



United States Department of the Interior



FISH AND WILDLIFE SERVICE
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September 21, 2006

Mr. John Schultz, District Ranger
Allegheny National Forest
Bradford Ranger District
29 Forest Service Drive
Bradford, PA 16701

RE: USFWS Project #2006-1408

Dear Mr. Schultz:

This responds to your letter of March 15, 2006, requesting Fish and Wildlife Service review of the Meads Mill Project Biological Assessment (BA). 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 Allegheny National Forest (ANF). The Fish and Wildlife 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 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) are 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 to avoid jeopardy to this species.

Although we have provided a programmatic biological opinion to the Forest Service for the ANF Forest Plan, we will review, as they are developed, site-specific projects that the Forest Service determines "may affect" federally listed species. We 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 our 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 Fish and Wildlife 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).

We have reviewed the information contained in the Meads Mill Project BA, which describes the potential effects of the proposed project on federally listed species. The proposed project types (*e.g.*, timber harvesting, road construction) and their effects were discussed and evaluated in the Forest Plan BA and programmatic BO. Therefore, consultation on these activities will proceed as a “Tier 2” consultation under the Forest Plan BO. Because the prescribed burning proposed under the preferred alternative exceeds the incidental take levels estimated in the programmatic BO, we will review that activity as a “Tier 1” consultation.

Forest Service Effect Determinations

The Forest Service initially determined that the federally listed Indiana bat, bald eagle, small-whorled pogonia (*Isotria medeoloides*), clubshell mussel, and northern riffleshell mussel occur or may occur in the project area or supporting watersheds.

Based on species surveys, and a further assessment of the potential effects of this project on listed species, the Forest Service reached a “no effect” determination for the small-whorled pogonia; a “may effect, not likely to adversely effect” determination for the bald eagle, clubshell, and northern riffleshell; and a “may affect, likely to adversely affect” determination for the Indiana bat. You requested our review of, and concurrence with, these effect determinations. Based on our review of the project BA and programmatic BO, our comments on your determinations follow.

Small-whorled Pogonia

The BA (p. 54) indicates that all sites proposed for treatment were surveyed in July, but that no small-whorled pogonias were found. Furthermore, a large portion of the project area has interfering vegetation composed of fern, grass, beech brush, and striped maple. Considering the results of these surveys, we concur with the Forest Service’s “no effect” determination.

Clubshell and Northern Riffleshell

The clubshell and northern riffleshell are known to occur in the Allegheny River. The Meads Mill project area drains directly into the Allegheny River, therefore erosion and sedimentation caused by project activities has the potential to affect listed mussels. The Forest Service has

proposed several conservation measures to reduce sedimentation from the proposed activities (BA, pp. 48-49). There are no treatments proposed in wetlands, within 50 feet of any intermittent streams, or within 100 feet of any perennial streams. In addition, there are no perennial streams within the Meads Mill project area that would provide suitable habitat for the endangered mussel species. Considering all of these factors, the Forest Service reached a “may affect, not likely to adversely affect” determination.

Based on further discussions with your staff, the Forest Service has agreed to implement the following conservation measure, which increases stream buffers to further reduce erosion and sedimentation.

- To avoid potential adverse effects to endangered freshwater mussels, earth disturbance (e.g., timber harvesting, road construction) will not occur within 300 feet of the Allegheny River or within 100 feet of tributaries to the Allegheny River (including perennial, intermittent and ephemeral streams), as measured from the top of the bank. To minimize the risk of bank erosion, a buffer of native woody vegetation (trees, shrubs) at least 50 to 100 feet wide will be retained on each side of rivers and streams, as measured from the top of the bank.

Based on the Forest Service’s commitment to implement the above conservation measures, we concur that implementation of the preferred alternative is not likely to adversely affect the clubshell or northern riffleshell mussel.

Bald Eagle

Based on available information and project area reconnaissance, no bald eagle nest sites are located in the proposed project area. The closest known bald eagle nest is located two miles from the project area (BA, p. 39). However, bald eagles have been observed carrying nest material in the lower Hedgehog Run drainage, approximately one mile east of the project area, and they have been observed foraging in the lower part of Brokenstraw Creek and the Allegheny River. No treatments, with the exception of the Buckaloons prescribed burn, are proposed within approximately one mile of the foraging areas. The Buckaloons beanfields are located adjacent to the Allegheny River, but the short duration of the burn should not displace foraging eagles for a significant amount of time since foraging habitat is widely available upstream and downstream in the Allegheny River. Based on these considerations, the Forest Service reached a “may affect, not likely to adversely affect” determination. We concur with this determination.

Indiana Bat

The Forest Service determined that implementation of this project “may affect, is likely to adversely affect” the Indiana bat. 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 areas. As described in our programmatic BO, we believe that adverse effects on the Indiana bat are likely to occur from timber harvesting carried out under the Forest Service’s management program. 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 Meads Mill Project that will minimize the impact of any incidental take, we have concluded that activities associated with the Meads Mill Project will not result in adverse effects on the Indiana bat beyond those that were previously disclosed and discussed in the programmatic BO.

The following biological opinion is based on potential adverse effects on the Indiana bat due to the removal of suitable habitat during timber harvesting associated with the Meads Mill Project. This Tier 2 BO identifies the incidental take anticipated due to implementation of the Meads Mill Project (Alternative 2), and the cumulative total of incidental take that has occurred (Table 2).

Description of the Proposed Action

The proposed project involves various commercial timber management activities, and reforestation practices. The project area is located southwest of Warren in Warren County, Pennsylvania, and consists of approximately 20,342 acres, of which 9,950 acres are National Forest System land. Currently, most of the project area is mature second growth hardwood forest (85 percent). Fourteen percent of the project area is young forest habitat (less than 50 years of age) (BA, p. 5).

Three alternatives were assessed in the BA. The Forest Service has selected Alternative 2 as the preliminary preferred alternative; therefore, this biological opinion focuses on the effects expected due to implementation of this alternative. The project goals are to carry out commercial timber harvests, and salvage commercially valuable trees damaged by insects or disease. The preferred alternative involves timber harvest treatments and under-story treatments. Table 1 (below) summarizes those activities proposed under the preferred alternative that will affect potential Indiana bat habitat (taken from the BA, p. 23).

Specifically, 1509 acres of timber harvesting will occur, including: 556 acres of shelterwood removal, 449 acres of shelterwood seedcut, 485 acres of thinning, and 19 acres of clearcut. In addition to timber harvest treatments, 549 acres are proposed for prescribed burning (some of this acreage may be burned twice), 215 acres will be impacted for oil and gas development, 39 acres will be clearcut for gravel pit development, and 2.2 acres will be impacted for new road development.

All the above activities will affect a total of 2314.2 forested acres, 1765.2 of which are 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.

Table 1. Forest impacts resulting from the preferred alternative.

Activity	Acres	Type of Harvest	Category of Take	Estimated Completion
Commercial Thinning	433	Green Partial	Thinning	2006-2011
Shelterwood Seedcut	449	Green Partial	Shelterwood Seed/prep	2006-2011
Shelterwood Removal	449	Green Partial	Shelterwood Removal	2016-2021
White Pine release	5	Green Partial	Thinning	2006-2011
Riparian Enhancement	38	Green Partial	Thinning	2006-2011
Hemlock Release	9	Green Partial	Thinning	2006-2011
Delayed Shelterwood Removal	82	Green Final	Shelterwood Removal	2006-2011
Aspen Regeneration	18	Green Final	Clearcut	2006-2011
Opening Construction	1	Green Final	Clearcut	2006-2011
Salvage Shelterwood Removal	25	Salvage Final	Shelterwood Removal	2016-2021
Prescribed Burns	549	N/A	Burning	2011-2025
Road Construction	2.2	Green Final	New Road Construction	2006-2011
Gravel Pit Construction	39	Green Final	Clearcut	2006-2011
Oil and Gas Development	215	NA	Oil and gas	2006-2025
Total	2314.2			

The Forest Service has proposed to implement the following project conservation measures (summarized from the BA, p. 32), based on the presence of suitable Indiana bat habitat in the project area, and the assumption that the habitat is occupied by this species.

- Retain all shagbark and shellbark hickories (live, dead and dying), regardless of size, in partial and final harvest cutting units (green and salvage units).
- Retain 4-6 live den trees per acre. Where an inadequate number of live trees occur, retain older, larger trees, especially those with old wounds and broken limbs.
- Mark for retention a clump approximately 0.25 acre in size for every 5 acres harvested. Where possible, clumps of trees should contain any or all of the

following: den trees, snags, oak/hickory, conifers, minority, and/or mast species and a variety of tree sizes. The Forest Service will protect these clumps and note the clumps on the sale area map.

- For both partial and final harvests in green units, retain all snags. Retain at least 8-15 live trees \geq 9 inches d.b.h. per acre in final harvest units, and at least 16 live trees \geq 9 inches d.b.h. per acre in partial harvest units.
- Live residual trees to be retained will be Class 1 or Class 2 trees (Romme *et al.* 1995), or other trees exhibiting or likely to develop characteristics preferred by Indiana bats (*e.g.*, exfoliating bark).
- For partial/intermediate harvests in healthy stands, reduce canopy closure to >54 percent.
- Designate and retain living residual trees in the vicinity of one third of all large diameter snags with exfoliating bark to provide them with partial shade in summer.
- If a new roost is identified during implementation of the selected alternative, the following mitigation measures will be implemented:
 - To minimize incidental take of roosting bats, all known roost trees on the ANF will be protected until such time as they no longer serve as a roost (*e.g.*, loss of exfoliating bark or cavities, blown down or decay). In the event that it becomes absolutely necessary to remove a known Indiana bat roost tree, such a removal will be conducted during the time period when the bats are likely to be in hibernation (November 15 through March 15), through consultation with the Fish and Wildlife Service. Trees identified as immediate threats to public safety may be removed at any time following consultation. Such removal, however, will be a last resort, after other alternatives (such as fencing the area, etc.) have been considered and deemed unacceptable.
 - Activities within a 1.5-mile radius of Indiana bat maternity sites will be subject to further consultation. Such activities include those that may affect the Indiana bat or alter its habitat (*e.g.*, by removing potential roost trees or altering percent canopy closure), such as timber harvesting, road construction, trail construction, and federal oil and gas development. In addition, if an Indiana bat maternity site is found on the ANF, the Forest Service shall consult to determine/develop standards and guidelines and/or a conservation plan to protect and manage the site.
- In order to minimize the loss of existing roost trees, prior to burning, slash will be pulled away for a distance of 10 feet from all existing snags with sloughing bark, as well as from any live trees that exhibit sloughing bark on 20 percent or more of the trunk. Once all the slash is removed, a scratch line will be put around the tree, to further reduce the intensity of burning occurring at the base of the tree.

- All burning will be conducted between April 15 and May 30, when only volant bats (*i.e.* bats capable of flight) will be present.

Other proposed activities associated with the preferred alternative are not expected to remove suitable Indiana bat habitat, or result in direct or indirect effects on, or take of, the Indiana bat. These activities include herbicide treatments, reforestation activities, and road improvement projects.

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.

Based on the 2001 winter census, the total known Indiana bat population was estimated to be 380,000, down from approximately 880,000 bats in 1960. Approximately half of the population hibernated in eight Priority 1 hibernacula in Indiana, Kentucky and Missouri (Clawson 2002). The 2001 winter count at Priority 1 hibernacula was 102,870 bats, down from the 115,885 Indiana bats that were estimated in 1999 at the same locations (R. 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. In February of 2003, the Pennsylvania Game Commission documented the presence of 765 Indiana bats at the Canoe Creek mine in Blair County, approximately 75 miles southeast of the ANF. In February of 2001, the Indiana bat count at the Canoe Creek mine was 604 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. Between 1998 and 2004, 282 sites were surveyed (*i.e.*, mist-netted) for bats on the ANF. In addition, 123 of these sites were also sampled using 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 on the ANF in 1998, and another male Indiana bat was captured in 2001 on private land adjacent to the ANF.

Between 1998 and 2001, potential Indiana bat vocalizations were detected at 16 of 123 Anabat sampling sites. Positive detection of bats with this equipment could form the basis for a presumption of Indiana bat presence. Recent studies indicate that the echo-location 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, we do 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.

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.

Factors Affecting the Species' Environment (on the ANF)

The percentage of trees in the 90-year and older age classes has increased, and includes a 6.8 percent increase in trees in the 90-109 year-old age class, and an increase of 9.6 percent in trees 110 years and older. Conversely, trees in the 60-89 year age class have decreased by 4.3 percent. Additionally, there has been a decrease of 9.9 percent in trees in the 20-59 year age class and a 2.1 percent decrease in under-stocked savannahs and openings. Stands in the 0-19 year age class have increased slightly (0.2 percent). Other changes relate to a decrease in timber harvest between 1998 and 2001. The timber harvest on the ANF has decreased from an average annual harvest of 7556 acres between 1986 and 1997, to 2253 acres between 1998 and 2004. This represents a 70 percent reduction in average annual timber harvest levels.

Although the amount of timber harvest has been reduced in the last five 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 percent) involves thinning and salvage treatments, 175 acres (7 percent) includes uneven-aged management (*i.e.*, group and individual tree selection), and 902 acres (62 percent) 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 percent 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 annual average of 13.7 miles between 1986 and 1997, to an annual average of 0.1 mile of new road construction since 1998. Road reconstruction has had a similar reduction, and road betterment has dropped from an average annual of 10.1 miles from 1986 to 1997, to an annual amount of 0.1 mile between 1998 and 2000. Since 1998, the average annual amount of road restoration has been 36.9 miles, which represents a 22 percent reduction in annual road restoration over what was completed between 1986 and 1997 (46.8 miles per year).

Status of the Species Within the Action Area

Between 1998 and 2005, mist-netting surveys were conducted at 13 sites within the project area, or within one mile of the project area. Several different species of bats were captured, the majority being northern long-eared myotis and big brown bats; however, no Indiana bats were captured. Due to the presence of suitable roosting and foraging habitat in the project area, the Forest Service has assumed that Indiana bats are present.

The project area was evaluated to determine the amount and distribution of Indiana bat habitat. This is the area that would be expected to receive use, if an Indiana bat roost site occurred in a treatment stand. Based on this analysis, suitable habitat occurs on approximately 89 percent of the project area (BA, p. 22).

Effects of the Action

Forest Service analysis of the preliminary preferred alternative for the Meads Mill Project includes consideration of the assumed presence of Indiana bats and their habitat in the project area. The Fish and Wildlife Service anticipates that the proposed actions associated with the Meads Mill Project could result in the incidental take of Indiana bats through harm or harassment, especially if those activities occur when bats may be present (*i.e.*, between April 1 and September 30).

Activities associated with this project that may result in incidental take of the Indiana bat include timber harvesting (1509 acres), oil and gas development (215 acres), gravel pit development (39 acres), new road development (2.2 acres), and prescribed burning (549 acres). In summary, 2314.2 acres of forest will be cut, harvested, or burned between 2006 and 2025. Within the project area, these activities will result in a four percent reduction in the total available suitable roosting and foraging habitat for Indiana bats (BA, p. 29).

The types of timber harvest activities proposed were described on pages 7-8 of the programmatic BO. The potential direct and indirect effects on the Indiana bat from harvest or removal of trees due to timber harvesting and road construction are consistent with those identified and evaluated in the programmatic BO (pp. 46-48, 51, 65-66), and are hereby incorporated by reference. Minimization of adverse effects will be addressed by implementation of the project-specific conservation measures, as described in the “Proposed Action” section of this opinion.

As described in our programmatic BO, we believe that adverse effects on the Indiana bat are likely to occur from timber harvesting and other tree-cutting activities under the Forest Service’s management program activities. Therefore, given the nature of activities associated with the proposed project, we believe that incidental take of Indiana bats is possible within the project area. However, we have concluded that activities associated with the Meads Mill Project, with the exception of prescribed burning, will not result in adverse effects to the Indiana bat beyond those that were previously disclosed and discussed in the programmatic BO.

The amount of prescribed burning proposed in Alternative 2 (549 acres) exceeds the incidental take authorized in the programmatic BO. Therefore, this activity is being assessed via a Tier 1 rather than a Tier 2 consultation. Prescribed burning will be done after the stands receive a shelterwood seedcut and oak seedlings have established, approximately five years after the initial cut. Some of this acreage may be burned twice to achieve successful oak establishment. In addition, burning would occur over several years, and would be scattered throughout the project area in approximately 40-acre parcels. Therefore, impacts to any one bat’s foraging habitat (assuming an Indiana bat is present) would be minimal because only a portion of the habitat would be burned in any one year. To prevent suitable roost trees from catching on fire, all snags and trees exhibiting roost tree characteristics will have the slash cleared away and a scratch line put around them.

Since burning will take place in the spring when bats may be present on the forest, they could be adversely affected if they are roosting in an area that is burned. Those bats that do not attempt to seek cover in a safe location may suffer death or injury from smoke inhalation or fire. To reduce the likelihood of bat mortality, the Forest Service has agreed to carry out prescribed burns between April 15 and May 30. During this period, only volant bats are present, since this is prior to the time period when female bats usually give birth (June-July).

With the proposed conservation measures, and the distribution of the relatively small prescribed burn treatment areas across a large project area, potential adverse effects to Indiana bats have been minimized but still may occur as a result of burning when bats are present on the forest. Therefore, this opinion authorizes 549 acres of incidental take for this activity.

Cumulative Effects

Cumulative effects include the effects of future State, tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. The action area is the area where the direct and indirect effects of the federal action are anticipated to occur. Oil and gas development is likely to continue to occur within the action area, which supports 1865 active wells. Based on past development and distribution, it is estimated that

approximately 287 new wells will be constructed, which would affect approximately 215 acres of forest habitat for well pads, roads, and gravel pits. The Forest Service does not hold most subsurface rights on the ANF. Development of oil and gas resources depends on market conditions, and the economic status of the companies that develop these resources.

Conclusion

The actions and effects associated with the proposed Meads Mill project are 1) consistent with those identified and discussed in the Fish and Wildlife Service's programmatic BO, or 2) in the case of prescribed burning, assessed in this opinion. After reviewing the size and scope of the project, the environmental baseline, the overall status of the Indiana bat, 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.

This project has not resulted in a jeopardy determination because: 1) the project's impacts are consistent with those identified and discussed in the programmatic BO; and 2) the Forest Service has proposed to implement project conservation measures to minimize take, including Forest Plan standards and guidelines, and the terms and conditions from the programmatic BO.

Incidental Take Statement

This biological opinion is based on likely adverse effects on the Indiana bat due to the removal of suitable foraging and roosting habitat during timber harvesting and other activities within the action area associated with the Meads Mill Project. This opinion identifies the incidental take anticipated due to implementation of the Meads Mill Project (Alternative 2), and the cumulative total of incidental take that has occurred on the ANF (Table 2).

Consistent with the approach taken in the programmatic BO, incidental take for this species is measured indirectly as loss or alteration of forest habitat (in acres), as outlined in Table 2. Thus, implementation of the preferred alternative will result in the take of Indiana bats, as measured by the loss/alteration of 2314.2 acres of forest habitat between 2006 and 2025. Of this amount, 1765.2 acres is counted toward the cumulative annual incidental take as outlined in the programmatic BO (Table 6, p. 67), and 549 acres of additional incidental take is authorized for prescribed burning.

The actual incidental take reported by the Forest Service (fiscal years 1998 through 2006), 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 cause the take levels in the programmatic BO to be exceeded, with the exception of prescribed burning.

Table 2. Actual (bold type) 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.

Activity	Acres Actually vs. Authorized to be Removed/Disturbed									
	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY ¹ 2004	FY ¹ 2005	FY ¹ 2006	Total ²
Trail Construction										
Pedestrian	0.3	7.8	0.3	0.2	0	0	0	0	0	8.6
	0	8	2	2	2	2	2	2	2	16
Motorized – winter	0.3	3.6	0	0.6	0	0	0	0	0	4.5
	4	0	4	4	4	4	4	4	4	20
Motorized - summer	6	1.2	3.2	2.14	0	0.42	0	0	0	12.96
	0	0	4	4	4	4	4	4	4	16
Timber Management										
Clearcut	191	222	0	59	6	0	15	195	16	720
	220	220	420	220	220	220	220	220	220	1520
Shelterwood seed/prep	1558	521	299	395	575	518	288	380	292	4937
	1640	1640	4000	2000	2000	2000	2000	2000	2000	13280
Shelterwood Removal	1203	573	488	843	381	617	621	1034	418	6362
	1864	1864	1864	1864	1864	1864	1864	1864	1864	11184
Thinning	1526	732	240	659	988	692	707	1494	287	7451
	3225	3225	7000	3225	3225	3225	3225	3225	3225	23125
Selection cut	458	184	17	40	63	0	90	0	0	942
	334	334	700	800	800	800	800	800	800	3768
Wildlife Habitat Management	10	7	4	0	0	5	8	5	0	39
	10	10	10	10	10	10	10	10	10	60
Prescribed Burning	0	10	3	0	0	0	0	39	0	52
	40	40	40	40	40	40	40	40	40	240
Roads										
Construction	0	0	0	1	2	0	0	1.8	0	4.8
	1	0	73	55	55	55	55	55	55	239
Reconstruction /Betterment	0	0	0	4.44	2	0	0	9.1	0	15.54
	0	0	55	55	55	55	55	55	55	220
Restoration	2	3	4	2	1	3	3	12.4	0	30.4
	2	3	3	3	3	3	3	3	3	17
Oil and Gas Development	149	206	259	236	194	152	165.33	516	0	1877.33
	149	≥112	≥112	≥112	≥112	≥112	≥112	≥112	≥112	≥709
TOTALS	5104	2471	1318	2244	2212	1987	1897	3686.3	437	21932.3
	7489	7456	14287	8394	8394	8394	8394	8394	8394	54414

¹ Although carry-over of un-used incidental take from previous fiscal years has been authorized, incidental take cannot exceed the activity-specific levels for FY 2003, or the activity-specific total.

² Total actual take (FY 1998-FY 2006) vs. authorized take (total estimated in Forest Plan BO)

Reasonable and Prudent Measures

The Fish and Wildlife Service believes the following reasonable and prudent measure is necessary and appropriate to minimize take of the Indiana bat.

- Ensure that conservation measures are implemented to minimize adverse effects on federally listed species.

Terms and Conditions

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

- Implement project conservation measures (as detailed on pages 19 and 23 of the BA; and pages 3, 5, 6 and 7 of this BO).
- Continue to report incidental take to the Fish and Wildlife Service quarterly.

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 ANF 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 continue to be provided to this office tabulating the amount of incidental take (as it occurs) on projects being implemented throughout the ANF, 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 that the agency action 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.

To avoid potential delays in reviewing your project, please use the above-referenced USFWS project tracking number in any future correspondence regarding this project.

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

Sincerely,

David Densmore
Supervisor

LITERATURE CITED

- Clawson, R.L. 2002. Trends in population size and current status *in* Kurta A., and J. Kennedy, eds. The Indiana bat: biology and management of an endangered species. Bat Conservation International, Austin, Texas.
- Romme, R.C., K. Tyrell and V. Brack, Jr. 1995. Literature summary and habitat suitability index model: components of summer habitat for the Indiana bat, *Myotis sodalis*. Report submitted to the Indiana Department of Natural Resources, Division of Wildlife, Bloomington, Indiana by 3D/Environmental, Cincinnati, Ohio. Federal Aid Project E-1-7, Study No. 8, 38 pp.

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