As described in the Service's Programmatic BO, we believe that 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 conservation measures proposed with the Lewis Run project that will minimize the impact of any incidental take, we have concluded that activities associated with the Lewis Run 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.

The following biological opinion is based on likely adverse effects to the Indiana bat from the removal of suitable habitat during timber harvesting, road construction, and gravel pit construction and expansion with the Lewis Run project area. This Tier 2 BO identifies the incidental take anticipated due to implementation of the Lewis Run project (preferred alternative), and the cumulative total of incidental take which has occurred (Table 2).

Description of the Proposed Action

The proposed project involves various timber management activities, reforestation practices, wildlife habitat improvement activities, and transportation/road activities within the Lewis Run project area (Table 1, page 4 of the BA) in Corydon Township, McKean County, Pennsylvania. Lewis Run is a management unit within the Forest Service's Bradford Ranger District. The project area is approximately 85% second-growth mature forest and includes all of the Lewis Run and Miam Run watersheds in the Allegheny River system.

The project area is approximately 9150 acres, including 7193 acres of National Forest system land and 1957 acres of private land. Of the private land, 1085 acres are considered industrial forestlands, of which 77 acres have received regeneration harvest in the past 10 years and 75 acres are in the sapling stage (for a total of 152 acres that are considered to be unsuitable Indiana bat habitat).

The purposes of this project are to: 1) provide a sustained flow of timber products including high quality black cherry; 2) initiate timely salvage of damaged and downed stems where economically feasible; 3) increase the diversity of wildlife habitat conditions; 4) enhance the diversity of native flora; and 5) maintain a road system that will support management objectives while minimizing impacts to wildlife and water quality.

Four alternatives were proposed for the Lewis Run project for the 2002-2008 planning seasons. The Forest Service has selected Alternative 4 as the preliminary preferred alternative, therefore, this biological opinion focuses on the effects expected due to implementation of this alternative.

Timber harvest activities associated with Alternative 4 that may result in incidental take of the Indiana bat are detailed in Table 1. In total, 1533 acres are proposed to be treated during the 2002-2005 and 2005-2008 time frames, however, a smaller number of acres will actually be affected since this total includes sites that will be treated twice (e.g., shelterwood seed cut followed by shelterwood removal cut).

In addition to timber management activities, Alternative 4 includes other activities that will remove potential foraging and roosting habitat for the Indiana bat. This includes 1.2 miles of new road construction (affecting 4 acres), and 6 acres of habitat loss associated with gravel pit construction and expansion.

Table 1. Activities which may contribute to take of Indiana bats (Alternative 4).

Activity	Take Category from programmatic BO	1st or 2nd Entry	Green/Salvage	Final/Partial Harvest	Area Affected
TIMBER HARVEST					
shelterwood seedcut	shelterwood seed/prep	1 st	green	partial	139
salvage shelterwood seedcut	shelterwood seed/prep	1 st	salvage	partial	54
delayed shelterwood seedcut	shelterwood seed/prep	2 nd	green	partial	358
shelterwood 2-age	shelterwood seed/prep	1 st	green	partial	70
salvage	shelterwood seed/prep	1 st	salvage	partial	24
commercial thinning	thinning	1 st	green	partial	114
wildlife savannah	selection cut	1 st	green	partial	7
removal cut	shelterwood removal	1 st	green	final	396
removal cut	shelterwood removal	2 nd	green	final	224
2-age harvest	shelterwood removal	1 st	green	final	20
2-age harvest	shelterwood removal	2 nd	green	final	127
ROAD ACTIVITIES					
road construction		–	–	–	4
gravel pit construction and expansion		–	–	–	6
TOTAL ACRES OF FOREST AFFECTED					1543

All the above activities will affect a total of 1543 forested acres, and are therefore counted toward the cumulative annual incidental take as outlined in Table 6 (p. 67) of the programmatic BO. The types of timber harvest activities proposed were described on pages 7-8 of the programmatic BO, and the effects of timber harvesting on the Indiana bat were discussed on pages 46 and 65 of the programmatic BO. Road construction activities were described on page 9 of the programmatic BO, and were analyzed on pages 47-48 of the programmatic BO.

Because Indiana bat use has been documented within a portion of the project area, and a primary roost was located for this bat approximately 0.25 mile north of the project area, the Forest Service will implement the following conservation measures as part of this proposed project (summarized from the Lewis Run BA, pp. 19, 21, 22, 30 and 31).

1. Implement pertinent Forest Plan standards and guidelines, and programmatic BO reasonable and prudent measures and terms and conditions.
2. Conduct all timber harvesting in stands proposed for treatment within 2 miles of the main roost between November 15 and March 15, when the Indiana bat is not likely to be on the ANF. Stands where this applies include 466-5, 466-11, 466-21, 466-26, 466-26, 467-1, 467-15, 467-43, 467-71, 467-73, 467-74 and 467-31.
3. Removal cutting originally proposed within 2 miles of the main roost will be modified to a 2-age harvest prescription.
4. Retain as wildlife habitat (do not harvest) the portion of stands (including stands 467-21, 467-42 and 467-46) which falls within a 2-mile radius of the main roost.
5. If a new roost is identified during implementation of the selected alternative, implement the terms and conditions as stated on pages 72 (item 2) and 73 (item 3) of the programmatic BO.
6. Monitor five new sites in the Lewis Run project area in 2002. These sites include one along Little Miam Run, in close proximity to the secondary Indiana bat roost located on the ANF; one along Miam Run; two along Lewis Run; and one at the Indiana bat main roost. The objective of the proposed monitoring is to capture another Indiana bat, preferably a female, to further document Indiana bat habitat use within, and adjacent to, the Lewis Run project area.

All remaining proposed activities associated with Alternative 4 are not expected to remove suitable Indiana bat habitat or result in direct or indirect effects, or take, to the Indiana bat. These activities include: 1) 3154 acres of reforestation treatments, including 1136 acres of herbicide application, 1183 acres of site preparation, 34 acres of area fencing, 166 acres of cleaning and weeding, and 635 acres of fertilizer application; 2) 344 acres of wildlife habitat improvement work, including 261 acres of conifer and mast tree underplanting, 5 acres of non-commercial release, 32 acres of seedbed preparation and grass/forb seeding, 6 acres of apple tree prune and release, 19 acres of shrub and conifer planting, 19 acres of shrub fencing or protection with tree shelters, and creation of a vernal pond; 3) 1.4 miles of road re-construction; 4) 0.1 mile

of road obliteration; 5) 2.5 miles of roadbed seeding; 6) 3.2 miles of spot application of limestone to road surfaces; and 7) activities on existing ANF roads. For the reasons described on page 51 of the programmatic BO, any effects to Indiana bats from proposed herbicide application used in forest regeneration (reforestation) are considered to be insignificant. The effects associated with “activities on existing ANF roads” are limited to those associated with the proposed project, and not to other activities subject to Forest Service review (e.g., special use permits associated with oil and gas development).

Status of the Species

Species description, life history, population dynamics, status and distribution of the Indiana bat are fully described on pages 21 to 36 of the programmatic BO and are hereby incorporated by reference. New information on the status of the Indiana bat obtained since the Forest Plan and programmatic BO follow.

A biennial survey was conducted on Indiana bat Priority I hibernacula since the issuance of the Service’s programmatic BO. Approximately 102,870 Indiana bats were counted during surveys conducted in 2000 and 2001. This compares to the 115,885 Indiana bats that were estimated in 1999 at the same locations (Richard Clawson, Missouri Department of Conservation, *in litt.* 2001 -- as presented at the Indiana Bat Symposium held in Lexington, Kentucky, March 29-31, 2001).

In Pennsylvania, an Indiana bat hibernaculum was located in January of 2000 in an abandoned limestone mine in Armstrong County, approximately 50 miles southwest of the ANF. During a survey of the mine, 67 Indiana bats were located; however, additional surveys of this extensive mine system are needed to determine the extent of this wintering Indiana bat population. Another Indiana bat hibernaculum was recently located in Lawrence County (southwest of the ANF). A survey of this abandoned limestone mine in 2001 revealed the presence of 21 Indiana bats.

Terms and conditions from the programmatic BO (p. 73-75, item 5), describe monitoring procedures for the Forest Service to use to determine use of the ANF by Indiana bats. From 1998-2001, a total of 125 sites were surveyed for bats on the ANF using both mist nets and Anabat detectors. The mist net survey protocol from the draft Indiana Bat Recovery Plan has been used, and in some cases, sampling efforts exceeded those outlined in the protocol. One male Indiana bat was captured in 1998. In addition, at 19 of the 125 sampling sites, potential Indiana bat vocalizations were detected. Positive detection of bats with this equipment could form the basis of a presumption of Indiana bat presence. Recent studies indicate that the echolocation calls of Indiana bats can be distinguished from other *Myotis* bats. While the system definitely shows promise, it still requires substantial development before it can reliably determine whether Indiana bat vocalizations were detected. At this time, the Service does not believe that this technique alone (i.e., without positive mist-net survey results) is sufficient to determine whether Indiana bats are present in a project’s action area.

Of the 25 sites surveyed for Indiana bats in 2001 on the ANF, 12 of these occurred in the Spring Creek watershed of the Marienville Ranger District, and two sites occurred approximately three miles east of the Lewis Run project area in the North Fork Chappel watershed (outside the Forest

Service proclamation boundary). No Indiana bats were captured during the 56 net-nights of survey effort in 2001.

Other mist-netting efforts in and near the ANF included a survey conducted in 2001 in association with a proposed natural gas pipeline project. During that survey effort, mist-netting was conducted at 100 sites along the proposed pipeline right-of-way, which extends from the Pennsylvania-Ohio State line in Lawrence County (near the North Fork Little Beaver Creek) east to Clinton County, Pennsylvania (near the town of Tamarack). The pipeline goes through portions of Lawrence, Butler, Armstrong, Clarion, Jefferson, Elk, Forest, McKean, Cameron, Potter, and Clinton Counties, Pennsylvania. Portions of McKean, Forest, and Elk Counties occur within the ANF proclamation boundary. Out of the 100 sites surveyed, 12 survey sites were located within the ANF. No Indiana bats were captured at any of the survey sites.

Environmental Baseline

The environmental baseline for the ANF was established and described on pages 7-12 and 42-44 in the programmatic BO. Since issuance of the BO, the environmental baseline on the ANF has changed as follows.

Status of the Species Within the Action Area

Eleven sites have been surveyed for Indiana bats within the Lewis Run project area using both mist nets and Anabat detectors. One site was surveyed in 1999, four sites were surveyed in 2000, and six sites were surveyed in 2001. No Indiana bats were captured in the three years of surveying, however, potential Indiana bat vocalizations were detected. Two potential detections occurred in 2000 at site 64, which is located in the upper Lewis Run watershed; six detections at site 117 in 2001; and one detection at site 119 in 2001. Site 64 is within a mature second-growth hardwood stand. Site 119 is a forested stand near a small pool and clearing along a grassy road approximately 0.3 mile from Forest Road (FR) 305A. Site 117 is located at the edge of a regeneration unit on FR 309A. Sites 119 and 64 are approximately one-half mile apart and are located in the southwestern portion of the Lewis Run project area.

On July 14, 2001, researchers from Penn State University captured one male Indiana bat at a roost structure approximately 0.25 mile north of the Lewis Run project area, at sampling location 72A (Gannon and Blackburn, 2002). The roost structure (a small storage shed) was occupied by more than 70 little brown bats (*Myotis lucifugus*), one confirmed Indiana bat, and potentially two other Indiana bats (which the researchers were unable to capture). A radio transmitter was placed on the Indiana bat, which was tracked for 14 days (July 15 to July 29) to identify foraging and roosting habitat. During that time, approximately 1400 location data points were collected. Using a subset of these points, the bat's home range was estimated to be about 1100 hectares using the minimum convex polygon method for home range size estimation. This home range polygon is approximately 2 miles by 3 miles in size, roughly centered on the roost structure. Within this large area, the bat was noted to intensively use three smaller areas for foraging.

During the tracking period, this bat used the shed as its primary night roost and primary day roost. However, one alternate night roost, and two alternate day roosts (one which is in the Lewis Run project area) were also used (although the specific roost trees were not identified).

During the tracking period, the bat used approximately 2550 acres of private land adjacent to the Lewis Run project area, and 426 acres of National Forest system land within the Lewis Run project area. Table 7 (p. 15) of the BA summarizes the home range (i.e., tracking area) habitat, of which 14% was located within the ANF. The home range is 94% forested and 6% open (numerous small openings, including 50-100 foot right-of-ways, and two larger openings associated with a golf course and a rifle club). Eighty-two percent of the forested habitat is mature with “widespread” tree mortality. The tracking area contains over three miles of perennial and intermittent streams. Approximately 44% and 36% of the area is considered to be optimum foraging habitat on Forest Service land and private land, respectively. Approximately 48% and 44% of the area is considered to be optimum roosting habitat on Forest Service land and private land, respectively.

In the Lewis Run BA, the Forest Service also evaluated habitat conditions within a 2-mile radius of the primary roost structure. This area extends beyond the tracking area, but was selected because the tracked Indiana bat, as well as other Indiana bats that may be using the roost structure, might use habitat outside the tracking area (which was identified for a single bat during a short tracking period). The tracked bat foraged approximately 1.6 miles from the primary roost structure, therefore, based on this and other available information (see programmatic BO, pp. 24-26), it is reasonable to assume that the home range of this and any other bats using the roost structure is likely to occur within a 2-mile radius of the roost.

Within a 2-mile radius of the primary roost structure (site 72A), there are 1673 acres of Forest Service lands and 6303 acres of private lands. Table 9 (p. 17) of the BA characterizes this area, of which 21% is located within the ANF. This area is 99% forested and 1% open. Eighty-two percent of the forested habitat is mature. Within the 2-mile radius, 38% and 29% of the area is considered to be optimum foraging habitat on Forest Service land and private land, respectively. Approximately 59% and 58% of the area is considered to be optimum roosting habitat on Forest Service land and private land, respectively.

Factors affecting the environment of the species (on the ANF and in the action area)

The percentage of trees in the 90 years and older age classes has increased, and includes a 6.8% increase in trees in the 90-109 year old age class and an increase of 9.6% in trees 110 years and older. Conversely, trees in the 60-89 year age class have decreased by 4.3%. Additionally there has been a decrease of 9.9% in trees in the 20-59 year age class and a 2.1% decrease in understocked savannahs and openings. Stands in the 0-19 year age class have increased slightly (0.2%). Other changes relate to a decrease in timber harvest between 1998 and 2001. The average timber harvest on the ANF has decreased from an average annual harvest of 7556 acres between 1986 and 1997, to 2557 acres between 1998 and 2001. This represents a 66% reduction in timber harvest since 1997.

Although the amount of timber harvest has been reduced in the last four years, the mix of timber harvest practices has remained relatively unchanged. Of the 2557 acres harvested annually on the ANF between 1998 and 2001, an annual average of 789 acres (31%) involves thinning and salvage treatments, 175 acres (7%) includes uneven-aged management (i.e., group and individual tree selection), and 902 acres (62%) were associated with even-aged regeneration harvest techniques (e.g., shelterwood seedtree harvest, removal cutting and clear-cutting). Although the amount of timber harvest has been reduced since 1997, reforestation treatments have not changed appreciably. Since 1998, the average annual amount of reforestation (herbicide application, site preparation, TSI, fencing, planting, fertilization, release) that has occurred on ANF has been 4818 acres. The average annual amount was 4469 acres between 1986 and 1997.

Activities that benefit wildlife such as prescribed fire, tree and shrub planting, opening construction, and shrub and tree release have decreased from an average annual amount of approximately 2200 acres between 1986 and 1997, to an average annual amount of approximately 1600 acres since 1998. This represents a 30% reduction in the total amount of wildlife and fish habitat improvement work that has been completed annually across the ANF since the programmatic BO was issued.

There has also been a reduction in the amount of road work completed on the ANF. New road construction has dropped from an average annual of 13.7 miles between 1986 and 1997, to an annual average of 0.1 mile of new road construction per year since 1998. Road reconstruction has had a similar reduction, and road betterment has dropped from an average annual amount of 10.1 miles per year from 1986 to 1997, to an annual amount of 0.1 mile per year between 1998 and 2000. Since 1998, the average annual amount of road restoration has been 36.9 miles per year, which represents a 22% reduction in annual road restoration over what was completed between 1986 and 1997 (46.8 miles per year).

Effects of the Action

Service analysis of the preliminary preferred alternative (Alternative 4) for the Lewis Run project includes consideration of the documentation of a single male Indiana bat within the action area. Twenty-one percent of the area within a 2-mile radius of the main roost site is Forest Service system lands. Under this alternative, timber harvest will affect 226 acres or 13% of the Forest Service lands within the 2-mile radius. Treatments in this area include 95 acres of partial harvest and 131 acres of regeneration harvest (including salvage thinning, intermediate thinning, 2-age harvest, 2-age shelterwood followed by 2-age final harvest, and delayed 2-age harvest). Two stands (17 acres and 37 acres) will receive two entries within the 2002-2008 planning season: 2-age shelterwood, followed in 5-8 years by 2-age final harvest. These treatments are not expected to reduce suitable Indiana bat habitat in either the 2-mile or the tracking area. No harvest treatment is proposed in the stand with the known Indiana bat day roost. Conservation measures that will avoid direct take within the 2-mile radius of the main roost within the project area are provided in the "Description of Proposed Action" section of this document.

Based on the level of regeneration harvest anticipated from the proposed project, there will be some reduction in levels of suitable Indiana bat habitat. Total available suitable Indiana bat

habitat will be reduced from 87% of the project area to 78% under this alternative. In addition to changes in total suitable habitat, proposed timber harvest will reduce optimum roosting and foraging habitat by 3% and 5%, respectively. Sites receiving a partial harvest treatment will provide optimum roosting habitat, however, with the exception of 2-age harvest, stands undergoing final harvest treatments will not meet the criteria for suitable maternity roosting habitat. Likewise, with the exception of 2-age stands, all stands receiving a final harvest treatment (767 acres) will no longer meet the criteria for suitable foraging habitat as defined by the Habitat Suitability Index (H.S.I) Model.

The potential direct and indirect effects to the Indiana bat from harvest or removal of trees both within the 2-mile radius of the main roost, and on the rest of the Forest Service system lands in the Lewis Run project area, are consistent with those identified and evaluated in the programmatic BO (pp. 46-48, 51, and 65-66) and are hereby incorporated by reference. Minimization of any adverse effects will be addressed by: 1) implementation of standards and guidelines of the Forest Plan, and the terms and conditions associated with reasonable and prudent measures set forth in the programmatic BO (pp. 72-76); and 2) implementation of conservation measures as described in the "Proposed Action" section of this opinion. These minimization actions will result in maintenance of suitable Indiana bat roosting and foraging habitat and protection of the Indiana bat from potential effects of tree removal.

Cumulative Effects

Future non-federal actions that are reasonably certain to occur in the project area that could affect Indiana bats or their habitat have been identified as oil and gas development, and timber harvesting. It has been estimated that 10% of the 1085 acres of private forestlands in the Lewis Run project area will receive regeneration cuttings in the next 10 years. Intermediate harvest is expected on approximately 39% of private forestlands within the next 10 years. Suitable Indiana bat habitat will be reduced from 82% across the cumulative effects analysis area (Lewis Run project area) to 72% by 2011. When considering the availability of habitat across the entire project area, unsuitable maternity roost habitat (i.e., seedling/sapling) will increase from 12% of the project area at present, to 20% by 2011. The tracking and 2-mile areas, which are primarily private lands outside of the Lewis Run project area, are expected to receive 300 acres and 500 acres of regeneration harvest, respectively. Within the entire 2-mile radius area (both within and outside of the Forest Service boundary), suitable habitat will be reduced from 88% to 81% by 2011. Projected oil and gas development on private land in the project area is expected to average 15 new wells per year. Acreage of habitat disturbance associated with each of these well sites is calculated to be approximately six acres.

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; 2) the analysis of cumulative effects from the Lewis Run BA indicates that suitable Indiana bat habitat will continue to occur on a large percentage of the Lewis Run project area; and 3) based on survey results to date, it appears that the project area is inhabited by a very sparse population of Indiana bats.

Conclusion

The actions and effects associated with the proposed Lewis Run project 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 for the project area, 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.

For this project, the documentation of an Indiana bat in the project area has not resulted in a jeopardy determination because: 1) only one bat has been documented using the project area; 2) the bat was a male and was not associated with a maternity roost; 3) telemetry work on this bat showed that only 14% of the area used by this bat is within the ANF; and 4) implementation of the terms and conditions associated with the reasonable and prudent measures in the programmatic BO, along with the project-specific conservation measures proposed by the Forest Service, will minimize any incidental take.

Incidental Take Statement

The Service anticipates that the proposed actions associated with the Lewis Run project will result in the incidental take of Indiana bats. Consistent with the approach taken in the programmatic BO, incidental take for this species is measured indirectly as loss of forested habitat (in acres) as outlined in Table 2. Thus, implementation of this project will result in the take of Indiana bats, as measured by the loss/alteration of 1543 acres of forested habitat between 2002 and 2008. The actual incidental take reported by the Forest Service (fiscal year 1998 through the 2nd quarter of fiscal year 2002), has consistently been far below the annual levels estimated (authorized) in the programmatic BO (see Table 2), therefore, we do not anticipate that implementation of this project will result in the take levels in the programmatic BO to be exceeded.

Table 2. Actual vs. authorized incidental take (as measured indirectly by acreage) due to the removal or disturbance of potential Indiana bat habitat on the Allegheny National Forest, Pennsylvania.

Activity	Acres Actually vs. (Authorized to be) Removed/Disturbed					
	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002 ¹	Total ²
Trail Construction						
• Pedestrian	.3 (0)	7.8 (8)	.3 (2)	.2 (2)	0 (2)	8.6 (16)
• Motorized - winter	.3 (4)	3.6 (0)	0 (4)	.6 (4)	0 (4)	4.5 (20)
• Motorized - summer	6 (0)	1.2 (0)	3.2 (4)	2.14 (4)	0 (4)	12.54 (16)
Timber management						
• Clearcut	191 (220)	222 (220)	0 (420)	59 (220)	6 (220)	478 (1520)
• Shelterwood seed/prep	1558 (1640)	521 (1640)	299 (4000)	395 (2000)	152 (2000)	2925 (13,280)
• Shelterwood removal	1203 (1864)	573 (1864)	488 (1864)	843 (1864)	87 (1864)	3194 (11,184)
• Thinning	1526 (3225)	732 (3225)	240 (7000)	659 (3225)	342 (3225)	3499 (23,125)
• Selection cut	458 (334)	184 (334)	17 (700)	40 (800)	0 (800)	699 (3768)
Wildlife Habitat Management	10 (10)	7 (10)	4 (10)	0 (10)	0 (10)	21 (60)
Prescribed burning	0 (40)	10 (40)	3 (40)	0 (40)	0 (40)	13 (240)
Roads						
• Construction	0 (1)	0 (0)	0 (73)	1.44 (55)	0 (55)	1.44 (239)
• Reconstruction/betterment	0 (0)	0 (0)	0 (55)	4.44 (55)	0 (55)	4.44 (220)
• Restoration	2 (2)	3 (3)	4.14 (3)	1.99 (3)	0 (3)	11.13 (17)
Oil and Gas Development	149 (149)	206 (112)	258.75 (112)	236.25 (112)	0 (112)	850 (709)
TOTALS	5103.6 (7489)	2470.6 (7456)	1317.39 (14,287)	2243.06 (8394)	587 (8394)	11,721.65 (54,414)

¹ Through 2nd quarter of 2002

² Total actual “take” (1998 through 2nd quarter of 2002) vs. authorized (total estimated in programmatic BO)

Reasonable and Prudent Measures

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize take of the Indiana bat.

1. Implement measures to minimize and monitor take of Indiana bats, including measures from the programmatic BO, and all project-specific conservation measures (as proposed by the Forest Service).
2. Consistent with the reasonable and prudent measures (page 70, item 3) and associated terms and conditions of the programmatic biological opinion (pages 73-75, item 5), determine use of the project area by Indiana bats.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, the Forest Service must comply with the following terms and conditions, which implement the reasonable and prudent measures described above and outline required reporting/monitoring requirements. These terms and conditions are non-discretionary.

1. For this project, implement all pertinent reasonable and prudent measures (p. 69, items 1-2) and terms and conditions (pp. 72-73, items 1-3 and 4a) stipulated in the programmatic BO to minimize the impact of the anticipated incidental take of Indiana bats and monitor such take.
2. Within a 2-mile radius of the primary Indiana bat roost structure (located at sampling site 72A), which includes stands 466-5, 466-11, 466-21, 466-26, 467-1, 467-15, 467-43, 467-71, 467-73, 467-74, and 467-31:
 - a. Conduct all timber harvesting between November 15th and March 31st, when the Indiana bat is expected to be away from the forest (in hibernation).
 - b. In the portion of stands (including stands 467-21, 467-41 and 467-46) that falls within the 2-mile radius area, do not conduct any timber harvesting. Instead, retain these portions as wildlife habitat.
 - c. Conduct 2-age prescriptions rather than the originally planned removal cuts.
3. Protect any new roosts identified during project implementation, in accordance with term and condition number 2 (related to Indiana bats) in the programmatic BO.
4. Consistent with term and condition number 3 (related to Indiana bats) in the programmatic BO, reinitiate consultation with the Fish and Wildlife Service if a maternity site is located in, or within 1.5 miles of, the project area.

5. Locate and survey cave and mine openings in the project area to determine whether or not Indiana bat hibernacula and potential swarming sites are present. Reinitiate consultation if an Indiana bat hibernaculum is located in, or within 5 miles of, the project area. Submit survey results to the Service. These results should include the location (lat/long) of the mine or cave opening(s); information about the cave/mine (e.g., length, configuration, temperature, presence of water); and bat survey results (e.g., survey dates, methods, surveyors).
6. Using radio-telemetry, track all Indiana bats captured at the primary roost structure (site 72A, located in 2001) to identify and characterize foraging and roosting habitat. Day roosts should be identified to the specific roost tree or structure, and attempts should also be made to identify night roosts to the specific roost tree or structure. Characterize all identified roost trees and structures. Also, determine the extent of the foraging habitat, and characterize those areas where 50 percent or more foraging time was spent. If more than 10 Indiana bats are captured, or if any female Indiana bats are captured, immediately contact the Fish and Wildlife Service to determine how to focus telemetry efforts. Submit a study proposal, and the study results to the Fish and Wildlife Service for review and comment.
7. Using radio-telemetry, track any Indiana bats captured via mist-netting within the project area to identify and characterize roosting and foraging habitat.

Reinitiation Notice

We would like to remind you that, in accordance with our June 1, 1999, biological opinion, and the June 1, 2000, amendment to that opinion, incidental take that occurs as a result of this and other projects on the Forest cannot exceed the annual or cumulative incidental take levels established in the programmatic biological opinion. 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 should be provided to this office tabulating the amount of incidental take (as it occurs) on projects being implemented throughout the Forest, as indirectly measured by acres affected. In addition, you should be aware that this project may be subject to further consultation pending the outcome of future consultations on the Forest Plan or Forest Plan amendments.

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 2 is exceeded, reinitiation of formal consultation as outlined in 50 CFR 402.16 is required.

If you have any questions regarding our response, or if you need additional information, please contact Carole Copeyon of my staff at 814-234-4090.

Sincerely,

David Densmore
Supervisor

LITERATURE CITED

Gannon, M.R. and T.E. Blackburn. 2002. Telemetry Study of Bats in Pennsylvania with Emphasis on the Indiana Bat (*Myotis sodalis*). Final report to U.S. Department of Agriculture, Forest Service. 37 pp.

cc:

ANF - Kevin Elliott

- Brad Nelson

RO - Glenn Smith

PGC - McDowell, Hassinger

Project file

Readers file

ES file - ANF - Mini-BO

ES:PAFO:LSmith:CCopeyon:ckc:5/31/02

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