

APPENDIX I:

RESPONSES TO COMMENTS

This appendix (1) explains the process that was used to seek public input on the Environmental Assessment for the Threatened and Endangered Species Amendment (EA); (2) summarizes the comments that were received during the comment period for the EA; and (3) documents the Forest's responses to public comments.

PROCESS FOR SEEKING PUBLIC INVOLVEMENT

The EA for the Threatened and Endangered Species Amendment was e-mailed or sent hardcopy to approximately 125 individuals, agencies, and organizations. It was posted on the Monongahela National Forest's (MNF) website at www.fs.fed.us/r9/mnf/environmental/enviornmental_index.htm). Legal notices were placed in six newspapers--including The Inter-Mountain, the paper of record for this decision. Availability of the EA was also published in the MNF Schedule of Proposed Actions.

The comment period for the EA ran for about 60 days, ending March 31, 2003. The Forest received over 270 e-mails and about 20 postal letters. Approximately 240 of the e-mails were form letters. The interdisciplinary team read and sorted each response into the categories identified on the following pages.

COMMENTS AND RESPONSES

COMPLIANCE WITH THE NATIONAL ENVIRONMENTAL POLICY ACT

Comment: Concerns were expressed that the analysis contained in the EA was inadequate and failed to meet the standards of the National Environmental Policy Act (NEPA).

Response: The EA, its appendices, and the information documented in the administrative record demonstrate that the MNF has met the standards set by the NEPA.

As required, the MNF used "a systematic, interdisciplinary approach" to insure "the integrated use of natural and social sciences...in planning and decision making" (NEPA, Section 102(2)(A)). Nineteen MNF employees with a variety of expertise contributed to the analysis for the Threatened and Endangered Species Amendment to the Forest Plan (EA, pp. IV-1 and IV-2). The natural and social sciences considered during the analysis are documented in Chapter III of the EA and extensive supporting information is documented in the administrative record.

The Responsible Official consulted and obtained comments from the public and State and Federal agencies, and studied, developed, and described appropriate alternatives to recommended courses of action (NEPA, Section 102(2)(C and E)). The process that was used to consult and obtain comments for this amendment is summarized in the EA on page I-7 and at the beginning of this appendix. Pages VI-2 through VI-5 list the names of the 127 agencies, individuals, and groups that commented prior to the release of the EA and information in the administrative record identify those who were contacted, the ways in which the public was encouraged to participate in the process, and the people who responded during the comment period for the EA. The Forest received over 270 e-mails and about 20 postal letters in response to releasing the EA for comment.

The comments that agencies, individuals, and groups provided throughout the analysis process and the Forest's responses to them were either documented in the EA, in Appendix F of the EA, or in this appendix. Twenty-one alternatives were considered during the analysis; four of which were considered in detail. The reasons for this range of alternatives are explained on pages II-35 through II-44 of the EA. The scope of the analysis was limited to the changes needed at this time to meet the purpose and needs that were defined on page I-2.

PREPARE AN EIS

Comment: Some people suggest that the amendment is a major federal action and believe an EIS should have been prepared.

Response: After considering the environmental effects described in the EA, the Forest Supervisor determined that this amendment is not a major federal action, individually or cumulatively, and it will not significantly affect the quality of the human environment (DN/FONSI, pp. 11). Therefore, an environmental impacts statement is not needed. The rationale for this determination is supported by information on the following pages of Chapter III of the EA:

Subject	Pages
Threatened and endangered species	III-18
Sensitive species	III-23 and III-26 thru III-28
Management indicator species	III-34 thru III-39
Forest age class diversity and forest types	III-45 thru III-46 and III-50
Silviculture program	III-53 and III-54
Forest health	III-55 thru III-58
Air quality	III-60
Soil and water	III-63 and III-64
Riparian and aquatic	III-66 thru III-68
Transportation	III-70 thru III-72
Timber	III-79 and III-80
Minerals	III-83 thru III-85
Range	III-85 thru III-86
Recreation	III-88 thru III-91
Lands and special uses	III-92 thru III-95
Heritage Resources	III-95
Special and unique areas	III-96
Scenery	III-97 thru III-99
Wetlands and floodplains	III-99
Wild and scenic rivers	III-100 thru III-101
Wilderness	III-102 and III-103
Economics	III-103
Environmental justice	III-104

DEAL WITH THREATENED AND ENDANGERED SPECIES DURING FOREST PLAN REVISION

Comment: Some people asked if the MNF has completed Forest Plan revision. They believe the amendment is a “short-cut” to avoid issues that should be dealt with in the Forest Plan Revision or through the completion of a detailed EIS.

Response: The MNF is in the process of conducting the analysis needed to revise the Forest Plan. We anticipate completing this analysis in 2005. Until the revision process is complete, implementation of the existing Forest Plan will continue.

As indicated in 65 Fed. Reg. 67579, November 9, 2000, a responsible official is to consider the best available science in implementing and, if appropriate, amending the current plan until the revision process is completed. The MNF reviewed the best available science regarding threatened and endangered species of the MNF and documented the effects that implementation of the existing Forest Plan has on the species (2001 Revised Biological Assessment). From this analysis, the MNF determined that changes to the existing Forest Plan would benefit threatened and endangered species, especially the Indiana bat and WV

northern flying squirrel. Therefore, the analysis for the Threatened and Endangered Species Amendment to the Forest Plan was initiated prior to Forest Plan revision.

The purpose of the Threatened and Endangered Species Amendment was not to reauthorize the entire Forest Plan, only to address new information regarding threatened and endangered species (Purpose and Need for Action, EA, p. I-2). As summarized in the EA, the actions proposed under all action alternatives will promote the conservation and recovery of threatened and endangered species on the MNF (Biological Evaluation, Appendix G, p. 38). Adding and revising threatened and endangered species standards will ensure the MNF continues to apply consistently measures that will protect and aid in the recovery of threatened and endangered species (DN/FONSI, p. 14). The Amendment ensures the Forest remains in compliance with the ESA, as amended, and the NFMA until such a time as the Forest Plan is revised (DN/FONSI, pp. 15-16). As documented in the DN/FONSI, the Amendment will not have a significant effect on the human environment; therefore, an EIS will not be prepared (DN/FONSI, p. 11).

The impacts of the Amendment are likely to be short term (EA, p. I-5). During the ongoing revision process, the standards authorized by this Amendment will be reviewed and evaluated in the context of other issues, alternatives, and effects. A new Biological Assessment will be prepared for Forest Plan revision, and appropriate consultation will be undertaken with USFWS.

FLAWS IN ASSUMPTIONS

Comment: It was suggested that the EA contained flaws in assumptions and analysis that must be corrected before a finding of no significant impact can be made.

Response: Except as noted in other sections of this Appendix, commenters did not identify the assumptions they felt were flawed; thus it is not possible to respond to this comment.

SCOPING OUT OF ORDER

Comment: Some people objected to the order in which public involvement was conducted. They felt scoping for the Proposed Action should have occurred after the Biological Opinion was issued. They stated that scoping prior to the release of the Biological Opinion “substantially disadvantaged the public in making meaningful comment.”

Response: It is not clear how the public was substantially disadvantaged in making meaningful comment, since opportunities to comment on the Amendment were provided both before and after the Biological Opinion was issued by the USFWS.

Four opportunities were provided for the public to comment on the Amendment: (1) initial scoping for the Proposed Action in February 2001; (2) when the 12/2001 Planning Update was released; (3) when the Biological Opinion was posted 05/2002; and (4) during the formal comment period for the 1/2003 EA. The public was not precluded from providing comments anytime during the analysis process.

In December 2001, interested parties were given an opportunity to review and comment on the Revised Biological Assessment. The December 3, 2001, letter was posted on the MNF website and sent hard copy and/or e-mail to interested parties to update them on the progress of the proposed amendment. The letter described what had been accomplished to date, what was yet to be completed, and how additional information could be obtained. The letter noted that revisions to the Biological Assessment (BA) had been completed and that the revised BA could be obtained from the Forest’s website or by contacting Laura Hise. Contact persons were identified for interested parties to call or e-mail if they had questions or comments.

In May 2002, eight months prior to the release of the EA, interested parties were given an opportunity to review and comment on the USFWS’s Biological Opinion on the Impacts of Forest Management and Other Activities to the Indiana Bat on the Monongahela National Forest (Biological Opinion). The May 10, 2002, letter was posted on the MNF website and sent hard copy and/or e-mail to interested parties to

inform them that the USFWS's Biological Opinion was available. The letter indicated that a hardcopy of the Biological Opinion could be obtained by contacting the MNF or it could be viewed at the MNF's website http://www.fs.fed.us/r9/mnf/environmental/environmental_index.htm. A contact person was identified so interested parties could provide comments or ask questions.

In January 2003, the EA for the Proposed Threatened and Endangered Species Amendment to the Forest Plan was made available for public comment. This was done even though the Code of Federal Regulations 217, the Federal regulations under which this decision is governed, does not require a comment period. The formal comment period for the EA ran for 60 days.

RANGE OF ALTERNATIVES

Comment: It was stated that a reasonable range of alternatives was not considered in the EA. Commenters proposed three alternatives for consideration: (1) a different alternative to address WV northern flying squirrels; (2) an alternative that ends logging on MNF lands; and (3) an alternative that only allows un-evenaged harvesting on the MNF.

Response: Consistent with the NEPA, the scope of the analysis was limited to the changes needed at this time to meet the purpose and needs that were defined on page I-2 of the EA. The scope was limited to incorporating the Mandatory Terms and Conditions that were identified in the USFWS March 2002 Biological Opinion; incorporating The Guidelines for the Identification and Management of WV Northern Flying Squirrels that were made part of the Appalachian Northern Flying Squirrels' Recovery Plan (Updated) in September 2001; and revising standards and monitoring requirements that would better articulate the MNF's on-going efforts to manage, protect, and recover threatened and endangered species.

All the alternatives that the public or resource specialists proposed prior to the release of the EA were addressed during the analysis. Four of them were analyzed in detail: the No Action Alternative, Proposed Action, Alternative 1, and Alternative 2; and their effects were disclosed in Chapter III of the EA. Another seventeen alternatives were considered, including an alternative WV northern flying squirrel alternative, a No Logging Alternative, and an alternative to allow uneven-aged management. However, they were not studied in detail for reasons described on pages II-35 through II-44 of the EA.

NEPA requires federal agencies to study, develop, and describe appropriate alternatives to recommended courses of action in any proposal that involves unresolved conflicts of alternative uses of available resources. The regulations of the Council on Environmental Quality implementing NEPA discuss alternative development. Agencies are to rigorously explore and objectively evaluate reasonable alternatives, and briefly discuss the reasons for eliminating alternatives from detailed study (40 CFR 1502.14(a)). While the regulations require that a range of alternatives be analyzed, the no action alternative is the only alternative specifically required as an option to the proposed action (40 CFR 1502.14(d)). NEPA does not prescribe any particular number or range of alternatives, but gives federal agencies discretion to determine appropriate alternatives based on the purpose of the proposal.

NEPA "does not require an agency to examine every conceivable alternative to a project involving the environment, but only those that are reasonable." An EIS or EA need only set forth alternatives sufficient to permit a reasoned choice. The USFWS reviewed the EA and considered the alternatives to be appropriate (USFWS, correspondence 03/24/03).

One commenter stated there should be a range of alternatives addressing the needs of the WV northern flying squirrel and the overall range of alternatives should be wider than currently constituted. However, the commenter did not explain why a wider range of alternatives is needed. A commenter only identified one WV northern flying squirrel alternative to those that were considered in the EA-- that being an alternative to protect sites where WV northern flying squirrels have been captured but which don't fit the most recent definition of "suitable" WV northern flying squirrel habitat (note: the response to this proposed alternative is provided later in this document). Except in the case of the WV northern flying squirrels, the commenter does not explain why threatened and endangered species would not be

adequately protected by proposed alternatives or what and why other alternatives would be better. The commenter has not provided sufficient information or rationale for why the determinations made by the Forest and concurred with by the USFWS are not adequate to manage for, protect, and aid in the recovery of threatened and endangered species.

In summary, all action alternatives would provide more protection to listed species than is provided by the No Action Alternative (implementation of the existing Forest Plan). The MNF has determined, and the USFWS as concurred, that all action alternatives will protect threatened and endangered species. None of the action alternatives will cause jeopardy to listed species; and all would further species recovery under the ESA and maintain threatened and endangered species management as the Forest's first and top priority (Forest Plan, p. 84).

PROPOSED ACTION

Comment: Some people favored implementation of the Proposed Action, while others did not.

Response: The MNF did not choose to implement the Proposed Action for reasons identified on page 10 of the DN/FONSI. The primary reason was that the potential effects of the Proposed Action on soil, water, riparian, and aquatic resources would be greater than the selected alternative (Alternative 1) without substantially benefiting threatened and endangered species (EA, pp. II-29 through II-30, II-31, III-10 through III-20, III-63 through III-64, and III-66 through III-68).

The Proposed Action would have implemented standards with seasonal restrictions on large-scale activities within five-mile radii of Indiana bat hibernacula, which were intended to further reduce the chance of "taking" a roosting Indiana bat beyond what USFWS required in the Biological Opinion. However, long-term seasonal restrictions on tree-felling activities within these zones would affect the Forest's ability to improve Indiana bat habitat and conduct other activities compatible with Indiana bat. Implementation of forest management practices that provide diverse forest environments is desirable because bats benefit from the availability of a variety of tree species, sizes, and age classes.

Many of the five-mile zones around Indiana bat hibernacula overlay sensitive geology and soils that are not compatible with winter logging. Approximately 51,000 acres of National Forest System lands fall within this category. Implementing the Proposed Action could result in more timber harvesting in the winter when there is a greater potential for adverse soil and sediment effects; or in less timber being harvested by conventional ground-based harvesting systems; or a reduction in timber harvesting to avoid adverse soil, water, and aquatic resource effects.

Based on the analysis documented in the EA, a complete cessation of summer logging, as proposed under the Proposed Action Alternative, is unnecessarily restrictive. Long-term implementation of seasonal restrictions could result in substantial changes or even termination of Forest Service activities due to conflict in individual resource direction (dueling time constraints). Constraining large-scale tree felling activities on acres within five miles of Indiana bat hibernacula to November 15 and March 31 (wet season) would have the potential to result in substantial environmental effects due to erosion and sedimentation issues; so to avoid such impacts, activities during this time period would have to be restricted. A reduction in the amount of timber harvested by conventional ground-based methods could result in a substantial increase in harvesting costs. Both reducing the amount of timber harvested and reducing the amount of timber harvested by conventional ground-based methods could result in a substantial reduction in benefits to local economies (EA, pp. III-77 through III-78).

ALTERNATIVE 2

Comment: Some people favored implementing Alternative 2, while others did not. Some felt Alternative 2 would do the most to protect and enhance the Indiana bat and its habitat. Some felt it was better to err on the side of more than enough protection rather than on the side of too little protection.

Response: Alternative 2 was not selected for implementation because, more than any of the four alternatives, it would prevent timber harvesting from being used as a tool to manage vegetation for wildlife, including the Indiana bat. Based on the analysis documented in the EA, eliminating timber harvesting within a five-mile radius of Indiana bat hibernacula is unnecessarily restrictive and potentially adverse to the Indiana bat's long term habitat needs and could negatively impact other threatened and endangered species (e.g. VA big-eared bat). As the commenter notes, Alternative 2 does the most to protect Indiana bat habitat, at least in the short term, and it protects Indiana bats because it reduces the chance of taking individuals. However, Alternative 2 does not do the most to enhance Indiana bat habitat to meet their long term needs. Commercial timber sales are an economical option for managing Indiana bat habitat that could be used to maintain the forest canopy cover that Indiana bats prefer (see responses to "No Logging Alternative"). Non-commercial means could be used to create favorable habitat conditions for the Indiana bat, but implementing non-commercial activities is dependent on force-account funds, which are often limited and may not be available in the quantity necessary to maintain the ~156,000 acres of Indiana bat primary range.

NO LOGGING OR UNEVEN AGED MANAGEMENT ALTERNATIVE

Comment: Some felt the Forest should have considered in detail an alternative that would end logging on the MNF, an alternative that would only allow uneven-aged management, or an alternative that favors old growth management in MP 6.3 areas. They felt that the analysis also needs to consider the impacts logging will have on the Indiana bat.

Response: These alternatives were considered, but not analyzed in detail for reasons explained on pages II-35 through II-38 of the EA. As will be explained in the following paragraphs, restrictions or bans on timber harvesting, even-aged management or applied to the entire Forest would be inconsistent with legal requirements, FS policies, and goals and objectives set forth in the Forest Plan. Prohibiting timber harvest would also be inconsistent with biological requirements of some threatened and endangered species. Restrictions on timber harvest may be appropriate for consideration in some areas of the Forest, and new threatened and endangered species standards identify areas where timber activities may be inappropriate. Other areas could be analyzed at the project level as needed.

The Forest Plan was developed to maintain or enhance species composition, structure, and function of central Appalachian ecosystems, while providing various goods and services to the American people. It strongly emphasizes the protection and conservation of threatened and endangered species habitat as a first priority management activity; but also allows for providing various goods and services in the context of multiple use management (National Forest Management Act of 1976" (16 U.S.C. 1600), the National Environmental Policy Act (33 Stat. 852, as amended; 42 U.S.C. 4321 et seq), Multiple-Use Sustained-Yield Act of 1960 (PL 86-517 74 Stat. 215), the Organic Act (1897)(30 Stat. 11)).

During the scoping period for the Proposed Action, several alternatives were suggested for evaluation. The scope of the analysis for the Threatened and Endangered Species Amendment to the Forest Plan was confined to a reasonable range of alternatives that would respond to the purpose and needs that were defined on page I-2 of the EA. The Amendment was needed because the existing Forest Plan does not contain standards that would minimize the "taking" of an individual Indiana bat and to implement the "Terms and Conditions" of the 2002 Biological Opinion and incorporate changes to the Appalachian Northern Flying Squirrel's Recovery Plan (Updated) into the Forest Plan.

As identified in Chapter II p. 35, the Forest did consider an alternative that removed the entire Monongahela National Forest from timber production. The interdisciplinary team considered this

alternative but did not pursue it in detail because that alternative does not meet the purpose and needs defined in the EA nor the goals in the Forest Plan, requirements of the ESA, or NFMA. Rationale for not pursuing a “No Logging Alternative” is summarized in the following paragraphs.

Maintaining a diversity in age classes and forest types, and perpetuating current forest types is part of Forest Plan goal statement # IV – Wildlife. This goal has two parts, the first is to manage habitat to help recovery of threatened and endangered species and protect sensitive and unique species on the MNF. The other part is to “Improve the diversity of plants, animals, and stand conditions with an emphasis on the habitat needs for wild turkey, black bear, and associated species” (Forest Plan, p. 38). A “No Logging Alternative” is inconsistent with this goal.

Such an alternative is infeasible given the varying habitat needs of wildlife species, including federally listed species. Threatened and endangered species found on the MNF have wide-ranging habitat requirements. In some cases management of overstories and understories has been shown to be important factors in providing preferred habitat for threatened and endangered species found on the MNF. For example, management for the recovery of Running buffalo clover may include creating breaks or thinning in the overstory and disturbance of the understory and soils. The Forest’s ability to provide for the diverse needs of threatened and endangered species would be compromised by Forest-wide restrictions on logging.

A given species (e.g. Indiana bat) may, in fact, require a variety of successional stages, species composition, and structural conditions within stands across its home range to provide for different life history requirements. Maintaining or enhancing species diversity under these conditions can be a complex undertaking and would be further complicated by eliminating timber harvest as a tool in providing these diverse habitats across the Forest. A Forest-wide ban on timber harvest could, as a consequence, result in adverse effects to some listed species on the Forest counter to the overall Forest goal and ESA requirements.

The Forest Plan prescribes commercial timber management on only about 36% (~331,000 acres) of the Forest. Forest types and age class diversity on the remaining 64% of the Forest is expected to change primarily through natural events and succession. In combination, the MNF believes this provides the wide variety of wildlife habitats needed to maintain viability of species on the Forest, including threatened and endangered species. This combination of vegetation management (even-aged and uneven-aged silvicultural prescriptions) and no active management of the timber resource perpetuates the current range or variety of forest types and age classes and accordingly the variety of wildlife species inhabiting the Forest. The MNF’s objective is to assist in the recovery of threatened and endangered species and to prevent the federal listing of others. Noncommercial means and natural events contribute to diversity of forest types and age classes but are not considered sufficient alone to provide the scale and scope necessary to meet Forest goals.

Most forested stands on the MNF are currently even-aged. As displayed in the EA, approximately 2% of the Forest is comprised of stands of trees less than 15 years of age. The majority of the forest is over 60 years old (81%). About 7% of the forest is over 105 years old. It is generally accepted that species composition, structure, and function of this ecosystem has been altered based upon timber practices carried out around the turn of the century. In these even-aged stands, there may be a range of important habitat elements, such as tree species, age, snags and diameters; but this range is constricted and does not always correspond to the full range needed for wildlife, especially those needed to provide for the recovery of threatened and endangered species on the Forest. Again, noncommercial means and natural events contribute to diversity of age classes but are not considered sufficient alone to provide the scale and scope necessary to provide the full breadth of habitats for proposed, threatened, or endangered species.

Shade tolerant, shade intolerant, and moderately shade tolerant tree species are found on the Forest. For example, sugar maple, beech, and hemlock are considered shade tolerant while black cherry, some oaks, yellow poplar, and birch are considered shade intolerant. Shade tolerance is usually based on the

tolerance of the young trees and their requirements to reach the upper canopy. This diversity in tree types on the Forest provides for a multiplicity of habitat components (e.g. mast, softwoods for cavities, differing degrees of cover for thermal regulation, roost sites, etc.). Even-aged management by way of timber harvest at levels considered in the Amendment allows for the regeneration and establishment of shade intolerant and shade tolerant species and of species that are tolerant of some shade but require release to become dominant in the overstory, thus trending toward habitat for species that prefer these vegetative types. With the mix of tree species found on the Forest the restriction on timber harvest would tend to eliminate tree species requiring lots of sunlight in the early stages of development, such as most hard mast species. This may have long reaching and potentially negative effects on other threatened and endangered and numerous other wildlife species on the MNF.

Currently, as disclosed in Chapter II of the EA, some areas of the Forest are managed under even-aged management (clearcut, shelterwood harvests, thinning) and some areas under uneven-aged techniques (single tree selection and group selection harvesting) as appropriate to site conditions and the purpose and need for timber harvesting. These activities were described and the effects on threatened and endangered species fully analyzed in the Revised Biological Assessment (pp. 9-16 and 24-115). As part of this assessment, MNF biologists concluded that, although tree felling associated with either of these management techniques would have the potential to directly adversely affect the Indiana bat, the indirect effects of applying these silvicultural practices would not likely adversely affect Indiana bat habitat. Given existing protections, impacts to other threatened and endangered species were determined to have no effect or not likely to be adversely effect these species. USFWS concurred with these findings (USFWS correspondence 11/2001) and concluded in their Biological Opinion that continued implementation of the Forest Plan, as amended to date, (including logging) would not jeopardize any of the listed species. Additional protections needed for the Indiana bat identified in formal consultation with USFWS have been taken forward into this decision.

There is nothing in the scientific literature examined to suggest that elimination of timber management on the MNF is needed. Based upon a thorough review of the literature and/or communication with species experts, USFWS, WVDNR, Recovery Team members, and outside interests throughout this analysis, the MNF believes that sufficient protection and conservation measures have been recommended to provide for the protection and recovery of all threatened endangered and proposed species on the MNF when considered in context of the multiple habitats which they occupy (see response to comment regarding management conflicts). USFS, USFWS, WVDNR biologists, species experts and outside interests (e.g. Nature Conservancy) have reviewed recommendations put forth by the Forest, all or in part, and have concurred with this finding. Furthermore, they have stated that restricting timber harvest Forest-wide or allowing only uneven-aged management is unnecessary, impractical and may not be in the best interest of some wildlife species.

For example, the Draft Indiana Bat Recovery Plan has been developed by the top Indiana bat experts in the Nation and represents the consensus of these experts on the biology and habitat of the Indiana bat. The Draft Recovery Plan specifically states "Indiana bats live in highly altered landscapes and use an ephemeral resource (dead and dying trees) as roost sites. Anecdotal evidence suggests that the Indiana bat may, in fact, respond positively to habitat disturbance." Habitat used by Indiana bat has been shown to vary greatly from flood plain and riparian forest, to upland forest, and even highly altered landscapes that include old fields and pastures (USFWS, 2002). Callahan et al. (1997) suggested that management practices, such as even-aged and uneven-aged management, could be used if they include provisions for snag retention and if oaks and shagbark hickories are favored. In eastern Kentucky on the Daniel Boone National Forest, MacGregor et al. (1999) has found that Indiana bats will avoid clearcuts but will use other forms of even-aged harvests for roosting. They reported that two-aged and shelterwood harvests could produce different amounts of male Indiana bat roosting habitat in autumn depending on the harvests' snag retention. Limited disturbance can create potential roost trees (Gardner et al., 1991) and open the canopy around potential roost trees (Gardner et al., 1991, Kurta et al., 1993). The best available

scientific information indicates that maintaining old growth on all NFS lands within five miles of hibernacula would not meet all the habitat requirements of the Indiana bat (Biological Opinion, pp. 9-14). Romme et al. (1995) suggests that the preferred summer foraging habitat for Indiana bats is a forest with 50 to 70 percent canopy closure. Active management of forests can help provide this habitat.

In 2002, Menzel et al. completed “A Review of the Forest Habitat Relationships of the Indiana Bat (*Myotis sodalis*).” This report is intended to be a reference document for information about the ecology and habitat use of the endangered Indiana bat (*Myotis sodalis*). It presents a synthesis and critical review of existing literature on the use of hibernacula, roost trees, and foraging habitat. An extensive list of literature on all aspects of Indiana bat biology is provided. Upon completion of this review, Menzel et al. concluded that:

- Reported research on foraging and roosting habitat use during the pre-hibernation swarm and post-hibernation emergence is limited.
- Indiana bat roost trees have been reported within forests above and below the canopy and among isolated trees or single trees in open areas such as wetlands, fields, and pastures with correspondingly wide ranges in actual solar exposure from completely shaded to completely exposed.
- No quantitative studies exist that adequately describe forest stand species composition or stand structure surrounding occupied Indiana bat roosts. Forest cover around Indiana bat roosts ranges from close to 100% in the Appalachians to < 33% in the agricultural Midwest.
- Indiana bats use a wide variety of habitats for foraging. These habitats include riparian areas, upland forests, ponds, and fields. The effects of various timber harvest methods on Indiana bat foraging patterns remains unknown.

Additional research is needed to examine how various timber harvest methods affect the suitability of Indiana bat habitat on the MNF. Currently, there is little evidence (with the exception of direct “take”) that, at the landscape or forest-wide scale, timber management as practiced on the MNF is detrimental to Indiana bat or that prohibiting logging Forest-wide as proposed in this comment would clearly benefit the bat.

Equally, not all acres of the Forest are occupied by threatened, endangered, and proposed species (see Threatened and Endangered Species effects in Chapter III). Bans on these activities applied to the entire Forest would be arbitrary and capricious, inconsistent with Forest management policies, and the Multiple Use Sustained Yield Act.

However, restrictions on logging to provide for the recovery of threatened and endangered species may be appropriate for consideration in some areas of the Forest. The MNF worked closely with the US Fish and Wildlife Service, WVDNR, the Northeast Research Station, and others to identify the area and level of management needed for these species. These have been carried forward in this analysis as appropriate. MNF biologists have reviewed current manuscripts on threatened and endangered species found on the Forest. The standards authorized by this Amendment are based upon the best available scientific information regarding these species ecological requirements and designed to protect and enhance threatened and endangered species habitat and provide for their recovery. More detail regarding the scientific information used may be found in the Revised Biological Assessment (USFS 2001), the Biological Opinion (USFWS 2002), A Review of the Forest Habitat Relationships of the Indiana Bat (*Myotis sodalis*) conducted by the USFS Northeast Research Station (Michael A. Menzel, et al. 2001), the Appalachian Northern Flying Squirrel’s Recovery Plan (Updated), WVDNR Element Occurrence Records, Developing a habitat model for the endangered Virginia northern flying squirrel (*Glaucomys sabrinus fuscus*) in the Allegheny Mountains of West Virginia (Odum et.al. 2001), unpublished research conducted by the NE Research Station (Menzel et.al., 2001), and other documents as cited in the EA or otherwise found in the record.

As identified in Chapter II p. 35, the Forest did consider an alternative that removed the entire Monongahela National Forest from timber production. The interdisciplinary team considered this alternative but did not pursue it in detail because that alternative does not meet the purpose and needs defined in the EA nor the requirements of the ESA, NFMA, or other requirements. Reasons for not pursuing an “Uneven aged management Alternative” are many of the same, if not the same as those discussed for the no logging alternative. Additional rationale is summarized in the EA p. II-35.

The Forest believes, with concurrence from USFWS, WVDNR, Northeast Research Station, and others, that applying measures beyond those proposed in the EA would provide little, if any, additional protection to threatened and endangered species on the Forest; nor would they contribute meaningfully toward the recovery of listed species on the MNF.

LITTLE DIFFERENCE BETWEEN PROPOSED ACTION & ALTERNATIVE 1

Comment: Some people suggested that the degree of difference between the Proposed Action and the alternatives was hidden.

Response: The degree of difference between the Proposed Action and the alternatives was disclosed throughout the EA and summarized in Comparison Tables A and B on pages II-24 through II-28 of the EA. The main differences among the alternatives are the management prescription Indiana bat habitat would be allocated to and the amount of land where active management (commercial timber harvest or vegetation manipulation) would be precluded (EA, p. II-24, Table A and pp. III-73 through III-80).

As the commenter notes, the alternatives do not differ greatly. However, given the limited decision space allowed, the alternatives represent a reasonable range of alternatives that respond to the purpose and needs that were defined on page I-2 of the EA.

As stated on page II-21, Alternative 1 is the same as the Proposed Action except it will (I) permit large-scale tree felling activities within five-mile radii of Indiana bat hibernacula any time of the year; and (II) incorporates the two, optional “Conservation Recommendations” identified in the USFWS’s Biological Opinion. Page II-22 of the EA indicates Alternative 2 differs from the Proposed Action in four ways: (I) MP 6.3 areas would not be created and ~158,000 acres would be designated as Zoological Areas to provide protection for Indiana bat hibernacula, key areas, land within two-mile radii of maternity colonies, and primary range (Appendix A, pp. 5, 7, and 30) (maps in Appendix B display changes in land allocations). (II) Large-scale tree felling activities within five-mile radii of hibernacula could be implemented year round (Appendix A, p. 32). (III) Commercial timber harvests would be prohibited within five-mile radii of Indiana bat hibernacula and within two-mile radii of maternity colonies (Appendix A, 2400, #1, p. 32); only non-commercial methods of vegetation management could be used to create a variety of tree species, sizes, and age classes for Indiana bats and other wildlife (Appendix A, 1900, #3, p.31). (IV) Conservation Recommendations identified in the USFWS’s *Biological Opinion* would be incorporated (Appendix A, #13(c) (12) and #13(c) (13), p. 10).

OMB & USDA INFORMATION QUALITY GUIDELINES

Comment: Some commenters alleged that information contained in the EA does not comply with the USDA and OMB Information Quality Guidelines. For example, they state that “many of the studies the Forest Service is citing do not comply with the USDA and OMB Information Quality Guidelines.” They indicate that one example is, “The direct effect of this seasonal restriction would be that the chance of incidental take of Indiana bat would be discountable within the area of influence for Indiana bat.” They suggest that the MNF makes this claim and ignores the fact that the bats are loyal to their habitat.

Response: Data quality was an important consideration in the development of the Amendment. The EA for the Threatened and Endangered Species Amendment to the Forest Plan was developed by an interdisciplinary team of agency scientists, resource specialists, and others using the best available science (see literature cited in the EA and supporting documentation in the project file). The ID team was aware

of the USDA information guidelines and gave full attention to the quality of the scientific information used in developing the EA. The literature cited during the analysis has undergone peer review.

Only one specific example is mentioned about the portion of the analysis they believe is flawed under the Data Quality Act and it does not pertain to Alternative 1, the selected alternative, nor would it have resulted in the selection of a different alternative.

The commenter does not specify the studies that were cited in the EA that they believe do not comply with USDA and OMB Information Quality Guidelines. The commenter does not indicate how the conclusions drawn by the agency are erroneous as a result of the use of allegedly inferior data. The unsupported supposition gives no indication to what information the agency should have used in its analysis that would be better than the information used. As noted in the guidelines cited by the commenter, the burden is on the commenter to show what corrections should be made. This burden has not been met.

WITHDRAW THE EA, RECONSIDER ANALYSIS, & REISSUE NEW DRAFT

Comment: Some people felt threatened and endangered species of the MNF would receive more protection if the pre-decisional EA were withdrawn, reanalyzed, revised, and reissued for another public comment period. Some stated that the analysis documented in the EA was inadequate and that the Forest needs to “clear up the inherent ambiguities and legal deficiencies contained in multiple places” in the EA.

Response: It is not clear how withdrawing the EA, re-writing it, or offering another opportunity for public comment would lead to better protection for threatened and endangered species.

(1) The MNF has determined, and the USFWS has concurred, that standards for managing MNF threatened and endangered species and their habitat, including Indiana bats and WV northern flying squirrels, are sufficient to protect, manage, and aid in the recovery of these species (see responses to other comments in this appendix regarding the sufficiency of threatened and endangered species protection and USFWS correspondence, 03/24/2003).

(2) Numerous opportunities for public comment have been provided (see other responses to comments in this appendix). Page I-7 of the EA and the beginning of this appendix identify the methods that were used to obtain public involvement (see administrative record for supporting information). The names and/or number of people who responded to requests for comment are summarized in the EA on pages IV-2 through IV-6 and in this appendix. The Forest provided all the public involvement opportunities required by 36 Code of Federal Regulations (CFR) 217 as well as a 60-day comment period for the EA that was not required by regulation or policy.

The concerns that were expressed between the 30-day comment period for the February 2001 Proposed Action and the issuance of the January 2003 EA were addressed via analysis documented in the EA; the addition or revision of proposed standards in Appendix A; and/or responses to comments in Appendix F. Concerns that were raised during the comment period for the EA, including specific concerns of purported “ambiguities and legal deficiencies” (e.g. disclose and implement terms and conditions; compliance with the ESA and protection of threatened and endangered species; compliance with the NEPA; etc.), are addressed in this appendix and/or in the DN/FONSI.

(3) Responses in this appendix confirm, and the DN/FONSI supports, that the EA is legally sufficient. The selected alternative is consistent with the Terms and Conditions identified in the USFWS’ March 2002 Biological Opinion and compliant with the ESA, as amended (DN/FONSI, pp. 16). Analysis in the EA meets the NEPA requirements (DN/FONSI, p. 16). No significant effects to human resources are anticipated from implementing the selected alternative (DN/FONSI, pp. 11 and 16).

Appropriate site-specific analysis will be conducted as specific projects are proposed, and either informal or formal consultation for threatened and endangered species (whichever is appropriate) will be

accomplished following protocols established by existing laws, regulations, policies, and threatened and endangered species standards.

ISSUES INAPPROPRIATELY DISMISSED

Comment: Some people felt the issues they raised during scoping were inappropriately dismissed as “beyond the scope of the analysis.” They believe all the issues they raised should have been considered in detail.

Response: The reasons for which some of the commenters issues were dismissed from detailed study are provided in Appendix F of the EA. Regulations at 40 CFR 1500-1502 indicate that the analysis must “concentrate on issues that are truly significant to the action in question, rather than amassing needless detail” (1500.1(b)). The actions, in this case, are to amend the MNF Forest Plan to incorporate new information about federal listed threatened and endangered species of the MNF, especially new information about the Indiana bat and WV northern flying squirrel (EA, pp. I-1 through I-2). Issues are “significant” because of the extent of their geographic distribution, the duration of their effects, or the intensity of interest or resource conflict. Consistent with 40 CFR 1500.4(c), issues other than significant ones were discussed only briefly.

FAILURE TO DISCLOSE CUMULATIVE EFFECTS BY ALTERNATIVE

Comment: Some people stated the cumulative effects analysis should have been disclosed by alternative, rather than lumping them together. They suggested there was no discussion in the EA as to what past, present or reasonably foreseeable future actions were considered. Thus, they felt the cumulative effects analysis was “not properly focused on the correct direction of action, and there is no evidence to back up the claim made.”

Response: The implementing regulations for NEPA require cumulative effects of all alternatives be disclosed, but they do not specify the format that must be used for disclosure (Environmental consequences CFR 1502.16 and Effects CFR 1508.8). In most cases, the alternatives’ cumulative effects to resources did not differ noticeably; therefore, they were lumped together in the cumulative effects discussion. See other responses regarding disclosure of the past, present, and reasonably foreseeable actions that were considered.

COMPLY WITH CLEAN WATER ACT

Comment: Some people questioned whether, under all alternatives, every timber harvest would comply with Best Management Practices and the Clean Water Act, regardless of the season they were implemented.

Response: Under all alternatives, timber harvest and associated earth disturbing activities (roads, skid trails, and landings construction and use) would be designed to meet Forest Plan standards, regardless of what time of the year the timber harvest were to occur. Forest Plan standards (especially Forest Plan Appendices R and S) include practices that meet or exceed the Best Management Practices (BMPs) requirements. Applying BMPs and Forest Plan standards provide the means to control sediment - a major, non-point source of water pollution - as required by the Clean Water Act. However, even with proper application of BMPs and Forest Plan standards, some soil loss is unavoidable and sediment could reach streams.

Because the Proposed Action would have a greater chance for major earth disturbance occurring during the winter (wet period), it would pose a greater risk than the other alternatives for producing sediment that could reach streams and muddy their waters for a relatively short period.

COMPLIANCE WITH ESA/PROTECTION OF THREATENED & ENDANGERED SPECIES

Comment: Some people believe the alternatives in the EA fail to offer the protection required under the ESA for the species of the MNF, including the Indiana bat and WV northern flying squirrel. Several commenters expressed concern that changes to the Forest Plan are not sufficient to protect threatened and endangered species. Others expressed support for the adoption of threatened and endangered species standards because they believe they will protect the habitat that threatened and endangered species of the MNF need to survive, and they will enhance their populations at the landscape scale.

Response: The MNF determined, and the USFWS concurred, that all alternatives except the No Action Alternative would protect threatened and endangered species of the MNF and comply with the ESA, as amended (EA, pp. I-7, II-1, II-2, and II-12, III-10, III-34, III-41, D-2, and G-6, G-28, G-39, and G-40; DN/FONSI, p. 16; USFWS 02/25/04 correspondence). As to the sufficiency of the new standards, comments were general in nature and do not explain specific reasons why they believe these changes to the Forest Plan are not sufficient.

The MNF is cognizant of the importance of threatened and endangered species recovery and is committed to conserving, protecting, and maintaining habitat for federally listed species to aid in their recovery. This commitment is evident in the 1986 Forest Plan, which placed first priority on management of ecosystems to protect and preserve species, particularly those with special habitats and those federally listed as threatened or endangered (pp. 37, 84, and 230-234). The analysis for the 1986 Forest Plan (including consultation with USFWS, July 1985) determined that sufficient protections were afforded all threatened and endangered species. Many subsequent reviews by MNF biologists and appropriate consultations with USFWS (five programmatic amendments to the Forest Plan, numerous project level consultations, Biological Assessments, Supplemental Information Reports) have determined that continued implementation of the Forest Plan as amended provides for the protection, conservation, and aids in the recovery of threatened and endangered species found on the MNF.

In furtherance of the Forest's goals and its commitment to conserving, protecting, and contributing to the recovery of federally listed species (as detailed in various sections of the EA and in Appendix E, Conservation Plan For Federally Listed Threatened and Endangered Species) the MNF elected to initiate an analysis of the current management situation. The results of this analysis were documented in the 2001 Revised Biological Assessment. This effort was undertaken to ensure that management decisions were made with the most current and state-of-the science information concerning listed species found on the MNF. The Revised Biological Assessment was prepared in compliance with Section 7 of the Endangered Species Act, as amended (16 U.S.C. 1531 et seq.) (ESA). The USFWS believes that "the BA [2001 Revised Biological Assessment] adequately evaluates the results of the continued implementation of the LRMP [Forest Plan], with amendments, on the nine (9) federally listed species, which occur on the MNF." USFWS also concurred with the MNF's determinations documented in the Revised Biological Assessment.

The changes authorized by the Amendment are a result of findings in the Revised Biological Assessment, the USFWS' Biological Opinion, the Biological Evaluation for the EA for the Threatened and Endangered Species Amendment (EA, Appendix G) and appropriate requirements of Endangered Species [Recovery Plans](#) (Forest Plan, pp.84). As directed in Section 7(a)(1) of the ESA, biologists and managers for USFS, USFWS, WVDNR, and other species experts have participated in planning efforts to develop pro-active approaches to listed species management on the MNF. The Forest Service relies heavily on these biologists and experts to provide the best scientific information and recommendations possible for conservation and recovery of listed species. The proposed changes to the Forest Plan lay the foundation for progressive management approaches and conservation practices suggested by these species experts, USFS, FWS, and WVDNR biologists (many of which are recovery team members for species found on the MNF). There is agreement by these biologists that changes authorized by the Amendment appropriately add to protections already found in the Forest Plan; will provide the protection needed for

the conservation of these listed species; and will contribute to the recovery of listed species found on the MNF. “The proposed action and both alternatives are consistent with the terms and conditions outlined in the Service’s BO and will not exceed the level of take authorized with the Incidental Take Statement for the Indiana bat” (USFWS).

It is the Forest’s considered opinion that the Amendment advances species conservation and recovery under the ESA consistent with the Forest’s “first [or top] priority” (Forest Plan, p. 84). USFS biologists, in addition to biologists from other agencies charged with the conservation of listed species, species experts and organizations such as the Nature Conservancy, consider these measures sufficient to conserve listed species on the MNF and aid in their recovery. In their 02/25/04 correspondence, the USFWS noted that the Amendment provides a process for the positive contribution toward the conservation and recovery of listed species (page 2). The WVDNR stated that Alternative 1 will offer increased protection for federally threatened and endangered species on the Forest (WVDNR 12/05/03 correspondence, page 1). They remarked that the Amendment will assist in the conservation and recovery of federally listed species on the Forest, especially the Indiana bat and the West Virginia northern flying squirrel.

EXPLAIN THE ESA CONSULTATION PROCESS TO BE USED

Comment: Several commenters expressed concern that changes to the Forest Plan lacked full disclosure of formal consultation requirements and processes by which these requirements would be met.

Response: The MNF recognizes and acknowledges its responsibilities and requirements to conserve, protect, and aid in the recovery of listed species; and to consult with the USFWS and coordinate with WVDNR on projects that may affect species federally listed as threatened or endangered. These requirements are explicitly expressed in several existing laws, agency regulations, and regulatory mechanisms, USFS policy, and its directives system governing planning and the conservation of species in the Forest Service. As has been the Forest’s history, the Forest will comply with the [Endangered Species Act](#) (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq) (ESA), [National Forest Management Act of 1976](#)" (16 U.S.C. 1600) (NFMA), the National Environmental Policy Act (33 Stat. 852, as amended; 42 U.S.C. 4321 et seq), Multiple-Use Sustained-Yield Act of 1960 (PL 86-517 74 Stat. 215), the Organic Act (1897)(30 Stat. 11), the Fish and Wildlife Coordination Act (48 Stat. 401, as amended: 16 U.S.C. 661 et seq.), Forest Service Manual (FSM) 2670, and other appropriate directives in meeting these requirements.

In general, the Forest did not believe it was necessary to repeat in the EA the legal requirements, the hierarchical framework that governs the way National Forests are managed, or the processes by which legal requirements are met (see [CEQ - Regulations for Implementing NEPA](#) regarding tiering and reduction in paperwork requirements). The Forest is cognizant of these legal requirements, and they are readily available to the public (see included internet links). However, to address comments expressed, the discussions and references found in the following paragraphs are intended to summarize and add some clarity as to how, when, and where consultation will occur in context of implementing the changes authorized by the Threatened and Endangered Species Amendment.

Consultation Process

Federal agencies are required to comply with provisions of the Endangered Species Act (ESA) of 1973, as amended. This includes a requirement in Section 7(a)(1) that “all Federal agencies shall, in consultation with and with the assistance of the USFWS, utilize their authorities in furtherance of the purposes of this Act by carrying out programs for the conservation of endangered species and threatened species”. Furthermore, agencies are required to consult with the USFWS on projects that may affect species federally listed as threatened or endangered. Section 7(a) (2) states that “Each Federal agency shall, in consultation with and with the assistance of the Secretary, insure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which

is determined by the Secretary, after consultation as appropriate with affected States, to be critical. In fulfilling the requirements of this paragraph each agency shall use the best scientific and commercial data available.”

Provisions of the Act, regulation promulgated in accordance with the Act, USFS policy and USFWS policy, speak to when and how this consultation will occur (See [FS Directives - FSM 2600 – Wildlife, Fish, and Sensitive Plant](#), [USFWS Consultations with Federal Agencies](#), [USFWS Section 7 Consultation Handbook](#), [USFWS Consultations with Federal Agencies - Frequently Asked Questions](#)). To ensure that legal and biological requirements for the conservation of endangered, threatened, and proposed plants and animals are met in Forest land and resource management planning, the MNF has relied on this guidance in developing and implementing the Forest Plan and will continue to do so in implementing changes authorized in the Threatened and Endangered Species Amendment. This includes guidance as to when formal versus informal consultation with USFWS is required.

Primarily, there are two levels at which consultation with the USFWS may be requested by the MNF: the programmatic level and the project level (includes watershed level analysis). Formal consultation between a Federal agency and the FWS is mandatory for all proposed agency programs or activities that may have adverse effects to listed or proposed species or to designated or proposed critical habitat, (i.e., those that have a “likely to adversely affect” determination of effect).

Programmatic Level Consultation

Section 7 consultation has, occurred on the Amendment at a programmatic level as documented in the Revised Biological Assessment for the existing Forest Plan, Biological Opinion (Appendix D), the Biological Evaluation (Appendix G) and other supportive information completed for this environmental analysis. Subsequent to the comment period, and as part of the consultation process, the MNF has had additional follow-up meetings with USFWS and WVDNR (e.g. May 7, 2003, May 29, 2003, June 10, 2003, etc.) with regard to comments raised and recommendations provided by these agencies. As a result of these discussions, several changes to standards have been made (Appendix H). These changes are minor in scope and help clarify intent and direction. All changes have been reviewed for consistency with the effects analysis (EA, Chapter 3) by the interdisciplinary team and other specialists. Suggested changes have been determined to be within the scope of the current analysis and conclusions made regarding direct, indirect, and cumulative effects remain the same. Formal consultation on the Amendment was finalized 02/25/04 (DN/FONSI, p. 3 and USFWS 02/25/04 letter).

The standards as authorized in the Amendment will be reviewed during the ongoing Forest Plan Revision process in context of the other issues, alternatives, and effects. A new Biological Assessment will be issued based upon alternatives developed during the Revision, including the No Action - which would continue to implement standards as authorized in this Amendment. Consultation, pursuant to ESA, will occur again at that time.

Project Level Consultation

As discussed above, the Forest felt it was unnecessary to repeat the legal requirements, nor the processes by which requirements are also met for project level decisions and activities. The MNF will comply with laws, agency regulations, and Forest Service directives system identified above under [Consultation Process](#). For all projects proposed within threatened and endangered species Areas of Influence, the MNF will seek technical assistance and/or consult (formal or informal) with of the USFWS as required statutorily and by other guidance (Appendix H, pp.84 – 84c). Pursuant to the ESA, all project level activities that result in a “May effect, likely to adversely effect” determination will undergo formal consultation.

The following paragraphs summarize how the MNF would consult with USFWS when projects are proposed in these species’ Areas of Influence (AOI).

Indiana bat and VA big-eared bat Management

Project level consultation will occur on activities proposed in Indiana bat Areas of Influence (swarming areas -5-mile radii around hibernacula and maternity sites -2-mile radii buffer). The Forest addressed this requirement by way of several standards authorized by the Amendment (see Appendix H). Although not explicitly stated in all cases, the assumption that consultation would occur for activities proposed in swarming areas was considered in this analysis. To further reinforce and emphasize this requirement, the following 1500 standard was added to Management Prescription 6.3 Areas.

Interdepartmental State, Co., and Local Agencies

“Project activities in these areas will require consultation with the USDI Fish and Wildlife Service (USFWS). The WVDNR will be kept informed of activities.”

This standard is the same as identified in the Amendment for Zoological Area Standards for Indiana bat - hibernacula, key areas, and maternity sites; VA big-eared bat- hibernacula and summer colony sites; and WV northern flying squirrel - suitable habitat. Including this 1560 standard here, in combination with other standards in the Forest Plan as amended, clarifies the Forest’s intent and direction to consult on all activities within swarming areas (MP 6.3) areas as well as any other areas associated with a population of, or the habitat used or otherwise needed by a threatened or endangered species. Formal consultation, consistent with current law, regulation, and policy, will be required on all activities in which there is an identified adverse effect to any threatened and endangered species. This requirement for consultation, although not explicitly stated in the EA, was recognized and considered in the summary of existing MNF resource conditions and expected direct, indirect, and cumulative effects of the Proposed Action and other alternatives. Consequently, the addition of this standard to clarify direction does not change the conclusions disclosed in the EA. Similarly, other editorial changes in Appendix H intended to add clarity to consultation procedures have been determined to be in context of expected direct, indirect, and cumulative effects as disclosed in the EA.

The Forest also recognized that in the case of most non-hibernation period activities within and beyond the 5-mile and 2-mile Indiana bat AOI (USFWS Zones of Immediate Concern), a “May Affect, Likely To Adversely Affect” determination will be made for activities that involve tree cutting (regeneration harvest, thinning and single tree selection, timber stand improvement, recreation, prescribed fire, road construction/reconstruction, wildlife habitat improvement, fisheries improvement, and mineral activity). Incidental take as defined in ESA may occur as a result of tree felling, however, any take that should occur will be within the level authorized by the Incidental Take Statement found in the Biological Opinion (pp. 19). Under the terms of ESA Section 7(b)(4) and Section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement. In these cases, the Forest will enter into formal consultation with USFWS as described in Term and Condition #11 of the Incidental Take Permit (2002 Biological Opinion pp. 22, and Appendix H). The Proposed Action and both action alternatives are consistent with the eleven Terms and Conditions outlined in USFWS’s Biological Opinion and will not exceed the level of take authorized with the Incidental Take Statement for the Indiana bat (USFWS 3/24/03 and 2/25/04).

The exception to this rule is where non-hibernating activities are proposed beyond Indiana bat AOI and the Forest complies with Term and Condition # 10 of the Incidental Take Statement. In these cases, site-specific projects outside of the AOI may proceed without formal consultation if project areas are surveyed for Indiana bats according to protocols established by the USFWS. When Indiana bats are not detected during surveys, it will be assumed that the bats may be present, but in such low numbers that the project is not likely to adversely affect the Indiana bats. Projects cleared by these surveys must be completed within three years of the netting or additional clearance surveys must be completed (2002 Biological Opinion, pp. 22). The Forest believes that this exception will be used rarely – mostly to address unusual or uncontrollable events (e.g. fire salvage).

If for some unforeseen reason the Forest would need to exceed the level of take permitted or is unable to adhere to one or more of the terms and conditions of the Incidental Take Statement then the Forest would again request formal consultation as required.

WV northern flying squirrel Management

The basic premise of amended standards for WV northern flying squirrel in the Forest Plan is that protection of suitable WV northern flying squirrel habitat, whether or not the squirrel's presence can be demonstrated, is needed. Recovery of the WV northern flying squirrel must go beyond protecting only those areas where the squirrel can be located through trapping and nest box placement and monitoring. This protection of suitable habitat is a major, positive step in the conservation and recovery of the WV northern flying squirrel and provides a practical approach for other management activities on the Forest.

To effectively delineate suitable WV northern flying squirrel habitat, particularly the strong spatial correlation of associated habitat variables, a map of suitable habitat will be produced, reviewed periodically, and refined collaboratively among the USFWS, the MNF, and the WVDNR as directed in the newly authorized standards (Appendix H pp. 84c, 87, 234, 234a). Suitable habitat includes buffers of approximately 262 feet (science based and exceeds Recovery Plan recommendations) and corridors to provide linkages for habitat areas where deemed necessary to prevent barriers to movement.

US Fish and Wildlife Service and WVDNR have been involved in multiple discussions regarding the development of this suitable map. They will continue to be consulted with as the Forest proposes watershed analysis areas and/or project level activities. It is at this stage that the suitable map will be refined to reflect environmental conditions at that scale and the best available (and robust) science/data on the species. Under this direction, the trigger for this consultation, and refinement of the suitable map if needed, will be whenever MNF biologists determine that suitable habitat may exist within the analysis or project area. This trigger for consultation is basically the same as would have occurred under the old guidelines. The suitable map may also be refined or updated upon request of the MNF, USFWS, or WVDNR whenever new information, pertinent to the conservation and recovery of this species and to the mapping effort, becomes available.

To assist in the planning effort it is the MNF's intent to request this consultation early in the watershed assessment or project analysis in order to provide maximum protection to the WV northern flying squirrel and its habitat and avoid management conflicts. All projects proposed in mapped "suitable habitat" will undergo consultation with the USFWS. Any project proposed for areas considered to be suitable habitat that may adversely affect this species will require formal consultation (Appendix H, pp 84 - 84c, 234-234b).

The MNF, USFWS, and WVDNR encourage legitimate research in suitable WV northern flying squirrel habitat to determine effects of management activities on this species. Research activities, including vegetation management, are permitted under the newly authorized standards but only after consultation with USFWS and under an ESA Section 10 research permit. Any project outside of these parameters that may result in "take" of the species as defined in ESA would require an Incidental Take Statement acquired through formal consultation with USFWS as required by law.

DISCLOSE AND IMPLEMENT TERMS AND CONDITIONS

Comment: Some people stated the EA failed to disclose and comply with the Terms and Conditions of the Biological Opinion, as required by the Endangered Species Act.

Response: The USFWS identified eleven non-discretionary Terms and Conditions related to Indiana bat management that the MNF must implement to be compliant with the ESA, especially to be exempt from the prohibitions of "take" as described in Section 9 of the ESA (USFWS Biological Opinion, 03/2002 and EA, Appendix D, pp. 21-23).

Page II-3 of the EA discloses that “Mandatory Terms and Conditions on pages 22-24 of the USFWS’ Biological Opinion would be adopted.” The eleven Terms and Conditions were listed in the Biological Opinion, which was provided as Appendix D of the EA. As disclosed in the EA, the No Action Alternative is the only alternative that would not implement the Terms and Conditions issued by the USFWS (EA, p. II-1). The three action alternatives (Proposed Action, Alternative 1, and Alternative 2) would implement all eleven Terms and Conditions as Forest Plan standards (EA, pp. I-3; II-2 through II-12; II-21-23; II-26; II-29 through II-30; etc.)(USFWS 2/25/04 correspondence).

Under the selected alternative (Alternative 1), Term and Condition #1 will be implemented by designating approximately 158,000 acres specifically for management, protection, and recovery of Indiana bat (via MP 6.3 and OA 838 designation). Terms and Conditions #2, 3, 4, 5, 6, 7, 8, 9, and 11 will be incorporated almost verbatim into the Forest Plan as Forest-wide standards (EA, Appendix A, pp. A-7 through A-10 and Appendix H, pp. 86 – 86c). Term and Condition #10 is incorporated by way of Forest-wide standards 9 and 10 (Appendix A, p. 9 and Appendix H, p. 86b). These two Forest-wide standards have been written to provide greater detail and direction as to when and how Term and Condition#10 will be implemented.

After reviewing the January 2003 EA, the USFWS stated, “The proposed action and both [action] alternatives are consistent with the terms and conditions outlined in the Service’s BO and will not exceed the level of take authorized with the Incidental Take Statement for the Indiana bat (03/24/03 USFWS letter, p. 2). USFWS’ 02/25/04 letter reiterated that the action alternatives are consistent with the Terms and Conditions outlined in their Biological Opinion and additional formal consultation for the Amendment is not necessary because implementation of the Amendment, in and of itself, will not result in the loss of Indiana bat habitat.

"NO EFFECTS BEYOND THOSE PREVIOUSLY DISCLOSED AND ADDRESSED IN THE REVISED BIOLOGICAL ASSESSMENT AND BIOLOGICAL OPINION" IS NOT A LEGAL FINDING.

Comment: Several commenters believed that the determination of “May Affect, Likely To Adversely Affect”, “No effects beyond those previously disclosed and addressed in the Revised Biological Assessment (USDA 2001) and Biological Opinion (USFWS 2002)” is not a legal finding.

Response: As disclosed in the EA (Chapter III, pp. 9), ““Determinations of effect” are based on definitions found in the 1986 Endangered Species Act regulations (50 CFR Part 402) and the USFWS Endangered Species Consultation Handbook (USFWS 1998). An analysis of alternatives that are expected to apply to areas that are occupied by a particular threatened and endangered species and there may be effects (either positive or negative) to that species a “May Affect” determination is made. Where effects to a particular species are expected to be insignificant (immeasurable), discountable (extremely unlikely), or completely beneficial a “May Affect, Not Likely To Adversely Affect” determination is made. Effects analysis results in a determination of “May Affect, Likely to Adversely Affect” where effects are expected to be adverse.”

The Forest has determined in the Revised BA (pp. 2, 60) and in this Environmental Analysis Chapter III p. 19, Appendix G pp. 4, 39) that implementation of all alternatives would result in “May Affect, Likely to Adversely Affect” for the Indiana bat. USFWS concurred with this determination (USFWS 2/25/04 letter). This is a valid, legal determination based on definitions found in the 1986 Endangered Species Act regulations (50 CFR Part 402). The Forest further disclosed through statement and reference that, although effects would be expected to be adverse, these effects were consistent with those documented in earlier assessments (Revised Biological Assessment (USDA 2001) and USFWS Biological Opinion (USFWS 2002)) and would not be additive. Action alternatives in this EA would minimize adverse effects (take) for Indiana bat consistent with the scope addressed in the Biological Opinion and within the

level of take identified in the Incidental Take permit. The USFWS, as documented in the Biological Opinion, concluded that implementation of the Forest Plan with the mandatory Terms and Conditions was “Not Likely To Jeopardize The Continued Existence Of The Indiana Bat” (USFWS 2002) – also a legal finding.

MANAGEMENT CONFLICTS BETWEEN SPECIES

Comment: Interested parties suggested some standards would result in management conflicts between listed species found on the MNF (e.g. Virginia big-eared bat prefers to forage in open areas, while the Indiana bat may prefer to forage in more forested environments and riparian areas). Some commenters felt that other standards such as the 80-100 year rotation age for spruce, conflict with threatened and endangered species management.

Response: The MNF recognizes the potential for management conflicts with regard to threatened and endangered species. Likewise, the Forest also recognizes that standards may apply to and benefit multiple threaten and endangered species and other wildlife. Throughout the analysis process, the Forest appropriately considered and addressed impacts on federally listed species pursuant to ESA including overlaps in areas of influence for individual listed species. Standards in the Forest Plan and those authorized by the Amendment address potential conflicts in various ways.

The overall direction in the Forest Plan does not discriminate between one federally listed species and another. Also, the structure of the Forest Plan, by way of the cascading nature of goals, desired future conditions, and direction, assures equal consideration of all threatened and endangered species in all authorized activities. For example:

Forest Goal #IV is to “Manage habitat to help recovery of threatened and endangered species on the Forest. Protect sensitive and unique species until their populations are viable.” This stated goal covers all threatened and endangered species found on the Forest.

Forest-wide direction - “Management of habitat essential to threatened and endangered species is considered the first priority management activity.” Again, impartiality is shown between threatened and endangered species in all Forest-wide direction.

Desired Future Condition statements – “Management Prescription 6.3 Areas will be defined around known Indiana bat hibernacula and will include Indiana bat primary summer foraging, roosting and fall swarming habitats... Normal forest management activities will be used to achieve vegetative diversity that will primarily enhance the habitat of the Indiana bat. Emphasis will also be placed on habitat needs of other threatened and endangered species (e.g. VA big-eared bat).”

Management Prescription/OA direction (OA838) - Management of vegetation that is 5” dbh or greater may be implemented within the primary range of Indiana bats only to improve or enhance Indiana bat or other threatened and endangered species habitat, to maintain or enhance natural vegetative communities on appropriate sites (see Forest-wide standards and guidelines 1900 – Vegetation) or for public safety.

Recognizing the importance of certain smaller scale areas of the Forest to a given species, in this case Indiana bat, areas are designated and preference is shown for that given species. However, this preference must be consistent with overall Forest-wide goals and direction. Additionally, this preference is not exercised by way of implementation of projects without formal consultation with the USFWS if adverse effects are identified for other threatened and endangered species.

Note: Underlined words illustrate minor changes made to add clarity and/or emphasis in response to comments received.

Forest Plans do not authorize site-specific actions; therefore, project level consultation will be the proper venue for working out discrepancies or conflicts between management requirements for individual threatened and endangered species that might arise. The MNF intends to seek technical assistance and/or consult with the USFWS whenever activities are proposed within threatened and endangered species Areas of Influence, especially when multiple listed species are involved.

The 80-100 year normal rotation age standard referred to is identified as a MP6.3, 2410 Timber Regulation. The standard is used to provide guidance for management in Indiana bat primary range. This guidance is to be used only when it has been determined that vegetation management may be implemented within “the primary range of Indiana bats to improve or enhance Indiana bat or other threatened and endangered species habitat.” To remain within the effects described for the existing Forest Plan, the interdisciplinary team sought to minimize changes to the Forest Plan. The team felt that adopting this standard would ensure the effects to featured wildlife species in the existing Forest Plan would be maintained within previously predicted limits. This guidance would only be applied when it would not result in an adverse affect to other threaten, endangered, and proposed species. To this end, the OA 832 standard 1950#4 states that “standards for Management Prescriptions 2.0, 3.0, 4.0, 6.1, 6.3, and 7.0 (areas from which OA 832 is derived) will continue to apply unless inconsistent with OA 832 standards for West Virginia northern flying squirrel.”

Also, the following are a few examples of many standards in Appendix H that would ensure the implementation of threatened and endangered species standards, such as Indiana bat MP 6.3 and OA 838 standards, would not adversely affect other threatened and endangered species (like the VA big-eared bat and WV northern flying squirrel):

- Avoid activities in known threatened, endangered, and proposed species populations and occupied habitat unless such activities are consistent with the standards for threatened, endangered, and proposed species.
- Project activities in these areas will require consultation with the USFWS. The WVDNR will be kept informed of activities.
- In rare instances where adverse effects to threatened, endangered, and proposed species cannot be avoided, the Forest will request formal consultation with the USFWS.
- Vegetation management for the preservation or enhancement of other threatened and endangered species may be implemented on a limited, case-by-case basis, after consultation with the USFWS.
- OA 838 will not be created from MP...8.0 areas. OA 838 standards will be applied to MP ...8.0 acres that are around cave entrances and mature stands near Indiana bat hibernacula, but only to the extent that they are consistent with the...standards for these...Management Areas [which includes 837 VA big-eared bat and 832 WV northern flying squirrel areas].

The MNF has adopted standards that will provide flexibility for management of all threatened and endangered species, fully understanding the additional site-specific analysis will be conducted. Consultation with USFWS (see previous response) on projects involving threatened and endangered species and their habitats is a basic premise and repeatedly stated in Forest Plan standards.

The standards as authorized in this Amendment will be reviewed during the ongoing Forest Plan Revision process in context of the other issues, alternatives, and effects. A new Biological Assessment will be issued as part of Plan Revision that will be based upon alternatives developed during the Revision, including the No Action - which would continue to implement standards as authorized in this Amendment. Consultation, pursuant to ESA, will occur again at that time.

OVERLAPPING OPPORTUNITY AREAS FOR CAVES WITH INDIANA BAT AND VA BIG-EARED BAT

Comment: A commenter asked whether caves containing both Indiana bats and Virginia big-eared bats are assigned to two overlapping opportunity areas and how conflicts between these areas would be addressed.

Response: Yes, caves containing both Indiana bats and VA big-eared bats (i.e. Cave Hollow/Arbogast) would be assigned to two overlapping zoological areas (OA 837 and OA 838). Potential conflicts between the management of these areas is considered to be minor and would be resolved on a site-specific basis, as discussed in the EA Chapter III and in response to the [Management Conflicts Between Species comments](#).

PREMATURE TO STATE ACTIVITIES ARE ALLOWED

Comment: Some people felt it was premature on the part of the Forest Service to propose that all the activities identified in the EA will be allowed when formal consultation with the USFWS would be required and site-specific analyzes would be required for every project.

Response: The Amendment does not make a decision as to what activities, if any, will be implemented at a specific location. As the commenter points out, analysis of effects to threatened and endangered species will be conducted as site-specific proposals are identified.

The activities that may be authorized on the MNF were described in the programmatic analysis for the Amendment to help evaluate the programmatic effects of implementing the Amendment and to help managers determine when informal consultation or formal consultation will be required. Either formal or informal consultation with the USFWS will be initiated before site-specific activities are authorized (see the response to comment regarding when formal and informal consultation is appropriate). It is expected that informal consultation would occur if a proposed activity were determined to have “no effect” or a “may effect not likely to adversely effect” on threatened and endangered species. Formal consultation would occur if a determination of “may effect, likely to adversely effect” were made.

As mentioned on page I-6 of the EA, the Amendment is a programmatic decision; standards implemented because of the Amendment will provide a framework for management of the Forest. Fundamental to programmatic planning is the premise that plans are permissive; that is, they allow, but do not mandate, certain activities to take place within the plan area. A plan is not the final word deciding forever the fate of an area of land, determining that some actions will certainly occur and others will never occur, over all or part of the plan area.

IDENTIFY THAT A PERMIT IS REQUIRED TO “TAKE” WV NORTHERN FLYING SQUIRREL

Comment: A commenter expressed concern that when vegetation management may result in “take” of WV northern flying squirrel as defined in ESA a permit is required.

Response: The MNF recognizes that an incidental take permit or research permit would be necessary, pursuant to ESA, when there is a potential for take due to any activity authorized by the Forest in WV northern flying squirrel habitat (See Compliance with ESA response).

The requirement for consultation is identified in the Zoological Area Standards for WV northern flying squirrel (Appendix H, p. 234).

1900 Vegetation

1. On a limited, case-by-case, basis vegetation management in suitable habitat will be conducted only:
 - a. After consultation with the USFWS, and
 - b. for public safety, or
 - c. under an Endangered Species Act Section 10 research permit to determine the affects of an

activity on WV northern flying squirrel and to determine activities that would contribute to 1(c) , or

- d. to improve or enhance West Virginia northern flying squirrel habitat, or
- e. for the preservation or enhancement of other threatened and endangered species habitat, or
- f. when part of allowed activities (for example activities allowed under OA 832 standards 2300, 2800).

1900 (1) (a) underscores the need for consultation with USFWS before any vegetation management occurs in WV northern flying squirrel suitable habitat. If an activity is proposed that would result in a “May effect, likely to adversely effect” formal consultation would determine if and under what terms and conditions an incidental take permit could be issued. 1900 (1)(c) emphasizes the opportunity to conduct legitimate research studies to determine squirrel habitat needs and the effects of different management strategies under the authorization of a USFWS issued research permit.

INTEREST IN SPECIES ON THE MNF, NOT ALL THREATENED & ENDANGERED SPECIES

Comment: Some people noted that the MNF is responsible for management of species that occur on the MNF, not all threatened and endangered species.

Response: The Forest Service is interested in protecting and aiding in the recovery of all threatened and endangered species. However, it is true that in the context of the Forest Plan, the MNF aids in the protection and recovery of species that occur on the MNF. This is reflected in the standards identified in Appendix H, especially those that identify the threatened and endangered species that are currently known to reside in the MNF.

NOT ENOUGH INFORMATION ABOUT THREATENED & ENDANGERED SPECIES

Comment: Some felt the EA did not provide enough information about the needs and trends of threatened and endangered species.

Response: The status of threatened and endangered species of the MNF, their life history, habitat requirements, and habitat trends were described in detail in the 2001 Revised Biological Assessment, which was incorporated by reference into the EA and the Biological Evaluation for the EA (EA, pp. III-2, III-4, III-10 through III-12, III-14, III-15, III-18, III-19; and Appendix G, pp. 4, 12, 14, 21, 28, 39, 40, and 45) and the March 2002 Biological Opinion. These documents included the best scientific and commercial data available for listed species found on the MNF.

DO MORE THAN JUST PROTECT THREATENED & ENDANGERED SPECIES

Comment: It was stated that the Forest must do more than just protect threatened and endangered species.

Response: The Forest does a great deal beyond protection of threatened and endangered species toward meeting ESA Sec. 7 (a) (1) requirements, as described in the MNF’s Conservation Plan (EA, Appendix E). It should also be noted that the impetus for changes to the WV northern flying squirrel guidelines in the Forest Plan and Appendix A of the Recovery Plan were the result of MNF, in collaboration with USFWS and WVDNR, wishing to provide additional protections (Sec. 7 (a)(1)) to the squirrel. Although beyond the scope of this Amendment, the Forest also provides for the conservation and protection for over eighty Regional Foresters Sensitive Species (RFSS) (Biological Evaluation, Appendix G). The RFSS list is designed to identify species for which population viability is a concern, so that management action may be taken to ensure these species do not become threatened or endangered because of Forest Service actions, and to ensure that “viable populations of these species are maintained in habitats distributed throughout their geographic range on National Forest System lands” (FSM 2670.22).

BEST SCIENTIFIC AND COMMERCIAL INFORMATION

Comment: Some stated that the analysis needs to consider all available research and effects on threatened and endangered species as required by ESA Section 7.

Response: The MNF conducted an extensive review of the available literature and research for the Indiana bat, Virginia big-eared bat and other threatened and endangered species found on the MNF as required by ESA Section 7. Recovery Plans for all threatened and endangered species occurring on the Forest have been considered (see interdisciplinary team notes). Recovery Plans have been developed by the top experts in the Nation and represents the consensus of these experts on the biology and habitat of these species. The Forest Service relies heavily on the experts on the Recovery Team to provide the best scientific information and recommendations possible for conservation and recovery of the species.

Also, range-wide and local research findings, publications (scientific papers, reports, articles and documents) by noted experts and researchers, literature summaries and reviews (e.g. Romme et al 1985, Menzel et al 2001), personal communication with noted experts, information submitted by interested parties, related USFWS biological opinions and USFS environmental analyses, web pages, studies and survey data collected on the MNF, etc. have been considered by MNF biologists and others throughout these analyses of Forest Plan implementation on threatened and endangered species found on the Forest. The MNF particularly sought information on Indiana bat concerning their entire home range, hibernacula selection, roost tree selection in spring, summer, and fall, use of foraging habitat in summer and during fall swarm and maternity habitat. The depth of this review is reflected in the literature referenced in the Revised BA (p.114-123) the Biological Evaluation (p. 41-44), and the Threatened and Endangered Species EA.

In addition, during the scoping periods and comment period several interested parties provided a relatively comprehensive compilation of scientific papers on Indiana bat (*Myotis sodalis*), VA big-eared bat (*Corynorhinus townsendii virginianus*), and Townsend's big-eared bat (*Corynorhinus townsendii townsendii*). MNF biologists have reviewed those papers for relevancy to the MNF and to this environmental analysis. MNF and other biologists involved in these analyses had a reasonably thorough, previous knowledge with regard to the majority of these papers. Again, the extensive list of published references disclosed in the analyses and found in the record reflects this. Pertinent information, including additional information submitted by interested parties, has been considered and used where it was locally relevant.

The information reviewed in this effort was used to describe the ecology, natural history, distribution, trends, and needs of threatened and endangered species found on the Forest and to document the effects of Forest Plan implementation on these species in all areas (e.g. riparian, uplands) of the Forest. Effects regarding timber harvesting, timber stand improvement, prescribed fire, firewood cutting, gypsy moth, road construction/reconstruction, recreation, wildlife habitat improvements, fisheries improvements, range, mineral activity and landownership adjustments were disclosed.

The Forest considers these descriptions of life history requirements and determinations of effects of Forest Plan implementation on threatened and endangered species to be supportable based upon "the best scientific and commercial data available" pursuant to ESA Section 7. USFWS concurred with this finding in their acceptance of the MNF's consultation package and request for formal consultation on Indiana bat.

TERMINOLOGY

Comment: Several commenters questioned the terminology used to describe certain areas or habitat elements in the EA or suggested additional minor wording changes for clarity.

Response: The Forest recognizes that terminology can be confusing with certain words or phrases having various meanings. The glossary (Appendix C) in the EA was meant to address potential

misunderstandings. Where appropriate the Forest made changes recommended by commenters. The Forest considers these edits to be minor changes to clarify direction and have been determined to be in context of expected direct, indirect, and cumulative effects as disclosed in the EA. Therefore they do not alter the conclusions disclosed in the EA.

The use of primary range to describe the area around the hibernacula is consistent with other National Forest's use of the term. It is used in the EA to describe the area used by Indiana bat for foraging, roosting, and swarming activity. It is synonymous with the Zone of Immediate Concern, as used by USFWS in that it is the area geographically surrounding the hibernacula by 5-mile radii. These 5-mile radii are definite as directed in Term and Condition #1 of the Incidental Take Permit. The area considered within this 5-mile buffer may vary depending upon land ownership. The Forest felt it important to identify specific habitat areas within this Zone of Immediate Concern to which different levels of protection could be applied to provide for recovery of the species pursuant to ESA. The 2-mile radii surrounding reproductive site is referred to as maternity sites. Summer colonies are used to represent caves used by both male and female VA big-eared bats during the non-hibernating period and standards have been changed to reflect this.

Cave entrances are considered to be openings to underground caves and cave passages. Cave entrances do not refer to the opportunity area as a whole. The opportunity area for Indiana bats would be defined as described on page H-233c: "Indiana bat hibernacula (caves and an area at least 200 feet in radius from cave entrances) and key areas (area near hibernacula that includes mature stands); and or land within two miles of a maternity colony for the Indiana bat, unless consultation with the USFWS on a site-specific basis indicates otherwise."

Mineral and Geology standards (2800) as approved for OA 837 (VA big-eared bat) and OA 838 (Indiana bat) would restrict surface occupancy within OA 837 (identified summer colonies, hibernation sites, and corridors) and at hibernacula, within key areas, or within two miles of maternity colonies for these species respectively. Hibernacula are defined as caves in which bats hibernate, including the cave itself and an area 200 feet in radius from the cave entrance(s).

"Or greater" has been added to 2670 Forest-wide standard: Monitor snag retention in cutting units. If an average of less than 6 snags/acre with 9" dbh or greater exists, manually create additional snags. (Appendix H p. 86a)

WHAT IS THE RATIONALE AND ORGANIZATION OF THE EXISTING PLAN

Comment: Some commented that the EA and associated documents were difficult to follow and understand.

Response: The organization of the existing Forest Plan and the relationship between management prescriptions, opportunity areas, and zoological areas was described in the introduction on page A-1 of Appendix A--the appendix that outlined all the changes that were proposed under the action alternatives. This analysis and adding appropriate standards to ensure conservation and recovery of all threatened and endangered species found on the MNF was very complicated. By the same token it was difficult to succinctly articulate. The interdisciplinary team had considered describing the relationship of these areas in Chapter I but assumed those familiar with the MNF Forest Plan would be aware of the Forest Plan's organization and management structure.

MANAGEMENT PRESCRIPTIONS, OPPORTUNITY AREAS, & ZOOLOGICAL AREAS

Comment: Some did not understand the relationship between management prescriptions, opportunity areas, and zoological areas. They indicated it would have been helpful to readers if an explanation of the rationale and organization of the existing Forest Plan had been provided early in the EA.

Response: Additional information about management prescriptions, opportunity areas, and zoological areas could have been provided earlier in the EA. As it was, some assumptions were made regarding the public’s level of understanding of the Forest Plan’s organization and the amendment process. Thus, the preface of the EA provided only limited background information, the definitions of opportunity areas and zoological Areas were only provided in the glossary, and the rationale, organization, and structure of the existing Forest Plan was not described until the introduction to Appendix A, “Proposed Changes to Threatened and Endangered Species Standards” (EA, Appendix A, page 1).

More details regarding the relationship between management prescriptions, opportunity areas, and zoological areas can be found in the Forest Plan (pp. 47, 105-108, 199, 210, and A-1). The following summarizes the relationship between them:

- A Management Prescription is a composite of the specific multiple-use direction applicable to all or part of a management area that generally includes, but is not limited to goals, objectives, standards and guidelines, and probable management practices. The existing Forest Plan recognizes nine management prescriptions: MP 1.1, 2.0, 3.0, 4.0, 5.0, 6.1, 6.2, 7.0, and 8.0. The Amendment will add a tenth MP – MP 6.3.
- Opportunity Areas exist within management prescriptions. They are contiguous areas of land where one management prescription predominates (Forest Plan, p. A-1). They are a means of disaggregating practices and outputs to indicate where on the Forest activities will occur. These areas are not marked on the ground; they serve only as boundaries for planning purposes. A list of the MNF’s opportunity areas is provided on pages A-3 through A-6 of the Forest Plan. As explained in the next paragraph, the Amendment will only change opportunity areas that contain suitable WV northern flying squirrel or those that are within five miles of Indiana bat hibernacula.
- When an opportunity area has a unique situation not covered under the Forest-wide or management prescription standards, it is identified as a special area and is assigned additional standards and guidelines for its management (Forest Plan, p. 210). Zoological Areas are one type of special area and include habitat for WV northern flying squirrels and threatened and endangered bats. The standards that are used to manage these zoological areas are listed on pages 230-234 of the Forest Plan. The Amendment will modify and add to these zoological area standards.

PROTECTION OF HIBERNACULA BASED ON USAGE

Comment: Some commenters felt that protection should be based on use and not numbers of bats.

Response: The MNF is not proposing to vary protection based on the number of bats that have been found in hibernacula. See Alternative #7 and #8 in the “Alternatives Not Considered in Detail” section of the EA, pp. II-41 and II-42.

DEFINITION OF CAVE ENTRANCES

Comment: It was asked how cave entrances were defined in the analysis and whether the opportunity area as a whole was being referred to in the standard that stated, “surface occupancy will not be permitted for mineral operations of Federal minerals at cave entrance...”

Response: Cave entrances are openings to underground caves and cave passages. Cave entrances do not refer to the opportunity area as a whole. They are only part of the area that would make up Indiana bat Opportunity Area 838. Opportunity Area 838 for Indiana bats would be defined as described on page H-233c: “Indiana bat hibernacula (caves and an area at least 200 feet in radius from cave entrances) and key areas (area near hibernacula that includes mature stands); and or land within two miles of a maternity site for the Indiana bat, unless consultation with the USFWS on a site-specific basis indicates otherwise.”

Minor editorial changes have been made to the standard referenced (pp. II-12, Zoological Area, 2800 Minerals and Geology standard #1). The wording “cave entrances” was replaced with “hibernacula” to provide additional clarity and consistency (Appendix H, p. 233e). The final standard reads:

“Surface occupancy will not be permitted for mineral operations on Federal minerals at hibernacula, within key areas, or within two miles of maternity sites.”

HIBERNACULA LOCATIONS

Comment: A comment was made that the Lobelia Saltpeter cave location may be inaccurately displayed on the map that accompanied the EA.

Response: The MNF reviewed the map and acknowledges the Lobelia Saltpeter cave was inaccurately mapped. This apparently occurred due to data entry error when converting known latitudinal and longitudinal information on this cave into projections used to display this information. The Forest has taken steps to correct this and to display the proper location of this cave and analyze changes in the areas affected. Other known Indiana bat hibernacula have also been checked for accuracy.

As a result of this review, changes have been made to the map and associated table (Appendix J) and to acreage figures used for this analysis (DN/FONSI, p. 6). These changes have been determined to be consistent with the Biological Opinion and the Purpose and Need identified in the EA. Protections for Indiana bat have been appropriately applied to known locations using the best available information standard. All changes have been reviewed for consistency with the effects analysis (EA, Chapter 3) by the interdisciplinary team and other specialists. Suggested changes have been determined to be within the scope of the programmatic analysis and conclusions made regarding direct, indirect, and cumulative effects remain the same as those disclosed in the EA.

VEGETATION MANAGEMENT WITHIN 200 FEET OF HIBERNACULA

Comment: It was stated that the area within 200 feet of caves occupied by Virginia big-eared bats provides little foraging habitat and does not justify disturbance to create diversity.

Response: The referenced standard was derived from an existing standard on page 231 of the Forest Plan, which states, “Vegetative treatments may be undertaken if coordinated with bat habitat requirements in the opportunity area...” The opportunity area in the existing Forest Plan is defined as an area at least 200 feet in radius from the entrances of inhabited caves.. (Forest Plan, p. 230). Little vegetation management has or is expected to occur in these areas; however, vegetation management (not timber harvest) is a tool that could be used to manage VA big-eared bat habitat near cave entrances. For example, if a cave entrance needs to be gated, vegetation may have to be removed around the entrance for the gate to be installed. Also, vegetation could grow up around an entrance and affect airflow within the cave; this could adversely affect bat populations or hinder bat movement. By retaining a standard that allows vegetation management to occur within 200 feet of hibernacula, the Forest would be able to authorize appropriate activities if needed. A site-specific analysis will be conducted before any proposal for vegetation management could be approved. The USFWS will be consulted during the process.

CONSTRUCTION AT CAVE ENTRANCES

Comment: One commenter suggested that to “prohibit any construction or permanent type of activities at cave entrances unless created for the protection of Indiana bats” might be too limiting. They were concerned that this did not leave the Forest options to gate caves in this prescription for any reason other than the protection of Indiana bat. They also felt there is no reason to restrict gating at other caves within this prescription that are not Indiana bat hibernacula. They also felt that gating at Virginia big-eared bat summer colonies and hibernacula may be necessary for reasons other than bat protection.

Response: The Forest recognizes the validity in this statement and has made minor changes to standards to reflect this. Allowance of gating for public safety, or for the protection of other cave resources is a

valid need. A “bat friendly” gate would not harm Indiana bats or VA big-eared bats. Any proposal for construction or permanent type of activities in these opportunity areas, including gating, would undergo site-specific analysis and consultation with the USFWS; activities would be completed consistent with Forest Plan standards. This will ensure threatened and endangered species will not be adversely affected. These changes do not change the effects to threatened and endangered species or other resources.

VA big-eared bat Zoological Area 837, 2670 Threatened, Endangered, and Proposed Species Management standard (8) (Appendix H p. 232) and Indiana bat Zoological Area 838, 2670 Threatened, Endangered, and Proposed Species Management standard 2(g) (Appendix H, p. 233e) have been revised to include construction or permanent type of activities for public safety or to protect other cave resources provided it is not detrimental to the species.

In this case, Zoological Area, 2670 Threatened, Endangered, and Proposed Species Management standards are specific to Indiana bat hibernacula and VA big-eared bat summer colonies and hibernacula. This involves an area 200 feet in radius from the entrance of inhabited caves. Therefore, the likelihood of applying restrictions to other caves within this prescription that are not Indiana bat hibernacula is extremely small.

SPECIAL USE PERMIT ISSUANCE FOR BAT CAVES

Comment: One commenter suggested there is no reason not to issue special use permits within Indiana bat hibernacula (caves and an area at least 200 feet in radius from cave entrances) and/or caves that harbor VA big-eared for the time period when bats are not present, barring other reasons for such a closure.

Response: Consideration was given to the option of allowing special uses during periods when bats were not present. However, the MNF is cognizant of the importance of threatened and endangered species recovery and is committed to conserving, protecting, and maintaining habitat for federally listed species to aid in their recovery. This commitment is evident in the 1986 Forest Plan, which placed first priority on management of habitat essential to threatened, endangered, and proposed species (pp. 37, 84, and 230-234). Zoological Standards for OA 837 and OA 838 both emphasize that “Important habitat for Virginia big-eared Bat (*Plecotus townsendii virginianus*) and Indiana Bat (*Myotis sodalis*) will be managed in order to protect and enhance the population of these species.”

Accordingly, Forest biologists and the ID Team determined that restricting special uses within these areas year-round provided a higher level of protection for Indiana bats, Virginia big-eared bats and their habitats without causing notable adverse effects on special uses that may have occurred in these areas. Seasonal restriction may not offer this level of protection, particularly to important habitats. Certain activities associated with special uses may result in higher risk of habitat degradation. For example, even though bats may not be present, smoke from campfires or increased risk of escaped fire associated with an outfitter guide permit could negatively impact bat habitat.

Additionally it was felt that commercial use, which is regulated through the Special Use Permit process, should be restricted at significant caves as determined under the Cave Resources Protection Act of 1988. These include Indiana bat hibernacula and caves that harbor VA big-eared bat as considered under this Amendment.

This standard does not restrict noncommercial use of the area provided use is consistent with the standards and guidelines for these management areas.

SURVEYING FOR AND MANAGEMENT OF CAVES

Comment: One commenter suggested all caves on Federal lands that appear suitable habitat for threatened, endangered, and proposed bats should be surveyed to determine species presence. One commenter wanted to know how many caves existed on the forest. They asked how many had been surveyed for threatened, endangered, and sensitive species including bats; and how many would receive

protection from logging, road building, destructive recreation, extractive development, motorized activity, mineral development, and other ground disturbing activity.

Response: Part of the Recovery Actions listed in the Recovery Plan for the Ozark Big-Eared Bat and Virginia Big-Eared Bat is to search for undocumented caves of importance to big-eared bats (Recovery Plan pp. 29, 35-36). The Indiana Bat Recovery Plan states although the locations of many (perhaps most) Indiana bat hibernacula are known, cavers or other private individuals may know of, or discover and reveal the locations of additional caves occupied by Indiana bats. Such caves should be evaluated and added to existing databases when discovered (Indiana Bat (Technical Draft) Recovery Plan p. 25). Forest-wide standard 2670 (3) (p. H-2) states that the requirements of approved Threatened and Endangered Species Recovery Plans and Biological Opinions issued by the USFWS for the MNF will be implemented and fully coordinated with the Forest Land Management Plan.

Forest-wide standards 13(b)(1) (Appendix H, p. 86b) directs the Forest to manage identified Virginia Big-Eared Bat summer colonies and hibernation sites under MP 8.0 and Zoological Area standards for Opportunity Area 837. Standard 13(c) (8) (Appendix H, p. 86) directs the Forest to develop an appropriate protection plan of any new Indiana bat hibernacula that are discovered. The Forest understands that the likelihood exists that all caves, openings, blowholes and potential areas of underground bat habitat occurring on the Forest have yet to be documented. These standards help ensure protections for currently identified and any new Virginia Big-Eared bat summer colonies and hibernacula and Indiana bat hibernacula as they are discovered.

In addition, if activities are proposed in areas with a likelihood of occurrence for threatened, endangered and proposed species, Forest wide standard 8 (Appendix H, p. 84b) directs the forest to (a) redesign the proposed action to avoid the area, or (b) conduct on-site surveys as appropriate, to establish presence or absence of threatened, endangered, or proposed species. If threatened, endangered or proposed species are not found, the action may proceed; if they are found, actions will be dropped or designed to avoid adverse effects to threatened, endangered, and proposed species, or (c) assume potential presence of threatened, endangered, and proposed species and proceed with action if appropriate mitigation or beneficial measures can be implemented, or (d) in rare instances where adverse effects to threatened, endangered, and proposed species cannot be avoided, the Forest will request formal consultation with USFWS.

PROTECT CAVE PASSAGES

Comment: Several commenters felt that protections should go beyond “Cave entrances” and hibernacula “Since the majority of cave passage may exist outside of the area known as “hibernacula”; all caves passages that could be affected, including those outside the opportunity areas, need to be considered.” They felt that shot detonation, ground vibration, dynamite and other activities should be restricted in these areas.

Response: For the purposes of this Amendment hibernacula were defined as – Caves in which bats hibernate, including the cave itself and an area 200 feet in radius from the cave entrance(s) (see response to [DEFINITION OF CAVE ENTRANCES](#)).

Existing Forest Plan direction (Forest Plan, p. 233) recognized that “Dynamiting during maternity or hibernation periods could create a severe stress on these bats.” It prohibited “dynamiting near caves when the blast exceeds a peak particle velocity of .02 inches per second at the site of the bat colonies.” The Amendment establishes standards that provide additional protections by restricting these mineral activities to even more areas (key areas, or within two miles of maternity sites) where practical.

Any activity proposed on the Forest which may affect cave passages that harbor threatened and endangered species would require NEPA analysis and consultation to determine consistency with ESA, Forest Plan direction and other laws, regulations or FS policy (see response to comments [National Environmental Policy Act](#), [Consultation with USFWS](#), [Threatened and Endangered Species Protection](#)).

Also, all caves that are known sites of Indiana bats and Virginia Big-eared bats on the Forest have been listed as significant caves under the Federal Cave Protection Act of 1988 (Act). The intent of the Act is to preserve significant caves on federal lands for the perpetual use, enjoyment and benefit of all people; foster increased cooperation and exchanges of information between government authorities and people who use caves on federal lands for scientific, education or recreational purposes. The policy of the US is that federal lands be managed to protect and maintain significant caves to the extent practical. The Act defines “cave” as any naturally occurring void, cavity, recess, or system of interconnected passages which occurs beneath the surface of the earth or within a cliff or ledge (including any cave resource therein, but not including any mine, tunnel, aqueduct, other manmade excavation) and which is large enough to permit an individual to enter, whether or not the entrance is naturally formed or manmade. Such term shall include any natural pit, sinkhole, or other feature that is an extension of the entrance. Any assessment of proposed activities would also have to be consistent with this Act and include consideration of interconnected cave passages.

CONSIDER MINES AS POSSIBLE COLONY SITES

Comment: Some commenter suggested that the definition for Opportunity Area 837 should be revised to include mines as possible colony sites because Virginia big-eared bats were found using abandoned coal mines on the New River Gorge National River during the summer of 2002.

Response: Zoological Area, 1950 NEPA standard 2 has been revised. The Opportunity areas is defined as an area at least 200 feet in radius from the entrance of inhabited caves; an area at least 200 feet in radius around a maternity colony of VA big-eared bat as long as the site is used; and an area at least 200 feet in radius from inhabited abandoned mine adits. Despite several surveys conducted at the entrances of mine sites, VA big-eared bats are not currently known to occur in mine sites; thus, this change in definition did not change the effects documented in the EA.

CHANGE INDIANA BAT FOREST-WIDE STANDARD #6

Comment: It was requested that #6 in the final entry of “Revisions to Forest-wide Standards” (Chapter II-p. 9) be changed to read: describes any additional effects, if any, not considered in the tier I consultation including all actions and their cumulative effects in action area and on adjacent MNF and private land.”

Response: Including requirements for cumulative effects in the Forest Plan would be redundant because such requirements are already required by law and regulation. The NEPA and 40 CFR 1508.25 and 1508.7 require that cumulative effects be considered before activities are implemented. Prior to implementation of projects on MNF lands, the USFWS is consulted (either formally or informally). The USFWS reviews and comments on the MNF’s analysis of cumulative effects to threatened and endangered species and addresses cumulative effects in their biological opinions. See response to comments that explains the consultation process the MNF follows.

EARTH DISTURBANCE AND VEHICLE USE MAY BENEFIT THREATENED AND ENDANGERED SPECIES

Comment: It was stated that some disturbance might benefit species such as running buffalo clover and should not be eliminated as a management option.

Response: Some disturbance may benefit species such as running buffalo clover and can be used as a management tool to aid in the recovery of the species. The “no earth disturbance” standard referenced by the commenter only applies as guidance for processing mineral authorizations and approving plans for mineral activities on MNF lands (Appendix K). It would be considered in context with other threatened and endangered species standards such as the Forest-wide standards that states, “Determine and implement appropriate habitat management techniques to maintain or enhance populations of threatened, endangered, and proposed species” (Appendix H, p. 84c). Also some editorial changes have been made to

management direction to clarify that certain activities (ground disturbing or otherwise) may be desirable for other threatened and endangered species than the focus species (i.e. Appendix H, p.86c, 190a, 190c, 190d, 190g, 232, 233e). Activities that benefit other threatened and endangered species will only be allowed after consultation with the USFWS.

FORESTED TRAVEL CORRIDORS AND RIPARIAN AREAS MANAGEMENT

Comment: A comment was made that managing forested travel corridors and riparian areas for VA big-eared bat foraging habitat was unnecessary.

Response: The Forest-wide standard in question, (13)(b)(1), reads as follows: “Identified nursery colonies, hibernation sites, and corridors will be managed under MP 8.0 and Zoological Area standards for Opportunity Area 837. Foraging habitat will be managed under Forest-wide riparian area standards, 2670 C.”

Standard (13) (b) (1) originated from an existing Forest-wide standard (Forest Plan p. 85). Riparian areas for foraging are not as important to VA big-eared bat as previously thought and identified in the Forest Plan. Recent telemetry studies have shown that Virginia big-eared bats generally roost and forage in an area within six miles of the summer colonies. The Forest has incorporated this information into other standards and into the overall analysis. In these areas, management will concentrate on protecting inhabited caves and providing foraging habitats and water sources. Preferred foraging habitat is probably a mosaic of open and wooded habitats (Revised BA, p. 67).

The Forest, and several commenters, felt that it was important that riparian habitat suitable for wildlife, especially endangered and threatened species, be provided and protected. Previously, the interdisciplinary team and other specialists felt that leaving this standard as written would not cause an adverse impact to VA big-eared bat while providing for the protection of riparian areas for other wildlife species. Upon further review the Forest has determined that riparian habitats for threatened and endangered species are adequately provided for and protected by way of other forest-wide standards (e.g. 13, c, 1; 2670 C), with or without reference to riparian foraging habitat under (13)(b)(1).

The MNF agrees that the standard as written may not reflect the best available information and that a minor edit of this standard, removing “Foraging habitat will be managed under Forest-wide riparian area standards, 2670 C”, addresses this concern (Appendix H, p.86). This change is considered minor in scope. This change has been reviewed for consistency with the effects analysis (EA, Chapter 3) by the interdisciplinary team. Suggested changes have been determined to be within the scope of the current analysis and conclusions made regarding direct, indirect, and cumulative effects, and determinations in the Biological Evaluation remain the same.

PROTOCOL FOR SURVEYING INDIANA BATS

Comment: Some people asked what protocols the Forest would use to survey for Indiana bats and whether they are sufficient to find the bat. They asked that the USFWS protocols be disclosed in the EA.

Response: Forest Plans are not intended to provide specific details as to how to attain desired future conditions. They are to provide broad, programmatic direction for resource management over a 10-15 year period. They are to identify specific statements of desired future conditions and set standards on development activities that help achieve desired future condition. Usually, standards are requirements that preclude or impose limitations on resource management activities, often for the purpose of environmental protection.

Consistent with these premises, the Threatened and Endangered Species Amendment to the Forest Plan is a programmatic decision aimed at providing overall guidance for management of threatened and endangered species of the MNF. It was not designed to specify all the “how-tos” for obtaining desired conditions.

Information about threatened and endangered species is continually evolving, and the Forest must be able to respond quickly to such information. It is the Forest's top priority to manage habitat to help recovery of the threatened and endangered species of the Forest, such as the Indiana bat (Forest Plan goal, p. 37). To accomplish this goal, the Forest Plan must be permissive enough to allow the Forest to make administrative changes (e.g. monitoring protocols) as new information emerges. General monitoring and evaluation direction applicable under all action alternatives requires the Forest to 1) Survey for new populations of threatened, endangered, and proposed species; 2) Identify and monitor threats to known threatened, endangered, and proposed species' populations; 3) Evaluate the effectiveness of protection and management programs; redirect efforts as necessary; 4) Monitor existing populations and new sites of threatened, endangered, and proposed species; 5) Monitor federally listed threatened, endangered, and proposed species to meet requirements outlined in any Biological Opinion issued by the USFWS for the MNF as a result of formal consultation; 6) Continue to seek Indiana bat maternity sites and evidence of summer use on the MNF on a watershed basis using survey methods and frequencies that follow guidelines and protocols established by the USFWS, in consultation with the USFWS and the WVDNR.

The MNF will follow appropriate monitoring protocols established or recommended by US Fish and Wildlife Service, WV Department of Natural Resources, USFS, researchers, or others as documented in Biological Opinions, Recovery Plans, Directives or other correspondence to best meet the above requirements. Specific monitoring protocols for surveying threatened and endangered species, such as the Indiana bat, were not proposed for inclusion in the Forest Plan so the Forest can adapt and respond quickly to continually evolving information about threatened, endangered and proposed species. The Forest believes that maintaining this flexibility assists in addressing new information, meeting the Forest's monitoring requirements, and providing for the recovery of listed species.

With respect to Indiana bat protocols, the Forest is following USFWS established monitoring protocols found in the Draft Indiana bat Recovery Plan. This Recovery Plan was referenced in the EA. This method has proven successful on the MNF as well as other places and best meets the monitoring objectives for the Forest. In addition, the Forest has used, and continues to use Anabat detectors to supplement this method and increase the success in locating and classifying threatened and endangered and other bat species. Also, the MNF is implementing a more pro-active monitoring program in coordination with US Fish and Wildlife Service WV Department of Natural Resources, and Northeast Research Station wherein more suitable habitats for Indiana bat are sampled across the Forest, not just areas proposed for project activity. These habitats have been modeled (DeMeo, 1998, Ford, pers. comm.) and represent areas with higher probabilities of Again, this increases the Forest's chances of success and allows for another long term monitoring technique for forest bat species, including Indiana bat, on the MNF. Survey and inventory techniques used extend above and beyond the minimum survey and monitoring requirements.

PROTECTION OF INDIANA BAT MATERNITY COLONIES

Comment: Some people asked that if, during the three years of surveys conducted following the discovery of evidence of a maternity colony, a colony is found would the area be established as an OA.

Response: Under Forest-wide standards adopted for Indiana Bat (2670 A. 13 c. (1), (6), and (7)), any maternity site discovered, be it during surveys conducted following the discovery of evidence of a possible maternity colony (e.g. lactating female) or otherwise, would be "assigned to MP 8.0 and Opportunity Area 838" (Appendix H, p. 86-86a). "Roost trees used by a maternity colony will be protected by establishing a zone centered on the maternity roost site. The actual area, not to exceed a 2-mile radius around the colony, will be determined by a combination of topography, known roost tree locations, proximity of permanent water, and a site-specific evaluation of the habitat characteristics associated with the colony. Protective measures shall be determined at a site-specific level by developing a management strategy in cooperation with the USFWS and the WVDNR." (Appendix H, p. 86a)

MAINTAIN POOLS OF WATER

Comment: Commenters suggested that pools of water, especially on dry ridges, would benefit bats and other wildlife. However, for this to be an overall benefit, it would have to be in addition to the requirements already in the Forest Plan.

Response: MNF biologists have recognized that additional water sources would benefit not only threatened and endangered bat species but other wildlife as well. This has been acknowledged in the Revised Biological Assessment, the Terms and Conditions of the Biological Opinion, and in Forest-wide standards adopted as part of this Forest Plan Amendment (Appendix H, p. 86c). These pools of water are in addition to wildlife water sources already provided for in Forest Plan direction.

BAT OUT REACH PROGRAM

Comment: Some people believed the standards created to implement the USFWS' two conservation recommendations (bat outreach program and creation of water sources for Indiana bats) were too vague to help Indiana bats.

Response: Standards created to implement the conservation recommendations of the USFWS are sufficient to protect and aid in the recovery of Indiana bats (Appendix D, Biological Opinion, determinations in Appendix G, and USFWS correspondence 03/24/03). The conservation recommendations regarding an Indiana bat outreach program and creation of water sources during road abandonment were provided at the end of the consultation process, and are discretionary suggestions made by the USFWS for consideration by the Forest. Conservation recommendations serve several purposes: (1) they can suggest how the Forest can assist species conservation in furtherance of their responsibilities under section 7(a) (1) of the Act; (2) they may further minimize or avoid the adverse effects of a proposed action on listed species or critical habitat - in which case they are applied after the terms and conditions of the incidental take statement are implemented. They are usually general in nature and wherever possible, these actions are tied to tasks identified in recovery plans.

As indicated in the MNF's Conservation Plan, as new information develops, the MNF coordinates with the USFWS, WV Division of Natural Resources (WVDNR), universities, Forest Service research, the Nature Conservancy, and others to adapt management of MNF lands to protect habitat and promote the recovery of threatened and endangered species the MNF (EA, Appendix E). By stating that an outreach program will be conducted and that water sources will be created during road abandonment, the Forest identifies a standard to be obtained but allows site-specific circumstances to dictate the way in which such standards are met. For example, the design of the Indiana bat outreach program is an administrative decision that will likely be determined in cooperation with the USFWS and WVDNR in context of what actions are currently being taken on the Forest and by others. In regards to drinking water, the number and location of water sources to be created during road abandonment will likely be determined on a site-specific basis, after assessing the existing condition of a particular area and determining the need for additional drinking water.

MNF HARBORS GREATER THAN 75% OF THE WVNFS HABITAT

Comment: A comment was made that due "to recent captures on private land the Monongahela now harbors greater than 75% of the habitat for the WVNFS, rather than over 90%."

Response: The Forest's understanding of WV northern flying squirrel suitable habitat is dependent upon new information and is rapidly changing. This fact further substantiates the need for a map representing WV northern flying squirrel suitable habitat that is dynamic as is provided in the authorized standards.

The percentage of suitable habitat on the MNF was presented in the Revised Biological Assessment and the Plan Amendment EA to represent the relative importance of the MNF's role in providing for the recovery of this species. This relative importance of suitable habitat found on the MNF, be the percentage 90% or 75%, is not diminished. In that context, and with the recognition that this figure is subject to

refinements up or down over the life of the Forest Plan based upon new information and mapping efforts, the Forest does not believe that this warrants a change to the EA.

PROTECTION OF WV NORTHERN FLYING SQUIRRELS INADEQUATE

Comment: Commenters felt that provisions to provide protection for the WV northern flying squirrel where inadequate; that the suitable map in the EA is inaccurate and protections do not fully correlate with actual capture sites; that FS may be understating suitable habitat; and that proposed standards are so vaguely written and open to interpretation, that "harm" and/or "take" could be allowed. Several commenters felt that the Forest should take a more proactive approach to managing for WV northern flying squirrel by protecting "suitable" habitat as well as habitat around capture sites.

Response: The initial momentum behind the suitable map was the MNF's and USFWS' desire to take a more positive, proactive approach to managing for WV northern flying squirrel and to address guidance thought to be insufficient in providing protection to the squirrel on the Forest. MNF and USFWS concerns with prior provisions and guidance are captured in the Recovery Plan Update and EA and summarized here:

"The Service, WVDNR, MNF, and the Recovery Team agree, based on the data gathered in the past 10 years, that this approach might not have been protecting the WVNFS to the fullest extent possible.... and could potentially result in an under-representation of occupied habitat when using these methods of sampling. Recovery of the WVNFS must go beyond just protecting areas where the squirrel can be located through trapping and nest box placement and monitoring."

The MNF fully intends, as part of Forest goals, responsibilities, and legal requirements, to protect and conserve all known threatened and endangered species. This is certainly true of known WV northern flying squirrel capture sites. It has always been the intent of the Forest to follow the definition of suitable habitat as described in the Recovery Plan (Updated), which reads "Suitable WVNFS habitat may be defined as areas that have the habitat characteristics (overstory and understory composition and structure, elevation, aspect, slope, etc.) required by the squirrel as reflected by known capture locations". Consistent with existing standards, the intent was to include known capture locations as suitable even though the map presented in the EA, at a Forest-wide scale, may not have captured this.

To address concerns raised in the comment period, the Forest has updated the map (see Appendix H), applying verified capture locations, to make clear this intent. The Forest has also added wording, as bolded and underlined, to the following Zoological Area Standard for WV Northern Flying Squirrels:

1560 A map of suitable habitat will be collaboratively produced with USFWS and WVDNR. This map will be based on the best scientific and commercial data available **and will include all verified capture sites of WV northern flying squirrel**. This map may be reviewed periodically and will be refined when USFS biologists determine that suitable habitat may be present in a project or analysis area.

Project activities in these areas will require consultation with USFWS. WVDNR will be kept informed of activities. (Appendix H, p.234)

The maps included in the EA (Appendix B) displayed a representation or approximation of suitable habitat by alternative for WV northern flying squirrels at the forest-wide scale (1:350,000 and 1:700,000). The Forest recognized that at this scale, all known locations of WV northern flying squirrel were not included. All capture sites were not included at this scale for a multitude of reasons (e.g. un-validated or questionable information or locations, broad parameters or boundaries in existing datasets used to map suitable habitat, inaccuracies in the model or datasets, and locations in MP5.0, 6.2, or 8.0) but all known capture sites were to be considered at the watershed assessment and project level scale. Maps included in the EA were not intended, nor represented, as precise, fully developed or refined suitable habitat map. The model representing suitable habitat as shown in the EA map (Appendix B) did account for

approximately 89% of confirmed squirrel locations. This accuracy will certainly increase when locations are validated and mapping boundaries are refined collaboratively with USFWS and WVDNR at the watershed and project levels thus giving greater confidence that essential or suitable habitat is mapped accurately (and adequately protected) even in the absence of known squirrel locations. The map also includes an 80 meter (262 feet) buffer placed around suitable habitat (Odum et.al., 2001), which exceeds the size of buffers identified in the Recovery Plan (Updated).

The MNF, USFWS, WVDNR and others have long recognized the need for this map to be dynamic in time and in space (see Revised BA, Recovery Plan (Updated), and EA). Authorized standards direct that this suitable habitat mapping effort must be collaborative refined in order to include the best available (and robust) science/data on the species (e.g., additional or validated squirrel locations, new information regarding preferred habitat, improved mapping capability –refinement mapping parameters, connectivity at finer scales, newly acquired lands, and/or other important elements at different spatial scales). To ensure that no suitable WV northern flying squirrel habitat is misidentified, the FS, US Fish and Wildlife Service and WVDNR will assess the accuracy of the map during subsequent planning efforts at the watershed and project levels where finer landscape and project level environments and circumstances can be addressed more practically.

The MNF believes that direction authorized in the Forest Plan Amendment will provide adequate, even optimal, protection to WV northern flying squirrel habitat and provide for the conservation and recovery of the species. Authorized standards focus on habitat used by WV northern flying squirrel, provide flexibility to incorporate new information into WV northern flying squirrel management, exceed those protections previously afforded, and will substantially assist in the conservation and recovery of the species. Forest personnel will continue to work with USFWS, WV DNR, and others in identifying habitat essential for WV northern flying squirrel and keeping the map updated and refined in order to accurately reflect WV northern flying squirrel habitat. These new guidelines are fully supported by the MNF, USFWS, WVDNR, and the Appalachian Northern Flying Squirrel Recovery Team.

BEGIN RESEARCH TO MAINTAIN WV NORTHERN FLYING SQUIRREL HABITAT

Comment: Several commenters stated their support for the Forest’s conservation efforts regarding the WV northern flying squirrel; that the proposed guidelines will greatly benefit the squirrel and the red spruce/northern hardwood forest it depends on; that adopted standards eliminate problems with the current Forest Plan – surveys are not very efficient and may not detect populations; that active management can and must continue on the MNF relative to stand health, vigor and perpetuation of forest types; and their encouragement to begin research to analyze different silvicultural treatments for the enhancement of squirrel habitat.

Response: The MNF concurs with these comments. They are the premise for many of the standards adopted in the Forest Plan Amendment. Likewise, the Forest agrees with the need to conduct research within suitable habitat to determine quality of habitat and possible treatments that may be used to enhance squirrel habitat. With standards related to research within suitable habitat now in place, the Forest intends to address this need in project level proposals.

RESEARCH PERMIT UNDER ESA SECTION 10

Comment: Some commenters wanted clarification as to conditions under which vegetation management may occur in WV northern flying squirrel habitat.

Response: To clarify when and where vegetation management may occur in WV northern flying squirrel habitat, the WV northern flying squirrel Zoological Area standard 1900 Vegetation has been reworded and restructured (Appendix H p. 234). As now written it emphasizes that 1) the Forest believes that vegetation management in suitable habitat will occur from time to time but on a limited basis, 2) that all proposed vegetation management will involve USFWS consultation, 3) that activities associated with

research and authorized by a Section 10 research permit could potentially decrease the suitability of habitat either in the short-term or long-term and/or harm individual WV northern flying squirrels, 4) that without the aid of research we do not know with any certainty which, if any, activities will enhance WV northern flying squirrel habitat, and 5) that these activities will occur as part of the Forest's goal of conservation and recovery of threaten and endangered species. Also see response to comments [Compliance with ESA](#), [Consultation Process](#) and [WVNFS Take Permit](#). Restructuring this standard did not change the effects that were disclosed in the EA.

CONNECTIVITY

Comment: Some commenters felt that connectivity between threatened and endangered species habitat (especially that of the WV northern flying squirrel) has not, but should be addressed.

Response: Connectivity, where appropriate, is a basic tenet of conservation biology and an important consideration in maintaining viable populations of species on the MNF. MNF biologists, and others charged with the conservation of listed species, recognize and employ this principle in their assessments of habitat conditions for threatened and endangered species on the MNF. Likewise, Recovery Plans for the various species often speak to the need to maintain connectivity or limit fragmentation, when appropriate, as conservation recommendations and recovery strategies. The Forest Service relies heavily on the on the Recovery Teams and other species experts to provide the best scientific information and recommendations possible regarding the level of connectivity needed for conservation and recovery of the species.

For some listed species on the MNF corridors and connectivity between habitats has been identified as an important element in providing for the recovery of these species. For others this has not been identified as a limiting factor and in some cases identified as a hindrance to recovery due to introduction of disease or competition for resources from other species.

Analysis and standards, appropriate to the species and the scale of habitat usage, have been considered programmatically and added where appropriate. For example, suitable habitat for the West Virginia northern flying squirrel will be managed under MP 8.0 and Zoological Area standards for Opportunity Area 832, consistent with the Guidelines for Habitat Identification and Management found in the Appalachian Northern Flying Squirrels Recovery Plan (Updated). These Guidelines state "Suitable habitat includes buffers of approximately 150 feet and corridors to provide linkages for habitat areas where deemed necessary to prevent barriers to movement." In the case of WV northern flying squirrel, the Forest Plan as amended provides for much greater connectivity between individuals and populations than previously provided.

The EA analyzed the impacts of implementing new standards for threatened and endangered species. Impacts of timber harvesting, road building, and other forest management activities that may contribute to fragmentation of habitats are analyzed in the Revised Biological Assessment (USDA 2001), the Biological Opinion (Appendix D) and the Biological Evaluation (Appendix G) for this assessment. Potential impacts to sensitive species are addressed in the Biological Evaluation (Appendix G pp. 33-40) of this EA. Additional consideration regarding connectivity of habitats will be evaluated during subsequent planning efforts at the watershed and project levels where mapping of finer landscape and project level environments and circumstances is more practical.

MINIMIZE DISTURBANCE AND PROVIDE ESCAPE AREAS FOR WILDLIFE

Comment: Some people questioned the intent and appropriateness of the standard on page II-6 of the EA, which stated "To minimize disturbance and provide "escape areas" for wildlife, no more than 40 percent of the opportunity area acreage will be directly disturbed at any given time."

Response: This "escape areas" standard was drafted from an existing MP 6.1 standard, which states: "No more than 40 percent of the opportunity area acreage will be directly disturbed, in order to have "escape

areas” for wildlife” (Forest Plan, p. 172, 2410 VI, Timber Regulation, B (1) (a)). This standard was included in the Forest Plan to provide habitat for wildlife species intolerant of disturbance. This standard was brought forward in this Amendment because much of the acreage that lies within 5-mile radii of Indiana bat hibernacula was designated as MP 6.1. Including this limit as a MP 6.3 standard helped maintain consistency with the existing Forest Plan direction to minimize impacts to those wildlife species intolerant of disturbance. Had this standard not been incorporated as a MP 6.3 standard, the effects on those wildlife species sensitive to disturbance could have been greater than under implementation of the existing Forest Plan.

Also, this MP 6.3 “escape areas” standard applies to the total acreage within each Opportunity Area of MP 6.3. The referenced standard restricts the amount of activity that may occur in a MP 6.3 area by identifying an upper limit of disturbance. This standard does not authorize or encourage the disturbance of 40% of an area. The amount of disturbance, not to exceed 40%, that actually will be authorized in MP 6.3 areas will be based on habitat requirements of the Indiana bat and site-specific conditions within an Opportunity Area. The amount needed and authorized will continue to be determined on a project-level, not at this programmatic level. A site-specific review of potential environmental effects would be conducted and effects would be assessed after considering site-specific circumstances.

INTRODUCE BISON TO BENEFIT RUNNING BUFFALO CLOVER

Comment: One commenter suggested that bison be reintroduced on the Forest to benefit running buffalo clover.

Response: Returning free-roaming bison to a portion of the MNF is outside the scope of this analysis. Consistent with the NEPA, the scope of the analysis for the Threatened and Endangered Species Amendment to the Forest Plan was confined to a reasonable range of alternatives that would respond to the purpose and needs that were defined on page I-2 of the EA.

300-FOOT BUFFER FOR CHEAT MOUNTAIN SALAMANDER (CMS)

Comment: A commenter felt the 300-foot buffer should protect Cheat Mountain salamander populations on the Forest and will address the recovery plan requirements.

Response: We agree, the 300-foot buffer is expected to protect and aid in the recovery of the Cheat Mountain salamander. Forest Service biologists identified measures to minimize potential adverse effects to Cheat Mountain salamanders in the Revised Biological Assessment (09/2001) page 39. This included continuing to implement actions in the Cheat Mountain salamander Recovery Plan. The Recovery Plan concludes as part of the Recovery Strategy that, “protection of known and newly discovered populations should lead to a secure enough total population level to consider delisting.”(CMS Recovery Plan p. 13) One action identified in the Recovery Plan is the development of interim management guidelines and revision as necessary; one of which is the establishment of a buffer zone of at least 300 feet around known populations. This was made a standard to be incorporated into the Forest Plan (Appendix A, p. A-11; Appendix H, p. 86d).

DISAGREE WITH DETERMINATION MADE FOR CMS

Comment: Some individuals indicated the amendment will not reasonably protect and recover Cheat Mountain salamander. They disagree with the Forest Service and USFWS finding that the present Forest Plan or the proposed Amendment “May Affect, Not likely to Adversely Affect” the Cheat Mountain salamander (Appendix G p. 3, 14, 21, 27, 38; Revised BA p. 2). They believe the decision and findings violate the ESA, the Administrative Procedures Act, the NFMA, and the NEPA.

Response: The conclusion that the Threatened and Endangered Species Amendment will protect and aid in the recovery of the Cheat Mountain salamander was made after a thorough review of the best scientific information available for this species and after consultation with the USFWS. As documented in the

DN/FONSI, the Threatened and Endangered Species Amendment complies with the NEPA, NFMA, ESA, and other laws (such as the APA). See response to comment [Compliance With Endangered Species Act/Protection Of Threatened And Endangered Species](#).

The MNF conducted an extensive review of the best available scientific information for the Cheat Mountain Salamander (e.g. the Cheat Mountain Recovery Plan, survey data collected on the MNF, various publications, etc.). The information reviewed in this effort was used in the development of the Revised Forest Biological Assessment (September 2001) to describe the distribution, trends, and needs of Cheat Mountain salamanders and document the effects of Forest Plan implementation on Cheat Mountain salamanders (pages 33-36). The Threatened and Endangered Species EA incorporated such information by reference and built on it to describe the effects of the action alternatives (pp. III-1 through III-20). All this documentation combined supports the “May Affect, Not Likely to Adversely Affect” determination made for the Cheat Mountain salamander (the determination made for all alternatives). The USFWS reviewed the Forest’s analysis, and based on their professional knowledge of the best scientific information available regarding the Cheat Mountain salamander, concurred with the Forest’s determinations (11/09/2001 USFWS correspondence).

The amendment adds a forest-wide standard to create a minimum 300-foot buffer zone around known Cheat Mountain salamander populations. The buffer zone will be based on information in the Recovery Plan for the Cheat Mountain salamander or the best, most current scientific information. It ensures that vegetation and surface disturbance will be avoided in known colonies and removes language about relocating colonies. The amendment also updates the elevation where Cheat Mountain salamanders are found. The Forest Plan Amendment incorporates standards to reinforce that the forest will implement requirements of approved Recovery Plans and they will be fully coordinated with the Forest Land Management Plan. It also directs that management of habitat essential to threatened, endangered, and proposed species is considered the first priority management activity (Appendix H, p. 84).

Analysis of effects of MNF actions on Cheat Mountain salamanders does not end with the approval of the Threatened and Endangered Species Amendment. As with all threatened and endangered species, areas proposed for projects will continue to be reviewed prior to project implementation to determine if they contain occupied or potential Cheat Mountain salamander habitat. Potential Cheat Mountain salamander habitat included in project plans will be field surveyed prior to implementation of any vegetative disturbing activities using survey specifications as stated in the Cheat Mountain Salamander Recovery Plan (USFWS 1991). If any Cheat Mountain salamanders are found or field surveys indicate that the area is high potential habitat (regardless of whether or not any Cheat Mountain salamanders are found during the survey effort) projects will either be dropped or designed to avoid Cheat Mountain salamander. If salamanders are found, population areas will be delineated and appropriate buffers applied (minimum of 300 feet) (Appendix A of the September 2001 Revised Biological Assessment, pp. 3-14) (Appendix H, p. 86d).

QUESTIONS ABOUT MINERAL ACTIVITY IN CMS HABITAT

Comment: Some individuals questioned why mineral activity is allowed in Cheat Mountain salamander habitat.

Response: Mineral activities would only be implemented in Cheat Mountain salamander habitat after a site-specific analysis is conducted to assess effects to the species and after appropriate consultation with the USFWS is completed.

As described in the Revised Forest Biological Assessment, clearing for gas field development and associated road construction have the same potential effects as Regeneration Harvest and road construction. As for all project proposals, effects to Cheat Mountain salamander are considered in every gas development and mineral proposal; and this activity usually is not authorized if it may affect this species.

In rare instances where activities cannot be avoided (e.g. private ownership of gas and minerals below the surface of Forest Service lands) formal consultation with the USFWS is requested. Seismic exploration is another mineral activity that is sometimes conducted on National Forest land. No significant ground or vegetative disturbance activities (e.g. shot holes) are permitted in potential or occupied Cheat Mountain salamander habitat. In limited instances, listening devices known as geophones have been placed in Cheat Mountain salamander habitat. Because geophones and cables are placed on the ground surface with little or no ground or vegetative disturbance, cover and other habitat elements are not removed by this activity. Thus the probability of seismic activity affecting Cheat Mountain salamander is very low. Placement of geophones is allowed in occupied Cheat Mountain salamander habitat at the programmatic level. Further analysis would be completed to determine if that activity is appropriate at the project level. When minerals are privately owned, consultation with the USFWS will be undertaken to minimize adverse effects on habitat.

FRAGMENTATION OF CMS POPULATIONS

Comment: Individuals stated “not allowing roading and logging in occupied or high potential Cheat Mountain salamander habitat does not address the issues of fragmentation of populations (e.g. increased edge predators). Degradation of their entire habitat area and metapopulations is not being addressed. Strict road density standards, as well as limitations on other disturbance, need to be implemented for the Salamanders’ entire limited range, including road decommissioning and obliteration.”

Response: Cheat Mountain salamander habitat is directly protected from degradation via existing Forest-wide standards for this species and indirectly protected by Forest Plan standards for other threatened and endangered species (e.g. forest-wide and OA 832 standards for WV northern flying squirrels when their habitat overlaps). Cheat Mountain salamander habitat will be even better protected from degradation as a result of adding the 300-foot buffer standard to the Forest Plan and strengthening standards for WV northern flying squirrels. These measures are expected to protect, conserve, and aid in the recovery of Cheat Mountain salamanders; and their incorporation in the Forest Plan demonstrates the MNF’s commitment to making threatened and endangered species management the Forest’s top priority.

Forest Biologists disclosed in the Revised Biological Assessment that “extensive logging of spruce around the turn of the century is the most likely cause of decline for this species. Competition from other similar plethodontids, genetic isolation of populations, habitat degradation (e.g., acid deposition), habitat fragmentation, and habitat disturbance all continue to contribute to the limited occurrence of the Cheat Mountain salamander (Pauley 1980, 1991).”

In a preliminary study, Pauley found that Cheat Mountain salamander probably did not move more than one linear meter. This is well within the home ranges found in studies of other Plethodon species; for example Kleeberger and Werner (1982) found the home range of *P. cinereus* to be from 12.97 – 24.34 square meters (taken from USFWS 1991). Given the limited mobility and movement of the species it cannot expand its range quickly. As such, in Recovery Plan tasks and conservation actions the MNF implements in assisting in the recovery of this species, emphasis is placed on protecting known populations and high potential habitats. Threats related to competition from other similar plethodontids using like habitats must also be considered in the context of fragmentation.

Furthermore, much of the potential habitat for Cheat Mountain salamander is protected via implementation of WV northern flying squirrel standards (OA 832). Forest biologists anticipate that these new standards will provide sufficient additional protection to large blocks of potential Cheat Mountain salamander habitat.

That understood and disclosed, the Forest determined, and USFWS concurred, that existing Forest Plan standards are adequate to manage populations of Cheat Mountain salamanders (Revised Biological Assessment, pp. 2, 33-36 and 11/2001 correspondence with USFWS). Also, see description of effects to Cheat Mountain salamanders on pages 10, 12-14, and 83 of Chapter III of the EA.

DESIGNATE SPECIAL AREAS FOR CMS POPULATIONS

Comment: Some individuals stated that the area of influence for Cheat Mountain salamander should be clearly defined and delineated and Special Biological Areas should be established for Cheat Mountain salamander in the amendment that limits/minimizes ground disturbance.

Response: The Forest believes existing and adopted standards do define and delineate Cheat Mountain salamander areas of influence. Additionally, existing and adopted Forest-wide standards applied uniformly across the Forest are sufficient in protecting and providing for the recovery of Cheat Mountain salamander. This approach is consistent with the Recovery Plan for this species. The Recovery Plan concludes, "Protection of known and newly discovered populations should lead to a secure enough total population level to consider delisting". Special Areas (Zoological) are established for those areas that have a unique situation not cover under Forest-wide standards or Management Prescription standards (Forest Plan p. 210). Specific management direction beyond that identified forest-wide is unnecessary and adds little or no value to the potential for recovery of the species.

Adopted standards require that "Areas of Influence (AOI) will be identified for all threatened, endangered, and proposed species or populations to assist in their recovery". Consistent with the Cheat Mountain salamander Recovery Plan, the area of influence for Cheat Mountain salamander has been defined as known Cheat Mountain salamander populations, including a minimum 300-foot buffer zone around located colonies. These AOI's will be protected via forest-wide standards 2670 (A)(7) and 2670 (A)(8) to ensure that ground disturbing activities and other threats to Cheat Mountain salamander populations are avoided. Since occupied habitat is not easily discernible or modeled, on-the-ground surveys for occupancy will be conducted prior to vegetation and ground disturbance.

As directed in the Cheat Mountain salamander Recovery Plan the MNF has on file a map generated collaboratively with Dr. Pauley, Marshall University, USFWS, WVDNR, and the MNF delineating all known Cheat Mountain salamander populations and 300- foot buffers around these populations. Areas representing populations and buffers currently total less than 800 acres and are often disjointed. This map also delineates potential Cheat Mountain salamander habitat.

Cheat Mountain salamander populations are not static nor have all populations been found or delineated. Dependent upon the findings of surveys in any given year, this results in an ever-changing map. These factors, as well as scale issues, also cause difficulties in the allocation of these AOI's to Special Area designation.

CONSIDER EFFECTS OF GLOBAL WARMING ON CMS POPULATIONS

Comment: A few individuals commented that the Revised Biological Assessment fails to consider global warming scenarios on future habitat availability.

Response: The Forest does not have control over regulating global warming; it is outside the scope of the Forest Plan Amendment. However, Pauley (1980) found the Cheat Mountain salamander occurred in microhabitats that have higher relative humidities and lower temperatures than microhabitats of sympatric species (*P.cinereus* and *D. ochrophaeus*). Laboratory dehydration and temperature tolerance experiments demonstrated that the Cheat Mountain salamander requires a moister habitat, but can tolerate warmer temperatures than montane, sympatric species. This would imply that moister regimes are of greater importance to the Cheat Mountain salamander than temperature increases that may result from any hypothesized global warming scenarios. As such it would be infeasible to determine effects on future habitat availability.

Forest biologists documented the potential effects of continued implementation of the 1986 Forest Plan as amended on the Cheat Mountain salamander in the Revised Forest Biological Assessment. Effects regarding timber harvesting, timber stand improvement, prescribed fire, firewood cutting, gypsy moth, road construction/reconstruction, recreation, wildlife habitat improvements, fisheries improvements,

range, mineral activity and landownership adjustments were disclosed. Information from the Revised Biological Assessment was incorporated by reference into the EA and was used to analyze effects of new threatened and endangered species standards. Based on these analyses, the MNF determined and USFWS concurred, existing and new Forest Plan standards will protect, conserve, and aid in the recovery of populations of Cheat Mountain salamanders (Revised Biological Assessment, pp 2, 23, 33-39; 11/2001 correspondence with USFWS; EA, pp. III-10, III-18, III-19, III-83, III-88, 2/25/04 USFWS letter).

WHERE'S FIGURE 6 AS IT PERTAINS TO THE CMS

Comment: Some individuals commented that they could not find figure 6 referenced on page 31 of the BA.

Response: Figure 6 that was referenced on page 31 of the Revised Biological Assessment was removed prior to its completion because it did not provide any additional information than the verbal description of Cheat Mountain salamander found in the text. The reference to Figure 6 was inadvertently left in the text of the document.

FRAGMENTATION WILL OCCUR TO CMS HABITAT

Comment: Some commenters believe that the fragmentation and destruction of the salamanders' suitable habitat is allowed to continue and believe these impacts are not immeasurable or discountable. Habitat is allowed to be destroyed or degraded with roads and logging as long as the habitat is found not to be "occupied" and/or outside of a 300-foot buffer. They stated that it is not clear what is considered to be "appropriate" surveying to establish presence or absence of Cheat Mountain salamander; no protocols established by the USFWS or anyone else are required to be followed. Some habitat protections for the Salamander are being reduced under this proposal by removing some current restrictions (on 26,000 acres) based upon the VW Northern Flying Squirrel.

Response: Protections are sufficient. The worlds leading expert on the Cheat Mountain salamander and other Recovery Team members believe that protection of known and newly discovered populations should provide for the recovery of the species. Existing and new Forest Plan standards reduce the potential for Cheat Mountain salamander habitat to be fragmented. Survey protocols established in the Recovery Plan are followed.

The Revised Forest Biological Assessment (September 2001) documents the effects of implementation of the current Forest Plan on Cheat Mountain salamander (BA pages 33-36). All stands proposed for projects are reviewed prior to project implementation to determine if they contain occupied or potential Cheat Mountain salamander habitat. Potential Cheat Mountain salamander habitat included in project plans are field surveyed prior to implementation of any vegetative disturbing activities using survey specifications as stated in the Cheat Mountain salamander Recovery Plan (USFWS 1991). Survey specifications can be found in Appendix A of the Cheat Mountain salamander Recovery Plan. If any Cheat Mountain salamanders are found or field surveys indicate that the area is high potential habitat, regardless of whether or not any Cheat Mountain salamanders are found during the survey effort, projects are either dropped or designed to avoid Cheat Mountain salamander. If salamanders are found, population areas are delineated in relation to the project area and appropriate buffers applied (minimum of 300 feet). (Revised Forest BA September 2001, EA – Appendix A pp.4, 5, 10, 11). The USFWS concurred with the determinations in the Revised Biological Assessment by letter dated November 9, 2001.

The Amendment adds a forest-wide standard to create a minimum 300-foot buffer zone around known Cheat Mountain salamander populations. The buffer zone will be based on information in the Recovery Plan for the Cheat Mountain salamander or the best, most current scientific literature. It strengthens standards to ensure that vegetation and surface disturbance will be avoided in known colonies, and it removes language about relocating colonies. The amendment also updates the elevation where Cheat Mountain salamanders are found. The Forest Plan Amendment (A-2) strengthens requirements for the

Forest to implement requirements of approved Recovery Plans and fully coordinate them with the Forest Land Management Plan. It also directs that management of habitat essential to threatened, endangered, and proposed species is considered the first priority management activity.

ROAD BUILDING AND LOGGING WILL HARM CMS HABITAT

Comment: Some individuals stated that road building and logging and other intense site disturbances and alterations are known to harm salamander habitat, populations, and viability. Yet such activities are allowed to occur within the range of the Cheat Mountain salamander on the MNF without clear, specific, expansive and scientifically justified restrictions.

Response: The Threatened and Endangered Species Amendment does not authorize road building and logging, but it does place restrictions and limitations on such activities to ensure threatened and endangered species are given top priority in Forest management (see responses to other comments in this Appendix).

Effects regarding road building and logging and other intense site disturbances and alterations on Cheat Mountain salamander were disclosed in the Revised Biological Assessment. Information in the Revised Biological Assessment was incorporated by reference into the EA and was used to analyze effect of new threatened and endangered species standards. Based on these analyses, the MNF determined existing and new Forest Plan standards will protect, conserve, and aid in the recovery of populations of Cheat Mountain salamanders (Revised Biological Assessment, pp. 2, 33-36, 11/2001 correspondence with USFWS, EA, pp. III-10, III-12 through III-14, and III-83). USFWS concurred with the determinations the Forest made in Appendix G of the EA (USFWS 02/25/04 correspondence).

CONSULT WITH OTHERS ABOUT EFFECTS TO CMS

Comment: Some commenters requested that the Forest consult with David Marsh and Paul Cabe of Washington and Lee University in Lexington, VA, regarding the effects of forest fragmentation on salamanders.

Response: The MNF conducted an extensive review of the best available scientific information for the Cheat Mountain Salamander (e.g. the Cheat Mountain Recovery Plan, survey data collected on the MNF, various publications, etc.). The information reviewed in this effort was used in the development of the Revised Forest Biological Assessment (September 2001) to describe the distribution, trends, and needs of Cheat Mountain salamanders and document the effects of Forest Plan implementation on Cheat Mountain salamanders (pages 33-36). The Threatened and Endangered Species EA incorporated such information by reference and built on it to describe the effects of the action alternatives (pp. III-1 through III-20).

The Forest did consult with Dr. Thomas Pauley a professor at Marshall University during the development of the Revised Forest Biological Assessment (09/2001). He has worked extensively with Cheat Mountain salamanders and other salamanders and amphibians in West Virginia. Dr. Pauley has authored or coauthored over 100 publications including the Cheat Mountain Salamander Recovery Plan. He is recognized as the leading expert on Cheat Mountain salamander. Dr. Pauley is also a member of the West Virginia Wildlife Biodiversity Advisory Council and the Declining Amphibian Task Force (Appalachian Working Group).

The Forest did not consult with Drs. Marsh and Cabe of Washington and Lee University because both appear to have limited involvement with salamander research. Both joined the faculty in 2000 as assistant professors. Dr. Marsh is focusing his research on the behavior, ecology, and conservation biology of amphibians. He has authored or coauthored a limited number of publications most of which are related to frogs. Dr. Marsh has not worked with Cheat Mountain salamander (a species endemic to West Virginia) although he is working with redback and slimy salamanders in southwest Virginia. None of his study areas appear to be in West Virginia. Dr. Cabe's current interest focuses on using modern molecular methods to collect data useful in answering questions in the areas of population genetics and evolutionary

biology. His main interests appear to be ornithology, ecology, and conservation biology and this is reflective in the focus of the limited publications he has coauthored. There is no indication that any of his research areas are in West Virginia. (Washington and Lee University website <http://wlu.edu>)

Forest Biologists disclosed in the Revised Biological Assessment that “extensive logging of spruce around the turn of the century is the most likely cause of decline for this species. Competition from other similar plethodontids, genetic isolation of populations, habitat degradation (e.g., acid deposition), habitat fragmentation, and habitat disturbance all continue to contribute to the limited occurrence of the CMS (Pauley 1980, 1991).”

In a preliminary study, Pauley found that Cheat Mountain salamander probably did not move more than one linear meter. This is well within the home ranges found in studies of other *Plethodon* species; for example Kleeberger and Werner (1982) found the home range of *P. cineris* to be from 12.97 – 24.34 square meters (taken from USFWS 1991). Given the limited mobility and movement of the species it cannot expand its range quickly. As such, in Recovery Plan tasks and conservation actions the MNF implements in assisting in the recovery of this species, emphasis is placed on protecting known populations and high potential habitats. Threats related to competition from other similar plethodontids using like habitats must also be considered in the context of fragmentation.

Furthermore, much of the potential habitat for Cheat Mountain salamander is protected under standards for WV northern flying squirrel (OA832). Forest biologists anticipate that these new standards will in effect provide additional protection to large blocks of potential Cheat Mountain salamander habitat.

All this documentation combined supports the “May Affect, Not Likely to Adversely Affect” determination made for the Cheat Mountain salamander (the determination made for all alternatives). The USFWS reviewed the Forest’s analysis, and based on their professional knowledge of the best scientific information available regarding the Cheat Mountain salamander, concurred with the Forest’s determinations (Revised Biological Assessment, pp. 2, 33-36, 11/2001 correspondence with USFWS, EA, pp. III-10, III-12 through III-14, and III-83; 2/25/04 USFWS letter).

THREATENED AND ENDANGERED PLANTS

Comment: Some publics felt the FS should demonstrate that plant habitat is correctly delineated in order to include all appropriate habitats into which populations may spread. Plant surveys are inadequate and potential linkage areas should be established and protected.

Response: The Land Resource Management Plan for the Monongahela National Forest Forest-wide Standards and Guidelines 1 and 2 (p. A-2) states management of habitat essential to threatened, endangered, and proposed species is considered the first priority management activity. FS personnel will work with State agencies and the USFWS in identifying essential habitat. The requirements of approved Threatened and Endangered Species Recovery Plans will be implemented and fully coordinated with the Forest Land Management Plan for the Monongahela National Forest (Forest-wide Standard 3, p. A-2). The Forest Plan Amendment adds standards to the existing Plan to direct the Forest to avoid activities in known threatened, endangered, and proposed species populations and occupied habitat unless such activities are consistent with the standards for threatened, endangered, and proposed species (Forest-wide Standard 7, p. A-3). When activities are proposed in areas with a likelihood of occurrence for threatened, endangered, and proposed species the Forest Plan directs forest to: (a) redesign the proposed action to avoid the area, or (b) conduct on-sites surveys, as appropriate, to establish presence or absence of threatened, endangered, or proposed species, or (c) assume potential presence and proceed with action if appropriate mitigation or beneficial measures can be implemented, or (d) in rare instances where adverse effects to threatened, endangered, and proposed species cannot be avoided, the Forest will consult with USFWS (Forest-wide Guideline 8, p. A-4).

The Forest Plan amendment further emphasizes recovery of threatened, endangered and proposed species or populations by directing the forest to identify areas of influence to assist in their recovery. Areas of

influence will be based on known populations and results of on-site surveys. They are intended to be dynamic and based on the most current scientific information for a given species. The Amendment also directs the forest to determine and implement appropriate habitat management techniques to maintain or enhance populations of threatened, endangered, and proposed species. Project analyses will consider, as needed, ways of minimizing or eliminating threats to threatened, endangered, and proposed species due to non-native invasive species. (Forest-wide Standards 10-12, p. A-5)

More specific survey standards are given for shale barren rock cress and running buffalo clover under Forest-wide Standard 13(h) 1 and 2 and 13(i) (pages A-11, A-12).

AMOUNT OF DEVELOPMENT LIKE TIMBER HARVESTING

Comment: Some people thought the Amendment would authorize an increase in timber harvesting, mineral development, motorized activity, herbicide use, prescribed fire, and other ground disturbing activities to the detriment of threatened and endangered species.

Response: Implementing the standards identified for Alternative 1 will strengthen (not weaken) protection for MNF threatened and endangered species and their habitat (EA, pp. II-29, III-12 through III-20, and Appendix G). The EA states that this is a programmatic amendment to the Forest Plan aimed at modifying and adding new standards for the protection, conservation, and recovery of threatened and endangered species. The Threatened and Endangered Species Amendment does not propose, nor authorize, new or additional development such as timber harvesting, road building, herbicide use, mineral development, prescribed fire, or any other resource outputs. Rather, the Amendment will place more restrictions on such activities to ensure threatened and endangered species management remains the Forest's first priority management activity (Forest Plan, pp. 84; EA, Chapter I - Purpose and Need, and Chapter III -description of effects).

Detailed information about threatened and endangered species' occurrences, habitat needs, etc. is described throughout the 2001 Revised Biological Assessment and summarized in the EA.

Implementation of Alternative 1 will promote the protection and recovery of threatened and endangered species consistent with the ESA (EA, pp. I-28, II-29 and II-30, III-1 through III-28, III-34 through III-40, Appendix G, pp. 40-41, and DN/FONSI, pp. 9). The viability of threatened and endangered species and other species of the MNF will be maintained consistent with the NFMA (EA, pp. III-1 through III-41 and Appendix G).

The levels of resource outputs (timber harvest, road construction, mineral extraction, etc.) described in the EA and in the Revised Biological Assessment are within the range of outputs currently authorized by the 1986 Forest Plan, as amended (see RPA pp.9-21, EA, Chapter III and Appendix F-2, response to comment #3). In the case of timber harvesting, the maximum acres and volume of timber that may be harvested from the MNF were set when the Forest Plan was approved in 1986, and they have not been modified since. Since 1986, the acres and volumes of timber actually harvested have been well within the limits identified in the Forest Plan. In fact, harvesting has declined over the years (EA, p. III-52, Revised Biological Assessment, p. 12, and Timber Monitoring Report, 2000). Future annual harvest projections for the purposes of this analysis were estimated at 20 to 25 MMBF from 2,700 to 3,700 acres. This level of activity 1) is consistent with historic levels, 2) does not increase harvest volumes or acres beyond historic levels 3) is well below the maximum authorized in the 1986 Plan and 4) has been determined to be congruent programmatically with the Forest's goal of protecting and providing for the recovery of threatened and endangered species.

On the other hand, in keeping with the Forest's first priority management activity direction and the purpose and need statement, the Threatened and Endangered Species Amendment will reduce the total acres available for timber production. However, these levels will also remain within the range predicted in the Final Environmental Impact Statement for the 1986 Forest Plan (EA, p. II-32 and III-75 through III-

79). The specific effects of the Amendment on MNF resources and outputs are described in Chapter III of the EA.

CONSIDER THE EFFECTS OF LOGGING

Comment: Some people seemed to believe the Amendment would authorize logging in the MNF. They provided information regarding the definition and effects of logging.

Response: Timber harvest on the MNF is authorized in the 1986 Forest Plan. The Threatened and Endangered Species Amendment to the Forest Plan does not authorize, in and of itself, timber cutting (logging) of MNF lands; therefore, it is unclear how the information about logging is pertinent to the Threatened and Endangered Species Amendment decision. Also, much of the information provided by the commenter was not specific to the MNF's analysis. In fact, in several instances, it appears comments are referring to a site-specific project on the Allegheny National Forest (ANF).

The Amendment authorizes the 1986 Forest Plan to be modified to incorporate new Indiana bat and WV northern flying squirrel information and clarify on-going efforts to manage, protect, and recover threatened and endangered species of the MNF (see purpose and need, page I-2). It does not authorize additional harvest and, in some cases, further restricts this activity. The effects that the Amendment will have on threatened and endangered species, forest age-class diversity, forest type, forest health, and timber harvest levels are described in the EA, pp. III-1 through III-20, III-41 through 58, and III-72 through III-80.

EFFECTS OF ROAD BUILDING ON THREATENED & ENDANGERED SPECIES

Comment: Some people stated, "standards and consideration must be made for acreage of the Forest lost to new roads and highway projects." It was suggested that threatened and endangered species might not survive the "hundreds of acres currently being fragmented and lost for species habitat due to road building and additional timber development." They asked that the cumulative impacts of these actions be reassessed.

Response: The Amendment does not authorize new roads and highway projects. The standards that will be implemented because of the Threatened and Endangered Species Amendment to the Forest Plan were developed after considering the effects of past, present, and reasonably foreseeable future actions on MNF and private lands, including road construction and timber harvesting (Revised Biological Assessment and EA and response to other comments in this appendix).

As documented in the Revised Biological Assessment and the EA, road building and timber harvesting occur on both MNF and private lands. On MNF lands, road building and timber harvesting has declined since the Forest Plan was approved in 1986 (USDA, 1999 MNF Monitoring Report). The amount of road construction and timber harvesting that has occurred on the MNF in the recent past, and the harvesting that is expected to continue in the reasonably foreseeable future, is well below the upper limits predicted and authorized by the Forest Plan (Forest Plan, pp. 41-42).

The EA and Biological Evaluation for the Threatened and Endangered Species Amendment incorporated by reference the information documented in the Revised Biological Assessment and built on it to describe effects of the action alternatives (EA, pp. III-2, III-4, III-10 through III-15, and III-18 through III-20; and EA, Appendix G, pp. 12, 14, 21, 28-29, 31-32, and 39). The information used to assess the effects of road construction and reconstruction were taken from pages 2-4, 15-16, 18-20, 28, 30, 35-36, 38-39, 56-60, 72-74, 76, 88, 90, 92, 94, 96, 98, 100 and Appendix 4 of the Revised Biological Assessment. The information that was used to assess the effects of timber harvesting were taken from pages 2-4, 10-14, 17, 26-27, 29, 34-39, 53-55, 57-61, 64-65, 67-68, 71-74, 80, 85-88, 90-92, 96-98, 100, 102-104, 107-109, 111-113.

The comment cited above implies that extensive fragmentation is occurring. Its true West Virginia's landscape underwent dramatic alteration at the turn of the 20th century when extensive road building, railroad grade construction, and timber harvesting activities were conducted (Lewis 2000; Clarkson 1964). However, since then, West Virginia lands have noticeably recovered and reforested. Little harvesting was conducted in the middle of the 20th century, and far less harvesting was conducted in the late 1900 than in the early 1900s. Today, West Virginia is 79% forested, making it the third most forested state in the continental United States (Revised Biological Assessment, p. 10). Approximately 96 percent of the MNF is forested (Revised Biological Assessment, p. 10) and remains relatively unfragmented. See also the Revised Biological Assessment and the response to comment regarding [CONNECTIVITY](#).

Road construction, reconstruction, and timber harvesting can result in site-specific effects to threatened and endangered species, but such effects are generally minimized by Forest Plan standards. Therefore, A **MAY AFFECT, NOT LIKELY TO ADVERSELY AFFECT** determination was made for road construction/reconstruction and timber harvesting for all species except the Indiana bat. In the case of the Indiana bat, a **MAY AFFECT, LIKELY TO ADVERSELY AFFECT** determination was made only because the direct effect of tree felling related to these activities have the potential to "take" individual bats, and an incidental take permit must be maintained to implement such activities. Given the availability of suitable habitat on the MNF and the scale and scope of these activities, impacts to Indiana bat habitat from these activities were considered minor by USFS, USFWS, and WVDNR biologists.

The effects of road construction and reconstruction and timber harvesting are analyzed at the project level. Threatened and endangered species habitats will be avoided or, if necessary, mitigation beyond Forest Plan standards will be implemented to avoid or minimize effects to threatened and endangered species. Road construction/reconstruction and timber harvesting is expected to continue on MNF and private lands (e.g. Corridor H through the northern part of the MNF). As site-specific projects are proposed on MNF lands, the MNF will conduct site-specific analyses and the effects of appropriate past, present, and reasonably foreseeable future actions on MNF and private lands will be assessed. The MNF has considered the activities that occur on MNF and private lands and the habitat needs of threatened and endangered species. Given the information available to date, the MNF has determined that the standards to be incorporated into the Forest Plan as a result of the Threatened and Endangered Species Amendment are sufficient to protect and aid in the recovery of threatened and endangered species of the MNF, more so than existing Forest Plan standards. The USFWS as concurred with the MNF's determinations.

ANF AMENDMENT COMMENTS

Comment: Some people asked that an alternative that ends logging and an uneven-aged management alternative be considered, and they referenced the USFWS's comments on the Allegheny National Forest T&E Amendment.

Response: Alternatives were considered to end logging on MNF lands and implement an uneven-aged management alternative; but for reasons explained in Chapter III of the EA and in another response in this appendix (see response to comment [NO LOGGING OR UNEVEN AGED MANAGEMENT ALTERNATIVE](#)), they were not analyzed in detail. Most of the material cited in the above comment refers to the ANF Amendment and is not specific to the MNF. Therefore, it was not addressed.

EFFECTS OF SMALL SCALE VS LARGE SCALE ACTIVITIES

Comment: Some people asked for the definition of "small-scale activities" and wonder how many "small-scale activities" may be allowed in an area at one time. They referred to the "Cumulative Effects" section of the Biological Opinion (EA, Appendix D) and asked whether an analysis of the accumulation of such activities will be conducted to determine impacts to threatened and endangered species.

Response: "Small-scale activities" are those activities in which tree felling for clearing vegetation would typically result in a determination of "no effect" or "may affect, not likely to adversely affect" for

threatened or endangered species. Some examples of small-scale activities are the creation of individual well pads, road reconstruction (operating within reasonable limits of the existing road template), construction of local roads, removal of hazard trees, dead and down firewood permits, or creation of vistas (EA, Appendix C, Glossary, p. 8).

The type and amount of “small-scale activities” that may be authorized in an area at one time will be determined as various proposals are identified and site-specific circumstances are assessed. Consistent with the NEPA, the MNF will consider the accumulation of effects of MNF, private, and State actions. A wildlife biologist will make a determination regarding effects to threatened and endangered species and consult with the USFWS, who will then provide their input regarding effects. Forest Plan monitoring will assist in addressing cumulative effects.

CONSIDER EFFECTS OF OFF ROAD VEHICLES

Comment: Several commenters felt that the effects of ORV’s on Indiana bat will be significant and the EA inadequately addressed these effects.

Response: The Amendment does not authorize ORV use on the Forest. Existing Forest Plan guidance regarding ORV’s directs that areas on the Forest be closed to ORV’s unless designated open. Currently, the MNF has not designated any “Off Road” Vehicle areas. All Terrain Vehicles are restricted to existing County roads or State highways. Consequently, effects, if any, of ORV’s to Indiana bat on the Forest would be very minimal and limited to a few existing roads or illegal use. In the context of this analysis, which considered the effects of adopting standards to provide additional protections and conservation measures, effects generated from ORV use were deemed extremely unlikely to occur and discountable. If a proposal is made in the future to consider designating an area open to ORV’s, project specific effects will be analyzed at that time.

FOCUS ON IMPACTS TO THREATENED & ENDANGERED SPECIES

Comment: Some people believe the cumulative effects analysis in the EA only analyzed the effects that proposed standards would have on Forest program and commodity outputs. They believe a credible cumulative impact analysis was not completed to assess the combined impact of logging, mining, ORVs, road building, etc. on threatened and endangered species of the MNF. They believe the analysis does not begin to answer the question of significance (of impacts) under the National Environmental Policy Act (NEPA).

Response: The combined impact to threatened and endangered species from implementation of the Threatened and Endangered Species Amendment is summarized on page III-18 of the EA and page 38 of Appendix G (Biological Evaluation for the Threatened and Endangered Species Amendment). These pages list past, present, and reasonably foreseeable future actions (such as logging, mining, all terrain vehicle use, road building, etc.) that may affect threatened and endangered species. They document that none of the alternatives will substantially change the relative amounts or availability of habitat types and components across the Forest. There is relatively no difference in cumulative effects between the alternatives because the direct and indirect effects of the alternatives on all species except the bat are the same, and the differences in effects to the Indiana bat are very small (EA, pp. III-10-20 and Appendix G).

The EA documents that, regardless of the alternative selected, past, present, and reasonably foreseeable future actions (e.g. natural succession, insects, wind and ice storms, timber harvesting, mining, grazing, prescribed fire, etc.), have, and will continue to affect the spatial distribution of certain types and availability (location and density) of habitat components needed by threatened and endangered species. Under all action alternatives, the conservation and recovery of MNF threatened and endangered species will be promoted. The determinations made for each species are summarized on pages II-29 and III-18 through III-20 of the EA and 38 of the Biological Evaluation.

The conclusions made in the EA and Biological Evaluation were based on extensive information that was incorporated by reference from the programmatic 2001 Revised Biological Assessment (EA, pp. III-2, III-4, III-10 through III-15, and III-18 through III-20; Appendix G, pp. 12, 14, 21, 28-29, 31-32, and 39). The Revised Biological Assessment described in detail the affected environment of the MNF (vegetation, soils, water, threatened and endangered species, etc.) and the past, present, and reasonably foreseeable actions (e.g. timber harvesting, mining, transportation management, grazing, recreation use, herbicide treatment, prescribed fire, illegal all terrain vehicle use, etc.) on MNF and private lands that affect threatened and endangered species. The “Species Narratives” section of the Revised Biological Assessment provided a comprehensive analysis of how activities on MNF and private land affect threatened and endangered species. Literature, survey data, and monitoring information were used to develop the Revised Biological Assessment (project file).

Forest Plans themselves generally are not actions that significantly affect the quality of the human environment, nor do they dictate site-specific actions. “Significance” as described in the implementing regulations of the NEPA was addressed in the DN/FONSI. Based on the consideration of both context and intensity (40 CFR 1508.27), the Responsible Official determined that Alternative 1 will not result in significant impacts to the human environment (DN/FONSI, p 11).

CONSIDER CONNECTED ACTIONS

Comment: Some people stated that the Forest should look at connected actions and reasonably foreseeable future actions on private and State lands in and around the MNF. They asked what impacts result from such actions.

Response: Concerns regarding reasonably foreseeable future actions are addressed in other responses in this appendix. As to connected actions, the Forest is not aware of any “connected actions” that should be considered as part of the Threatened and Endangered Species Amendment. The examples provided by the commenter (e.g. residential housing development and timber harvesting) could be considered reasonably foreseeable future actions, but they are not “connected actions.”

Connected actions, as defined at 40 CFR 1508.25, are those that are closely related, and therefore should be discussed in the same analysis. Actions are connected if they--

- (i) Automatically trigger other actions, which may require environmental impact statements.
- (ii) Cannot or will not proceed unless other actions are taken previously or simultaneously.
- (iii) Are interdependent parts of a larger action and depend on the larger action for their justification.

The Threatened and Endangered Species Amendment (i) will not automatically trigger other actions; (ii) can proceed without other actions being taken previously or simultaneously; and (iii) is not an interdependent part of a larger action or depend on a larger action for its justification.

DISCLOSE PAST, PRESENT, AND REASONABLY FORESEEABLE FUTURE ACTIONS ON MNF AND PRIVATE LANDS

Comment: Some people stated that the EA failed to disclose past, present, and reasonably foreseeable future actions that may occur on MNF and private lands and describe how the effects of such actions vary by alternative. They provided examples of specific actions they believe should have been considered in the analysis.

Response: The EA disclosed the cumulative effects of the alternatives, including effects of past, present, and reasonably foreseeable future actions that may occur on other land ownerships besides the MNF. The cumulative effects of such actions varied little by alternative because the differences in the direct and indirect effects of the alternatives are slight (EA, Chapter III, cumulative effects sections).

The past, present, and reasonably foreseeable future actions likely to occur on private and MNF lands (e.g. natural succession, land management practices, insect, disease, wind, ice storms, etc.) and their effects to threatened and endangered species of the MNF were summarized on page III-18 of the EA and on page 38 of Appendix G (Biological Evaluation for the Threatened and Endangered Species Amendment). The Revised Biological Assessment provided specific examples of actions that might be likely to occur to threatened and endangered species habitat not in Forest Service ownership but nearby the MNF. The following are some examples:

- Page 20 recognizes that gas development may occur on private lands.
- Page 21 indicates that private land may be acquired or traded.
- Pages 55-56 note that spraying for gypsy moth may occur on private land.
- Page 58 indicates that habitat-altering activities (e.g. timber harvesting, mineral activities, road construction, etc.) may occur on private lands.
- On page 59, it is noted that road building is common on some private industry lands, but that a lot of the private land in and around the MNF is neither developed nor well roaded. Page 59 also states that use of non-specific pesticides (such as Dimilin and BT) are likely to be used in the future by private landowners, and that activities on privately-owned land within 5 miles of endangered bat caves could be affecting swarming Indiana bats. The effects of recreational cave use and cave commercialization on private lands are discussed on page 59, and it is recognized that some private cave owners actively attempt to eliminate bats.
- Page 64 documents that some private landowners deter people from disturbing bats during critical periods. Page 64 also describes the percentage of private land in proximity to endangered bat caves and the land uses that occur on them (e.g. primarily agricultural use, but also timber harvesting, strip mining, limestone/rock quarries, two commercial caves, as well as Canaan Valley State Park, Blackwater Falls State Park, Canaan Valley Wildlife Refuge; the development of second homes).
- Page 65 notes that cave gates have been installed on cave entrances on private land (this is also noted in Appendix G, p. 23).
- On page 74, it is stated that grazing and other agricultural uses occur on privately owned lands within 6 miles of VA big-eared bat hibernacula or maternity caves (also stated in Appendix G, p. 24).
- The potential for cave commercialization, unrestricted spelunking across West Virginia, or for private landowners to limit or restrict entry into caves is described on page 75, as is the potential for gating every potential hibernacula in the State.
- Page 89 states that no known proposals exist for major recreational site development on adjacent private lands within the next five years.
- Page 90 recognizes that privately owned subsurface minerals could be developed.
- Page 103 notes that private landowners are less likely to protect shale barren rockcress and that grazing on private land presents the largest threat.
- The effects of private land activities on small whorled pogonia are noted on page 109.
- Page 112 identifies that Virginia spiraea are threatened by unnatural flooding regimes and channel destabilization created by flood control projects on private land, non-native vegetation invasion and competition, and off-road ATV use.

Cumulative effects are the impacts on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-federal) or person undertakes such other action (40 CFR 1508.8). The depth of discussion for cumulative effects was based on the degree of anticipated direct and indirect effects to various resources. For most resources, the direct or indirect effects of implementing threatened and endangered species standards were minor so as to result in little if any cumulative effects. In many

instances, no action that occurs on MNF, private, State, or industry lands were expected to incrementally contribute to the effects of the alternatives and result in substantial cumulative effects.

The relevant issues, levels, and kinds of analyses needed, and decisions to be made in a programmatic plan are different from those required for developing site-specific projects. A Forest Plan is not the final word deciding the fate of an area of land or determining that some actions will certainly occur and others will never occur over all or part of the plan area. Forest Plans themselves generally are not actions that significantly affect the quality of the human environment, nor do they dictate site-specific actions. For these reasons, the level of discussion for past, present, and reasonably foreseeable future actions was limited to more general discussions rather than enumerating site-specific situations. Consideration of site-specific actions on MNF lands will occur as individual projects are proposed and their site-specific effects are analyzed. As part of the analyses required for these site-specific actions, activities on private land that may contribute cumulative effects to resources will be considered.

CONSIDER EFFECTS TO HABITAT OUTSIDE THE MNF

Comment: Some people believe the cumulative effects analysis does not take into consideration what might be likely to occur to critical or key habitat areas not in Forest Service ownership but nearby MNF threatened and endangered species habitat (specifically the Indiana bat and WV northern flying squirrel).

Response: Responses to concerns about cumulative effects analysis are addressed in multiple places in this appendix. This comment responds specifically to the commenter concerns about effects to both critical and key habitat areas.

The term “critical habitat” has a specific meaning under the ESA, as amended. Section 4 of the ESA defines "critical habitat" as specific areas within a species' occupied geographic area, at the time it is listed, which are essential to its conservation and which may require special management considerations or protection (Revised Biological Assessment, p. 7). The ESA provides for designation of “critical habitat” for listed species when judged to be “prudent and determinable.” When "critical habitat" is used in this analysis, it carries the ESA definition.

Critical habitat has not been designated for bald eagle, Cheat Mountain salamander, the West Virginia Northern flying squirrel, Virginia spiraea, running buffalo clover, small whorled pogonia, or shale barren rock cress (Revised Biological Assessment, pp. 97, 100, 103, 106, 111, and 112). Critical habitat has, however, been designated to protect particular caves occupied by the VA big-eared bat and Indiana bat (Revised Biological Assessment, p. 43).

Hellhole, a privately owned cave in Pendleton County, is the only West Virginia cave currently designated Critical Indiana bat habitat (Priority Two) (USFWS 1996). It lies within the MNF's Proclamation Boundary, but exists on private land approximately 1 mile from National Forest land (Revised Biological Assessment, p. 43). West Virginia's Cave Mountain Cave, Hellhole, Hoffman School Cave, Sinnit Cave, and Cave Hollow/Arbogast Cave are designated as "Critical Habitat" for the VA big-eared bat. Only Cave Mountain and Cave Hollow/Arbogast are on the MNF.

The Revised Biological Assessment provides information about the Indiana bat and VA big-eared bat's “critical habitat” and describes how activities on MNF and private lands may affect these caves. After considering the past, present, and reasonably foreseeable actions on MNF and private lands, the Revised Biological Assessment noted that critical habitat for threatened and endangered species of the MNF will not be adversely affected by continued implementation of the Forest Plan (Revised Biological Assessment, pp. 2-4 and 6-8). Using information incorporated by reference from the Revised Biological Assessment, the EA and Biological Evaluation for the Threatened and Endangered Species Amendment (Appendix G) documented that the changes proposed by the Threatened and Endangered Species Amendment alternatives may affect critical habitat but that it is not likely to adversely affect it (EA, Appendix G, pp. 3 and 40). Standards created to prevent disturbance to caves will benefit it.

The commenter does not explain what is meant by “key” habitat areas, but it is assumed that the commenter is referring to habitat essential to threatened and endangered species but is not necessarily designated as critical. As noted in the above paragraphs, the effects of activities on MNF and private lands were described in detail in the Revised Biological Assessment, and such information was incorporated by reference into the EA for use in the analysis of effects of the Amendment. It was noted that the Forest Plan protects habitat for all threatened and endangered species found on the MNF. After considering the past, present, and reasonably foreseeable future actions on MNF and private lands, the only species that may be adversely affected by the implementation of the Forest Plan is the Indiana bat (see determinations in the EA, pp. 18-20 and Appendix G, pp. 39-41). This is only because tree-felling activities during the non-hibernation period could potentially “take” a roosting Indiana bat. The only way to prevent such take is to not cut trees. [See also the response regarding PROTECTION OF THREATENED AND ENDANGERED SPECIES.](#)

All alternatives would allow some activities that could affect threatened and endangered species or their habitats. With the exception of the Indiana bat, the amount or scale of MNF and private land activities (combined with the protective measures that will be implemented because of the Threatened and Endangered Species Amendment) render these impacts discountable. The determinations for each species are identified on page II-29 and III-18 through III-20 of the EA and page 38 of the Biological Evaluation.

The USFWS concurred with the MNF’s findings for all species (USFWS correspondence, 2/25/04). The USFWS identified eleven mandatory terms and conditions that the MNF will implement to maintain an Incidental Take Permit and minimize the potential for take of Indiana bats (DN, pp. 6-7). Implementation of the terms and conditions as adopted under all action alternatives for the Threatened and Endangered Species Amendment to the Forest Plan would protect, conserve, and aid in the recovery of threatened and endangered species of the MNF (including the Indiana bat), more so than the No Action Alternative (continued implementation of the existing Forest Plan).

CERULEAN WARBLER

Comment: It was stated that the Monongahela should list the cerulean warbler as sensitive on the R9 Regional Forester’s Sensitive Species list.

Response: Determining whether a species should be listed as sensitive on the R9 Regional Forester’s Sensitive Species list is outside the scope and intent of this Amendment.

As stated in the EA, this warbler is listed as a sensitive species on some Forests within Region 9. However, this species is considered locally common on the MNF. A risk assessment was completed for this species and is available in the MNF Supervisors Office. This risk assessment concluded that there was no need to include the cerulean warbler as a R9 Sensitive Species on the MNF.

The forest is aware the USFWS has been petitioned to list this species and is presently conducting a status review to determine if listing may be warranted. The MNF will review this information as it becomes available along with population information for the MNF to determine if cerulean warblers should be listed as sensitive for the MNF on the R9 Sensitive Species list.

NON-NATIVE SPECIES

Comment: Some people stated that use of non-native species in Forest management activities should cease, and programs to monitor and eliminate exotic invasive species should be developed and implemented. They are concerned about the effect of Forest management practices on the spread of exotic invasive species. They indicated that activities such as road building and ground disturbance that lead to the spread of invasive species need to be better managed and limited as much as possible.

Response: Prohibiting the use of non-native species in Forest management activities is outside the scope of the decision to be made (EA, p. I-1). The MNF did consider the effects that implementing new

threatened and endangered species standards would have on the Forest's ability to manage invasive species and the standards' effects on other resources (EA, pp. III-13, III-24, III-55 through III-58, III-70, and Revised Biological Assessment, pp. 30, 34-36). Also, a standard was identified in all action alternatives that will be incorporated into the Forest Plan to ensure project analyses consider, as needed, ways of minimizing or eliminating threats to threatened, endangered, and proposed species due to non-native invasive species (Appendix H, p. 84c). Buffers for plants were established with invasive species as a consideration.

Concerns about the spread of invasive species and the management of ground disturbing activities were raised in response to the MNF's scoping for Forest Plan revision. Invasive species management is tentatively considered as an issue to be analyzed during Forest Plan revision (USDA, 2003, Summary of Public Comment Received in Response to NOI to Revise the MNF Forest Plan).

ROLE OF FIRE

Comment: Some people asked if extensive fire suppression continues in the MNF and what policy actions will be undertaken to examine and change the role of fire suppression forest-wide. They stated that the role of fire suppression and fire suppression activities on the native plants and animals in this EA should have been addressed.

Response: The purpose of the analysis was to document the effects of implementing new Forest Plan threatened and endangered species standards. The role of fire suppression and fire suppression activities on the native plants and animals is outside the scope of the analysis.

For the most part, suppression of all unplanned ignitions continues to be a Forest-wide policy (Bustamente, personal communication, 2003). This policy is not expected to change as a result of the Threatened and Endangered Species Amendment. Changing the Forest's policy regarding fire suppression would not meet the purpose and need of the Proposed Action and is outside the scope of the decision to be made (EA, p. I-1 and I-2). Therefore, the effects that fire suppression activities have on native plants and animals on the MNF were not analyzed.

The MNF continues to evaluate the role of fire on ecosystems and are striving to better utilize fire as a tool to help restore fire dependent ecosystems when appropriate. It is currently estimated that 40 percent of the Forest is covered by fire dependent ecosystems. The Forest currently burns no more than 300 acres per year. Over time, larger prescribed burns may be proposed, but only after consultation with USFWS.

DESIGNATE WILDERNESS

Comment: It was suggested that Wilderness designation be made part of the decision for the Threatened and Endangered Species Amendment.

Response: Designation of Wilderness does not meet the purpose and need described on page I-2 of the EA, thus, it is outside of the scope of the decision. The effects that the Amendment would have on Wilderness were described on pages III-101 through III-103 of the EA; it was concluded that implementing the Amendment will not noticeably change Wilderness resources or hinder the Forest's ability to attain Wilderness goals.

REFERENCES USED IN THIS APPENDIX

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- Demeo, T.L. Habitat Suitability Model for the Indiana Bat, Monongahela National Forest, Version 3.1. Pp. 14.
- Lewis, Ronald. 2000. Transforming the Appalachian Countryside: Railroads, deforestation, and Social Change in West Virginia, 1880-1920. University of North Carolina, Chapel Hill. Pp. 348
- USDA Forest Service. 2003. Summary of Public Comment Received in Response to Notice of Intent to Revise the Monongahela National Forest Land and Resource Management Plan. Pp. 40 plus appendices.
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- USDA Forest Service. 1999. Monongahela National Forest Annual Monitoring Report for FY 1999.
- West Virginia. 1992. Summary of the W. VA. Logging Sediment Control Act. Pp. 2.
- West Virginia Division of Environmental Protection. 2000. West Virginia's Nonpoint Source Management Plan. WV division of Environmental Protection's Office of Water Resources Nonpoint Source Program. Pp. 176 plus appendices.